N.E.W. Regional Hazard Mitigation Plan









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1 Introduction

Section 1 provides a general introduction to hazard mitigation and an introduction to the N.E.W. 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 Nash, Edgecombe, and Wilson Counties of North Carolina and their incorporated municipalities.

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 and every community has different resources to draw upon in combating problems along with 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 taking into account 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 ensure that activities are coordinated 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 Pre-Disaster Mitigation (PDM) 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 Crosswalk, 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 stakeholders. This plan will ensure all jurisdictions in the N.E.W. Region remain eligible for federal disaster assistance including FEMA HMGP, PDM, and FMA programs.

This plan has been prepared in coordination with FEMA Region IV and NCEM and in compliance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford 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. Additionally, this plan will be monitored and updated on a routine basis in compliance with the above legislation and with the National Flood Insurance Act of 1968, as amended by 42 U.S.C. 4001 et seq, and North Carolina General Statutes, Chapter 166A: North Carolina Emergency Management Act, as amended by Senate Bill 300: An Act to Amend the Laws Regarding Emergency Management as Recommended by the Legislative Disaster Response and Recovery Commission (2001).

This plan will be adopted by each participating jurisdiction in accordance with standard local procedures under the authority and police powers granted to counties as defined by the State of North Carolina (N.C.G.S., Chapter 153A) and the authority granted to cities and towns as defined by the State of North Carolina (N.C.G.S., Chapter 160A). Copies of adoption resolutions are provided in Section 9 Plan Adoption.

1.3 SCOPE

This document comprises a Hazard Mitigation Plan for the Nash, Edgecombe, and Wilson County region. The planning area includes all of Nash, Edgecombe, and Wilson Counties' incorporated municipalities and unincorporated areas. All participating jurisdictions are listed in Table 1.1. Jurisdictions are listed alphabetically, and the table notes which county(s) each jurisdiction falls within. Rocky Mount, Sharpsburg, and Whitakers are each located in more than one County.

Table 1.1 – Participating Jurisdictions in the N.E.W. Regional Hazard Mitigation Plan

Jurisdiction	County
Nash County (Unincorporated Area)	--
Edgecombe County (Unincorporated Area)	--
Wilson County (Unincorporated Area)	--
City of Rocky Mount	N, E
City of Wilson	W
Town of Bailey	N
Town of Black Creek	W
Town of Castalia	N
Town of Conetoe	E
Town of Dortches	N
Town of Elm City	W
Town of Leggett	E
Town of Lucama	W
Town of Macclesfield	E

Jurisdiction	County
Town of Middlesex	N
Town of Momeyer	N
Town of Nashville	N
Town of Pinetops	E
Town of Princeville	E
Town of Red Oak	N
Town of Saratoga	W
Town of Sharpsburg	N, E, W
Town of Sims	W
Town of Speed	E
Town of Spring Hope	N
Town of Stantonsburg	W
Town of Tarboro	E
Town of Whitakers	N, E

Note: E = Edgecombe, N = Nash, W = Wilson

The focus of this plan is on those hazards deemed "high" or "moderate" priority hazards for the planning area, as determined through the risk and vulnerability assessments. Lower priority hazards will continue to be evaluated but may not be prioritized for mitigation in the action plan.

The N.E.W. Region followed the planning process prescribed by the FEMA, and this plan was developed under the guidance of an 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 region, assessed the region's vulnerability to these hazards, and examined the capabilities in place to mitigate them. The hazards profiled in this plan include:

- Dam & Levee Failure
- Drought
- Earthquake
- Extreme Heat
- Flood
- Hurricanes & Tropical Storms
- Severe Weather (Thunderstorm Wind, Lightning, Hail, and Fog)
- Severe Winter Storm
- Sinkhole
- Tornado
- Wildfire
- Radiological Incident
- Terrorism

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 N.E.W. Regional Hazard Mitigation Plan is organized into the following sections:

- 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 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 N.E.W. 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 N.E.W. 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.

The N.E.W. Region HMPC met to discuss their vision for the Region in terms of hazard mitigation planning. The committee was asked to consider 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 as a way to brainstorm a vision statement for the plan. The HMPC developed and discussed a list of ideas that were consolidated into the following statement to guide the Region's approach to hazard mitigation:

Nash, Edgecombe, and Wilson counties will enhance the resiliency of the region through proactive hazard mitigation planning that emphasizes cooperation, coordination, collaboration, and integration, advocates for and empowers citizens, and educates the community to be prepared for future hazards.

2.2 WHAT'S CHANGED IN THE PLAN

This plan is an update to the 2015 N.E.W. Regional Hazard Mitigation Plan, which included participation from all jurisdictions involved in this plan update: Nash, Edgecombe, and Wilson Counties. The previous plan was approved by FEMA on August 13, 2015.

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 Region 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 2018 State of North Carolina HMP and the 2015 N.E.W. Regional Plan and provides the final decision made by the HMPC as to which hazards should be included in the updated 2020 N.E.W. Regional Plan.

In addition to the specific changes in hazard analyses identified in Section 4.2, the following items were also addressed in this 2020 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.

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 N.E.W. 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 CRS and FMA programs. Thus, the modified 10-step process used for this plan meets the requirements of six major programs: FEMA's HMGP; PDM; CRS; FMA; 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
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 5 – 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 Wood Environment and Infrastructure Solutions, Inc. assisted by leading the County 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 formed for development of the 2015 Plan was reconvened for this plan update. Where necessary, additional members were added to the HMPC. Each community also sought to incorporate stakeholder and public participation on the HMPC. More details on the HMPC are provided in Section 2.4. Stakeholder coordination was incorporated into the formation of the HMPC and was also sought through additional outreach methods. These efforts are detailed in Section 2.8.

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. Nash, Edgecombe, and Wilson Counties and their participating jurisdictions 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 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, including the hazard identification, vulnerability assessment, and capability assessment. The Hazard Identification and Risk Assessment can be found 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.

Resource Referenced	Use in this Plan
Flood Insurance Study Reports for Edgecombe, Nash, and Wilson Counties and Incorporated Areas	FIS reports were referenced in the preparation of the flood hazard profile in Section 4.
N.E.W. Regional Hazard Mitigation Plan, 2015	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.
North Carolina State Hazard Mitigation Plan, 2018	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

Wood facilitated brainstorming and discussion sessions with the HMPC that described the purpose and process of developing a vision for the planning process and setting planning goals and objectives, a comprehensive range of mitigation alternatives, and 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 IV to review and approve, contingent upon final adoption by the Region and its 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 appropriate mitigation actions.

Section 8 Plan Maintenance provides an overview of the overall strategy for plan implementation and maintenance and outlines the method and schedule for monitoring, updating, and evaluating the plan. Section 8 also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement.

2.4 HAZARD MITIGATION PLANNING COMMITTEE

As with the previous plan, this Hazard Mitigation Plan was developed under the guidance of an HMPC. The Committee members included representatives of County City, and Town departments, federal and state agencies, citizens and other stakeholders.

To reconvene the planning committee, a letter was sent via email to all County, City, and Town Hazard Mitigation Planning Committee (HMPC) contacts from the previous planning effort. 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 County, City, and Town officials in order to improve the integration of stakeholder input into the plan. Table 2.4 details the HMPC members and the agencies and jurisdictions they represented.

The formal HMPC meetings followed the 10 CRS Planning Steps. Agendas, minutes, and sign-in sheets for the HMPC meetings are included in Appendix B. The meeting dates and topics discussed are summarized in Section 0 Meetings and Workshops. All HMPC meetings were open to the public.

The DMA planning regulations and guidance stress that to satisfy multi-jurisdictional participation requirements, 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 N.E.W. HMPC, “participation” meant the following:

- Providing facilities for meetings;
- Attending and participating in the HMPC meetings;
- Collecting and providing requested data (as available);
- Completing the Local Capability Self-Assessment;
- Providing an update on previously adopted mitigation actions;
- 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 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 despite the fact that 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.

Table 2.4 – HMPC Members

Jurisdiction	Representative	Agency	Position or Title
CRS Steering Committee			
Nashville	Julie Spriggs	Town of Nashville Planning & Development	Planning & Development Director
Nashville	Tina Price	Town of Nashville Planning & Development	Planner I
Nashville	Sandy Hall	North Carolina Cooperative Extension	Citizen of Nashville/Resides Near the Floodplain
Nashville	Barbara Wright	Citizen of Nashville	Citizen of Nashville
Nashville	Amanda Clark	The Nashville Graphic	Local Newspaper Staff Writer
Rocky Mount	JoSeth Bocook	Planning Department	Planning Administrator
Rocky Mount	Donnie Daniels*	Rocky Mount Fire Department	Division Chief of Operations and Emergency Management Coordinator
Rocky Mount	Carl Moore	Rocky Mount Fire Department	Fire Battalion Chief
Rocky Mount	Kim Langston	Nash UNC Hospital	Emergency Management Coordinator/Emergency Department Director
Rocky Mount	Mike Latham	Nash Community College	President of Student and Enrollment Services
Tarboro	Catherine Grimm	Planning	Planning Director
Tarboro	Bruce Edwards	Police	Lieutenant
Tarboro	Thad Winstead	Fire	Fire Captain
Tarboro	John Pigg	NCCUMC	N/A
Wilson	Janet Holland	Development Services	N/A
Wilson	Jessica Watson	Development Services	N/A
Wilson	Kelly Vick	Wilson Housing Authority	President/CEO
Wilson	Alan Winstead	NC Farm Bureau	Agent
HMPC Working Group			
Nash County	Brent Fisher	Nash County Emergency Services	Assistant Director (Fire/Rescue & Emergency Management)
Nash County	Adam Tyson	Nash County Planning & Inspections	Planning Director
Nash County	Valerie Harris	Soil & Water	N/A
Nash County	Adam Culpepper	Nash County	N/A
Nash County	Carolyn Stern	American Red Cross	Disaster Specialist
Nash County	Olivia Moss	Nash Community College - Primary	Director of EMS Programs
Nash County	Bryant Waters	Nash Community College - Secondary	Emergency Management Curriculum Coordinator
Nash County	Kim Langston	Nash UNC Hospital	Emergency Management Coordinator/Emergency Department Director
Nash County	Jonathan Boone	Nash County	Public Utilities Director
Nash County	Nancy Nixon	Citizen	Retired County Planning Director
Nash County	Clifford B. Miller III	UNC Nash Healthcare	N/A

Jurisdiction	Representative	Agency	Position or Title
Nash County	Jennifer Boulder	UNC Nash Emergency Dept.	N/A
Nash County	Brian Miller	Nash Rocky Mount School System	Chief of Staff
Bailey	Thomas Richards	Town of Bailey	Mayor
Bailey	Joel Killion	Town of Bailey	Board Police Representative
Castalia	James Alston	Town of Castalia	Board Member
Dortches	Gerald Batts	Town of Dortches	Town Administrator
Dortches	Thomas Bottoms	N/A	Citizen of Dortches/Retired Fire Inspector
Middlesex	LuHarvey Lewis	Town of Middlesex	Mayor
Middlesex	Gloria Vinson	Town of Middlesex	Town Clerk
Momeyer	Karen Hendricks	Town of Momeyer	Town Clerk/Zoning Administrator
Momeyer	Jordan Jackson	Spring Acres Sales Company	Citizen of Momeyer ETJ/Technical & Regulatory Director for Sweet Potato Grower/Wholesaler
Red Oak	Levell Langley	Town of Red Oak	Mayor
Red Oak	Tracy Shearin	Town of Red Oak	Town Clerk
Red Oak	Scott Briley	Town of Red Oak Planning Board	Planning Board Member
Sharpsburg	Tracy Sullivan	Town of Sharpsburg	Town Clerk
Sharpsburg	Marvin Robbins	Sharpsburg Volunteer Fire Department	Volunteer Fireman
Spring Hope	Jae Kim	Town of Spring Hope	Town Manager
Spring Hope	Nathan Gant	Town of Spring Hope	Police Chief
Spring Hope	Scott Strickland	Citizen of Spring Hope	ETL/Police Officer
Whitakers	Linda Bonnette	Town of Whitakers	Town Administrator
Whitakers	Joyce Bailey	Town of Whitakers	Town Clerk
Whitakers	Carlina Hopkins	Active Citizen	Citizen
Edgecombe County	Cynthia Jones	Edgecombe County Planning	Director
Edgecombe County	Daniel Webb	Edgecombe County Emergency Services	ES Coordinator
Edgecombe County	David Coker	Retired School Maintenance Director	Citizen
Princeville	Antwan Brown	Volunteer Fire Chief-Princeville FD	Citizen
Wilson County	Gordon Deno	Emergency Management	Director
Wilson County	Rodney Dancy	N/A	Community Preparedness Coord
Wilson County	Mark Johnson	Planning	Director
Wilson County	Scott Thomas Sr.	Great Gardens	Owner
Wilson County	Phil Batts	Silver Lake Volunteer Fire Dept	Fire Chief
Elm City	Deana Owens	Town of Elm City	Interim Town Administrator
Saratoga	Elaine Saunders	Town of Saratoga	Commissioner
Sims	Miranda Boykin	Town of Sims	Mayor
Stantonsburg	Gary Davis	Town of Stantonsburg	Manager
Stantonsburg	Mr. Dooley Ezzard	N/A	Citizen

*Vacated position during the planning process. Replaced by new Battalion Chief.

Note that, due to administrative capability limitations, the Towns of Conetoe, Leggett, Macclesfield, Pinetops, and Speed were represented by Edgecombe County and the Towns of Black Creek and Lucama were represented by Wilson County. Letters from each Town designating the County as their planning lead can be found in Appendix B.

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 2.5 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 2.5 – Summary of HMPC Meetings

Meeting Title	Meeting Topic	Meeting Date	Meeting Location
HMPC Mtg. #1 – Project Kickoff	1) Introduction to DMA, CRS, and FMA requirements and the planning process 2) Review of HMPC responsibilities and the project schedule.	April 15, 2019	Nash Community College, 3866 Eastern Avenue, Rocky Mount
HMPC Mtg. #2	1) Review and update plan goals 2) Brainstorm a vision statement 3) Report on status of actions from the 2015 plan 4) Complete the capability assessment	June 24, 2019	Nash Community College, 3866 Eastern Avenue, Rocky Mount
HMPC Mtg. #3	1) Review draft Hazard Identification & Risk Assessment (HIRA) 2) Review draft goals and objectives 3) Draft Mitigation Strategies	September 12, 2019	Nash Community College, 3866 Eastern Avenue, Rocky Mount
HMPC Mtg. #4	1) Review the Draft Hazard Mitigation Plan 2) Solicit comments and feedback	May 27, 2020	Zoom Video Conference Call

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 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 2.6.

Table 2.6 – Summary of Public Meetings

Meeting Title	Meeting Topic	Meeting Date	Meeting Location
Public Meeting #1	1) Introduction to DMA, CRS, and FMA requirements and the planning process 2) Review of HMPC responsibilities and the project schedule.	April 15, 2019	Red Oak Town Hall, 8406 Red Oak Boulevard, Red Oak
Public Meeting #2	1) Review "Draft" Hazard Mitigation Plan 2) Solicit comments and feedback	June 4, 2020	Zoom Video Conference Call

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 2.7 details public outreach efforts employed during the preparation of this plan.

Table 2.7 – Public Outreach Efforts

Location	Date	Event/Message
Plan website	Ongoing	Meeting announcements, meeting materials, and description of hazards; contact information provided to request additional information and/or provide comments
Local community websites	April 2019	Public Meeting #1 announcements posted
Local community websites	April 2019	Link to the plan website and survey shared to expand reach
Public survey	March 2019 – March 2020	Survey hosted online and made available via shareable link on plan website and in hard copy at public meeting.
Plan website - HIRA draft	September 2019	Draft HIRA made available for review and comment online
Mitigation Flyer	April 2020	Outreach flyer posted online prior to final public meeting
Plan website - Draft Plan	May 2020	Full draft plan made available for review and comment online

Documentation of these public outreach efforts is provided in Appendix B.

A public outreach survey was made available in March 2019 and remained open for response until March 2020. The public survey requested public input into the Hazard Mitigation Plan planning process and the identification of mitigation activities to lessen the risk and impact of future hazard events. The survey is shown in Appendix B. The survey was available in hard copy at the first public meeting and online on the plan website. In total, 41 survey responses were received. The following is a list of high-level summary results and analysis derived from survey responses:

- 48.8% of responses were from Nash County, 31.7% were from Edgecombe County, 14.6% were from Wilson County, and 4.8% were from other areas.
- Over 95% of respondents are homeowners.
- Most (63.4%) respondents say they feel somewhat prepared for a hazard event; less than 5% feel not at all prepared while 31.7% feel very prepared.
- Over 14% of respondents do not know where evacuation centers or storm shelters are located; however, 97.6% of respondents say they are able to evacuate or take shelter if necessary, which

suggests that many people evacuate or take shelter through their own resources. It is possible that these results skew toward those with more awareness of hazard risk and resources to respond.

- 22% of respondents do not know where to get more information on hazard risk and preparedness.
- Hurricane was by far rated the most significant hazard, followed by flood, severe weather, tornado and extreme heat. Earthquake was rated the least significant hazard, followed by sinkhole.
- Many respondents reported having taken steps to mitigate risk at home; these efforts primarily include property protection and preparedness measures.
- Respondents largely favored structural projects, emergency services, and prevention options for mitigation.

Detailed survey results are provided in Appendix B.

2.8 INVOLVING THE STAKEHOLDERS

In addition to representatives of each participating jurisdiction, the HMPC included a variety of stakeholders. Stakeholders on the HMPC included representatives from UNC Nash hospital, Nash Community College, the Nashville Graphic, North Carolina Cooperative Extension, NC Farm Bureau, and Wilson Housing Authority, as well as local business owners and residents, among others. Representatives from FEMA Region IV and NCEM 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 2.8 below details the status of mitigation actions from the previous plan. More detail on actions being carried forward is provided in Section 7 Mitigation Action Plans. Note that mitigation actions are grouped by county to allow for county-led multi-jurisdictional actions to be carried forward and/or newly developed.

Table 2.8 – Status of Previous Mitigation Actions

Jurisdiction	Completed	Deleted	Carried Forward
Nash County	4	0	4
Town of Bailey	1	0	6
Town of Castalia	1	0	5
Town of Dortches	3	0	1
Town of Middlesex	1	0	5
Town of Momeyer	1	2	2
Town of Nashville	1	0	3
Town of Red Oak	1	0	4
Town of Sharpsburg	0	0	3
Town of Spring Hope	1	0	3
Edgecombe County	4	1	10
City of Rocky Mount	4	0	11
Town of Conetoe	2	0	4
Town of Leggett	3	1	4

Jurisdiction	Completed	Deleted	Carried Forward
Town of Macclesfield	2	0	5
Town of Pinetops	2	1	6
Town of Princeville	2	0	3
Town of Speed	1	0	5
Town of Tarboro	4	0	3
Town of Whitakers	1	0	5
Wilson County	3	0	12
City of Wilson	2	0	12
Town of Black Creek	1	0	3
Town of Elm City	1	0	5
Town of Lucama	1	0	3
Town of Saratoga	3	0	3
Town of Sims	1	0	3
Town of Stantonsburg	6	0	5
Total	**57**	**5**	**138**

Table 2.9 on the following pages details all completed and deleted actions from the 2015 plan.

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 2.9 – Completed and Deleted Actions from the 2015 N.E.W. Regional Hazard Mitigation Plan

2015 Action #	Jurisdictions	Description	2019 Status	Status Comments/Explanation
Nash County				
PP-3	Nash County	Count building improvements cumulatively and maintain permit history so when cumulative improvements equal 50% of building value (substantial improvement), building must be brought up to flood protection standards for new construction (CRS 430)	Completed	Current permitting software enables tracking by physical address/tax parcel ID since mid-2013.
PP-4	Nash County	Update area-specific mapping data for all hazards and hazard-prone areas, especially wildfires and flood	Completed	Flood mapping data is updated with newest changes to FIRM panels (2014). Dam/reservoir locations now available via state data. Other hazards are countywide.
ES-4	Nash County	Evaluate flood or access problems for critical facilities; develop recommendations for protecting critical facilities. Identify alternate command posts	Completed	See Action #ES-2 regarding identification, evaluation, and protection of critical facilities. An alternate Emergency Operations Center has been constructed and is operating. Existing fire stations serve as additional back-up sites.
ES-6	Nash County	Evaluate alternatives for emergency shelter opportunities in the southern Nash County area	Completed	Alternative emergency shelter sites have been identified and evaluated, including: Southern Nash High School, Southern Nash Middle School, & Middlesex Baptist Church.
ES-2	Bailey	Encourage or assist residents through information to sign up for the County's emergency warning notification system	Completed	
ES-1	Casatalia	Encourage or assist residents through information to sign up for the County's emergency warning notification system	Completed	
P-3	Dortches	Establish a three or more member local Hazard Mitigation Committee	Completed	
ES-2	Dortches	Encourage or assist residents through information to sign up for the County's emergency warning notification system	Completed	
PE-3	Dortches	Obtain FEMA handouts and make available for residents at Town Hall	Completed	
ES-2	Middlesex	Encourage or assist residents through information to sign up for the County's emergency warning notification system	Completed	
P-1	Momeyer	Momeyer plans to work with Nash County to produce a digital zoning map	Delete	No longer a priority
P-2	Momeyer	Establish a three or more member local Hazard Mitigation Committee	Delete	No longer a priority

2015 Action #	Jurisdictions	Description	2019 Status	Status Comments/Explanation
ES-1	Momeyer	Establish Early Warning System to ensure adequate evacuation time for major events and evaluate areas with limited evacuation capacity and pursue methods of improving capacity. Encourage Nash County EMS CodeRed phone contact system for localized emergencies; coordinate with Nash EMS for MHP evacuation plan	Completed	Code Red Notification VIA Nash County EM
PE-2	Nashville	Update website to provide link to FEMA preparedness info	Completed	
P-1 (new)	Red Oak	Establish a three or more member local Hazard Mitigation Committee	Completed	
ES-1	Spring Hope	Encourage or assist residents through information to sign up for "Code Red" or the County's emergency warning notification system	Completed	
Edgecombe County				
P-2	Edgecombe County	Implement new county EOP	Completed	The EOP gets reviewed each year and updated as needed
P-3	Edgecombe County	Implement New County Debris Management Plan	Completed	It was updated in 2018
P-4	Edgecombe County	Establish a three or more member local Hazard Mitigation Committee	Completed	
PP-1	Edgecombe County	Provide constant power supply to Administration Building	Deleted	Not doing due to cost
ES-1 previous	Edgecombe County	Increase participant in use of Code Red system through information to residents to encourage sign up	Completed	Adding new members in the community as they move in.
PE-3	Conetoe	Make citizens aware of NFIP	Completed	
P-4	Conetoe	Establish a three or more member local Hazard Mitigation Committee	Completed	
P-4	Leggett	Establish a three or more member local Hazard Mitigation Committee	Completed	
P-5	Leggett	Emergency Animal Shelter	Completed	Use Edgecombe County's
PP-3	Leggett	Power loos, back-up generators at shelters	Completed	Edgecombe County handles the shelters
PP-4	Leggett	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; includes findings that will be presented to the elected governing Board	Deleted	No capacity to complete
P-2	Macclesfield	Emergency Animal Shelter	Completed	Use Edgecombe County's
P-3	Macclesfield	Establish a three or more member local hazard mitigation committee	Completed	
P-2	Pinetops	Emergency Animal Shelter	Completed	Use Edgecombe County's

2015 Action #	Jurisdictions	Description	2019 Status	Status Comments/Explanation
P-3	Pinetops	Establish a three or more member local hazard mitigation committee	Completed	
ES-2	Pinetops	Confirm that the existing "Black Board Connection" notification system will be utilized for natural disasters and other critical events	Deleted	No longer a priority
P-2	Princeville	Establish a three or more member local hazard mitigation committee	Completed	
ES-3	Princeville	Encourage or assist residents through information to sign up for "Code Red" and/or the County's emergency warning notification system	Completed	
P-3	Rocky Mount	Execute the Drought Management Implementation Plan	Completed	Continued use of Drought Management Plan during drought events is established
ES-1	Rocky Mount	Utilize "Code Red" public notification system	Completed	Established for ongoing use
ES-2	Rocky Mount	Enhance the City radio network's compatibility with surrounding jurisdictions by becoming VIPER compliant to facilitate communications with the State and surrounding local jurisdictions	Completed	VIPER compliant radio system; Completion of radio rebranding project by State of NC
PE-4	Rocky Mount	Develop and deliver hazard specific presentations to city employees and the public	Completed	Regular presentations planned for City cable access channel and website, with periodic workshops for City staff.
P-3	Speed	Establish a 3 or more member local Hazard Mitigation Committee	Completed	
P-3	Tarboro	Using codes, plans, ordinances, and certifications to regulate development in hazard areas	Completed	
NR-1	Tarboro	Work to develop a local erosion and sedimentation control program	Completed	
ES-1	Tarboro	Promote the Code Red System provided by Edgecombe County to citizens of the Town of Tarboro through handouts in the utility bill	Completed	
PE-1	Tarboro	Place information concerning the Town stormwater management plan and regulations on Town website	Completed	
P-1	Whitakers	Update zoning and subdivision regulations	Completed	
Wilson County				
P-12	Wilson County	Emergency water connects have been put in place that can connect Wilson with Rocky Mount, Kenly, Edgecombe County, Johnston County, Wayne County.	Completed	
P-14	Wilson County	Require all new developments with new roads and mobile home parks to develop an evacuation plan for all residents	Completed	Included in the Flood Protection Ordinance
ES-5	Wilson County	Encourage or assist residents through information to sign up for County's emergency notifications	Completed	
P-2	Black Creek	Establish or continue a three or more member local HM committee with private sector participation	Completed	

2015 Action #	Jurisdictions	Description	2019 Status	Status Comments/Explanation
P-1	Elm City	Establish a three or more member local Hazard Mitigation Committee	Completed	
ES-3	Lucama	Encourage or assist residents through information to sign up for County's emergency warning notification system	Completed	
PP-1	Saratoga	Install emergency back-up generators at the Lift stations in the event of extended power outages	Completed	
ES-1	Saratoga	Encourage or assist residents through information to sign up for County's emergency notifications	Completed	Town notifications available by website, email, text message
PE-2	Saratoga	Update Town website with accurate information on disaster preparedness, mitigation suggestions, and current conditions for all hazards	Completed	
ES-1	Sims	Encourage or assist residents through information to sign up for County's emergency warning notifications	Completed	
P-3	Stantonsburg	Strengthen the Water and Sewer Ordinance by adding language to specifically prohibit extending public services into flood hazard areas and other environmentally sensitive areas to discourage growth	Completed	This revision was adopted by the Town Council on April 8, 2019. It will be revised and/or amended as needed in the future.
NR-1	Stantonsburg	Amend the Water Shortage Response Plan as necessary (adopted April 2004)	Completed	This revision was adopted by the Town Council on March 2, 2018. It will be revised and/or amended as needed in the future.
ES-2	Stantonsburg	Install alarm systems and telemetry on the water treatment plant, booster station, water tanks, and existing wells in the event of extended power outages or other failures	Completed	The alarm and telemetry systems (plus back-up power generators) were installed at all water facilities as part of a major water system improvements project in September 2013
ES-3	Stantonsburg	Encourage or assist residents through information to sign up for County's emergency warning notifications	Completed	This project has been completed, but the Town Staff continues to encourage resident to sign up for this program.
PE-1	Stantonsburg	Work in conjunction with Wilson County to produce and maintain digital maps, including revisions to flood maps	Completed	This work has been completed and will be revised as needed in the future.
PE-2	Stantonsburg	Obtain FEMA handouts & make available for residents at Town Hall	Completed	This project has been implemented and is an ongoing process
P-4	City of Wilson	Emergency Management Operations: Review the Emergency Management Operational Plan on an annual basis and revise as needed	Completed	This is an established ongoing activity
PE-1	City of Wilson	Public Information: Develop a Program for Public Information (PPI)	Completed	PPI Completed in early 2020

3 Planning Area Profile

This section provides an overview of the current conditions and characteristics in Nash, Edgecombe, and Wilson Counties and their participating municipalities. It consists of the following sub-sections:

- 3.1 Geography and Environment
- 3.2 Population and Demographics
- 3.3 Historic Properties
- 3.4 Housing
- 3.5 Infrastructure
- 3.6 Current and Future Land Use
- 3.7 Employment and Industry

3.1 GEOGRAPHY AND ENVIRONMENT

The N.E.W. Region is located in the northwestern portion of the Eastern Coastal Plain of North Carolina. Nash and Edgecombe Counties are part of the Rocky Mount Metropolitan Statistical Area, and Wilson County comprises the Wilson Micropolitan Statistical Area. They are both part of the larger Rocky Mount-Wilson-Roanoke Rapids Combined Statistical Area. The Planning Area includes the following communities:

Table 3.1 – Participating Jurisdictions

Jurisdictions		
City of Rocky Mount	Town of Macclesfield	Town of Speed
City of Wilson	Town of Middlesex	Town of Spring Hope
Town of Bailey	Town of Momeyer	Town of Stantonsburg
Town of Black Creek	Town of Nashville	Town of Tarboro
Town of Castalia	Town of Pinetops	Town of Whitakers
Town of Conetoe	Town of Princeville	Unincorporated Nash County
Town of Dortches	Town of Red Oak	Unincorporated Edgecombe County
Town of Elm City	Town of Saratoga	Unincorporated Wilson County
Town of Leggett	Town of Sharpsburg	
Town of Lucama	Town of Sims	

Note: Rocky Mount, Sharpsburg, and Whitakers are each located in more than one County.

A location map is provided in Figure 3.1.

Nash County is located north of Wilson County. It is the largest of the three participating counties. The Town of Nashville is the county seat.

The N.E.W. Region comprises a total land area of 1,423 square miles. The total land area of each participating jurisdiction is listed in Table 3.2.

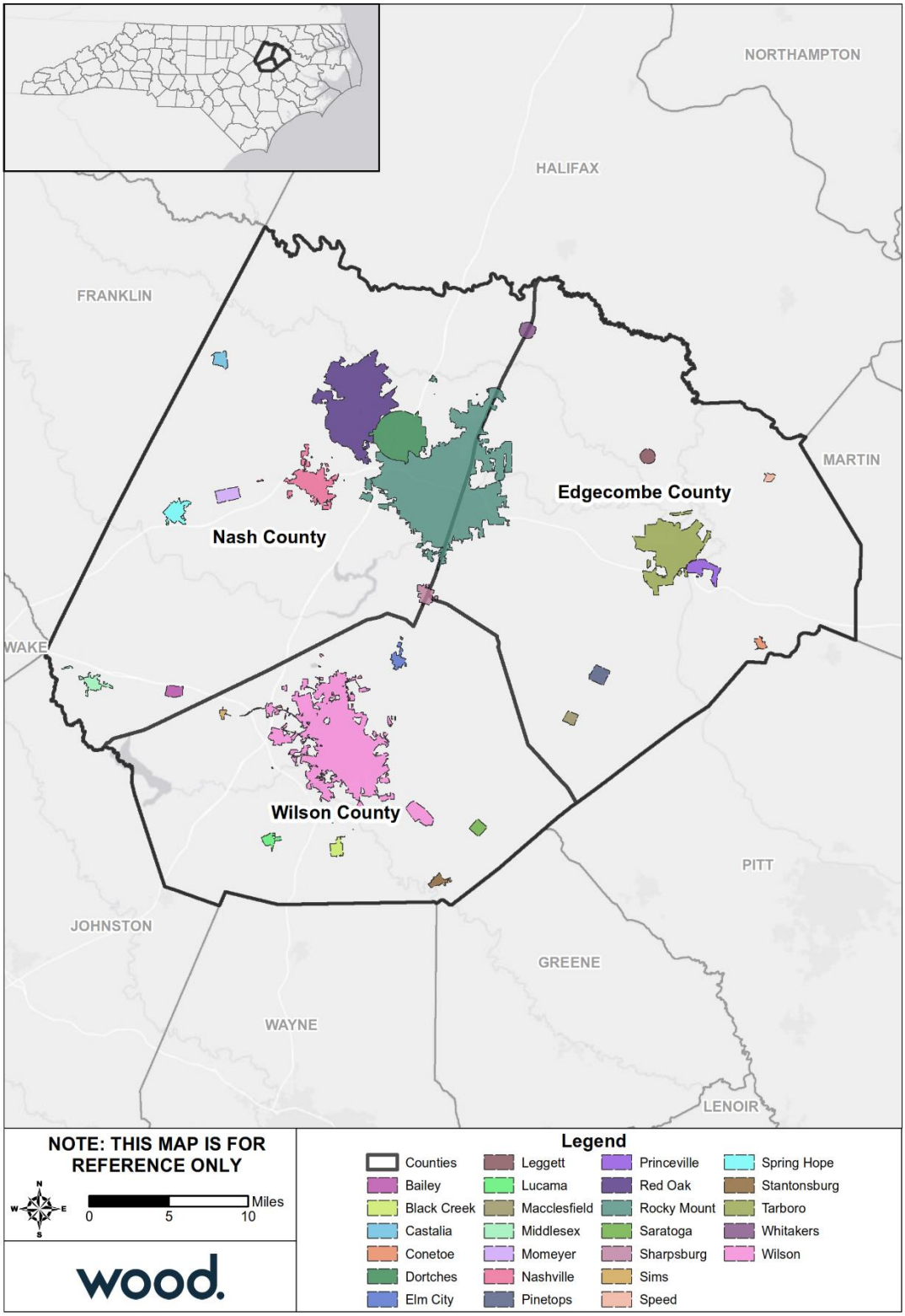
Table 3.2 – Total Land Area of Participating Jurisdictions

Jurisdiction	Total Land Area (sq. mi.)
City of Rocky Mount	44.40
City of Wilson	31.94
Town of Bailey	0.70
Town of Black Creek	0.72
Town of Castalia	0.75
Town of Conetoe	0.36

Jurisdiction	Total Land Area (sq. mi.)
Town of Dortches	8.08
Town of Elm City	0.77
Town of Leggett	0.70
Town of Lucama	0.62
Town of Macclesfield	0.52
Town of Middlesex	1.04
Town of Momeyer	1.11
Town of Nashville	4.66
Town of Pinetops	1.00
Town of Princeville	1.52
Town of Red Oak	19.54
Town of Saratoga	0.64
Town of Sharpsburg	1.02
Town of Sims	0.17
Town of Speed	0.28
Town of Spring Hope	1.51
Town of Stantonsburg	0.59
Town of Tarboro	11.59
Town of Whitakers	0.82
Nash County	**542.64**
Edgecombe County	**506.52**
Wilson County	**374.20**
N.E.W. Region Total	***1,423.36***

Source: US Census Bureau TIGER/Line, 2018

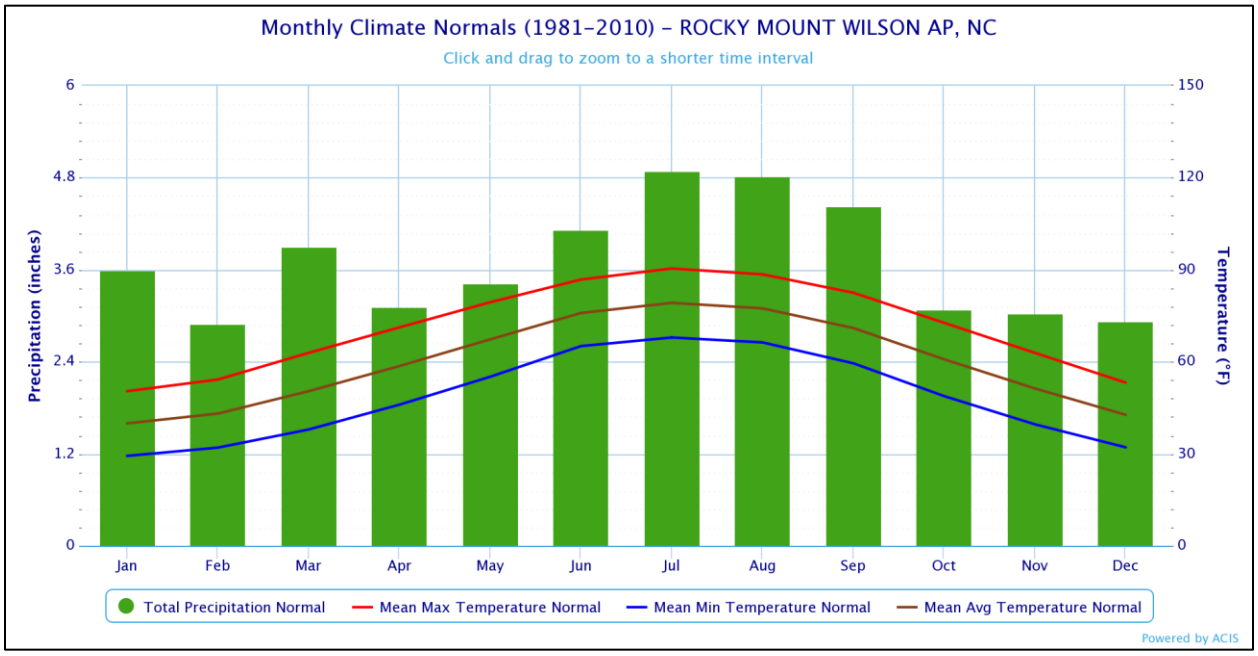
Figure 3.1 – N.E.W. Region and Participating Jurisdictions Location Map



Source: US Census Bureau TIGER/Line, 2018

According to the Köppen climate classification system, the N.E.W. Region has a humid subtropical climate characterized by mild winters and hot humid summers with significant precipitation even during the driest month. The region experiences an average annual high temperature of 71.3°F and an average annual low of 48.3°F. Average annual rainfall is approximately 44.3 inches and average annual snowfall is 3.8 inches. Figure 3.2 shows the average monthly precipitation for the Rocky Mount Wilson Airport weather station, which approximates temperature and precipitation of the region.

Figure 3.2 – Average Monthly Precipitation



Source: Northeast RCC CLIMOD 2.

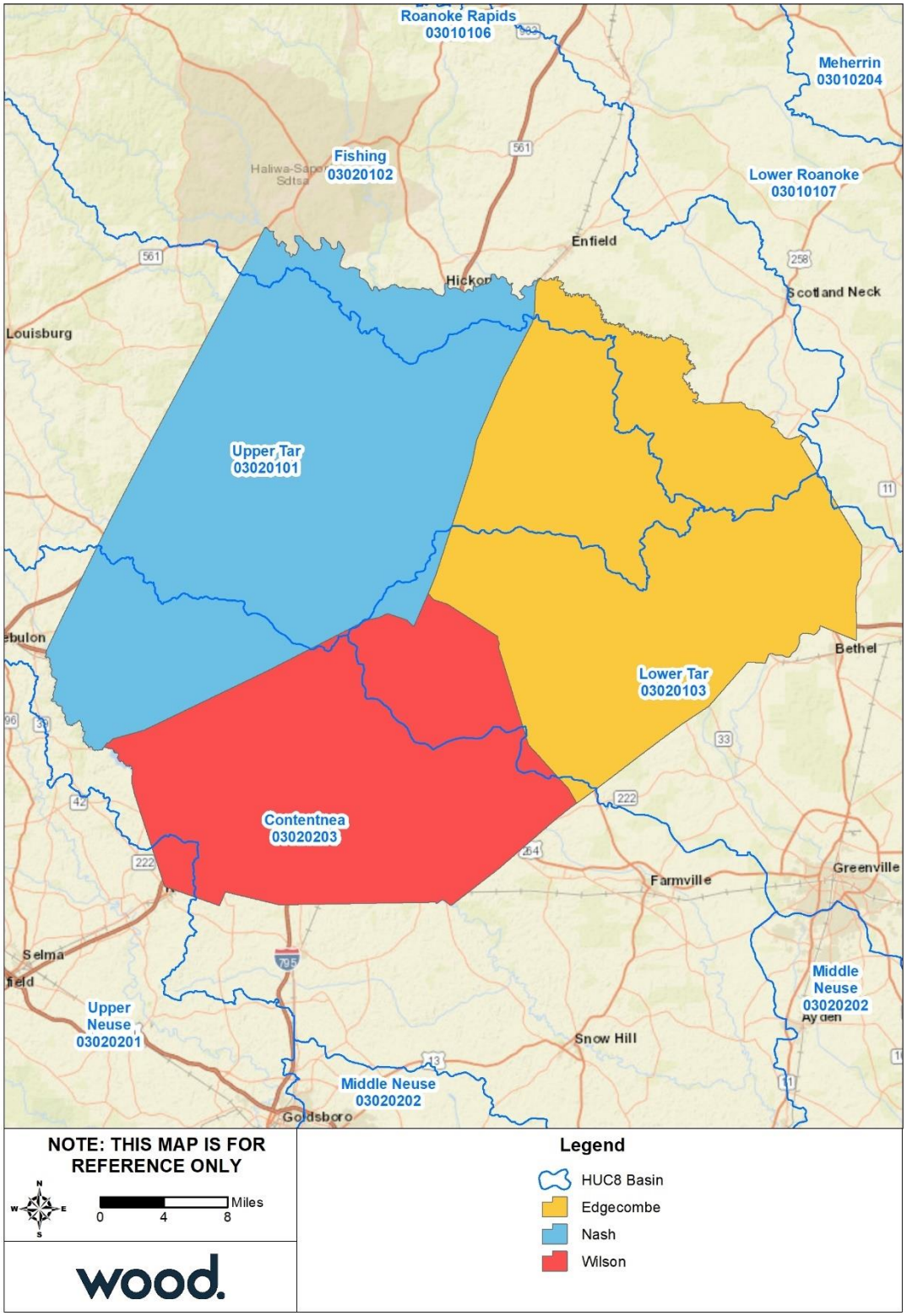
As shown in the map of HUC-8 watersheds in Figure 3.3, most of the N.E.W. Region falls within three watersheds: Upper Tar, Lower Tar, and Contentnea. Small portions of northern Edgecombe and Nash Counties are within the Fishing watershed and the southwestern corner of Wilson County is within the Upper Neuse watershed. The Tar River runs from the southeastern border of Edgecombe County, through the center of the county and Tarboro and into Nash County near Rocky Mount

Wetlands

Wetlands areas are shown by type in Figure 3.4, Figure 3.5, and Figure 3.6.

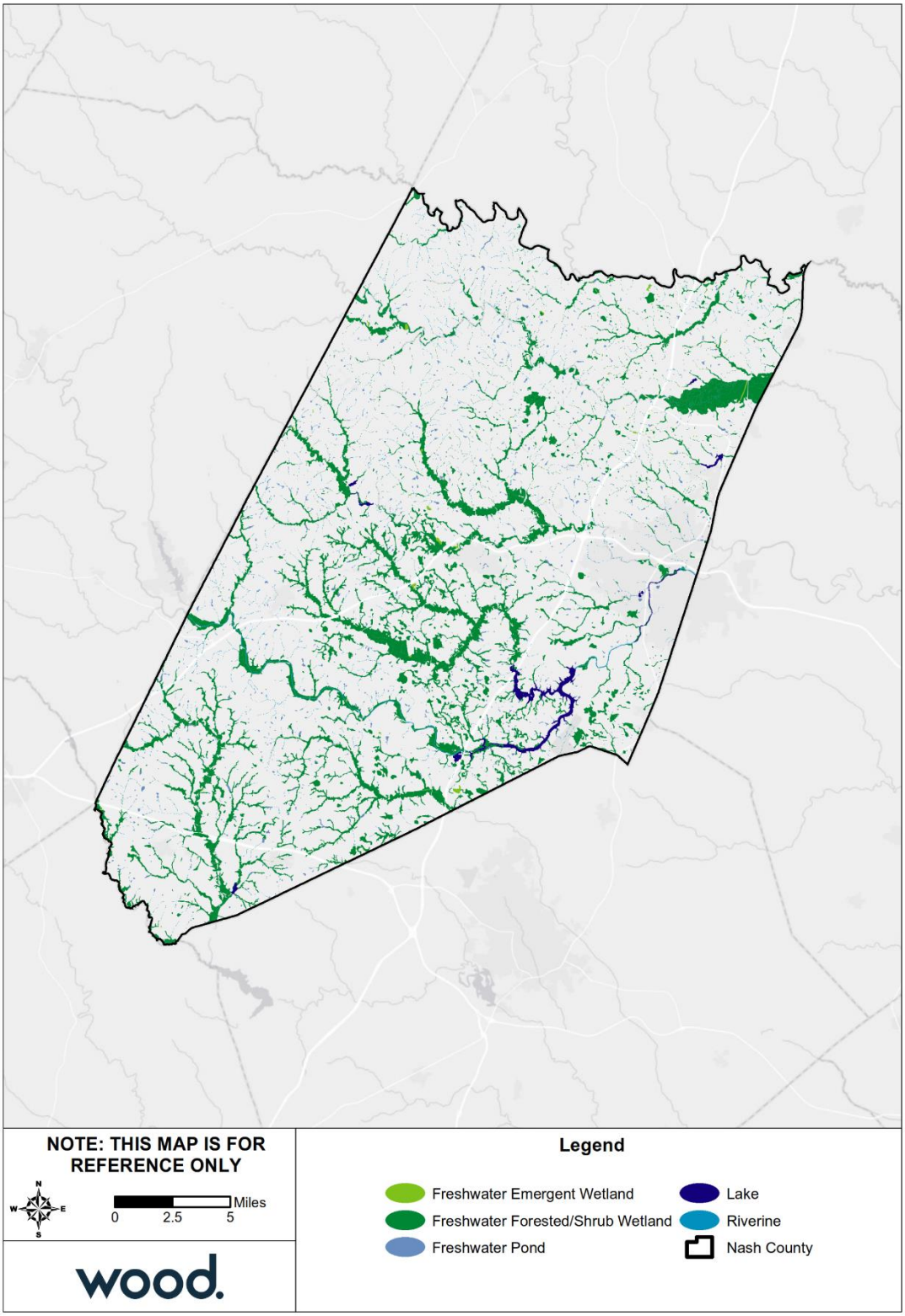
Natural and Beneficial Floodplain Functions: The benefits of floodplains and wetlands are hard to overestimate. They provide critical habitat for many plant and animal species that could not survive in other habitats. They are also critical for water management as they absorb and store vast quantities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

Figure 3.3 – HUC-8 Drainage Basins



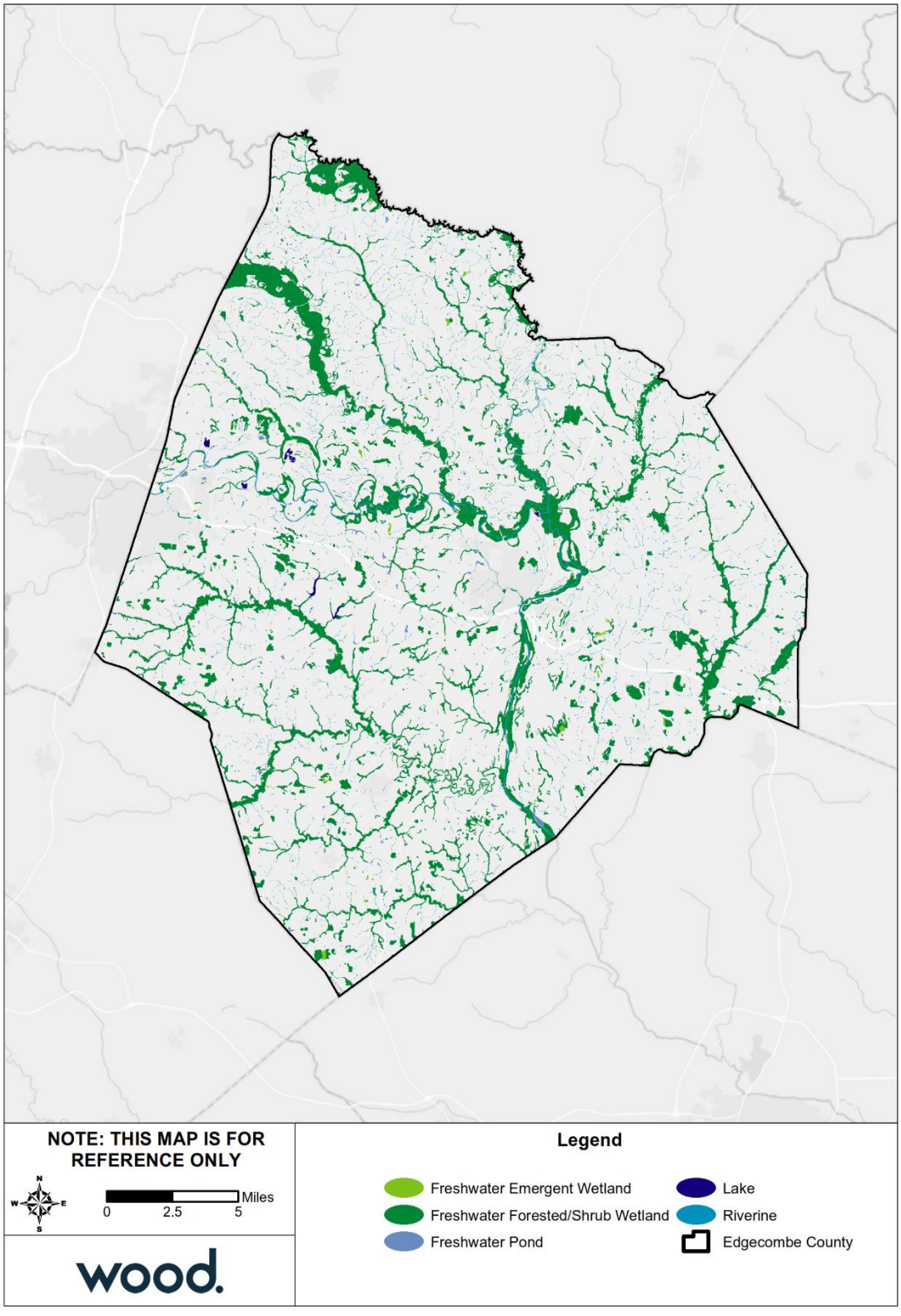
Source: USDA Natural Resources Conservation Service
Source: U.S. Fish & Wildlife Service, National Wetlands Inventory - Version

Figure 3.4 – Wetlands by Type in Nash County



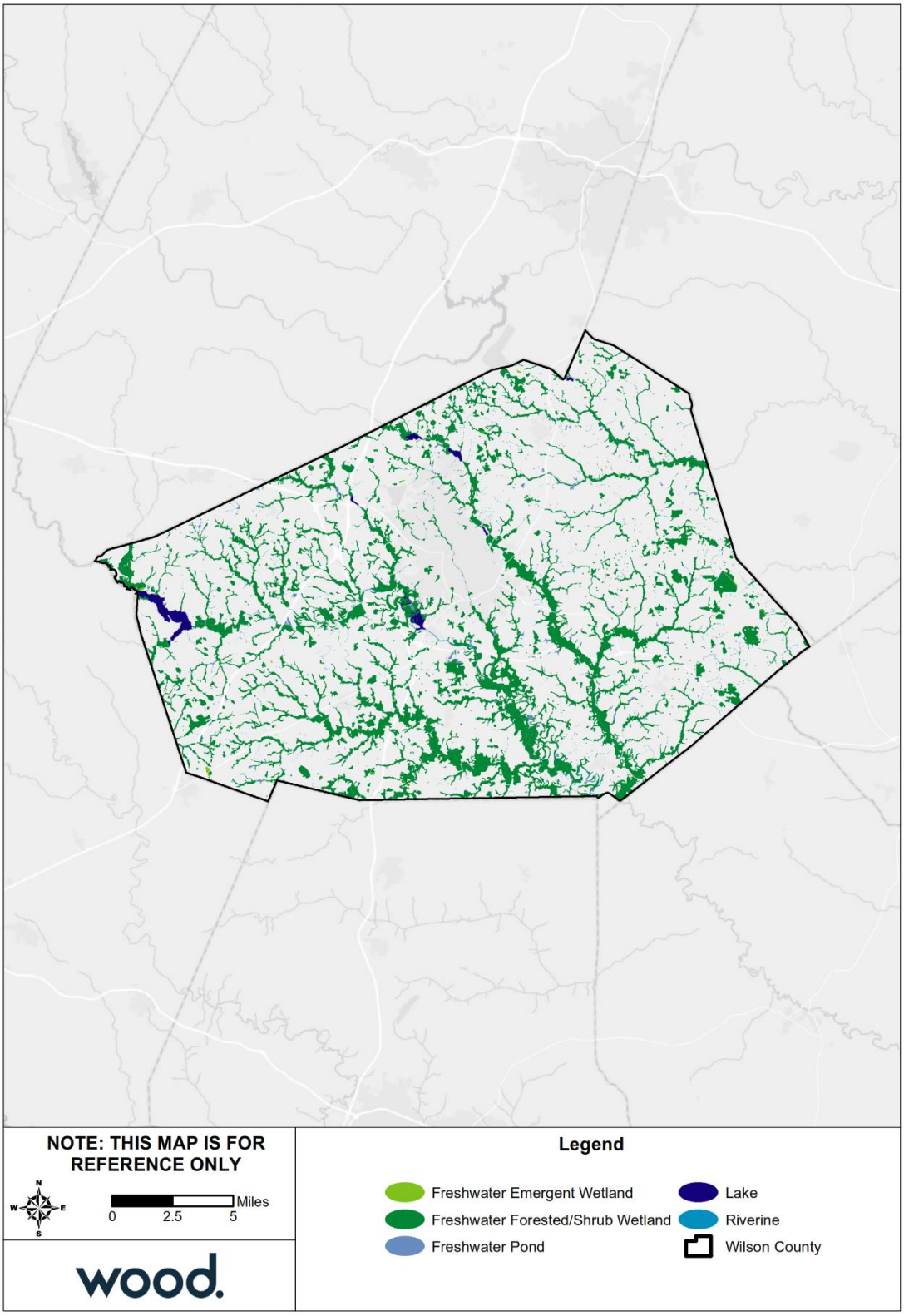
Source: U.S. Fish & Wildlife Service, National Wetlands Inventory

Figure 3.5 – Wetlands by Type in Edgecombe County



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

Figure 3.6 – Wetlands by Type in Wilson County



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

Parks, Preserve, and Conservation

Nash County has four community parks, which cover 113 acres, as well as three smaller town parks, each between 2-3 acres.

Edgecombe County's main park space is the Indian Lake Sports Complex in Tarboro, which has a baseball field, four softball fields, two soccer fields, four tennis courts, and a playground. Tarboro also has a 15-acre town common.

Wilson County has 25 parks, most located in the City of Wilson. The County also has nearly 1,200 acres of recreational land use at Buckhorn Reservoir.

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. In total, Nash, Edgecombe, and Wilson Counties have eight unique 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 – Threatened and Endangered Species

Group	Common Name	Scientific Name	Federal Status
Amphibians	Neuse River waterdog	Necturus lewisi	Under Review
Birds	Red-cockaded woodpecker	Picoides borealis	Endangered
Clams	Tar River spinymussel	Elliptio steinstansana	Endangered
Clams	Dwarf wedgemussel	Alasmidonta heterodon	Endangered
Clams	Yellow lance	Elliptio lanceolata	Threatened
Clams	Atlantic pigtoe	Fusconaia masoni	Proposed Threatened
Fishes	Carolina madtom	Noturus furiosus	Under Review
Flowering Plants	Michaux's sumac*	Rhus michauxii	Endangered

Source: U.S. Fish & Wildlife Service
*Michaux's sumac is not listed for Edgecombe County.

3.2 POPULATION AND DEMOGRAPHICS

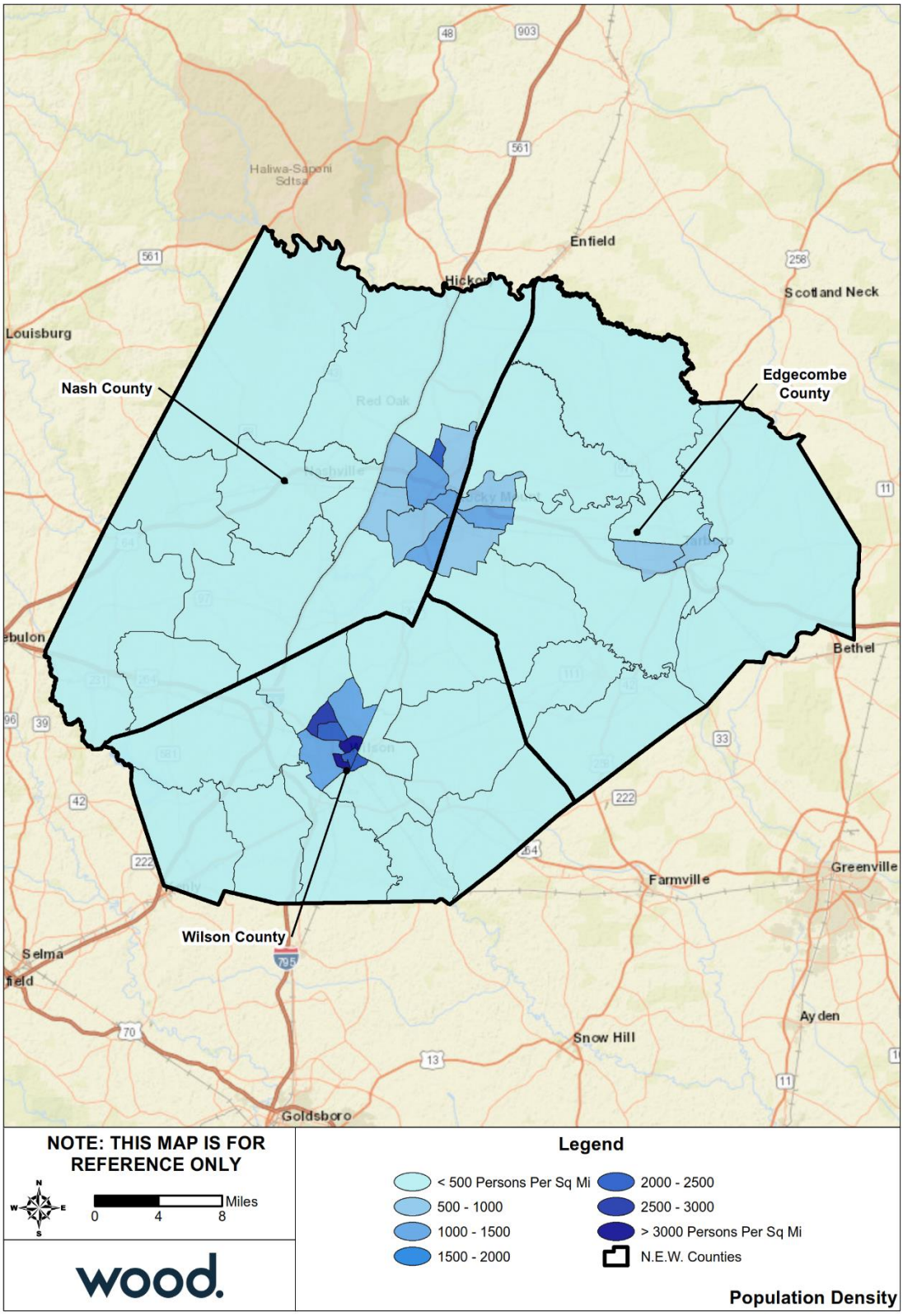
The N.E.W. Region experienced moderate growth from 2000 to 2010, but in recent years that trend has slowed and, in many cases, reversed. The three-county N.E.W. region had 233,626 residents at the time of the 2010 U.S. Census and an estimated population of 228,671 in 2018, which is an overall decline of 2.12 percent. Only Wilson County was estimated to have experienced growth during this period, and that was at a modest rate of 0.13 percent. The City of Rocky Mount, the largest city in the region, declined in population by 4.34 percent from 2010 to 2018. The largest relative population gain was in the Town of Sims, which grew by over 80 percent, or an absolute population gain of 228 people. Edgecombe County has experienced the greatest population decline in the Region over this period, losing over 3,200 residents. Table 3.4 provides population counts from 2000, 2010, and 2018 for each of the participating jurisdictions. Figure 3.7 shows population density by Census tract across the counties in persons per square mile.

Table 3.4 – N.E.W. Region Population Counts

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
City of Rocky Mount*	55,893	57,477	54,982	-2,495	-4.34%
City of Wilson	44,405	49,167	49,230	63	0.13%
Town of Bailey	670	569	450	-119	-20.91%
Town of Black Creek	714	769	865	96	12.48%
Town of Castalia	340	268	418	150	55.97%
Town of Conetoe	365	294	294	0	0.00%
Town of Dortches	809	935	1,085	150	16.04%
Town of Elm City	1,165	1,298	1,360	62	4.78%
Town of Leggett	77	60	42	-18	-30.00%
Town of Lucama	847	1,108	1,200	92	8.30%
Town of Macclesfield	458	471	555	84	17.83%
Town of Middlesex	838	822	966	144	17.52%
Town of Momeyer	291	224	279	55	24.55%
Town of Nashville	4,309	5,352	5,523	171	3.20%
Town of Pinetops	1,419	1,374	1,273	-101	-7.35%
Town of Princeville	940	2,082	2,357	275	13.21%
Town of Red Oak	2,723	3,430	3,411	-19	-0.55%
Town of Saratoga	379	408	502	94	23.04%
Town of Sharpsburg*	2,421	2,024	2,158	134	6.62%
Town of Sims	128	282	510	228	80.85%
Town of Speed	70	80	73	-7	-8.75%
Town of Spring Hope	1,261	1,320	1,603	283	21.44%
Town of Stantonsburg	726	784	683	-101	-12.88%
Town of Tarboro	11,138	11,415	11,045	-370	-3.24%
Town of Whitakers*	799	744	921	177	23.79%
Nash County	**87,420**	**95,840**	**94,003**	**-1,837**	**-1.92%**
Edgecombe County	**55,606**	**56,552**	**53,332**	**-3,220**	**-5.69%**
Wilson County	**73,814**	**81,234**	**81,336**	**102**	**0.13%**
N.E.W. Counties Total	***216,840***	***233,626***	***228,671***	**-4,955**	**-2.12%**

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2018 5yr Estimates (2014-2018)
Note: Rocky Mount, Sharpsburg, and Whitakers are each located in more than one County.

Figure 3.7 – Population Density, 2017



Source: U.S. Census Bureau, American Community Survey 2013-2017 5-Year Estimates

The racial characteristics of the participating jurisdictions are shown in Table 3.5. There is no racial majority in the region, with the population 49% white and 44% black. Under one percent of the population describe themselves as Asian, and the remainder of the population describes themselves as some other race. However, there is great geographic variation in these racial demographics. For example, Sharpsburg, Speed, Princeville, and Whitakers are all more than 70% black; Momeyer and Red Oak are more than 80% white; and Lucama and Sims have large Hispanic populations, at 33.7% and 22.4% respectively.

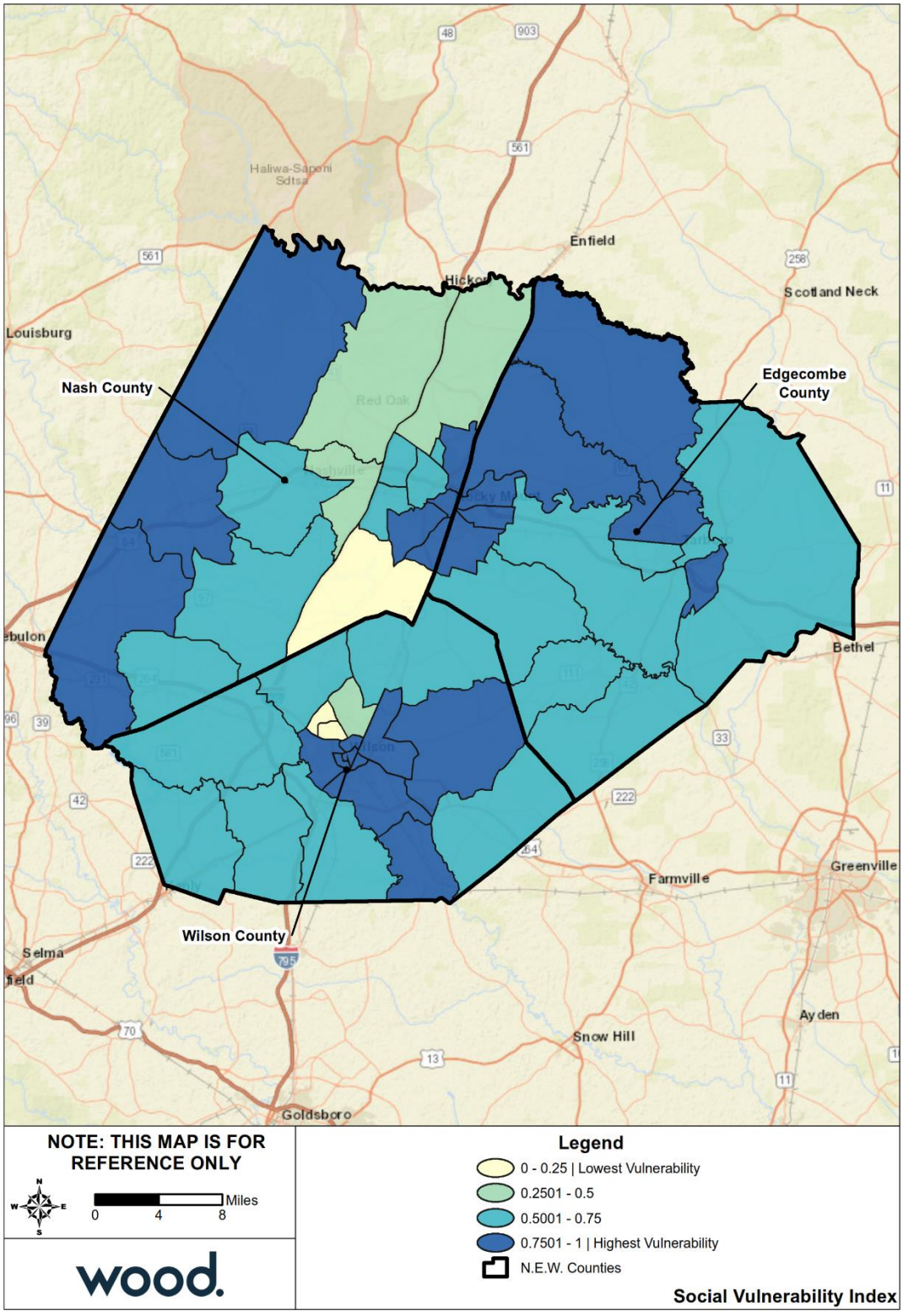
Table 3.5 – Racial Demographics of N.E.W. Region Jurisdictions, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
City of Rocky Mount	29.5	64.0	1.3	2.3	2.9	3.6
City of Wilson	42.4	47.9	1.2	5.7	2.8	10.1
Town of Bailey	70.4	8.4	0.0	9.0	12.2	12.0
Town of Black Creek	57.7	37.6	0.0	4.4	0.3	7.6
Town of Castalia	42.6	56.7	0.0	0.7	0.0	0.7
Town of Conetoe	34.4	58.5	0.0	6.1	1.0	6.1
Town of Dortches	67.8	30.0	0.6	0.0	1.6	1.3
Town of Elm City	33.8	53.2	1.4	5.9	5.7	7.8
Town of Leggett	47.6	52.4	0.0	0.0	0.0	0.0
Town of Lucama	54.7	16.4	0.0	26.2	2.7	33.7
Town of Macclesfield	67.9	20.7	0.0	11.4	0.0	12.3
Town of Middlesex	62.8	29.8	0.0	7.4	0.0	15.4
Town of Momeyer	93.2	3.2	0.0	0.0	3.6	9.7
Town of Nashville	57.7	38.9	0.0	0.1	3.3	0.0
Town of Pinetops	38.3	61.7	0.0	0.0	0.0	2.8
Town of Princeville	2.8	93.4	0.0	0.0	3.8	2.4
Town of Red Oak	88.7	11.3	0.0	0.0	0.0	0.6
Town of Saratoga	43.8	54.6	0.0	0.8	0.8	2.2
Town of Sharpsburg	17.2	73.7	0.0	3.5	5.6	3.2
Town of Sims	68.2	14.9	0.0	16.9	0.0	22.4
Town of Speed	24.7	75.3	0.0	0.0	0.0	0.0
Town of Spring Hope	41.2	47.5	0.0	6.9	4.4	3.7
Town of Stantonsburg	44.7	50.1	0.0	1.1	4.1	2.2
Town of Tarboro	44.9	48.8	0.1	4.8	1.4	6.9
Town of Whitakers	16.5	78.0	0.0	0.0	5.5	2.7
Nash County	**52.9**	**39.2**	**1**	**4.1**	**2.8**	**6.8**
Edgecombe County	**38.5**	**57.3**	**0.1**	**2.2**	**1.9**	**4.4**
Wilson County	**51.1**	**39.5**	**0.8**	**6.2**	**2.4**	**10.2**
N.E.W. Counties Total	***48.9***	***43.5***	***0.7***	***4.5***	***2.4***	***7.5***

Source: US Census Bureau, American Community Survey 2014-2018 5-Year Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Figure 3.8 displays social vulnerability information for Nash, Edgecombe and Wilson Counties by census tract according to 2016 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 jurisdictions to prioritize pre-disaster aid, allocate emergency preparedness and response resources, and plan for the provision of recovery support.

Figure 3.8 – Social Vulnerability Index by Census Tract, 2016



Source: Centers for Disease Control and Prevention (CDC) / Agency for Toxic Substances and Disease Registry (ATSDR) / Geospatial Research, Analysis, and Services Program (GRASP)

3.3 HISTORIC PROPERTIES

As of October 17, 2018, Nash, Edgecombe, and Wilson Counties had 96 listings on the National Register of Historic Places. This list includes 26 Historic Districts. Listing on the National Register signifies that these structures and districts have been determined to be worthy of preservation for their historical or cultural values. Additionally, one of these properties, is listed as a National Historic Landmark; this property is located in Tarboro, which is in Edgecombe County.

Table 3.6 – National Register of Historic Places Listings in Nash, Edgecombe, and Wilson Counties

Ref#	Property Name	Status Date	Category	City	County
06000867	Morgan School	9/15/2006	Building	Bailey	Nash
71000577	St. John's Episcopal Church	2/18/1971	Building	Battleboro	Edgecombe
74001360	Meadows, The	5/16/1974	Building	Battleboro	Nash
82003491	Bellamy-Philips House	7/12/1982	Building	Battleboro	Nash
72000961	Old Town Plantation	12/1/1983	Building	Battleboro	Edgecombe
86000765	Aycock, Manalcus, House	2/13/1986	Building	Black Creek	Wilson
86000771	Lucas, Dr. H. D., House	2/13/1986	Building	Black Creek	Wilson
86001659	Black Creek Rural Historic District	10/14/1986	District	Black Creek	Wilson
100002597	Castalia School	6/22/2018	Building	Castalia	Nash
74001348	Wilkinson-Dozier House	10/23/1974	Building	Conetoe	Edgecombe
90000791	Worsley--Burnette House	5/24/1990	Building	Conetoe	Edgecombe
72000979	Dortch House	12/26/1972	Building	Dortches	Nash
88001050	Hart, Dr. Franklin, Farm	7/21/1988	District	Drake	Nash
86000763	Langley, W. H., House	2/13/1986	Building	Elm City	Wilson
86000769	Webb--Barron--Wells House	2/13/1986	Building	Elm City	Wilson
86000770	Elm City Municipal Historic District	2/13/1986	District	Elm City	Wilson
74001361	Arrington, Gen. Joseph, House	7/15/1974	Building	Hilliardston	Nash
16000561	Burt--Arrington House	8/22/2016	Building	Hilliardston	Nash
74001347	Mount Prospect	11/20/1974	Building	Leggett	Edgecombe
82003451	Cedar Lane	4/15/1982	Building	Leggett	Edgecombe
14000518	Savage, William and Susan, House	8/25/2014	Building	Leggett	Edgecombe
86000772	Lucama Municipal Historic District	2/13/1986	District	Lucama	Wilson
05001412	Bracebridge Hall (Boundary Increase)	12/16/2005	District	Macclesfield	Edgecombe
80002825	Nobles, Dr. A. B., House and McKendree Church	6/19/1980	Building	Mercer	Edgecombe
80002889	Taylor's Mill	5/28/1980	Building	Middlesex	Nash
79001739	Nash County Courthouse	5/10/1979	Building	Nashville	Nash
82003492	Rose Hill	4/28/1982	Building	Nashville	Nash
85002414	Bissette--Cooley House	9/19/1985	Building	Nashville	Nash
87001185	Nashville Historic District	7/22/1987	District	Nashville	Nash
02000007	Thompson, Alfred and Martha Jane, House and Williams Barn	2/14/2002	Building	New Hope	Wilson
82003450	Vinedale	7/15/1982	Building	Pinetops	Edgecombe
00001615	Princeville School	1/9/2001	Building	Princeville	Edgecombe
74001362	Black Jack	7/31/1974	Building	Red Oak	Nash
06000293	Red Oak Community House	4/19/2006	Building	Red Oak	Nash
70000463	Stonewall	6/2/1970	Building	Rocky Mount	Nash
80002891	Rocky Mount Mills	2/1/1980	Building	Rocky Mount	Nash
80002826	Rocky Mount Central City Historic District	6/19/1980	District	Rocky Mount	Edgecombe

Ref#	Property Name	Status Date	Category	City	County
80002890	Machaven	11/25/1980	Building	Rocky Mount	Nash
82003493	Benvenue	4/29/1982	Building	Rocky Mount	Nash
82003494	Rocky Mount Electric Power Plant	7/15/1982	Building	Rocky Mount	Nash
89002132	Bellemonte	12/21/1989	Building	Rocky Mount	Nash
99000479	Rocky Mount Mills Village Historic District	4/22/1999	District	Rocky Mount	Nash
99001365	Edgemont Historic District	11/12/1999	District	Rocky Mount	Edgecombe
99001367	Falls Road Historic District	11/12/1999	District	Rocky Mount	Nash
99001368	Villa Place Historic District	11/12/1999	District	Rocky Mount	Nash
02000931	West Haven Historic District	9/6/2002	District	Rocky Mount	Nash
02000942	Villa Place Historic District (Boundary Increase)	9/6/2002	District	Rocky Mount	Nash
02000989	Edgemont Historic District (Boundary Increase)	9/14/2002	District	Rocky Mount	Edgecombe
09000659	Rocky Mount Central City Historic District (Boundary Increase and Decrease)	8/27/2009	District	Rocky Mount	Nash
11001042	Lincoln Park Historic District	1/20/2012	District	Rocky Mount	Edgecombe
82003530	Scarborough, Maj. James, House	6/14/1982	Building	Saratoga	Wilson
86000759	Bullock--Dew House	2/13/1986	Building	Sims	Wilson
86001647	Brantley, Dr. Hassell, House	8/14/1986	Building	Spring Hope	Nash
88001591	Spring Hope Historic District	9/15/1988	District	Spring Hope	Nash
13001028	Valentine--Wilder House	12/31/2013	Building	Spring Hope	Nash
86000695	Ward--Applewhite--Thompson House	2/13/1986	Building	Stantonsburg	Wilson
86000696	Applewhite, W. H., House	2/13/1986	Building	Stantonsburg	Wilson
86000767	Edmondson--Woodward House	2/13/1986	Building	Stantonsburg	Wilson
70000453	Tarboro Town Common	9/30/1970	Site	Tarboro	Edgecombe
71000578	Barracks, The	2/18/1971	Building	Tarboro	Edgecombe
71000579	Bracebridge Hall	2/18/1971	Building	Tarboro	Edgecombe
71000580	Calvary Episcopal Church and Churchyard	2/18/1971	Building	Tarboro	Edgecombe
71000581	Coolmore Plantation	2/18/1971	Building	Tarboro	Edgecombe
71000582	Cotton Press	2/18/1971	Structure	Tarboro	Edgecombe
71000583	Grove, The	2/18/1971	Building	Tarboro	Edgecombe
71000584	Piney Prospect	2/18/1971	Building	Tarboro	Edgecombe
71000585	Walston-Bulluck House	2/18/1971	Building	Tarboro	Edgecombe
73001339	Coats House	4/3/1973	Building	Tarboro	Edgecombe
76001320	Redmond-Shackelford House	12/12/1976	Building	Tarboro	Edgecombe
80002827	Eastern Star Baptist Church	4/2/1980	Building	Tarboro	Edgecombe
80002828	Edgecombe Agricultural Works	4/2/1980	Building	Tarboro	Edgecombe
80002829	Oakland Plantation	4/2/1980	Building	Tarboro	Edgecombe
80002830	Railroad Depot Complex	4/2/1980	Building	Tarboro	Edgecombe
80002831	St. Paul Baptist Church	4/2/1980	Building	Tarboro	Edgecombe
80002832	Tarboro Historic District	4/2/1980	District	Tarboro	Edgecombe
84000532	Howell Homeplace	12/20/1984	Building	Tarboro	Edgecombe
87001901	Lone Pine	11/6/1987	District	Tarboro	Edgecombe
00001232	Quigless Clinic	10/27/2000	Building	Tarboro	Edgecombe
06000226	Batts House and Outbuildings	4/5/2006	Building	Tarboro	Edgecombe
100002803	C.S.S. COL. HILL (side-wheel steamer)	8/31/2018	Structure	Tarboro	Edgecombe
02000988	Porter Houses and Armstrong Kitchen	9/14/2002	Building	Whitakers	Edgecombe

Ref#	Property Name	Status Date	Category	City	County
78001986	Branch Banking	8/11/1978	Building	Wilson	Wilson
79001765	Wilson County Courthouse	5/10/1979	Building	Wilson	Wilson
82003533	Rountree, Moses, House	4/26/1982	Building	Wilson	Wilson
82003532	Davis-Whitehead-Harriss House	6/14/1982	Building	Wilson	Wilson
82003531	Cherry Hotel	8/26/1982	Building	Wilson	Wilson
83004004	Williams, Olzie Whitehead, House	12/19/1983	Building	Wilson	Wilson
84000736	Old Wilson Historic District	12/20/1984	District	Wilson	Wilson
84001033	West Nash Street Historic District	12/20/1984	District	Wilson	Wilson
84003876	Wilson Central Business-Tobacco Warehouse Historic District	12/20/1984	District	Wilson	Wilson
86000764	Barnes, Gen. Joshua, House	2/13/1986	Building	Wilson	Wilson
86000766	Pender, Joseph John, House	2/13/1986	Building	Wilson	Wilson
86001656	Upper Town Creek Rural Historic District	8/29/1986	District	Wilson	Wilson
86001657	Woodard Family Rural Historic District	8/29/1986	District	Wilson	Wilson
88000371	East Wilson Historic District	4/11/1988	District	Wilson	Wilson
88002084	Broad--Kenan Streets Historic District	10/27/1988	District	Wilson	Wilson

Source: National Parks Service, National Register of Historic Places, October 2018

3.4 HOUSING

According to the 2014-2018 ACS 5-Year Estimates, there are 101,602 housing units in Nash, Edgecombe, and Wilson Counties, of which 87 percent are occupied. Approximately 46.3 percent of occupied units are renter-occupied. A high percentage of renters is an indicator of higher pre- and post-disaster vulnerability because, according to Cutter, et al. (2003), renters often do not have the financial resources of homeowners, are more transient, are less likely to have information about or access to recovery aid following a disaster, and are more likely to require temporary shelter following a disaster. Higher rates of home ownership in some jurisdictions, including Red Oak, Speed, Dortches, Momeyer, and Sims, may indicate that more residents in these areas are able to implement certain types of mitigation in their homes.

Median home value is $126,200 in Nash County, $85,200 in Edgecombe County, and $121,300 in Wilson County. Householders of 9.3 percent of occupied housing units have no vehicle available to them; these residents may have difficulty in the event of an evacuation.

Over 63 percent of housing units in the region are detached single family homes. Approximately 18.4 percent of units are mobile homes, which can be more vulnerable to certain hazards, such as tornadoes and wind storms, especially if they aren't secured with tie downs.

The region's housing stock is aging, with over 62 percent of all units built prior to 1990. Age can indicate the potential vulnerability of a structure to certain hazards. For example, Nash County entered the National Flood Insurance Program as a regular participant in 1978, Edgecombe entered in 1981, and Wilson entered in 1983. Therefore, based on housing age estimates around 50 percent of housing in the region was built before any floodplain development restrictions were required.

Table 3.7 – Housing Characteristics

Jurisdiction	Housing Units (2010)	Housing Units (2016)	Housing Units Percent Change (2010-2018)	Owner-Occupied, Percent (2018)	Vacant Units, Percent (2018)	Median Home Value (2018)
City of Rocky Mount*	26,813	26,355	-1.7	51.9	16.6	$109,500
City of Wilson	21,337	22,051	3.3	49.8	10.4	$139,000

Jurisdiction	Housing Units (2010)	Housing Units (2016)	Housing Units Percent Change (2010-2018)	Owner-Occupied, Percent (2018)	Vacant Units, Percent (2018)	Median Home Value (2018)
Town of Bailey	334	230	-31.1	64.2	17.4	$110,900
Town of Black Creek	342	299	-12.6	70.6	6.7	$86,300
Town of Castalia	109	202	85.3	70.1	18.8	$61,800
Town of Conetoe	198	167	-15.7	76.3	19.2	$62,700
Town of Dortches	372	495	33.1	81.1	18.8	$183,300
Town of Elm City	641	589	-8.1	54.3	11.5	$83,400
Town of Leggett	93	33	-64.5	63.6	33.3	$74,000
Town of Lucama	449	515	14.7	62.3	22.7	$74,700
Town of Macclesfield	240	293	22.1	59.9	19.1	$80,700
Town of Middlesex	433	491	13.4	56.4	16.3	$104,100
Town of Momeyer	158	136	-13.9	79.7	13.2	$62,200
Town of Nashville	2,312	2,672	15.6	68.4	14.0	$136,900
Town of Pinetops	666	652	-2.1	46.6	15.8	$66,300
Town of Princeville	1,002	1,125	12.3	57.4	20.5	$70,300
Town of Red Oak	1,322	1,500	13.5	90.6	6.1	$198,500
Town of Saratoga	147	219	49.0	53.7	8.2	$105,800
Town of Sharpsburg*	870	1,014	16.6	39.8	10.7	$75,600
Town of Sims	165	206	24.8	77.0	7.3	$133,900
Town of Speed	41	48	17.1	86.4	8.3	n/a
Town of Spring Hope	616	720	16.9	40.4	13.1	$99,200
Town of Stantonsburg	357	374	4.8	61.5	15.2	$67,500
Town of Tarboro	5,243	5,170	-1.4	51.2	7.3	$113,800
Town of Whitakers*	432	427	-1.2	59.7	18.0	$73,700
Nash County	**41,766**	**42,876**	**2.7**	**65.7**	**14.4**	**$126,200**
Edgecombe County	**24,894**	**24,945**	**0.2**	**59.4**	**14.3**	**$85,200**
Wilson County	**34,942**	**36,005**	**3.0**	**59.0**	**10.8**	**$121,300**
N.E.W. Counties Total	***101,602***	***103,826***	***2.2***	***53.7***	***13.1***	***n/a***

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2012-2016 5-Year Estimates

3.5 INFRASTRUCTURE

3.5.1 Transportation

There are several major roadways that cross the N.E.W. region, including Interstate 95, which runs north-south through eastern Nash County and western Wilson County; Interstate 795, which provides an alternate route south past the City of Wilson; US Highway 64, which runs east-west through Nash and Edgecombe Counties; and US Highway 265, which runs east-west through Nash and Wilson Counties. Additional state routes through the region include NC 97, NC 231, NC 58, NC 581, NC 43, NC 48, NC 258, and NC 4.

Rocky Mount-Wilson Airport is the primarily airport in the region. It does not service any commercial airlines, but provides a hub for private, corporate flights to the region.

Multiple rail lines run through the region, providing both freight and passenger transportation. Freight rail routes in the region include CSX Transportation and Carolina Coastal lines. There are multiple CSX lines in the region; one CSX line runs north-south along the Nash and Edgecombe County border, passing through Rocky Mount and into Wilson County through the City of Wilson before splitting, with one line heading southwest to Johnston County and the other heading south into Wayne County. Another CSX line runs east from Rocky Mount to Tarboro and southeast into Pitt County. The Carolina Coastal lines run east-

west, one passes through central Nash County to Rocky Mount and the other passes from Wake County through southern Nash County and central Wilson County through the City of Wilson. Passenger routes through the region include the Carolinian, Silver Star, and Palmetto/Silver Meteor routes, which run together with the north-south CSX line along the Nash and Edgecombe County border, into Wilson County, and southwest into Johnston County.

Larger cities in the region, including Rocky Mount and Wilson, run public intra-city bus services.

3.6 CURRENT AND FUTURE LAND USE

Nash, Edgecombe, and Wilson Counties each manage land use for their unincorporated areas through the following land development or comprehensive plans:

Nash County Land Development Plan, 2008

The 2008 Nash County Land Development Plan details six future land use categories: rural growth area, suburban growth area, surface water protection area, general commercial area, rural commercial area, and industrial area. The majority of the county is designated as suburban growth area. While growth can occur within the majority of these areas, the surface water protection area designates a 1000' buffer around any water body being protected, and development is discouraged in this buffer area. The future land development map detailing the spatial distribution of these land use categories is shown in Figure 3.9.

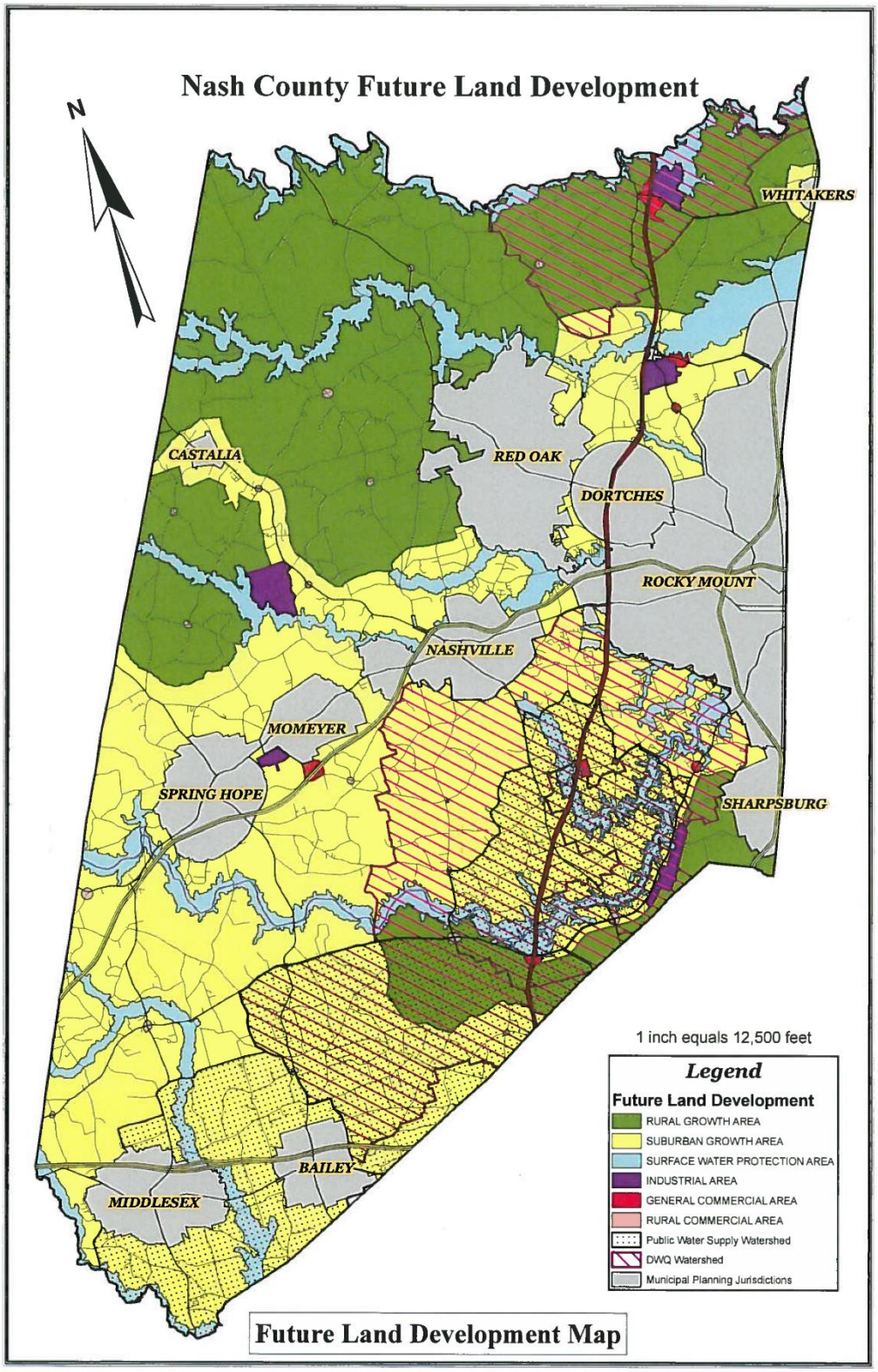
Edgecombe County Land Development Plan, 2008

The 2008 Edgecombe County Land Development Plan predicts a slow pace of development but aims for strong, high quality development that reduces rural sprawl and preserves resources. A map of Edgecombe County's growth areas is shown in Figure 3.10.

Wilson County 2025 Comprehensive Plan, 2008

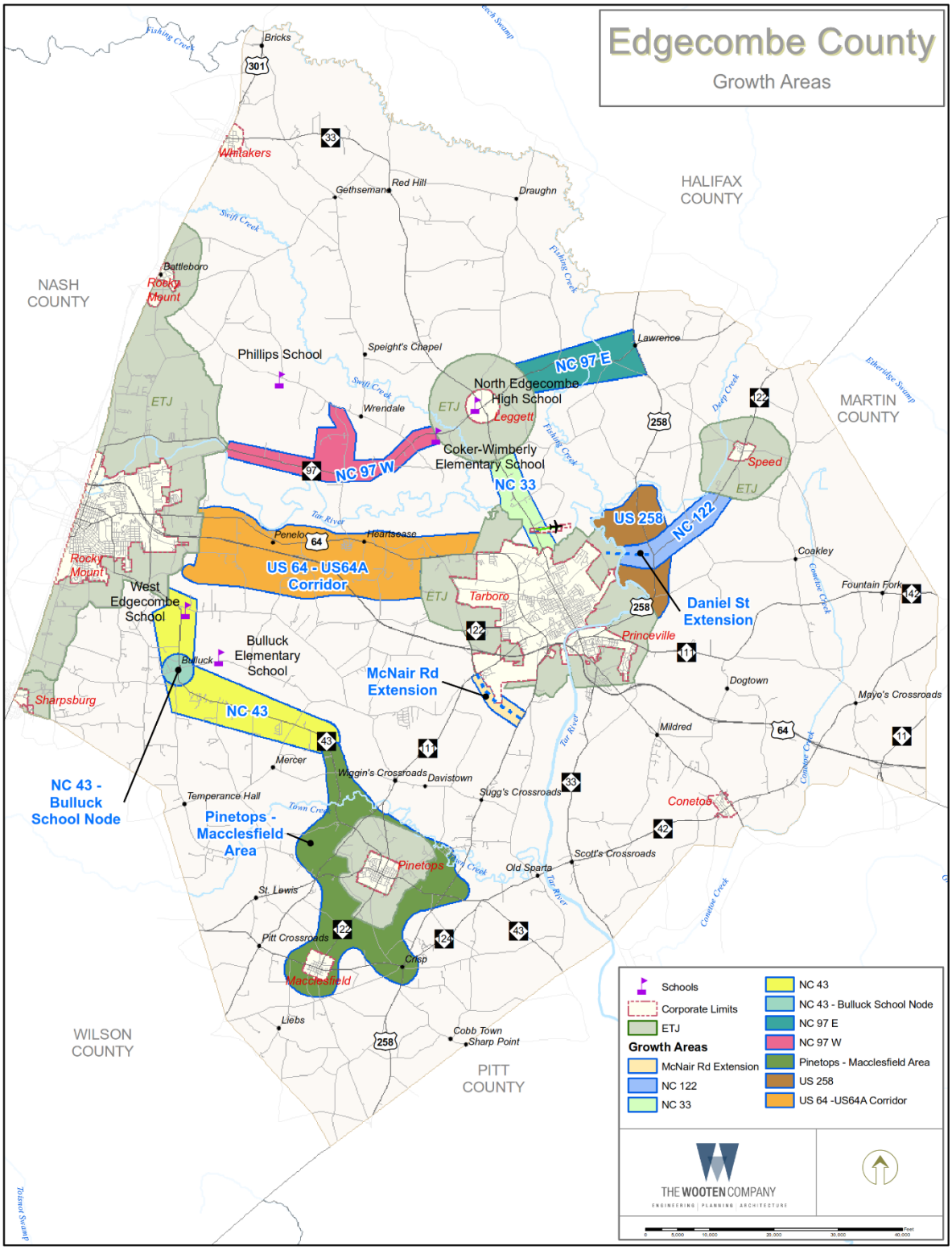
The Wilson County 2025 Comprehensive Plan contains a chapter on land use and growth management and outlines nine existing land use categories: agricultural, residential low-density/agricultural, residential low-density, residential, mobile home park, commercial, industrial, government/institutional, and undeveloped. As of this plan's development, approximately 20 percent of the county was undeveloped. However, rural open spaces are being converted to residential uses. In the County's future land use map there are four designations: rural growth areas, secondary growth areas, primary growth areas, and conservation areas. Conservation areas constitute floodplains, riparian buffers, and other areas with environmental limitations. The future land use map for Wilson County is shown in Figure 3.11.

Figure 3.9 – Nash County Future Land Use



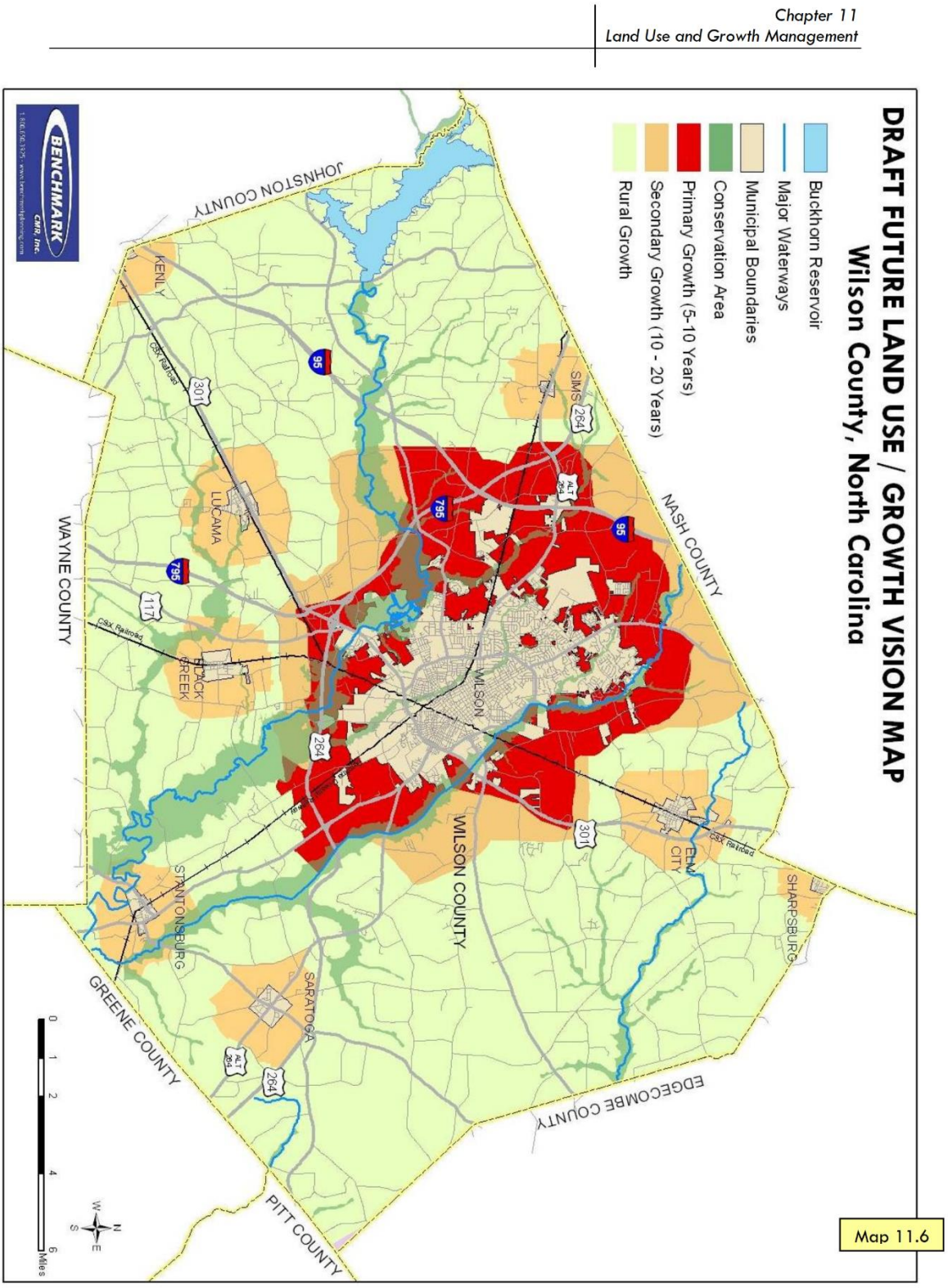
Source: Nash County Land Development Plan, 2006

Figure 3.10 – Edgecombe County Future Land Use



Source: Edgecombe County Land Development Plan, 2008

Figure 3.11 – Wilson County Future Land Use



Source: Wilson County 2025 Comprehensive Plan

3.7 EMPLOYMENT AND INDUSTRY

3.7.1 Wages and Employment

Per the 2014-2018 American Community Survey 5-Year Estimates, the median household income was $48,362 in Nash County, $35,516 in Edgecombe County, and $42,850 in Wilson County. All three counties have a lower median income than the state's average median household income ($53,855); Edgecombe County's is about 34 percent lower than the state average. Approximately 15.5 percent of the population is considered to be living below the poverty level in Nash County, 23.6 percent in Edgecombe County, and 21.5 percent in Wilson County. The poverty rate is at or above 30 percent in six municipalities, Castalia, Whitakers, Middlesex, Sharpsburg, Princeville, and Lucama.

Table 3.8 shows employment statistics for all participating jurisdictions. Table 3.9 shows occupation statistics for all participating jurisdictions.

Table 3.8 – Employment Statistics for N.E.W. Region Jurisdictions

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
City of Rocky Mount*	25,890	54.8	5.0	40.2	8.3
City of Wilson	22,708	53.8	5.1	40.8	8.7
Town of Bailey	196	56.1	2.1	41.8	3.6
Town of Black Creek	406	59.3	7.8	32.9	11.6
Town of Castalia	187	40.1	8.6	51.3	17.6
Town of Conetoe	130	48.6	3.2	48.2	6.2
Town of Dortches	472	54.4	2.5	42.6	4.4
Town of Elm City	556	42.4	9.3	48.3	18.0
Town of Leggett	15	33.3	5.1	61.5	13.3
Town of Lucama	533	54.2	5.9	40.0	9.8
Town of Macclesfield	220	48.4	2.1	49.5	4.1
Town of Middlesex	451	58.4	1.3	40.3	2.2
Town of Momeyer	113	47.1	4.1	48.9	8.0
Town of Nashville	2,855	58.2	4.4	37.5	7.0
Town of Pinetops	484	45.6	2.7	51.7	5.6
Town of Princeville	900	45.5	4.1	50.5	8.2
Town of Red Oak	1,844	61.8	3.2	35.0	4.9
Town of Saratoga	244	60.6	1.8	37.6	2.9
Town of Sharpsburg*	1,020	60.0	7.5	32.5	11.2
Town of Sims	211	56.2	4.3	39.5	7.1
Town of Speed	18	26.1	0.0	73.9	0.0
Town of Spring Hope	647	46.5	4.4	49.1	8.7
Town of Stantonsburg	327	51.4	4.3	44.3	7.6
Town of Tarboro	5,072	50.9	4.1	45.0	7.4
Town of Whitakers*	316	42.8	2.6	54.7	5.7
Nash County	**46,235**	**57.3**	**3.8**	**38.8**	**6.3**
Edgecombe County	**23,641**	**51.1**	**4.4**	**44.5**	**7.9**
Wilson County	**38,095**	**54.5**	**4.7**	**40.6**	**8.0**
N.E.W. Counties Total	***107,971***	***54.9***	***4.3***	***40.8***	***7.2***

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force in all jurisdictions with the exception of Sharpsburg, where armed forces accounted for 1.2% of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table 3.9 – Percent of Employed Population by Occupation for N.E.W. Region Jurisdictions

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
City of Rocky Mount*	30.0	20.3	21.8	7.7	20.2
City of Wilson	33.1	17.5	19.4	8.4	21.5
Town of Bailey	27.0	17.5	37.0	1.6	16.9
Town of Black Creek	19.2	16.4	20.3	10.6	33.4
Town of Castalia	18.2	16.9	26.6	9.7	28.6
Town of Conetoe	9.8	27.9	24.6	6.6	31.1
Town of Dortches	35.9	13.5	27.7	8.6	14.2
Town of Elm City	27.9	29.4	19.1	7.0	16.7
Town of Leggett	23.1	23.1	23.1	0.0	30.8
Town of Lucama	13.7	12.3	21.0	33.3	19.8
Town of Macclesfield	16.1	8.1	27.0	20.9	28.0
Town of Middlesex	22.0	15.4	36.1	7.3	19.3
Town of Momeyer	28.8	8.7	39.4	16.3	6.7
Town of Nashville	38.7	18.7	19.1	9.2	14.3
Town of Pinetops	19.9	26.7	17.1	9.6	26.7
Town of Princeville	21.4	31.2	17.7	4.5	25.2
Town of Red Oak	42.6	11.1	29.9	9.6	6.8
Town of Saratoga	21.9	11.4	15.2	31.2	20.3
Town of Sharpsburg*	20.6	13.8	31.1	6.0	28.5
Town of Sims	27.6	24.0	19.4	21.9	7.1
Town of Spring Hope	22.2	22.2	44.4	0.0	11.1
Town of Speed	26.1	19.1	21.0	10.0	23.9
Town of Stantonsburg	23.5	20.5	15.2	12.3	28.5
Town of Tarboro	32.1	17.6	23.4	7.2	19.8
Town of Whitakers*	23.2	26.8	15.1	7.4	27.5
Nash County	**32.0**	**16.7**	**22.7**	**10.1**	**18.6**
Edgecombe County	**26.4**	**19.8**	**21.1**	**9.9**	**22.7**
Wilson County	**31.3**	**18.0**	**19.5**	**10.8**	**20.4**
N.E.W. Counties Total	***30.5***	***17.8***	***21.2***	***10.3***	***20.1***

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Across the region as a whole as of 2016, major industry sectors include educational services, and health care and social assistance (23.0 percent of employment); manufacturing (17.8 percent); and retail trade (11.9 percent).

Table 3.10 summarizes the major employers with 500 employees or more in each county according to Access NC.

Table 3.10 – Major Employers by County

Employer	Industry	Employment Range
Nash County		
Hospira Inc	Manufacturing	1,000+
Nash-Rocky Mount Schools	Education & Health Services	1,000+
Nash General Hospital	Education & Health Services	1,000+
Cummins (previously Consolidated Diesel Co.)	Manufacturing	1,000+
Universal Leaf North America	Manufacturing	1,000+

Employer	Industry	Employment Range
Intercall Inc	Professional & Business Services	500-999
Wal-Mart Associates Inc	Trade, Transportation, & Utilities	500-999
County of Nash	Public Administration	500-999
PNC Bank Na	Financial Activities	500-999
Mclane Mid-Atlantic Inc	Trade, Transportation, & Utilities	500-999
Edgecombe County		
QVC Rocky Mount Inc	Trade, Transportation, & Utilities	1,000+
City of Rocky Mount	Public Administration	1,000+
Edgecombe Tarboro Bd of Education	Education & Health Services	1,000+
The Hillshire Brands Company	Manufacturing	500-999
Edgecombe County	Public Administration	500-999
Vidant Medical Center	Education & Health Services	500-999
Wilson County		
BB&T	Financial Activities	1,000+
Bridgestone Americas Tire Operation	Manufacturing	1,000+
Wilson County Schools	Education & Health Services	1,000+
Wilson Medical Center Inc	Education & Health Services	1,000+
Alliance One International Inc	Manufacturing	1,000+
County of Wilson	Public Administration	500-999
City of Wilson	Public Administration	500-999
S T Wooten Construction Co Inc	Construction	500-999
Kidde Aerospace/ Fenway Safety Syse	Manufacturing	500-999
Smithfield Foods Inc	Manufacturing	500-999
NC Dept of Health & Human Services	Public Administration	500-999

Source: Access NC

4 Risk Assessment

4.1 OVERVIEW

This section describes the Hazard Identification and Risk Assessment process for the development of the N.E.W. 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 N.E.W. 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**
- **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 threat 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, Medium, or High-Risk hazard.

4.2 HAZARD IDENTIFICATION

To identify hazards relevant to the planning area, the HMPC began with a review of the list of hazards identified in the 2018 State Hazard Mitigation Plan and the 2015 N.E.W. Regional Hazard Mitigation Plan as summarized in Table 4.1. The HMPC used these lists to identify a full range of natural hazards for potential inclusion in this plan update and to ensure consistency across these planning efforts. All hazards on the below list were evaluated for inclusion in this plan update.

Table 4.1 – Full Range of Hazards Evaluated

Hazard	Included in 2018 State HMP?	Included in 2015 N.E.W. Regional HMP?
Flooding	Yes	Yes
Hurricanes and Coastal Hazards	Yes	Yes
Severe Winter Weather (Freezing Rain, Snowstorms, Blizzards, Wind Chill, Extreme Cold)	Yes	Yes
Extreme Heat	Yes	Yes
Earthquake	Yes	Yes
Wildfire	Yes	Yes
Dam Failure	Yes	Yes
Levee Failure	No	Yes
Drought	Yes	Yes
Severe Thunderstorm (Tornado, Hailstorm, Torrential Rain, Thunderstorm Wind, High Wind, Lightning)	Yes	Yes
Landslide	Yes	No
Sinkholes	Yes	Yes (as Geological hazards)
Erosion	No	No
Fog	No	Yes
Hazardous Materials Incident	Yes	No
Radiological Emergency	Yes	No
Terrorism	Yes	No
Infectious Disease	Yes	No
Cyber Threat	Yes	No
Electromagnetic Pulse	Yes	No

The HMPC evaluated the above list of hazards using existing hazard data, past disaster declarations, local knowledge, and information from the 2018 State Plan and the 2015 N.E.W. Regional 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 key resource in this effort was the National Oceanic and Atmospheric Administration‘s (NOAA) National Center for Environmental Information (NCEI), which has been tracking various types of severe weather since 1950. Their Storm Events Database contains an archive by county of destructive storm or weather data and information which includes local, intense and damaging events. NCEI receives storm data from the National Weather Service (NWS), which compiles information from a variety of sources, including but 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. The NCEI database contains 744 records of severe weather events that occurred in Nash, Edgecombe, and Wilson Counties in the 20-year period from November 1998 through October 2018. Table 4.2 summarizes these events. It is important to note that NCEI does not provide a full record of past hazard events. Additional sources of data referenced in each hazard profile in this risk assessment provide a fuller picture of past occurrences and future risk.

Table 4.2 – NCEI Event Reports for N.E.W. Region Counties, 1999 – 2018

Type	# of Events	Property Damage	Crop Damage	Deaths	Injuries
Blizzard	0	$0	$0	0	0
Cold/Wind Chill	0	$0	$0	0	0
Drought	0	$0	$0	0	0
Excessive Heat	0	$0	$0	0	0
Extreme Cold/Wind Chill	0	$0	$0	0	0
Flash Flood	83	$55,000	$45,000,000	12	0
Flood	3	$314,800,000	$60,000,000	2	0
Frost/Freeze	0	$0	$0	0	0
Hail	146	$5,000	$0	0	0
Heat	1	$0	$0	1	0
Heavy Rain	1	$0	$0	0	0
Heavy Snow	3	$0	$0	0	0
High Wind	12	$1,113,000	$43,010,000	1	0
Hurricane	9	$2,928,000	$0	0	0
Ice Storm	3	$0	$0	0	0
Lightning	8	$1,505,000	$0	0	2
Strong Wind	31	$728,750	$16,000	0	0
Thunderstorm Wind	302	$837,750	$7,000	0	1
Tornado	17	$6,325,000	$280,000	1	15
Tropical Storm	10	$2,755,000	$985,000	0	0
Wildfire	0	$0	$0	0	0
Winter Storm	75	$1,000,000	$0	0	0
Winter Weather	45	$80,000	$0	0	0
Total:	**749**	**$332,132,500**	**$149,298,000**	**17**	**18**

Source: National Center for Environmental Information Events Database, June 2018
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 Nash, Edgecombe, and Wilson Counties in order to identify significant hazards. Federal and/or state disaster declarations may be granted when the Governor certifies that the combined local, county and state resources are insufficient, and that the situation is beyond their recovery capabilities. 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, 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, Nash, Edgecombe, and Wilson Counties have been designated in 15 different major disaster declarations. Table 4.3 summarizes the count of 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
Nash	13
Edgecombe	11
Wilson	12

Source: FEMA Disaster Declarations Summary, updated June 5, 2020

Table 4.4 – FEMA Major Disaster Declarations for N.E.W. Region Counties

County*	Dec. #	Date	Incident Type	Event Title
N, E, W	4487	3/25/2020	Biological	COVID-19 Pandemic
W	4393	9/14/2018	Hurricane	Hurricane Florence
N, E, W	4285	10/10/2016	Hurricane	Hurricane Matthew
N, E, W	4019	8/31/2011	Hurricane	Hurricane Irene
W	1969	4/20/2011	Severe Storm(s)	Severe Storms, Tornadoes, And Flooding
N, E, W	1490	9/18/2003	Hurricane	Hurricane Isabel
N, E, W	1448	12/12/2002	Severe Ice Storm	Severe Ice Storm
N, E, W	1312	1/31/2000	Severe Storm(s)	Severe Winter Storm
N, E, W	1292	9/16/1999	Hurricane	Hurricane Floyd Major Disaster Declarations
N, E	1211	3/22/1998	Severe Storm(s)	Severe Storms, Tornadoes, and Flooding
N, E, W	1134	9/6/1996	Hurricane	Hurricane Fran
N, E, W	1087	1/13/1996	Snow	Blizzard of 96
N	818	12/2/1988	Tornado	Severe Storms & Tornadoes
N	699	3/30/1984	Tornado	Severe Storms & Tornadoes
N, E, W	234	2/10/1968	Severe Ice Storm	Severe Ice Storm

Source: FEMA Disaster Declarations Summary, updated June 5, 2020
*County code: N = Nash, E = Edgecombe, W = Wilson

In addition to the above major disaster declarations, Nash, Edgecombe, and Wilson Counties have been designated in 11 different emergency declarations, detailed below. Note that five of these emergency declarations were followed by a major disaster declaration in at least one county.

Table 4.5 – FEMA Emergency Declarations for N.E.W. Region Counties

County*	Dec. #	Date	Incident Type	Event Title
N, E, W	3471	3/13/2020	Biological	COVID-19
N, E, W	3423	9/4/2019	Hurricane	Hurricane Dorian
N, E, W	3401	9/11/2018	Hurricane	Hurricane Florence
N, E, W	3380	10/7/2016	Hurricane	Hurricane Matthew
N, E, W	3327	8/25/2011	Hurricane	Hurricane Irene
E	3314	9/2/2010	Hurricane	Hurricane Earl
N, E, W	3254	9/15/2005	Hurricane	Hurricane Ophelia
N, E, W	3222	9/5/2005	Hurricane	Hurricane Katrina Evacuations
N, E, W	3146	9/15/1999	Hurricane	Hurricane Floyd Emergency Declarations
N, E, W	3049	8/11/1977	Drought	Drought
W	3033	3/2/1977	Snow	Drought & Freezing

Source: FEMA Disaster Declarations Summary, updated June 5, 2020
*County code: N = Nash, E = Edgecombe, W = Wilson

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 4.6 summaries the determination made for each hazard.

Table 4.6 – Hazard Evaluation Results

Hazard	Included in this plan update?	Explanation for Decision
Flood	Yes	The 2015 N.E.W. plan and the 2018 State plan addressed this hazard. Multiple disaster declarations for the region are related to flooding. NCEI reports 87 flood-related events.
Hurricane	Yes	The N.E.W. Region is not exposed to coastal hazards; therefore, storm surge, coastal flooding, and coastal erosion will not be assessed. However, past disaster declarations and NCEI storm reports indicate hurricane wind and rain are still a significant hazard for the region. The 2015 N.E.W. plan and the 2018 State plan addressed these hazards. NCEI reports 19 related events.
Severe Winter Storm	Yes	The 2015 N.E.W. plan and 2018 State plan addressed this hazard. Several past disaster and emergency declarations relate to this hazard and NCEI reports 123 related events.
Extreme Heat	Yes	The 2015 N.E.W. plan and 2018 State plan addressed this hazard. NCEI reports 1 heat events for the region that resulted in a death.
Earthquake	Yes	The 2015 N.E.W. plan and 2018 State plan addressed this hazard. The region could be impacted by the Eastern Tennessee Seismic Zone and the Charleston fault.
Wildfire	Yes	The 2015 N.E.W. plan and 2018 State plan addressed this hazard.
Dam & Levee Failure	Yes	The 2015 N.E.W. plan and 2018 State plan addressed dam failure. The National Inventory of Dams identifies many dams in the region. Levees failure was not addressed in the 2015 N.E.W. plan, but the USACE's National Levee Database identifies two levees in the region.
Drought	Yes	The 2015 N.E.W. plan and 2018 State plan addressed this hazard.
Severe Weather (Thunderstorm, Lightning, & Hail)	Yes	The 2015 N.E.W. plan and 2018 State plan addressed this hazard. NCEI reports 497 severe weather-related events in the past 20 years.
Tornado	Yes	The 2015 N.E.W. plan and 2018 State plan addressed this hazard. NCEI reports 17 tornado segments that have passed through the region. The region has also received several major disaster declarations including tornado.
Landslide	No	The 2018 State plan addressed this hazard but the 2015 N.E.W. plan found this hazard was not relevant to the region.
Sinkholes	Yes	The 2018 State plan addressed this hazard. The N.E.W. plan notes there is sinkhole risk in Wilson County.
Erosion	No	The 2018 State plan addressed this hazard for coastal areas and the 2015 N.E.W. plan found erosion not relevant to the region.
Fog	Yes	The 2018 State plan and 2015 N.E.W. plan addressed this hazard, while the Region's vulnerability is low, the HMPC felt it was important to include.
Hazardous Materials Incident	No	The 2018 State plan addressed this hazard but the 2015 N.E.W. plan did not. This hazard will be addressed through local emergency management planning.
Radiological Emergency	Yes	The 2018 State plan addressed this hazard but the 2015 N.E.W. plan did not. Portions of Nash and Wilson Counties fall within the IPZ of Harris Nuclear Station, but no parts of the region are within the EPZ of any nuclear facility.

Hazard	Included in this plan update?	Explanation for Decision
Terrorism	Yes	This threat was not addressed in the 2015 N.E.W. plan. The region considers this threat best addressed at the State level, through local emergency operations planning, and in this plan.
Infectious Disease	No	This hazard was not addressed in the 2015 N.E.W. plan. The State HMP reports the entire State is equally at risk, but vulnerability is low across all but one impact category.
Cyber Threat	No	This threat was not addressed in the 2015 N.E.W. plan. The region considers this threat more appropriately addressed at the State level and through local emergency operations planning and staff training.
Electromagnetic Pulse	No	This threat was not addressed in the 2015 N.E.W. plan. The region considers this threat more appropriately addressed at the State level.

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

- Dam & Levee Failure
- Drought
- Earthquake
- Extreme Heat
- Flood
- Hurricane & Tropical Storm
- Severe Weather (Thunderstorm Wind, Lightning, Hail, and Fog)
- Severe Winter Storm
- Sinkhole
- Tornado
- Wildfire
- Radiological Incident
- Terrorism

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 N.E.W 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 N.E.W. Region.

Probability of Future Occurrence

This section gauges the likelihood of future occurrences based on past events and existing data. The frequency is generally determined by dividing the number of events observed by the number of years on record. 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). The likelihood of future occurrences is categorized into one of the classifications as follows:

- ***Highly Likely*** – Near or more than 100 percent chance of occurrence within the next year
- ***Likely*** – Between 10 and 100 percent chance of occurrence within the next year (recurrence interval of 10 years or less)
- ***Possible*** – Between 1 and 10 percent chance of occurrence within the next year (recurrence interval of 11 to 100 years)
- ***Unlikely*** – Less than 1 percent chance or occurrence within the next 100 years (recurrence interval of greater than every 100 years)

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.

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; and
- Written descriptions of inventory and risks provided by the previous N.E.W Regional Hazard Mitigation Plan.
- Exposure and vulnerability estimates provided by the NCEM IRISK database.
- Crop insurance claims by cause from USDA's Risk Management Agency

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 2010 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).

Two distinct risk assessment methodologies were used in the formation of the vulnerability assessment. The first consists of a ***quantitative*** analysis that relies upon best available data and technology, while the second approach consists of a ***qualitative*** analysis that relies on local knowledge and rational decision making. The quantitative analysis involved the use of NCEM's IRISK database, which provides modeled damage estimates for earthquake, flood, wind, and wildfire hazards.

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.

Certain assumptions are inherent in any risk assessment. For the N.E.W. 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 N.E.W. 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 4.7.

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

Table 4.7 – 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**	

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 N.E.W. Region as high, moderate, or low risk. The summary hazard classifications generated through the use of the PRI allows for the prioritization of those high hazard risks for mitigation planning purposes. Mitigation actions are not developed for hazards identified as low risk through this process.

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 2010 Census and includes a breakdown of population into two subpopulations considered to be a greater risk than the general population, the elderly and children. Table 4.8 details the population counts by jurisdiction used for the vulnerability assessment. In this table, and all further tables in this section, jurisdictions are listed alphabetically to account for those that cross county borders.

Table 4.8 – Population Counts by Jurisdiction, 2010

Jurisdiction	2010 Census Population	Elderly (Age 65 and Over)	Children (Age 5 and Under)
City of Rocky Mount*	58,947	8,303	3,692
City of Wilson	51,039	7,237	3,425
Town of Bailey	1,371	192	84
Town of Black Creek	1,491	211	100
Town of Castalia	263	37	16
Town of Conetoe	283	41	19
Town of Dortches	831	116	51
Town of Elm City	1,901	270	128
Town of Leggett	191	27	12
Town of Lucama	1,811	257	121
Town of Macclesfield	463	66	30
Town of Middlesex	1,616	226	99
Town of Momeyer	477	67	29
Town of Nashville	6,683	934	410
Town of Pinetops	1,969	282	129
Town of Princeville	2,670	383	175
Town of Red Oak	3,395	474	208
Town of Saratoga	775	110	52
Town of Sharpsburg*	2,944	415	188
Town of Sims	760	108	51
Town of Speed	189	27	12
Town of Spring Hope	1,956	273	120
Town of Stantonsburg	944	134	63
Town of Tarboro	11,730	1,681	769
Town of Whitakers*	725	102	46
Nash County (Unincorporated Area)	36,835	5,147	2,259
Edgecombe County (Unincorporated Area)	19,599	2,808	1,284
Wilson County (Unincorporated Area)	21,520	3,051	1,444
Total Region	**233,378**	**32,979**	**15,016**

Source: NCEM IRISK Database; 2010 Decennial Census
Note: Rocky Mount, Sharpsburg, and Whitakers are each located in more than one County.

4.4.2 Property

Building counts were also provided by the IRISK database and are detailed in Table 4.9. These values were generated using locally-provided building footprint and parcel data. The methodology for generating the

building asset inventory is described in greater detail in Section 4.3. Note that these building counts were provided in 2010, and thus do not account for recent changes in development. Therefore, the exposure reflected in the following tables is likely an underestimate of actual present-day exposure. Chapter 2 Planning Area Profile describes the growth that has occurred since 2010 and provides a means of estimating the degree to which exposure and vulnerability may have increased.

Table 4.9 – Building Counts and Values by Jurisdiction

Jurisdiction	Building Count	Building Value
City of Rocky Mount*	27,811	$3,559,180,847
City of Wilson	20,337	$4,604,686,117
Town of Bailey	1,010	$53,023,836
Town of Black Creek	747	$82,114,203
Town of Castalia	195	$6,725,056
Town of Conetoe	190	$8,579,459
Town of Dortches	578	$56,086,388
Town of Elm City	1,008	$209,613,834
Town of Leggett	166	$22,580,368
Town of Lucama	936	$105,407,991
Town of Macclesfield	304	$14,944,421
Town of Middlesex	1,070	$58,353,156
Town of Momeyer	408	$19,368,495
Town of Nashville	2,959	$311,070,087
Town of Pinetops	1,067	$73,179,346
Town of Princeville	1,054	$66,804,326
Town of Red Oak	1,717	$177,683,517
Town of Saratoga	469	$53,513,014
Town of Sharpsburg*	1,502	$82,155,101
Town of Sims	368	$57,141,541
Town of Speed	178	$9,049,454
Town of Spring Hope	1,240	$82,529,736
Town of Stantonsburg	602	$82,941,264
Town of Tarboro	5,192	$839,706,686
Town of Whitakers*	498	$21,945,364
Nash County (Unincorporated Area)	23,157	$1,800,242,249
Edgecombe County (Unincorporated Area)	12,695	$759,152,088
Wilson County (Unincorporated Area)	12,823	$1,867,456,488
Total Region	**120,281**	**$15,085,234,432**

Source: NCEM IRISK Database
Note: Rocky Mount, Sharpsburg, and Whitakers are each located in more than one County.

To supplement the asset inventory and provide a clearer picture of the current asset exposure in the N.E.W. Region, current parcel data was evaluated to identify recent development that was not included in NCEM's IRISK database. The building footprint layer from IRISK was compared to current parcel data; any parcels with an improved value that did not already have a building in IRISK were summarized in the table below. This information is not incorporated into the risk assessment, which was prepared using IRISK. However, this summary of recent development provides some context to understand the degree to which the IRISK exposure and vulnerability numbers differ from current conditions. This information is presented by individual jurisdiction in each jurisdiction's respective annex of this plan.

Table 4.10 provides a summary of recent development not included in IRISK as an estimate of additional asset exposure in the Region.

Table 4.10 – Parcel Development Not Included in IRISK

Jurisdiction	Improved Parcel Count	Total Improved Value
Bailey	29	$ 1,082,320
Black Creek	25	$ 1,954,095
Castalia	5	$ 63,030
Conetoe	8	$ 193,756
Dortches	80	$ 14,583,029
Elm City	48	$ 1,951,154
Leggett*	-	$ -
Lucama	34	$ 1,387,453
Macclesfield	23	$ 734,952
Middlesex	89	$ 8,975,960
Momeyer	6	$ 312,480
Nashville	256	$ 32,918,890
Pinetops	43	$ 1,968,978
Princeville	44	$ 422,382
Red Oak	187	$ 33,261,000
Rocky Mount	1,056	$ 135,922,414
Saratoga	16	$ 1,376,833
Sharpsburg	40	$ 4,400,836
Sims	38	$ 3,528,904
Speed	12	$ 229,823
Spring Hope	83	$ 5,109,090
Stantonsburg	34	$ 2,948,292
Tarboro	319	$ 39,254,951
Whitakers	36	$ 2,091,671
Wilson	1,631	$ 350,598,243
Nash County (Unincorporated Area)	1,796	$ 217,747,832
Edgecombe County (Unincorporated Area)	915	$ 94,017,288
Wilson County (Unincorporated Area)	2,006	$ 302,020,828
Region Total	**8,859**	**$ 1,259,056,484**

Source: Nash County June 2019 parcel data, Edgecombe County June 2019 parcel data, Wilson County February 2020 parcel data; IRISK database building footprints

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 were also identified in 2010 and are likely an underestimate of the exposure of current CIKR and High Potential Loss Properties. These properties are detailed in Table 4.11 and Table 4.12, respectively.

Table 4.11 – Critical Infrastructure and Key Resources by Type and Jurisdiction

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
City of Rocky Mount	325	73	0	1,527	2	554	1	252	149	0	0	2	0	265	19	7	22	3,198
City of Wilson	176	35	0	1401	1	392	2	267	150	0	0	2	0	223	30	17	14	2,710
Town of Bailey	107	3	0	68	0	31	0	6	3	0	0	0	0	3	0	1	0	222
Town of Black Creek	38	0	0	26	0	1	0	8	0	0	0	0	0	1	0	3	0	77
Town of Castalia	8	0	0	11	0	5	0	4	1	0	0	0	0	0	0	1	0	30
Town of Conetoe	4	0	0	15	0	2	0	3	0	0	0	0	0	8	0	0	0	32
Town of Dortches	64	1	0	21	0	22	0	0	0	0	0	0	0	2	0	1	0	111
Town of Elm City	22	0	0	94	0	17	0	9	4	0	0	0	0	3	0	2	0	151
Town of Leggett	42	0	0	10	0	1	0	5	0	0	0	0	0	2	0	0	0	60
Town of Lucama	39	2	0	56	0	1	0	5	1	0	0	0	0	1	0	3	0	108
Town of Macclesfield	12	3	0	19	0	1	0	2	1	0	0	1	0	10	2	0	0	51
Town of Middlesex	103	1	0	55	0	28	0	16	1	0	0	0	0	1	0	1	0	206
Town of Momeyer	72	0	0	8	0	1	0	2	0	0	0	0	0	0	0	1	0	84
Town of Nashville	59	4	0	161	0	83	0	44	8	0	0	0	0	12	0	3	0	374
Town of Pinetops	34	2	0	56	0	11	0	5	6	0	0	0	0	52	2	0	0	168
Town of Princeville	5	2	0	53	0	4	0	1	5	0	0	1	0	12	0	0	0	83
Town of Red Oak	145	1	0	28	0	6	0	10	0	0	0	0	0	2	0	1	0	193
Town of Saratoga	33	0	0	23	0	1	0	0	0	0	0	0	0	0	0	1	0	58
Town of Sharpsburg	62	2	0	103	0	28	0	2	2	0	0	0	0	4	0	2	0	205
Town of Sims	20	1	0	38	0	8	0	1	0	0	0	0	0	0	0	1	0	69
Town of Speed	19	1	0	12	0	0	0	3	0	0	0	0	0	3	1	0	0	39
Town of Spring Hope	52	2	0	90	0	40	0	15	2	0	0	0	0	6	0	2	0	209
Town of Stantonsburg	31	1	0	58	0	5	0	6	1	0	0	0	0	3	0	2	0	107
Town of Tarboro	51	27	0	297	3	98	1	96	43	0	1	0	3	142	2	1	4	769
Town of Whitakers	1	2	0	29	0	10	0	7	1	0	0	0	0	22	0	2	0	74
Nash County	4,363	2	0	571	0	224	1	123	3	0	0	0	0	46	4	7	0	5,344
Edgecombe County	2,251	19	0	358	0	60	0	41	7	0	0	0	0	138	4	0	0	2,878
Wilson County	2,026	0	0	390	0	146	0	23	1	0	0	0	0	27	4	5	0	2,622
Total	**10,164**	**184**	**0**	**5,578**	**6**	**1,780**	**5**	**956**	**389**	**0**	**1**	**6**	**3**	**988**	**68**	**64**	**40**	**20,232**

Source: NCEM Risk Management Tool

Table 4.12 – High Potential Loss Properties by Use and Jurisdiction

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
City of Rocky Mount	7	109	31	46	0	29	40	262
City of Wilson	17	245	119	79	2	41	23	526
Town of Bailey	0	1	0	0	0	0	0	1
Town of Black Creek	0	0	1	2	0	0	0	3
Town of Castalia	-	-	-	-	-	-	-	-
Town of Conetoe	-	-	-	-	-	-	-	-
Town of Dortches	0	1	0	0	0	0	0	1
Town of Elm City	0	4	4	4	1	1	0	14
Town of Leggett	0	0	0	3	0	0	0	3
Town of Lucama	0	1	0	2	0	2	0	5
Town of Macclesfield	-	-	-	-	-	-	-	-
Town of Middlesex	0	1	1	0	0	0	0	2
Town of Momeyer	-	-	-	-	-	-	-	-
Town of Nashville	1	9	3	9	0	4	0	26
Town of Pinetops	0	0	1	2	0	1	0	4
Town of Princeville	0	1	0	1	0	0	0	2
Town of Red Oak	0	2	0	0	0	0	0	2
Town of Saratoga	1	1	0	0	0	0	0	2
Town of Sharpsburg	1	0	1	0	0	1	0	3
Town of Sims	0	3	1	0	0	1	0	5
Town of Speed	-	-	-	-	-	-	-	-
Town of Spring Hope	0	2	1	1	0	0	0	4
Town of Stantonsburg	0	0	1	2	0	0	0	3
Town of Tarboro	0	21	12	13	1	5	7	59
Town of Whitakers	-	-	-	-	-	-	-	-
Nash County	2	7	10	24	4	4	4	55
Edgecombe County	0	7	1	8	0	1	0	17
Wilson County	2	40	29	10	2	23	2	108
Total	**31**	**455**	**216**	**206**	**10**	**113**	**76**	**1,107**

Source: NCEM Risk Management Tool
Note: A dash (-) indicates that no high potential loss facilities were reported in RMT.

In addition to examining CIKR overall, the following critical facilities and assets were examined against known hazard areas, where possible, in this risk assessment. These facilities are those that could severely disrupt emergency operations or response and recovery efforts should they be damaged by a hazard event. Note that these facilities are a subset of the CIKR inventory; critical facility exposure and risk is accounted for in the exposure and vulnerability of CIKR.

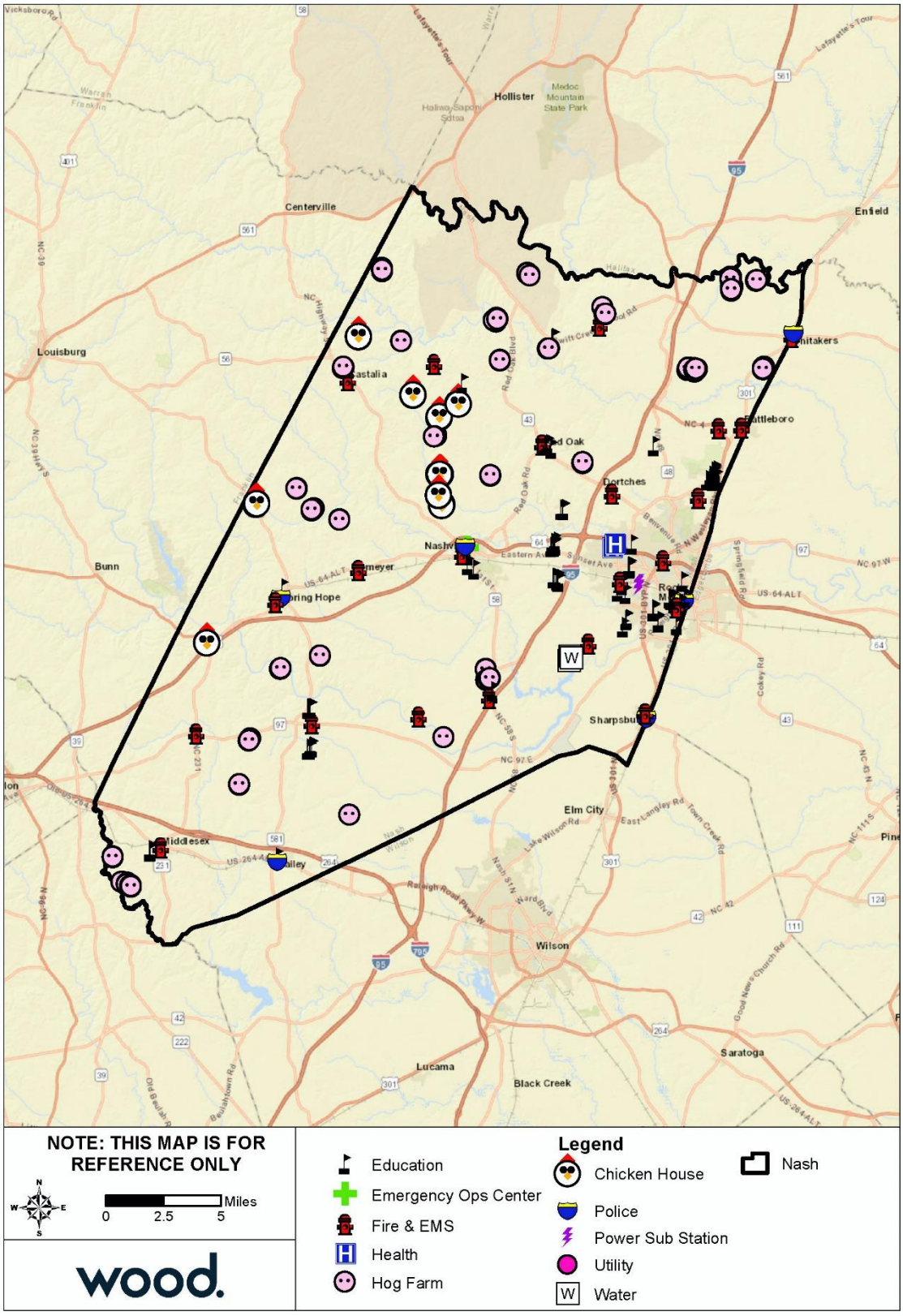
Critical facilities are summarized for the Region in Table 4.13 and shown by County in Figure 4.1 through Figure 4.3. In total, there are 1,175 buildings in the region identified as critical facilities, worth an estimated $2,067,748,551.

Table 4.13 – Critical Facilities, N.E.W. Region

Asset Type	Count of Buildings	Sum of Building Value
Chicken House	187	$61,464,858
Community College	8	$22,398,299
Emergency Operations Center	2	$14,900,280
Fire Station	57	$31,224,805
Hog Farm	439	$76,384,269
Hospital	6	$65,049,626
Police Station	16	$25,624,217
Power Plant	17	$503,235,724
School	328	$336,078,445
Substation	8	$61,529,868
Treatment Plant	71	$779,803,735
University	36	$90,054,425
Total	**1,175**	**$2,067,748,551**

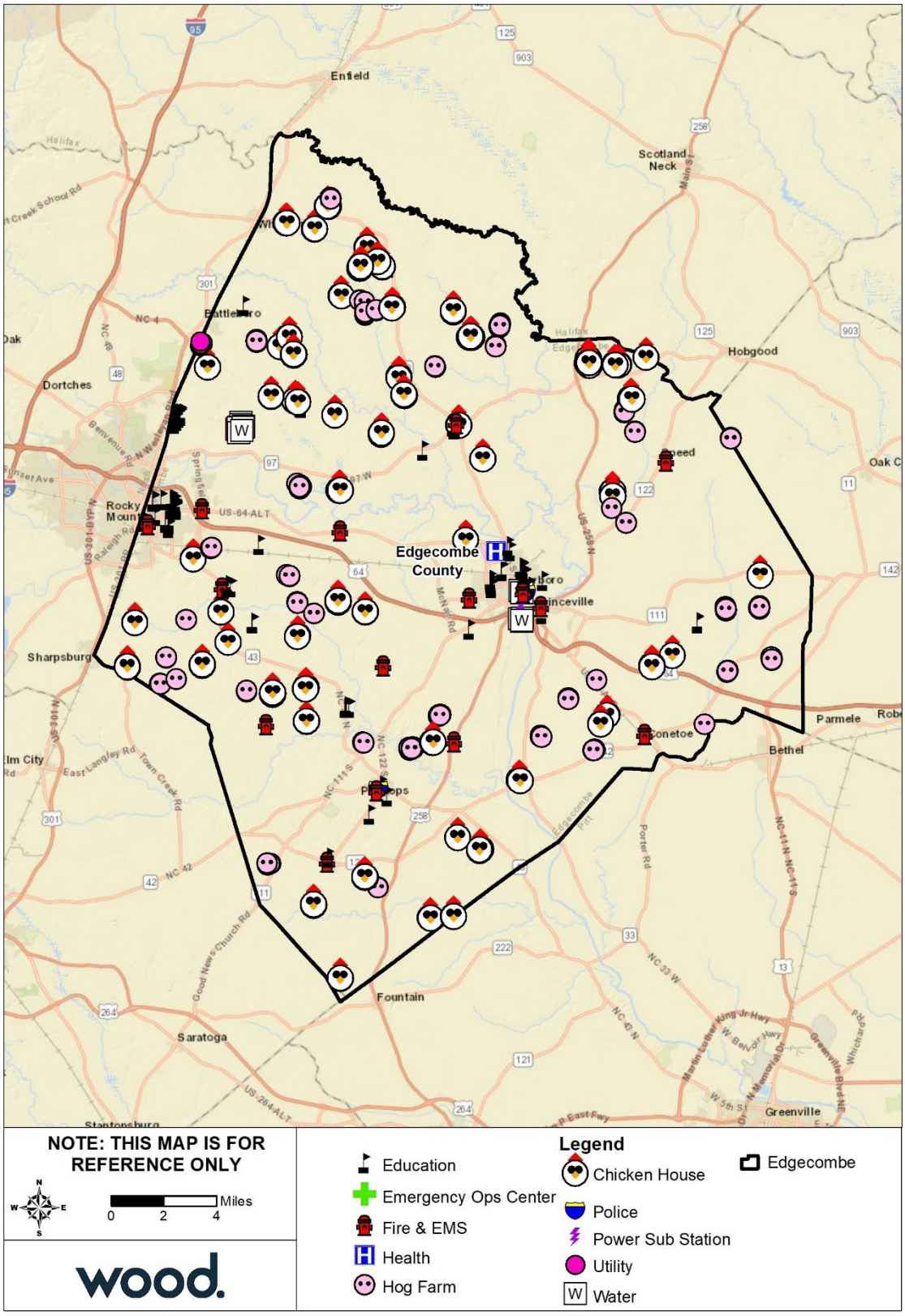
Source: NCEM IRISK Database; GIS analysis
Note: Edgecombe County identified an additional five fire stations that were not included in the IRISK database but were included in the map on the following page.

Figure 4.1 – Nash County Critical Facilities



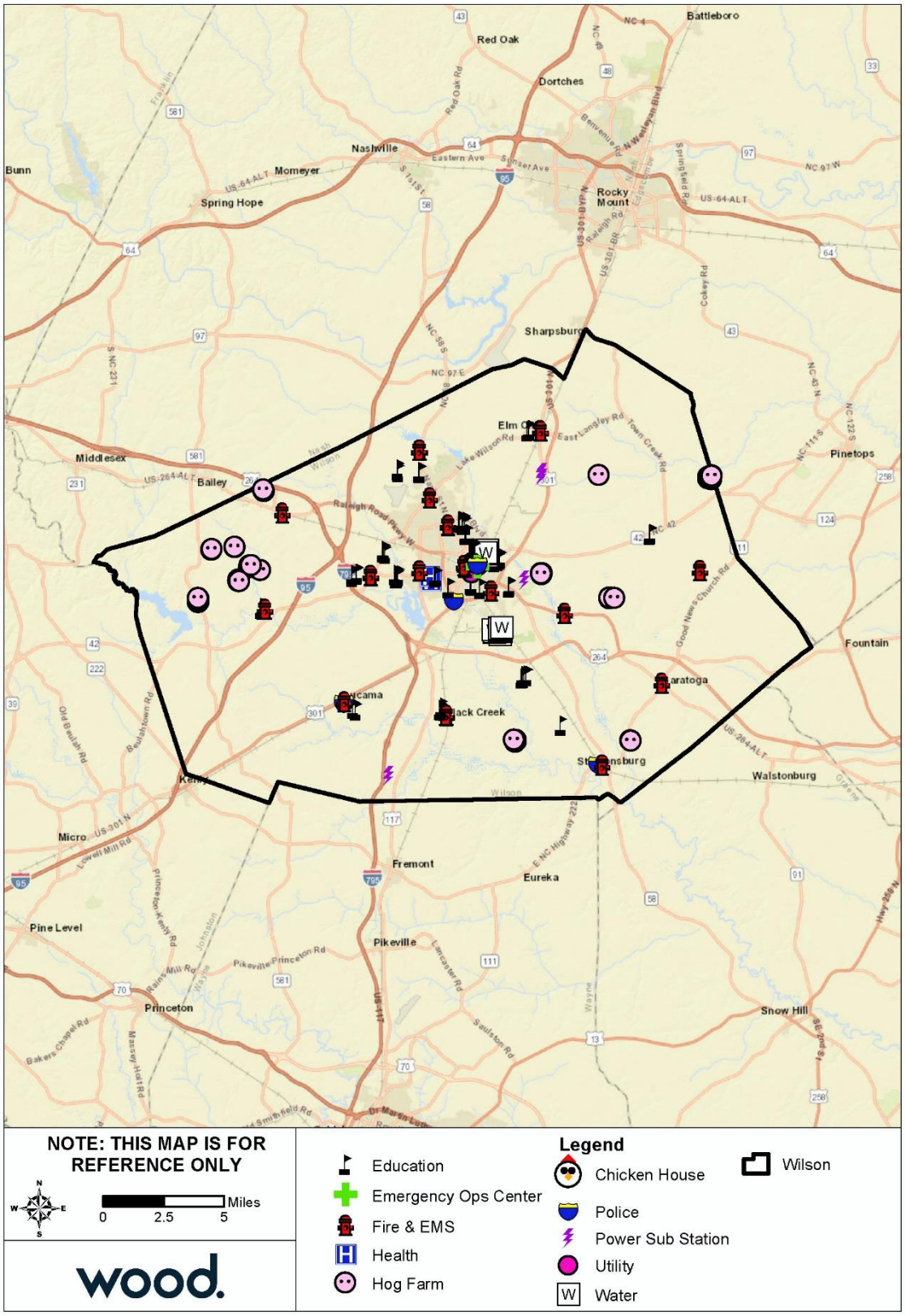
Source: NCEM IRISK Database, GIS Analysis

Figure 4.2 – Edgecombe County Critical Facilities



Source: NCEM IRISK Database, GIS Analysis

Figure 4.3 – Wilson County Critical Facilities



Source: NCEM IRISK Database, GIS Analysis

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 2017 Census of Agriculture. Table 4.14 below summarizes the agricultural exposure in the Region by county.

Table 4.14 – Summary of Agricultural 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
Nash County	425	129,478	37.4%	63,414 (49.0%)	$599,074,000
Edgecombe County	249	148,917	46.0%	89,517 (60.1%)	$454,073,000
Wilson County	276	122,946	52.3%	79,223 (64.4%)	$465,231,000

Source: USDA 2017 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.

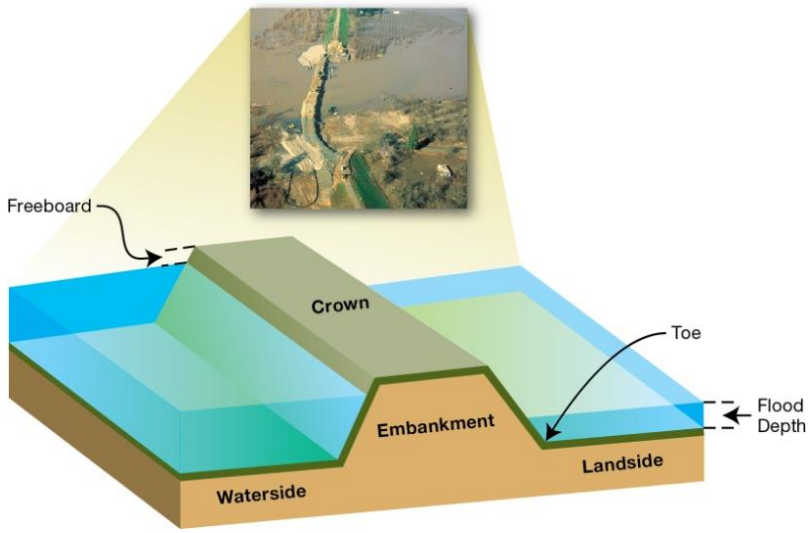
Dam failures are of particular concern because the failure of a large dam has the potential to cause more death and destruction than the failure of any other manmade structure. This is because of the destructive power of the flood wave that would be released by the sudden collapse of a large dam. Dams 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 4.4 shows the components of a typical levee.

Figure 4.4 – Components of a Typical Levee



Source: FEMA, What is a Levee Fact Sheet, August 2011

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 July 2018, there are 96 dams in the N.E.W. Region, of which 62 are rated low hazard, 29 are rated intermediate hazard, and 5 are rated high hazard. Of all 96 dams, 49 are located in Nash County, 28 in Edgecombe County, and 19 in Wilson County. Edgecombe County reports an additional 50 structures that offer no danger to life or property if a breech were to occur. In the event of a breech, water would be released into an area where it would be absorbed naturally into the watershed and cause no adverse affects. Note that these numbers do not include swine ponds, which may have adverse environmental impacts in the event of a failure. Figure 4.5 through Figure 4.7 show the location of all dams in the Region by county. Table 4.15 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.

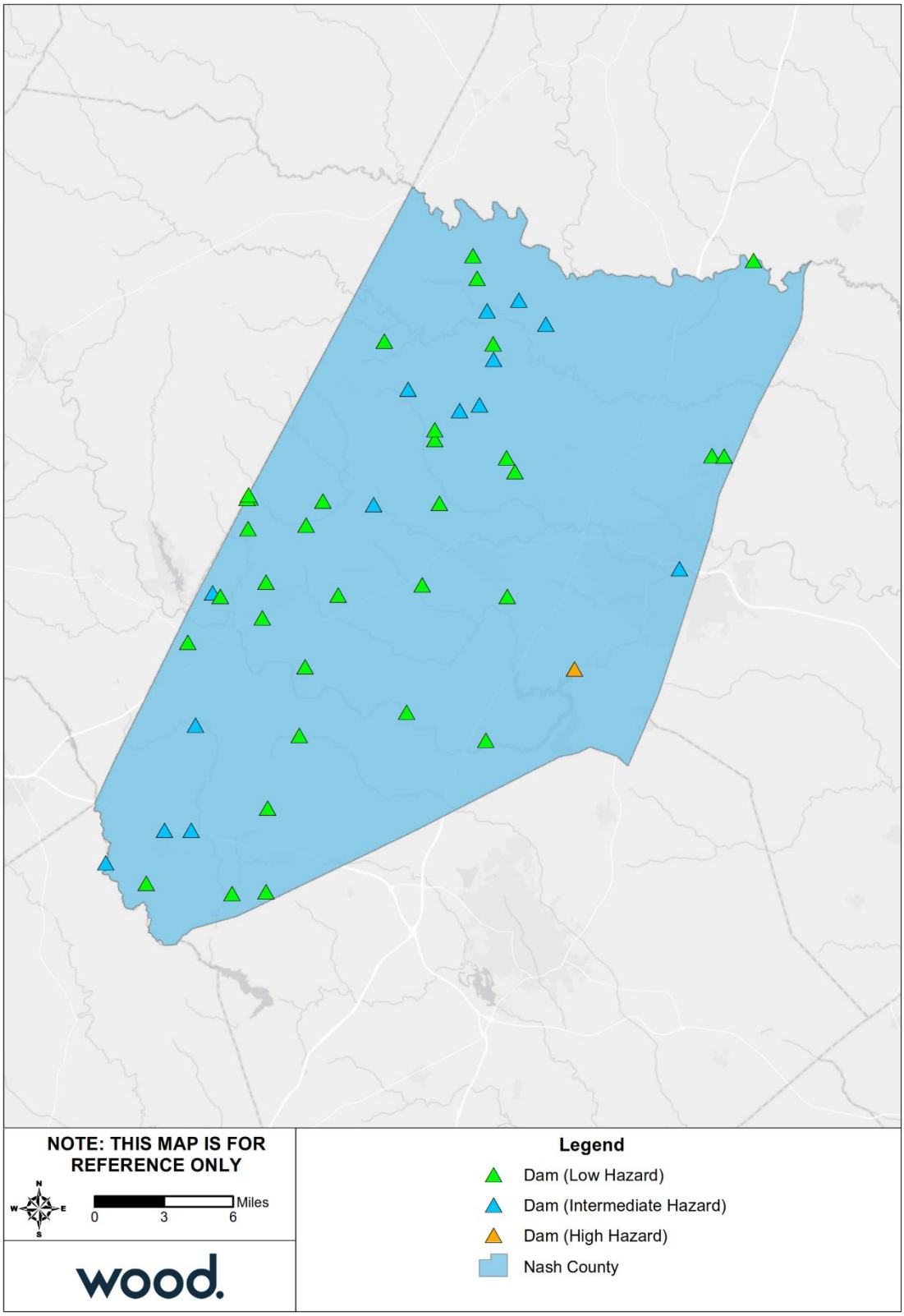
Table 4.15 – High Hazard Dams in the N.E.W. Region

Dam Name	NID ID	Condition as of Last Inspection	Owner Type	Max Capacity (Ac-Ft)	River/ Stream	River Basin	Nearest Downstream Location
Nash County							
Tar River Reservoir Dam	NC00913	Satisfactory	Local Gov.	13440	Tar River	Tar-Pamlico	Rocky Mount
Edgecombe County							
Wiggins Lake Dam	NC00818	Satisfactory	State	360	Cokey Swamp-Tr	Tar-Pamlico	Wiggins Crossroads
Nobles Millpond Dam	NC00819	Satisfactory	Private	415	Cokey Creek-Tr	Tar-Pamlico	Wiggins Crossroads
Wilson County							
Lake Wilson*	NC00894	Fair	Local Gov.	998	Toisnot Swamp	Neuse	Wilson
Buckhorn Lake	NC01379	Satisfactory	Local Gov.	--	Contentnea Creek-Tr	Neuse	--

Source: North Carolina Dam Inventory

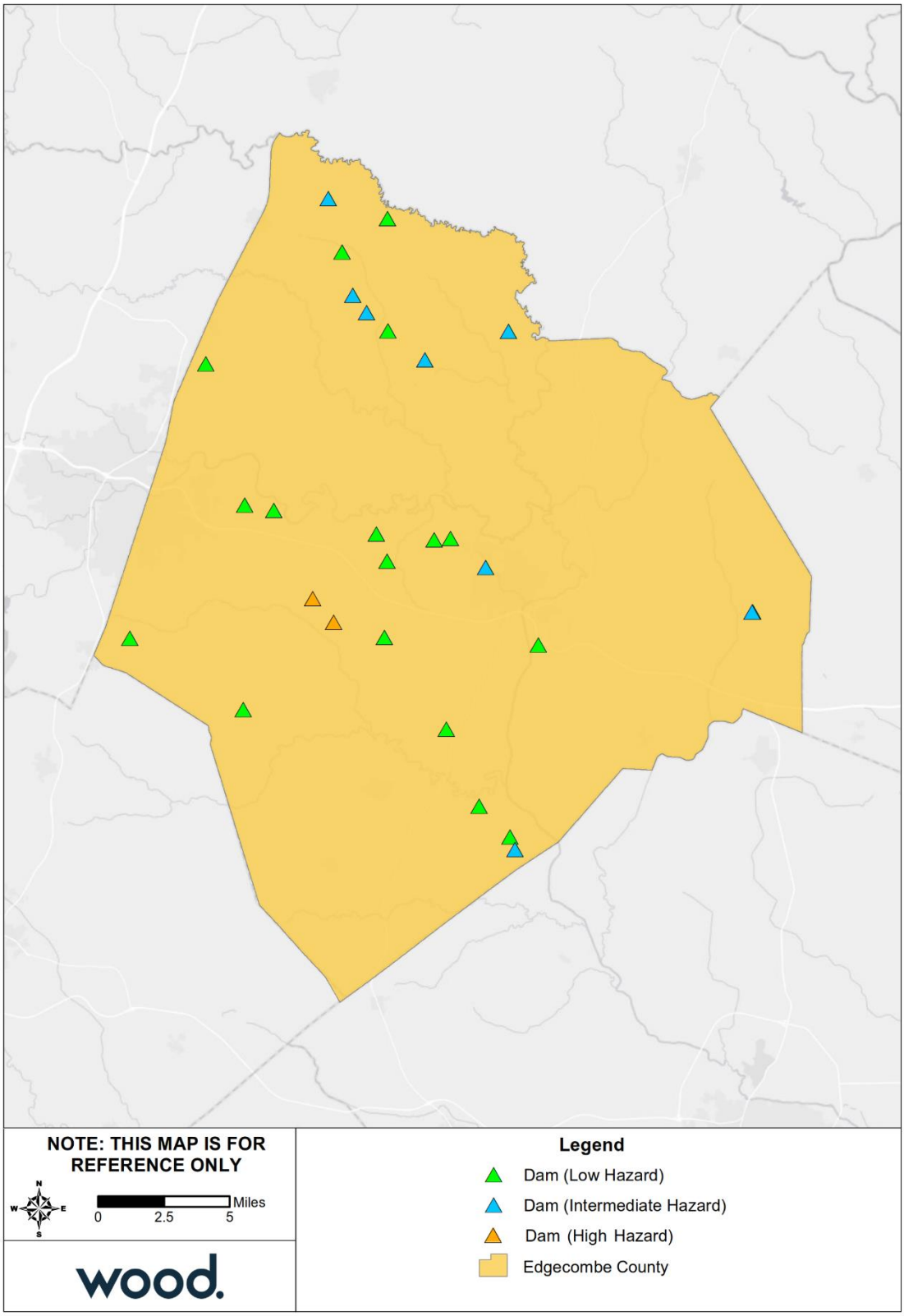
*The Lake Wilson Dam is located within the jurisdictional limits of the City of Wilson.

Figure 4.5 – Dam Locations in Nash County



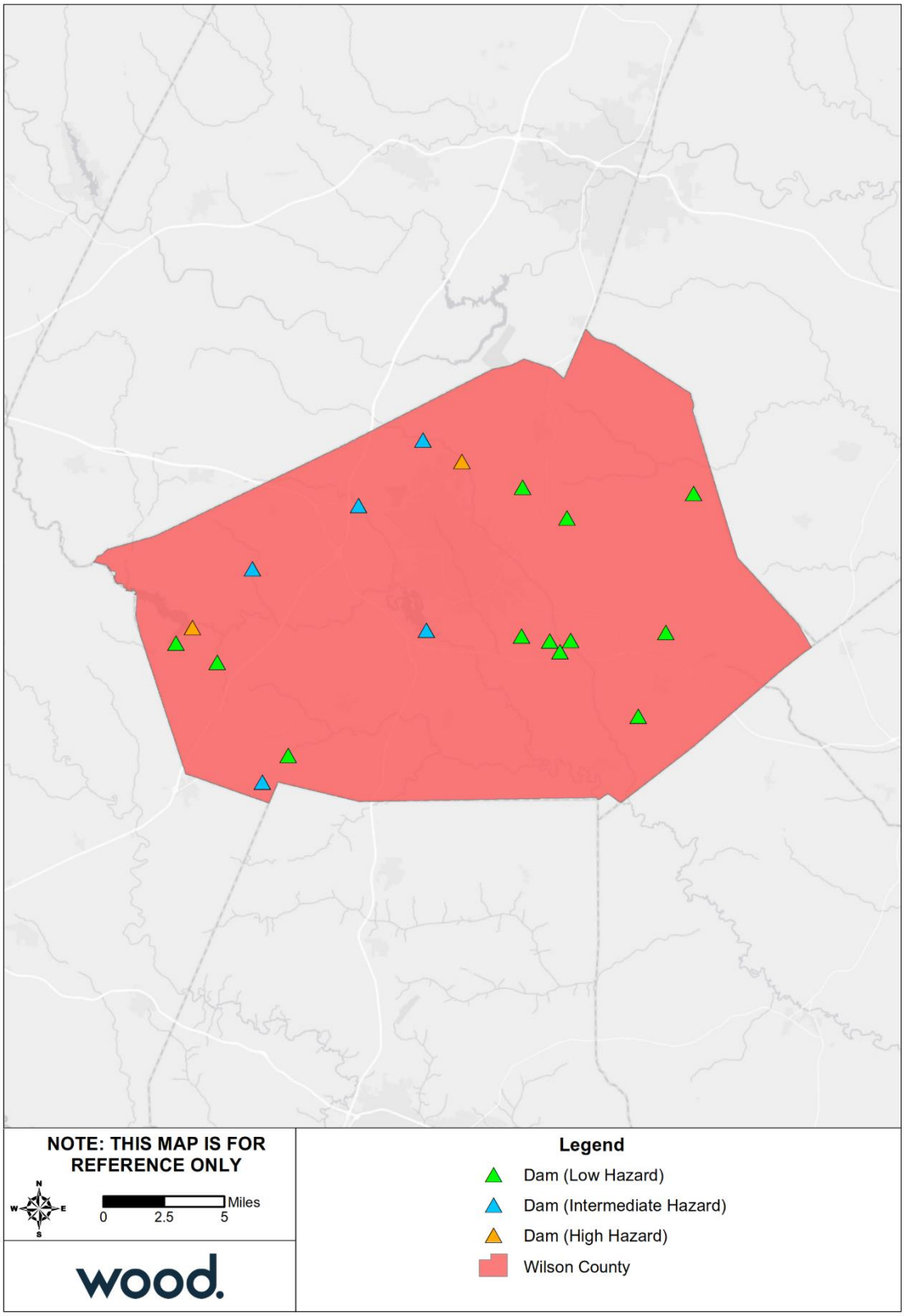
Source: North Carolina Dam Inventory, July 2018

Figure 4.6 – Dam Locations in Edgecombe County



Source: North Carolina Dam Inventory, July 2018

Figure 4.7 – Dam Locations in Wilson County



Source: North Carolina Dam Inventory, July 2018

Levee Failure

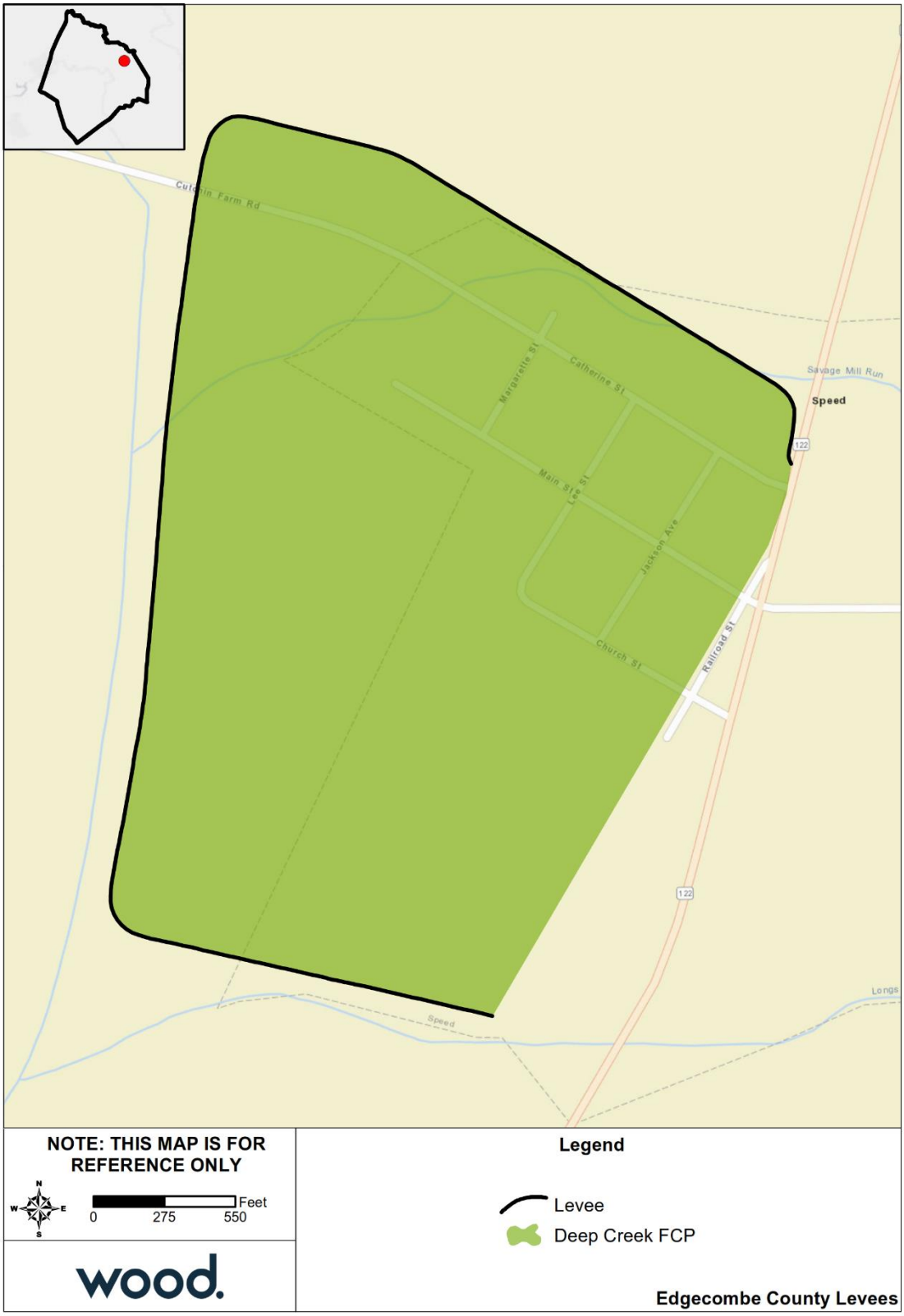
According to the US Army Corps of Engineers' (USACE) National Levee Database (NLD), there are two recognized levees in the N.E.W. Region. These levees are detailed in Table 4.16 and their locations are shown in Figure 4.8 and Figure 4.9. Both levee segments are located in Edgecombe County.

Table 4.16 – Levees in the N.E.W. Region

Levee Name	Year Constructed	Embankment Length (mi)	Levee Safety Action Classification	People at Risk	Structures at Risk	Property Value
Deep Creek Flood Control Project (FCP)	1983	1.41	Low	39	49	$7.95M
Princeville Dike	1938	3.3	Moderate	343	500	$72.4M

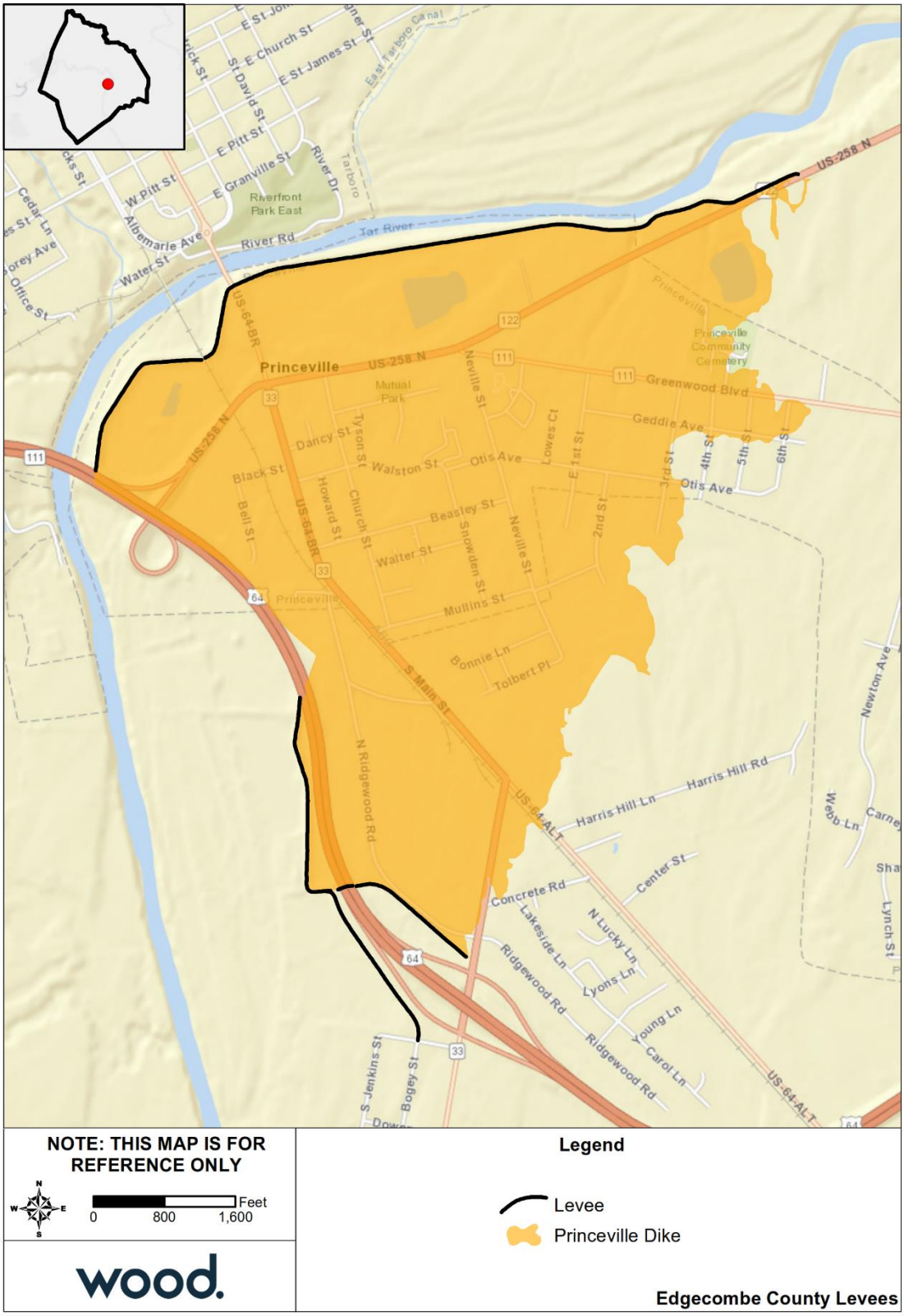
Source: National Levee Database

Figure 4.8 – Deep Creek Flood Control Project Leveed Area



Source: National Levee Database

Figure 4.9 – Princeville Dike Leveed Area



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 which are shown in Table 4.17 and below:

- 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 4.17 – 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

Spatial Extent: 1 – Negligible

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

N.E.W. Region. According to the Region's previous hazard mitigation plan, the levee in Princeville was overtopped in September 1999 as a result of the floodwaters from Hurricane Floyd.

In 2016, following Hurricane Matthew, floodwaters flowed past the Princeville levee and flooded 80% of the Town, according to coverage from WRAL news. The levee did not fail, but flaws in its design allowed significant flooding of the Town.

Per the Hurricane Matthew Resilient Redevelopment Plan for Nash County, County officials noted that one mill pond on privately owned land between Harris Road and Winters Road floods consistently during heavy rain events, including Hurricane Matthew. The flooding occasionally affects neighborhoods in the area of the pond. However, these events do not constitute dam failures.

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 382 people are at risk to levee failure in the N.E.W. Region, all located in Edgecombe 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 549 buildings at risk in leveed areas, worth an estimated $80.35 million. The majority of this value is located within the Princeville Dike area, which has overtopped once before and caused extensive damage.

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 likely 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 4.18 summarizes the potential negative consequences of dam and levee failure.

Table 4.18 – 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 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 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
Rocky Mount	2	3	1	4	3	2.4	M
Wilson	2	3	1	4	3	2.4	M
Bailey	1	2	1	4	3	1.8	L
Black Creek	1	2	1	4	3	1.8	L
Castalia	1	2	1	4	3	1.8	L
Conetoe	1	2	1	4	3	1.8	L
Dortches	1	2	1	4	3	1.8	L
Elm City	1	2	1	4	3	1.8	L
Leggett	1	2	1	4	3	1.8	L
Lucama	1	2	1	4	3	1.8	L
Macclesfield	1	2	1	4	3	1.8	L
Middlesex	1	2	1	4	3	1.8	L
Momeyer	1	2	1	4	3	1.8	L
Nashville	1	2	1	4	3	1.8	L
Pinetops	1	2	1	4	3	1.8	L
Princeville	2	3	1	4	3	2.4	M
Red Oak	1	2	1	4	3	1.8	L
Saratoga	1	2	1	4	3	1.8	L
Sharpsburg	1	2	1	4	3	1.8	L
Sims	1	2	1	4	3	1.8	L
Speed	1	2	1	4	3	1.8	L
Spring Hope	1	2	1	4	3	1.8	L
Stantonsburg	1	2	1	4	3	1.8	L
Tarboro	1	2	1	4	3	1.8	L
Whitakers	1	2	1	4	3	1.8	L
Nash County	2	3	1	4	3	2.4	M
Edgecombe County	2	3	1	4	3	2.4	M
Wilson County	2	3	1	4	3	2.4	M

4.5.2 Drought

Hazard Background

Drought is a deficiency in precipitation over an extended period. It is a normal, recurrent feature of climate that occurs in virtually all climate zones. The duration of a drought varies widely. There are cases when drought develops relatively quickly and lasts a very short period of time, exacerbated by extreme heat and/or wind, and there are other cases when drought spans multiple years, or even decades. Studying the paleoclimate record is often helpful in identifying when long-lasting droughts have occurred. Common types of drought are detailed below in Table 4.19.

Table 4.19 – Types of Drought

Type	Details
Meteorological Drought	Meteorological Drought is based on the degree of dryness (rainfall deficit) and the length of the dry period.
Agricultural Drought	Agricultural Drought is based on the impacts to agriculture by factors such as rainfall deficits, soil water deficits, reduced ground water, or reservoir levels needed for irrigation.
Hydrological Drought	Hydrological Drought is based on the impact of rainfall deficits on the water supply such as stream flow, reservoir and lake levels, and ground water table decline.
Socioeconomic Drought	Socioeconomic drought is based on the impact of drought conditions (meteorological, agricultural, or hydrological drought) on supply and demand of some economic goods. Socioeconomic drought occurs when the demand for an economic good exceeds supply as a result of a weather-related deficit in water supply.

The wide variety of disciplines affected by drought, its diverse geographical and temporal distribution, and the many scales drought operates on make it difficult to develop both a definition to describe drought and an index to measure it. Many quantitative measures of drought have been developed in the United States, depending on the discipline affected, the region being considered, and the particular application. Several indices developed by Wayne Palmer, as well as the Standardized Precipitation Index, are useful for describing the many scales of drought.

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).

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.

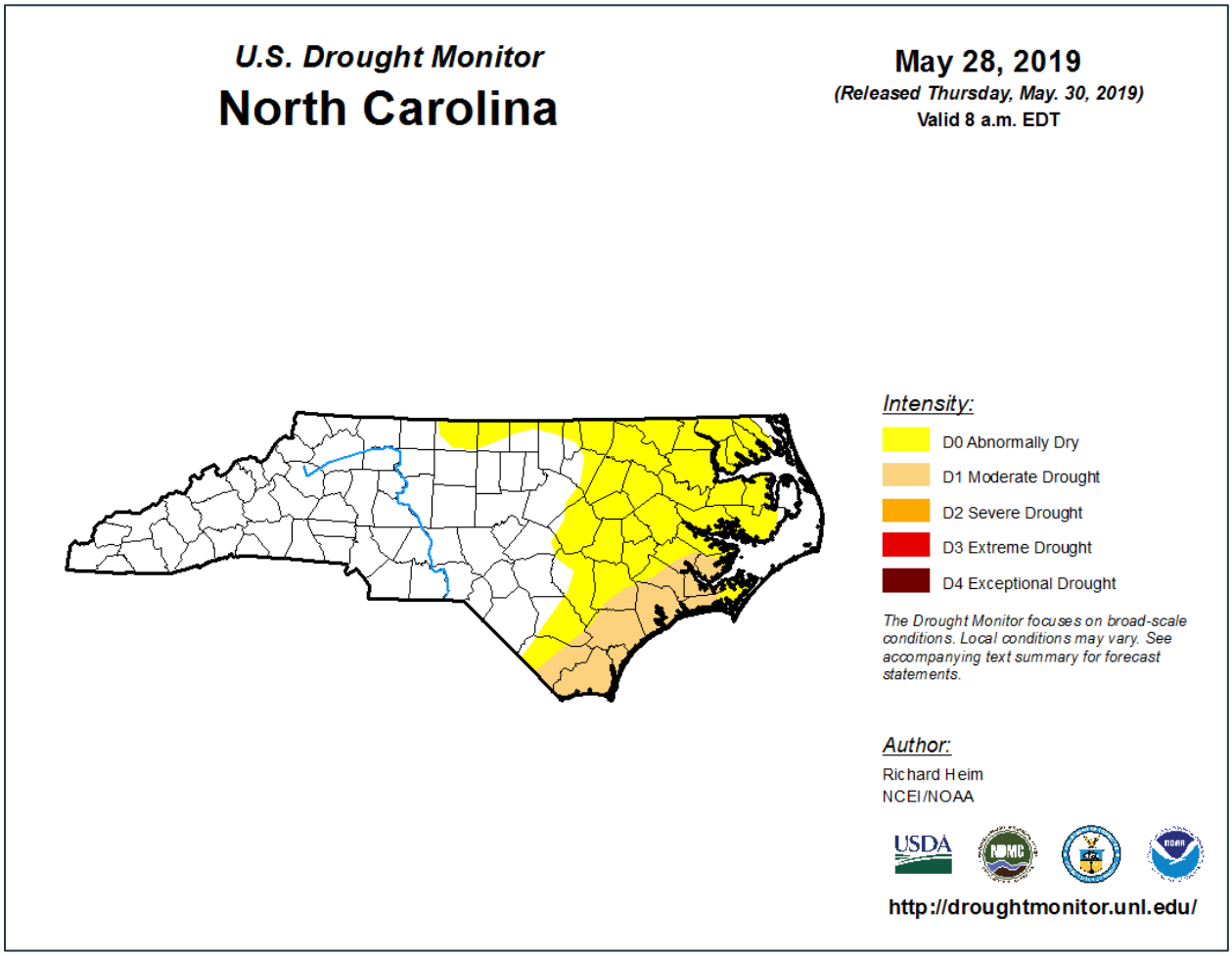
Warning Time: 1 – More than 24 hours

Duration: 4 – More than one week

Location

Drought is a regional hazard that can cover the entire planning area, and in some cases the entire state. Figure 4.10 below notes the U.S. Drought Monitor's drought ratings for North Carolina as of May 28, 2019; as of that date, the N.E.W. Region was experiencing Abnormally Dry conditions.

Figure 4.10 – US Drought Monitor for Week of May 28, 2019



Source: U.S. Drought Monitor

Extent

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 4.11 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 4.11 – US Drought Monitor Classifications

Category	Description	Possible Impacts	Ranges				
			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

The most severe drought to impact the N.E.W. Region within the past 20 years occurred between May 2007 and May 2008, during which time all three counties experienced at least 51 consecutive weeks of drought conditions. All three counties experienced exceptional drought conditions. These conditions lasted for 14 consecutive and 18 total weeks in Nash County, 13 consecutive and 15 total weeks in Wilson County, and a total of 11 non-consecutive weeks in Edgecombe County.

Impact: 1 – Minor

Spatial Extent: 4 – Large

Historical Occurrences

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. Table 4.20 presents the number of weeks that each county in the N.E.W. Region spent in drought by intensity over the period from 2000 through 2018, for which the Drought Monitor has records for 973 weeks.

Table 4.20 – Weeks in Drought, 200-2018

	Weeks in Drought						% of time in Severe Drought or Worse
County	Total	D0	D1	D2	D3	D4	
Nash	400	221	93	50	18	18	8.8%
Edgecombe	366	200	91	49	15	11	7.7%
Wilson	380	209	96	45	15	15	7.7%

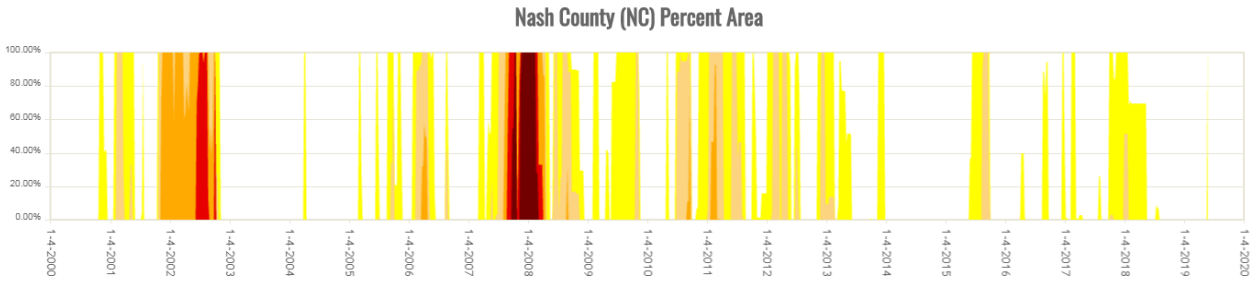
Source: NCDEQ Division of Water Resources, Drought Monitor History

Figure 4.12 through Figure 4.14 shows the historical periods where each county was considered in some level of drought condition. The color key shown in Figure 4.11 indicates the intensity of the drought.

Nash County

Between 2000 and 2018, Nash County was in some level of drought 41.1% of the time.

Figure 4.12 – US Drought Monitor Historical Trends – Nash County 2000-2018

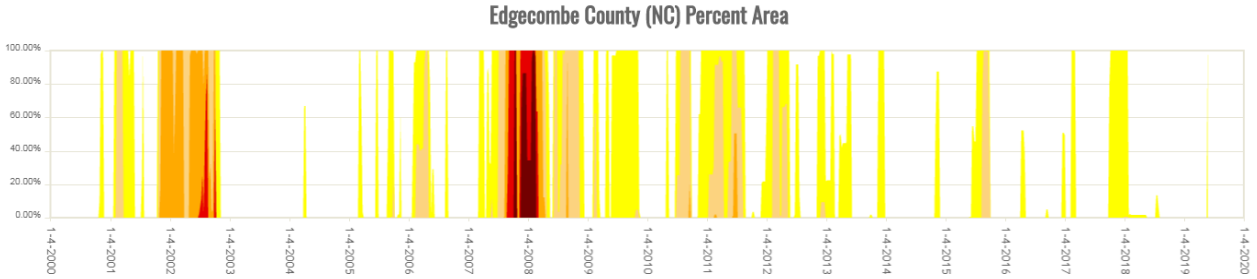


Source: U.S. Drought Monitor

Edgecombe County

Between 2000 and 2018, Edgecombe County was in some level of drought 37.6% of the time.

Figure 4.13 – US Drought Monitor Historical Trends – Edgecombe County 2000-2018

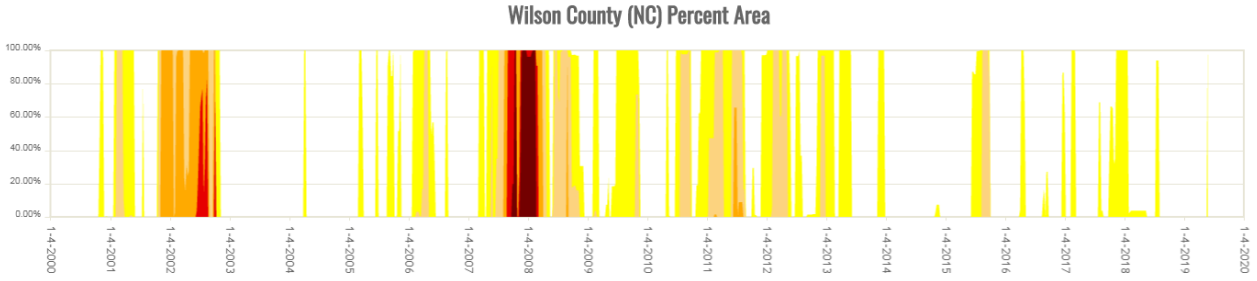


Source: U.S. Drought Monitor

Wilson County

Between 2000 and 2018, Wilson County was in some level of drought 39.1% of the time.

Figure 4.14 – US Drought Monitor Historical Trends – Wilson County 2000-2018



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 2009 through December 2018, 289 drought impacts were noted for the State of North Carolina, of which 8 were reported for Edgecombe County, 6 for Wilson County, and 14 for Nash County. Table 4.21 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 4.21 – Drought Impacts Reported for N.E.W. Region Counties, Jan. 2009 - Dec. 2018

Category	Impacts	Years Reported
Agriculture	10	2018, 2017, 2016, 2012, 2010, 2009
Business & Industry	2	2018, 2017
Fire	1	2011
Plants & Wildlife	5	2018, 2017, 2010, 2009
Relief, Response & Restrictions	6	2016, 2012, 2011, 2010
Tourism & Recreation	1	2017
Water Supply & Quality	7	2018, 2017, 2016, 2012, 2011, 2009

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

Probability of Future Occurrence

Probability: 3 – Likely

Over the 20-year (973 week) period from 1999 through 2018, the N.E.W. Region averaged 382 weeks in drought conditions ranging from abnormally dry (D0) to exceptional drought (D4). This equates to a 39.3 percent chance of drought in any given week. Of this time, an average of 78.7 weeks were categorized as a severe (D2) drought or greater, which equates to an 8.1 percent chance of severe drought in any week.

Climate Change

The Fourth National Climate Assessment reports that average and extreme temperatures are increasing across the country and average annual precipitation is decreasing in the Southeast. Heavy precipitation events are becoming more frequent, meaning that there will likely be an increase in the average number of consecutive dry days. As temperature is projected to continue rising, evaporation rates are expected to increase, resulting in decreased surface soil moisture levels. Together, these factors suggest that drought will increase in intensity and duration in the Southeast.

Vulnerability Assessment

Methodologies and Assumptions

Vulnerability to drought in the Region is determined based on historical occurrences of drought in the planning area and generalized concerns regarding potential drought consequences. Agricultural vulnerability was estimated using data from the 2012 Census of Agriculture and a review of past claims related to drought.

People

Drought can affect people's physical and mental health. For those economically dependent on a reliable water supply, drought may cause anxiety or depression about economic losses, reduced incomes, and other employment impacts. Conflicts may arise over water shortages. People may be forced to pay more for water, food, and utilities affected by increased water costs.

Drought may also cause health problems due to poorer water quality from lower water levels. If accompanied by extreme heat, drought can also result in higher incidents of heat stroke and even loss of human life.

Property

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 also cause severe property loss for the 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 2007-2017, the sum of claims paid for crop damage as a result of drought in the N.E.W. Region was $43,072,302, or an average of $3,915,664 in losses every year. Losses were greatest in Edgecombe, both in terms of acres affected and losses claimed. Table 4.22 through Table 4.24 summarize the crop losses due to drought reported in the RMA system by county.

Table 4.22 – Crop Losses Resulting from Drought, Nash County, 2007-2017

Year	Determined Acres	Indemnity Amount
2007	19,247.67	$3,068,246
2008	8,008.22	$1,380,612
2009	3,141.19	$294,095
2010	22,172.08	$4,508,929
2011	5,109.33	$1,403,693
2012	990.56	$144,049
2013	158.90	$25,985
2014	51.10	$1,694
2015	10,989.91	$3,867,787.01
2016	1,381.64	$838,932.77
2017	1,405.30	$202,655.81
Total	**72,655.90**	**$15,736,678.59**

Source: USDA Risk Management Agency

Table 4.23 – Crop Losses Resulting from Drought, Edgecombe County, 2007-2017

Year	Determined Acres	Indemnity Amount
2007	27,456.43	$2,909,830
2008	19,887.12	$3,107,831
2009	6,337.92	$948,657
2010	28,496.41	$4,962,365
2011	7,351.52	$2,359,873
2012	220.20	$42,793
2013	559.43	$124,764
2014	46.95	$1,576
2015	17,455.65	$3,320,709.61
2016	940.18	$564,336.8
2017	3,708.70	$316,708
Total	**112,460.51**	**$18,659,443.41**

Source: USDA Risk Management Agency

Table 4.24 – Crop Losses Resulting from Drought, Wilson County, 2007-2017

Year	Determined Acres	Indemnity Amount
2007	16,275.27	$2,287,994
2008	6,658.78	$1,426,399
2009	1,052.70	$86,405
2010	15,275.55	$2,004,073
2011	2,129.37	$720,472
2012	3.09	$310
2013	303.91	$17,673
2015	6,158.74	$1,448,818.2
2016	497.28	$386,818.63

Year	Determined Acres	Indemnity Amount
2017	416.47	$297,216.75
Total	**48,771.16**	**$8,676,179.58**

Source: USDA Risk Management Agency

Environment

Drought can affect local wildlife by shrinking food supplies and damaging habitats. Sometimes this damage is only temporary, and other times it is irreversible. Wildlife may face increased disease rates due to limited access to food and water. Increased stress on endangered species could cause extinction.

Drought conditions can also provide a substantial increase in wildfire risk. As plants and trees die from a lack of precipitation, increased insect infestations, and diseases—all of which are associated with drought—they become fuel for wildfire. Long periods of drought can result in more intense wildfires, which bring additional consequences for the economy, the environment, and society. Drought may also increase likelihood of wind and water erosion of soils.

Consequence Analysis

Table 4.25 summarizes the potential negative consequences of drought.

Table 4.25 – Consequence Analysis – Drought

Category	Consequences
Public	Can cause anxiety or depression about economic losses, conflicts over water shortages, reduced incomes, fewer recreational activities, higher incidents of heat stroke, and fatality.
Responders	Impacts to responders are unlikely. Exceptional drought conditions may impact the amount of water immediately available to respond to wildfires.
Continuity of Operations (including Continued Delivery of Services)	Drought would have minimal impacts on continuity of operations due to the relatively long warning time that would allow for plans to be made to maintain continuity of operations.
Property, Facilities and Infrastructure	Drought has the potential to affect water supply for residential, commercial, institutional, industrial, and government-owned areas. Drought can reduce water supply in wells and reservoirs. Utilities may be forced to increase rates.
Environment	Environmental impacts include strain on local plant and wildlife; increased probability of erosion and wildfire.
Economic Condition of the Jurisdiction	Farmers may face crop losses or increased livestock costs. Businesses that depend on farming may experience secondary impacts. Extreme drought has the potential to impact local businesses in landscaping, recreation and tourism, and public utilities.
Public Confidence in the Jurisdiction's Governance	When drought conditions persist with no relief, local or State governments must often institute water restrictions, which may impact public confidence.

Hazard Summary by Jurisdiction

The following table summarizes drought hazard risk by jurisdiction. Drought risk is uniform across the planning area. 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 area. 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
Rocky Mount	3	1	4	1	4	2.5	H
Wilson	3	1	4	1	4	2.5	H
Bailey	3	1	4	1	4	2.5	H
Black Creek	3	1	4	1	4	2.5	H
Castalia	3	2	4	1	4	2.8	H
Conetoe	3	1	4	1	4	2.5	H
Dortches	3	2	4	1	4	2.8	H
Elm City	3	1	4	1	4	2.5	H
Leggett	3	2	4	1	4	2.8	H
Lucama	3	1	4	1	4	2.5	H
Macclesfield	3	1	4	1	4	2.5	H
Middlesex	3	1	4	1	4	2.5	H
Momeyer	3	2	4	1	4	2.8	H
Nashville	3	1	4	1	4	2.5	H
Pinetops	3	1	4	1	4	2.5	H
Princeville	3	1	4	1	4	2.5	H
Red Oak	3	2	4	1	4	2.8	H
Saratoga	3	1	4	1	4	2.5	H
Sharpsburg	3	1	4	1	4	2.5	H
Sims	3	1	4	1	4	2.5	H
Speed	3	2	4	1	4	2.8	H
Spring Hope	3	1	4	1	4	2.5	H
Stantonsburg	3	1	4	1	4	2.5	H
Tarboro	3	1	4	1	4	2.5	H
Whitakers	3	1	4	1	4	2.5	H
Nash County	3	2	4	1	4	2.8	H
Edgecombe County	3	2	4	1	4	2.8	H
Wilson County	3	2	4	1	4	2.8	H

4.5.3 Earthquake

Hazard Background

An earthquake is a movement or shaking of the ground. Most earthquakes are caused by the release of stresses accumulated as a result of the rupture of rocks along opposing fault planes in the Earth's outer crust. These fault planes are typically found along borders of the Earth's 10 tectonic plates. The areas of greatest tectonic instability occur at the perimeters of the slowly moving plates, as these locations are subjected to the greatest strains from plates traveling in opposite directions and at different speeds. Deformation along plate boundaries causes strain in the rock and the consequent buildup of stored energy. When the built-up stress exceeds the rocks' strength a rupture occurs. The rock on both sides of the fracture is snapped, releasing the stored energy and producing seismic waves, generating an earthquake.

Warning Time: 4 – Less than 6 hours

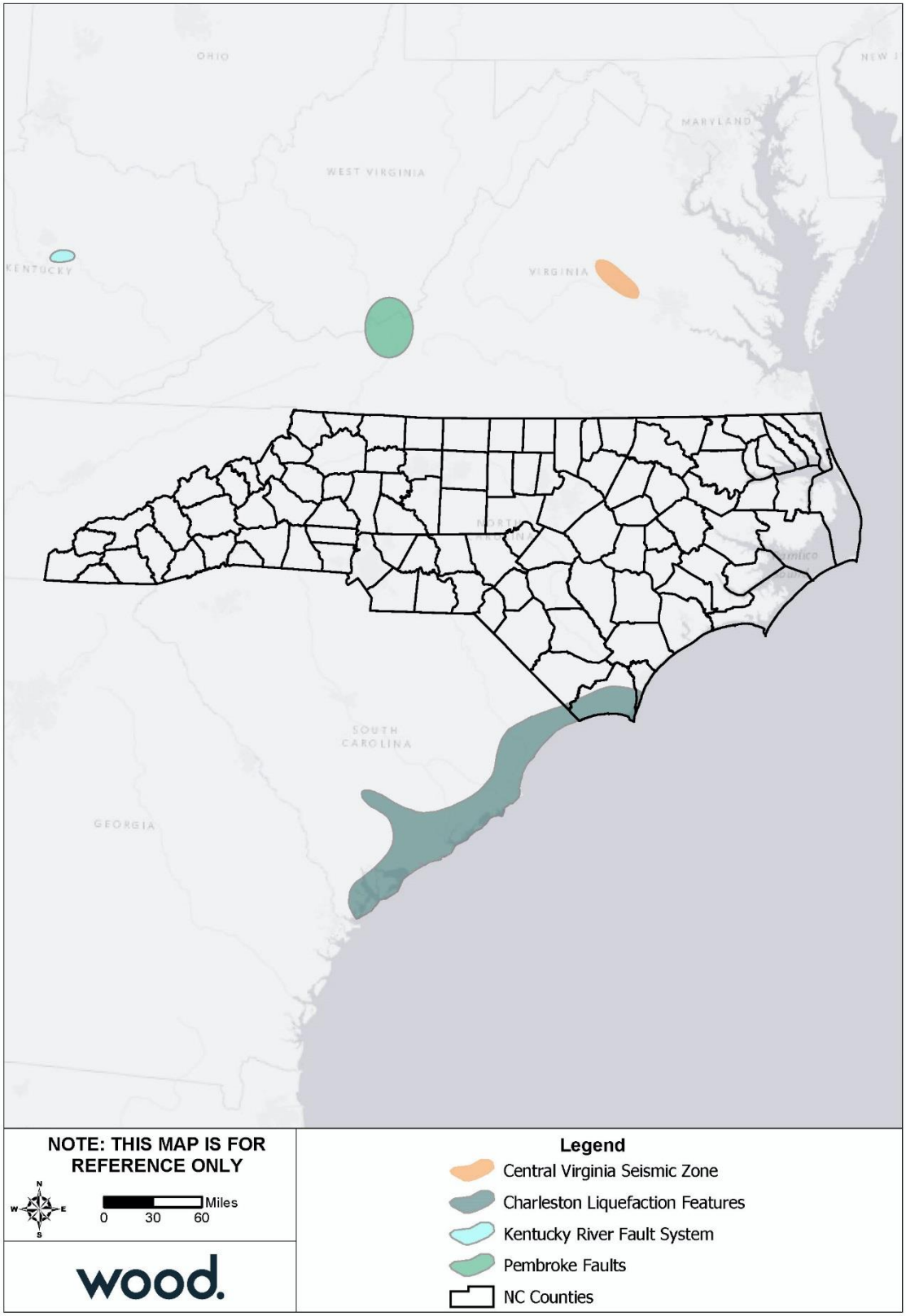
Duration: 1 – Less than 6 hours

Location

Figure 4.15 reflects the Quaternary faults that present an earthquake hazard for the N.E.W. Region based on data from the 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 N.E.W. 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.

Figure 4.15 – US Quaternary Faults



Source: USGS Earthquake Hazards Program

Extent

Earthquakes are measured in terms of their magnitude and 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 4.26. 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 4.27 shows descriptions for levels of earthquake intensity on the MMI scale compared to the Richter scale. Seismic shaking is typically the greatest cause of losses to structures during earthquakes.

Table 4.26 – 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: FEMA

Table 4.27 – Comparison of Richter Scale and Modified Mercalli Intensity (MMI) Scale

MMI	Richter Scale	Felt Intensity
I	0 – 1.9	Not felt. Marginal and long period effects of large earthquakes.
II	2.0 – 2.9	Felt by persons at rest, on upper floors, or favorably placed.
III	3.0 – 3.9	Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.
IV	4.0 – 4.3	Hanging objects swing. Vibration like passing of heavy trucks. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink the upper range of IV, wooden walls and frame creak.
V	4.4 – 4.8	Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Pendulum clocks stop, start.
VI	4.9 – 5.4	Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Books, etc., fall off shelves. Pictures fall off walls. Furniture moved. Weak plaster and masonry D cracked. Small bells ring. Trees, bushes shaken.
VII	5.5 – 6.1	Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices. Some cracks in masonry C. Waves on ponds. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.
VII	6.2 – 6.5	Steering of motor cars is affected. Damage to masonry C; partial collapse. Some damage to masonry B. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.
IX	6.6 – 6.9	General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations.) Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluvial areas sand and mud ejected, earthquake fountains, sand craters.

MMI	Richter Scale	Felt Intensity
X	7.0 – 7.3	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.
XI	7.4 – 8.1	Rails bent greatly. Underground pipelines completely out of service.
XII	> 8.1	Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown in the air.

Masonry A: Good workmanship, mortar, and design; reinforced, especially laterally, and bound together by using steel, concrete, etc.; designed to resist lateral forces. Masonry B: Good workmanship and mortar; reinforced, but not designed in detail to resist lateral forces. Masonry C: Ordinary workmanship and mortar; no extreme weaknesses like failing to tie in at corners, but neither reinforced nor designed against horizontal forces. Masonry D: Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.
Source: Oklahoma State Hazard Mitigation Plan.

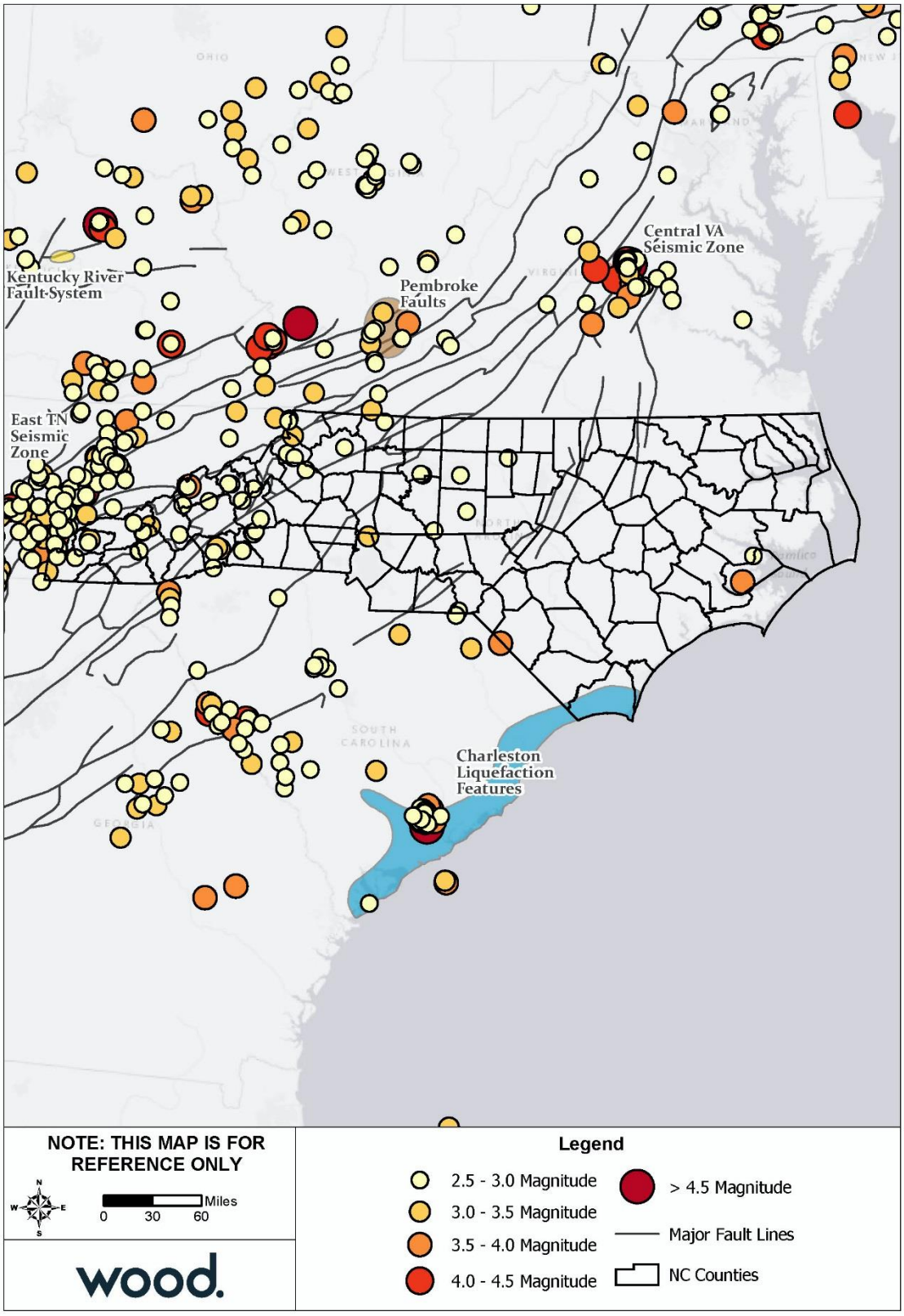
Impact: 1 – Minor

Spatial Extent: 4 – Large

Historical Occurrences

The USGS Earthquake Hazards Program maintains a database of all historical earthquakes of a magnitude 2.5 and greater. Figure 4.16 shows historical earthquakes by magnitude in relation to North Carolina and the Quaternary Faults identified by USGS. This includes events from 1973 to 2019. Based on USGS records, there have been no earthquakes with epicenters in the N.E.W. Region during this period.

Figure 4.16 – Historical Earthquakes by Magnitude, 1973-2019



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.

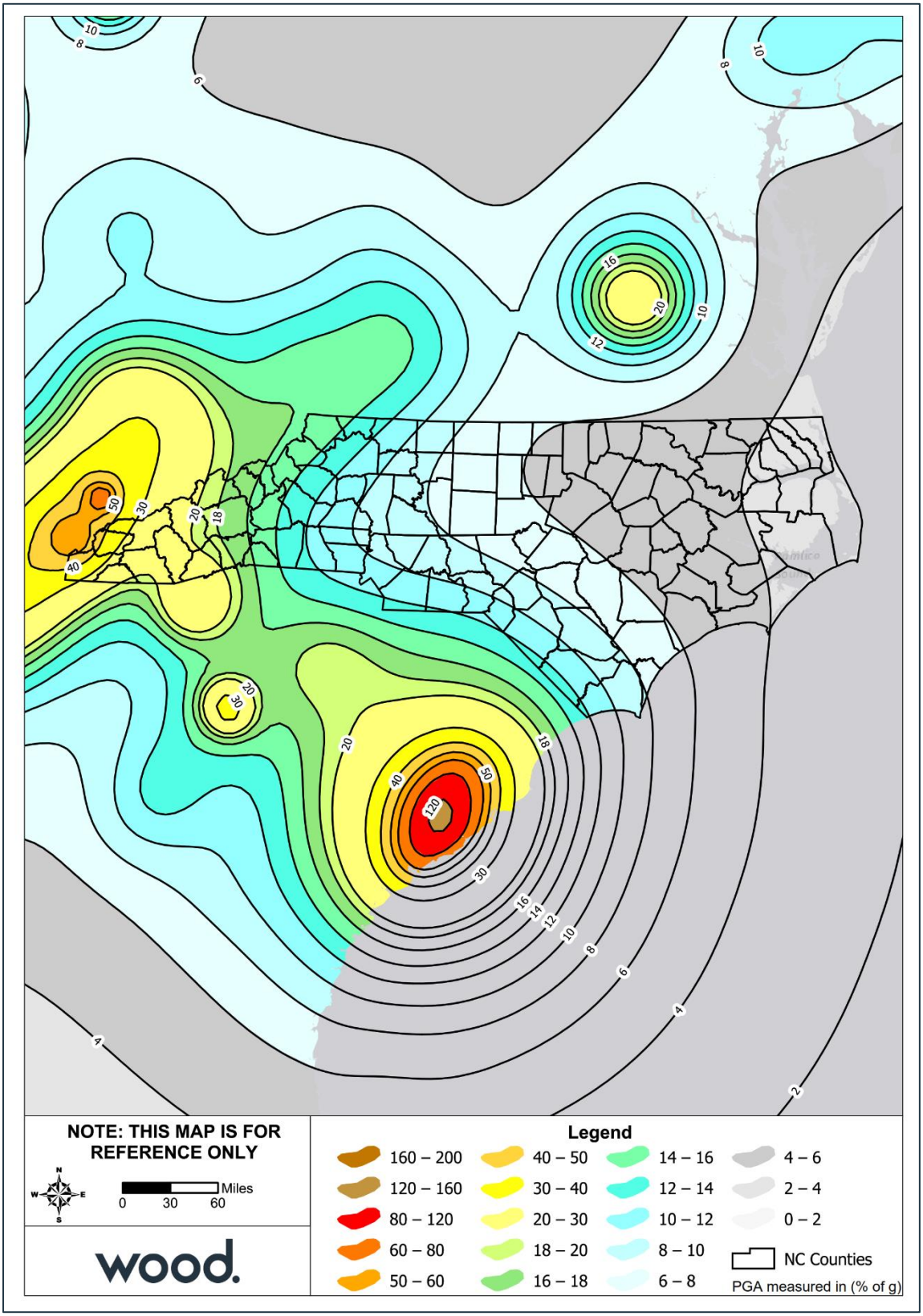
Probability of Future Occurrence

Ground motion is the movement of the earth's surface due to earthquakes or explosions. It is produced by waves generated by a sudden slip on a fault or sudden pressure at the explosive source and travels through the earth and along its surface. Ground motion is amplified when surface waves of unconsolidated materials bounce off of or are refracted by adjacent solid bedrock. The probability of ground motion is depicted in USGS earthquake hazard maps by showing, by contour values, the earthquake ground motions (of a particular frequency) that have a common given probability of being exceeded in 50 years.

Figure 4.17 reflects the seismic hazard for the N.E.W. Region based on the national USGS map of peak acceleration with two percent probability of exceedance in 50 years. To produce these estimates, the ground motions being considered at a given location are those from all future possible earthquake magnitudes at all possible distances from that location. The ground motion coming from a particular magnitude and distance is assigned an annual probability equal to the annual probability of occurrence of the causative magnitude and distance. The method assumes a reasonable future catalog of earthquakes, based upon historical earthquake locations and geological information on the recurrence rate of fault ruptures. When all the possible earthquakes and magnitudes have been considered, a ground motion value is determined such that the annual rate of its being exceeded has a certain value.

Therefore, for the given probability of exceedance, two percent, the locations shaken more frequently will have larger ground motions. The N.E.W Region is located within the dark and gray zones, representing a low peak acceleration of 4 to 6 percent of gravity.

Figure 4.17 – 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

Scientists are beginning to believe there may be a connection between climate change and earthquakes. Changing ice caps and sea-level redistribute weight over fault lines, which could potentially have an influence on earthquake occurrences. However, currently no studies quantify the relationship to a high level of detail, so recent earthquakes should not be linked with climate change. While not conclusive, early research suggest that more intense earthquakes and tsunamis may eventually be added to the adverse consequences that are caused by climate change.

Vulnerability Assessment

Methodologies and Assumptions

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

People

Earthquake events in the N.E.W. Region are unlikely to produce more than mild ground shaking; therefore, injury or death is unlikely. Objects falling from shelves generally pose the greatest threat to safety.

Table 4.28 details the population estimated to be at risk from a 250-year earthquake, according to the NCEM IRISK database. The entire population of all three counties is estimated to face impacts from a 500-year earthquake event.

Table 4.28 – 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
City of Rocky Mount	58,947	2,382	4.0%	8,303	336	4.0%	3,692	149	4.0%
City of Wilson	51,039	3,068	6%	7,237	435	6%	3,425	206	6%
Town of Bailey	1,371	85	6.2%	192	12	6.2%	84	5	6.0%
Town of Black Creek	1,491	42	2.80%	211	6	2.80%	100	3	3%
Town of Castalia	263	5	1.9%	37	1	2.7%	16	0	0.0%
Town of Conetoe	283	11	3.9%	41	2	4.9%	19	1	5.3%
Town of Dortches	831	14	1.7%	116	2	1.7%	51	1	2.0%
Town of Elm City	1,901	139	7.30%	270	20	7.40%	128	9	7%
Town of Leggett	191	16	8.4%	27	2	7.4%	12	1	8.3%
Town of Lucama	1,811	260	14.40%	257	37	14.40%	121	17	14%
Town of Macclesfield	463	35	7.6%	66	5	7.6%	30	2	6.7%
Town of Middlesex	1,616	166	10.3%	226	23	10.2%	99	10	10.1%
Town of Momeyer	477	96	20.1%	67	13	19.4%	29	6	20.7%
Town of Nashville	6,683	134	2.0%	934	19	2.0%	410	8	2.0%
Town of Pinetops	1,969	65	3.3%	282	9	3.2%	129	4	3.1%

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 Princeville	2,670	137	5.1%	383	20	5.2%	175	9	5.1%
Town of Red Oak	3,395	29	0.9%	474	4	0.8%	208	2	1.0%
Town of Saratoga	775	68	8.80%	110	10	9.10%	52	5	9.60%
Town of Sharpsburg	2,944	141	4.8%	415	20	4.8%	188	9	4.8%
Town of Sims	760	53	7%	108	8	7.40%	51	4	7.80%
Town of Speed	189	16	8.5%	27	2	7.4%	12	1	8.3%
Town of Spring Hope	1,956	68	3.5%	273	10	3.7%	120	4	3.3%
Town of Stantonsburg	944	34	3.60%	134	5	3.70%	63	2	3.20%
Town of Tarboro	11,730	215	1.8%	1,681	31	1.8%	769	14	1.8%
Town of Whitakers	725	58	8.0%	102	8	7.8%	46	4	8.7%
Unincorporated Nash County	36,835	1,166	3.2%	5,147	163	3.2%	2,259	72	3.2%
Unincorporated Edgecombe County	19,599	1,192	6.1%	2,808	171	6.1%	1,284	78	6.1%
Unincorporated Wilson County	21,520	1,442	6.70%	3,051	204	6.70%	1,444	97	6.70%
Region Total	**233,378**	**11,137**	**4.8%**	**32,979**	**1,578**	**4.8%**	**15,016**	**723**	**4.8%**

Source: NCEM Risk Management Tool

Property

In a severe earthquake event, buildings can be damaged by the shaking itself or by the ground beneath them settling to a different level than it was before the earthquake (subsidence). Buildings can even sink into the ground if soil liquefaction occurs. If a structure (a building, road, etc.) is built across a fault, the ground displacement during an earthquake could seriously damage that structure.

Earthquakes can also cause damages to infrastructure, resulting in secondary hazards. Damages to dams or levees could cause failures and subsequent flooding. Fires can be started by broken gas lines and power lines. Fires can be a serious problem, especially if the water lines that feed the fire hydrants have been damaged as well.

The N.E.W. Region has not been impacted by an earthquake with more than a moderate intensity, so damage to the built environment is unlikely.

Table 4.29 through Table 4.30 detail the estimated buildings impacted from varying magnitudes of earthquake events.

Table 4.29 – 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
City of Rocky Mount	27,811	961	3.50%	$2,373	1,312	4.70%	$127,908	215	0.80%	$9,175	2,488	8.90%	$139,456
City of Wilson	20,337	1,029	5.10%	$3,606	1,281	6.30%	$84,549	298	1.50%	$9,814	2,608	12.80%	$97,968
Town of Bailey	1,010	49	4.90%	$139	66	6.50%	$4,822	10	1%	$507	125	12.40%	$5,469
Town of Black Creek	747	19	2.50%	$59	13	1.70%	$289	14	1.90%	$370	46	6.20%	$717
Town of Castalia	195	3	1.50%	$10	11	5.60%	$465	4	2.10%	$162	18	9.20%	$637
Town of Conetoe	190	6	3.20%	$1	13	6.80%	$226	1	0.50%	$0	20	10.50%	$227
Town of Dortches	578	8	1.40%	$15	25	4.30%	$454	1	0.20%	$72	34	5.90%	$540
Town of Elm City	1,008	60	6%	$102	50	5%	$3,647	21	2.10%	$215	131	13%	$3,963
Town of Leggett	166	9	5.40%	$6	1	0.60%	$2	2	1.20%	$261	12	7.20%	$269
Town of Lucama	936	119	12.70%	$192	30	3.20%	$466	7	0.70%	$260	156	16.70%	$917
Town of Macclesfield	304	19	6.20%	$9	16	5.30%	$124	1	0.30%	$2	36	11.80%	$135
Town of Middlesex	1,070	89	8.30%	$270	65	6.10%	$7,800	14	1.30%	$336	168	15.70%	$8,406
Town of Momeyer	408	65	15.90%	$133	2	0.50%	$73	0	0%	$0	67	16.40%	$205
Town of Nashville	2,959	51	1.70%	$149	146	4.90%	$7,605	32	1.10%	$1,860	229	7.70%	$9,614
Town of Pinetops	1,067	30	2.80%	$21	61	5.70%	$1,150	3	0.30%	$73	94	8.80%	$1,245
Town of Princeville	1,054	50	4.70%	$18	23	2.20%	$331	0	0%	$0	73	6.90%	$349
Town of Red Oak	1,717	13	0.80%	$31	12	0.70%	$374	1	0.10%	$10	26	1.50%	$415
Town of Saratoga	469	36	7.70%	$46	8	1.70%	$73	2	0.40%	$33	46	9.80%	$152
Town of Sharpsburg	1,502	62	4.10%	$80	54	3.60%	$2,009	5	0.30%	$40	121	8.10%	$2,130
Town of Sims	368	21	5.70%	$51	21	5.70%	$632	9	2.40%	$237	51	13.90%	$920
Town of Speed	178	12	6.70%	$3	3	1.70%	$28	0	0%	$0	15	8.40%	$30
Town of Spring Hope	1,240	36	2.90%	$171	92	7.40%	$6,631	13	1%	$882	141	11.40%	$7,685
Town of Stantonsburg	602	18	3%	$26	29	4.8%	$351	11	1.8%	$232	58	9.6%	$608
Town of Tarboro	5,192	81	1.60%	$51	229	4.40%	$30,471	44	0.80%	$1,109	354	6.80%	$31,631
Town of Whitakers	498	34	6.80%	$41	31	6.20%	$747	6	1.20%	$133	71	14.30%	$921

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
Unincorporated Nash County	23,157	564	2.40%	$1,930	428	1.80%	$49,576	72	0.30%	$5,646	1,064	4.60%	$57,151
Unincorporated Edgecombe County	12,695	599	4.70%	$474	214	1.70%	$3,164	42	0.30%	$1,195	855	6.70%	$4,833
Unincorporated Wilson County	12,823	684	5.3%	$1,719	362	2.8%	$26,688	106	0.8%	$3,580	1,152	9%	$31,987
Region Total	**120,281**	**4,727**	**3.9%**	**$11,726**	**4,598**	**3.8%**	**$360,655**	**934**	**0.8%**	**$36,204**	**10,259**	**8.5%**	**$408,580**

Source: NCEM Risk Management Tool

Table 4.30 – 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
City of Rocky Mount	27,811	24,659	88.7%	$518,634	2,610	9.4%	$1,820,998	498	1.8%	$256,948	27,767	99.8%	$2,596,580
City of Wilson	20,337	17,630	86.7%	$350,334	2,188	10.8%	$1,218,657	491	2.4%	$212,337	20,309	99.9%	$1,781,327
Town of Bailey	1,010	788	78%	$19,265	205	20.3%	$45,251	17	1.7%	$5,851	1,010	100%	$70,367
Town of Black Creek	747	672	90%	$11,120	57	7.6%	$5,255	18	2.4%	$6,730	747	100%	$23,105
Town of Castalia	195	165	84.6%	$2,654	21	10.8%	$4,504	9	4.6%	$4,127	195	100%	$11,286
Town of Conetoe	190	159	83.7%	$1,815	24	12.6%	$5,483	7	3.7%	$580	190	100%	$7,877
Town of Dortches	578	467	80.8%	$12,575	105	18.2%	$11,426	6	1%	$2,645	578	100%	$26,645
Town of Elm City	1,008	857	85%	$13,050	122	12.1%	$55,266	29	2.9%	$9,051	1,008	100%	$77,368
Town of Leggett	166	109	65.7%	$1,639	48	28.9%	$1,467	9	5.4%	$6,783	166	100%	$9,889
Town of Lucama	936	824	88%	$13,372	87	9.3%	$9,276	25	2.7%	$6,685	936	100%	$29,333
Town of Macclesfield	304	253	83.2%	$3,182	46	15.1%	$3,158	5	1.6%	$885	304	100%	$7,224
Town of Middlesex	1,070	864	80.7%	$22,840	179	16.7%	$72,353	27	2.5%	$9,630	1,070	100%	$104,823
Town of Momeyer	408	324	79.4%	$7,363	79	19.4%	$5,590	5	1.2%	$4,466	408	100%	$17,419
Town of Nashville	2,959	2,585	87.4%	$58,008	310	10.5%	$106,648	64	2.2%	$48,967	2,959	100%	$213,623
Town of Pinetops	1,067	903	84.6%	$12,013	146	13.7%	$21,049	18	1.7%	$6,320	1,067	100%	$39,381
Town of Princeville	1,054	976	92.6%	$13,205	67	6.4%	$9,756	11	1%	$2,040	1,054	100%	$25,002
Town of Red Oak	1,717	1,524	88.8%	$37,548	181	10.5%	$21,967	12	0.7%	$4,212	1,717	100%	$63,727
Town of Saratoga	469	411	87.6%	$6,271	48	10.2%	$3,979	10	2.1%	$1,544	469	100%	$11,794
Town of Sharpsburg	1,502	1,297	86.4%	$24,477	191	12.7%	$41,665	14	0.9%	$5,883	1,502	100%	$72,025
Town of Sims	368	299	81.2%	$5,143	58	15.8%	$12,899	11	3%	$3,462	368	100%	$21,504
Town of Speed	178	139	78.1%	$1,522	32	18%	$1,050	7	3.9%	$562	178	100%	$3,134
Town of Spring Hope	1,240	1,031	83.1%	$28,562	176	14.2%	$61,138	33	2.7%	$12,162	1,240	100%	$101,863
Town of Stantonsburg	602	495	82.2%	$7,316	88	14.6%	$8,777	19	3.2%	$6,288	602	100%	$22,380
Town of Tarboro	5,192	4,454	85.8%	$55,926	581	11.2%	$431,135	150	2.9%	$47,384	5,185	99.9%	$534,445
Town of Whitakers	498	424	85.1%	$6,380	57	11.4%	$13,637	17	3.4%	$3,002	498	100%	$23,020

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
Unincorporated Nash County	23,157	17,813	76.9%	$400,628	5,050	21.8%	$557,513	290	1.3%	$178,115	23,153	100%	$1,136,255
Unincorporated Edgecombe County	12,695	9,849	77.6%	$132,278	2,708	21.3%	$175,973	138	1.1%	$36,195	12,695	100%	$344,446
Unincorporated Wilson County	12,823	10,203	79.6%	$188,585	2,454	19.1%	$383,889	163	1.3%	$71,799	12,820	100%	$644,273
Region Total	**120,281**	**100,174**	**83.3%**	**$1,955,705**	**17,918**	**14.9%**	**$5,109,759**	**2,103**	**1.7%**	**$954,653**	**120,195**	**99.9%**	**$8,020,115**

Source: NCEM Risk Management Tool

Environment

An earthquake is unlikely to cause substantial impacts to the natural environment in the N.E.W. Region. Impacts to the built environment (e.g. ruptured gas line) could damage the surrounding environment. However, this type damage is unlikely based on historical occurrences.

Consequence Analysis

Table 4.31 summarizes the potential negative consequences of earthquake.

Table 4.31 – Consequence Analysis – Earthquake

Category	Consequences
Public	Impact expected to be severe for people who are unprotected or unable to take shelter; moderate to light impacts are expected for those who are protected.
Responders	Responders may be required to enter unstable structures or compromised infrastructure. Adverse impacts are expected to be severe for unprotected personnel and moderate to light for protected personnel.
Continuity of Operations (including Continued Delivery of Services)	Damage to facilities/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	Damage to facilities and infrastructure in the area of the incident may be extensive for facilities, people, infrastructure, and HazMat.
Environment	May cause extensive damage, creating denial or delays in the use of some areas. Remediation may be needed.
Economic Condition of the Jurisdiction	Local economy and finances expected to be 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 are not timely and effective.

Hazard Summary by Jurisdiction

The following table summarizes earthquake hazard risk by jurisdiction. Earthquake risk is uniform across the planning area.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	1	1	4	4	1	1.9	L
Wilson	1	1	4	4	1	1.9	L
Bailey	1	1	4	4	1	1.9	L
Black Creek	1	1	4	4	1	1.9	L
Castalia	1	1	4	4	1	1.9	L
Conetoe	1	1	4	4	1	1.9	L
Dortches	1	1	4	4	1	1.9	L
Elm City	1	1	4	4	1	1.9	L
Leggett	1	1	4	4	1	1.9	L
Lucama	1	1	4	4	1	1.9	L
Macclesfield	1	1	4	4	1	1.9	L
Middlesex	1	1	4	4	1	1.9	L
Momeyer	1	1	4	4	1	1.9	L
Nashville	1	1	4	4	1	1.9	L
Pinetops	1	1	4	4	1	1.9	L
Princeville	1	1	4	4	1	1.9	L
Red Oak	1	1	4	4	1	1.9	L
Saratoga	1	1	4	4	1	1.9	L

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Sharpsburg	1	1	4	4	1	1.9	L
Sims	1	1	4	4	1	1.9	L
Speed	1	1	4	4	1	1.9	L
Spring Hope	1	1	4	4	1	1.9	L
Stantonsburg	1	1	4	4	1	1.9	L
Tarboro	1	1	4	4	1	1.9	L
Whitakers	1	1	4	4	1	1.9	L
Nash County	1	1	4	4	1	1.9	L
Edgecombe County	1	1	4	4	1	1.9	L
Wilson County	1	1	4	4	1	1.9	L

4.5.4 Extreme Heat

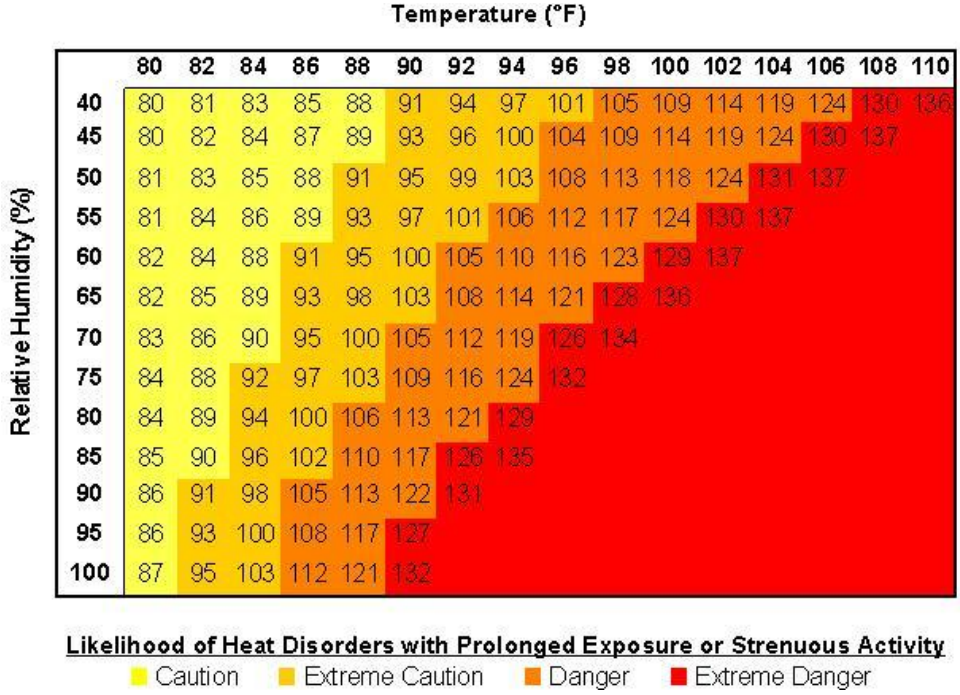
Hazard Background

Per information provided by FEMA, 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. In extreme heat, evaporation is slowed and the body must work extra hard to maintain a normal temperature, which can lead to death by overwork of the body. Extreme heat often results in the highest annual number of deaths among all weather-related disasters. Per Ready.gov:

- Extreme heat can occur quickly and without warning
- Older adults, children, and sick or overweight individuals are at greater risk from extreme heat
- Humidity increases the feeling of heat as measured by heat index

Ambient air temperature is one component of heat conditions, with relative humidity being the other. The relationship of these factors creates what is known as the apparent temperature. The Heat Index Chart in Figure 4.18 uses both of these factors to produce a guide for the apparent temperature or relative intensity of heat conditions.

Figure 4.18 – Heat Index Chart



Source: National Weather Service (NWS) http://www.nws.noaa.gov/os/heat/heat_index.shtml
Note: Exposure to direct sun can increase Heat Index values by as much as 15°F. The shaded zone above 105°F corresponds to a heat index that may cause increasingly severe heat disorders with continued exposure and/or physical activity.

During these conditions, the human body has difficulties cooling through the normal method of the evaporation of perspiration. Health risks rise when a person is over exposed to heat.

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 4.32 lists typical symptoms and health impacts of exposure to extreme heat.

Table 4.32 – Typical Health Impacts of Extreme Heat

Heat Index (HI)	Disorder
80-90° F (HI)	Fatigue possible with prolonged exposure and/or physical activity
90-105° F (HI)	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and/or physical activity
105-130° F (HI)	Heatstroke/sunstroke highly likely with continued exposure

Source: National Weather Service Heat Index Program, www.weather.gov/os/heat/index.shtml

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 80°F or above for two or more consecutive days. A heat advisory is issued when temperatures reach 105 degrees and a warning is issued at 115 degrees.

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.

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 100°F to 104°F 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

Spatial Extent: 4 – Large

Historical Occurrences

According to the National Oceanic and Atmospheric Administration (NOAA), 2017 was North Carolina's hottest year on record; that record stretches back 123 years to 1895.

NCEI records only one incident of heat or excessive heat for the N.E.W. Region counties. This event occurred in Edgecombe County in August 1999 and resulted in the death of an elderly woman due to heat exposure. Heat index records maintained by the North Carolina Climate Office indicate that the Region regularly experiences heat index temperatures above 100°F. Table 4.33 provides counts of heat index values by threshold recorded from 2000-2018 at the Rocky Mount-Wilson Airport weather station (KRWI), used as an indicator for the N.E.W. Region overall. Counts are provided as the number of hours in a given year where the heat index reached or exceeded 100°F.

Table 4.33 – Historical Heat Index Counts, Rocky Mount-Wilson Airport (KRWI), 2000-2018

Year	Heat Index Value				Total
	100-104°F	105-109°F	110-114°F	≥115°F	
2000	0	0	0	0	0
2001	20	12	0	0	32
2002	93	35	2	0	130
2003	41	12	0	0	53
2004	27	2	0	0	29
2005	72	24	3	0	99
2006	48	21	6	0	75
2007	63	16	12	0	91
2008	62	3	0	0	65
2009	26	1	0	0	27
2010	130	33	12	1	176
2011	78	38	14	0	130
2012	74	40	23	3	140
2013	47	1	0	0	48
2014	47	3	0	0	50
2015	118	27	2	0	147
2016	123	89	6	0	218
2017	58	25	6	0	89
2018	94	5	0	0	99
Sum	**1,221**	**387**	**86**	**4**	**1,698**
Average	**64**	**20**	**5**	**0**	**89**

Source: North Carolina Climate Office, Heat Index Climatology Tool

According to this data, the Region averages approximately 89 hours per year with heat index values above 100°F.

Probability of Future Occurrence

Data was gathered from the North Carolina State Climate Office's Heat Index Climatology Tool using the Rocky Mount-Wilson Airport weather station as an approximation for the N.E.W. Region. Based on 19 years of available data, the Region averages 89 hours per year with heat index temperatures above 100°F. Heat index temperatures surpassed 100°F every year except 2000; this occurred for at least 27 hours a year.

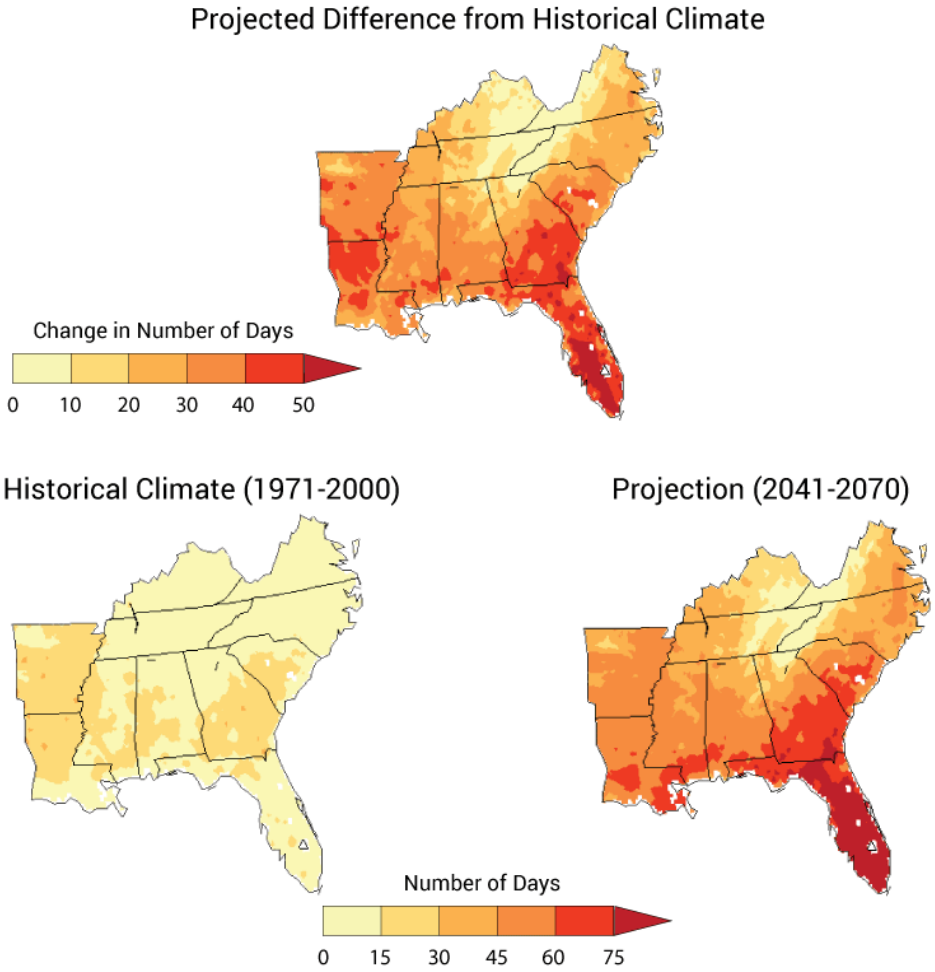
Probability: 4 – Highly Likely

Climate Change

Research shows that average temperatures will continue to rise in the Southeast United States and globally, directly affecting the N.E.W. Region in North Carolina. Per the Fourth National Climate Assessment, "extreme temperatures are projected to increase even more than average temperatures.

Cold waves are projected to become less intense and heat waves more intense." The number of days over 95°F is expected to increase by between 10 and 30 days annually, as shown in Figure 4.19.

Figure 4.19 – Projected Change in Number of Days Over 95°F



Source: NOAA NCDC from 2014 National Climate Assessment

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.

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 impacts.

Extreme heat can also cause significant agricultural losses. Between 2007-2017, the sum of claims paid for crop damage due to heat in the N.E.W. Region was $7,209,707, or an average of $655,428 in losses every year. Losses were greatest in 2015. Table 4.34 through Table 4.36 summarize the crop losses due to heat reported in the RMA system.

Table 4.34 – Crop Losses Resulting from Heat, Nash County, 2007-2017

Year	Determined Acres	Indemnity Amount
2007	41.44	$1,528.00
2010	1,276.07	$544,192.00
2011	480.85	$272,296.00
2012	465.13	$658,962.00
2015	961.36	$1,290,067.50
2016	1,788.75	$773,818.92
2017	464.71	$779,683.79
Total	**5,478.31**	**$4,320,548.21**

Source: USDA Risk Management Agency

Table 4.35 – Crop Losses Resulting from Heat, Edgecombe County, 2007-2017

Year	Determined Acres	Indemnity Amount
2007	417.31	$82,087.00
2008	628.79	$51,657.00
2010	1,698.59	$363,600.00
2011	330.23	$75,347.00
2012	53.31	$25,869.00
2015	1,894.95	$938,203.40
2016	581.96	$642,999.60
2017	613.22	$262,265.40
Total	**6,218.36**	**$2,442,028.40**

Source: USDA Risk Management Agency

Table 4.36 – Crop Losses Resulting from Heat, Wilson County, 2007-2017

Year	Determined Acres	Indemnity Amount
2010	946.20	$193,085.00
2011	84.92	$8,927.00
2012	220.86	$34,393.00
2015	31.35	$26,004.50
2016	129.69	$136,766.88
2017	192.80	$47,954.50
Total	**1,605.82**	**$447,130.88**

Source: USDA Risk Management Agency

Environment

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

Consequence Analysis

Table 4.37 summarizes the potential negative consequences of extreme heat.

Table 4.37 – 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.
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.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	4	3	4	1	3	3.3	H
Wilson	4	3	4	1	3	3.3	H
Bailey	4	3	4	1	3	3.3	H
Black Creek	4	3	4	1	3	3.3	H
Castalia	4	3	4	1	3	3.3	H
Conetoe	4	3	4	1	3	3.3	H
Dortches	4	3	4	1	3	3.3	H
Elm City	4	3	4	1	3	3.3	H
Leggett	4	3	4	1	3	3.3	H
Lucama	4	3	4	1	3	3.3	H
Macclesfield	4	3	4	1	3	3.3	H
Middlesex	4	3	4	1	3	3.3	H
Momeyer	4	3	4	1	3	3.3	H
Nashville	4	3	4	1	3	3.3	H
Pinetops	4	3	4	1	3	3.3	H
Princeville	4	3	4	1	3	3.3	H
Red Oak	4	3	4	1	3	3.3	H
Saratoga	4	3	4	1	3	3.3	H
Sharpsburg	4	3	4	1	3	3.3	H
Sims	4	3	4	1	3	3.3	H
Speed	4	3	4	1	3	3.3	H
Spring Hope	4	3	4	1	3	3.3	H
Stantonsburg	4	3	4	1	3	3.3	H
Tarboro	4	3	4	1	3	3.3	H
Whitakers	4	3	4	1	3	3.3	H
Nash County	4	3	4	1	3	3.3	H
Edgecombe County	4	3	4	1	3	3.3	H
Wilson County	4	3	4	1	3	3.3	H

4.5.5 Flood

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

Flooding within the N.E.W. Region can be attributed to two main sources as noted below.

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

- **Edgecombe County:** Bynum Mill Creek, Bynum Mill Run, Hendricks Creek, Swift Creek, Tar River, Town Creek, White Oak Swamp, and other streams.
- **Nash County:** Fishing Creek, Swift Creek, Compass Creek, Pig Basket Creek, Stony Creek, Maple Creek, Sapony Creek, Turkey Creek, and the Tar River.
- **Wilson County:** Black Creek, Contentnea Creek, Hominy Swamp, Bloomery Swamp, Marsh Swamp, Toisnot Swamp, and other streams.

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.

Flash Flooding: A flash flood 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 thunderstorms and sometimes combined with rapid snowmelt, ice jam release, frozen ground, saturated soil, or impermeable surfaces. Ice jam flooding is a form of flash flooding that occurs when ice breaks up in moving waterways, and then stacks on itself where channels narrow. This creates a natural dam, often causing flooding within minutes of the dam formation. Flash flooding can happen in Special Flood Hazard Areas (SFHAs) as delineated by the National Flood Insurance Program (NFIP) and can also happen 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.

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.

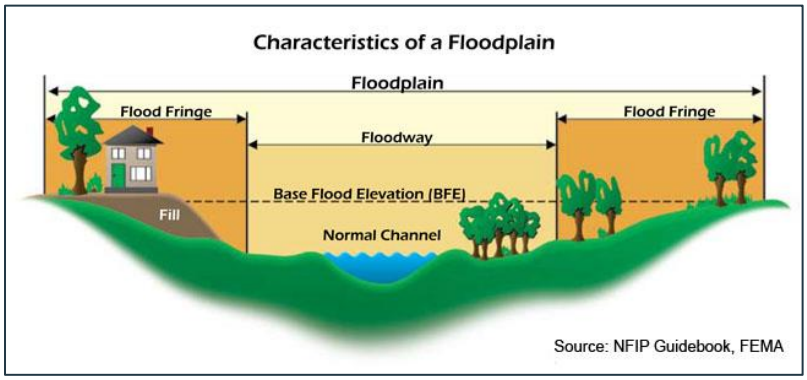
Localized flooding may be caused by the following issues:

- **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

In the case of riverine flooding, the area adjacent to a channel is the floodplain, as shown in Figure 4.20. A floodplain is flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic 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.

Figure 4.20 – Characteristics of a Floodplain



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.

The 1%-annual-chance flood, which is the minimum standard used by most federal and state agencies, is used by the National Flood Insurance Program (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.

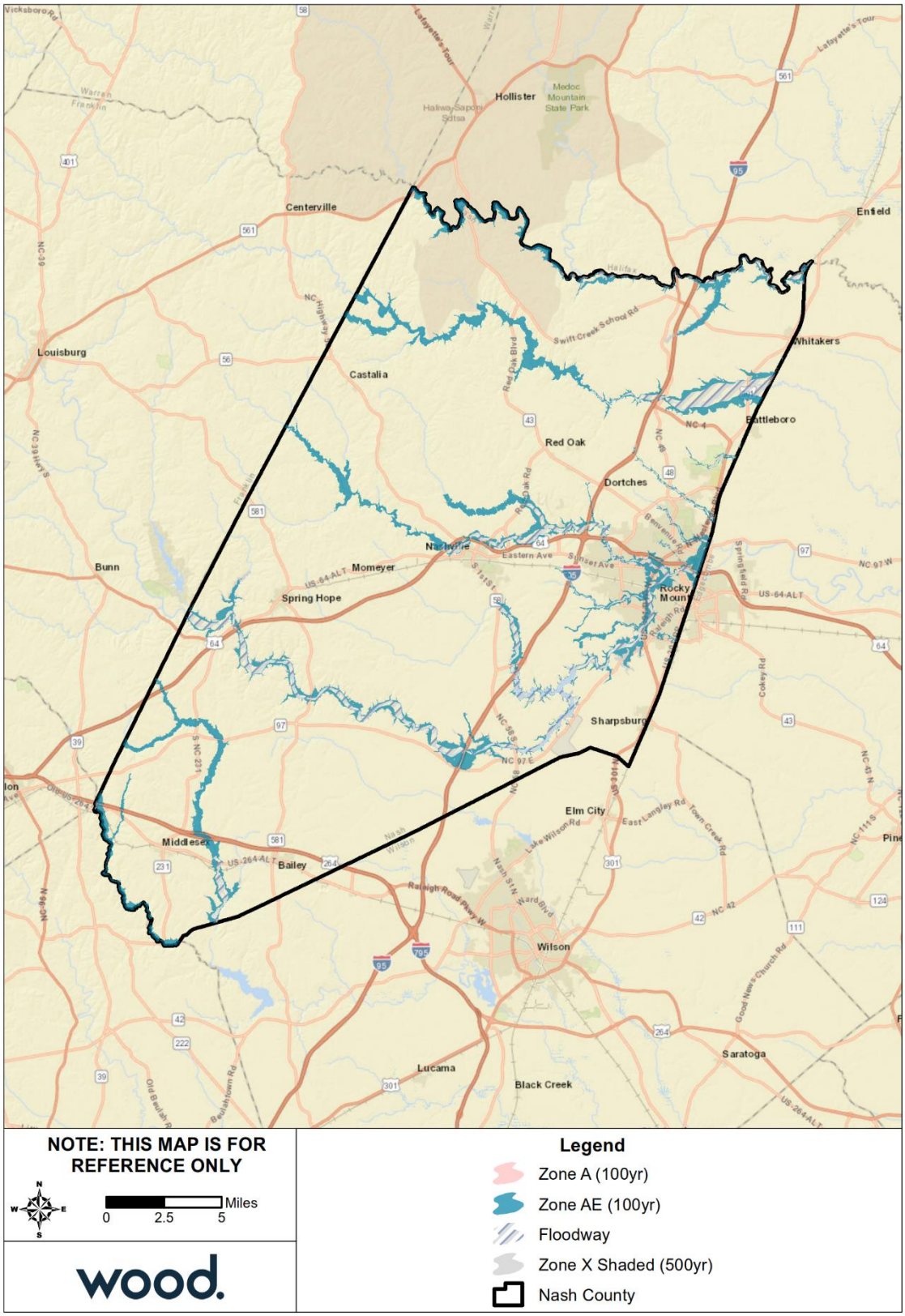
Warning Time: 3 – 6 to 12 hours

Duration: 3 – Less than 1 week

Location

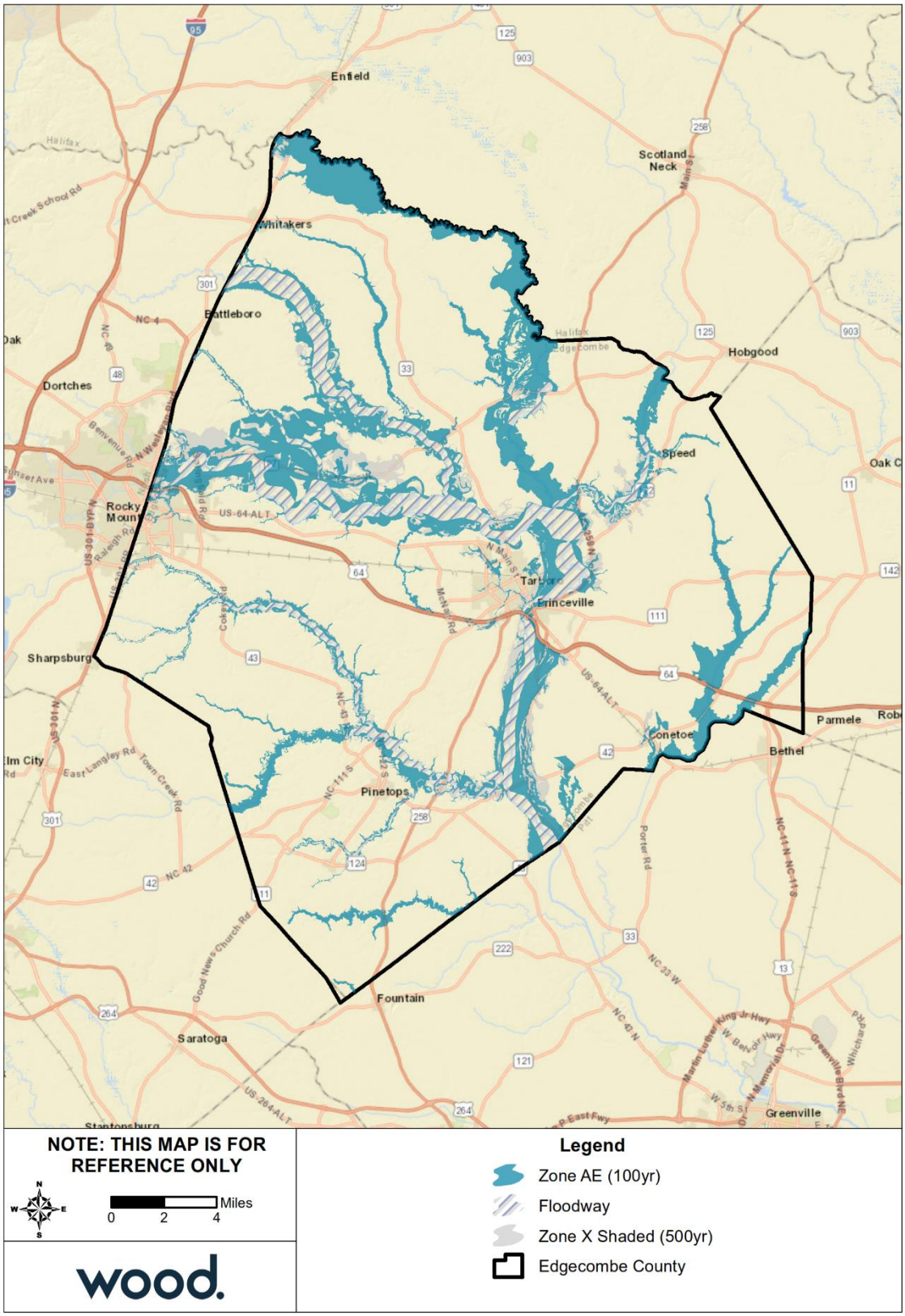
Figure 4.21 through Figure 4.23 reflect the effective mapped flood insurance zones for the N.E.W. Region by county.

Figure 4.21 – FEMA Flood Hazard Areas in Nash County



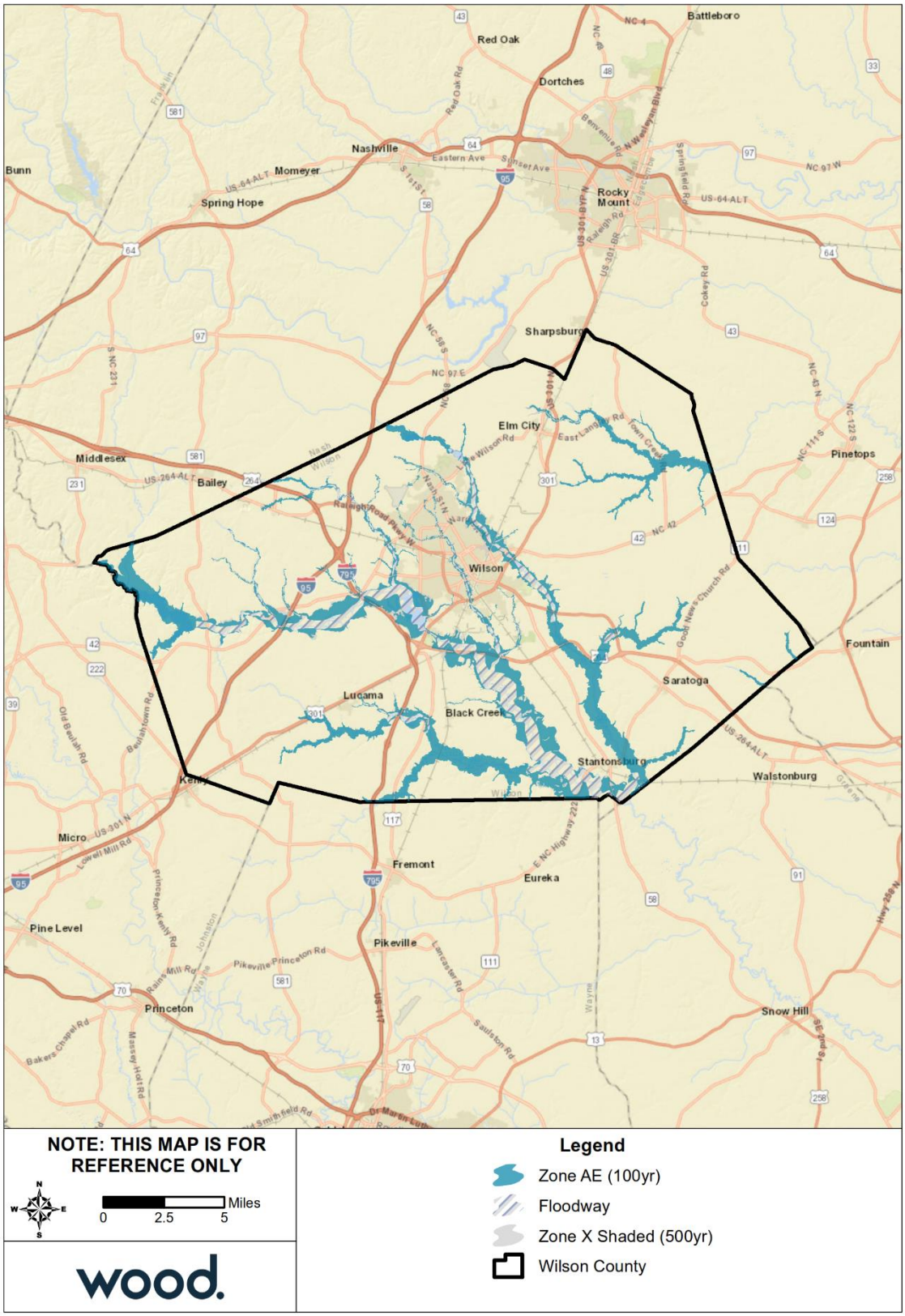
Source: FEMA Effective DFIRM retrieved from North Carolina Flood Risk Information System

Figure 4.22 – FEMA Flood Hazard Areas in Edgecombe County



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

Figure 4.23 – FEMA Flood Hazard Areas in Wilson 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.

Regulated floodplains are illustrated on inundation maps called Flood Insurance Rate Maps (FIRMs). It is the official map 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 100-year flood event. Structures located within the SFHA have a 26-percent chance of flooding during the life of a standard 30-year mortgage. Flood prone areas were identified within the N.E.W. Region using the Effective DFIRMs, with most recent updates and/or revisions dated July 7, 2014 for Edgecombe County and June 2, 2015 for both Nash and Wilson Counties. Table 4.38 summarizes the flood insurance zones identified by the Digital FIRMs (DFIRMs) within the Region.

Table 4.38 – Mapped Flood Insurance Zones within the N.E.W. 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.
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 4.24 through Figure 4.26 show the depth of flooding estimated to occur from a 1% annual chance flood by county.

Table 4.39 provides a summary by county of the Region's total area by flood zone on the effective DFIRM. Only about 14 percent of the Region falls within the SFHA. Edgecombe County has the greatest proportion of total area in the SFHA, at over 20 percent, while Nash County has the smallest relative SFHA at just under 9 percent of the county's total area.

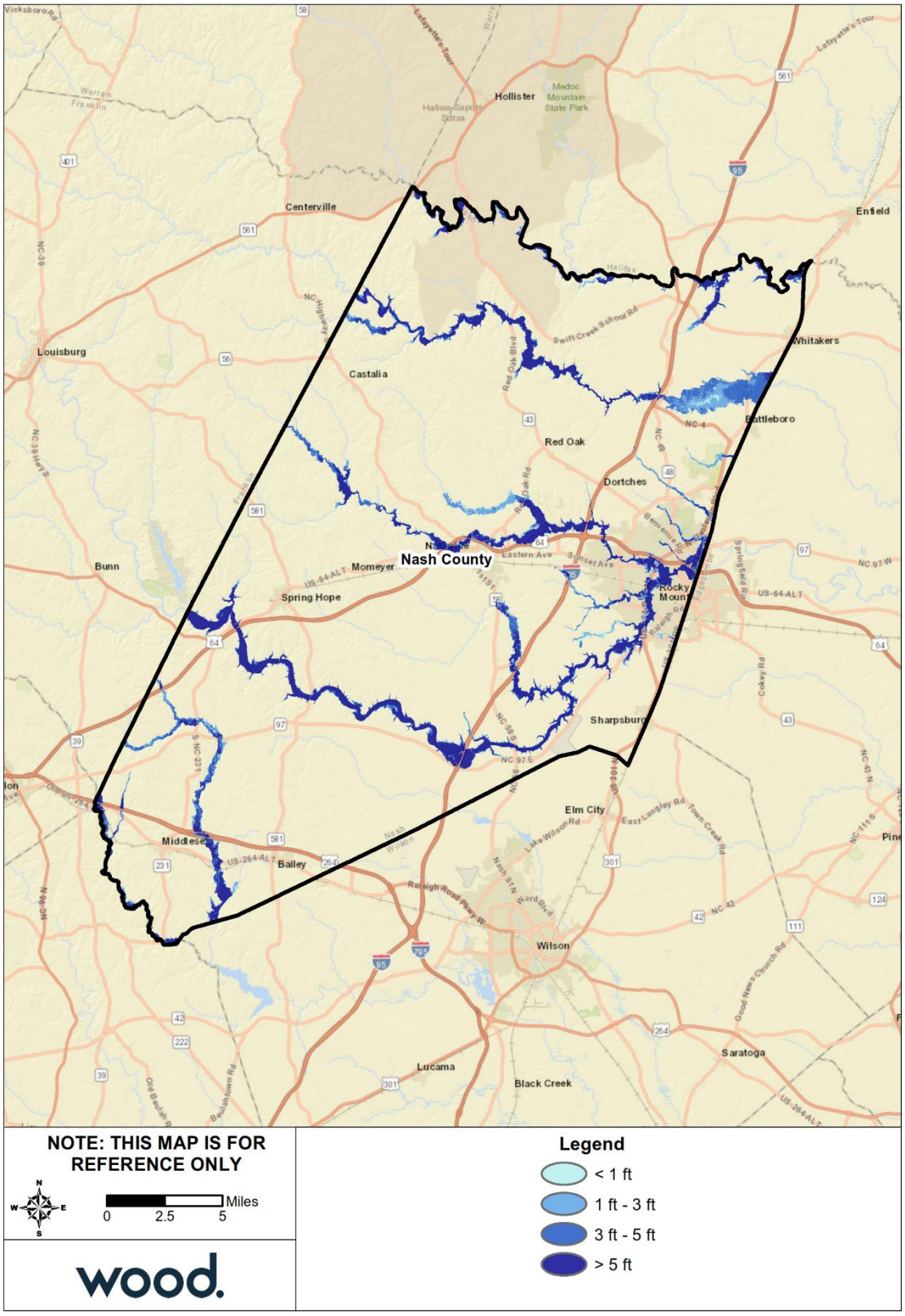
Table 4.39 – Flood Zone Acreage in the N.E.W. Region by County

Flood Zone	Acreage	Percent of Total (%)
Nash		
Zone A	1.54	0.00
Zone AE	30,492.24	8.78

Flood Zone	Acreage	Percent of Total (%)
Zone X (500-year)	2,988.63	0.86
Zone X Unshaded	313,888.42	90.36
Subtotal	**347,370.84**	--
Edgecombe		
Zone AE	67,621.53	20.85
Zone X (500-year)	10,508.03	3.24
Zone X Unshaded	246,222.79	75.91
Subtotal	**324,352.35**	--
Wilson		
Zone AE	32,804.46	13.74
Zone X (500-year)	2,036.04	0.85
Zone X Unshaded	203,901.93	85.41
Subtotal	**238,742.43**	--
N.E.W. Region		
Zone A	1.54	0.00
Zone AE	130,918.23	14.38
Zone X (500-year)	15,532.70	1.71
Zone X Unshaded	764,013.14	83.91
Total	**910,465.62**	--

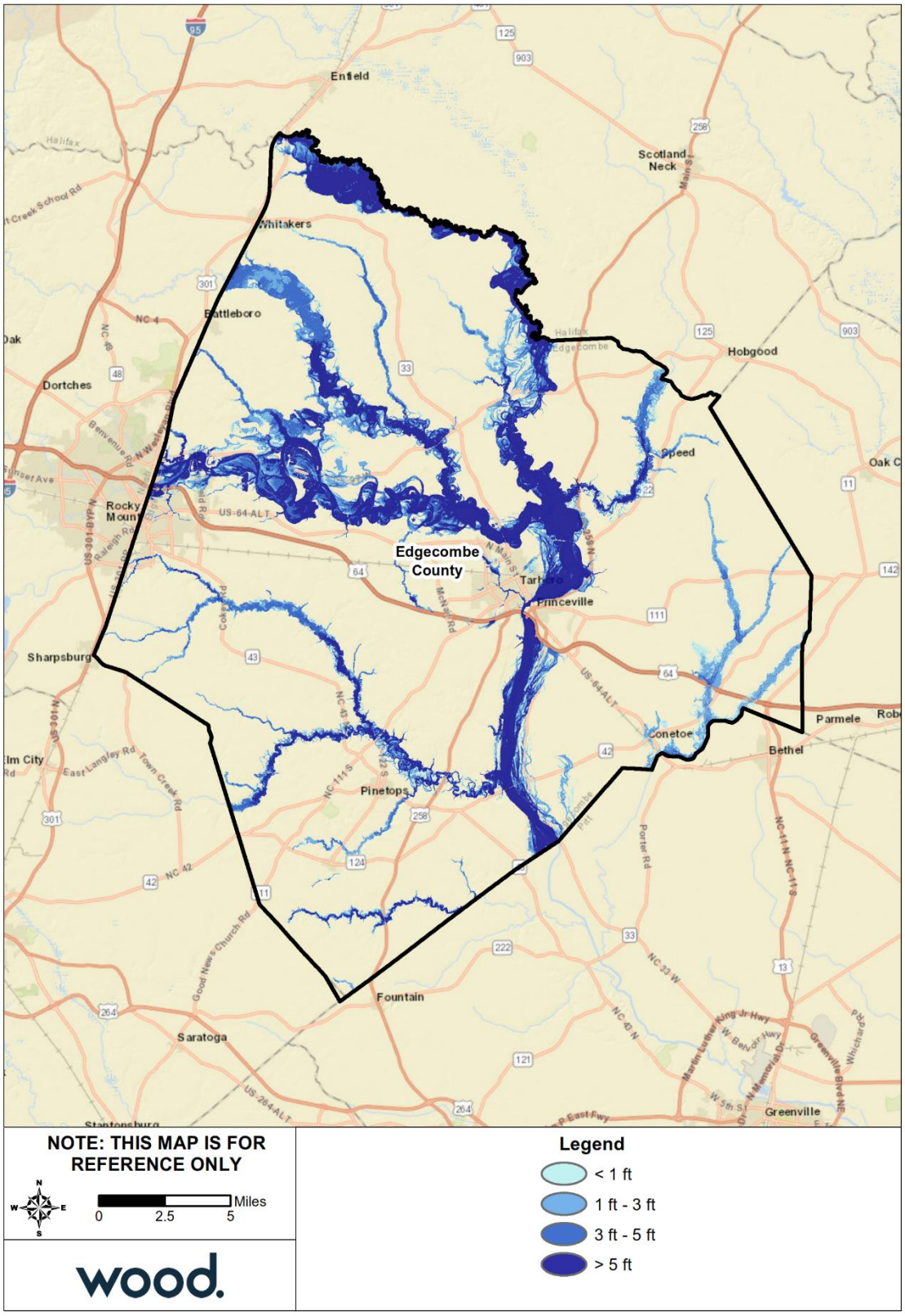
Source: FEMA Effective DFIRM

Figure 4.24 – Flood Depth, 100-Year Floodplain, Nash County



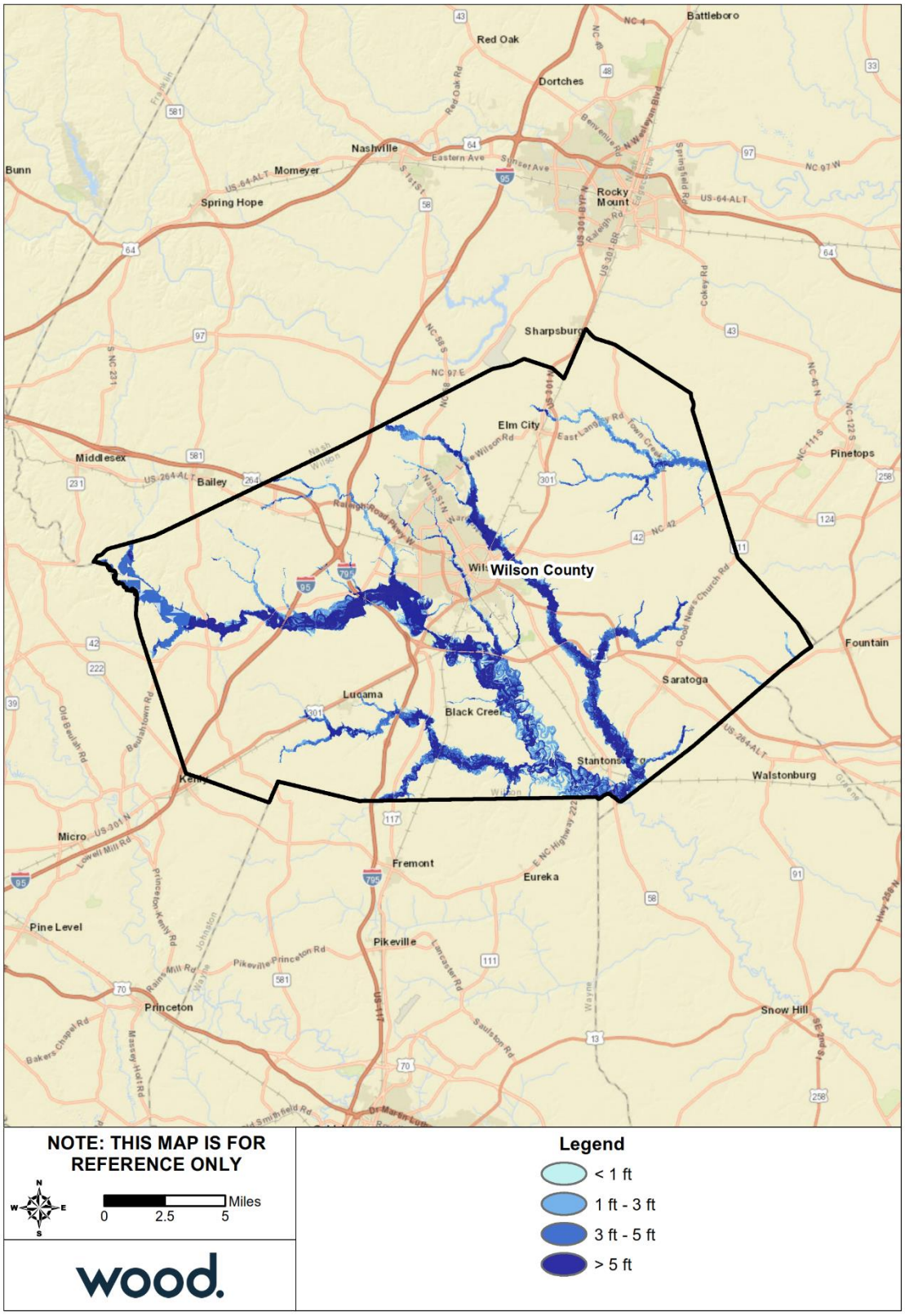
Source: FEMA Effective DFIRM

Figure 4.25 – Flood Depth, 100-Year Floodplain, Edgecombe County



Source: FEMA Effective DFIRM

Figure 4.26 – Flood Depth, 100-Year Floodplain, Wilson County



Source: FEMA Effective DFIRM

The NFIP utilizes the 1%-annual-chance flood as a basis for floodplain management. The Flood Insurance Study (FIS) defines the probability of flooding as flood events of a magnitude which are expected to be equaled or exceeded once on average during any 100-year period (recurrence intervals). Considered another way, area within a 100-year flood zone has a one percent probability of being flooded during any given year. Mortgage lenders require that owners of properties with federally-backed mortgages located within SFHAs purchase and maintain flood insurance policies on their properties. Consequently, newer and recently purchased properties in the community are typically insured against flooding.

Impact: 3 – Critical

Spatial Extent: 3 – Moderate

Historical Occurrences

According to NCEI Storm Events Database records, 86 flood-related events were reported during the 20-year period from 1999 through 2018, across 48 separate days. These events caused 14 death, $314,855,000 in property damages, and $105,000,000 in crop damages. Per reports from the Edgecombe County tax administrator, Hurricane Matthew caused $1,190,572,631 in damages. It should be noted that Hurricane Floyd was a larger flood event. All three participating counties agree that damage reports from NCEI are likely underestimated.

Table 4.40 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 4.40 – NCEI Records of Flooding, 1999-2018

Type	Event Count	Deaths/ Injuries	Reported Property Damage	Reported Crop Damage
Nash				
Flash Flood	27	4/0	$25,000	$0
Flood	1	0/0	$213,400,000	$20,000,000
Edgecombe				
Flash Flood	31	8/0	$30,000	$20,000,000
Flood	1	0/0	$69,100,000	$20,000,000
Wilson				
Flash Flood	25	0/0	$0	$25,000,000
Flood	1	2/0	$32,300,000	$20,000,000
Region Total				
Flash Flood	83	12/0	$55,000	$45,000,000
Flood	3	2/0	$314,800,000	$60,000,000
Total	**86**	**14/0**	**$314,855,000**	**$105,000,000**

Source: NCEI

Table 4.41 provides a summary of this historical information by location. Many of the events attributed to the county are countywide or cover large portions of the county. Similarly, though some events have associated starting locations identified, the event may have covered a larger area including multiple jurisdictions. Still, this list provides an indication of areas that may be particularly flood prone.

Table 4.41 – Summary of Historical Flood Occurrences by Location, 1999-2018

Location	Event Count	Deaths/Injuries	Property Damage	Crop Damage
Nash				
(RWI) Rocky Mt. Wilson	1	0/0	$0	$0
Aventon	1	0/0	$0	$0
Countywide	7	4/0	$0	$0
East Central Portion	1	0/0	$0	$0
Little Easonburg	2	0/0	$25,000	$0
Middlesex	2	0/0	$213,400,000	$20,000,000
Nashville	2	0/0	$0	$0
North Portion	3	0/0	$0	$0
Sharpsburg	2	0/0	$0	$0
South Portion	1	0/0	$0	$0
Southwest Portion	2	0/0	$0	$0
Spring Hope	1	0/0	$0	$0
Strickland Xrds	1	0/0	$0	$0
Westry	2	0/0	$0	$0
Subtotal Nash	**28**	**4/0**	**$213,425,000**	**$20,000,000**
Edgecombe				
Battleboro	1	0/0	$0	$0
Central Portion	1	0/0	$0	$0
Countywide	7	8/0	$0	$0
Heartsease	1	0/0	$0	$20,000,000
Macclesfield	1		$0	$0
Northeast Portion	1	0/0	$0	$0
Northwest Portion	1	0/0	$0	$0
Pinetops	1	0/0	$0	$0
Rocky Mt	10	0/0	$30,000	$0
Speed	1	0/0	$0	$0
Tarboro	2	0/0	$0	$0
West Central Portion	1	0/0	$0	$0
Whitakers	3	0/0	$69,100,000	$20,000,000
Wiggins Xrds	1	0/0	$0	$0
Subtotal Edgecombe	**32**	**8/0**	**$69,130,000**	**$40,000,000**
Wilson				
Buckhorn Xrds	1	0/0	$0	$0
Countywide	8	0/0	$0	$0
Elm City	2	2/0	$32,300,000	$20,000,000
Evansdale	1	0/0	$0	$0
Lamm	1	0/0	$0	$0
Lucama	2	0/0	$0	$0
Northwest Portion	1	0/0	$0	$0
Sims	1	0/0	$0	$25,000,000
Wilson	8	0/0	$0	$0
Wilson Arpt	1	0/0	$0	$0
Subtotal Wilson	**26**	**2/0**	**$32,300,000**	**$45,000,000**
Region Total	**86**	**14/0**	**$314,855,000**	**$105,000,000**

Source: NCEI
Note: This data remains broken down by county as it appears in the NCEI Storm Events Database.

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

September 15, 1999 – Rainfall associated with Hurricane Floyd produced unprecedented flash flooding across the eastern half of the state. Rocky Mount, Tarboro, and Princeville were among the towns most devastated by Hurricane Floyd. Every river and stream flooded nearby roads and communities. Several lives were lost due to people driving into flooded roadways or directly into streams where roads and bridges were washed out. Several earthen dams also gave way. In the N.E.W. region there were 12 total deaths, 8 in Edgecombe County and 4 in Nash County. Flash floods continued across the region in the week following the hurricane as the rivers remained above flood stage and the ground remained saturated. Any additional rainfall produced immediate runoff into local streams/creeks which brought water back onto roads and into surrounding neighborhoods and communities.

March 29, 2010 – Convection developed ahead of an amplified upper trough across the Tennessee Valley while a strong southerly mid and upper level jet provided strong shear across the region. In the N.E.W. region, four to five inches of rainfall overnight caused flash flooding in Rock Mount. Rocky Mount Police rescued a man who was trapped on top of his car after he attempted to drive through rising flood waters. The heavy rain also pushed Maple Creek to flood Kings Way Mobile Home Park. Flood waters also rose up to 6 feet near homes on Beechwood Court.

July 16, 2016 – A warm moist atmosphere combined with a disturbance moving across central North Carolina during peak heating, modest instability and seasonably strong deep layer shear allowed for the development of numerous showers and storms during the late afternoon into the evening. Many of these storms became strong to severe and produced widespread wind damage. In the N.E.W. region, a bridge was reported under water in Rocky Mount, and a few roads were closed or impassible for an extended period of time due to flash flooding between Rocky Mount and Tarboro, some remaining impassable for over 24 hours.

October 8-9, 2016 – Hurricane Matthew skirted by the North Carolina coast on October 8, 2016, dropping torrential rainfall of 8 to 15 inches and producing wind gusts of 50 to 70 mph across Central and Eastern North Carolina. The large swath of 8 to 15 inches of rain across Eastern and Central North Carolina, caused devastating and life-threatening flash flooding, that evolved into major and record setting river flooding along portions of the Neuse, Cape Fear, and Tar River basins. Torrential rainfall of 8 to 12 inches across the N.E.W region caused widespread flash flooding. Additional heavy rainfall upstream caused major flooding along the Tar River Basin. Numerous streets and roads were reported flooded, with several washouts reported on secondary roads. Flooding damaged approximately 1,761 structure throughout Nash County, 3,493 in Edgecombe County, and 1,174 in Wilson County. Property damage ranged from $32.3 million in Wilson County to $213.4 million in property damage, and crop damage totaled $60 million across the three counties. The event necessitated numerous water rescues for people trapped in homes and vehicles. In Wilson County, the flooding resulted in 2 direct fatalities.

September 14-15, 2018 – Hurricane Florence made landfall on September 15th. As the storm moved inland, heavy rain of 10 to 25 inches caused widespread inland flooding and major river flooding on main-stem rivers such as the Neuse, Cape Fear, and Little River. Heavy rainfall of 5 to 8 inches, up to torrential rainfall of 10 to 15 inches, caused widespread flash flooding across the country. The heavy rains caused several creeks to overspill their banks. Numerous roads throughout the Region were closed. Numerous homes and businesses were flooded as well.

Probability of Future Occurrence

By definition of the 100-year flood event, SFHAs are defined as 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 500-year flood area is defined as those areas that will be inundated by the flood event having a 0.2-percent chance of being equaled or exceeded in any given year; it is not the flood that will occur once every 500 years.

While exposure to flood hazards vary across jurisdictions, all jurisdictions have at least some area of land in FEMA flood hazard areas. Additionally, flash floods and stormwater flooding can occur outside of mapped SFHAs and historical records indicate that these events are very common in the Region. Therefore, the probability of flooding is considered likely (between 10% and 100% annual probability) for all jurisdictions.

Probability: 3 – Likely

Climate Change

Per the Fourth National Climate Assessment, frequency and intensity of heavy precipitation events is expected to increase across the country. Additionally, increases in precipitation totals are expected in 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 was estimated using data from the IRISK database, which was compiled in NCEM's Risk Management Tool.

As a subset of the building vulnerability analysis, exposure of pre-FIRM structures was also estimated. Table 4.42 below provides the NFIP entry date for each participating jurisdiction, which was used to determine which buildings were constructed pre-FIRM. Pre-FIRM structures were built prior to the adoption of flood protection building standards and are therefore assumed to be at greater risk to the flood hazard.

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).

Table 4.42 – Date of Initial FIRM

NFIP Entry Date	Jurisdiction
01/05/78	Town of Tarboro
05/01/78	City of Rocky Mount
06/01/78	Nash County (Unincorporated Area), Town of Middlesex, Town of Red Oak
03/18/80	Town of Macclesfield

NFIP Entry Date	Jurisdiction
03/28/80	Town of Pinetops
04/15/80	Town of Princeville, Town of Whitakers
08/03/81	Edgecombe County (Unincorporated Area)
07/19/82	City of Wilson
01/06/83	Wilson County (Unincorporated Area)
01/17/86	Town of Nashville
07/02/87	Town of Speed
09/01/89	Town of Stantonsburg
12/20/99	Town of Leggett
11/03/04	Town of Bailey*, Town of Black Creek, Town of Castalia, Town of Conetoe, Town of Dortches, Town of Elm City, Town of Lucama, Town of Momeyer, Town of Saratoga, Town of Sharpsburg, Town of Sims, Town of Spring Hope

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

*The Town of Bailey is not an active participant in the NFIP because the Town is completely located in the low-risk Zone X.

Effective FEMA DFIRM data was used to identify flood hazard areas. Flood zones used in the vulnerability analysis consist of Zone AE (1%-annual-chance flood), Zone AE Floodway, and the 0.2%-annual-chance flood hazard area.

People

Certain health hazards are common to flood events. While such problems are often not reported, three general types of health hazards accompany floods. The first comes from the water itself. 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.

Debris also poses a risk both during and after a flood. 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. People must be aware of these dangers prior to a flood so that they understand the risks and take necessary precautions before, during, and after a flood.

Floodwaters also saturate the ground, which leads to infiltration into sanitary sewer lines. 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.

The second type of health problem arises after most of the water has gone. Stagnant pools can become breeding grounds for mosquitoes, and wet areas of a building that have not been properly cleaned breed mold and mildew. A building that is not thoroughly cleaned becomes a health hazard, especially for small children and the elderly.

Another health hazard occurs 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 a local water system loses pressure, a boil order may be issued to protect people and animals from contaminated water.

The third problem is the long-term psychological impact of 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 puts a severe strain on people, especially the 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. According to NCEI records, there have been 14 deaths in the Region in the last 20 years caused by flood events.

Table 4.43 details the population at risk from the 1% annual chance flood event, according to data from the NCEM IRISK database. Note that development and population growth have occurred since the original analysis for the IRISK dataset was performed, therefore actual population at risk is likely higher.

Table 4.43 – 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	Percent		Number	Percent		Number	Percent
City of Rocky Mount	58,947	3,294	5.6%	8,303	464	5.6%	3,692	206	5.6%
City of Wilson	51,039	1,762	3.5%	7,237	250	3.5%	3,425	118	3.4%
Town of Bailey	1,371	0	0%	192	0	0%	84	0	0%
Town of Black Creek	1,491	24	1.6%	211	3	1.4%	100	2	2%
Town of Castalia	263	0	0%	37	0	0%	16	0	0%
Town of Conetoe	283	34	12.0%	41	5	12.2%	19	2	10.5%
Town of Dortches	831	12	1.4%	116	2	1.7%	51	1	2.0%
Town of Elm City	1,901	18	0.9%	270	3	1.1%	128	1	0.8%
Town of Leggett	191	28	14.7%	27	4	14.8%	12	2	16.7%
Town of Lucama	1,811	9	0.5%	257	1	0.4%	121	1	0.8%
Town of Macclesfield	463	0	0.0%	66	0	0.0%	30	0	0.0%
Town of Middlesex	1,616	0	0%	226	0	0%	99	0	0%
Town of Momeyer	477	0	0%	67	0	0%	29	0	0%
Town of Nashville	6,683	103	1.5%	934	14	1.5%	410	6	1.5%
Town of Pinetops	1,969	35	1.8%	282	5	1.8%	129	2	1.6%
Town of Princeville	2,670	123	4.6%	383	18	4.7%	175	8	4.6%
Town of Red Oak	3,395	20	0.6%	474	3	0.6%	208	1	0.5%
Town of Saratoga	775	0	0%	110	0	0%	52	0	0%
Town of Sharpsburg	2,944	0	0%	415	0	0%	188	0	0%
Town of Sims	760	3	0.4%	108	0	0%	51	0	0%
Town of Speed	189	24	12.7%	27	3	11.1%	12	2	16.7%
Town of Spring Hope	1,956	0	0%	273	0	0%	120	0	0%
Town of Stantonsburg	944	10	1.1%	134	1	0.7%	63	1	1.6%
Town of Tarboro	11,730	635	5.4%	1,681	91	5.4%	769	42	5.5%

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 Whitakers	725	85	11.7%	102	12	11.8%	46	5	10.9%
Unincorporated Nash County	36,835	201	0.5%	5,147	28	0.5%	2,259	12	0.5%
Unincorporated Edgecombe County	19,599	672	3.4%	2,808	96	3.4%	1,284	44	3.4%
Unincorporated Wilson County	21,520	146	0.7%	3,051	21	0.7%	1,444	10	0.7%
Region Total	**233,378**	**7,238**	**3.1%**	**32,979**	**1,024**	**3.1%**	**15,016**	**466**	**3.1%**

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.

Table 4.44 through Table 4.48 detail the property at risk for different flood recurrence intervals, according to data from the NCEM IRISK database. As with population vulnerability data, actual property at risk is likely higher due to the amount of development that has occurred since the original analysis for the IRISK dataset was performed.

Table 4.49 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings across all jurisdictions, by sector and flood event. Vulnerability of CIKR as well as High Potential Loss Properties, where applicable, can be found by jurisdiction in each community's annex to this plan.

Table 4.44 – Buildings Impacted by the 10-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
City of Rocky Mount	27,811	231	0.8%	320	1.2%	$1,348,926	59	0.2%	$1,573,208	6	0%	$88,401	385	1.4%	$3,010,535
City of Wilson	20,337	225	1.1%	288	1.4%	$2,114,072	34	0.2%	$808,738	7	0%	$130,219	329	1.6%	$3,053,029
Town of Bailey	1,010	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Black Creek	747	1	0.1%	1	0.1%	$319	0	0%	$0	0	0%	$0	1	0.1%	$319
Town of Castalia	195	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Conetoe	190	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Dortches	578	2	0.3%	2	0.3%	$475	0	0%	$0	0	0%	$0	2	0.3%	$475
Town of Elm City	1,008	1	0.1%	1	0.1%	$837	0	0%	$0	0	0%	$0	1	0.1%	$837
Town of Leggett	166	3	1.8%	11	6.6%	$28,210	0	0%	$0	0	0%	$0	11	6.6%	$28,210
Town of Lucama	936	1	0.1%	1	0.1%	$672	0	0%	$0	0	0%	$0	1	0.1%	$672
Town of Macclesfield	304	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Middlesex	1,070	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Momeyer	408	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Nashville	2,959	3	0.1%	10	0.3%	$7,770	2	0.1%	$8,921	0	0%	$0	12	0.4%	$16,691
Town of Pinetops	1,067	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Princeville	1,054	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Red Oak	1,717	0	0%	5	0.3%	$57,660	0	0%	$0	0	0%	$0	5	0.3%	$57,660
Town of Saratoga	469	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Sharpsburg	1,502	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Sims	368	1	0.3%	1	0.3%	$189	0	0%	$0	0	0%	$0	1	0.3%	$189
Town of Speed	178	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Spring Hope	1,240	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Stantonsburg	602	1	0.2%	1	0.2%	$608	0	0%	$0	0	0%	$0	1	0.2%	$608
Town of Tarboro	5,192	42	0.8%	51	1%	$186,361	1	0%	$20,468	0	0%	$0	52	1%	$206,828
Town of Whitakers	498	29	5.8%	30	6%	$21,960	0	0%	$0	0	0%	$0	30	6%	$21,960

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
Unincorporated Nash County	23,157	11	0%	15	0.1%	$60,016	2	0%	$13,198	0	0%	$0	17	0.1%	$73,214
Unincorporated Edgecombe County	12,695	23	0.2%	48	0.4%	$76,488	2	0%	$14,857	0	0%	$0	50	0.4%	$91,345
Unincorporated Wilson County	12,823	11	0.1%	20	0.2%	$22,986	0	0%	$0	0	0%	$0	20	0.2%	$22,986
Region Total	**120,281**	**585**	**0.5%**	**805**	**0.7%**	**$3,927,549**	**100**	**0.1%**	**$2,439,390**	**13**	**0.0%**	**$218,620**	**918**	**0.8%**	**$6,585,558**

Source: NCEM Risk Management Tool

Table 4.45 – Buildings Impacted by the 25-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
City of Rocky Mount	27,811	491	1.80%	703	2.50%	$4,185,162	144	0.50%	$17,881,610	10	0%	$184,067	857	3.10%	$22,250,840
City of Wilson	20,337	363	1.80%	486	2.40%	$4,092,488	65	0.30%	$1,609,845	10	0%	$197,003	561	2.80%	$5,899,336
Town of Bailey	1,010	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Black Creek	747	8	1.10%	8	1.10%	$5,689	0	0%	$0	0	0%	$0	8	1.10%	$5,689
Town of Castalia	195	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Conetoe	190	12	6.30%	14	7.40%	$13,111	0	0%	$0	0	0%	$0	14	7.40%	$13,111
Town of Dortches	578	5	0.90%	5	0.90%	$4,389	0	0%	$0	0	0%	$0	5	0.90%	$4,389
Town of Elm City	1,008	7	0.70%	6	0.60%	$5,205	1	0.10%	$477	0	0%	$0	7	0.70%	$5,681
Town of Leggett	166	6	3.60%	14	8.40%	$82,313	0	0%	$0	0	0%	$0	14	8.40%	$82,313
Town of Lucama	936	2	0.20%	2	0.20%	$1,093	0	0%	$0	0	0%	$0	2	0.20%	$1,093
Town of Macclesfield	304	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Middlesex	1,070	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Momeyer	408	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0

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 Nashville	2,959	14	0.50%	27	0.90%	$24,457	2	0.10%	$17,688	0	0%	$0	29	1%	$42,145
Town of Pinetops	1,067	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Princeville	1,054	1	0.10%	8	0.80%	$35,554	1	0.10%	$837	0	0%	$0	9	0.90%	$36,391
Town of Red Oak	1,717	0	0%	5	0.30%	$120,277	1	0.10%	$4,513	0	0%	$0	6	0.30%	$124,791
Town of Saratoga	469	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Sharpsburg	1,502	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Sims	368	1	0.30%	1	0.30%	$425	0	0%	$0	0	0%	$0	1	0.30%	$425
Town of Speed	178	1	0.60%	1	0.60%	$721	0	0%	$0	0	0%	$0	1	0.60%	$721
Town of Spring Hope	1,240	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Stantonsburg	602	5	0.80%	5	0.80%	$7,240	0	0%	$0	0	0%	$0	5	0.80%	$7,240
Town of Tarboro	5,192	91	1.80%	113	2.20%	$309,994	1	0%	$27,006	0	0%	$0	114	2.20%	$337,000
Town of Whitakers	498	32	6.40%	38	7.60%	$30,535	0	0%	$0	0	0%	$0	38	7.60%	$30,535
Unincorporated Nash County	23,157	32	0.10%	43	0.20%	$188,356	10	0%	$80,372	0	0%	$0	53	0.20%	$268,729
Unincorporated Edgecombe County	12,695	52	0.40%	119	0.90%	$330,636	6	0%	$57,241	0	0%	$0	125	1%	$387,878
Unincorporated Wilson County	12,823	30	0.20%	47	0.40%	$110,710	2	0%	$2,177	0	0%	$0	49	0.40%	$112,887
Region Total	**120,281**	**1,153**	**1.0%**	**1,645**	**1.4%**	**$9,548,355**	**233**	**0.2%**	**$19,681,766**	**20**	**0.0%**	**$381,070**	**1,898**	**1.6%**	**$29,611,194**

Source: NCEM Risk Management Tool

Table 4.46 – Buildings Impacted by the 50-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
City of Rocky Mount	27,811	741	2.70%	1,013	3.60%	$6,405,576	206	0.70%	$32,332,240	11	0%	$227,442	1,230	4.40%	$38,965,258
City of Wilson	747	8	1.10%	8	1.10%	$6,182	0	0%	$0	0	0%	$0	8	1.10%	$6,182
Town of Bailey	1,010	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Black Creek	1,008	7	0.70%	6	0.60%	$5,205	1	0.10%	$477	0	0%	$0	7	0.70%	$5,681
Town of Castalia	195	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Conetoe	190	16	8.40%	17	8.90%	$20,843	1	0.50%	$832	0	0%	$0	18	9.50%	$21,675
Town of Dortches	578	6	1%	5	0.90%	$4,670	1	0.20%	$459	0	0%	$0	6	1%	$5,129
Town of Elm City	936	2	0.20%	2	0.20%	$1,093	0	0%	$0	0	0%	$0	2	0.20%	$1,093
Town of Leggett	166	7	4.20%	15	9%	$103,296	0	0%	$0	1	0.60%	$1,781	16	9.60%	$105,077
Town of Lucama	469	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Macclesfield	304	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Middlesex	1,070	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Momeyer	408	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Nashville	2,959	20	0.70%	32	1.10%	$37,267	5	0.20%	$24,833	0	0%	$0	37	1.30%	$62,100
Town of Pinetops	1,067	0	0%	5	0.50%	$4,176	0	0%	$0	0	0%	$0	5	0.50%	$4,176
Town of Princeville	1,054	2	0.20%	33	3.10%	$96,432	1	0.10%	$16,356	0	0%	$0	34	3.20%	$112,787
Town of Red Oak	1,717	0	0%	6	0.30%	$139,468	1	0.10%	$5,656	0	0%	$0	7	0.40%	$145,123
Town of Saratoga	368	1	0.30%	1	0.30%	$425	0	0%	$0	0	0%	$0	1	0.30%	$425
Town of Sharpsburg	1,502	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Sims	602	5	0.80%	5	0.80%	$9,104	0	0%	$0	0	0%	$0	5	0.80%	$9,104
Town of Speed	178	7	3.90%	9	5.10%	$6,925	0	0%	$0	0	0%	$0	9	5.10%	$6,925
Town of Spring Hope	1,240	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Stantonsburg	12,823	30	0.20%	48	0.40%	$142,838	3	0%	$20,284	0	0%	$0	51	0.40%	$163,122
Town of Tarboro	5,192	143	2.80%	176	3.40%	$440,631	2	0%	$38,908	0	0%	$0	178	3.40%	$479,539
Town of Whitakers	498	39	7.80%	45	9%	$36,249	0	0%	$0	0	0%	$0	45	9%	$36,249

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
Unincorporated Nash County	23,157	45	0.20%	61	0.30%	$472,889	14	0.10%	$102,505	0	0%	$0	75	0.30%	$575,393
Unincorporated Edgecombe County	12,695	98	0.80%	204	1.60%	$825,722	19	0.10%	$202,558	1	0%	$19,143	224	1.80%	$1,047,423
Unincorporated Wilson County	20,337	370	1.80%	491	2.40%	$4,959,535	72	0.40%	$2,215,135	10	0%	$229,929	573	2.80%	$7,404,599
Region Total	**120,281**	**1,547**	**1.30%**	**2,182**	**1.80%**	**$13,718,526**	**326**	**0.30%**	**$34,960,243**	**23**	**0%**	**$478,295**	**2,531**	**2.10%**	**$49,157,060**

Source: NCEM Risk Management Tool

Table 4.47 – 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
City of Rocky Mount	27,811	1,010	3.6%	1,382	5%	$9,954,450	264	0.9%	$51,771,806	18	0.1%	$373,939	1,664	6%	$62,100,196
City of Wilson	20,337	433	2.1%	611	3%	$6,130,623	95	0.5%	$3,262,676	12	0.1%	$309,454	718	3.5%	$9,702,753
Town of Bailey	1,010	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Black Creek	747	11	1.5%	11	1.5%	$10,559	0	0%	$0	0	0%	$0	11	1.5%	$10,559
Town of Castalia	195	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Conetoe	190	19	10%	19	10%	$38,459	2	1.1%	$5,870	0	0%	$0	21	11.1%	$44,329
Town of Dortches	578	8	1.4%	7	1.2%	$31,366	1	0.2%	$5,918	0	0%	$0	8	1.4%	$37,284
Town of Elm City	1,008	9	0.9%	8	0.8%	$15,023	1	0.1%	$1,060	0	0%	$0	9	0.9%	$16,083
Town of Leggett	166	8	4.8%	16	9.6%	$238,004	0	0%	$0	1	0.6%	$7,125	17	10.2%	$245,129
Town of Lucama	936	4	0.4%	4	0.4%	$6,882	0	0%	$0	0	0%	$0	4	0.4%	$6,882
Town of Macclesfield	304	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Middlesex	1,070	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Momeyer	408	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0

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 Nashville	2,959	31	1%	40	1.4%	$68,515	9	0.3%	$46,843	0	0%	$0	49	1.7%	$115,358
Town of Pinetops	1,067	1	0.1%	16	1.5%	$26,019	0	0%	$0	0	0%	$0	16	1.5%	$26,019
Town of Princeville	1,054	4	0.4%	45	4.3%	$177,887	0	0%	$0	0	0%	$0	45	4.3%	$177,887
Town of Red Oak	1,717	0	0%	9	0.5%	$213,459	1	0.1%	$7,449	0	0%	$0	10	0.6%	$220,909
Town of Saratoga	469	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Sharpsburg	1,502	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Sims	368	1	0.3%	1	0.3%	$526	0	0%	$0	0	0%	$0	1	0.3%	$526
Town of Speed	178	11	6.2%	18	10.1%	$17,644	0	0%	$0	0	0%	$0	18	10.1%	$17,644
Town of Spring Hope	1,240	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Stantonsburg	602	5	0.8%	5	0.8%	$11,756	0	0%	$0	0	0%	$0	5	0.8%	$11,756
Town of Tarboro	5,192	195	3.8%	242	4.7%	$801,496	7	0.1%	$197,990	4	0.1%	$74,673	253	4.9%	$1,074,158
Town of Whitakers	498	44	8.8%	50	10%	$41,680	0	0%	$0	0	0%	$0	50	10%	$41,680
Unincorporated Nash County	23,157	72	0.3%	97	0.4%	$826,217	23	0.1%	$143,106	0	0%	$0	120	0.5%	$969,324
Unincorporated Edgecombe County	12,695	169	1.3%	338	2.7%	$1,676,957	28	0.2%	$419,458	5	0%	$139,333	371	2.9%	$2,235,749
Unincorporated Wilson County	12,823	48	0.4%	69	0.5%	$272,293	7	0.1%	$59,998	0	0%	$0	76	0.6%	$332,291
Region Total	**120,281**	**2,083**	**1.7%**	**2,988**	**2.5%**	**$20,559,815**	**438**	**0.4%**	**$55,922,174**	**40**	**0%**	**$904,524**	**3,466**	**2.9%**	**$77,386,516**

Source: NCEM Risk Management Tool

Table 4.48 – Buildings Impacted by the 500-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
City of Rocky Mount	27,811	1,416	5.10%	1,860	6.70%	$25,759,878	367	1.30%	$99,599,977	19	0.10%	$890,757	2,246	8.10%	$126,250,612
City of Wilson	747	11	1.50%	11	1.50%	$70,888	0	0%	$0	0	0%	$0	11	1.50%	$70,888
Town of Bailey	1,010	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Black Creek	1,008	12	1.20%	10	1%	$103,534	2	0.20%	$32,598	0	0%	$0	12	1.20%	$136,132
Town of Castalia	195	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Conetoe	190	20	10.50%	19	10%	$99,370	3	1.60%	$13,257	0	0%	$0	22	11.60%	$112,627
Town of Dortches	578	9	1.60%	8	1.40%	$93,368	1	0.20%	$12,601	0	0%	$0	9	1.60%	$105,969
Town of Elm City	936	10	1.10%	6	0.60%	$16,866	4	0.40%	$1,812	0	0%	$0	10	1.10%	$18,679
Town of Leggett	166	8	4.80%	16	9.60%	$325,358	0	0%	$0	1	0.60%	$18,526	17	10.20%	$343,885
Town of Lucama	469	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Macclesfield	304	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Middlesex	1,070	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Momeyer	408	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Nashville	2,959	67	2.30%	71	2.40%	$322,772	18	0.60%	$625,971	0	0%	$0	89	3%	$948,743
Town of Pinetops	1,067	1	0.10%	21	2%	$71,469	0	0%	$0	0	0%	$0	21	2%	$71,469
Town of Princeville	1,054	6	0.60%	49	4.60%	$1,306,760	1	0.10%	$35,923	1	0.10%	$34,018	51	4.80%	$1,376,701
Town of Red Oak	1,717	0	0%	12	0.70%	$323,921	3	0.20%	$15,868	0	0%	$0	15	0.90%	$339,788
Town of Saratoga	368	2	0.50%	2	0.50%	$1,253	0	0%	$0	0	0%	$0	2	0.50%	$1,253
Town of Sharpsburg	1,502	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Sims	602	6	1%	6	1%	$43,228	1	0.20%	$3,054	0	0%	$0	7	1.20%	$46,282
Town of Speed	178	11	6.20%	20	11.20%	$54,059	0	0%	$0	0	0%	$0	20	11.20%	$54,059
Town of Spring Hope	1,240	0	0%	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Stantonsburg	12,823	88	0.70%	131	1%	$819,421	15	0.10%	$175,825	0	0%	$0	146	1.10%	$995,246
Town of Tarboro	5,192	215	4.10%	257	4.90%	$2,687,104	16	0.30%	$1,286,820	8	0.20%	$417,698	281	5.40%	$4,391,622
Town of Whitakers	498	49	9.80%	54	10.80%	$60,778	1	0.20%	$344	0	0%	$0	55	11%	$61,122

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
Nash County (Unincorporated Area)	23,157	171	0.70%	227	1%	$2,472,652	48	0.20%	$380,579	0	0%	$0	275	1.20%	$2,853,231
Edgecombe County (Unincorporated Area)	12,695	200	1.60%	380	3%	$5,324,205	49	0.40%	$1,225,381	10	0.10%	$670,964	439	3.50%	$7,220,549
Wilson County (Unincorporated Area)	20,337	632	3.10%	894	4.40%	$12,983,473	144	0.70%	$9,074,347	18	0.10%	$724,408	1,056	5.20%	$22,782,229
Region Total	**120,281**	**2,934**	**2.40%**	**4,054**	**3.40%**	**$52,940,357**	**673**	**0.60%**	**$112,484,357**	**57**	**0%**	**$2,756,371**	**4,784**	**4%**	**$168,181,086**

Source: NCEM Risk Management Tool

Table 4.49 – Critical Infrastructure and Key Resources Buildings at Risk to Flood Events by Sector

Sector	Event	Number of Buildings at Risk	Estimated Damages
Banking and Finance	25 Year	3	202,473
	50 Year	4	439,101
	100 Year	5	615,037
	500 Year	10	1,866,208
Commercial Facilities	10 Year	74	$1,213,052
	25 Year	181	5,089,836
	50 Year	248	11,996,548
	100 Year	334	20,115,462
	500 Year	476	48,325,074
Critical Manufacturing	10 Year	11	1,074,981
	25 Year	25	$13,938,635
	50 Year	38	$21,600,608
	100 Year	54	$33,501,944
	500 Year	81	$56,907,225
Food and Agriculture	10 Year	18	$83,334
	25 Year	29	$182,872
	50 Year	42	$339,124
	100 Year	58	588,953
	500 Year	107	$1,599,924
Government Facilities	10 Year	11	$159,929
	25 Year	18	$299,527
	50 Year	21	$374,073
	100 Year	30	$538,098
	500 Year	41	$1,944,500
Healthcare and Public Health	10 Year	1	$128,201
	25 Year	2	$239,788
	50 Year	4	$293,656
	100 Year	5	$468,595
	500 Year	11	$1,442,175
Transportation Systems	25 Year	3	$139,476
	50 Year	4	$456,830
	100 Year	5	$1,095,529
	500 Year	18	$3,370,861
Water	500 Year	3	$6,999,852
All Categories	**10 Year**	**115**	**2,659,497**
	25 Year	**261**	**20,092,607**
	50 Year	**361**	**35,499,940**
	100 Year	**491**	**56,923,618**
	500 Year	**747**	**122,455,819**

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. An analysis of repetitive loss was completed to examine repetitive losses within the Region.

According to March 2019 NFIP records, there are a total of 97 repetitive loss properties within the N.E.W. Region, of which 40 percent are insured. Of all the repetitive loss properties, 79 are residential use and 17 are non-residential. There are five properties on the list classified as severe repetitive loss properties. 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.

Table 4.50 summarizes repetitive loss properties by jurisdiction as identified by FEMA through the NFIP.

Table 4.50 – Repetitive Loss Properties by Jurisdiction

Jurisdiction	Total Number of Properties	Total Number of Losses	% Insured	Total Amount of Claims Payments	Average Claim Payment	Severe Repetitive Loss Properties
Edgecombe County	3	6	0%	$294,153.44	$49,025.58	0
Nash County	7	14	14.2%	$517,455.77	$36,961.13	0
Nashville	2	4	0%	$209,925.79	$52,481.45	0
Pinetops	2	4	50.0%	$96,578.83	$24,144.71	0
Rocky Mount	43	113	27.9%	$3,781,795.09	$32,565.34	1
Sharpsburg	4	9	0%	$125,036.37	$12,726.89	0
Wilson County	10	23	80.0%	$1,591,065.93	$77,179.27	0
Wilson	26	77	61.5%	$2,155,969.25	$26,111.77	4
Total	**97**	**250**	**40.2%**	**$8,771,980.47**	**$35,680.13**	**5**

Source: FEMA/ISO

Environment

During a flood event, chemicals and other hazardous substances may end up contaminating local water bodies. 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 4.51 summarizes the potential detrimental consequences of flood.

Table 4.51 – 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.

Category	Consequences
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.
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. To account for increased risk of flood due to stormwater and flash flooding, communities with between 2 and 12 flash flood events in the period from 2007-2018 were assigned a probability rating of 3 and communities with less than 2 flash flood events in the period were assigned a probability of 2. Note that countywide events were not considered in these counts. Communities with 10% or more of their land area in the SFHA were assigned a spatial extent of 3. All other factors do not vary by jurisdiction.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	3	3	3	3	3	3.0	H
Wilson	3	3	3	3	3	3.0	H
Bailey	2	3	2	3	3	2.5	H
Black Creek	2	3	2	3	3	2.5	H
Castalia	2	3	2	3	3	2.5	H
Conetoe	2	3	3	3	3	2.7	H
Dortches	2	3	2	3	3	2.5	H
Elm City	3	3	2	3	3	2.8	H
Leggett	2	3	3	3	3	2.7	H
Lucama	3	3	2	3	3	2.8	H
Macclesfield	2	3	2	3	3	2.5	H
Middlesex	3	3	2	3	3	2.8	H
Momeyer	2	3	2	3	3	2.5	H
Nashville	3	3	3	3	3	3.0	H
Pinetops	2	3	2	3	3	2.5	H
Princeville	2	3	3	3	3	2.7	H
Red Oak	2	3	2	3	3	2.5	H
Saratoga	2	3	2	3	3	2.5	H
Sharpsburg	3	3	2	3	3	2.8	H

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Sims	2	3	2	3	3	2.5	H
Speed	2	3	3	3	3	2.7	H
Spring Hope	2	3	2	3	3	2.5	H
Stantonsburg	2	3	2	3	3	2.5	H
Tarboro	3	3	3	3	3	3.0	H
Whitakers	3	3	2	3	3	2.8	H
Nash County	3	3	2	3	3	2.8	H
Edgecombe County	3	3	3	3	3	3.0	H
Wilson County	3	3	3	3	3	3.0	H

4.5.6 Hurricane and Tropical Storm

Hazard Background

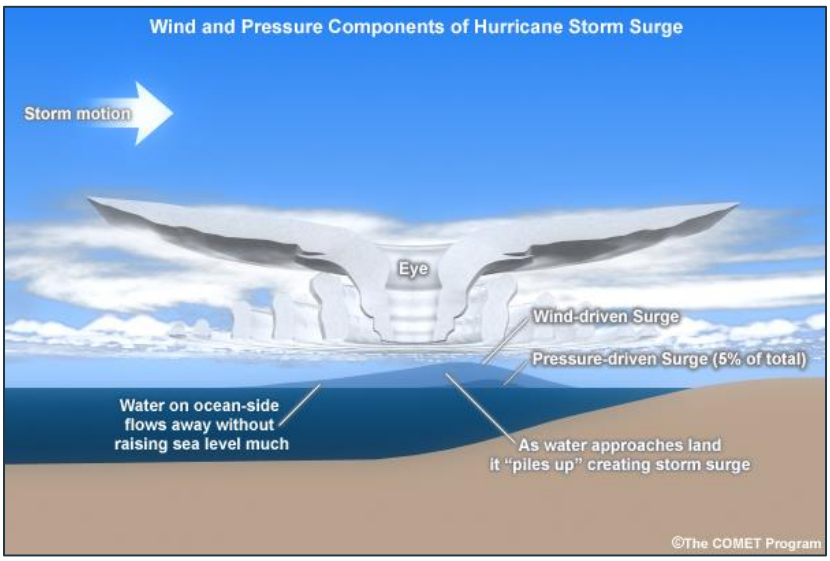
Hurricanes and tropical storms are classified as cyclones and defined as any closed circulation developing around a low-pressure center in which the winds rotate counter-clockwise in the Northern Hemisphere (or clockwise in the Southern Hemisphere) and whose diameter averages 10 to 30 miles across. A 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. Storm surge is water that is pushed toward the shore by the force of the winds swirling around the storm as shown in Figure 4.27. 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 4.27 – Components of Hurricane Storm Surge



Source: NOAA/The COMET Program

Damage during hurricanes may also result from inland flooding from associated heavy rainfall. 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.

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

Location

Hurricanes and tropical storms can impact the entire N.E.W. Region. While coastal areas are most vulnerable to hurricanes, their wind and rain impacts can be felt hundreds of miles inland. Wind impacts can affect the region uniformly.

Extent

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 35 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 4.52, which rates hurricane intensity on a scale of 1 to 5, with 5 being the most intense.

Table 4.52 – 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 4.53 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 4.53 – 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

Although not located directly on the coast, the N.E.W. Region is susceptible to wind and flood impacts of every category of hurricane.

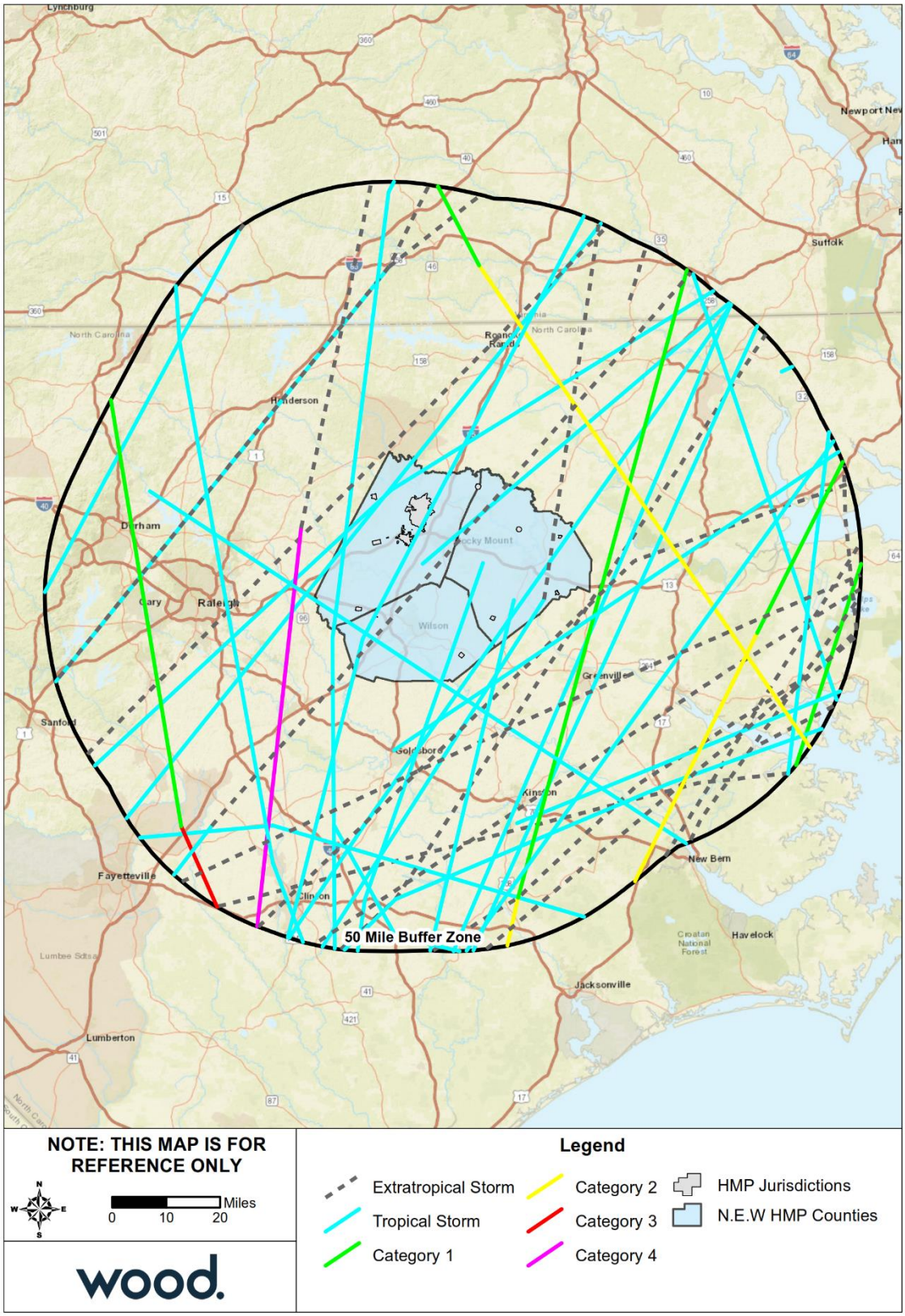
Impact: 3 – Critical

Spatial Extent: 4 – Large

Historical Occurrences

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, 44 hurricanes and tropical storms have passed within 50 miles of the N.E.W. Region since 1900. These storm tracks are shown in Figure 4.28. The date, storm name, storm category, and maximum wind speed of each event are detailed in Table 4.54.

Figure 4.28 – Hurricane/Tropical Storm Tracks within 50 miles of the N.E.W. Region, 1900-2016



Source: NOAA Office of Coastal Management

Table 4.54 – Hurricane/Tropical Storm Tracks within 50 Miles of N.E.W. Region, 1900-2016

Date	Storm Name	Max Storm Category*	Max Wind Speed (mph)*
6/16/1902	Unnamed	Extratropical Storm	46
9/14/1904	Unnamed	Tropical Storm	69
6/29/1907	Unnamed	Extratropical Storm	58
6/14/1912	Unnamed	Extratropical Storm	40
9/3/1913	Unnamed	Tropical Storm	63
5/16/1916	Unnamed	Tropical Storm	40
9/6/1916	Unnamed	Tropical Storm	52
9/30/1924	Unnamed	Extratropical Storm	69
9/19/1928	Unnamed	Extratropical Storm	81
10/2/1929	Unnamed	Extratropical Storm	58
9/3/1934	Unnamed	Tropical Storm	40
9/6/1935	Unnamed	Tropical Storm	58
10/12/1942	Unnamed	Extratropical Storm	40
8/2/1944	Unnamed	Tropical Storm	69
10/20/1944	Unnamed	Extratropical Storm	58
9/18/1945	Unnamed	Tropical Storm	52
9/25/1947	Unnamed	Extratropical Storm	40
10/15/1954	Hazel	Category 4	132
8/17/1955	Diane	Tropical Storm	69
9/19/1955	Ione	Category 1	86
9/27/1956	Flossy	Extratropical Storm	58
10/17/1956	Unnamed	Extratropical Storm	58
7/10/1959	Cindy	Tropical Storm	40
7/30/1960	Brenda	Tropical Storm	63
9/14/1961	Unnamed	Tropical Storm	40
10/16/1964	Isbell	Extratropical Storm	46
8/27/1971	Doria	Tropical Storm	63
10/1/1971	Ginger	Tropical Storm	63
6/21/1972	Agnes	Tropical Storm	46
9/14/1984	Diana	Tropical Storm	52
7/12/1996	Bertha	Category 2	104
9/6/1996	Fran	Category 3	115
10/8/1996	Josephine	Extratropical Storm	52
7/24/1997	Danny	Tropical Storm	46
9/4/1998	Earl	Extratropical Storm	58
9/5/1999	Dennis	Tropical Storm	58
9/16/1999	Floyd	Category 2	104
9/23/2000	Helene	Tropical Storm	40
9/18/2003	Isabel	Category 2	98
8/14/2004	Charley	Tropical Storm	69
6/14/2006	Alberto	Extratropical Storm	40
9/1/2006	Ernesto	Tropical Storm	58
9/6/2008	Hanna	Tropical Storm	69
6/7/2013	Andrea	Tropical Storm	46

*Reports the most intense category and wind speed that occurred within 50 miles of the N.E.W. Region, not for the storm event overall.
Source: Office of Coastal Management, 2019. https://marinecadastre.gov/data/

The above list of storms is not an exhaustive list of hurricanes that have affected the N.E.W. Region. Several storms have passed further than 50 miles away from the N.E.W. 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 three counties in the region is recorded for each county. During the 20-year period from 1999 through 2018, NCEI records 19 hurricane and tropical storm reports across 7 separate days. These events are summarized in Table 4.55 by storm. All 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. Additional HMPC input as well as NCEI event narratives following this table provide a fuller scope of the impacts from selected events.

Table 4.55 – Recorded Hurricane/Tropical Storm Winds in N.E.W. Region Counties, 1999-2018

Date	Storm	Property Damage	Crop Damage
9/4/1999	Hurricane Dennis	$0	$0
9/15/1999	Hurricane Floyd	$0	$0
9/18/2003	Hurricane Isabel	$2,928,000	$0
9/1/2006	Tropical Storm Ernesto	$0	$985,000
9/3/2016	Tropical Storm Hermine	$5,000	$0
9/13/2018	Tropical Storm Florence	$2,000,000	$0
10/11/2018	Tropical Storm Michael	$750,000	$0
Total		**$5,683,000**	**$985,000**

Source: NCEI

The HMPC provided additional data on storm impacts not included in NCEI, included statistics on deaths caused by past storms. Hurricane Floyd in 1999 resulted in 13 deaths in the N.E.W. region; 8 in Edgecombe County and 5 in Nash County, all caused by drowning. Additionally, as a result of Hurricane Irene in 2011 there was one death in Nash County, caused by a fallen tree limb.

9/15/1999 (Hurricane Floyd): Hurricane Floyd made landfall as a Category 2 storm just west of Cape Fear. The 15-20 inches of rain that fell across the eastern half of the state caused every river and stream to flood, many of which were still at high levels due to the rain from Hurricane Dennis, which had hit the region only 11 days prior. Whole communities were underwater for days, even weeks in some areas. In the N.E.W. area, most of the damage associated with Floyd was caused by rainfall and flooding. Rocky Mount, Tarboro, and Princeville were among the hardest hit by this event. Thousands of homes were lost, and crop damage was extensive. The infrastructure of the eastern counties, mainly roads, bridges, water plants, etc., was heavily damaged. By the end of 1999, $1.5 billion had already been spent, with estimates that the cost would reach $3-4 billion. The counties within the Raleigh county warning area, including those in the N.E.W. region, probably sustained more than half of the state total. Even worse was the loss of life, mainly due to flooding. Many Carolinians did not heed the call to evacuate and many more drove into flooded streams and rivers. In the central part of the state, 21 people lost their lives. Also, the loss of livestock was significant, mainly swine and poultry.

9/18/2003 (Hurricane Isabel): Hurricane Isabel made landfall along the Outer Banks just north of Cape Lookout around 1 pm on September 18, 2003. Many locations across the Coastal Plain and even back into the Triangle received wind gusts between 50 to 70 mph late in the afternoon until early evening. Many trees were uprooted falling on vehicles and homes across the area. Up to 6 inches of rain fell across Edgecombe, Halifax and Wilson counties resulting in flooding of several roads.

9/1/2006 (Tropical Storm Ernesto): Tropical Storm Ernesto produced flooding and high winds across the N.E.W. region. Emergency officials reported approximately 50 to 75 downed trees. Rainfall amounts of 3

to 6 inches caused road flooding across the three-county area. In Nash County, crop and livestock damage was estimated at $985,000.

9/13/2018 (Tropical Storm Florence): A ridge of high pressure over eastern North America stalled Florence's forward motion a few miles off the southeast North Carolina coast on September 13th. Hurricane Florence made landfall near Wrightsville Beach early on Saturday September 15 and weakened further as it moved slowly inland. Despite making landfall as a weakened Category 1 hurricane, Florence still produced 40 to 70 mph wind gusts, enough wind speed to uproot trees and cause widespread power outages throughout the Carolinas. As the storm moved inland, from September 15 to 17, heavy rain of 10 to 25 inches caused widespread inland flooding and major river flooding on main-stem rivers such as the Neuse, Cape Fear, and Little River. Many major roads and highways in the area experienced some flooding, with large stretches of I-40 and I-95 remaining impassable for days after the storm had passed.

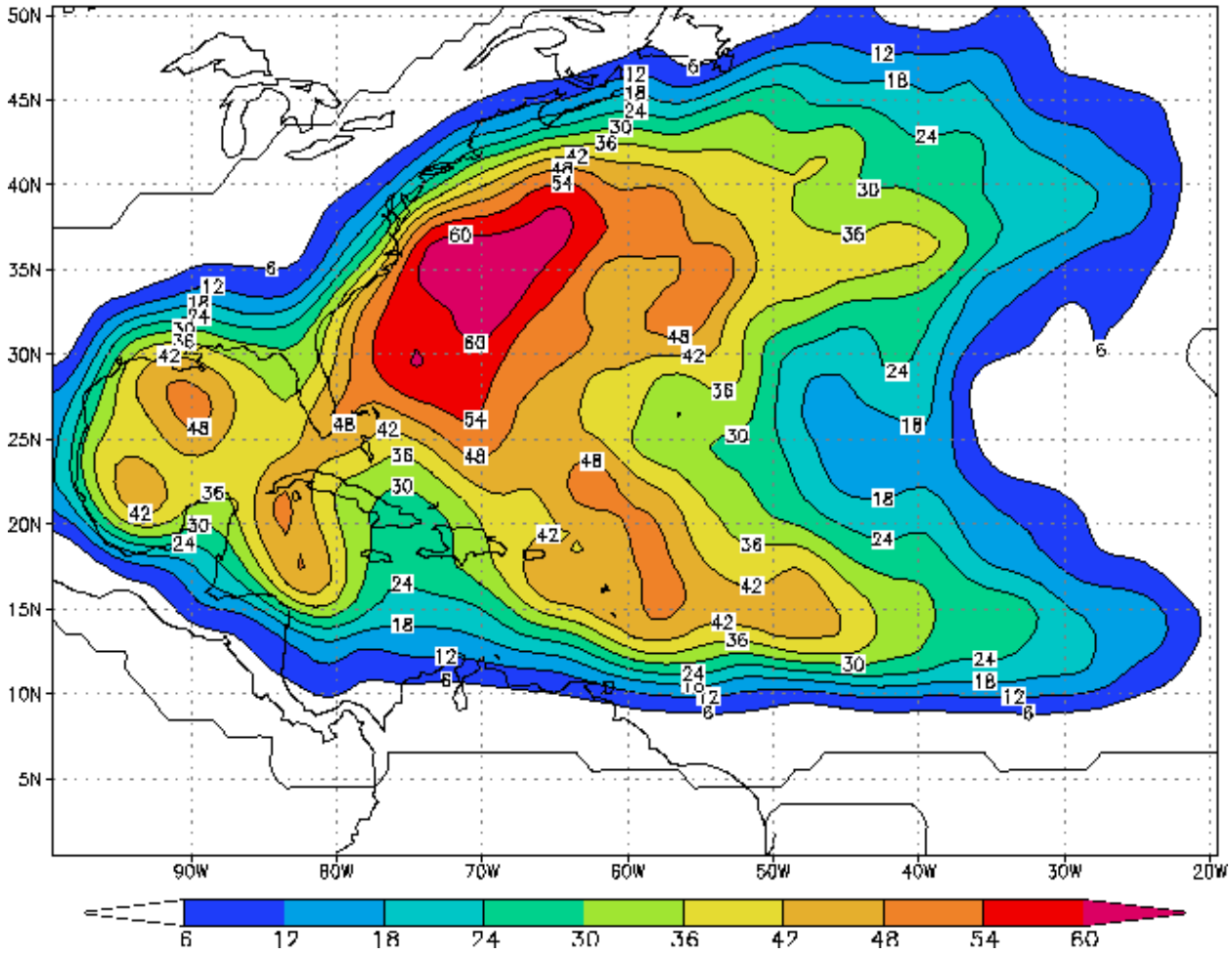
Frequent wind gusts of 30 to 60 mph resulted in numerous trees down across the N.E.W. Region, including on homes, cars, and power lines, causing damage to structures and property. Numerous customers also lost power in because of the tropical storm force winds.

10/11/2018 (Tropical Storm Michael): Tropical Storm Michael moved through North Carolina on Thursday, October 11th. Michael brought heavy rain and strong damaging winds to central North Carolina. While heavy rainfall of 3 to 6 inches produced minor flash flooding across the area, it was high wind gusts of 40 to 60 mph that caused the biggest problems, knocking down numerous trees, leading to blocked roadways, damage to homes, and thousands without power throughout the N.E.W. region.

Probability of Future Occurrence

Figure 4.29 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 the National Oceanic and Atmospheric Administration's (NOAA) 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 is approximately a 30-42% chance of a hurricane impacting the N.E.W. Region in any given year.

Figure 4.29 – 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. Substantial hurricane damage is typically most likely to be expected in the easternmost counties of the state; however, hurricane and tropical storm-force winds have significantly impacted areas far inland.

Per NCEI records, the N.E.W. Region has been impacted by hurricane and tropical storm winds 7 times over the 20-year period from 1999 through 2018, equating to a 35 percent annual probability of occurrence. Of these events, two were Category 2 strength winds. Based on these occurrences, there is a 10 percent annual probability of a severe event impacting the Region.

Probability: 3 – Likely

Climate Change

One of the primary factors contributing to the origin and growth of tropical storm and hurricanes systems is water temperature. Per the Fourth National Climate Assessment, "There is growing evidence that the tropics have expanded poleward by about 70 to 200 miles in each hemisphere since satellite measurements began in 1979, with an accompanying shift of the subtropical dry zones, midlatitude jets, and both midlatitude and tropical cyclone tracks." It is unclear as of yet whether these changes can be attributed to climate change, but current climate science suggests cyclones would become more frequent

and intense as water temperatures warm. In addition to occurring with greater frequency, intense hurricanes are also expected to produce greater amounts of rainfall. The 2017 hurricane season is considered an indicator of these potential changes.

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

The very young, the elderly and the handicapped 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.

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.

Hurricanes and tropical storms can also cause agricultural damages. For the N.E.W. Region, USDA RMA reports losses of $23,416,902 from 2008-2017 due to hurricanes and tropical storms, which equates to an average annual loss of $2,341,690. Table 4.56 summarizes the crop losses due to hurricanes and tropical storms reported in the RMA system.

Table 4.56 – Crop Losses Resulting from Hurricanes and Tropical Storms, 2007-2017

Year	Determined Acres	Indemnity Amount
2008	105.51	$63,533.00
2011	28,650.85	$22,736,453.00
2014	163.87	$15,050.95
2016	2,666.35	$567,809.00
2017	53.20	$34,056.00
Total	**31,639.78**	**$23,416,901.95**

Source: USDA Risk Management Agency

Table 4.57 through Table 4.61 detail buildings at risk and provide damage estimates across all jurisdictions for the 25-, 50-, 100-, 300-, and 700-year hurricane wind events. The 25-year hurricane wind scenario impacted slightly fewer total buildings than the other four scenarios, which impacted the same number of buildings but with varying severity of damage.

The damage estimates for the 100-year hurricane wind event total $172,990,022, which equates to a loss ratio of 1.1 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 to buildings and excludes damages to crops, other personal property (such as vehicles), and damages due to flooding. Thus, damage estimates would likely be higher, as evidenced by the high crop losses caused by hurricanes and tropical storms as well as the flooding discussed in Section 4.5.5. 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 4.57 – 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
City of Rocky Mount	27,811	24,445	87.90%	$1,660,976	2,610	9.40%	$587,850	498	1.80%	$183,549	27,553	99.10%	$2,432,375
City of Wilson	20,337	17,630	86.70%	$3,881,820	2,188	10.80%	$1,205,372	491	2.40%	$253,107	20,309	99.90%	$5,340,299
Town of Bailey	1,010	785	77.70%	$59,702	205	20.30%	$7,861	17	1.70%	$1,361	1,007	99.70%	$68,924
Town of Black Creek	747	672	90%	$183,422	57	7.60%	$12,095	18	2.40%	$8,449	747	100%	$203,966
Town of Castalia	195	163	83.60%	$10,898	21	10.80%	$1,256	9	4.60%	$2,317	193	99%	$14,471
Town of Conetoe	190	159	83.70%	$47,794	24	12.60%	$3,350	7	3.70%	$657	190	100%	$51,801
Town of Dortches	578	467	80.80%	$41,696	105	18.20%	$4,418	6	1%	$2,519	578	100%	$48,632
Town of Elm City	1,008	857	85%	$265,934	122	12.10%	$82,500	29	2.90%	$8,131	1,008	100%	$356,566
Town of Leggett	166	109	65.70%	$33,532	48	28.90%	$1,043	9	5.40%	$5,960	166	100%	$40,535
Town of Lucama	936	824	88%	$234,677	87	9.30%	$12,824	25	2.70%	$8,544	936	100%	$256,046
Town of Macclesfield	304	253	83.20%	$79,253	46	15.10%	$4,345	5	1.60%	$418	304	100%	$84,016
Town of Middlesex	1,070	860	80.40%	$50,579	179	16.70%	$10,661	27	2.50%	$2,779	1,066	99.60%	$64,019
Town of Momeyer	408	320	78.40%	$19,833	79	19.40%	$1,617	5	1.20%	$4,051	404	99%	$25,502
Town of Nashville	2,959	2,561	86.50%	$157,527	310	10.50%	$29,835	64	2.20%	$24,471	2,935	99.20%	$211,833
Town of Pinetops	1,067	903	84.60%	$215,168	146	13.70%	$19,553	18	1.70%	$3,827	1,067	100%	$238,548
Town of Princeville	1,054	976	92.60%	$116,940	67	6.40%	$8,394	11	1%	$1,418	1,054	100%	$126,751
Town of Red Oak	1,717	1,516	88.30%	$111,847	181	10.50%	$13,097	12	0.70%	$6,366	1,709	99.50%	$131,310
Town of Saratoga	469	411	87.60%	$118,918	48	10.20%	$10,665	10	2.10%	$1,531	469	100%	$131,114
Town of Sharpsburg	1,502	1,297	86.40%	$287,090	191	12.70%	$100,793	14	0.90%	$17,278	1,502	100%	$405,161
Town of Sims	368	299	81.20%	$82,535	58	15.80%	$11,081	11	3%	$1,356	368	100%	$94,973
Town of Speed	178	139	78.10%	$24,099	32	18%	$796	7	3.90%	$584	178	100%	$25,479
Town of Spring Hope	1,240	1,027	82.80%	$71,862	176	14.20%	$7,692	33	2.70%	$2,442	1,236	99.70%	$81,995
Town of Stantonsburg	602	495	82.20%	$158,732	88	14.60%	$12,271	19	3.20%	$5,414	602	100%	$176,417
Town of Tarboro	5,192	4,454	85.80%	$981,233	581	11.20%	$527,846	150	2.90%	$94,580	5,185	99.90%	$1,603,659
Town of Whitakers	498	424	85.10%	$37,063	57	11.40%	$4,851	17	3.40%	$1,153	498	100%	$43,067
Unincorporated Nash County	23,157	17,716	76.50%	$1,301,528	5,050	21.80%	$146,616	290	1.30%	$146,328	23,056	99.60%	$1,594,471
Unincorporated Edgecombe County	12,695	9,848	77.60%	$2,242,622	2,708	21.30%	$1,965,329	138	1.10%	$56,254	12,694	100%	$4,264,205

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
Unincorporated Wilson County	12,823	10,203	79.60%	$3,161,400	2,454	19.10%	$661,799	163	1.30%	$72,892	12,820	100%	$3,896,091
Region Total	**120,281**	**99,813**	**83%**	**$15,638,680**	**17,918**	**14.90%**	**$5,455,810**	**2,103**	**1.70%**	**$917,736**	**119,834**	**99.60%**	**$22,012,226**

Source: NCEM Risk Management Tool

Table 4.58 – 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
City of Rocky Mount	27,811	24,659	88.70%	$6,308,177	2,610	9.40%	$2,547,458	498	1.80%	$764,997	27,767	99.80%	$9,620,632
City of Wilson	20,337	17,630	86.70%	$10,057,763	2,188	10.80%	$4,360,887	491	2.40%	$927,805	20,309	99.90%	$15,346,455
Town of Bailey	1,010	788	78%	$207,462	205	20.30%	$33,540	17	1.70%	$4,804	1,010	100%	$245,806
Town of Black Creek	747	672	90%	$456,411	57	7.60%	$34,997	18	2.40%	$43,512	747	100%	$534,919
Town of Castalia	195	165	84.60%	$36,402	21	10.80%	$4,147	9	4.60%	$12,317	195	100%	$52,866
Town of Conetoe	190	159	83.70%	$119,565	24	12.60%	$17,274	7	3.70%	$3,151	190	100%	$139,990
Town of Dortches	578	467	80.80%	$156,195	105	18.20%	$26,552	6	1%	$9,371	578	100%	$192,117
Town of Elm City	1,008	857	85%	$612,931	122	12.10%	$354,890	29	2.90%	$40,636	1,008	100%	$1,008,457
Town of Leggett	166	109	65.70%	$81,895	48	28.90%	$5,205	9	5.40%	$23,087	166	100%	$110,187
Town of Lucama	936	824	88%	$578,400	87	9.30%	$47,152	25	2.70%	$37,784	936	100%	$663,336
Town of Macclesfield	304	253	83.20%	$170,349	46	15.10%	$13,792	5	1.60%	$1,732	304	100%	$185,873
Town of Middlesex	1,070	864	80.70%	$183,748	179	16.70%	$50,274	27	2.50%	$14,671	1,070	100%	$248,692
Town of Momeyer	408	324	79.40%	$73,554	79	19.40%	$10,219	5	1.20%	$25,978	408	100%	$109,752
Town of Nashville	2,959	2,585	87.40%	$633,702	310	10.50%	$141,048	64	2.20%	$110,525	2,959	100%	$885,274
Town of Pinetops	1,067	903	84.60%	$524,125	146	13.70%	$79,971	18	1.70%	$14,800	1,067	100%	$618,896
Town of Princeville	1,054	976	92.60%	$371,970	67	6.40%	$30,364	11	1%	$6,049	1,054	100%	$408,382
Town of Red Oak	1,717	1,524	88.80%	$443,837	181	10.50%	$59,711	12	0.70%	$34,301	1,717	100%	$537,849
Town of Saratoga	469	411	87.60%	$295,627	48	10.20%	$29,559	10	2.10%	$7,324	469	100%	$332,509
Town of Sharpsburg	1,502	1,297	86.40%	$715,792	191	12.70%	$375,580	14	0.90%	$66,532	1,502	100%	$1,157,904
Town of Sims	368	299	81.20%	$195,142	58	15.80%	$45,421	11	3%	$4,947	368	100%	$245,510

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 Speed	178	139	78.10%	$64,879	32	18%	$3,108	7	3.90%	$2,510	178	100%	$70,497
Town of Spring Hope	1,240	1,031	83.10%	$261,468	176	14.20%	$30,809	33	2.70%	$11,147	1,240	100%	$303,424
Town of Stantonsburg	602	495	82.20%	$395,297	88	14.60%	$39,042	19	3.20%	$25,410	602	100%	$459,749
Town of Tarboro	5,192	4,454	85.80%	$2,468,111	581	11.20%	$1,905,923	150	2.90%	$336,050	5,185	99.90%	$4,710,084
Town of Whitakers	498	424	85.10%	$121,376	57	11.40%	$24,454	17	3.40%	$5,655	498	100%	$151,485
Unincorporated Nash County	23,157	17,813	76.90%	$4,861,561	5,050	21.80%	$750,402	290	1.30%	$722,317	23,153	100%	$6,334,280
Unincorporated Edgecombe County	12,695	9,849	77.60%	$5,924,636	2,708	21.30%	$5,836,115	138	1.10%	$194,085	12,695	100%	$11,954,836
Unincorporated Wilson County	12,823	10,203	79.60%	$7,799,183	2,454	19.10%	$2,187,955	163	1.30%	$289,509	12,820	100%	$10,276,647
Region Total	**120,281**	**100,174**	**83.30%**	**$44,119,558**	**17,918**	**14.90%**	**$19,045,849**	**2,103**	**1.70%**	**$3,741,006**	**120,195**	**99.90%**	**$66,906,408**

Source: NCEM Risk Management Tool

Table 4.59 – 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
City of Rocky Mount	27,811	24,659	88.70%	$15,347,980	2,610	9.40%	$8,816,278	498	1.80%	$2,563,801	27,767	99.80%	$26,728,059
City of Wilson	20,337	17,630	86.70%	$23,628,467	2,188	10.80%	$13,644,493	491	2.40%	$2,877,279	20,309	99.90%	$40,150,239
Town of Bailey	1,010	788	78%	$434,482	205	20.30%	$137,076	17	1.70%	$20,331	1,010	100%	$591,890
Town of Black Creek	747	672	90%	$1,209,102	57	7.60%	$113,023	18	2.40%	$194,385	747	100%	$1,516,509
Town of Castalia	195	165	84.60%	$86,405	21	10.80%	$13,701	9	4.60%	$53,049	195	100%	$153,154
Town of Conetoe	190	159	83.70%	$355,651	24	12.60%	$84,222	7	3.70%	$12,204	190	100%	$452,077
Town of Dortches	578	467	80.80%	$382,958	105	18.20%	$113,725	6	1%	$32,862	578	100%	$529,545
Town of Elm City	1,008	857	85%	$1,487,068	122	12.10%	$1,214,500	29	2.90%	$179,207	1,008	100%	$2,880,775
Town of Leggett	166	109	65.70%	$149,349	48	28.90%	$11,347	9	5.40%	$91,168	166	100%	$251,865
Town of Lucama	936	824	88%	$1,402,258	87	9.30%	$169,839	25	2.70%	$137,197	936	100%	$1,709,294
Town of Macclesfield	304	253	83.20%	$391,449	46	15.10%	$52,323	5	1.60%	$8,540	304	100%	$452,311

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 Middlesex	1,070	864	80.70%	$443,725	179	16.70%	$204,819	27	2.50%	$61,279	1,070	100%	$709,823
Town of Momeyer	408	324	79.40%	$176,038	79	19.40%	$43,777	5	1.20%	$109,916	408	100%	$329,731
Town of Nashville	2,959	2,585	87.40%	$1,654,884	310	10.50%	$561,799	64	2.20%	$397,660	2,959	100%	$2,614,343
Town of Pinetops	1,067	903	84.60%	$1,299,479	146	13.70%	$282,229	18	1.70%	$62,675	1,067	100%	$1,644,383
Town of Princeville	1,054	976	92.60%	$860,824	67	6.40%	$113,715	11	1%	$26,643	1,054	100%	$1,001,183
Town of Red Oak	1,717	1,524	88.80%	$1,150,885	181	10.50%	$246,066	12	0.70%	$116,455	1,717	100%	$1,513,406
Town of Saratoga	469	411	87.60%	$716,163	48	10.20%	$87,088	10	2.10%	$30,311	469	100%	$833,562
Town of Sharpsburg	1,502	1,297	86.40%	$1,202,015	191	12.70%	$652,975	14	0.90%	$135,455	1,502	100%	$1,990,445
Town of Sims	368	299	81.20%	$244,600	58	15.80%	$47,503	11	3%	$4,947	368	100%	$297,051
Town of Speed	178	139	78.10%	$153,917	32	18%	$11,438	7	3.90%	$8,682	178	100%	$174,038
Town of Spring Hope	1,240	1,031	83.10%	$637,394	176	14.20%	$127,125	33	2.70%	$48,642	1,240	100%	$813,161
Town of Stantonsburg	602	495	82.20%	$956,959	88	14.60%	$138,641	19	3.20%	$98,486	602	100%	$1,194,086
Town of Tarboro	5,192	4,454	85.80%	$5,399,507	581	11.20%	$5,624,723	150	2.90%	$1,015,895	5,185	99.90%	$12,040,125
Town of Whitakers	498	424	85.10%	$296,132	57	11.40%	$102,783	17	3.40%	$23,832	498	100%	$422,746
Unincorporated Nash County	23,157	17,813	76.90%	$11,137,968	5,050	21.80%	$2,956,565	290	1.30%	$2,564,087	23,153	100%	$16,658,620
Unincorporated Edgecombe County	12,695	9,849	77.60%	$14,950,994	2,708	21.30%	$12,694,811	138	1.10%	$579,325	12,695	100%	$28,225,130
Unincorporated Wilson County	12,823	10,203	79.60%	$19,268,676	2,454	19.10%	$6,786,253	163	1.30%	$1,057,541	12,820	100%	$27,112,471
Region Total	**120,281**	**100,174**	**83.30%**	**$105,425,329**	**17,918**	**14.90%**	**$55,052,837**	**2,103**	**1.70%**	**$12,511,854**	**120,195**	**99.90%**	**$172,990,022**

Source: NCEM Risk Management Tool

Table 4.60 – 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
City of Rocky Mount	27,811	24,659	88.70%	$98,482,777	2,610	9.40%	$75,127,345	498	1.80%	$20,274,247	27,767	99.80%	$193,884,369
City of Wilson	20,337	17,630	86.70%	$64,961,399	2,188	10.80%	$40,686,189	491	2.40%	$8,470,081	20,309	99.90%	$114,117,669

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 Bailey	1,010	788	78%	$2,581,652	205	20.30%	$1,528,812	17	1.70%	$263,981	1,010	100%	$4,374,446
Town of Black Creek	747	672	90%	$3,782,629	57	7.60%	$374,637	18	2.40%	$701,423	747	100%	$4,858,689
Town of Castalia	195	165	84.60%	$251,539	21	10.80%	$76,703	9	4.60%	$245,335	195	100%	$573,577
Town of Conetoe	190	159	83.70%	$1,104,673	24	12.60%	$326,695	7	3.70%	$39,594	190	100%	$1,470,963
Town of Dortches	578	467	80.80%	$2,277,092	105	18.20%	$1,151,409	6	1%	$239,998	578	100%	$3,668,500
Town of Elm City	1,008	857	85%	$4,192,065	122	12.10%	$3,372,693	29	2.90%	$638,554	1,008	100%	$8,203,313
Town of Leggett	166	109	65.70%	$513,344	48	28.90%	$67,267	9	5.40%	$356,809	166	100%	$937,419
Town of Lucama	936	824	88%	$4,041,427	87	9.30%	$561,115	25	2.70%	$444,427	936	100%	$5,046,968
Town of Macclesfield	304	253	83.20%	$1,159,990	46	15.10%	$185,949	5	1.60%	$36,745	304	100%	$1,382,684
Town of Middlesex	1,070	864	80.70%	$2,755,624	179	16.70%	$1,993,965	27	2.50%	$635,965	1,070	100%	$5,385,554
Town of Momeyer	408	324	79.40%	$963,602	79	19.40%	$438,552	5	1.20%	$1,074,367	408	100%	$2,476,522
Town of Nashville	2,959	2,585	87.40%	$9,867,124	310	10.50%	$5,615,016	64	2.20%	$3,230,443	2,959	100%	$18,712,583
Town of Pinetops	1,067	903	84.60%	$3,737,480	146	13.70%	$904,406	18	1.70%	$240,727	1,067	100%	$4,882,613
Town of Princeville	1,054	976	92.60%	$2,150,623	67	6.40%	$407,394	11	1%	$107,001	1,054	100%	$2,665,018
Town of Red Oak	1,717	1,524	88.80%	$7,273,638	181	10.50%	$2,146,434	12	0.70%	$651,136	1,717	100%	$10,071,209
Town of Saratoga	469	411	87.60%	$2,022,041	48	10.20%	$270,622	10	2.10%	$103,752	469	100%	$2,396,415
Town of Sharpsburg	1,502	1,297	86.40%	$5,080,879	191	12.70%	$2,914,113	14	0.90%	$529,696	1,502	100%	$8,524,688
Town of Sims	368	299	81.20%	$1,536,961	58	15.80%	$530,584	11	3%	$106,772	368	100%	$2,174,318
Town of Speed	178	139	78.10%	$414,301	32	18%	$38,010	7	3.90%	$26,169	178	100%	$478,480
Town of Spring Hope	1,240	1,031	83.10%	$3,915,140	176	14.20%	$1,454,633	33	2.70%	$502,363	1,240	100%	$5,872,135
Town of Stantonsburg	602	495	82.20%	$2,808,639	88	14.60%	$478,190	19	3.20%	$307,552	602	100%	$3,594,381
Town of Tarboro	5,192	4,454	85.80%	$14,213,109	581	11.20%	$15,541,717	150	2.90%	$2,883,261	5,185	99.90%	$32,638,086
Town of Whitakers	498	424	85.10%	$2,496,929	57	11.40%	$1,117,586	17	3.40%	$259,512	498	100%	$3,874,028
Unincorporated Nash County	23,157	17,813	76.90%	$71,572,142	5,050	21.80%	$26,433,801	290	1.30%	$18,172,604	23,153	100%	$116,178,548
Unincorporated Edgecombe County	12,695	9,849	77.60%	$49,585,507	2,708	21.30%	$25,457,731	138	1.10%	$2,156,493	12,695	100%	$77,199,731
Unincorporated Wilson County	12,823	10,203	79.60%	$61,685,933	2,454	19.10%	$22,104,090	163	1.30%	$3,988,000	12,820	100%	$87,778,024
Region Total	**120,281**	**100,174**	**83.30%**	**$425,428,259**	**17,918**	**14.90%**	**$231,305,658**	**2,103**	**1.70%**	**$66,687,007**	**120,195**	**99.90%**	**$723,420,930**

Source: NCEM Risk Management Tool

Table 4.61 – 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
City of Rocky Mount	27,811	24,659	88.70%	$268,572,093	2,610	9.40%	$191,539,330	498	1.80%	$51,549,705	27,767	99.80%	$511,661,129
City of Wilson	20,337	17,630	86.70%	$179,746,005	2,188	10.80%	$106,308,583	491	2.40%	$22,205,844	20,309	99.90%	$308,260,431
Town of Bailey	1,010	788	78%	$7,054,625	205	20.30%	$4,087,280	17	1.70%	$685,555	1,010	100%	$11,827,460
Town of Black Creek	747	672	90%	$10,076,088	57	7.60%	$979,677	18	2.40%	$1,798,867	747	100%	$12,854,632
Town of Castalia	195	165	84.60%	$592,370	21	10.80%	$144,019	9	4.60%	$567,555	195	100%	$1,303,945
Town of Conetoe	190	159	83.70%	$2,985,425	24	12.60%	$878,942	7	3.70%	$105,880	190	100%	$3,970,247
Town of Dortches	578	467	80.80%	$6,154,460	105	18.20%	$3,046,830	6	1%	$585,658	578	100%	$9,786,947
Town of Elm City	1,008	857	85%	$10,602,538	122	12.10%	$8,062,131	29	2.90%	$1,706,536	1,008	100%	$20,371,205
Town of Leggett	166	109	65.70%	$1,420,963	48	28.90%	$174,785	9	5.40%	$1,005,629	166	100%	$2,601,377
Town of Lucama	936	824	88%	$10,760,915	87	9.30%	$1,481,045	25	2.70%	$1,218,856	936	100%	$13,460,816
Town of Macclesfield	304	253	83.20%	$3,192,302	46	15.10%	$501,675	5	1.60%	$110,172	304	100%	$3,804,149
Town of Middlesex	1,070	864	80.70%	$7,285,635	179	16.70%	$5,197,715	27	2.50%	$1,762,515	1,070	100%	$14,245,864
Town of Momeyer	408	324	79.40%	$2,624,276	79	19.40%	$1,251,120	5	1.20%	$2,708,330	408	100%	$6,583,727
Town of Nashville	2,959	2,585	87.40%	$26,828,498	310	10.50%	$14,794,974	64	2.20%	$8,311,538	2,959	100%	$49,935,010
Town of Pinetops	1,067	903	84.60%	$9,873,088	146	13.70%	$2,471,776	18	1.70%	$726,429	1,067	100%	$13,071,292
Town of Princeville	1,054	976	92.60%	$5,714,258	67	6.40%	$1,170,107	11	1%	$332,583	1,054	100%	$7,216,948
Town of Red Oak	1,717	1,524	88.80%	$16,388,976	181	10.50%	$3,937,340	12	0.70%	$837,587	1,717	100%	$21,163,903
Town of Saratoga	469	411	87.60%	$5,129,737	48	10.20%	$703,977	10	2.10%	$272,412	469	100%	$6,106,126
Town of Sharpsburg	1,502	1,297	86.40%	$13,298,094	191	12.70%	$7,227,452	14	0.90%	$1,245,839	1,502	100%	$21,771,385
Town of Sims	368	299	81.20%	$4,005,578	58	15.80%	$1,385,240	11	3%	$344,390	368	100%	$5,735,208
Town of Speed	178	139	78.10%	$1,070,295	32	18%	$108,144	7	3.90%	$72,456	178	100%	$1,250,895
Town of Spring Hope	1,240	1,031	83.10%	$9,926,051	176	14.20%	$3,909,565	33	2.70%	$1,241,605	1,240	100%	$15,077,221
Town of Stantonsburg	602	495	82.20%	$7,793,103	88	14.60%	$1,306,935	19	3.20%	$776,603	602	100%	$9,876,641
Town of Tarboro	5,192	4,454	85.80%	$39,694,883	581	11.20%	$39,281,986	150	2.90%	$7,244,580	5,185	99.90%	$86,221,450
Town of Whitakers	498	424	85.10%	$6,416,500	57	11.40%	$2,823,928	17	3.40%	$696,994	498	100%	$9,937,423
Unincorporated Nash County	23,157	17,813	76.90%	$165,686,665	5,050	21.80%	$52,563,890	290	1.30%	$40,809,879	23,153	100%	$259,060,433
Unincorporated Edgecombe County	12,695	9,849	77.60%	$127,807,191	2,708	21.30%	$48,094,535	138	1.10%	$5,611,388	12,695	100%	$181,513,114

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
Unincorporated Wilson County	12,823	10,203	79.60%	$157,920,774	2,454	19.10%	$58,764,525	163	1.30%	$11,332,270	12,820	100%	$228,017,569
Region Total	**120,281**	**100,174**	**83.30%**	**$1,108,621,386**	**17,918**	**14.90%**	**$562,197,506**	**2,103**	**1.70%**	**$165,867,655**	**120,195**	**99.90%**	**$1,836,686,547**

Source: NCEM Risk Management Tool

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.

Consequence Analysis

Table 4.62 summarizes the potential negative consequences of hurricanes and tropical storms.

Table 4.62 – Consequence Analysis – Hurricane and Tropical Storm

Category	Consequences
Public	Impacts include injury or death, loss of property, outbreak of diseases, mental trauma and loss of livelihoods. Power outages and flooding are likely to displace people from their homes. Water can become polluted such that if consumed, diseases and infection can be easily spread. 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.
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 from flooding or 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.
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.
Environment	Hurricanes can devastate wooded ecosystems and remove all the foliation from forest canopies, and they can change habitats so drastically that the indigenous animal populations suffer as a result. Specific foods can be taken away as high winds will often strip fruits, seeds and berries from bushes and trees. Secondary impacts may occur; for example, high winds and debris may result in damage to an above-ground fuel tank, resulting in a significant chemical spill.
Economic Condition of the Jurisdiction	Local economy and finances adversely affected, possibly for an extended period of time, depending on damages. Intangible impacts also likely, including business interruption and additional living expenses.
Public Confidence in the Jurisdiction's Governance	Likely to impact public confidence due to possibility of major event requiring substantial response and long-term recovery effort.

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; however, impacts may be greater in more highly developed areas with greater amounts of impervious surface and higher exposure in terms of both property and population density. Additionally, mobile home units are more vulnerable to wind damage. Mobile home units make up greater than 20 percent of the housing stock in Edgecombe County, Black Creek, Castalia, Conetoe, Lucama, Momeyer, Princeville, and Speed. In Lucama and Princeville, there are over 300 mobile home units in total.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	3	4	4	1	3	3.3	H
Wilson	3	4	4	1	3	3.3	H
Bailey	3	3	4	1	3	3.0	H
Black Creek	3	4	4	1	3	3.3	H
Castalia	3	4	4	1	3	3.3	H
Conetoe	3	4	4	1	3	3.3	H
Dortches	3	3	4	1	3	3.0	H
Elm City	3	3	4	1	3	3.0	H
Leggett	3	3	4	1	3	3.0	H
Lucama	3	4	4	1	3	3.3	H
Macclesfield	3	3	4	1	3	3.0	H
Middlesex	3	3	4	1	3	3.0	H
Momeyer	3	4	4	1	3	3.3	H
Nashville	3	3	4	1	3	3.0	H
Pinetops	3	3	4	1	3	3.0	H
Princeville	3	4	4	1	3	3.3	H
Red Oak	3	3	4	1	3	3.0	H
Saratoga	3	3	4	1	3	3.0	H
Sharpsburg	3	3	4	1	3	3.0	H
Sims	3	3	4	1	3	3.0	H
Speed	3	4	4	1	3	3.3	H
Spring Hope	3	3	4	1	3	3.0	H
Stantonsburg	3	3	4	1	3	3.0	H
Tarboro	3	3	4	1	3	3.0	H
Whitakers	3	3	4	1	3	3.0	H
Nash County	3	3	4	1	3	3.0	H
Edgecombe County	3	4	4	1	3	3.3	H
Wilson County	3	3	4	1	3	3.0	H

4.5.7 Severe Weather (Thunderstorm Winds, Lightning, Hail and Fog)

Hazard Background

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, 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

Fog

Fog, as defined by the American Meteorological Society, is water droplets suspended in the atmosphere at or near the earth's surface. Fog differs from clouds only in that the base of fog is at the earth's surface. Fog originates when the temperature and dewpoint of air become identical, or nearly identical. This can occur through the cooling of air to beyond its dewpoint (as is the case for advection, radiation, and upslope fog), or adding moisture and elevating the dewpoint (as is the case for steam or frontal fog). For fog to form, the difference between dewpoint and air temperature should be no more than 4° F. Fog can be hazardous when it significantly reduces visibility. Fog is particularly concerning in the region due to the potential disruptions it may cause to hospital operations and transportation.

There are several types of fog possible. According to the National Weather Service, these include radiation, precipitation, advection, steam/frontal, upslope, valley, freezing, and ice fog. According the region's previous plan, the region is likely to only experience the following types of fog:

- **Radiation Fog –** Radiation fog occurs at night when radiational cooling caused by the release of heat absorbed by the earth's surface during the day reduces the air temperature to or below its dewpoint. Radiation fog is a nighttime occurrent usually, but it may begin to form in the evening and often does not dissipate until after sunrise. Radiation fog usually remains stationary. This is the most likely form of fog in the planning area.
- **Advection Fog –** Advection fog forms as warm, moist air moves over a colder ground. The air is then cooled to saturation by the by the cold air from the ground below. Advection fog may be pushed by low level winds.
- **Freezing Fog –** Freezing fog occurs when water droplets are supercooled. These fog droplets remain in a liquid state until they come into contact with a surface on which they can freeze,

including roadways, vehicles, walkways and stairs, and trees. Freezing fog can cause the formation of black ice.

- **Steam/Frontal Fog –** Also known as evaporation or mixing fog, this fog forms when sufficient water vapor is added to the air by evaporation and the moist air then mixes with cooler, relatively drier air.

Warning Time: 4 – Less than 6 hours

Duration: 1 – Less than 6 hours

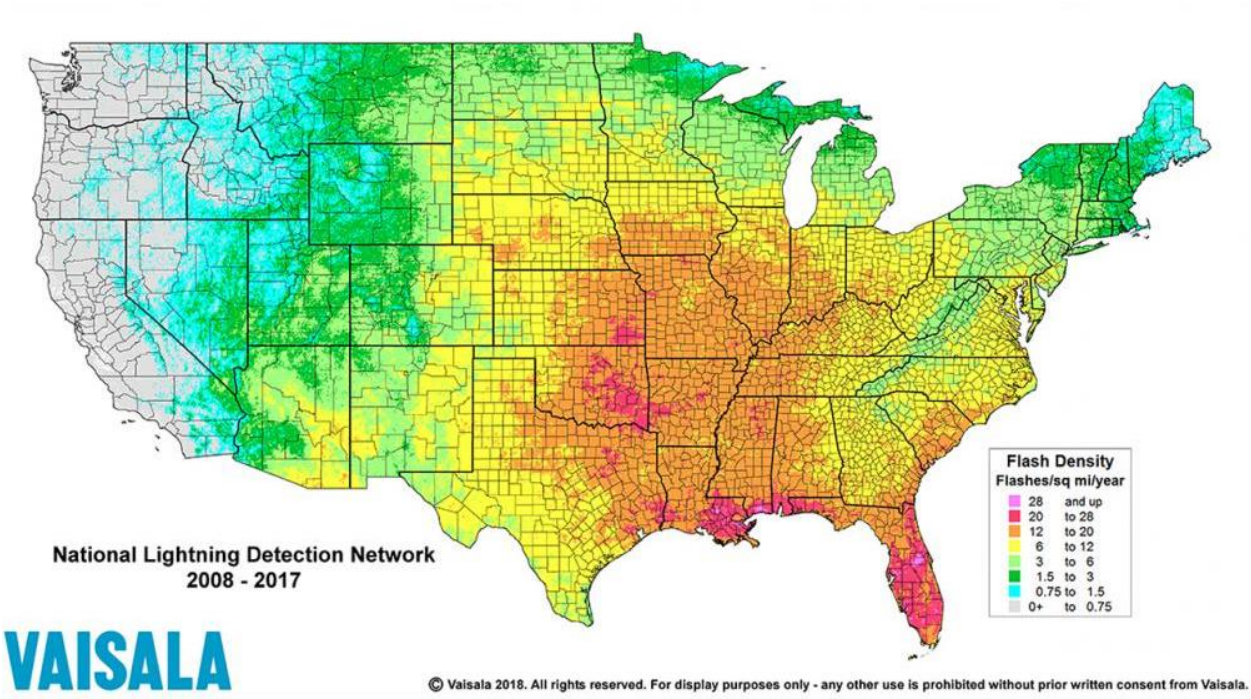
Location

Thunderstorm wind, lightning, hail, and fog events do not have a defined vulnerability zone. The scope of lightning and hail is generally defined to the footprint of its associated thunderstorm. The entirety of the N.E.W. Region shares equal risk to the threat of severe weather.

While fog can occur anywhere in the planning region, and it is possible for widespread fog to encompass the entire region on occasion, the formation of fog is enhanced by the presence of water bodies and once formed fog is likely to accumulate in lower-lying areas. Therefore, fog is more likely to occur in lower-lying regions or around water bodies.

According to the Vaisala flash density map, shown in Figure 4.30, the majority of the N.E.W. Region is located in an area that experiences between 6 and 12 lightning flashes per square mile per year. It should be noted that future lightning occurrences may exceed these figures.

Figure 4.30 – Lightning Flash Density (2008-2017)



Source: Vaisala

Extent

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. Hurricane Wind and Tornadoes are addressed as individual hazards. 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 May 21, 2000 with an estimated gust of 92 mph in Tarboro. Overall, the event caused $55,000 in property damage, including damage to 25 homes and farmhouses.

Impact: 2 – Limited

Spatial Extent: 4 – Large

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 4.63 – 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

While the total area vulnerable to a lightning strike corresponds to the footprint of a given thunderstorm, a specific lightning strike is usually a localized event and occurs randomly. 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 N.E.W. Region is considered uniformly exposed to the threat of lightning.

Spatial Extent: 1 – Negligible

Hail

The National Weather Service classifies hail by diameter size and corresponding everyday objects to help relay scope and severity to the population. Table 4.64 indicates the hailstone measurements utilized by the National Weather Service.

Table 4.64 – 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

Source: National Weather Service

The Tornado and Storm Research Organization (TORRO) has further described hail sizes by their typical damage impacts. Table 4.65 describes typical intensity and damage impacts of the various sizes of hail.

Table 4.65 – 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
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

Intensity Category	Diameter (mm)	Diameter (inches)	Size Description	Typical Damage Impacts
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 2018 in the N.E.W. Region was a little over 1" in diameter. The largest hailstones recorded during this period were 2.75", recorded on two separate dates. Very little damage was reported due to hail in the region. The worst instance occurred on April 25, 2010 in Nash County. The hail broke a window and cracked vinyl siding on a mobile home causing $5,000 worth of damage.

Impact: 1 – Minor

Hailstorms frequently accompany thunderstorms, so their locations and spatial extents coincide. The N.E.W. Region is uniformly exposed to severe thunderstorms; therefore, the entire planning area is equally exposed to hail which may be produced by such storms. However, large-scale hail tends to occur in a more localized area within the storm.

Spatial Extent: 2 – Small

Fog

Fog is generally measured by its effect on visibility. Damage and injuries as a result of fog are generally associated with automobile or other transportation accidents. The National Weather Service may issue two types of advisories:

- **Dense Fog Advisory –** Issued when widespread dense fog develops. Visibility often drops to ¼ mile or less. Such conditions make travel difficult and extra caution should be taken when driving.
- **Freezing Fog Advisory –** Issued when fog develops and surface temperatures are at or below freezing. Freezing fog makes transportation particularly hazardous, especially with the formation of black ice. Visibilities are typically at or below 1 mile.

Impact: 1 – Minor

Spatial Extent: 2 – Small

Historical Occurrences

Thunderstorm Winds

Between January 1, 1999 and December 31, 2018, NCEI recorded 345 incidents of high winds, strong winds, and thunderstorm winds, occurring on 165 separate days. These events caused $2,679,500 in recorded property damage, $43,033,000 in recorded crop damage, 1 injury, and 1 fatality. The gusts averaged 55 mph, with the highest gust recorded at 92 mph. Of these events, 96 caused property damage. Events with property damage recorded averaged $27,911 in damage, with ten gusts causing a reported $1,000,000 or greater in damage each. All incidents causing property damage are recorded below in Table 4.66:

Table 4.66 – Recorded Wind Events with Property Damages in the N.E.W. Region, 1999-2018

Location	Date	Time	Wind Speed (mph)	Fatalities	Injuries	Property Damage
Wilson	8/26/1999	1425	-	0	0	$5,000
Tarboro	5/21/2000	2100	92	0	0	$55,000
Macclesfield	5/2/2004	1405	69	0	0	$15,000
Leggett	7/21/2005	1955	69	0	0	$250,000
Edgecombe (Zone)	2/10/2008	1200	49	0	0	$5,000
Nash (Zone)	2/10/2008	1200	49	0	0	$5,000
Wilson (Zone)	2/10/2008	1200	49	0	0	$100,000
Edgecombe (Zone)	9/6/2008	800	45	0	0	$100,000
Wilson (Zone)	9/6/2008	800	40	0	0	$50,000
Nash (Zone)	9/6/2008	800	40	0	0	$50,000
Leggett	11/15/2008	410	69	0	0	$15,000
Wilson (Zone)	1/7/2009	800	55	0	0	$5,000
Edgecombe (Zone)	1/7/2009	800	51	0	0	$1,000
Nash (Zone)	1/7/2009	800	49	0	0	$1,000
Nash (Zone)	1/7/2009	1740	62	0	0	$15,000
Wilson (Zone)	1/7/2009	1746	62	0	0	$15,000
Edgecombe (Zone)	1/7/2009	1746	62	0	0	$30,000
Wiggins Xrds	5/6/2009	1500	69	0	0	$30,000
Heartsease	5/29/2009	1842	67	0	0	$30,000
Pinetops	7/1/2009	1910	58	0	0	$2,000
Speed	7/31/2009	1430	58	0	0	$15,000
Edgecombe (Zone)	11/11/2009	1200	40	0	0	$1,000
Wilson (Zone)	11/11/2009	1200	40	0	0	$1,000
Nash (Zone)	11/11/2009	1200	40	0	0	$1,000
Wilson (Zone)	12/9/2009	1000	46	0	0	$1,000
Nash (Zone)	12/9/2009	1000	46	0	0	$1,000
Edgecombe (Zone)	12/9/2009	1000	46	0	0	$1,000
Wilson (Zone)	2/10/2010	1200	58	0	0	$1,000
Nash (Zone)	2/10/2010	1200	58	0	0	$1,000
Edgecombe (Zone)	2/10/2010	1200	58	0	0	$1,000
Fraziers Xrds	4/25/2010	1915	64	0	0	$2,500
Wilson	6/13/2010	1715	58	0	0	$5,000
Wilson	3/10/2011	1705	58	0	0	$3,000
Town Creek	3/10/2011	1720	58	0	0	$5,000
Stanhope	4/5/2011	348	58	0	0	$20,000
Edgecombe (Zone)	4/28/2011	950	56	0	0	$3,000
Wilson	7/23/2011	1505	58	0	0	$10,000
Holdens Xrds	8/12/2011	1135	58	0	0	$1,500
Stantonsburg	8/12/2011	1150	69	0	0	$30,000
Nash (Zone)	8/27/2011	300	60	1	0	$350,000
Wilson (Zone)	8/27/2011	300	60	0	0	$350,000
Edgecombe (Zone)	8/27/2011	400	60	0	0	$350,000
Buckhorn Xrds	5/4/2012	1832	58	0	0	$2,500
Mt Pleasant	6/1/2012	1608	58	0	0	$40,000
Taylors Xrds	7/1/2012	1423	58	0	0	$2,500
Town Creek	7/1/2012	1437	58	0	0	$10,000
Hickory	7/1/2012	1444	58	0	0	$10,000
Hickory	7/1/2012	1444	58	0	0	$5,000

Location	Date	Time	Wind Speed (mph)	Fatalities	Injuries	Property Damage
Wilson	7/1/2012	1445	58	0	0	$5,000
Pinetops	7/1/2012	1455	58	0	0	$100,000
Samaria	7/4/2012	1520	58	0	0	$2,000
Black Creek	7/4/2012	1613	58	0	0	$2,000
Bailey	7/23/2012	1838	58	0	0	$4,000
Rock Ridge	7/23/2012	1850	58	0	0	$2,000
Rocky Mt	7/24/2012	1544	58	0	0	$2,000
Conetoe	7/24/2012	1554	58	0	0	$2,000
Wilson (Zone)	1/30/2013	2120	46	0	0	$750
Middlesex	6/13/2013	1700	58	0	0	$1,000
Saratoga	6/13/2013	1740	58	0	0	$15,000
Whitakers	6/18/2013	1842	58	0	0	$1,000
Black Creek	8/10/2013	1740	58	0	0	$1,000
Nashville	1/11/2014	1440	58	0	0	$500
Rocky Mt	1/11/2014	1450	58	0	0	$5,000
Samaria	7/10/2014	1656	58	0	0	$500
Westry	8/18/2014	1820	58	0	0	$5,000
Little Easonburg	8/18/2014	1820	58	0	0	$1,000
Elm City	4/14/2015	1830	58	0	0	$10,000
Stotts Xrds	5/10/2015	1807	58	0	0	$15,000
Salem	6/20/2015	2125	58	0	0	$2,500
Wilson	7/18/2015	1440	58	0	0	$10,000
Nash (Zone)	10/2/2015	1900	40	0	0	$500
Tarboro Arpt	2/24/2016	1855	58	0	0	$15,000
Nash (Zone)	4/9/2016	900	45	0	0	$10,000
Wilson (Zone)	4/9/2016	900	40	0	0	$10,000
Edgecombe (Zone)	4/9/2016	900	44	0	0	$10,000
Bailey	6/22/2016	2215	58	0	0	$750
Hillirdston	7/8/2016	1756	58	0	0	$2,000
Tarboro	7/8/2016	1925	58	0	0	$5,000
Wiggins Xrds	7/16/2016	1644	58	0	0	$2,500
Nash (Zone)	10/8/2016	1100	45	0	0	$100,000
Edgecombe (Zone)	10/8/2016	1100	45	0	0	$100,000
Wilson (Zone)	10/8/2016	1100	52	0	0	$150,000
Middlesex	5/5/2017	449	58	0	0	$2,500
Nashville	5/5/2017	510	58	0	0	$10,000
Little Easonburg	6/5/2017	1640	58	0	0	$10,000
Samaria	7/8/2017	1720	58	0	0	$2,000
Strickland Xrds	7/8/2017	1842	58	0	0	$1,000
Spring Hope	7/23/2017	1818	58	0	0	$1,000
Pinetops	7/23/2017	1830	58	0	0	$1,000
New Hope	7/23/2017	1850	58	0	0	$10,000
Edgecombe (Zone)	3/2/2018	930	40	0	0	$1,500
Nash (Zone)	3/2/2018	1000	40	0	0	$10,000
Wilson (Zone)	3/2/2018	1000	40	0	0	$10,000
Samaria	4/15/2018	2145	58	0	0	$20,000
Leggett	5/10/2018	1859	58	0	0	$2,000
Spring Hope	9/27/2018	1929	58	0	0	$2,500
Total				**0**	**0**	$2,679,500

Source: NCEI

During this time period, nine events also caused crop damage totaling $43,033,000. These incidents are recorded below in Table 4.67:

Table 4.67 – Recorded Wind Events with Crop Damages in the N.E.W. Region, 1999-2018

Location	Date	Time	Wind Speed (mph)	Fatalities	Injuries	Crop Damage
Edgecombe (Zone)	11/22/2006	645	44	0	0	$1,000
Edgecombe (Zone)	4/16/2007	1030	52	0	0	$5,000
Wilson (Zone)	4/16/2007	1037	47	0	0	$5,000
Nash (Zone)	4/16/2007	1100	52	0	0	$5,000
Edgecombe (Zone)	1/7/2009	1746	62	0	0	$10,000
Edgecombe (Zone)	8/27/2011	400	60	0	0	$43,000,000
Wilson	7/5/2016	1743	58	0	0	$1,000
Lamms Xrds	7/5/2016	1809	58	0	0	$1,000
Spring Hope	7/15/2016	1715	58	0	0	$5,000
Total				**0**	**0**	**$43,033,000**

Source: NCEI

Of all 345 wind events during this period, there were 2 incidents that directly caused deaths or injuries. These incidents are recorded below in Table 4.68:

Table 4.68 – Recorded Wind Events with Injuries and/or Fatalities, 1999-2018

Location	Date	Time	Wind Speed (mph)	Fatalities	Injuries	Property Damage
Saratoga	10/14/2003	2248	58	0	1	$0
Nash (Zone)	8/27/2011	300	60	1	0	$350,000
			Total	**1**	**1**	**$350,000**

Source: NCEI

Lightning

According to NCEI data, there were 8 lightning strikes reported between 1999 and 2018. Of these, six events caused recorded property damage totaling over $1.5 million. One additional event directly caused two injuries, but there were no reported fatalities due to lightning. 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 4.69 details NCEI-recorded lightning strikes from 1999 through 2018.

Table 4.69 – Recorded Lightning Strikes in the N.E.W. Region, 1999-2018

Location	Date	Time	Fatalities	Injuries	Property Damage
Rocky Mt	7/2/2002	1630	0	0	$25,000
Rocky Mt Wilson Arpt	7/11/2003	1900	0	2	$0
Salem	8/17/2003	1800	0	0	$710,000
Wilson	7/27/2005	2130	0	0	$20,000
Nashville	5/26/2006	2000	0	0	$0
Sims	6/13/2010	1830	0	0	$500,000
New Hope	6/10/2011	2030	0	0	$200,000
Samaria	6/20/2018	1714	0	0	$50,000
		Total	**0**	**2**	**$1,505,000**

Source: NCEI

The following are a selection of narrative descriptions recorded in NCEI for lightning events that occurred in the N.E.W. Region:

July 2, 2002 – Lightning started a fire and damaged home on Winchester Road in Rocky Mount.

July 11, 2003 – Two women were injured from a lightning strike in Rocky Mount.

August 17, 2003 – Lightning struck and elementary school in Salem. No injuries or deaths were reported, however this incident caused damages worth $710,000, the most of any lightning event in the region.

June 13, 2010 – A broken line of storms generated wind damage and intense lightning as they moved across much of Central North Carolina. In Sims, lightning struck the historic Nobles Chapel Baptist Church, resulting in a devastating fire. The entire church burned to the ground and was a total loss, including the sanctuary and fellowship hall. Damages were estimated at $500,000

June 10, 2011 – Scattered thunderstorms across the region lead to a lightning strike in New Hope causing a fire at the First Free Will Baptist Church. The building sustained heavy smoke and water damage.

Most recorded property damage attributed to lightning was due to structure fires ignited by lightning.

Hail

NCEI records 146 separate hail incidents across 79 days between January 1, 1999 and December 31, 2018 in the N.E.W. Region. Of these, only one event was 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 two separate occasions, both in Nash County. The average hail size in all storms was a little over one inch in diameter. Table 4.70 summarizes hail occurrences by county from 1999 through 2018.

Table 4.70 – Summary of Hail Occurrences by County, 1999-2018

County	Number of Occurrences	Average Hail Diameter	Total Property Damage
Nash County	62	1.03”	$5,000
Edgecombe County	47	0.98”	$0
Wilson County	37	1.04”	$0
Total	**146**	**1.02”**	**$5,000**

The following narratives provide detail on select hailstorms from the above list of NCEI recorded events:

May 25, 2001 – An estimated 150 acres of crops in the Tarboro area were damaged due to hail. NCEI does not report a dollar amount for this damage.

March 28, 2007 – A back-door cold front combined with moderate to strong instability from afternoon heating produced severe storms across northern portions of the piedmont and caused minor flooding from heavy rainfall and hail blocking street drains. Penny to baseball size hail was reported in all three counties, covering the ground in many instances. This event caused no reported damage.

April 25, 2010 - An isolated cell formed over Moore County in advance of a strong surface cold front in a high shear and moderate CAPE environment. The lone storm strengthened into a super cell over central Wake County before it produced a weak EF0 tornado near Zebulon in eastern Wake County. In Nash County, residents on Wroth Road reported quarter-size hail. The hail broke a window and cracked vinyl siding on a mobile home.

Fog

There are no reported dense fog events for the region in the NCEI database. According the Region’s previous plan, the Spatial Hazards Events and Losses Database for the United States (SHELDUS) reported one heavy (dense) fog event that impacted two of the three counties in the plan. This event occurred in February 1971, impacting a total of 68 counties. It caused 1 fatality, 300 injuries, and $50,000 in property

damages. However, due to the nature of the reporting tool, it is not certain if any of these damages occurred in the planning area.

Probability of Future Occurrence

Based on historical occurrences recorded by NCEI for the 20-year period from 1999 through 2018, the N.E.W. Region averaged 8.25 days with thunderstorm wind events per year. Over this same period, 7 lightning events were reported as having caused injury, or property damage, which equates to a 35 percent annual chance of a damaging lightning strike. Additionally, the region has averaged 3.95 days with reported hail incidents per year. There has only been one reported occurrence of fog in the region, however it is likely that fog occurs and is not reported.

Based on these historical occurrences, there is a 100% chance that the Region will experience severe weather each year. The probability of a damaging impacts is also highly likely.

Probability: 4 – Highly Likely

Climate Change

Research on the effects of climate change on severe weather is limited. However, according to the Fourth National Climate Assessment, some preliminary studies suggest that the frequency and intensity of severe thunderstorms may increase as the climate changes. Warm, moist air near the surface is a key ingredient of "convective available potential energy" or CAPE. Increases in air temperature and moisture content due to climate change may increase CAPE, making the atmosphere more conducive to the development of severe storms in the future. Conversely, warming in the arctic may result in less wind shear in the mid-latitudes, making storms less likely. Modeling consistently shows that climate change could increase the frequency and intensity of severe storms, but more research is needed to fully understand the implications of climate change on severe storms.

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, the 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 4.71 summarizes estimates of mobile home units in the N.E.W. Region by county as of 2017. Based on these figures, vulnerability is high in Edgecombe County, Conetoe, Princeville, Speed, Castalia, Momeyer, Black Creek, and Lucama, where mobile homes make up more than 20 percent of the housing stock. Additionally, there are over 1,900 mobile homes in Rocky Mount, though they account for only 7.2 percent of the housing stock.

Table 4.71 – Mobile Home Units in the N.E.W. Region, 2017

County	Total Mobile Home Units	Total Housing Units	Percent of Occupied Housing
Conetoe	75	151	49.7%
Leggett	1	16	6.3%
Macclesfield	42	271	15.5%
Pinetops	70	615	11.4%
Princeville	401	984	40.8%
Speed	21	45	46.7%
Tarboro	143	5,090	2.8%
Whitakers	44	438	10.0%
Rocky Mount	1,915	26,511	7.2%
Bailey	14	222	6.3%
Castalia	82	174	47.1%
Dortches	71	418	17.0%
Middlesex	59	466	12.7%
Momeyer	46	129	35.7%
Nashville	73	2,684	2.7%
Red Oak	268	1,566	17.1%
Sharpsburg	196	1,032	19.0%
Spring Hope	27	734	3.7%
Wilson	812	22,071	3.7%
Black Creek	100	289	34.6%
Elm City	69	671	10.3%
Lucama	336	543	61.9%
Saratoga	21	176	11.9%
Sims	4	150	2.7%
Stantonsburg	24	389	6.2%
Edgecombe County	**5,619**	**24,886**	**22.6%**
Nash County	**8,222**	**42,765**	**19.2%**
Wilson County	**4,891**	**35,879**	**13.6%**

Source: American Community Survey 2013-2017 5-Year Estimates

Since 1999, NCEI records two injuries attributed to lightning in the N.E.W. Region. NCEI records 1 fatality and 1 injury attributed to wind events in the Region. There are no injuries or fatalities attributed to hail.

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 $1,505,000 in property damages caused by lightning over the 20-year period from 1999-2018, which equates to an annualized loss of $75,250.

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 20-year span 1999 and 2018, NCEI reported only $5,000 in damages caused by hail in the N.E.W. Region. According to a National Insurance Crime Bureau (NICB) study of insurance claims from the Insurance Services Office (ISO) ClaimSearch database, between 2014 and 2016, North Carolina saw 45,274 separate hail damage claims.

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 damage, 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 increasing magnitudes of wind events, detailed in Table 4.72 through Table 4.76 Note that these tables sum the total estimated damage should every exposed property in each jurisdiction be impacted by an event of the given magnitude. Therefore, these tables are not an approximation of the total damages that would occur from an event of each magnitude because a thunderstorm wind event would not uniformly impact the entire Region. These tables should only be used to understand potential damages relative to storms of varying degrees of severity.

Table 4.72 – 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
City of Rocky Mount	27,811	24,659	88.70%	$6,095,916	2,610	9.40%	$2,391,884	498	1.80%	$755,498	27,767	99.80%	$9,243,299
City of Wilson	20,337	17,630	86.70%	$3,881,820	2,188	10.80%	$1,205,372	491	2.40%	$253,107	20,309	99.90%	$5,340,299
Town of Bailey	1,010	788	78%	$184,919	205	20.30%	$33,049	17	1.70%	$4,804	1,010	100%	$222,773
Town of Black Creek	747	672	90%	$183,422	57	7.60%	$12,095	18	2.40%	$8,449	747	100%	$203,966
Town of Castalia	195	165	84.60%	$36,402	21	10.80%	$4,147	9	4.60%	$12,317	195	100%	$52,866
Town of Conetoe	190	159	83.70%	$75,261	24	12.60%	$7,616	7	3.70%	$1,466	190	100%	$84,343
Town of Dortches	578	467	80.80%	$156,195	105	18.20%	$26,552	6	1%	$9,371	578	100%	$192,117
Town of Elm City	1,008	857	85%	$265,934	122	12.10%	$82,500	29	2.90%	$8,131	1,008	100%	$356,566
Town of Leggett	166	109	65.70%	$56,242	48	28.90%	$2,378	9	5.40%	$10,766	166	100%	$69,387
Town of Lucama	936	824	88%	$234,677	87	9.30%	$12,824	25	2.70%	$8,544	936	100%	$256,046
Town of Macclesfield	304	253	83.20%	$79,253	46	15.10%	$4,345	5	1.60%	$418	304	100%	$84,016
Town of Middlesex	1,070	864	80.70%	$183,748	179	16.70%	$50,274	27	2.50%	$14,671	1,070	100%	$248,692
Town of Momeyer	408	324	79.40%	$73,554	79	19.40%	$10,219	5	1.20%	$25,978	408	100%	$109,752
Town of Nashville	2,959	2,585	87.40%	$633,702	310	10.50%	$141,048	64	2.20%	$110,525	2,959	100%	$885,274
Town of Pinetops	1,067	903	84.60%	$215,168	146	13.70%	$19,553	18	1.70%	$3,827	1,067	100%	$238,548
Town of Princeville	1,054	976	92.60%	$221,991	67	6.40%	$15,745	11	1%	$2,821	1,054	100%	$240,557
Town of Red Oak	1,717	1,524	88.80%	$443,837	181	10.50%	$59,711	12	0.70%	$34,301	1,717	100%	$537,849
Town of Saratoga	469	411	87.60%	$118,918	48	10.20%	$10,665	10	2.10%	$1,531	469	100%	$131,114
Town of Sharpsburg	1,502	1,297	86.40%	$289,154	191	12.70%	$100,825	14	0.90%	$17,278	1,502	100%	$407,257
Town of Sims	368	299	81.20%	$82,535	58	15.80%	$11,081	11	3%	$1,356	368	100%	$94,973
Town of Speed	178	139	78.10%	$40,990	32	18%	$1,566	7	3.90%	$1,235	178	100%	$43,791
Town of Spring Hope	1,240	1,031	83.10%	$261,468	176	14.20%	$30,809	33	2.70%	$11,147	1,240	100%	$303,424
Town of Stantonsburg	602	495	82.20%	$158,732	88	14.60%	$12,271	19	3.20%	$5,414	602	100%	$176,417
Town of Tarboro	5,192	4,454	85.80%	$1,561,190	581	11.20%	$848,222	150	2.90%	$168,149	5,185	99.90%	$2,577,560
Town of Whitakers	498	424	85.10%	$121,376	57	11.40%	$24,454	17	3.40%	$5,655	498	100%	$151,485

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
Unincorporated Nash County	23,157	17,813	76.90%	$4,454,575	5,050	21.80%	$685,912	290	1.30%	$682,018	23,153	100%	$5,822,506
Unincorporated Edgecombe County	12,695	9,849	77.60%	$2,917,268	2,708	21.30%	$2,045,587	138	1.10%	$82,321	12,695	100%	$5,045,176
Unincorporated Wilson County	12,823	10,203	79.60%	$3,163,778	2,454	19.10%	$661,799	163	1.30%	$72,892	12,820	100%	$3,898,469
Region Total	**120,281**	**100,174**	**83.30%**	**$26,192,025**	**17,918**	**14.90%**	**$8,512,503**	**2,103**	**1.70%**	**$2,313,990**	**120,195**	**99.90%**	**$37,018,522**

Source: NCEM Risk Management Tool

Table 4.73 – 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
City of Rocky Mount	27,811	24,659	88.70%	$9,969,261	2,610	9.40%	$4,719,918	498	1.80%	$1,430,798	27,767	99.80%	$16,119,977
City of Wilson	20,337	17,630	86.70%	$6,462,131	2,188	10.80%	$2,343,041	491	2.40%	$496,384	20,309	99.90%	$9,301,555
Town of Bailey	1,010	788	78%	$292,155	205	20.30%	$68,396	17	1.70%	$9,756	1,010	100%	$370,306
Town of Black Creek	747	672	90%	$293,883	57	7.60%	$20,434	18	2.40%	$19,486	747	100%	$333,802
Town of Castalia	195	165	84.60%	$57,217	21	10.80%	$7,586	9	4.60%	$26,350	195	100%	$91,153
Town of Conetoe	190	159	83.70%	$119,565	24	12.60%	$17,274	7	3.70%	$3,151	190	100%	$139,990
Town of Dortches	578	467	80.80%	$253,042	105	18.20%	$57,174	6	1%	$17,758	578	100%	$327,974
Town of Elm City	1,008	857	85%	$411,459	122	12.10%	$173,304	29	2.90%	$18,365	1,008	100%	$603,129
Town of Leggett	166	109	65.70%	$81,895	48	28.90%	$5,205	9	5.40%	$23,087	166	100%	$110,187
Town of Lucama	936	824	88%	$377,260	87	9.30%	$24,591	25	2.70%	$18,496	936	100%	$420,348
Town of Macclesfield	304	253	83.20%	$118,379	46	15.10%	$7,469	5	1.60%	$812	304	100%	$126,660
Town of Middlesex	1,070	864	80.70%	$293,627	179	16.70%	$104,042	27	2.50%	$31,026	1,070	100%	$428,694
Town of Momeyer	408	324	79.40%	$117,734	79	19.40%	$22,089	5	1.20%	$55,803	408	100%	$195,625
Town of Nashville	2,959	2,585	87.40%	$1,065,003	310	10.50%	$290,357	64	2.20%	$216,595	2,959	100%	$1,571,956

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 Pinetops	1,067	903	84.60%	$342,342	146	13.70%	$40,085	18	1.70%	$7,261	1,067	100%	$389,687
Town of Princeville	1,054	976	92.60%	$371,970	67	6.40%	$30,364	11	1%	$6,049	1,054	100%	$408,382
Town of Red Oak	1,717	1,524	88.80%	$741,050	181	10.50%	$123,819	12	0.70%	$66,441	1,717	100%	$931,311
Town of Saratoga	469	411	87.60%	$191,937	48	10.20%	$17,761	10	2.10%	$3,372	469	100%	$213,070
Town of Sharpsburg	1,502	1,297	86.40%	$464,547	191	12.70%	$202,855	14	0.90%	$35,018	1,502	100%	$702,419
Town of Sims	368	299	81.20%	$128,275	58	15.80%	$22,551	11	3%	$2,447	368	100%	$153,274
Town of Speed	178	139	78.10%	$64,879	32	18%	$3,108	7	3.90%	$2,510	178	100%	$70,497
Town of Spring Hope	1,240	1,031	83.10%	$420,060	176	14.20%	$63,473	33	2.70%	$23,772	1,240	100%	$507,305
Town of Stantonsburg	602	495	82.20%	$257,374	88	14.60%	$21,560	19	3.20%	$11,802	602	100%	$290,735
Town of Tarboro	5,192	4,454	85.80%	$2,461,406	581	11.20%	$1,897,178	150	2.90%	$336,050	5,185	99.90%	$4,694,634
Town of Whitakers	498	424	85.10%	$191,370	57	11.40%	$51,452	17	3.40%	$11,953	498	100%	$254,775
Unincorporated Nash County	23,157	17,813	76.90%	$7,250,700	5,050	21.80%	$1,476,130	290	1.30%	$1,381,799	23,153	100%	$10,108,628
Unincorporated Edgecombe County	12,695	9,849	77.60%	$4,723,965	2,708	21.30%	$3,714,531	138	1.10%	$151,780	12,695	100%	$8,590,276
Unincorporated Wilson County	12,823	10,203	79.60%	$5,030,931	2,454	19.10%	$1,209,889	163	1.30%	$146,984	12,820	100%	$6,387,804
Region Total	**120,281**	**100,174**	**83.30%**	**$42,553,417**	**17,918**	**14.90%**	**$16,735,636**	**2,103**	**1.70%**	**$4,555,105**	**120,195**	**99.90%**	**$63,844,153**

Source: NCEM Risk Management Tool

Table 4.74 – 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
City of Rocky Mount	27,811	24,659	88.70%	$15,344,089	2,610	9.40%	$8,816,278	498	1.80%	$2,563,801	27,767	99.80%	$26,724,168
City of Wilson	20,337	17,630	86.70%	$10,057,763	2,188	10.80%	$4,360,887	491	2.40%	$927,805	20,309	99.90%	$15,346,455
Town of Bailey	1,010	788	78%	$434,482	205	20.30%	$137,076	17	1.70%	$20,331	1,010	100%	$591,890
Town of Black Creek	747	672	90%	$456,411	57	7.60%	$34,997	18	2.40%	$43,512	747	100%	$534,919
Town of Castalia	195	165	84.60%	$86,405	21	10.80%	$13,701	9	4.60%	$53,049	195	100%	$153,154
Town of Conetoe	190	159	83.70%	$119,565	24	12.60%	$17,274	7	3.70%	$3,151	190	100%	$139,990
Town of Dortches	578	467	80.80%	$382,958	105	18.20%	$113,725	6	1%	$32,862	578	100%	$529,545
Town of Elm City	1,008	857	85%	$612,931	122	12.10%	$354,890	29	2.90%	$40,636	1,008	100%	$1,008,457
Town of Leggett	166	109	65.70%	$81,895	48	28.90%	$5,205	9	5.40%	$23,087	166	100%	$110,187
Town of Lucama	936	824	88%	$578,400	87	9.30%	$47,152	25	2.70%	$37,784	936	100%	$663,336
Town of Macclesfield	304	253	83.20%	$170,349	46	15.10%	$13,792	5	1.60%	$1,732	304	100%	$185,873
Town of Middlesex	1,070	864	80.70%	$443,725	179	16.70%	$204,819	27	2.50%	$61,279	1,070	100%	$709,823
Town of Momeyer	408	324	79.40%	$176,038	79	19.40%	$43,777	5	1.20%	$109,916	408	100%	$329,731
Town of Nashville	2,959	2,585	87.40%	$1,654,884	310	10.50%	$561,799	64	2.20%	$397,660	2,959	100%	$2,614,343
Town of Pinetops	1,067	903	84.60%	$524,125	146	13.70%	$79,971	18	1.70%	$14,800	1,067	100%	$618,896
Town of Princeville	1,054	976	92.60%	$371,970	67	6.40%	$30,364	11	1%	$6,049	1,054	100%	$408,382
Town of Red Oak	1,717	1,524	88.80%	$1,150,885	181	10.50%	$246,066	12	0.70%	$116,455	1,717	100%	$1,513,406
Town of Saratoga	469	411	87.60%	$295,627	48	10.20%	$29,559	10	2.10%	$7,324	469	100%	$332,509
Town of Sharpsburg	1,502	1,297	86.40%	$715,792	191	12.70%	$375,580	14	0.90%	$66,532	1,502	100%	$1,157,904
Town of Sims	368	299	81.20%	$195,142	58	15.80%	$45,421	11	3%	$4,947	368	100%	$245,510
Town of Speed	178	139	78.10%	$64,879	32	18%	$3,108	7	3.90%	$2,510	178	100%	$70,497
Town of Spring Hope	1,240	1,031	83.10%	$637,394	176	14.20%	$127,125	33	2.70%	$48,642	1,240	100%	$813,161
Town of Stantonsburg	602	495	82.20%	$395,297	88	14.60%	$39,042	19	3.20%	$25,410	602	100%	$459,749
Town of Tarboro	5,192	4,454	85.80%	$2,468,111	581	11.20%	$1,905,923	150	2.90%	$336,050	5,185	99.90%	$4,710,084
Town of Whitakers	498	424	85.10%	$296,132	57	11.40%	$102,783	17	3.40%	$23,832	498	100%	$422,746

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
Unincorporated Nash County	23,157	17,813	76.90%	$11,133,452	5,050	21.80%	$2,955,742	290	1.30%	$2,564,087	23,153	100%	$16,653,281
Unincorporated Edgecombe County	12,695	9,849	77.60%	$6,415,491	2,708	21.30%	$5,910,334	138	1.10%	$218,313	12,695	100%	$12,544,138
Unincorporated Wilson County	12,823	10,203	79.60%	$7,802,111	2,454	19.10%	$2,187,955	163	1.30%	$289,509	12,820	100%	$10,279,575
Region Total	**120,281**	**100,174**	**83.30%**	**$63,066,303**	**17,918**	**14.90%**	**$28,764,345**	**2,103**	**1.70%**	**$8,041,065**	**120,195**	**99.90%**	**$99,871,709**

Source: NCEM Risk Management Tool

Table 4.75 – 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
City of Rocky Mount	27,811	24,659	88.70%	$35,861,251	2,610	9.40%	$26,748,541	498	1.80%	$7,340,613	27,767	99.80%	$69,950,405
City of Wilson	20,337	17,630	86.70%	$23,628,467	2,188	10.80%	$13,644,997	491	2.40%	$2,877,279	20,309	99.90%	$40,150,742
Town of Bailey	1,010	788	78%	$959,126	205	20.30%	$485,091	17	1.70%	$79,565	1,010	100%	$1,523,782
Town of Black Creek	747	672	90%	$1,209,102	57	7.60%	$113,023	18	2.40%	$194,385	747	100%	$1,516,509
Town of Castalia	195	165	84.60%	$207,432	21	10.80%	$44,130	9	4.60%	$182,917	195	100%	$434,479
Town of Conetoe	190	159	83.70%	$355,651	24	12.60%	$84,222	7	3.70%	$12,204	190	100%	$452,077
Town of Dortches	578	467	80.80%	$853,929	105	18.20%	$383,755	6	1%	$96,348	578	100%	$1,334,031
Town of Elm City	1,008	857	85%	$1,487,068	122	12.10%	$1,214,500	29	2.90%	$179,207	1,008	100%	$2,880,775
Town of Leggett	166	109	65.70%	$180,706	48	28.90%	$20,645	9	5.40%	$97,465	166	100%	$298,816
Town of Lucama	936	824	88%	$1,402,258	87	9.30%	$169,839	25	2.70%	$137,197	936	100%	$1,709,294
Town of Macclesfield	304	253	83.20%	$391,449	46	15.10%	$52,323	5	1.60%	$8,540	304	100%	$452,311
Town of Middlesex	1,070	864	80.70%	$1,016,860	179	16.70%	$676,800	27	2.50%	$206,597	1,070	100%	$1,900,257
Town of Momeyer	408	324	79.40%	$378,450	79	19.40%	$144,586	5	1.20%	$364,782	408	100%	$887,817
Town of Nashville	2,959	2,585	87.40%	$3,741,469	310	10.50%	$1,849,190	64	2.20%	$1,157,985	2,959	100%	$6,748,644

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 Pinetops	1,067	903	84.60%	$1,299,479	146	13.70%	$282,229	18	1.70%	$62,675	1,067	100%	$1,644,383
Town of Princeville	1,054	976	92.60%	$860,824	67	6.40%	$113,715	11	1%	$26,643	1,054	100%	$1,001,183
Town of Red Oak	1,717	1,524	88.80%	$2,670,105	181	10.50%	$806,956	12	0.70%	$288,118	1,717	100%	$3,765,179
Town of Saratoga	469	411	87.60%	$716,163	48	10.20%	$87,088	10	2.10%	$30,311	469	100%	$833,562
Town of Sharpsburg	1,502	1,297	86.40%	$1,777,537	191	12.70%	$1,087,167	14	0.90%	$197,229	1,502	100%	$3,061,933
Town of Sims	368	299	81.20%	$510,958	58	15.80%	$166,206	11	3%	$23,609	368	100%	$700,773
Town of Speed	178	139	78.10%	$153,917	32	18%	$11,438	7	3.90%	$8,682	178	100%	$174,038
Town of Spring Hope	1,240	1,031	83.10%	$1,454,741	176	14.20%	$453,206	33	2.70%	$170,094	1,240	100%	$2,078,041
Town of Stantonsburg	602	495	82.20%	$956,959	88	14.60%	$138,641	19	3.20%	$98,486	602	100%	$1,194,086
Town of Tarboro	5,192	4,454	85.80%	$5,399,507	581	11.20%	$5,624,723	150	2.90%	$1,015,895	5,185	99.90%	$12,040,125
Town of Whitakers	498	424	85.10%	$809,026	57	11.40%	$361,998	17	3.40%	$82,616	498	100%	$1,253,640
Unincorporated Nash County	23,157	17,813	76.90%	$26,298,402	5,050	21.80%	$9,702,264	290	1.30%	$7,185,814	23,153	100%	$43,186,480
Unincorporated Edgecombe County	12,695	9,849	77.60%	$16,979,702	2,708	21.30%	$13,028,984	138	1.10%	$697,062	12,695	100%	$30,705,748
Unincorporated Wilson County	12,823	10,203	79.60%	$20,708,455	2,454	19.10%	$7,055,793	163	1.30%	$1,102,452	12,820	100%	$28,866,700
Region Total	**120,281**	**100,174**	**83.30%**	**$152,268,993**	**17,918**	**14.90%**	**$84,552,050**	**2,103**	**1.70%**	**$23,924,770**	**120,195**	**99.90%**	**$260,745,810**

Source: NCEM Risk Management Tool

Table 4.76 – 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
City of Rocky Mount	27,811	24,659	88.70%	$59,682,679	2,610	9.40%	$46,236,179	498	1.80%	$12,523,186	27,767	99.80%	$118,442,044
City of Wilson	20,337	17,630	86.70%	$39,325,465	2,188	10.80%	$24,498,478	491	2.40%	$5,122,307	20,309	99.90%	$68,946,250
Town of Bailey	1,010	788	78%	$1,573,981	205	20.30%	$901,469	17	1.70%	$152,761	1,010	100%	$2,628,210
Town of Black Creek	747	672	90%	$2,182,586	57	7.60%	$217,046	18	2.40%	$397,202	747	100%	$2,796,835
Town of Castalia	195	165	84.60%	$354,203	21	10.80%	$83,835	9	4.60%	$332,476	195	100%	$770,513
Town of Conetoe	190	159	83.70%	$653,325	24	12.60%	$182,640	7	3.70%	$23,417	190	100%	$859,382
Town of Dortches	578	467	80.80%	$1,394,735	105	18.20%	$686,837	6	1%	$156,469	578	100%	$2,238,041
Town of Elm City	1,008	857	85%	$2,542,796	122	12.10%	$2,104,110	29	2.90%	$363,204	1,008	100%	$5,010,110
Town of Leggett	166	109	65.70%	$303,479	48	28.90%	$39,476	9	5.40%	$199,921	166	100%	$542,875
Town of Lucama	936	824	88%	$2,409,226	87	9.30%	$325,647	25	2.70%	$258,071	936	100%	$2,992,944
Town of Macclesfield	304	253	83.20%	$676,947	46	15.10%	$105,024	5	1.60%	$19,603	304	100%	$801,574
Town of Middlesex	1,070	864	80.70%	$1,681,644	179	16.70%	$1,201,064	27	2.50%	$373,324	1,070	100%	$3,256,032
Town of Momeyer	408	324	79.40%	$602,278	79	19.40%	$257,492	5	1.20%	$645,916	408	100%	$1,505,687
Town of Nashville	2,959	2,585	87.40%	$6,073,835	310	10.50%	$3,342,802	64	2.20%	$1,989,997	2,959	100%	$11,406,634
Town of Pinetops	1,067	903	84.60%	$2,237,923	146	13.70%	$527,732	18	1.70%	$131,852	1,067	100%	$2,897,508
Town of Princeville	1,054	976	92.60%	$1,363,166	67	6.40%	$227,510	11	1%	$57,206	1,054	100%	$1,647,882
Town of Red Oak	1,717	1,524	88.80%	$4,425,370	181	10.50%	$1,363,873	12	0.70%	$439,511	1,717	100%	$6,228,753
Town of Saratoga	469	411	87.60%	$1,220,702	48	10.20%	$159,585	10	2.10%	$59,960	469	100%	$1,440,247
Town of Sharpsburg	1,502	1,297	86.40%	$3,046,798	191	12.70%	$1,831,937	14	0.90%	$335,428	1,502	100%	$5,214,163
Town of Sims	368	299	81.20%	$903,305	58	15.80%	$312,104	11	3%	$55,079	368	100%	$1,270,487
Town of Speed	178	139	78.10%	$414,301	32	18%	$38,010	7	3.90%	$26,169	178	100%	$478,480
Town of Spring Hope	1,240	1,031	83.10%	$2,393,905	176	14.20%	$848,553	33	2.70%	$305,628	1,240	100%	$3,548,086
Town of Stantonsburg	602	495	82.20%	$1,653,674	88	14.60%	$272,997	19	3.20%	$185,153	602	100%	$2,111,824
Town of Tarboro	5,192	4,454	85.80%	$8,709,845	581	11.20%	$9,662,252	150	2.90%	$1,771,479	5,185	99.90%	$20,143,576
Town of Whitakers	498	424	85.10%	$1,464,618	57	11.40%	$665,116	17	3.40%	$153,399	498	100%	$2,283,133

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
Unincorporated Nash County	23,157	17,813	76.90%	$44,025,031	5,050	21.80%	$16,686,391	290	1.30%	$11,731,989	23,153	100%	$72,443,412
Unincorporated Edgecombe County	12,695	9,849	77.60%	$31,078,480	2,708	21.30%	$18,787,940	138	1.10%	$1,306,561	12,695	100%	$51,172,980
Unincorporated Wilson County	12,823	10,203	79.60%	$36,588,100	2,454	19.10%	$12,980,478	163	1.30%	$2,234,141	12,820	100%	$51,802,719
Region Total	**120,281**	**100,174**	**83.30%**	**$258,982,397**	**17,918**	**14.90%**	**$144,546,577**	**2,103**	**1.70%**	**$41,351,409**	**120,195**	**99.90%**	**$444,880,381**

Source: NCEM Risk Management Tool

Severe weather can also cause significant agricultural losses. Between 2007-2017, the sum of claims paid for crop damage due to hail and wind damages in the Region was $8,168,053.45, or an average of $742,550 in losses annually. Most of these claims were made in Edgecombe County. Table 4.77 through Table 4.79 summarize the crop losses due to severe weather by county, as reported in the RMA system.

Table 4.77 – Crop Losses Resulting from Severe Weather, Nash County, 2007-2017

Year	Determined Acres	Indemnity Amount
Hail		
2007	180.80	$175,535.00
2009	139.15	$11,562.00
2011	282.77	$343,765.00
2012	272.15	$586,023.00
2016	254.53	$507,517.50
Wind/Excess Wind		
2007	17.04	$22,727.00
2008	94.07	$77,662.00
2011	28.55	$38,633.00
2012	120.13	$147,180.00
2016	106.31	$210,476.60
2017	0.00	$2,249.50
Total	**1495.50**	**$2,123,330.60**

Source: USDA Risk Management Agency

Table 4.78 – Crop Losses Resulting from Severe Weather, Edgecombe County, 2007-2017

Year	Determined Acres	Indemnity Amount
Hail		
2007	273.74	$259,535.00
2009	3086.78	$541,993.00
2011	531.94	$138,449.00
2012	823.21	$1,689,109.00
2013	20.30	$31,774.00
2016	30.70	$4.00
Wind/Excess Wind		
2007	90.38	$76,658.00
2008	66.95	$63,360.00
2009	85.38	$188,202.00
2010	45.64	$110,820.00
2011	99.95	$6,266.00
2012	432.83	$538,568.00
2016	48.13	$7,366.80
2017	210.78	$492,996.00
Total	**5,846.71**	**$4,145,100.80**

Source: USDA Risk Management Agency

Table 4.79 – Crop Losses Resulting from Severe Weather, Wilson County, 2007-2017

Year	Determined Acres	Indemnity Amount
Hail		
2007	76.92	$80,853.00
2008	36.47	$50,084.00
2011	239.00	$298,213.00

Year	Determined Acres	Indemnity Amount
2012	44.28	$35,404.00
2015	39.00	$61,652.50
2016	163.34	$180,588.55
Wind/Excess Wind		
2008	27.30	$50,526.00
2009	345.26	$330,716.00
2011	510.76	$335,060.00
2012	32.96	$17,412.00
2015	359.60	$8,314.00
2016	471.64	$445,979.00
2017	14.10	$4,820.00
Total	**2360.63**	**$1,899,622.05**

Source: USDA Risk Management Agency

Environment

The main environmental impact from wind is damage to trees or crops. 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 4.80 summarizes the potential negative consequences of severe weather.

Table 4.80 – Consequence Analysis – Severe Weather (Thunderstorm Winds, Lightning, and Hail)

Category	Consequences
Public	Injuries and fatalities possible
Responders	Injuries and fatalities unlikely; potential impacts to response capabilities due to storm impacts
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; mobile homes see increased risk
Environment	Potential fire ignition from lightning; hail damage to wildlife and foliage
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 table summarizes severe weather hazard risk by jurisdiction. Most aspects of severe weather risk do not vary substantially by jurisdiction. Most jurisdictions were assigned an impact rating of Minor. However, mobile home units are more vulnerable to wind damage, and mobile home units make up greater than 20 percent of the housing stock in Edgecombe County, Conetoe, Princeville, Speed,

Castalia, Momeyer, Black Creek, and Lucama. There are over 1,900 mobile home units in Rocky Mount. Therefore, these jurisdictions may face more severe impacts from wind, as indicated by an impact score of Limited. Where priority ratings vary between thunderstorm wind, lightning, and hail for impact and spatial extent, these scores represent an average rating with greater weight given to thunderstorm wind because it occurs much more frequently.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	4	2	3	4	1	2.9	H
Wilson	4	1	3	4	1	2.6	H
Bailey	4	1	3	4	1	2.6	H
Black Creek	4	2	3	4	1	2.9	H
Castalia	4	2	3	4	1	2.9	H
Conetoe	4	2	3	4	1	2.9	H
Dortches	4	1	3	4	1	2.6	H
Elm City	4	2	3	4	1	2.9	H
Leggett	4	1	3	4	1	2.6	H
Lucama	4	2	3	4	1	2.9	H
Macclesfield	4	1	3	4	1	2.6	H
Middlesex	4	1	3	4	1	2.6	H
Momeyer	4	2	3	4	1	2.9	H
Nashville	4	1	3	4	1	2.6	H
Pinetops	4	1	3	4	1	2.6	H
Princeville	4	2	3	4	1	2.9	H
Red Oak	4	1	3	4	1	2.6	H
Saratoga	4	1	3	4	1	2.6	H
Sharpsburg	4	1	3	4	1	2.6	H
Sims	4	1	3	4	1	2.6	H
Speed	4	2	3	4	1	2.9	H
Spring Hope	4	1	3	4	1	2.6	H
Stantonsburg	4	1	3	4	1	2.6	H
Tarboro	4	1	3	4	1	2.6	H
Whitakers	4	1	3	4	1	2.6	H
Nash County	4	1	3	4	1	2.6	H
Edgecombe County	4	2	3	4	1	2.9	H
Wilson County	4	1	3	4	1	2.6	H

4.5.8 Severe Winter Storm

Hazard Background

A winter storm 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. Sleet typically bounces when it hits the ground and does not stick to the surface, but 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 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.

Extent

The National Oceanic and Atmospheric Administration (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, shown in Table 4.81, 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.

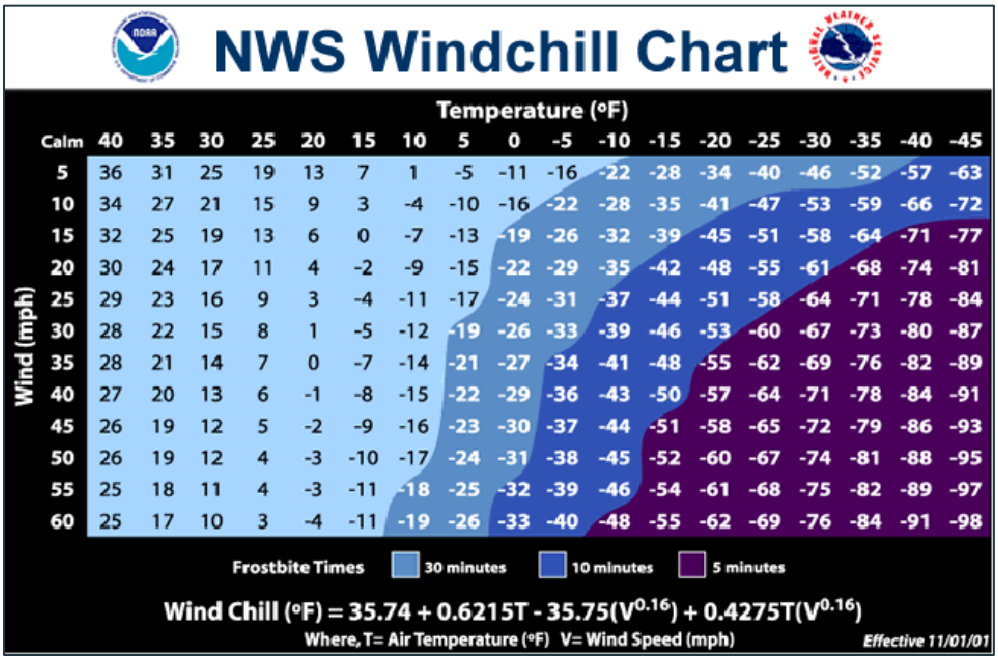
Table 4.81 – Regional Snowfall Index (RSI) Values

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

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. The NWS Wind Chill Temperature Index, shown in Figure 4.31, provides a formula for calculating the dangers of winter winds and freezing temperatures.

Figure 4.31 – NWS Wind Chill Temperature Index



Source: http://www.nws.noaa.gov/om/winter/windchill.shtml

Table 4.82 notes greatest recorded one-day snowfall totals for each county in the N.E.W. Region.

Table 4.82 – Greatest One-Day Snowfall by County

County	Inches	Location	Date
Nash	18.0 in.	Nashville	March 3, 1980
Edgecombe	15.0 in.	Tarboro 1 S	March 3, 1927
Wilson	15.0 in.	Wilson 3 SW	Dec 11, 1958

Source: North Carolina Climate Office

The most significant recorded snow depth over the last 20 years took place in December 2010, with recorded depths of up to 13 inches across the three-county region.

Impact: 2 – Limited

Spatial Extent: 4 – Large

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 N.E.W. 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 4.83 summarizes the recorded severe winter storm events that have impacted each county in the N.E.W. Region according to NCEI Storm Events data for the 20-year period from 1999 through 2018. Note

that many events impacted all or multiple counties. There were 46 unique reported incidents related to severe winter storms in the N.E.W. Region during this time. The region reported $1,080,000 in property damage but did not report any crop damage resulting from these incidents; still more damages may have occurred that were not reported, and property and crop damages are possible impacts of future events. 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, frost/freeze, ice storm or sleet events were recorded.

Table 4.83 – Total Severe Winter Storm Impacts in the N.E.W. Region, 1999-2018

Event Type	Number of Recorded Incidents	Total Fatalities	Total Injuries	Total Property Damage	Total Crop Damage
Nash County					
Winter Storm	27	0	0	$500,000	0
Winter Weather	17	0	0	$30,000	0
Ice Storm	0	0	0	$0	$0
Heavy Snow	1	0	0	$0	$0
Frost/Freeze	0	0	0	$0	$0
Edgecombe County					
Winter Storm	22	0	0	$0	$0
Winter Weather	15	0	0	$20,000	$0
Ice Storm	0	0	0	$0	$0
Heavy Snow	1	0	0	$0	$0
Frost/Freeze	0	0	0	$0	$0
Wilson County					
Winter Storm	26	0	0	$500,000	$0
Winter Weather	13	0	0	$30,000	$0
Ice Storm	0	0	0	$0	$0
Heavy Snow	1	0	0	$0	$0
Frost/Freeze	0	0	0	$0	$0
N.E.W. Region					
Winter Storm	27	0	0	$1,000,000	$0
Winter Weather	18	0	0	$80,000	$0
Ice Storm	0	0	0	$0	$0
Heavy Snow	1	0	0	$0	$0
Frost/Freeze	0	0	0	$0	$0
Region Total	**46**	**0**	**0**	**$1,080,000**	**$0**

Source: NCEI

A list of specific events that have impacted the N.E.W. Region are recorded in Table 4.84.

Table 4.84 – Recorded Severe Winter Storm Impacts in the N.E.W. Region, 1999-2018

Date	Event Type	Fatalities	Injuries	Property Damage	Crop Damage
1/18/2000	Winter Storm	0	0	$0	$0
1/20/2000	Winter Storm	0	0	$0	$0
1/22/2000	Winter Storm	0	0	$0	$0
1/24/2000	Winter Storm	0	0	$0	$0
1/28/2000	Winter Storm	0	0	$0	$0
11/19/2000	Heavy Snow	0	0	$0	$0
12/3/2000	Winter Storm	0	0	$0	$0

Date	Event Type	Fatalities	Injuries	Property Damage	Crop Damage
1/3/2002	Winter Storm	0	0	$0	$0
12/4/2002	Winter Storm	0	0	$0	$0
2/16/2003	Winter Storm	0	0	$0	$0
1/26/2004	Winter Storm	0	0	$0	$0
2/15/2004	Winter Storm	0	0	$0	$0
2/26/2004	Winter Storm	0	0	$0	$0
12/26/2004	Winter Storm	0	0	$0	$0
2/1/2007	Winter Weather	0	0	$0	$0
12/7/2007	Winter Weather	0	0	$60,000	$0
1/20/2009	Winter Storm	0	0	$0	$0
2/4/2009	Winter Weather	0	0	$0	$0
3/2/2009	Winter Weather	0	0	$0	$0
1/29/2010	Winter Storm	0	0	$0	$0
2/12/2010	Winter Storm	0	0	$0	$0
3/2/2010	Winter Storm	0	0	$0	$0
12/4/2010	Winter Weather	0	0	$0	$0
12/16/2010	Winter Weather	0	0	$0	$0
12/25/2010	Winter Storm	0	0	$0	$0
1/10/2011	Winter Weather	0	0	$0	$0
12/26/2013	Winter Weather	0	0	$0	$0
1/21/2014	Winter Weather	0	0	$0	$0
1/28/2014	Winter Storm	0	0	$0	$0
2/11/2014	Winter Weather	0	0	$0	$0
2/12/2014	Winter Storm	0	0	$0	$0
3/3/2014	Winter Weather	0	0	$0	$0
3/17/2014	Winter Weather	0	0	$0	$0
1/13/2015	Winter Weather	0	0	$0	$0
2/16/2015	Winter Storm	0	0	$0	$0
2/24/2015	Winter Weather	0	0	$0	$0
2/25/2015	Winter Storm	0	0	$1,000,000	$0
3/1/2015	Winter Weather	0	0	$0	$0
1/22/2016	Winter Storm	0	0	$0	$0
2/7/2016	Winter Weather	0	0	$20,000	$0
2/15/2016	Winter Weather	0	0	$0	$0
1/7/2017	Winter Storm	0	0	$0	$0
1/3/2018	Winter Storm	0	0	$0	$0
1/17/2018	Winter Storm	0	0	$0	$0
3/12/2018	Winter Weather	0	0	$0	$0
12/9/2018	Winter Storm	0	0	$0	$0

Source: NCEI

Several storm impacts from NCEI are summarized below:

December 7, 2007 – On Friday December 7, 2007 a brief period of light freezing rain fell across Central North Carolina from the Triad east to portions of the Triangle and east over the Coastal Plain. Most of the freezing rain accumulation of up to sixteenth of an inch occurred from southern Wake county east to Smithfield and north to Wilson, Rocky Mount and Roanoke Rapids. Portions of Interstate 40 and Highway 70 in Johnston County were closed due to numerous accidents. Over 150 automobile accidents were reported across Central North Carolina due to icy bridges. Light freezing rain during the early morning hours just prior to sunrise resulted in several automobile accidents from black ice on numerous bridges.

January 20, 2009: On January 20, 2009 the first major winter storm to strike Central North Carolina since 2004 brought 3 to 7 inches of snow to most of the area. A strong upper level disturbance dropped quickly southeast into the mid-Atlantic followed by a surface of low pressure which developed south of Wilmington. Snow lasted until afternoon in many locations and did not taper off in the Interstate 95 corridor until 3 pm. Between 4 to 6 inches of snow fell across the N.E.W. region over a 12-hour period. Roads were quickly covered with snow resulting in several traffic accidents and the closing of local schools and businesses.

December 25, 2010: A powerful winter storm struck North Carolina bringing a prolonged period of heave snow lasting from late Christmas morning through much of December 26th. Eight to fifteen inches of snow blanketed the region and prolonged cold temperatures allows road condition to remain dangerous in some areas for many days. Due to the holiday fewer than normal accidents and injuries were reported. Up to thirteen inches of snow fell throughout the N.E.W. region, including Nashville, Rocky Mount, Tarboro, and the City of Wilson.

February 12, 2014: As low pressure tracked northeastward from the Gulf of Mexico to just off the Carolina coast, a major winter storm impacted the area. The precipitation started out as all snow across the entire area, but gradually transitioned to a snow/sleet mix and eventually mostly freezing rain across portions of the forecast area as a warm nose overspread portions of the region. Everywhere saw at least 3-5 inches of snow/sleet. In addition, everywhere received at least a trace of freezing rain, resulting in some sporadic power outages and downed trees. Snow fall averaged 3-5 inches across the N.E.W. county. In addition, ice accrual ranged between a trace to 1/10 of an inch.

December 9, 2018: Strong Cold Air Damming and a Miller-A storm track from the northern Gulf of Mexico to off the NC coast brought record early heavy snowfall of 8 to 15 inches to parts of central NC on December 9th and 10th. In the N.E.W region, snowfall amounts ranged from 3 inches in the southern portions of the region up to 7 inches in the northern portion of the region.

The N.E.W. Region received one emergency declaration and four presidential disaster declarations since 1968 for incidents related to severe winter storms as detailed in Table 4.85. As a state, North Carolina received eight disaster declarations related to severe winter storms during this timeframe.

Table 4.85 – Emergency & Disaster Declarations in the N.E.W. 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
3033	1977	Snow	3/2/1977	3/3/1977
1087	1996	Snow	1/6/1996	1/12/1996
1312	2000	Severe Winter Storm	1/24/2000	2/1/2000
1448	2002	Severe Ice Storm	12/4/2002	12/6/2002

Source: FEMA, December 20, 2018

Probability of Future Occurrence

NCEI records 46 severe winter storm related events during the 20-year period from 1999 through 2018, which equates to an average of 2.3 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 2018 North Carolina Hazard Mitigation Plan, the uncertainty associated with potentially changing climate conditions creates uncertainty for predicting future severe winter storms. If it is determined that global temperatures are indeed rising, this 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 N.E.W. Region experienced $1,080,000 in property damage related to the impacts of severe winter storm. Losses due to weather were only reported during three events. Damage 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 4.86 summarizes the potential negative consequences of severe winter storm.

Table 4.86 – 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.

Category	Consequences
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. It is possible, however, that more urbanized areas could experience more damage from such events.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	4	2	4	1	3	3	H
Wilson	4	2	4	1	3	3	H
Bailey	4	2	4	1	3	3	H
Black Creek	4	2	4	1	3	3	H
Castalia	4	2	4	1	3	3	H
Conetoe	4	2	4	1	3	3	H
Dortches	4	2	4	1	3	3	H
Elm City	4	2	4	1	3	3	H
Leggett	4	2	4	1	3	3	H
Lucama	4	2	4	1	3	3	H
Macclesfield	4	2	4	1	3	3	H
Middlesex	4	2	4	1	3	3	H
Momeyer	4	2	4	1	3	3	H
Nashville	4	2	4	1	3	3	H
Pinetops	4	2	4	1	3	3	H
Princeville	4	2	4	1	3	3	H
Red Oak	4	2	4	1	3	3	H
Saratoga	4	2	4	1	3	3	H
Sharpsburg	4	2	4	1	3	3	H
Sims	4	2	4	1	3	3	H
Speed	4	2	4	1	3	3	H
Spring Hope	4	2	4	1	3	3	H
Stantonsburg	4	2	4	1	3	3	H
Tarboro	4	2	4	1	3	3	H
Whitakers	4	2	4	1	3	3	H
Nash County	4	2	4	1	3	3	H
Edgecombe County	4	2	4	1	3	3	H
Wilson County	4	2	4	1	3	3	H

4.5.9 Sinkhole

Hazard Description

According to the NC Division of Water Resources, a "sinkhole is a naturally occurring, roughly circular depression in the land surface, formed most commonly in are areas of limestone bedrock. Limestone is a type of rock composed entirely of the highly reactive mineral calcite (CaCO3), which readily dissolves in the presence of slightly acidic ground water. In areas of humid climate, rain water percolates downward through the soil cover into openings in the limestone bedrock, gradually dissolving the rock matrix. Void spaces in the subsurface will eventually form, ranging from microscopic to cavern size."

The United States Geological Survey (USGS) defines a sinkhole as a depression in the ground that has no natural external drainage. When it rains in these areas, all the water typically stays in the sinkhole and drains into the surface. Sinkholes are most common in what geologists call "karst terrain." Karst exists in regions where the type of rock below the surface can be naturally dissolved by groundwater circulating through. Soluble rocks include evaporites (salt, gypsum, and anhydrite) and carbonates (limestone and dolomite). Sinkholes start when water seeps down into the soluble rock following cracks and dissolves the rock, often limestone in North Carolina, creating cavities. As the rock formation is further dissolved, the cavity grows.

Sinkholes are problematic because the land above the growing cavity can stay intact for a while until the underground space gets too big. The underground caverns can form slowly and typically little change is noticeable. Eventually, if there is not enough support for the land above the space, then a sudden collapse of the land surface can occur.

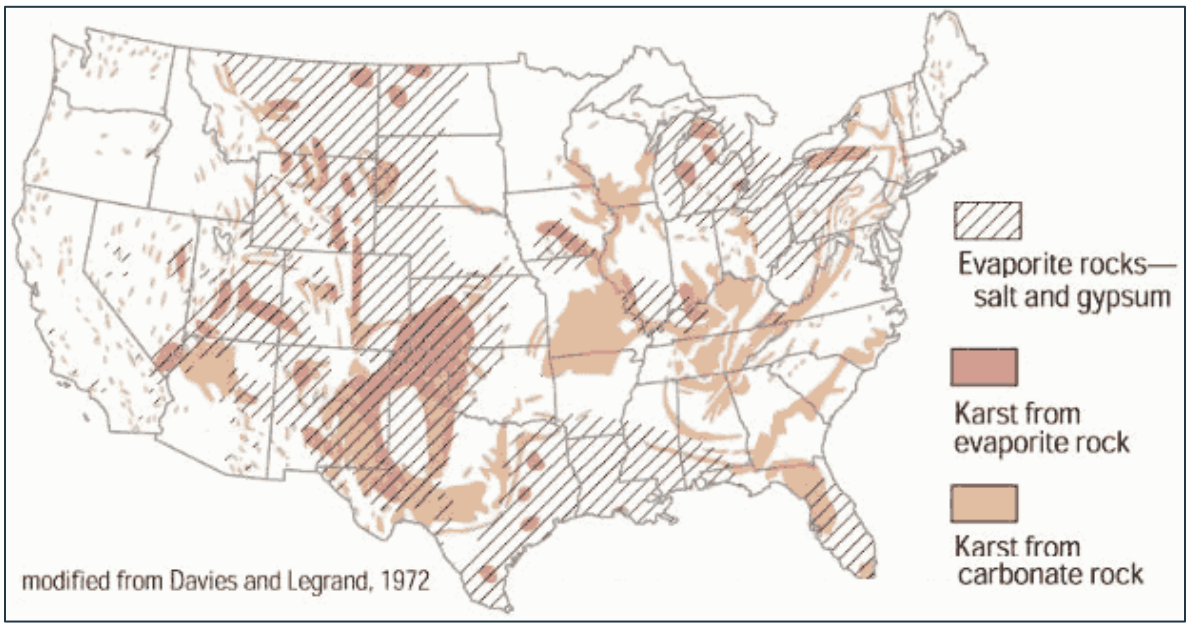
While sinkholes are generally caused by the natural process such as rock dissolution and declines in groundwater levels, human activity, such as pumping groundwater out of the ground for public and private use, can expedite cavity formation in susceptible areas. Karst aquifers are a major source of potable drinking water for the United States and are another factor in sinkholes. the sediment above the aquifer system may be delicately balanced by groundwater fluid pressure, meaning that the water below the ground is actually helping to keep the surface soil in place. As water is withdrawn from an aquifer, the weight of the soil and structure above can potentially exceed the pressure that was once exerted by the removed water. In the N.E.W. Region, sinkhole risk is primarily from unconsolidated aquifers. However, there is generally sufficient rainfall to recharge the aquifer levels.

Figure 4.32 from the United States Geological Survey shows areas where rock types are susceptible to dissolution in water and prone to potential karst formation. These rocks are either evaporates (salt, gypsum, and anhydrite) or carbonates (limestone and dolomite). The figure indicates eastern North Carolina and areas near the N.E.W. Region are underlain by carbonate rock.

Warning Time: 4 – Less than six hours

Duration: 1 – Less than six hours

Figure 4.32 – Rock Formations in the United States

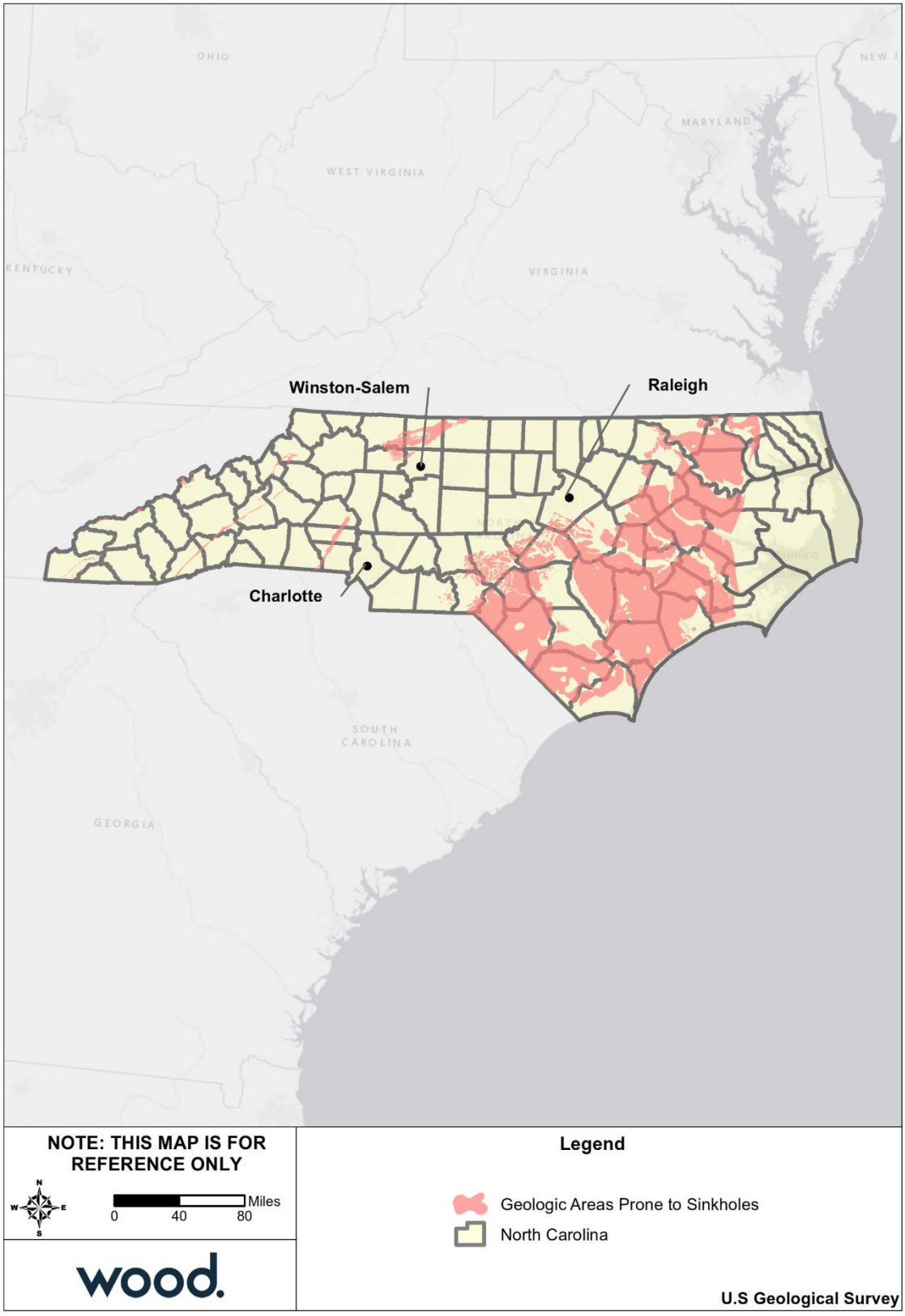


Location

Areas prone to karst formation, which can lead to sinkholes, are underlain directly by carbonate bedrock. In humid regions, such as the coastal plain of North Carolina, areas of carbonate bedrock are typically karstified and contain varying densities of sinkholes, caves, and other karst features. The map below, Figure 4.33, shows areas in the state with soluble carbonate rock at or near the land surface. This type of rock formation is present in most of Wilson county and eastern Edgecombe county, but not as prevalent in Nash County. Sinkholes in North Carolina mainly occur in the southeastern coastal plain, but the underlying rock formations of the N.E.W. Region could lead to the formation of sinkholes.

It is important to note that this map shows only areas containing rock types that have developed or have the potential for developing karst features. It does not indicate the degrees of karst hazards within these areas. Ground collapse potential varies greatly among these areas, and among the areas nationally that have karst features, only a small subset have significant karst hazards. A complex interaction of many factors determines the exact location and intensity of karst feature formations, including bedrock geology, tectonics, climate, sedimentary cover, vegetation, hydrologic conditions, and time. Thus, this map is not the only indicator that should be used for determining sinkhole risk, but it does give some indication as to areas that might be more likely to experience sinkholes.

Figure 4.33 – Areas of Potential Karst Formation, North Carolina



Extent

Sinkholes are relatively unpredictable, causing greater impacts when they do occur. They can range dramatically in size, from a few feet wide to hundreds of acres wide and from less than 1 foot to more than 100 feet deep. Sinkholes can also vary in shape. Some are shaped like shallow bowls or saucers while others have vertical walls. In North Carolina, sinkholes sometimes hold water and form natural ponds. There is no formal scale for measuring the extent of sinkholes.

Sinkholes can have dramatic effects if they occur in urban settings, particularly when infrastructure, such as roads, or buildings are on top of the cavity, causing catastrophic damage. They can also contaminate water resources and have been known to swallow up vehicles, swimming pools, parts of roadways, and even buildings.

In some cases in North Carolina, sinkholes have measured up to 20 to 25 feet in depth with similar widths.

Impact: 2 – Limited

Spatial Extent: 1 – Negligible

Historical Occurrences

Per the 2018 North Carolina State Hazard Mitigation Plan, most sinkholes occur in the southern coastal plain of the state due to the high concentration of limestone in the southern half of North Carolina. Sinkholes are also common in western North Carolina.

According to the previous N.E.W. Regional Hazard Mitigation Plan as well as a search of local news sources, there were no known sinkhole occurrences or records of sinkhole impacts in the three-county planning area.

Probability of Future Occurrence

As there have been no recorded sinkhole impacts in the Region, it is unlikely that that a sinkhole will occur in the future. However, given the presence of carbonate rock, as sinkholes can form over time as well as abruptly, it is important to be aware of the impacts that they might have on the Region.

Probability: 1 – Unlikely

Climate Change

Direct effects from global warming and climate change such as an increase in droughts, floods and hurricanes could contribute to an increase in sinkholes. Climate change raises the likelihood of extreme weather, meaning the torrential rain and flooding conditions which often lead to the exposure of sinkholes are likely to become increasingly common. Certain events such as a hurricane following a period of drought can trigger a sinkhole due to low levels of groundwater combined with a heavy influx of rain. As discussed in Sections 4.5.2 Drought, 4.5.5 Flood, and 4.5.6 Hurricane, potential increases in these contributing events are possible. Therefore, an increase in the occurrence of sinkholes in the future is possible.

Vulnerability Assessment

People

A person's vulnerability is directly related to the speed in which the sinkhole opens and the person being above the sinkhole. Records exist for deaths associated with sinkholes opening beneath homes while occupants were present or from motor vehicle deaths when drivers could not avoid driving into the sinkhole before protective barriers were in place.

Property

Similar to people, property's vulnerability to a sinkhole is dependent on a variety of factors including the speed at which the sinkhole develops. Property above a large sinkhole that suddenly collapses can suffer catastrophic damages ranging from cracked foundations to damaged roadways and totaled vehicles.

Environment

Sinkholes are generally naturally occurring events, thus a sinkhole is unlikely to cause substantial impacts to the natural environment. Natural areas that are damaged will recover quickly.

Consequence Analysis

Table 4.87 summarizes the potential negative consequences of sinkhole.

Table 4.87 - Consequence Analysis – Sinkhole

Category	Consequences
Public	Impacts are expected to be minimal to the larger population. Impacts for those effected could cause anxiety or depression about economic and property losses and personal injury.
Responders	First responders will be impacted similarly to other events that have advance warning.
Continuity of Operations (including Continued Delivery of Services)	Continuity of operations is generally not disrupted by sinkholes.
Property, Facilities and Infrastructure	Although sinkhole extents are localized, buildings located on or adjacent to a sinkhole are susceptible to foundation damage or building collapse. If the building is located close enough to the sinkhole it can be completely destroyed or in worst cases, completely collapse into the sinkhole. Remediation costs can be high due to costly foundation shoring or cost of stabilization of the sinkhole itself.
Environment	Sinkholes are natural occurring process and local plants and animals adjust quickly. Many naturally occurring sinkholes fill with rainwater creating new aquatic habitat.
Economic Condition of the Jurisdiction	Sinkholes located in open areas or that impact only small numbers of buildings, while having a high impact to the local property owner, do not have substantial impacts to the economy. Sinkholes that open up in major traffic thoroughfares can include significant impact to daily work traffic and flow of goods.
Public Confidence in the Jurisdiction's Governance	Sinkholes are relatively unpredictable, however if a sinkhole occurs after a recent inspection and causes harm to people or property, the public may lose confidence in the jurisdiction's ability to manage a future sinkhole event.

Hazard Summary by Jurisdiction

The following table summarizes sinkhole hazard risk by jurisdiction. Sinkhole hazard risk only varies by impact. Impacts from sinkhole is rated as a 2 for jurisdictions that are within the regions of karst formation and as a 1 for jurisdictions out of these areas. Otherwise, sinkhole risk does not vary substantially by jurisdiction.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	1	1	1	4	1	1.3	L
Wilson	1	2	1	4	1	1.6	L
Bailey	1	1	1	4	1	1.3	L
Black Creek	1	2	1	4	1	1.6	L
Castalia	1	1	1	4	1	1.3	L
Conetoe	1	2	1	4	1	1.6	L

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Dortches	1	1	1	4	1	1.3	L
Elm City	1	2	1	4	1	1.6	L
Leggett	1	1	1	4	1	1.3	L
Lucama	1	2	1	4	1	1.6	L
Macclesfield	1	2	1	4	1	1.6	L
Middlesex	1	1	1	4	1	1.3	L
Momeyer	1	1	1	4	1	1.3	L
Nashville	1	1	1	4	1	1.3	L
Pinetops	1	2	1	4	1	1.6	L
Princeville	1	2	1	4	1	1.6	L
Red Oak	1	1	1	4	1	1.3	L
Saratoga	1	2	1	4	1	1.6	L
Sharpsburg	1	2	1	4	1	1.6	L
Sims	1	2	1	4	1	1.6	L
Speed	1	2	1	4	1	1.6	L
Spring Hope	1	1	1	4	1	1.3	L
Stantonsburg	1	2	1	4	1	1.6	L
Tarboro	1	2	1	4	1	1.6	L
Whitakers	1	2	1	4	1	1.6	L
Nash County	1	1	1	4	1	1.3	L
Edgecombe County	1	2	1	4	1	1.6	L
Wilson County	1	2	1	4	1	1.6	L

4.5.10 Tornado

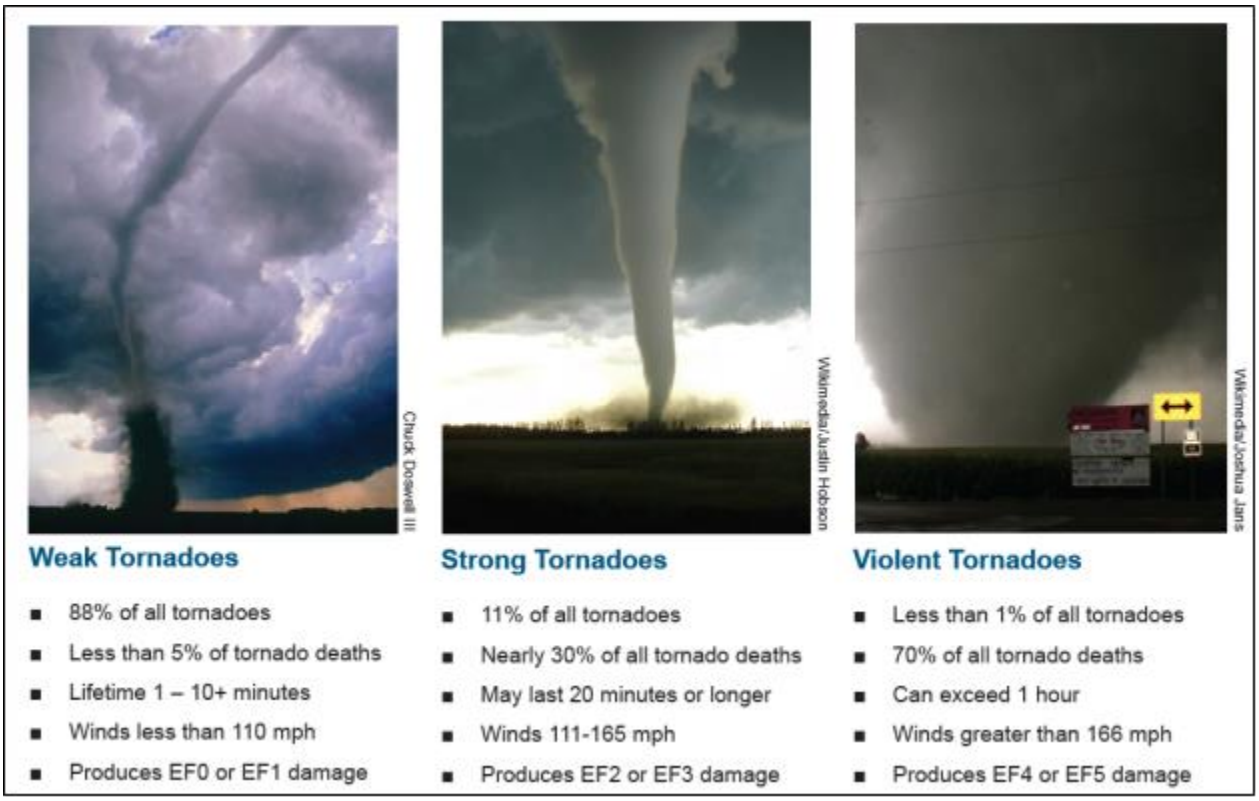
Hazard Background

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 amid path, 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 4.34 shows the different intensities of tornadoes.

Figure 4.34 – Types of Tornadoes



Source: NOAA National Weather Service

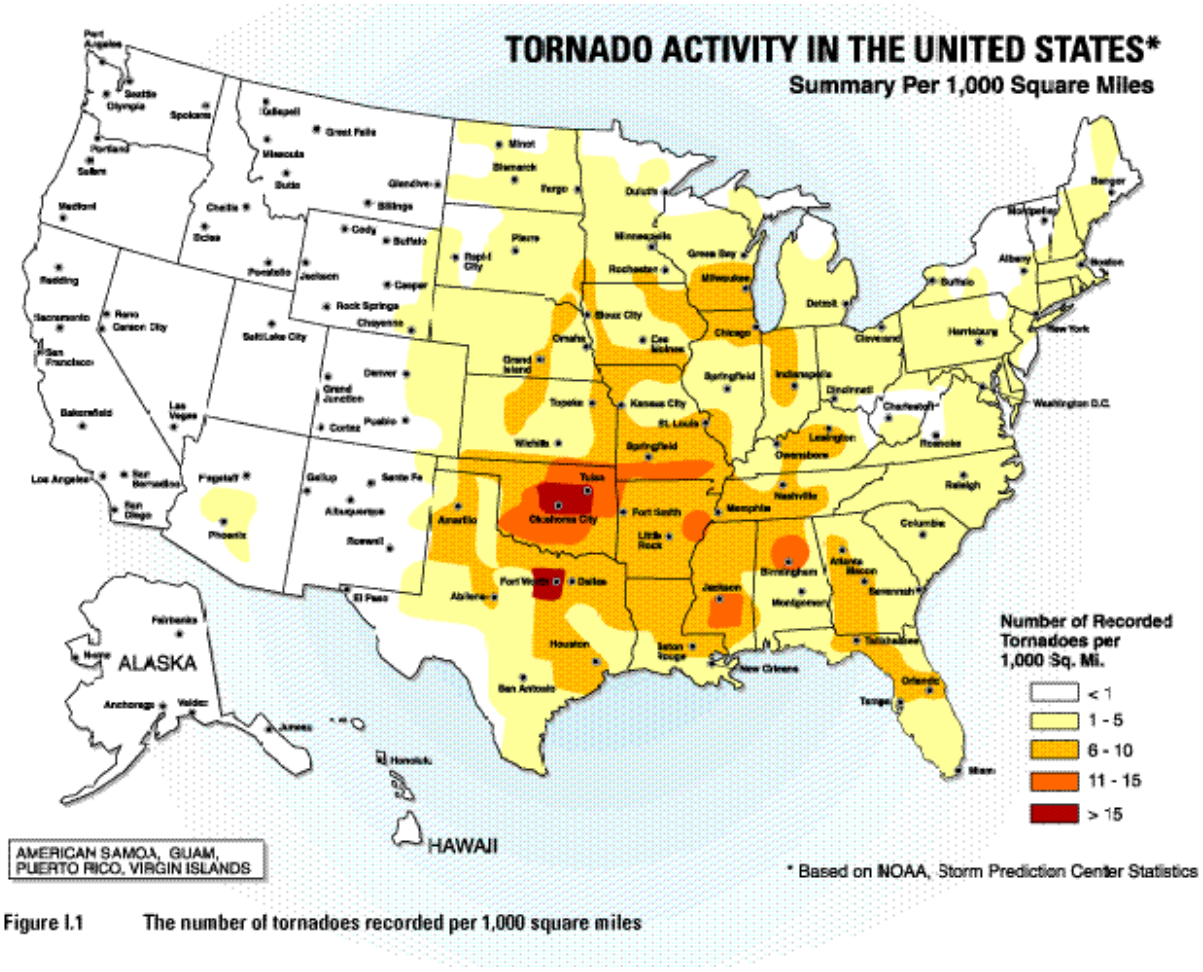
Warning Time: 4 – Less than 6 hours

Duration: 1 – Less than 6 hours

According to the NOAA Storm Prediction Center (SPC), the highest concentration of tornadoes in the United States has been in Oklahoma, Texas, Kansas and Florida respectively. Although the Great Plains

region of the Central United States does favor the development of the largest and most dangerous tornadoes (earning the designation of "tornado alley"), Florida experiences the greatest number of tornadoes per square mile of all U.S. states (SPC, 2002). The below figure, Figure 4.35, shows tornado activity in the United States based on the number of recorded tornadoes per 1,000 square miles.

Figure 4.35 – Tornado Activity in the U.S.

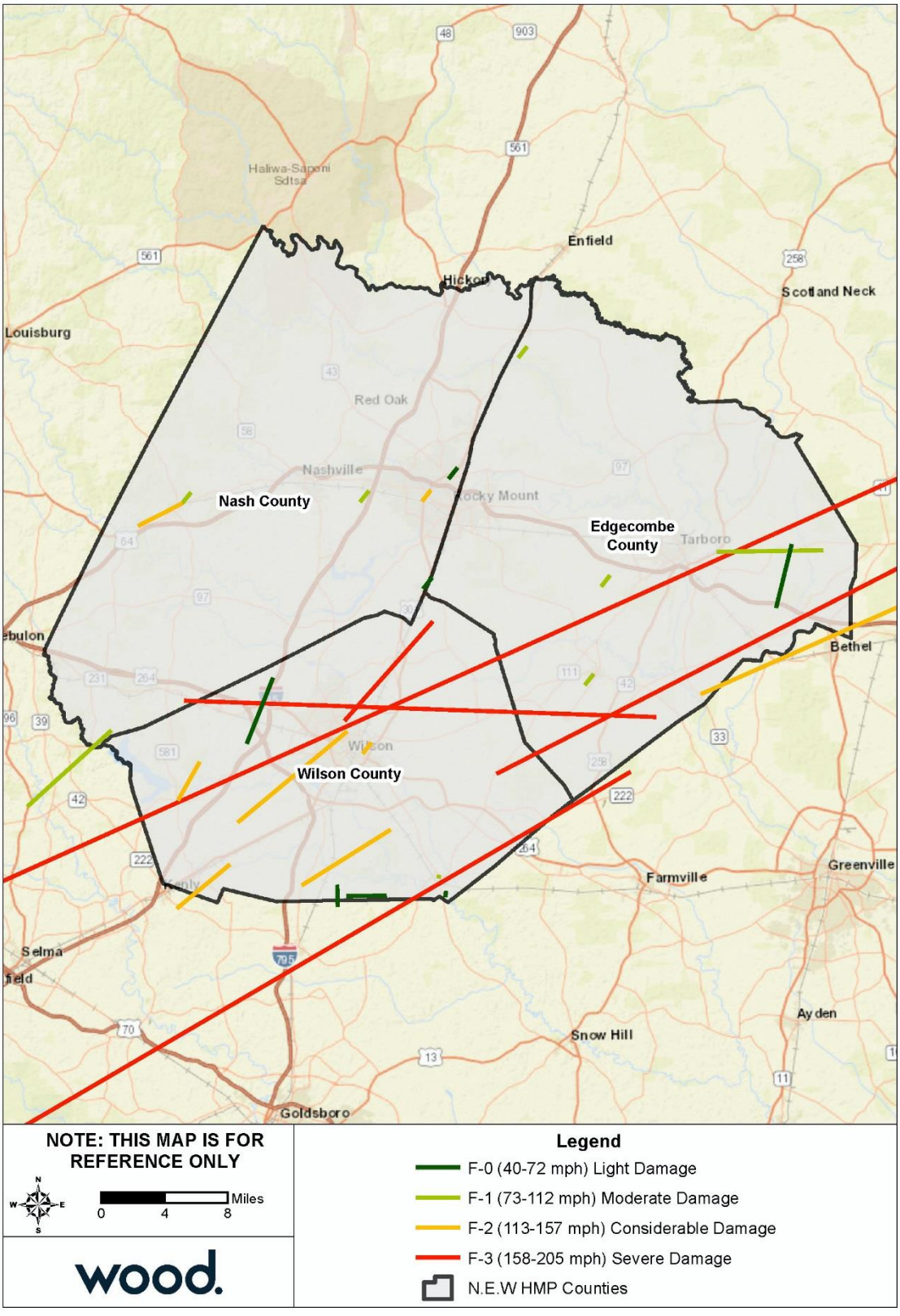


Source: American Society of Civil Engineers

Location

Figure 4.36 reflects the tracks of past tornados that passed through the N.E.W. Region from 1950 through 2018 according to data from the NOAA/National Weather Service Storm Prediction Center.

Figure 4.36 – Tornado Paths Through N.E.W. Region, 1950-2018



Source: NOAA/NWS Storm Prediction Center

Tornados can occur anywhere in the County. 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. All of the N.E.W. Region is uniformly exposed to this hazard.

Extent

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 new scale provides more damage indicators (28) and associated degrees of damage, allowing for more detailed analysis, better correlation between damage and wind speed. It is also more precise because it takes into account the materials affected and the construction of structures damaged by a tornado. Table 4.88 shows the wind speeds associated with the enhanced Fujita scale ratings and the damage that could result at different levels of intensity.

Table 4.88 – 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.
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 N.E.W. region in the past 20 years was an EF3 in November 2008. This tornado resulted in the only tornado-related fatality in the region, 4 injuries, $1,000,000 in property damage, and $200,000 in crop damage. Other, less intense tornadoes in the region have caused more property damage or injuries.

Impact: 3 – Critical

Spatial Extent: 2 – Small

Historical Occurrences

NCEI storm reports were reviewed from 1999 through 2018 to assess whether recent trends varied from the longer historical record. According to NCEI, the N.E.W. Region experienced 17 tornado incidents between 1999 and 2018, causing one fatality, 15 injuries, $6.3 million in property damage and $280,000 in crop damage. Table 4.89 shows historical tornadoes in the N.E.W. Region during this time period.

Table 4.89 – Recorded Tornadoes in N.E.W. Region, 1999-2018

Location	Date	Time	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Lucama	10/11/2002	1:10	F1	0	0	$0	$0
Conetoe	10/11/2002	12:38	F1	0	0	$0	$0
Nashville	5/9/2003	18:20	F0	0	0	$0	$0
Stantonsburg	6/4/2004	11:50	F0	0	0	$0	$0
Spring Hope	5/14/2006	18:15	F0	0	0	$0	$0
Stotts Crossroads	8/27/2008	12:50	EF0	0	0	$0	$20,000
Black Creek	8/28/2008	1:00	EF0	0	0	$50,000	$0
Kenly	11/15/2008	3:12	EF2	0	0	$0	$0
Wilson	11/15/2008	3:30	EF3	1	4	$1,000,000	$200,000
Buckhorn Crossroads	5/5/2009	15:44	EF2	0	1	$1,500,000	$0
Middlesex	5/5/2009	16:44	EF0	0	0	$0	$0
Stantonsburg	3/6/2011	18:17	EF0	0	0	$0	$10,000
Lucama	4/16/2011	16:12	EF2	0	10	$3,000,000	$0
Black Creek	8/6/2011	10:25	EF0	0	0	$150,000	$0
Stantonsburg	8/11/2012	16:09	EF1	0	0	$350,000	$0
Conetoe	4/29/2014	17:09	EF0	0	0	$25,000	$0
Elm City	9/17/2018	6:06	EF0	0	0	$250,000	$50,000
Total				**1**	**15**	**$6,325,000**	**$280,000**

Source: NCEI

Specific incidents with some level of impact include:

August 27 - 28, 2008: The remnants of Hurricane Fay which made landfall along the Louisiana coast moved northeast across central North Carolina producing several weak tornadoes along with significant flash flooding. A weak EF-1 tornado touched down to the northeast of Freemont in northern Wayne County. The tornado then lifted off the ground before touching down again briefly near Beaver Dam road causing minor damage. Several mobile homes along Beaver Dam Road had shingles removed and several trees were blown down. A few small out buildings were also damaged. Highway patrol and trained spotters also reported a weak tornado bouncing along the ground from near Highway 42 and Lloyd Road to near Interstate 95 and Bloomery Road. The tornado reportedly moved through fields of soy beans and tobacco.

November 15, 2008: Two mini-supercells tracked northeast along a warm front during the early morning hours of the 15th. The two supercells spawned several tornadoes in Samspon, Johnston, and Wilson counties, two of which resulted in two fatalities. In Wilson County, the EF3 tornado occurred along a discontinuous, approximately eight-mile path that began with minor roof damage to a dwelling and a snapped tree along Harrison drive just south of Ward Boulevard. The most significant damage was then noted to the northeast, along London Church Road, south of Route 1330. One home was completely destroyed and swept off of its foundation, causing one fatality and two injuries. Two other homes suffered significant damage and two more injuries occurred. The tornado then followed a discontinuous path into Elm City, where there were numerous indications of tree damage, as well as a displaced roof and damaged outbuildings. The damage in and northeast of Elm City was consistent with EF-0 damage.

May 5, 2009: Two tornadic supercells developed along a stalled warm front that extended across Southern Piedmont and Coastal Plain of North Carolina and produced 4 tornadoes in Johnston, Nash and Wilson counties.

At the intersection of North Carolina highway 581 and North Carolina Highway 42 at Buckhorn Crossroads an EF-0 tornado touched down at 3:44 EST and tracked off to the northeast. It strengthened to an EF-2 in the wooded area just to the southwest of the intersection of Sadie Road and Rock Ridge School Road, into the Rock Ridge area. At that time, peak winds were estimated at 120 to 135 mph with a path width of 100 yards. Here, the tornado caused roof and structural damage to a brick home and destroyed the carport. The tornado continued to track to the northeast, uprooting and snapping off numerous hardwood trees before crossing Sadie Road, just south of Rock Ridge School Road. Here, two homes were significantly damaged, two garages were destroyed, and several other homes and trees were damaged. The tornado then crossed Rock Ridge School Road and continued to track off to the northeast into a field and eventually a wooded area where the tornado lifted.

April 16, 2011 – During the afternoon and evening of April 16, 2011, a large tornado outbreak occurred across eastern North Carolina. The EF2 tornado in the N.E.W. region touched down just north of the Town of Lucama, where several homes were heavily damaged and numerous trees were snapped in half or uprooted. Winds were estimated at 120 mph. The tornado tracked northwest and crossed NC Highway 42 on the western side of Wilson, where 25 homes and a dozen businesses were heavily damaged along with several downed trees and power lines. Dozens of vehicles at an automobile dealership were also damaged by wind-blown debris. The tornado continued moving northeast to NC Highway 264 on the western |Side of Wilson where a family medical supply building and the Parkwood Village Apartments received minor roof and window damage from wind-blown debris. Winds in this area were estimated at 80 mph. The tornado continued to weaken and lifted near NC Highway 58 on the northwest side of Wilson. In total, approximately 175 homes were damaged, including 40 homes that were completely destroyed.

Probability of Future Occurrence

Probability of future occurrence was calculated based on past occurrences and was assumed to be uniform across the region.

In a 20-year span between 1999 and 2018, the N.E.W. region experienced 17 separate tornado incidents over 14 separate days. On average, this is 0.85 tornadoes per year, or an 85% annual probability that the region will experience a tornado. Of these 17 tornado events, only four of these past tornado events were a magnitude EF2 or greater; therefore, the annual probability of a significant tornado event is approximately 20 percent.

Probability: 3 – Likely

Climate Change

There presently is not enough data or research to quantify the magnitude of change that climate change may have related to tornado frequency and intensity. NASA's Earth Observatory has conducted studies which aim to understand the interaction between climate change and tornadoes. Based on these studies 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. Because of uncertainty with the influence of climate change on tornadoes, future updates to the mitigation plan should include the latest research on how the tornado hazard frequency and severity could change. The level of significance of this hazard should be revisited over time.

Vulnerability Assessment

People

People and populations exposed to the elements are most vulnerable to tornados. The availability of sheltered locations such as basements, buildings constructed using tornado-resistant materials and methods, and public storm shelters, all reduce the exposure of the population. According to the 2017 American Community Survey (ACS), 16,223 occupied housing units (17.9%) in the N.E.W. Region are classified as "mobile homes or other types of housing." Based on an estimated average of 2.35 persons per household from the 2017 ACS, there are approximately 38,124 people in the N.E.W. Region living in mobile homes. Mobile home counts are provided in Table 4.71 in Section 4.5.7. Based on these figures, vulnerability is high in Edgecombe County, Conetoe, Princeville, Speed, Castalia, Momeyer, Black Creek, and Lucama, where mobile homes make up more than 20 percent of the housing stock. Additionally, there are over 1,900 mobile homes in Rocky Mount, though they account for only 7.2 percent of the housing stock.

Since 1950, the NCEI records three fatalities and 52 injuries attributed to tornadoes in the N.E.W. Region; these fatalities and injuries were the result of tornadoes rated as low as EF1, illustrating the destructive power of tornadoes and the dangers they pose to exposed populations without proper shelter.

Property

General damages to property are both direct (what the tornado physically destroys) and indirect, which focuses on additional costs, damages and losses attributed to secondary hazards spawned by the tornado, or due to the damages caused by the tornado. Depending on the size of the tornado and its path, a tornado is capable of damaging and eventually destroying almost anything. Construction practices and building codes can help maximize the resistance of the structures to damage.

Secondary impacts of tornado damage 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 indirect impacts of a tornado put tremendous strain on a community. In the immediate aftermath, the focus is on emergency services.

Since 1950, damaging tornadoes in the region are directly responsible for $15.8 million worth of damage to property, and $280,000 worth of damage to crops, according to NCEI data.

Table 4.90 through Table 4.94 detail the estimated buildings impacted from tornado events of magnitudes ranging from EF0 to EF4. Note that 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 event of each magnitude would be lower because the event would impact only a fraction of the county.

Table 4.90 – 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
City of Rocky Mount	27,811	24,659	88.7%	$163,464,678	2,610	9.4%	$179,240,592	498	1.8%	$24,328,780	27,767	99.8%	$367,034,050
City of Wilson	20,337	17,630	86.7%	$111,839,310	2,188	10.8%	$107,465,576	491	2.4%	$12,393,267	20,309	99.9%	$231,698,153
Town of Bailey	1,010	788	78%	$4,594,699	205	20.3%	$3,582,826	17	1.7%	$245,616	1,010	100%	$8,423,142
Town of Black Creek	747	672	90%	$3,984,578	57	7.6%	$653,331	18	2.4%	$429,040	747	100%	$5,066,949
Town of Castalia	195	165	84.6%	$909,220	21	10.8%	$351,195	9	4.6%	$354,605	195	100%	$1,615,019
Town of Conetoe	190	159	83.7%	$807,725	24	12.6%	$550,316	7	3.7%	$36,323	190	100%	$1,394,365
Town of Dortches	578	467	80.8%	$4,155,670	105	18.2%	$1,450,694	6	1%	$171,693	578	100%	$5,778,057
Town of Elm City	1,008	857	85%	$5,140,175	122	12.1%	$6,123,938	29	2.9%	$741,070	1,008	100%	$12,005,183
Town of Leggett	166	109	65.7%	$700,211	48	28.9%	$264,408	9	5.4%	$876,127	166	100%	$1,840,746
Town of Lucama	936	824	88%	$5,013,373	87	9.3%	$940,339	25	2.7%	$353,587	936	100%	$6,307,299
Town of Macclesfield	304	253	83.2%	$1,378,589	46	15.1%	$388,459	5	1.6%	$38,586	304	100%	$1,805,635
Town of Middlesex	1,070	864	80.7%	$5,262,118	179	16.7%	$5,299,426	27	2.5%	$793,517	1,070	100%	$11,355,061
Town of Momeyer	408	324	79.4%	$1,964,181	79	19.4%	$662,772	5	1.2%	$396,357	408	100%	$3,023,310
Town of Nashville	2,959	2,585	87.4%	$17,869,178	310	10.5%	$9,680,437	64	2.2%	$3,852,355	2,959	100%	$31,401,970
Town of Pinetops	1,067	903	84.6%	$5,397,596	146	13.7%	$2,422,698	18	1.7%	$596,379	1,067	100%	$8,416,673
Town of Princeville	1,054	976	92.6%	$5,183,458	67	6.4%	$1,292,969	11	1%	$243,570	1,054	100%	$6,719,997
Town of Red Oak	1,717	1,524	88.8%	$13,660,217	181	10.5%	$3,902,388	12	0.7%	$318,843	1,717	100%	$17,881,448
Town of Saratoga	469	411	87.6%	$2,702,104	48	10.2%	$612,785	10	2.1%	$76,513	469	100%	$3,391,402
Town of Sharpsburg	1,502	1,297	86.4%	$7,173,747	191	12.7%	$4,784,896	14	0.9%	$305,976	1,502	100%	$12,264,619
Town of Sims	368	299	81.2%	$1,944,515	58	15.8%	$1,145,949	11	3%	$126,882	368	100%	$3,217,346
Town of Speed	178	139	78.1%	$756,456	32	18%	$131,022	7	3.9%	$41,469	178	100%	$928,946
Town of Spring Hope	1,240	1,031	83.1%	$6,897,638	176	14.2%	$4,463,561	33	2.7%	$849,007	1,240	100%	$12,210,206
Town of Stantonsburg	602	495	82.2%	$3,364,342	88	14.6%	$992,968	19	3.2%	$380,042	602	100%	$4,737,352
Town of Tarboro	5,192	4,454	85.8%	$27,251,235	581	11.2%	$43,429,207	150	2.9%	$3,867,921	5,185	99.9%	$74,548,363
Town of Whitakers	498	424	85.1%	$2,502,576	57	11.4%	$1,394,286	17	3.4%	$247,474	498	100%	$4,144,337

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
Unincorporated Nash County	23,157	17,813	76.9%	$121,793,768	5,050	21.8%	$63,524,924	290	1.3%	$16,116,224	23,153	100%	$201,434,916
Unincorporated Edgecombe County	12,695	9,849	77.6%	$60,815,225	2,708	21.3%	$33,378,409	138	1.1%	$2,929,025	12,695	100%	$97,122,660
Unincorporated Wilson County	12,823	10,203	79.6%	$70,607,962	2,454	19.1%	$44,324,500	163	1.3%	$4,396,099	12,820	100%	$119,328,561
Region Total	**120,281**	**100,174**	**83.3%**	**$657,134,544**	**17,918**	**14.9%**	**$522,454,871**	**2,103**	**1.7%**	**$75,506,347**	**120,195**	**99.9%**	**$1,255,095,765**

Source: NCEM Risk Management Tool

Table 4.91 – 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
City of Rocky Mount	27,811	24,659	88.7%	$1,186,107,840	2,610	9.4%	$1,188,530,633	498	1.8%	$137,244,087	27,767	99.8%	$2,511,882,560
City of Wilson	20,337	17,630	86.7%	$807,448,093	2,188	10.8%	$685,933,386	491	2.4%	$79,979,089	20,309	99.9%	$1,573,360,568
Town of Bailey	1,010	788	78%	$33,130,500	205	20.3%	$25,059,185	17	1.7%	$1,936,211	1,010	100%	$60,125,896
Town of Black Creek	747	672	90%	$28,602,097	57	7.6%	$4,269,878	18	2.4%	$2,423,904	747	100%	$35,295,879
Town of Castalia	195	165	84.6%	$6,503,665	21	10.8%	$1,985,436	9	4.6%	$2,248,743	195	100%	$10,737,844
Town of Conetoe	190	159	83.7%	$6,032,192	24	12.6%	$3,741,690	7	3.7%	$292,423	190	100%	$10,066,306
Town of Dortches	578	467	80.8%	$30,226,963	105	18.2%	$9,003,060	6	1%	$1,382,230	578	100%	$40,612,253
Town of Elm City	1,008	857	85%	$37,067,447	122	12.1%	$41,915,485	29	2.9%	$4,080,685	1,008	100%	$83,063,617
Town of Leggett	166	109	65.7%	$5,176,281	48	28.9%	$1,891,175	9	5.4%	$3,791,111	166	100%	$10,858,568
Town of Lucama	936	824	88%	$36,181,750	87	9.3%	$5,952,033	25	2.7%	$2,502,391	936	100%	$44,636,174
Town of Macclesfield	304	253	83.2%	$10,165,106	46	15.1%	$2,324,387	5	1.6%	$281,847	304	100%	$12,771,340
Town of Middlesex	1,070	864	80.7%	$37,092,704	179	16.7%	$37,946,252	27	2.5%	$4,343,032	1,070	100%	$79,381,989
Town of Momeyer	408	324	79.4%	$14,144,376	79	19.4%	$4,590,589	5	1.2%	$3,190,913	408	100%	$21,925,878
Town of Nashville	2,959	2,585	87.4%	$129,893,336	310	10.5%	$65,917,842	64	2.2%	$22,937,073	2,959	100%	$218,748,252

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 Pinetops	1,067	903	84.6%	$40,088,067	146	13.7%	$15,503,641	18	1.7%	$3,134,877	1,067	100%	$58,726,585
Town of Princeville	1,054	976	92.6%	$38,398,437	67	6.4%	$8,471,951	11	1%	$1,364,307	1,054	100%	$48,234,695
Town of Red Oak	1,717	1,524	88.8%	$100,004,693	181	10.5%	$34,927,406	12	0.7%	$2,528,564	1,717	100%	$137,460,663
Town of Saratoga	469	411	87.6%	$19,585,924	48	10.2%	$4,035,114	10	2.1%	$615,979	469	100%	$24,237,017
Town of Sharpsburg	1,502	1,297	86.4%	$50,967,292	191	12.7%	$36,045,589	14	0.9%	$2,463,296	1,502	100%	$89,476,177
Town of Sims	368	299	81.2%	$14,066,235	58	15.8%	$6,606,022	11	3%	$1,021,477	368	100%	$21,693,735
Town of Speed	178	139	78.1%	$5,703,230	32	18%	$952,333	7	3.9%	$333,848	178	100%	$6,989,411
Town of Spring Hope	1,240	1,031	83.1%	$49,725,564	176	14.2%	$29,460,537	33	2.7%	$4,621,137	1,240	100%	$83,807,238
Town of Stantonsburg	602	495	82.2%	$24,738,739	88	14.6%	$6,135,041	19	3.2%	$2,345,295	602	100%	$33,219,076
Town of Tarboro	5,192	4,454	85.8%	$199,623,395	581	11.2%	$290,533,822	150	2.9%	$24,286,916	5,185	99.9%	$514,444,133
Town of Whitakers	498	424	85.1%	$18,335,040	57	11.4%	$10,618,938	17	3.4%	$1,453,669	498	100%	$30,407,647
Unincorporated Nash County	23,157	17,813	76.9%	$870,661,114	5,050	21.8%	$438,189,980	290	1.3%	$94,737,838	23,153	100%	$1,403,588,932
Unincorporated Edgecombe County	12,695	9,849	77.6%	$457,014,443	2,708	21.3%	$228,536,714	138	1.1%	$16,961,859	12,695	100%	$702,513,016
Unincorporated Wilson County	12,823	10,203	79.6%	$506,199,214	2,454	19.1%	$301,195,646	163	1.3%	$26,459,952	12,820	100%	$833,854,811
Region Total	**120,281**	**100,174**	**83.3%**	**$4,762,883,737**	**17,918**	**14.9%**	**$3,490,273,765**	**2,103**	**1.7%**	**$448,962,753**	**120,195**	**99.9%**	**$8,702,120,260**

Source: NCEM Risk Management Tool

Table 4.92 – 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
City of Rocky Mount	27,811	24,659	88.7%	$2,371,801,181	2,610	9.4%	$2,840,978,870	498	1.8%	$496,209,320	27,767	99.8%	$5,708,989,371
City of Wilson	20,337	17,630	86.7%	$1,585,914,638	2,188	10.8%	$1,623,082,076	491	2.4%	$268,922,598	20,309	99.9%	$3,477,919,312
Town of Bailey	1,010	788	78%	$60,140,741	205	20.3%	$55,960,999	17	1.7%	$6,963,718	1,010	100%	$123,065,458
Town of Black Creek	747	672	90%	$51,275,057	57	7.6%	$8,348,832	18	2.4%	$7,704,881	747	100%	$67,328,770
Town of Castalia	195	165	84.6%	$11,327,315	21	10.8%	$5,282,083	9	4.6%	$7,509,974	195	100%	$24,119,371
Town of Conetoe	190	159	83.7%	$11,827,838	24	12.6%	$9,149,095	7	3.7%	$1,743,510	190	100%	$22,720,444
Town of Dortches	578	467	80.8%	$55,122,907	105	18.2%	$22,266,787	6	1%	$5,001,690	578	100%	$82,391,384
Town of Elm City	1,008	857	85%	$68,306,135	122	12.1%	$93,663,080	29	2.9%	$12,814,866	1,008	100%	$174,784,082
Town of Leggett	166	109	65.7%	$10,829,805	48	28.9%	$3,873,398	9	5.4%	$18,118,506	166	100%	$32,821,708
Town of Lucama	936	824	88%	$65,149,166	87	9.3%	$12,960,265	25	2.7%	$8,698,824	936	100%	$86,808,255
Town of Macclesfield	304	253	83.2%	$21,919,842	46	15.1%	$7,009,604	5	1.6%	$1,640,868	304	100%	$30,570,314
Town of Middlesex	1,070	864	80.7%	$64,713,818	179	16.7%	$84,201,592	27	2.5%	$13,598,716	1,070	100%	$162,514,126
Town of Momeyer	408	324	79.4%	$25,380,752	79	19.4%	$9,787,747	5	1.2%	$11,546,533	408	100%	$46,715,033
Town of Nashville	2,959	2,585	87.4%	$250,086,132	310	10.5%	$160,218,055	64	2.2%	$74,639,947	2,959	100%	$484,944,134
Town of Pinetops	1,067	903	84.6%	$79,826,356	146	13.7%	$43,841,131	18	1.7%	$16,400,803	1,067	100%	$140,068,289
Town of Princeville	1,054	976	92.6%	$76,771,827	67	6.4%	$21,974,573	11	1%	$7,314,438	1,054	100%	$106,060,837
Town of Red Oak	1,717	1,524	88.8%	$185,864,055	181	10.5%	$66,727,790	12	0.7%	$9,110,120	1,717	100%	$261,701,965
Town of Saratoga	469	411	87.6%	$35,692,247	48	10.2%	$7,554,410	10	2.1%	$2,228,961	469	100%	$45,475,618
Town of Sharpsburg	1,502	1,297	86.4%	$94,754,539	191	12.7%	$79,567,434	14	0.9%	$9,015,243	1,502	100%	$183,337,217
Town of Sims	368	299	81.2%	$25,275,021	58	15.8%	$16,505,508	11	3%	$3,696,284	368	100%	$45,476,814
Town of Speed	178	139	78.1%	$10,352,398	32	18%	$2,541,901	7	3.9%	$1,990,493	178	100%	$14,884,791
Town of Spring Hope	1,240	1,031	83.1%	$92,234,891	176	14.2%	$68,952,860	33	2.7%	$14,430,528	1,240	100%	$175,618,279
Town of Stantonsburg	602	495	82.2%	$46,663,542	88	14.6%	$13,135,965	19	3.2%	$7,747,338	602	100%	$67,546,845
Town of Tarboro	5,192	4,454	85.8%	$441,227,153	581	11.2%	$786,026,179	150	2.9%	$135,387,027	5,185	99.9%	$1,362,640,358
Town of Whitakers	498	424	85.1%	$36,229,512	57	11.4%	$24,368,757	17	3.4%	$5,493,750	498	100%	$66,092,020

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
Unincorporated Nash County	23,157	17,813	76.9%	$1,535,484,441	5,050	21.8%	$869,318,914	290	1.3%	$306,582,493	23,153	100%	$2,711,385,848
Unincorporated Edgecombe County	12,695	9,849	77.6%	$845,620,310	2,708	21.3%	$503,941,244	138	1.1%	$92,033,277	12,695	100%	$1,441,594,830
Unincorporated Wilson County	12,823	10,203	79.6%	$895,314,117	2,454	19.1%	$615,920,712	163	1.3%	$86,503,221	12,820	100%	$1,597,738,050
Region Total	**120,281**	**100,174**	**83.3%**	**$9,055,105,736**	**17,918**	**14.9%**	**$8,057,159,861**	**2,103**	**1.7%**	**$1,633,047,927**	**120,195**	**99.9%**	**$18,745,313,523**

Source: NCEM Risk Management Tool

Table 4.93 – 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
City of Rocky Mount	27,811	24,659	88.7%	$2,857,964,560	2,610	9.4%	$3,340,173,723	498	1.8%	$692,539,783	27,767	99.8%	$6,890,678,066
City of Wilson	20,337	17,630	86.7%	$2,013,449,929	2,188	10.8%	$1,995,624,230	491	2.4%	$423,166,871	20,309	99.9%	$4,432,241,031
Town of Bailey	1,010	788	78%	$70,603,538	205	20.3%	$64,034,307	17	1.7%	$11,067,038	1,010	100%	$145,704,883
Town of Black Creek	747	672	90%	$59,990,401	57	7.6%	$9,438,750	18	2.4%	$12,016,888	747	100%	$81,446,039
Town of Castalia	195	165	84.6%	$12,932,149	21	10.8%	$6,805,637	9	4.6%	$11,805,086	195	100%	$31,542,872
Town of Conetoe	190	159	83.7%	$12,057,782	24	12.6%	$9,149,095	7	3.7%	$1,743,510	190	100%	$22,950,388
Town of Dortches	578	467	80.8%	$63,750,161	105	18.2%	$27,512,294	6	1%	$7,955,744	578	100%	$99,218,199
Town of Elm City	1,008	857	85%	$81,499,060	122	12.1%	$105,395,587	29	2.9%	$19,946,809	1,008	100%	$206,841,456
Town of Leggett	166	109	65.7%	$11,316,231	48	28.9%	$3,873,398	9	5.4%	$18,118,506	166	100%	$33,308,135
Town of Lucama	936	824	88%	$75,632,307	87	9.3%	$15,747,823	25	2.7%	$13,756,729	936	100%	$105,136,859
Town of Macclesfield	304	253	83.2%	$22,746,442	46	15.1%	$7,009,604	5	1.6%	$1,640,868	304	100%	$31,396,914
Town of Middlesex	1,070	864	80.7%	$76,749,321	179	16.7%	$92,306,040	27	2.5%	$21,156,581	1,070	100%	$190,211,942
Town of Momeyer	408	324	79.4%	$29,502,975	79	19.4%	$11,800,313	5	1.2%	$18,366,044	408	100%	$59,669,332
Town of Nashville	2,959	2,585	87.4%	$307,072,099	310	10.5%	$200,759,094	64	2.2%	$116,852,536	2,959	100%	$624,683,729

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 Pinetops	1,067	903	84.6%	$83,972,762	146	13.7%	$43,841,131	18	1.7%	$16,400,803	1,067	100%	$144,214,695
Town of Princeville	1,054	976	92.6%	$82,128,473	67	6.4%	$21,974,573	11	1%	$7,314,438	1,054	100%	$111,417,483
Town of Red Oak	1,717	1,524	88.8%	$216,415,579	181	10.5%	$75,267,082	12	0.7%	$14,481,784	1,717	100%	$306,164,444
Town of Saratoga	469	411	87.6%	$41,578,692	48	10.2%	$8,368,243	10	2.1%	$3,545,410	469	100%	$53,492,345
Town of Sharpsburg	1,502	1,297	86.4%	$116,776,531	191	12.7%	$94,323,013	14	0.9%	$14,187,029	1,502	100%	$225,286,573
Town of Sims	368	299	81.2%	$29,112,084	58	15.8%	$21,300,135	11	3%	$5,879,351	368	100%	$56,291,570
Town of Speed	178	139	78.1%	$10,395,032	32	18%	$2,541,901	7	3.9%	$1,990,493	178	100%	$14,927,426
Town of Spring Hope	1,240	1,031	83.1%	$110,900,457	176	14.2%	$80,898,671	33	2.7%	$22,440,616	1,240	100%	$214,239,745
Town of Stantonsburg	602	495	82.2%	$54,705,373	88	14.6%	$15,557,846	19	3.2%	$12,157,574	602	100%	$82,420,794
Town of Tarboro	5,192	4,454	85.8%	$470,217,355	581	11.2%	$786,026,179	150	2.9%	$135,387,027	5,185	99.9%	$1,391,630,560
Town of Whitakers	498	424	85.1%	$40,592,262	57	11.4%	$26,803,285	17	3.4%	$7,425,129	498	100%	$74,820,677
Unincorporated Nash County	23,157	17,813	76.9%	$1,781,146,299	5,050	21.8%	$948,199,995	290	1.3%	$479,545,671	23,153	100%	$3,208,891,965
Unincorporated Edgecombe County	12,695	9,849	77.6%	$859,707,178	2,708	21.3%	$503,941,244	138	1.1%	$92,033,277	12,695	100%	$1,455,681,699
Unincorporated Wilson County	12,823	10,203	79.6%	$1,034,744,390	2,454	19.1%	$685,527,768	163	1.3%	$135,524,466	12,820	100%	$1,855,796,623
Region Total	**120,281**	**100,174**	**83.3%**	**$10,627,659,422**	**17,918**	**14.9%**	**$9,204,200,961**	**2,103**	**1.7%**	**$2,318,446,061**	**120,195**	**99.9%**	**$22,150,306,444**

Source: NCEM Risk Management Tool

Table 4.94 – 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
City of Rocky Mount	27,811	24,659	88.7%	$2,891,763,125	2,610	9.4%	$3,416,343,544	498	1.8%	$731,060,666	27,767	99.8%	$7,039,167,335
City of Wilson	20,337	17,630	86.7%	$2,051,818,556	2,188	10.8%	$2,062,340,958	491	2.4%	$446,709,301	20,309	99.9%	$4,560,868,815
Town of Bailey	1,010	788	78%	$70,907,542	205	20.3%	$65,238,715	17	1.7%	$11,481,558	1,010	100%	$147,627,814
Town of Black Creek	747	672	90%	$60,249,401	57	7.6%	$9,635,158	18	2.4%	$12,883,024	747	100%	$82,767,584
Town of Castalia	195	165	84.6%	$12,932,149	21	10.8%	$7,217,349	9	4.6%	$12,484,580	195	100%	$32,634,078
Town of Conetoe	190	159	83.7%	$12,057,782	24	12.6%	$9,149,095	7	3.7%	$1,743,510	190	100%	$22,950,388
Town of Dortches	578	467	80.8%	$63,750,161	105	18.2%	$28,622,289	6	1%	$8,241,241	578	100%	$100,613,691
Town of Elm City	1,008	857	85%	$82,108,100	122	12.1%	$106,976,491	29	2.9%	$21,458,589	1,008	100%	$210,543,181
Town of Leggett	166	109	65.7%	$11,316,231	48	28.9%	$3,873,398	9	5.4%	$18,118,506	166	100%	$33,308,135
Town of Lucama	936	824	88%	$75,779,095	87	9.3%	$16,399,472	25	2.7%	$14,395,712	936	100%	$106,574,279
Town of Macclesfield	304	253	83.2%	$22,746,442	46	15.1%	$7,009,604	5	1.6%	$1,640,868	304	100%	$31,396,914
Town of Middlesex	1,070	864	80.7%	$77,505,776	179	16.7%	$92,930,210	27	2.5%	$22,779,272	1,070	100%	$193,215,258
Town of Momeyer	408	324	79.4%	$29,577,856	79	19.4%	$12,277,327	5	1.2%	$19,025,121	408	100%	$60,880,304
Town of Nashville	2,959	2,585	87.4%	$310,728,467	310	10.5%	$207,790,717	64	2.2%	$124,455,719	2,959	100%	$642,974,903
Town of Pinetops	1,067	903	84.6%	$83,972,762	146	13.7%	$43,841,131	18	1.7%	$16,400,803	1,067	100%	$144,214,695
Town of Princeville	1,054	976	92.6%	$82,128,473	67	6.4%	$21,974,573	11	1%	$7,314,438	1,054	100%	$111,417,483
Town of Red Oak	1,717	1,524	88.8%	$216,512,143	181	10.5%	$75,950,660	12	0.7%	$15,017,648	1,717	100%	$307,480,451
Town of Saratoga	469	411	87.6%	$41,661,068	48	10.2%	$8,491,237	10	2.1%	$3,672,639	469	100%	$53,824,945
Town of Sharpsburg	1,502	1,297	86.4%	$119,167,446	191	12.7%	$96,421,472	14	0.9%	$14,686,860	1,502	100%	$230,275,777
Town of Sims	368	299	81.2%	$29,112,084	58	15.8%	$22,635,837	11	3%	$6,090,335	368	100%	$57,838,256
Town of Speed	178	139	78.1%	$10,395,032	32	18%	$2,541,901	7	3.9%	$1,990,493	178	100%	$14,927,426
Town of Spring Hope	1,240	1,031	83.1%	$111,899,998	176	14.2%	$83,197,130	33	2.7%	$24,180,576	1,240	100%	$219,277,704
Town of Stantonsburg	602	495	82.2%	$54,772,253	88	14.6%	$16,069,613	19	3.2%	$12,895,410	602	100%	$83,737,276
Town of Tarboro	5,192	4,454	85.8%	$470,217,355	581	11.2%	$786,026,179	150	2.9%	$135,387,027	5,185	99.9%	$1,391,630,560
Town of Whitakers	498	424	85.1%	$40,888,841	57	11.4%	$27,060,758	17	3.4%	$7,846,777	498	100%	$75,796,377

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
Unincorporated Nash County	23,157	17,813	76.9%	$1,786,978,401	5,050	21.8%	$955,897,971	290	1.3%	$511,534,063	23,153	100%	$3,254,410,435
Unincorporated Edgecombe County	12,695	9,849	77.6%	$859,707,178	2,708	21.3%	$503,941,244	138	1.1%	$92,033,277	12,695	100%	$1,455,681,699
Unincorporated Wilson County	12,823	10,203	79.6%	$1,036,904,938	2,454	19.1%	$695,086,962	163	1.3%	$144,158,496	12,820	100%	$1,876,150,396
Region Total	**120,281**	**100,174**	**83.3%**	**$10,717,558,655**	**17,918**	**14.9%**	**$9,384,940,995**	**2,103**	**1.7%**	**$2,439,686,509**	**120,195**	**99.9%**	**$22,542,186,159**

Source: NCEM Risk Management Tool

Environment

Tornadoes can cause massive damage to the natural environment, uprooting trees and other debris within the tornado's path. This is part of a natural process, however, and the environment will return to its original state in time.

Consequence Analysis

Table 4.95 summarizes the potential negative consequences of tornado.

Table 4.95 – Consequence Analysis - Tornado

Category	Consequences
Public	Injuries; fatalities
Responders	Injuries; fatalities; potential impacts to response capabilities due to storm impacts
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	The weakest tornadoes, EF0, can cause minor roof damage, while strong tornadoes can destroy frame buildings and even badly damage steel reinforced concrete structures. Buildings are vulnerable to direct impact from tornadoes and also from wind borne debris. Mobile homes are particularly susceptible to damage during tornadoes.
Environment	Potential devastating impacts in storm's path
Economic Condition of the Jurisdiction	Contingent on tornado's path; can severely impact/destroy critical infrastructure and other economic drivers
Public Confidence in the Jurisdiction's Governance	Public confidence in the jurisdiction's governance may be influenced by severe tornado events if response and recovery are not timely and effective.

Hazard Summary by Jurisdiction

The following table summarizes tornado hazard risk by jurisdiction. Tornado hazard risk does not vary substantially by jurisdiction.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	3	3	2	4	1	2.7	H
Wilson	3	3	2	4	1	2.7	H
Bailey	3	3	2	4	1	2.7	H
Black Creek	3	3	2	4	1	2.7	H
Castalia	3	3	2	4	1	2.7	H
Conetoe	3	3	2	4	1	2.7	H
Dortches	3	3	2	4	1	2.7	H
Elm City	3	3	2	4	1	2.7	H
Leggett	3	3	2	4	1	2.7	H
Lucama	3	3	2	4	1	2.7	H
Macclesfield	3	3	2	4	1	2.7	H
Middlesex	3	3	2	4	1	2.7	H
Momeyer	3	3	2	4	1	2.7	H
Nashville	3	3	2	4	1	2.7	H
Pinetops	3	3	2	4	1	2.7	H
Princeville	3	3	2	4	1	2.7	H
Red Oak	3	3	2	4	1	2.7	H

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Saratoga	3	3	2	4	1	2.7	H
Sharpsburg	3	3	2	4	1	2.7	H
Sims	3	3	2	4	1	2.7	H
Speed	3	3	2	4	1	2.7	H
Spring Hope	3	3	2	4	1	2.7	H
Stantonsburg	3	3	2	4	1	2.7	H
Tarboro	3	3	2	4	1	2.7	H
Whitakers	3	3	2	4	1	2.7	H
Nash County	3	3	2	4	1	2.7	H
Edgecombe County	3	3	2	4	1	2.7	H
Wilson County	3	3	2	4	1	2.7	H

4.5.11 Wildfire

Hazard Background

A wildfire is an uncontained fire that spreads through the environment. Wildfires have the ability to consume large areas, including infrastructure, property, and resources. When massive fires, or conflagrations, develop near populated areas, evacuations possibly ensue. Not only do the flames impact the environment, but the massive volumes of smoke spread by certain atmospheric conditions also impact the health of nearby populations. There are three general types of fire spread that are recognized.

- **Ground fires** – burn organic matter in the soil beneath surface litter and are sustained by glowing combustion.
- **Surface fires** – spread with a flaming front and burn leaf litter, fallen branches and other fuels located at ground level.
- **Crown fires** – burn through the top layer of foliage on a tree, known as the canopy or crown fires. Crown fires, the most intense type of fire and often the most difficult to contain, need strong winds, steep slopes and a heavy fuel load to continue burning.

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.

Weather plays a major role in the birth, growth and death of a wildfire. In support of forecasting for fire weather, the National Weather Service Fire Weather Program emerged in response to a need for weather support to large and dangerous wildfires. This service is provided to federal and state land management agencies for the prevention, suppression, and management of forest and rangeland fires. The National Weather Service Raleigh Forecast Office provides year-round fire weather forecasts for the N.E.W. Region.

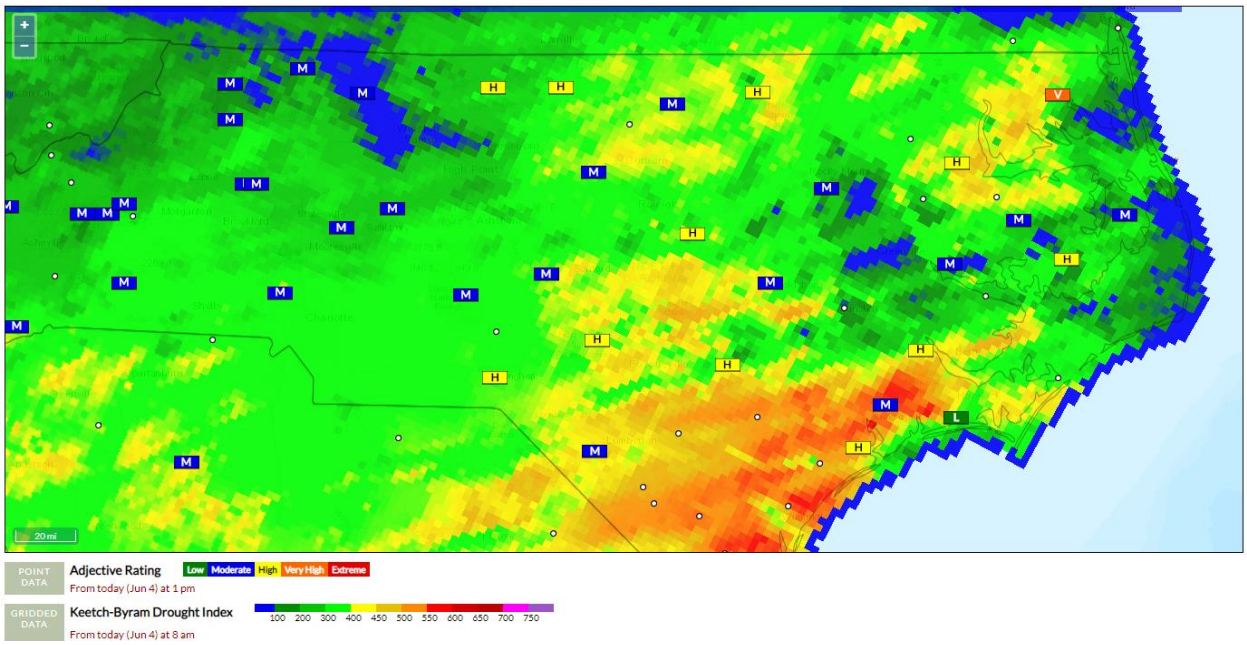
Weather conditions favorable to wildfire include drought, which increases flammability of surface fuels, and winds, which aid a wildfire's progress. The combination of wind, temperature, and humidity affects how fast wildland fires can spread. Rapid response can contain wildfires and limit their threat to property.

The N.E.W. Region experiences a variety of wildfire conditions found in the Keetch-Byram Drought Index, which is described in Table 4.96. The Keetch-Byram Drought Index (KBDI) for June 4, 2019 is shown in Figure 4.37 along with a Daily Fire Danger Estimate Adjective Rating for certain points across the state. The KBDI for the N.E.W. Region at this time was between 100 and 300, and the Fire Danger Estimate for the nearby area was "Moderate" to "High."

Table 4.96 – 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.

Figure 4.37 – Keetch-Byram Drought Index, June 2019



Source: USFS Wildland Fire Assessment System

Warning Time: 4 – Less than six hours

Duration: 3 – Less than 1 week

Location

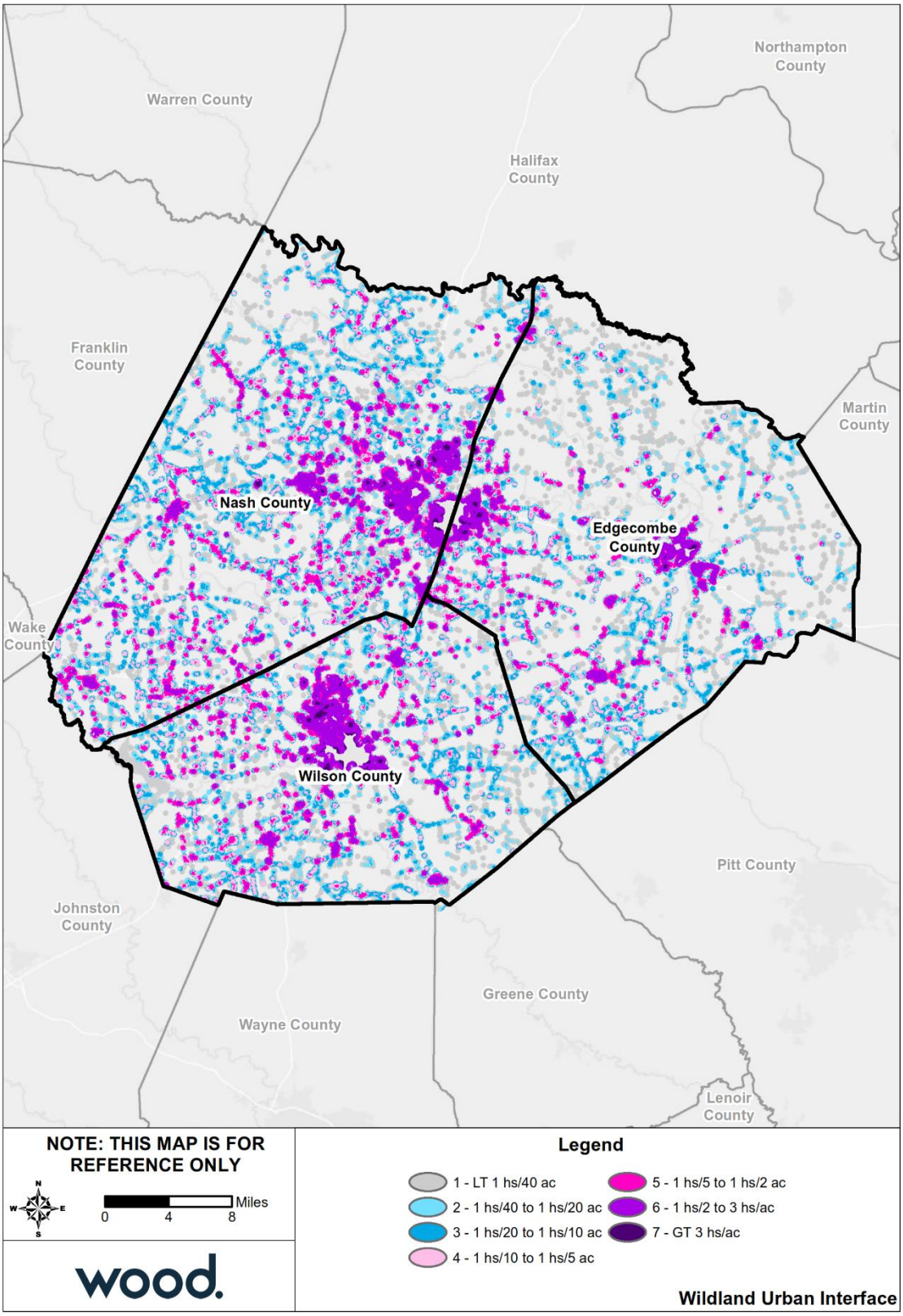
The location of wildfire risk can be defined by the acreage of Wildland Urban Interface (WUI). The WUI is described as the area where structures and other human improvements meet and intermingle with undeveloped wildland or vegetative fuels, and thus demarcates the spatial extent of wildfire risk. The WUI is essentially all the land in the county that is not heavily urbanized. The Southern Wildfire Risk Assessment (SWRA) estimates that 92.4 percent of the N.E.W. 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 4.97 details the extent of the WUI in the N.E.W. Region, and Figure 4.38 maps the WUI.

Table 4.97 – Wildland Urban Interface, Population and Acres

	Housing Density	WUI Population	% of WUI Population	WUI Acres	% of WUI Acres
	LT 1hs/40ac	2,834	1.3 %	148,343	32.3 %
	1hs/40ac to 1hs/20ac	4,148	1.9 %	68,444	14.9 %
	1hs/20ac to 1hs/10ac	10,446	4.8 %	79,567	17.3 %
	1hs/10ac to 1hs/5ac	17,438	8.1 %	62,338	13.6 %
	1hs/5ac to 1hs/2ac	36,886	17.1 %	54,973	12.0 %
	1hs/2ac to 3hs/1ac	125,636	58.2 %	44,344	9.6 %
	GT 3hs/1ac	18,649	8.6 %	1,885	0.4 %
	Total	**216,037**	**100.0 %**	**459,894**	**100.0 %**

Source: Southern Wildfire Risk Assessment

Figure 4.38 – Wildland Urban Interface, N.E.W. Region



Source: Southern Wildfire Risk Assessment

Extent

Wildfire extent can be defined by the fire's intensity and measured by the Characteristic Fire Intensity Scale, which identifies areas where significant fuel hazards which could produce dangerous fires exist. Fire Intensity ratings identify where significant fuel hazards and dangerous fire behavior potential exist based on fuels, topography, and a weighted average of four percentile weather categories. The Fire Intensity Scale consists of five classes, as defined by Southern Wildfire Risk Assessment and shown in Table 4.98. Figure 4.39 shows the potential fire intensity across the N.E.W. Region.

Table 4.98 – 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.

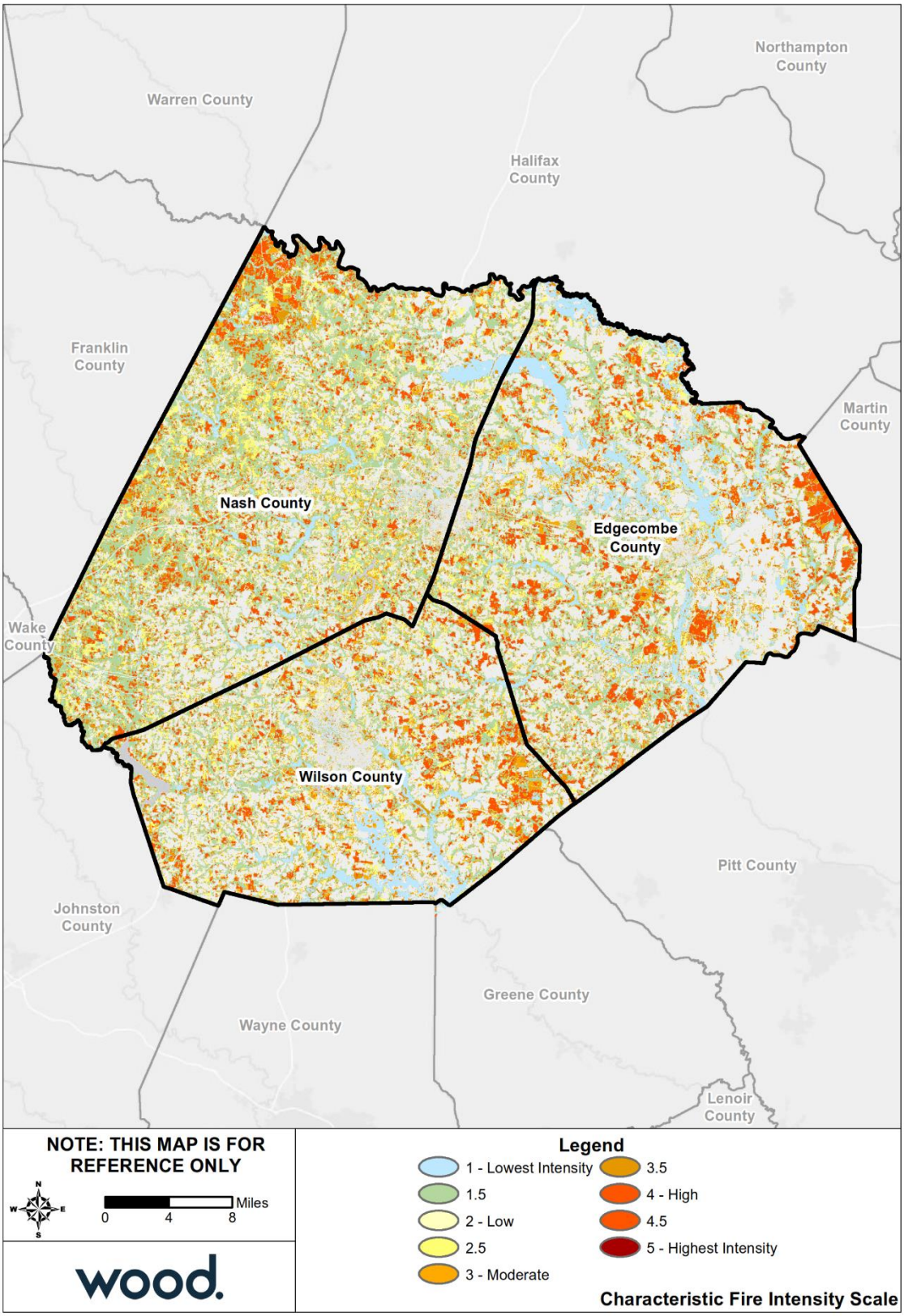
Source: Southern Wildfire Risk Assessment

Approximately 9 percent of the N.E.W. Region may experience a Class 4 or Class 4.5 Fire Intensity, which poses significant harm or damage to life and property. 12 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 (36.7%) or would face a Class 1 or Class 2 Fire Intensity, which are easily suppressed.

Impact: 2 – Limited

Spatial Extent: 3 – Moderate

Figure 4.39 – Characteristic Fire Intensity, N.E.W. Region



Source: Southern Wildfire Risk Assessment

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 4,000 fires burning more than 115,000 acres annually. Recently, within the last 10 years, the State has averaged closer to 3,200 fires per year and 15,000 acres burned annually.

Table 4.99 lists past occurrences of wildfire in the N.E.W. 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 may be higher than what can be reported here.

Table 4.99 – Records for Wildfire in the N.E.W. Region, 1999-2018

Year	Wildfire Count	Acres Burned	Average Acreage Burned
1999	80	178.8	2.24
2000	71	118.5	1.67
2001	119	339.8	2.86
2002	76	274.7	3.61
2003	28	29.1	1.04
2004	65	69.9	1.08
2005	81	154.1	1.90
2006	106	223.3	2.11
2007	142	181.3	1.28
2008	81	617.0	7.62
2009	45	73.6	1.64
2010	76	90.1	1.19
2011	108	371.6	3.44
2012	86	122.0	1.42
2013	107	137.2	1.28
2014	102	79.7	0.78
2015	114	79.4	0.70
2016	123	100.9	0.82
2017	142	148.2	1.04
2018	127	107.0	0.84
Total	**1,879**	**3,496.1**	**1.86**

Source: NC Forest Service
Note: Records were not available for Edgecombe County for 2003, therefore the total event count and acreage burned may be slightly higher than what is reported in this table.

Based on NCFS records, over the 20-year period from 1999 through 2018, the N.E.W. Region experienced 1,879 wildfire events that have burned over 3,496 acres of land, or approximately 1.86 acres per fire on average. Total fire counts and acreage burned by county are reported in each county's jurisdictional annex.

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 N.E.W. Region is presented in Table 4.100 and illustrated in Figure 4.40.

Table 4.100 – Burn Probability, N.E.W. Region

Class	Acres	Percent
1	270,155	64.5 %
2	130,241	31.1 %
3	17,852	4.3 %
4	342	0.1 %
5	0	0.0 %
6	0	0.0 %
7	0	0.0 %
8	0	0.0 %
9	0	0.0 %
10	0	0.0 %
Total	**418,590**	**100.0 %**

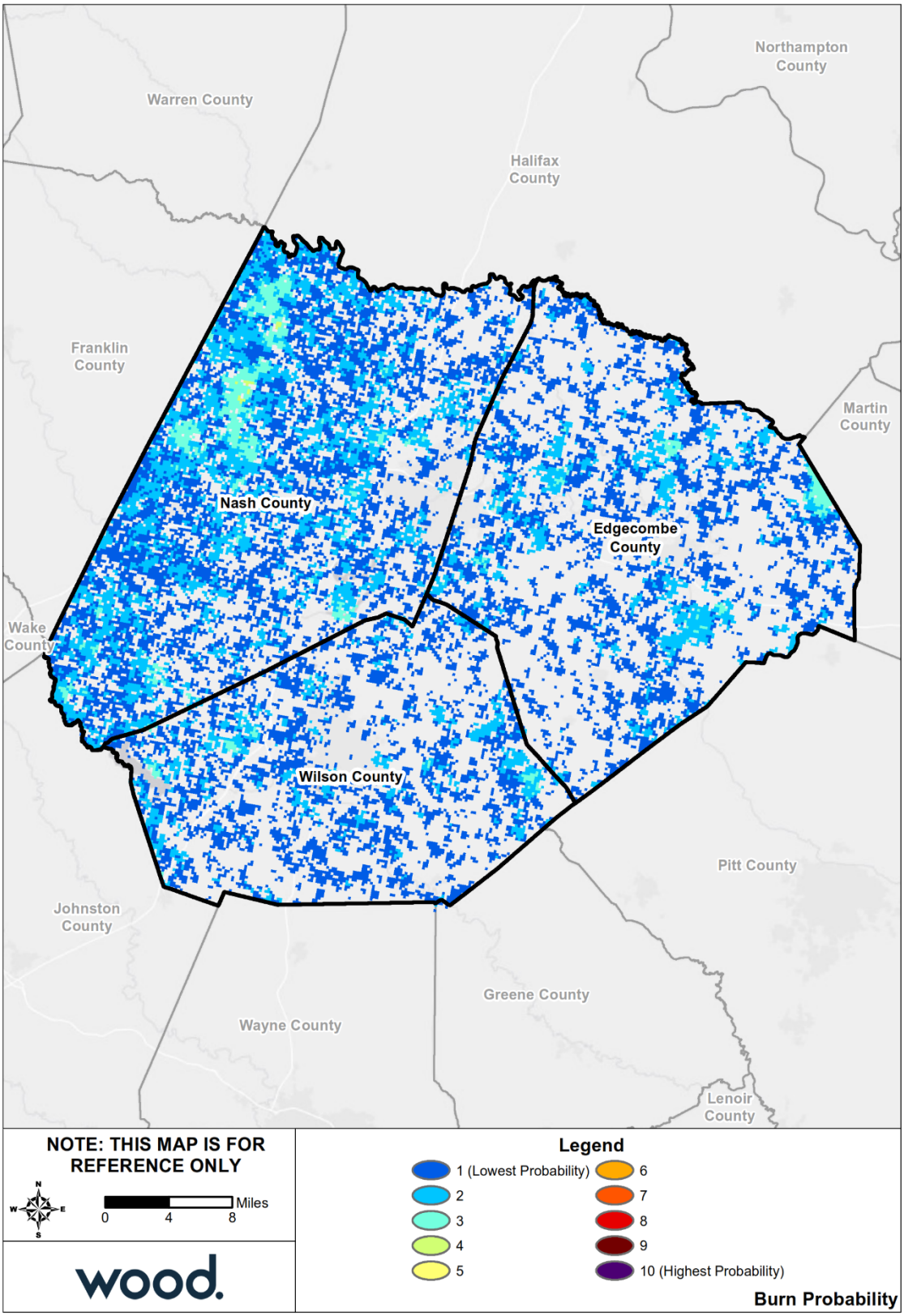
Source: Southern Wildfire Risk Assessment

The entirety of the N.E.W. Region has a burn probability of 4 or less, and 95.6 percent of the region has a burn probability of 2 or less. There are areas of moderate burn probability are located in northwest Nash County, but they are limited.

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

Figure 4.40 – Burn Probability, N.E.W. Region



Source: Southern Wildfire Risk Assessment

Climate Change

Wildfires are usually prevalent with a combination of high temperatures and dry conditions, combustible fuels and an ignition source. Climate change has been linked to longer, warmer and drier conditions in the southeast, exacerbating key potential conditions for a wildfire to spread.

Vulnerability Assessment

Methodologies and Assumptions

Population and property at risk to wildfire was estimated using data from the 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 4.101 details the population estimated to be at risk to wildfire according to the NCEM IRISK database.

Table 4.101 – 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
City of Rocky Mount	58,947	5,858	9.9%	8,303	825	10%	3,692	367	9.9%
City of Wilson	51,039	4,267	8.4%	7,237	605	8.4%	3,425	286	8.4%
Town of Bailey	1,371	261	19%	192	37	19.30%	84	16	19%
Town of Black Creek	1,491	260	17.4%	211	37	17.5%	100	17	17%
Town of Castalia	263	21	8%	37	3	8.10%	16	1	6.2%
Town of Conetoe	283	34	12%	41	5	12.20%	19	2	10.50%
Town of Dortches	831	440	52.9%	116	61	52.60%	51	27	52.9%
Town of Elm City	1,901	333	17.5%	270	47	17.4%	128	22	17.2%
Town of Leggett	191	16	8.40%	27	2	7.40%	12	1	8.30%
Town of Lucama	1,811	628	34.7%	257	89	34.6%	121	42	34.7%
Town of Macclesfield	463	0	0%	66	0	0%	30	0	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
Town of Middlesex	1,616	6	0.4%	226	1	0.40%	99	0	0%
Town of Momeyer	477	1	0.2%	67	0	0%	29	0	0%
Town of Nashville	6,683	67	1%	934	9	1%	410	4	1%
Town of Pinetops	1,969	643	32.70%	282	92	32.60%	129	42	32.60%
Town of Princeville	2,670	3	0.10%	383	0	0%	175	0	0%
Town of Red Oak	3,395	154	4.5%	474	21	4.40%	208	9	4.3%
Town of Saratoga	775	447	57.7%	110	63	57.3%	52	30	57.7%
Town of Sharpsburg	2,944	560	19.0%	415	79	19.04%	188	36	19.1%
Town of Sims	760	519	68.3%	108	74	68.5%	51	35	68.6%
Town of Speed	189	7	3.70%	27	1	3.70%	12	0	0%
Town of Spring Hope	1,956	157	8%	273	22	8.10%	120	10	8.3%
Town of Stantonsburg	944	29	3.1%	134	4	3%	63	2	3.2%
Town of Tarboro	11,730	0	0%	1,681	0	0%	769	0	0%
Town of Whitakers	725	0	0%	102	0	0%	46	0	0%
Unincorporated Nash County	36,835	5,924	16.1%	5,147	828	16.10%	2,259	363	16.1%
Unincorporated Edgecombe County	19,599	2,966	15.10%	2,808	425	15.10%	1,284	194	15.10%
Unincorporated Wilson County	21,520	6,828	31.7%	3,051	968	31.7%	1,444	458	31.7%
Region Total	**233,378**	**30,429**	**13.0%**	**32,979**	**4,298**	**13.0%**	**15,016**	**1,964**	**13.1%**

Source: NCEM Risk Management Tool

Property

Wildfire can cause direct property losses, including damage to buildings, vehicles, landscaped areas, agricultural lands, and livestock. Construction practices and building codes can increase fire resistance and fire safety of structures. Techniques for reducing vulnerability to wildfire include using street design to ensure accessibility to fire trucks, incorporating fire resistant materials in building construction, and using landscaping practices to reduce flammability and the ability for fire to spread.

Table 4.102 details the buildings at risk to wildfire in the N.E.W. Region. The sector facing the greatest risk to wildfire in the N.E.W. Region is food and agriculture. Table 4.103 provides estimated critical facilities risk.

Table 4.102 – 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
City of Rocky Mount	27,811	2,454	8.80%	$280,737,928	221	0.80%	$374,948,473	67	0.20%	$124,450,421	2,742	9.90%	$780,136,822
City of Wilson	20,337	1,478	7.30%	$164,618,036	187	0.90%	$236,461,053	46	0.20%	$44,727,549	1,711	8.40%	$445,806,638
Town of Bailey	1,010	150	14.90%	$13,722,809	26	2.60%	$10,181,888	0	0%	$0	176	17.40%	$23,904,697
Town of Black Creek	747	117	15.70%	$10,744,121	17	2.30%	$1,509,087	3	0.40%	$684,331	137	18.30%	$12,937,540
Town of Castalia	195	13	6.70%	$630,831	2	1%	$782,763	1	0.50%	$2,449,659	16	8.20%	$3,863,252
Town of Conetoe	190	19	10%	$1,242,664	5	2.60%	$2,444,427	1	0.50%	$133,361	25	13.20%	$3,820,452
Town of Dortches	578	247	42.70%	$31,723,556	56	9.70%	$13,809,316	4	0.70%	$4,268,827	307	53.10%	$49,801,699
Town of Elm City	1,008	151	15%	$15,435,026	24	2.40%	$35,433,430	9	0.90%	$9,484,929	184	18.30%	$60,353,385
Town of Leggett	166	9	5.40%	$818,330	3	1.80%	$247,224	1	0.60%	$4,255,661	13	7.80%	$5,321,216
Town of Lucama	936	287	30.70%	$26,493,452	34	3.60%	$6,948,611	8	0.90%	$6,501,929	329	35.10%	$39,943,992
Town of Macclesfield	304	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Middlesex	1,070	3	0.30%	$64,749	0	0%	$0	0	0%	$0	3	0.30%	$64,749
Town of Momeyer	408	1	0.20%	$127,116	1	0.20%	$44,045	0	0%	$0	2	0.50%	$171,160
Town of Nashville	2,959	26	0.90%	$1,985,520	3	0.10%	$66,512	0	0%	$0	29	1%	$2,052,032
Town of Pinetops	1,067	295	27.60%	$33,228,455	41	3.80%	$15,246,364	5	0.50%	$7,127,881	341	32%	$55,602,699
Town of Princeville	1,054	1	0.10%	$67,658	0	0%	$0	0	0%	$0	1	0.10%	$67,658
Town of Red Oak	1,717	69	4%	$11,974,429	7	0.40%	$257,124	0	0%	$0	76	4.40%	$12,231,553
Town of Saratoga	469	237	50.50%	$25,889,267	20	4.30%	$2,138,733	5	1.10%	$2,205,697	262	55.90%	$30,233,697
Town of Sharpsburg	1,502	234	15.60%	$28,825,283	37	2.50%	$52,854,984	4	0.30%	$2,449,133	275	18.30%	$84,129,400
Town of Sims	368	204	55.40%	$18,620,344	37	10.10%	$17,352,815	10	2.70%	$5,542,667	251	68.20%	$41,515,826
Town of Speed	178	5	2.80%	$338,124	0	0%	$0	0	0%	$0	5	2.80%	$338,124
Town of Spring Hope	1,240	83	6.70%	$7,878,164	10	0.80%	$4,621,350	0	0%	$0	93	7.50%	$12,499,514
Town of Stantonsburg	602	15	2.50%	$1,699,019	6	1%	$360,444	0	0%	$0	21	3.50%	$2,059,463
Town of Tarboro	5,192	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Whitakers	498	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0

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
Unincorporated Nash County	23,157	2,865	12.40%	$298,786,863	687	3%	$179,271,672	46	0.20%	$107,679,223	3,598	15.50%	$585,737,758
Unincorporated Edgecombe County	12,695	1,491	11.70%	$132,126,951	333	2.60%	$49,911,479	30	0.20%	$29,604,083	1,854	14.60%	$211,642,512
Unincorporated Wilson County	12,823	3,236	25.20%	$336,474,161	773	6%	$418,761,250	64	0.50%	$63,896,651	4,073	31.80%	$819,132,062
Region Total	**120,281**	**13,690**	**11.40%**	**$1,444,252,856**	**2,530**	**2.10%**	**$1,423,653,044**	**304**	**0.30%**	**$415,462,002**	**16,524**	**13.70%**	**$3,283,367,900**

Source: NCEM Risk Management Tool

Table 4.103 – Critical Facilities at Risk to Wildfire

Sector	Number of Buildings at Risk	Estimated Damages
Banking and Finance	3	$468,698
Commercial Facilities	709	$577,967,707
Critical Manufacturing	215	$812,710,599
Defense Industrial Base	2	$42,616,867
Emergency Services	7	$7,031,379
Energy	9	$226,279,565
Food and Agriculture	1,678	$138,711,993
Government Facilities	125	$209,155,354
Healthcare and Public Health	6	$4,832,883
Transportation Systems	104	$44,716,815
All Categories	**2,858**	**$2,064,491,860**

Source: NCEM Risk Management Tool

Environment

Wildfires have the potential to destroy forest and forage resources and damage natural habitats. Wildfire can also damage agricultural crops on private land. Wildfire is part of a natural process, however, and the environment will return to its original state in time.

Consequence Analysis

Table 4.104 summarizes the potential detrimental consequences of wildfire.

Table 4.104 – Consequence Analysis - Wildfire

Category	Consequences
Public	In addition to the potential for fatalities, wildfire and the resulting diminished air quality pose health risks. Exposure to wildfire smoke can cause serious health problems within a community, including asthma attacks and pneumonia, and can worsen chronic heart and lung diseases. Vulnerable populations include children, the elderly, people with respiratory problems or with heart disease. Even healthy citizens may experience minor symptoms, such as sore throats and itchy eyes.
Responders	Public and firefighter safety is the first priority in all wildland fire management activities. Wildfires are a real threat to the health and safety of the emergency services. Most fire-fighters in rural areas are 'retained'. This means that they are part-time and can be called away from their normal work to attend to fires.
Continuity of Operations (including Continued Delivery of Services)	Wildfire events can result in a loss of power which may impact operations. Downed trees, power lines and damaged road conditions may prevent access to critical facilities and/or emergency equipment.
Property, Facilities and Infrastructure	Wildfires frequently damage community infrastructure, including roadways, communication networks and facilities, power lines, and water distribution systems. Restoring basic services is critical and a top priority. Efforts to restore roadways include the costs of maintenance and damage assessment teams, field data collection, and replacement or repair costs. 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 cause damage to the natural environment, killing vegetation and animals. The risk of floods and debris flows increases after wildfires due to the exposure of

Category	Consequences
	bare ground and the loss of vegetation. In addition, the secondary effects of wildfires, including erosion, landslides, introduction of invasive species, and changes in water quality, are often more disastrous than the fire itself.
Economic Condition of the Jurisdiction	Wildfires can have significant short-term and long-term effects on the local economy. Wildfires, and extreme fire danger, may reduce recreation and tourism in and near the fires. If aesthetics are impaired, local property values can decline. Extensive fire damage to trees can significantly alter the timber supply, both through a short-term surplus from timber salvage and a longer-term decline while the trees regrow. Water supplies can be degraded by post-fire erosion and stream sedimentation. Wildfires can also have positive effects on local economies. Positive effects come from economic activity generated in the community during fire suppression and post-fire rebuilding. These may include forestry support work, such as building fire lines and performing other defenses, or providing firefighting teams with food, ice, and amenities such as temporary shelters and washing machines.
Public Confidence in the Jurisdiction's Governance	Wildfire events may cause issues with public confidence because they have very 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 with the estimate that all jurisdictions have at least 50% of their area in the WUI and were assigned a rating of 3. 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 other jurisdictions were assigned a rating of 2. Probability ratings were determined based on burn probability data from SWRA. Due to historical occurrences, the region was assigned a probability score of 3, because all jurisdictions have a burn probability of 3 or less which equates to a 30% or less chance of burning, they have been assigned a rating of 3.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Rocky Mount	3	2	3	4	3	2.8	H
Wilson	3	2	3	4	3	2.8	H
Bailey	3	2	3	4	3	2.8	H
Black Creek	3	2	3	4	3	2.8	H
Castalia	3	2	3	4	3	2.8	H
Conetoe	3	2	3	4	3	2.8	H
Dortches	3	2	3	4	3	2.8	H
Elm City	3	2	3	4	3	2.8	H
Leggett	3	2	3	4	3	2.8	H
Lucama	3	2	3	4	3	2.8	H
Macclesfield	3	3	3	4	3	3.1	H
Middlesex	3	2	3	4	3	2.8	H
Momeyer	3	2	3	4	3	2.8	H
Nashville	3	2	3	4	3	2.8	H
Pinetops	3	2	3	4	3	2.8	H
Princeville	3	3	3	4	3	3.1	H
Red Oak	3	2	3	4	3	2.8	H
Saratoga	3	3	3	4	3	3.1	H

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Sharpsburg	3	2	3	4	3	2.8	H
Sims	3	2	3	4	3	2.8	H
Speed	3	2	3	4	3	2.8	H
Spring Hope	3	2	3	4	3	2.8	H
Stantonsburg	3	2	3	4	3	2.8	H
Tarboro	3	3	3	4	3	3.1	H
Whitakers	3	2	3	4	3	2.8	H
Nash County	3	3	3	4	3	3.1	H
Edgecombe County	3	3	3	4	3	3.1	H
Wilson County	3	3	3	4	3	3.1	H

4.5.12 Radiological Incident

Hazard Background

A radiological incident is an occurrence resulting in the release of radiological material at a fixed facility (such as power plants, hospitals, laboratories, etc.) or in transit.

Radiological incidents related to transportation are described as an incident resulting in a release of radioactive material during transportation. Transportation of radioactive materials through North Carolina over the interstate highway system is considered a radiological hazard. The transportation of radioactive material by any means of transport is licensed and regulated by the federal government. As a rule, there are two categories of radioactive materials that are shipped over the interstate highways:

- Low level waste consists of primarily of materials that have been contaminated by low level radioactive substances but pose no serious threat except through long-term exposure. These materials are shipped in sealed drums within placarded trailers. The danger to the public is no more than a wide array of other hazardous materials.
- High level waste, usually in the form of spent fuel from nuclear power plants, is transported in specially constructed casks that are built to withstand a direct hit from a locomotive.

Radiological emergencies at nuclear power plants are divided into classifications. Table 4.105 shows these classifications, as well as descriptions of each.

Table 4.105 – Radiological Emergency Classifications

Emergency Classification	Description
Notification of Unusual Event (NOUE)	Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.
Alert	Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life-threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the Environmental Protection Agency (EPA) Protective Action Guides (PAGs)
Site Area Emergency (SAE)	Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or hostile action that results in intentional damage or malicious acts; 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to, equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA PAG exposure levels beyond the site boundary.
General Emergency	Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or hostile action that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA PAG exposure levels offsite for more than the immediate site area.

Warning Time: 4 – Less than 6 hours

Duration: 4 – More than one week

Location

The Nuclear Regulatory Commission defines two emergency planning zones around nuclear plants:

- **Emergency Planning Zone (EPZ)** – The EPZ is a 10-mile radius around nuclear facilities. It is also known as the Plume Exposure Pathway. Areas located within this zone are considered to be at highest risk of exposure to radioactive materials. Within this zone, the primary concern is exposure to and inhalation of radioactive contamination. Predetermined action plans within the EPZ are designed to avoid or reduce dose from such exposure. Residents within this zone would be expected to evacuate in the event of an emergency. Other actions such as sheltering, evacuation, and the use of potassium-iodide must be taken to avoid or reduce exposure in the event of a nuclear incident.
- **Ingestion Pathway Zone (IPZ)** – The IPZ is delineated by a 50-mile radius around nuclear facilities as defined by the federal government. Also known as the Ingestion Exposure Pathway, the IPZ has been designated to mitigate contamination in the human food change resulting from a radiological accident at a nuclear power facility. Contamination to fresh produce, water supplies, and other food produce may occur when radionuclides are deposited on surfaces.

Harris Nuclear Plant, which is located in southwest Wake County, is a single-unit 928-megawatt power plant. The plant began commercial operation in 1987 and now employs approximately 800 people and generates electricity for more than 550,000 homes. Its reactor is a pressurized water reactor and the plant operates with a very high level of security. Figure 4.41 shows nuclear power plants located in or impacting portions of the state, as well as their ingestion pathways. Figure 4.42 shows the location of the Harris Nuclear Plant and the area that falls within the EPZ and IPZ of the plant. Parts of Nash and Wilson counties are located within the Harris Plant's IPZ.

Figure 4.41 – Nuclear Power Plants in North Carolina

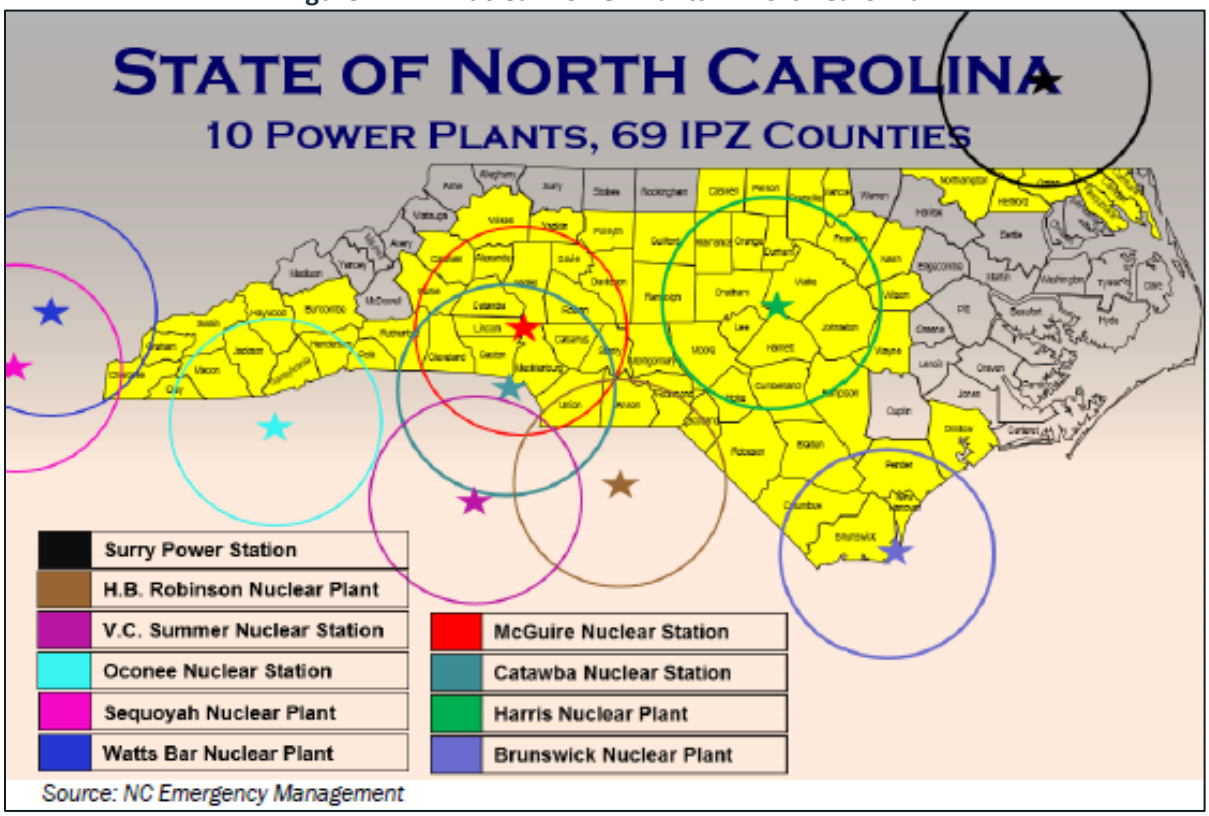
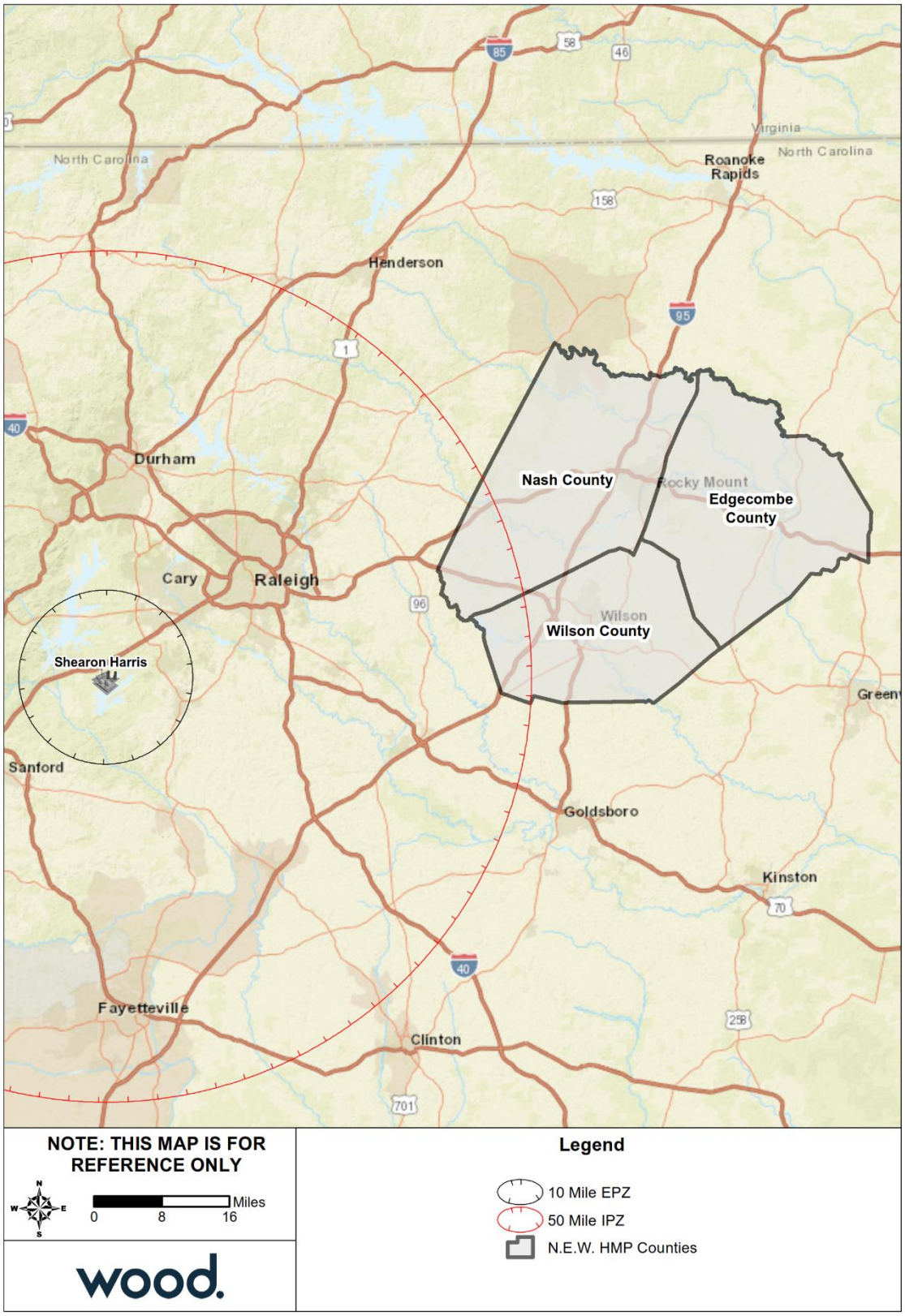


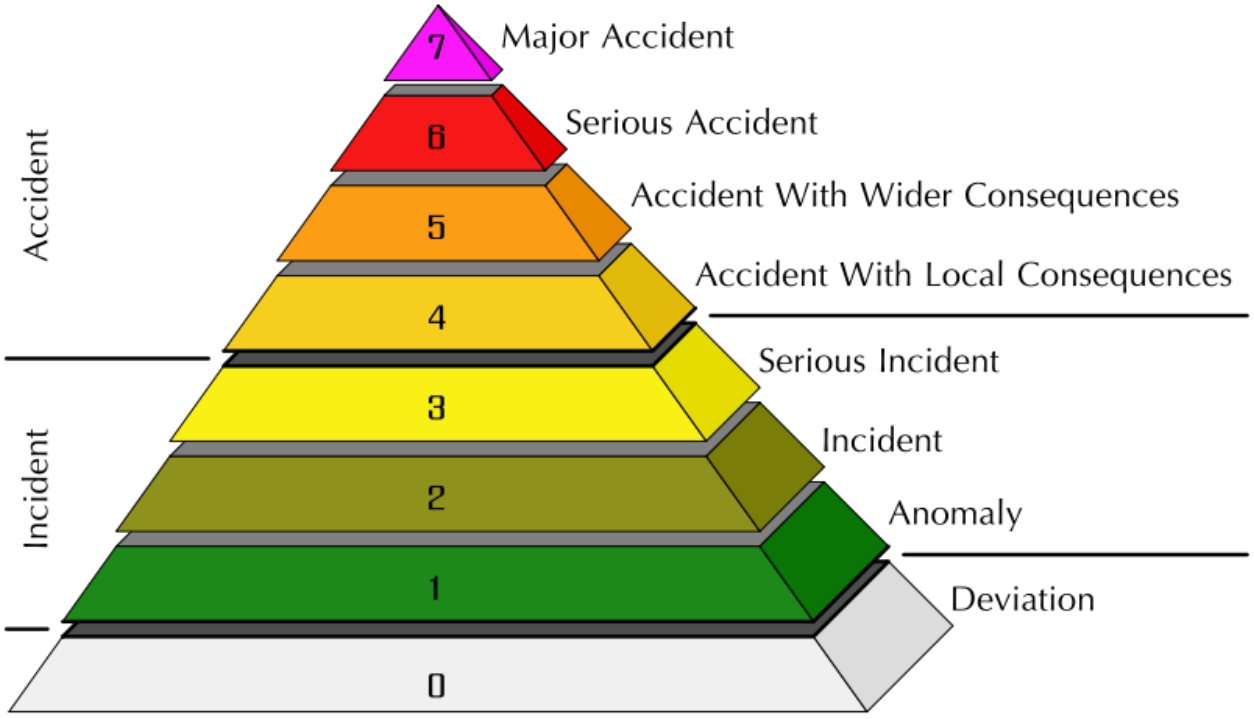
Figure 4.42– Harris Nuclear Plant Location



Source: GIS analysis

Extent

The International Atomic Energy Association (IAEA) developed the International Nuclear and Radiological Event Scale to quantify the magnitude of radiological events. This scale is logarithmic, meaning each increasing level represents a 10-fold increase in severity compared to the previous level.



Source: International Atomic Energy Association

Impact: 3 – Critical

Spatial Extent: 2 – Small

Historical Occurrences

As reported in the 2018 State Hazard Mitigation Plan, there have been no major release events in North Carolina nuclear facilities; there was one situation in 2008 where the nuclear material was being monitored for criticality that occurred within the fuel rod fabrication facility. Additionally, the Harris Nuclear Plant is one of only three plants in the country to have had no Nuclear Regulatory Commission findings as of September 2017. Therefore, there are no recent historical occurrences of any serious incidents at the Harris Plant. However, there have been events that warranted emergency declarations at the Harris Nuclear Plant. Table 4.106 lists emergency declarations as reported by the 2015 Wake County Multi-Jurisdictional Hazard Mitigation Plan.

Table 4.106 – Emergency Declarations at Harris Nuclear Plant, 1986 – 2015

Emergency Declaration	Date	Description
Alert	08/12/1988	Loss of greater than 50% of main control board (MCB) alarms due to electrical problems; normal power supply to annunciator panel failed and did not transfer to its backup inverter.
Alert	10/09/1988	Fire on "B" Main Electrical Transformer; release of flammable gas in the Protected Area.

Emergency Declaration	Date	Description
Unusual Event	11/28/1986	Loss of ERFIS computer system to display Safety Parameter Display System (SPDS) (55 lapsed minutes).
Unusual Event	11/29/1986	Loss of ERFIS computer system to display SPDS (58 lapsed minutes).
Unusual Event	11/30/1986	Loss of ERFIS computer system to display SPDS (48 lapsed minutes).
Unusual Event	12/03/1986	Loss of ERFIS computer system to display SPDS (27 lapsed minutes).
Unusual Event	12/11/1986	Safety Injection (an Emergency Core Cooling System) actuated while testing electronic circuitry.
Unusual Event	01/27/1987	Loss of ERFIS computer system to display SPDS (23 lapsed minutes).
Unusual Event	07/11/1987	Loss of ERFIS computer system to display SPDS (22 lapsed minutes).
Unusual Event	07/24/1987	Loss of ERFIS computer system to display SPDS (32 lapsed minutes).
Unusual Event	07/25/1987	Loss of ERFIS computer system to display SPDS (28 lapsed minute).
Unusual Event	02/04/1988	Fire within the Protected Area greater than 10 minutes; smoke observed coming from the motor for the reactor auxiliary building supply fan.
Unusual Event	10/06/1988	RCS leakage in excess of Tech Specs (unidentified leakage > 1.0 gpm).
Unusual Event	10/20/1988	RCS leakage in excess of Tech Specs; pressure operated relief valve opened and admitted RCS inventory to the pressurized relief tank (PRT).
Unusual Event	11/17/1988	Loss of ERFIS computer system to display SPDS for > 60 minutes.
Unusual Event	12/01/1988	Reactor coolant system (RCS) leakage in excess of Tech Specs (unidentified leakage > 1.0 gpm).
Unusual Event	12/16/1988	High level alarm on radiological effluent release monitor the (Treated Laundry and Hot Shower high level alarm was set just above background).
Unusual Event	03/13/1989	Loss of ERFIS computer system to display SPDS for > 60 minutes.
Unusual Event	01/24/1991	Plant shutdown required by Technical Specifications. Excessive leakage of a containment penetration; leakage discovered during surveillance testing.
Unusual Event	02/15/1991	Loss of ERFIS computer system to display SPDS for > 4 hours.
Unusual Event	03/05/1991	Plant shutdown required by Technical Specifications (testing of “A” Reactor Coolant Pump (RCP) electrical protection function).
Unusual Event	04/14/1992	Loss of ERFIS computer system to display SPDS for > 4 hours.
Unusual Event	02/06/1993	Loss of ERFIS computer system to display SPDS for > 4 hours.
Unusual Event	02/17/1994	Loss of ERFIS computer system to display SPDS for > 4 hours.
Unusual Event	07/22/1994	Loss of both emergency diesel generators - “B” diesel generator was being worked on; in accordance with test procedures, “A” diesel generator is required to be tested within 24 hours following having redundant diesel out-of-service; did not pass test.
Unusual Event	11/05/1995	Unplanned emergency core cooling system (ECCS) discharge to the reactor vessel; reactor trip and safety injection (SI) occurred during the performance of testing.
Unusual Event	12/14/1995	Train derailment on site - while removing empty cask car from the Protected Area, the rail cars were moved onto the Engine Spur to allow passage of the CSX engine on adjacent Plant Spur; cask car shifted; 4 wheels of the car left the rails.
Unusual Event	01/22/1997	Security Event - while working Work Request and Authorization (WR&A), I&C Tech investigation found cut wire in a Turbine Building radiation monitor. Later determined to not be vandalism (i.e., not a security threat).
Unusual Event	04/02/2000	Loss of Emergency Response Facility Information System (ERFIS) computer system to display Safety Parameter Display System (SPDS) for more than 4 hours.
Unusual Event	08/23/2011	Seismic activity at the site due to a magnitude 5.8 earthquake near Mineral, VA.

Source: 2015 Wake County Multi-Jurisdictional Hazard Mitigation Plan

Probability of Future Occurrence

Radiological hazards are highly unpredictable. Nuclear reactors present the possibility of catastrophic damages, yet the industry is highly regulated and historical precedence suggests an incident is unlikely.

Probability: 1 – Unlikely

Climate Change

Climate change is not projected to have any impact on a potential radiological incident.

Vulnerability Assessment

People

People within the 50-mile IPZ are at risk of exposure through ingestion of contaminated food and water. Parts of western Wilson County and southwestern Nash County are located within a 50-mile radius, or within the Ingestion Pathway Zone (IPZ) of Harris Nuclear Plant.

Low levels of radiation are not considered harmful, but a high exposure to radiation can cause serious illness or death.

Property

A radiological incident could cause severe damage to the power station itself but would not cause direct property damage outside the station. However, property values could drop substantially if a radiological incident resulted in contamination of nearby areas.

Environment

A radiological incident could result in the spread of radioactive material into the environment, which could contaminate water and food sources and harm animal and plant life.

Consequence Analysis

Table 4.107 summarizes the potential detrimental consequences of radiological incident.

Table 4.107 – Consequence Analysis – Radiological Incident

Category	Consequences
Public	High levels of radiation could cause serious illness or death. Those living and working closest to the nuclear station would face the greatest risk of exposure.
Responders	Responders face potential for heightened exposure to radiation, which could cause severe chronic illness and death.
Continuity of Operations (including Continued Delivery of Services)	An incident at the nuclear station could interrupt power generation and cause power shortages. Regular operations would likely be affected by the response effort an event would require.
Property, Facilities and Infrastructure	The plant itself could be damaged by a radiological incident. Nearby property and facilities could be affected by contamination.
Environment	Water supplies, food crops, and livestock within 50 miles of the nuclear station could be contaminated by radioactive material in the event of a major incident.
Economic Condition of the Jurisdiction	The local economy could be affected if a radiological incident caused contamination of nearby areas. Property values and economic activity could decline as a result.
Public Confidence in the Jurisdiction's Governance	A radiological incident would likely cause severe loss of public confidence given that the hazard is human-caused and highly regulated. Public confidence can also be affected by false alarms.

4.5.13 Terrorism

Hazard Background

There is no universal globally agreed-upon definition of terrorism. In a broad sense, terrorism is the use of violence and threats to intimidate or coerce, especially against civilians, in the pursuit of political aims.

For this analysis, this hazard encompasses the following sub-hazards: enemy attack, biological terrorism, agro-terrorism, chemical terrorism, conventional terrorism, cyber terrorism, radiological terrorism and public disorder. These hazards can occur anywhere and demonstrate unlawful force, violence, and/or threat against persons or property causing intentional harm for purposes of intimidation, coercion or ransom in violation of the criminal laws of the United States. These actions may cause massive destruction and/or extensive casualties. The threat of terrorism, both international and domestic, is ever present, and an attack can occur when least expected.

Enemy attack is an incident that could cause massive destruction and extensive casualties throughout the world. Some areas could experience direct weapons' effects: blast and heat; others could experience indirect weapons' effect. International political and military activities of other nations are closely monitored by the federal government and the State of North Carolina would be notified of any escalating military threats.

Use of conventional weapons and explosives against persons or property in violation of the criminal laws of the United States for purposes of intimidations, coercion, or ransom is conventional terrorism. Hazard effects are instantaneous; additional secondary devices may be used, lengthening the time duration of the hazard until the attack site is determined to be clear. The extent of damage is determined by the type and quantity of explosive. Effects are generally static other than cascading consequences and incremental structural failures. Conventional terrorism can also include tactical assault or sniping from remote locations.

Biological terrorism is the use of biological agents against persons or property. Liquid or solid contaminants can be dispersed using sprayers/aerosol generators or by point of line sources such as munitions, covert deposits and moving sprayers. Biological agents vary in the amount of time they pose a threat. They can be a threat for hours to years depending upon the agent and the conditions in which it exists.

Chemical terrorism involves the use or threat of chemical agents against persons or property. Effects of chemical contaminants are similar to biological agents.

Radiological terrorism is the use of radiological materials against persons or property. Radioactive contaminants can be dispersed using sprayers/aerosol generators, or by point of line sources such as munitions, covert deposits and moving sprayers or by the detonation of a nuclear device underground, at the surface, in the air or at high altitude.

Electronic attack using one computer system against another in order to intimidate people or disrupt other systems is a cyber-attack. All governments, businesses and citizens that conduct business utilizing computers face these threats. Cyber-security and critical infrastructure protection are among the most important national security issues facing our country today. The North Carolina State Bureau of investigation' Computer Crime Unit helps law enforcement across North Carolina solve sophisticated crimes involving digital evidence.

Mass demonstrations, or direct conflict by large groups of citizens, as in marches, protect rallies, riots, and non-peaceful strikes are examples of public disorder. These are assembling of people together in a manner to substantially interfere with public peace to constitute a threat, and with use of unlawful force or

violence against another person, or causing property damage or attempting to interfere with, disrupting, or destroying the government, political subdivision, or group of people. Labor strikes and work stoppages are not considered in this hazard unless they escalate into a threat to the community. Vandalism is usually initiated by a small number of individuals and limited to a small target or institution. Most events are within the capacity of local law enforcement.

The Southern Poverty Law Center (SPLC) reports 40 active hate groups in North Carolina, listed in Table 4.108. The SPLC defines a hate group as any group with "beliefs or practices that attack or malign an entire class of people – particularly when the characteristics being maligned are immutable." It is important to note that inclusion on the SPLC list is not meant to imply that a group advocates or engages in violence or other criminal activity.

Table 4.108 – Hate Groups Active in North Carolina

Group	Type	Location
Great Millstone	Black Nationalist	Charlotte
Israelite School of Universal Practical Knowledge	Black Nationalist	Charlotte
Nation of Islam	Black Nationalist	Charlotte
The United Nuwaupians Worldwide/All Eyes on Egipt	Black Nationalist	Charlotte
Israel United In Christ	Black Nationalist	Concord
Israelite School of Universal Practical Knowledge	Black Nationalist	Durham
Nation of Islam	Black Nationalist	Durham
ACT for America	Anti-Muslim	Fayetteville
Israelite School of Universal Practical Knowledge	Black Nationalist	Fayetteville
BeaSSt Productions	Hate Music	Greensboro
Israelite Church of God in Jesus Christ, The	Black Nationalist	Greensboro
Israelite School of Universal Practical Knowledge	Black Nationalist	Greensboro
Nation of Islam	Black Nationalist	Greensboro
Israelite School of Universal Practical Knowledge	Black Nationalist	Greenville
North Carolina Pastors Network	Anti-Muslim	Morganton
Loyal White Knights of the Ku Klux Klan	Ku Klux Klan	Pelham
Americans for Legal Immigration (ALIPAC)	Anti-Immigrant	Raleigh
Masharah Yasharahla - Government of Israel	Black Nationalist	Raleigh
Revolutionary Black Panther Party	Black Nationalist	Raleigh
American Guard	General Hate	Statewide
Aryan Knights of the Invisible Empire	Ku Klux Klan	Statewide
Asatru Folk Assembly	General Hate	Statewide
Atomwaffen Division	Neo-Nazi	Statewide
Blood and Honour Social Club	Racist Skinhead	Statewide
Blood and Honour USA	Racist Skinhead	Statewide
Confederate Hammerskins	Racist Skinhead	Statewide
Crew 38	Racist Skinhead	Statewide
Daily Stormer, The	Neo-Nazi	Statewide
East Coast Knights of the True Invisible Empire	Ku Klux Klan	Statewide
Identity Dixie	Neo-Confederate	Statewide
Identity Evropa	White Nationalist	Statewide
Israelites Saints of Christ	Black Nationalist	Statewide
Soldiers of Odin	Anti-Muslim	Statewide
Southern Revivalist	Neo-Confederate	Statewide
The Right Stuff	White Nationalist	Statewide
Traditionalist Worker Party	Neo-Nazi	Statewide

Group	Type	Location
Israelite School of Universal Practical Knowledge	Black Nationalist	Wilmington
Nation of Islam	Black Nationalist	Wilmington
Israelite School of Universal Practical Knowledge	Black Nationalist	Winston-Salem

Source: SPLC, https://www.splcenter.org/hate-map

None of the hate groups identified in the SPLC have a specifically identified footprint in the N.E.W. Region, though it can be inferred that any group with a statewide footprint may have a presence in the area.

Warning Time: 4 – Less than six hours

Duration: 4 – More than one week

Generally, no warning is given for specific acts of terrorism. Duration is dependent on the vehicle used during the terrorist attack. This score takes into account a prolonged scenario with continuous impacts.

Location

A terror threat could occur at any location in the Region, but are more likely to target highly populated areas, critical infrastructure, or symbolic locations.

Extent

The extent of a terrorist incident is tied to many factors, including the attack vector, location, time of day, and other circumstances; for this reason, it is difficult to put assess a single definition or conclusion of the extent of "terrorism." As a general rule, terrorism incidents are targeted to where they can do the most damage and have the maximum impact possible, though this impact is tempered by the weapon used in the attack itself.

Impact: 4 – Catastrophic

Spatial Extent: 2 – Small

Historical Occurrences

There are no records of any acts of terrorism in the N.E.W. Region; however, given the unpredictability of these events, past incidents are not necessarily an indicator of future risk. The ability to respond to a terrorist incident is provided by county and community emergency operations plans.

Probability of Future Occurrence

While difficult to estimate when a deliberate act like terrorism may occur, it can be inferred that the probability of a terrorism attack in any one area in the Region is very low at any given time. When identified, credible threats may increase the probability of an incident; these threats are generally tracked by law enforcement.

Probability: 1 – Unlikely

Vulnerability Assessment

Methodologies and Assumptions

Terrorism impacts van vary widely by the type of terror attack suffered. Terror attacks can be chemical, biological, radiological, nuclear or explosive.

Vulnerability to terrorism was assessed through hypothetical scenarios. These scenarios were modeled using the Electronic Mass Casualty Assessment and Planning Scenarios (EMCAPS) tool developed by the Johns Hopkins Office of Critical Event Preparedness and Response, Johns Hopkins Applied Physics

Laboratory, the U.S. Department of Homeland Security, and the National Center for the Study of Preparedness and Catastrophic Event Response.

People

People can suffer death or illness as a result of a terrorist attack. Symptoms of illness from a biological or chemical attack may go undetected for days or even weeks. Local healthcare workers may observe a pattern of unusual illness or early warning monitoring systems may detect airborne pathogens. People will face increased risk if a biological or chemical agent is released indoors, as this may result in exposure to a higher concentration of pathogens, whereas agents that are released outdoors would disperse in the direction of the wind. Physical harm from a weapons attack or explosive device is not dependent on location, but risk is greater in areas where higher numbers of people may gather. People could also be affected by an attack on food and water supply. In addition to impacts on physical health, any terrorist attack could cause significant stress and anxiety.

The following hypothetical scenarios illustrate the potential impacts of chemical and explosive attacks on sites in the N.E.W. Region. Two hypothetical sites were chosen to illustrate potential worst-case scenarios. These scenarios were modeled using the Electronic Mass Casualty Assessment and Planning Scenarios (EMCAPS) tool developed by the Johns Hopkins Office of Critical Event Preparedness and Response, Johns Hopkins Applied Physics Laboratory, the U.S. Department of Homeland Security, and the National Center for the Study of Preparedness and Catastrophic Event Response.

Scenario #1 – Chemical Attack: Toxic Gas – Chlorine Release

Scenario Overview: A bomb is attached to a tractor trailer tanker carrying compressed chlorine. The entire contents of the tank escape to the atmosphere and the plume spreads to the surrounding area. The hypothetical target for this attack is the Nash UNC Health Care general hospital. The plume spreading and the effect on the population are calculated according to the following input variables: outdoor temperature is 85°F, wind speed is 9 mph, the setting is rural, and the population density is 1,000 persons per square mile, to account for the population density at the hospital campus. The following assumptions apply:

- 4,850-gallon tank, all contents released through 3-ft hole
- Partly cloudy, no precipitation
- 50% of people in plume area are indoors
- Effects of chlorine on population determined through evaluation of chlorine gas concentration zones, which were determined using ALOHA plume modeling software (see References)
- First effects on humans at concentration = 10 ppm
- Minimum lethal dose = 430 ppm for 30 min
- Median lethal dose (short-term exposure) = 1,000 ppm

Table 4.109 outlines the expected losses based on the above parameters.

Table 4.109 – Estimated Casualties from Chlorine Attack

Injury Description	Population affected
Fatality	31 persons
Eye pain & swelling, headache, restricted airflow – difficulty breathing, coughing, chest pain, lung inflammation and edema, bloody sputum, vomiting, skin irritation, possible chemical burns	44 persons
Eye pain & swelling, headache, throat irritation, rapid breathing, coughing, chest pain, lung inflammation and edema, bloody sputum, vomiting, skin irritation	83 persons

Injury Description	Population affected
Eye pain & swelling, headache, throat irritation, rapid breathing, coughing, chest pain, skin irritation	171 persons
Eye irritation, headache, throat irritation, coughing, skin irritation	217 persons
Eye irritation, headache, coughing, skin irritation	164 persons
Total impacted population	710 persons
"Worried Well" Cases (assumed to be 9x affected population)	6,390 persons
Cost of Decontamination @ $12/person (assumes all persons with skin injuries will require decontamination and approximately 1/10 of the worried well will demand to be decontaminated). Total persons treated = 3,616	$16,188

Source: EMCAPS tool

Scenario #2 – IED: Truck Bomb

Scenario Overview: An Improvised Explosive Device (IED) utilizing an ammonium nitrate/fuel oil (ANFO) mixture is carried in a cargo truck to a populated area and detonated. The hypothetical target for this attack is the train station in downtown Rocky Mount. The bomb size is assumed to be 500 lbs ANFO and the population density is 1 person per 100 square feet, equivalent to a lightly crowded pedestrian area as might be found at the station. It is assumed that the explosion takes place in a relatively open area outside the station. The following assumptions apply:

- ANFO - TNT equivalence = 0.82
- Blast pressure damage impact taken from National Fire Protection Association (NFPA) 921 Guide for Fire and Explosion Investigations - 2001 Edition, Table 18.13.3.1[b]
- Buildings and other physical structures are not considered in these calculations

Table 4.110 outlines the expected losses based on the above parameters.

Table 4.110 – Estimated Casualties from IED Attack

Injury Description	Population affected
Fatality	86 persons
Traumatic Injuries	151 persons
Urgent Care Injuries	745 persons
Injuries not Requiring Hospitalization	279 persons

Source: EMCAPS tool

Expected symptoms and injuries would include impact injuries (pulmonary blast), pulmonary contusion, barotrauma, fractures (internal, compound, spinal), smoke inhalation, GI blast injury (edema, hemorrhage, rupture), auditory blast injury (partial or total loss of hearing), lacerations, shrapnel, debris penetrations (glass, metal, etc.) and burns. Transportation would be limited or inaccessible near the blast, and services and utilities could be unavailable.

Property

The potential for damage to property is highly dependent on the type of attack. Buildings and infrastructure may be damaged by an explosive device or by contamination from a biological or chemical attack. Impacts are generally highly localized to the target of the attack.

Environment

Environmental impacts are also dependent on the type of attack. Impacts could be negligible or could require major clean-up and remediation.

Consequence Analysis

Table 4.111 summarizes the potential consequences of a terror attack.

Table 4.111 – Consequence Analysis – Terrorism

Category	Consequences
Public	Illness, injury, or fatality are possible; these impacts would be highly localized to the attack. Widespread stress and psychological suffering may occur. Human impacts may be long-term based on attack vector.
Responders	Injuries; fatalities are possible. Responders face increased risks during an effort to stop an attack or rescue others while an attack is underway. Potential impacts to response capabilities may result from an attack.
Continuity of Operations (including Continued Delivery of Services)	Potential impacts to continuity of operations due to attack impacts; delays in providing services; impacts tied to attack vector
Property, Facilities and Infrastructure	Impacted roads; downed power lines and power loss; utility disruption. Several key critical sites could be targeted in an attack, causing cascading impacts to daily life in the region
Environment	Water and food supply could be contaminated by a biological or chemical attack. Remediation could be required.
Economic Condition of the Jurisdiction	The local economy could be disrupted, depending on the location and scale of an attack.
Public Confidence in the Jurisdiction's Governance	Loss of public confidence likely should an attack be carried out; additional loss of confidence and trust may result if response and recovery are not swift and effective

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. The conclusions drawn from this process are summarized below.

Table 4.112 summarizes the degree of risk assigned to each identified hazard using the PRI method.

Table 4.112 – Summary of PRI Results

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	PRI Score
Dam & Levee Failure	Unlikely	Critical	Negligible	Less than 6 hrs	Less than 1 week	2.1
Drought	Likely	Minor	Large	More than 24 hrs	More than 1 week	2.5
Earthquake	Unlikely	Minor	Large	Less than 6 hrs	Less than 6 hrs	1.9
Extreme Heat	Highly Likely	Critical	Large	More than 24 hrs	Less than 1 week	3.3
Flood	Likely	Critical	Moderate	6 to 12 hours	Less than 1 week	3.0
Hurricane	Likely	Critical	Large	More than 24 hrs	Less than 1 week	3.0
Severe Weather: Hail[1]	Highly Likely	Minor	Small	Less than 6 hrs	Less than 6 hrs	2.4
Severe Weather: Lightning[1]	Highly Likely	Minor	Negligible	Less than 6 hrs	Less than 6 hrs	2.2
Severe Weather: Thunderstorm Winds[1]	Highly Likely	Limited	Large	Less than 6 hrs	Less than 6 hrs	3.1
Severe Weather: Fog[1]	Highly Likely	Minor	Small	Less than 6 hrs	Less than 6 hrs	2.4
Severe Winter Storm	Highly Likely	Limited	Large	More than 24 hrs	Less than 1 week	3
Sinkhole	Unlikely	Limited	Negligible	Less than 6 hrs	Less than 6 hours	1.6
Tornado	Likely	Critical	Small	Less than 6 hrs	Less than 6 hrs	2.7
Wildfire	Likely	Limited	Moderate	Less than 6 hrs	Less than 1 week	2.8
Radiological Incident	Unlikely	Critical	Small	Less than 6 hrs	More than 1 week	2.4
Terrorism	Unlikely	Critical	Small	Less than 6 hrs	More than 1 week	2.4

[1]Note: Severe Weather hazards average to a score of 2.5 and are therefore considered together as a high risk hazard.

The results from the PRI have been classified into three categories based on the assigned risk value which 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.
- **Medium 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 (> 2.4)	Extreme Heat Flood Hurricane Severe Winter Storm Wildfire Tornado Severe Weather Drought
Moderate Risk (2.0 – 2.4)	Radiological incident Terrorism Dam & Levee Failure
Low Risk (< 2.0)	Earthquake Sinkhole

5 Capability Assessment

This section discusses the capability of the N.E.W. 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 N.E.W. 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

To facilitate the inventory and analysis of local government capabilities within the planning area, a detailed Local Capability Self-Assessment worksheet was distributed to members of the HMPC after the first planning committee meeting. The survey questionnaire 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. Communities 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.

At a minimum, the survey results provide an extensive and consolidated inventory of existing local plans, ordinances, programs, and resources in place or under development. With this information, inferences can be made about the overall effect on hazard loss reduction in each community. 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 N.E.W. 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.

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 N.E.W. 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 N.E.W. region. A checkmark (√) indicates that the given item is currently in place and being implemented. 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
City of Rocky Mount	√	√		√	√	√	√				+	√			√	√	√	√	√			√	√		√	√
City of Wilson	√	√	√	√	√	√	+	+		+	+	√	√	√	√		√	√	√	√		√	√	√	√	√
Town of Bailey	√					+	+										√					+	+			
Town of Black Creek	√	+	+			+	+		+	+		+	+		+	+	+	+	+			+	+		+	
Town of Castalia	√					+	+										√					+	+		√	
Town of Conetoe	√					+	+				+					√	√					+	+		√	
Town of Dortches	√	√													√		√	√	√			+	+		√	
Town of Elm City	√	+	+			+	+		+	+		+	+		+	+	+	+	+			+	+		√	
Town of Leggett	√					+	+				+					√	√					+	+		√	
Town of Lucama	√	+	+			+	+		+	+		+	+		+	+	+	+	+			+	+		√	
Town of Macclesfield	√					+	+				+					+	√					+	+		√	
Town of Middlesex	√					+	+										√					+	+		√	
Town of Momeyer	√	√				√	+		√						+	√	√	√	√			+	+		√	
Town of Nashville	√	√	√	√		√						√	√		√	√	√	√	√			+	√		√	√
Town of Pinetops	√					+	+				+					√	√					+	+		√	

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 Princeville	√					+	+				+				√	√	√					+	+		√	
Town of Red Oak	√					+	+										√					+	+		√	
Town of Saratoga	√		+			+	+		+	+		√	√	√	+	√	√	√	√			+	+		√	
Town of Sharpsburg	√											√			+	√	√	√	√			+	+		+	
Town of Sims	√	+	+			+	+		+	+		+	+		+	+	+	+	+			+	+		√	
Town of Speed	√					+	+				+					√	√					+	+		√	
Town of Spring Hope	√	√				+				+	+				+	√	√	√	√			+	+		√	
Town of Stantonsburg	√	√				+						√	+		+	√	√	√	√			+	+		√	
Town of Tarboro	√	√	√	√	√	√			√	√	√	√	√	√	√	√	√	√	√	√		√	√		√	√
Town of Whitakers	√					+	+				+	√			√	√	√	√				+	+		√	
Nash County	√	√				√	√		√			√			√	√	√	√	√	√		√	√	√	√	
Edgecombe County	√	√				√	√				√		√		√	√	√	√	√	√		√	√		√	
Wilson County	√	√	√			√	√	√	√	√		√	√		√	√	√	√	√	√		√	+	√	√	

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 N.E.W. Regional Hazard Mitigation Plan.

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.

- Half of the participating jurisdictions reported having a disaster recovery plan in place or being covered by a county-developed plan. In fact, all jurisdictions are covered by county-level Resilient Recovery Plans developed after Hurricane Matthew, however some jurisdictions may not have considered these local plans due to the effort being led by the State.

Emergency Operations Plan

An emergency operations plan outlines responsibilities and how resources will be deployed during and following an emergency or disaster.

- All but two of the participating jurisdictions either have an emergency operations plan in place or are 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.

- Nine of the participating jurisdictions have a continuity of operations plan either in place.

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.

- 15 of the 28 participating jurisdictions have a comprehensive land use plan in place or are 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.

- Half of the participating jurisdictions have a capital improvements plan in place.

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.

- Three participating jurisdictions have an historic preservation plan in place.

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.

- All participating jurisdictions have a zoning ordinance in place.

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.

- 18 participating jurisdictions have a subdivision ordinance in place.

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 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 policy and claim information for each participating jurisdiction in the N.E.W. region.

All but one jurisdiction 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 and municipal building inspection programs. 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.

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.

- Four jurisdictions—Rocky Mount, Tarboro, Wilson, and Nashville—participate in the Community Rating System. Each community's CRS Class is shown in the table below.

Table 5.2 – NFIP Policy and Claim Information

Jurisdiction	Date of Initial FHBM or FIRM	Current CRS Class	Current Effective Map Date	NFIP Policies in Force	Insurance in Force	Written Premium in Force	Closed Losses	Total Payments
City of Rocky Mount	03/01/74	7	06/18/13	919	$213,761,900	$880,890	777	$38,946,712
City of Wilson	11/29/74	5	04/16/13	474	$109,835,600	$418,502	291	$7,458,793
Town of Conetoe	01/09/74	-	06/18/13	9	$1,804,700	$7,396	2	$99,803
Town of Leggett	07/01/77	-	06/02/15	6	$456,100	$5,898	1	$518
Town of Macclesfield	01/09/74	-	06/02/15	1	$200,000	$946	0	0
Town of Pinetops	01/09/74	-	06/02/15	40	$2,487,100	$25,304	25	$889,288
Town of Princeville	07/25/75	-	06/02/15	143	$31,505,500	$93,027	116	$7,694,597
Town of Sharpsburg	11/03/04	-	06/18/13	19	$4,160,000	$5,954	12	$169,452
Town of Speed	01/09/74	-	06/02/15	14	$2,136,100	$6,747	7	$83,695
Town of Tarboro	02/15/74	7	06/02/15	267	$54,406,400	$155,914	93	$2,669,231
Town of Whitakers	05/24/74	-	06/18/13	3	$423,000	$3,078	0	0
Town of Black Creek	11/03/04	-	04/16/13	3	$159,300	$1,595	0	0
Town of Elm City	11/03/04	-	04/16/13	5	$471,100	$3,483	0	0
Town of Lucama	11/03/04	-	04/16/13	4	$794,000	$2,230	1	$20,038
Town of Saratoga	11/03/04	-	04/16/13	0	0	0	0	0
Town of Sims	01/12/79	-	04/16/13	0	0	0	0	0
Town of Stantonsburg	10/03/75	-	04/16/13	2	$525,000	$673	1	$35,444
Town of Bailey	11/03/04	-	07/07/14	0	0	0	0	0
Town of Castalia	11/03/04	-	06/18/13	0	0	0	0	0
Town of Dortches	11/03/04	-	06/18/13	2	$700,000	$788	0	0
Town of Middlesex	06/01/78	-	07/07/14	1	$350,000	$373	0	0
Town of Momeyer	11/03/04	-	06/18/13	0	0	0	0	0
Town of Nashville	06/28/74	8	06/18/13	40	$9,429,500	$26,200	32	$1,594,830
Town of Red Oak	06/01/78	-	06/18/13	12	$3,972,600	$5,755	2	$3,693
Town of Spring Hope	11/03/04	-	06/18/13	1	$100,000	$594	0	0
Nash County (Unincorporated Area)	06/01/78	-	07/07/14	109	$28,635,700	$64,906	55	$2,661,903

Jurisdiction	Date of Initial FHBM or FIRM	Current CRS Class	Current Effective Map Date	NFIP Policies in Force	Insurance in Force	Written Premium in Force	Closed Losses	Total Payments
Edgecombe County (Unincorporated Area)	11/29/74	-	06/02/15	130	$22,694,700	$73,788	94	$3,152,177
Wilson County (Unincorporated Area)	03/10/78	-	06/02/15	69	$15,537,500	$40,351	65	$2,436,154
Total Region	**-**	**-**	**-**	**2,273**	**$504,545,800**	**$1,824,392**	**1,574**	**$67,916,328**

Source: FEMA NFIP Policy Statistics via NCEM Risk Management Tool

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.

- 9 of the 28 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.

- 4 of the 28 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.

- 4 of the 28 participating jurisdictions have a stormwater management plan in place or under development.

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 5.3 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.

Note that while all but one jurisdiction are participants in the NFIP, several jurisdictions do not have a local floodplain manager. In these cases, due to the limited capacity of these small jurisdictions, the County is the designated floodplain administrator for the jurisdiction.

Table 5.3 – 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
City of Rocky Mount	√	√	√	√	√	√			√	√	√	√	√	√
City of Wilson	√	√	√	√	√	√			√	√	√	√	√	√
Town of Bailey														√
Town of Black Creek									√					√
Town of Castalia						√						√	√	
Town of Conetoe						√			√					√
Town of Dortches									√					
Town of Elm City									√					√
Town of Leggett													√	
Town of Lucama									√					√
Town of Macclesfield													√	√
Town of Middlesex		√				√					√	√		√
Town of Momeyer														√
Town of Nashville	√	√	√			√			√	√	√	√	√	√
Town of Pinetops											√		√	√
Town of Princeville						√			√				√	
Town of Red Oak												√	√	√
Town of Saratoga	√	√	√				√		√	√	√			√
Town of Sharpsburg	√												√	√
Town of Sims									√					√

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 Speed									√				√	√
Town of Spring Hope	√	√												√
Town of Stantonsburg	√	√				√			√	√		√	√	√
Town of Tarboro	√		√	√	√	√			√	√		√	√	√
Town of Whitakers						√			√			√	√	√
Nash County	√	√	√	√	√	√			√	√	√		√	√
Edgecombe County	√	√	√	√	√	√			√	√	√	√	√	√
Wilson County	√	√	√	√	√	√			√	√	√	√	√	√

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 5.4 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 5.4 – 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
City of Rocky Mount	√	√	√	√	√	√	√	√	√	√	
City of Wilson	√			√	√	√	√	√	√		
Town of Bailey	√			√	√		√				
Town of Black Creek					√						
Town of Castalia				√	√						
Town of Conetoe											
Town of Dortches											
Town of Elm City					√						
Town of Leggett											
Town of Lucama					√						
Town of Macclesfield				√	√	√	√	√	√	√	
Town of Middlesex	√			√	√		√				
Town of Momeyer											
Town of Nashville	√	√	√		√	√					
Town of Pinetops	√			√	√			√	√	√	
Town of Princeville				√	√						
Town of Red Oak				√	√		√				
Town of Saratoga	√	√			√			√			

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 Sharpsburg		√		√	√		√	√	√		
Town of Sims					√						
Town of Speed				√	√						
Town of Spring Hope					√						
Town of Stantonsburg	√			√	√						√
Town of Tarboro	√	√		√	√	√					
Town of Whitakers	√	√					√				
Nash County	√	√			√			√	√		
Edgecombe County		√	√	√	√	√					
Wilson County	√	√	√		√			√			

Source: Local Capability Assessment Survey

In addition to the listed funding possibilities, the Town of Stantonsburg noted being able to use property taxes and user fees for mitigation funding.

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 5.5 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. A plus sign (+) indicates that a jurisdiction is covered for that item by a county program.

Table 5.5 – 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
City of Rocky Mount		√	√	√			
City of Wilson	√	√	√	√			
Town of Bailey							
Town of Black Creek							
Town of Castalia							
Town of Conetoe							
Town of Dortches							
Town of Elm City							
Town of Leggett							
Town of Lucama							
Town of Macclesfield							
Town of Middlesex	√	√					
Town of Momeyer	√						√
Town of Nashville	√	√	√				
Town of Pinetops		√					
Town of Princeville							
Town of Red Oak	√	√	√	√	√	√	
Town of Saratoga							
Town of Sharpsburg							
Town of Sims							
Town of Speed		√					

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 Spring Hope						√	
Town of Stantonsburg		√					
Town of Tarboro		√	√				
Town of Whitakers							
Nash County		√		√	√	√	
Edgecombe County	√	√	√	√		√	
Wilson County	√	√	√	√		√	

Source: Local Capability Assessment Survey

In addition to the education and outreach methods listed, the Town of Momeyer noted having a local volunteer Fire/Rescue organization that could support outreach efforts.

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 5.6 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 5.6 – Mitigation Resources

Jurisdiction	Do you apply for mitigation grant funding?	Do you perform reconstruction projects?	Do you perform building elevations?	Do you perform acquisitions?
City of Rocky Mount	√		√	√
City of Wilson	√	√		√
Town of Bailey				
Town of Black Creek				
Town of Castalia				
Town of Conetoe				
Town of Dortches				
Town of Elm City				
Town of Leggett				
Town of Lucama				
Town of Macclesfield				
Town of Middlesex				
Town of Momeyer				
Town of Nashville	√	√	√	
Town of Pinetops				
Town of Princeville				
Town of Red Oak				
Town of Saratoga				√
Town of Sharpsburg	√			
Town of Sims				
Town of Speed				
Town of Spring Hope	√	√		
Town of Stantonsburg	√			√
Town of Tarboro	√	√	√	√
Town of Whitakers				
Nash County	√		√	√
Edgecombe County	√		√	√
Wilson County	√			√

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 several participating jurisdictions responded that political leaders are potentially willing to implement mitigation measures, though a few jurisdictions noted a lack of political support for mitigation. Additionally, localized support for mitigation is apparent in some jurisdictions having local standards that exceed state requirements. For example, Nash County has a one-foot freeboard requirement, indicating a local commitment to flood mitigation in the community.

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 N.E.W. region to assign a rating of their perceived capability across each of the capability categories and overall as either “limited,” “moderate,” or “high.”

Table 5.7 summarizes the results of the self-assessment ratings for each community in the N.E.W. Region.

Table 5.7 – 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
City of Rocky Mount	High	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
City of Wilson	High	High	Moderate	High	High	Moderate	High
Town of Bailey	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Black Creek	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Castalia	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Conetoe	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Dortches	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Elm City	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Leggett	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Lucama	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Macclesfield	Moderate	Moderate	Limited	Limited	Limited	Limited	Limited

Jurisdiction	Plans, Ordinances, Codes and Programs	Administrative and Technical Capability	Fiscal Capability	Education and Outreach Capability	Mitigation Capability	Political Capability	OVERALL CAPABILITY
Town of Middlesex	Moderate	Moderate	Limited	Limited	Limited	Limited	Limited
Town of Momeyer	Limited	Limited	Moderate	Limited	Limited	Limited	Limited
Town of Nashville	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Pinetops	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Princeville	Limited	Moderate	Limited	Limited	Limited	Limited	Limited
Town of Red Oak	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Saratoga	High	High	High	Moderate	Limited	High	High
Town of Sharpsburg	Moderate	Limited	Limited	Limited	Limited	Limited	Limited
Town of Sims	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Speed	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Spring Hope	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Stantonsburg	Moderate	Limited	Moderate	Limited	Limited	Moderate	Limited
Town of Tarboro	High	Moderate	High	High	Moderate	Moderate	Moderate
Town of Whitakers	Moderate	Moderate	Limited	Limited	Limited	Limited	Limited
Nash County	Moderate	Moderate	Moderate	Limited	Moderate	Moderate	Moderate
Edgecombe County	High	Moderate	Moderate	Moderate	High	Moderate	Moderate
Wilson County	High	High	High	Moderate	Moderate	High	High

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 N.E.W. region to implement hazard mitigation actions.

Table 5.8 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 55, which falls into the Low capability ranking.

Table 5.8 – Capability Assessment Results

Jurisdiction	Overall Capability Score	Overall Capability Rating
City of Rocky Mount	93	Moderate
City of Wilson	110	High
Town of Bailey	26	Low
Town of Black Creek	45	Low
Town of Castalia	26	Low

Jurisdiction	Overall Capability Score	Overall Capability Rating
Town of Conetoe	32	Low
Town of Dortches	30	Low
Town of Elm City	46	Low
Town of Leggett	27	Low
Town of Lucama	46	Low
Town of Macclesfield	39	Low
Town of Middlesex	37	Low
Town of Momeyer	46	Low
Town of Nashville	83	Moderate
Town of Pinetops	39	Low
Town of Princeville	38	Low
Town of Red Oak	36	Low
Town of Saratoga	74	Moderate
Town of Sharpsburg	45	Low
Town of Sims	46	Low
Town of Speed	35	Low
Town of Spring Hope	47	Low
Town of Stantonsburg	57	Low
Town of Tarboro	104	High
Town of Whitakers	48	Low
Nash County	84	Moderate
Edgecombe County	86	Moderate
Wilson County	103	High

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 N.E.W. 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 N.E.W. planning area, 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 improvements to existing capabilities can be made so that community vulnerability is reduced. Goals are also necessary to guide the review of possible mitigation measures. This plan needs to make sure that recommended actions are consistent with what is 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 counties' and participating jurisdictions' comprehensive plans. Comprehensive plans are important because they are developed and designed to guide future growth within their communities. 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 second planning meeting, held on June 24, 2019, the HMPC reviewed and discussed the goals from the 2015 plan. The goals of the 2015 N.E.W. Regional Hazard Mitigation Plan were as follows:

#1	Protect the public health, safety and welfare by increasing public awareness of hazards and by encouraging collective and individual responsibility for mitigating hazard risks.

#2	Improve technical capability to respond to hazards and to improve the effectiveness of hazard mitigation actions.
#3	Enhance existing, or create new, policies and ordinances that will help reduce the damaging effects of natural hazards.
#4	Protect the most vulnerable populations, buildings, and critical facilities through the implementation of cost-effective and technically feasible mitigation actions.

The HMPC largely approved of the existing goals but proposed minor changes. Goal 2 was altered to incorporate cross-jurisdictional coordination, cooperation and communication. Goal 3 was changed to an objective and a new goal was added to incorporate resiliency and encourage community buy in. The HMPC also discussed objectives within each goal in order to better facilitate the development of clearly defined mitigation actions.

The revised goals and objectives of this plan update are detailed below in Section 6.1.3.

6.1.3 Resulting Goals and Objectives

The HMPC agreed upon seven 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 – Protect the public health, safety, and welfare by increasing public awareness of hazards and by encouraging collective and individual responsibility for mitigating hazard risks.

Objective 1.1: Engage in outreach activities that encourage individuals to implement mitigation on their own properties.

Objective 1.2: Implement public awareness campaigns to educate citizens of their hazard risks and ways to be prepared and reduce risk.

Goal 2 – Improve cross-jurisdictional coordination and technical capability to better respond to hazards and improve the effectiveness of hazard mitigation actions.

Objective 2.1: Evaluate participation in the Community Rating System (CRS) to help monitor hazard mitigation efforts and improve affordability of flood insurance to citizens.

Objective 2.2: Ensure that emergency services are adequate to protect public health and safety.

Goal 3 – Protect the most vulnerable populations, buildings, and critical facilities through the implementation of cost-effective and technically feasible mitigation actions.

Objective 3.1: Protect wetlands, floodplains, and other natural features that serve to reduce flood hazard susceptibility.

Objective 3.2: Enforce NFIP development standards and study additional methods to prevent increases in flood velocities and levels that endanger both people and property.

Objective 3.3: Enhance existing, or create new, policies, procedures, and ordinances that will help reduce the damaging effects of natural hazards.

Goal 4 – Incorporate resiliency and adaptation into future growth by ensuring that hazard mitigation is considered for both new development and post-disaster redevelopment and recovery.

Objective 4.1: Develop policies that limit the provision of public services to proposed new development in hazard areas.

Objective 4.2: Restrict or discourage development in known hazard areas that may put emergency responders at risk during hazard 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, each hazard identified in Section 4 Hazard Identification was evaluated. The following were determined based on the Priority Risk Index scores to be high and medium priority hazards:

- Dam & Levee Failure
- Drought
- Extreme Heat
- Flood
- Hurricane & Tropical Storm
- Severe Weather
- Severe Winter Storm
- Tornado
- Wildfire
- Radiological Incident
- Terrorism

Note: While this list contains technological/human-caused hazards, only natural hazards on this list were necessarily prioritized for mitigation. Mitigation action development for technological/human-caused hazards was left to the discretion of each jurisdiction.

Once it was determined which hazards warranted the development of specific mitigation actions, the HMPC analyzed viable mitigation options that supported the identified goals and objectives. 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. Acronyms used in the Mitigation Action Plans to identify each action's category are listed in parentheses.

- Prevention (P)
- Property Protection (PP)
- Natural Resource Protection (NRP)
- Emergency Services (ES)
- Structural Projects (SP)
- Public Education & Awareness (PEA)

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.

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, Moderate, 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 plans for each participating jurisdiction. In keeping with the 2015 N.E.W. Regional plan, the mitigation action plans are grouped and organized by County as follows:

Table 7.1 – Participating Counties and Jurisdictions

Nash County	Edgecombe County	Wilson County
Town of Bailey	Town of Conetoe	Town of Black Creek
Town of Castalia	Town of Leggett	Town of Elm City
Town of Dortches	Town of Macclesfield	Town of Lucama
Town of Middlesex	Town of Pinetops	Town of Saratoga
Town of Momeyer	Town of Princeville	Town of Sharpsburg*
Town of Nashville	City of Rocky Mount*	Town of Sims
Town of Red Oak	Town of Speed	Town of Stantonsburg
Town of Spring Hope	Town of Tarboro	City of Wilson
	Town of Whitakers*	

Note: Rocky Mount, Sharpsburg, and Whitakers are each located in more than one County.

Each municipal jurisdiction is pursuing their own mitigation activities. However, due to the greater capability of the participating Counties, the Counties have also included actions that provide benefits to incorporated areas in addition to the actions identified for unincorporated areas. Each County mitigation action plan denotes the applicable jurisdictions for each identified action.

Mitigation action plans are also provided in each jurisdiction's annex of this plan.

Table 7.2 – Mitigation Action Plan, Nash County

Action #	Action Description	Applicable Jurisdictions	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Implementation Status Comments
Prevention										
P-1	Establish a three or more member local Hazard Mitigation Committee	Nash County	All Hazards	2.2	High	CC/CM	N/A	2021	Carried Forward	Proposed Committee Members: Emergency Management Director, Planning Director, & Public Utilities Director
Property Protection										
PP-1	Expand Emergency Shelter Capabilities with the installation of transfer switches at identified shelter sites to enable use of back up power to these critical facilities.	Nash County, Bailey, Castalia, Dortches, Middlesex, Momeyer, Nashville, Red Oak, Sharpsburg, Spring Hope	All Hazards	3.3	High	EMS	Local, NCEM, FEMA	2021	Carried Forward	Transfer switches installed at Englewood Baptist Church & Nash County Warehouse. Grant funds applied for under Pre-Disaster Mitigation Program in 2017 to install transfer switches at Southern Nash High School & Nash Central High School, but funds not received.
Emergency Services										
ES-1	Establish predetermined evacuation areas in flood-prone areas	Nash County	All Hazards	2.2	High	EMS	Local	2022	Carried Forward	Utilize NC Flood Inundation Mapping and Alert Network (FIMAN) data to identify flood prone areas for potential pre-storm evacuation. Consider utilizing the services of the U.S. Army 83rd Civil Affairs Battalion to survey, inventory, and categorize critical facilities and infrastructure throughout the County and develop recommendations for protection. Enter critical facilities into existing Orion Damage Assessment Solution software for tracking.
Public Education and Awareness										
PEA-1	Develop speakers bureau & presentation/materials suitable for construction professionals and homeowners regarding fire issues in materials, landscaping, and maintenance of easements and access	Nash County	Wildfire	1.2	Moderate	EMS, PD, & NC Forest Service (Outside Agency)	Local	2021	Carried Forward	The NC Forest Service has developed a Wildland Fire Protection Plan for Nash County. Wildfire awareness education is conducted independently by local fire departments. Nash County to disseminate wildfire awareness information via social media accounts and "Nash County Now" TV/YouTube programming.

Table 7.3 – Mitigation Action Plan, Town of Bailey

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Strengthen the Public Water and Sewer Ordinance by adding language that specifically prohibits extending public services and utilities into flood hazard or other environmentally sensitive areas to discourage growth	Flood	4.1	Moderate	Town Board	Local	2023	Carried Forward	No progress to report
P-2	Update Subdivision Ordinance	All Hazards	3.3	Moderate	Planning Board, Town Board	Local	2025	Carried Forward	No progress to report
P-3	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2025	Carried Forward	Town currently has two committee representatives.
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Town Administration	State, Federal Grant funds, Local	2021	Carried Forward	No progress to report
Emergency Services									
ES-1	Identify roads that had a problem with high water during Hurricane Floyd and place signs on streets stating "Road Subject to Flooding"	Flood	1.1	High	Public Works, NCDOT	Local	2021	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at town hall	All Hazards	1.1	Moderate	Town Clerk	FEMA, Local	2023	Carried Forward	No progress to report

Table 7.4 – Mitigation Action Plan, Town of Castalia

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2025	Carried Forward	Town currently has one committee representative.
Property Protection									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; provides final report to the governing board	All Hazards	3.3	Moderate	Public Works	Local	2023	Carried Forward	No progress to report
Natural Resource Protection									
NR-1	Implement Wellhead Protection Program	Flood, Hurricane & Tropical Storm, Dam & Levee Failure, Drought	3.3	High	Town Board	Local	2020	Carried Forward	Ongoing effort; Town will identify needed program updates
Public Education & Awareness									
PEA-1	Outreach project on hazard mitigation strategy education	All Hazards	1.2	Moderate	Town Board, Town Clerk	Local	2020	Carried Forward	Expanding use of social media
PEA-2	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.1	Moderate	Town Clerk	FEMA, Local	2023	Carried Forward	No progress to report

Table 7.5 – Mitigation Action Plan, Town of Dortches

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; provides final report to the governing board	All Hazards	3.3	Moderate	Town Administrator	Operating Budget	2023	Carry Forward	Implementation is in-progress and ongoing
PP-2	Obtain a generator to provide emergency backup power for critical facilities.	All Hazards	3.3	High	Town Administrator and Board of Commissioners	State/Federal grants funds	2022	New	First target critical facility serves as the Town's emergency shelter.
Public Education & Awareness									
PEA-1	Create a Hazard Mitigation Web Page on the Dortches Web Site	All Hazards	1.1	High	Town Administrator	Operating Budget	2024	New	

Table 7.6 – Mitigation Action Plan, Town of Middlesex

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Revise our zoning ordinances	All Hazards	3.3	High	Planning & Development	Local	2021	Carried Forward	No progress to report
P-2	Work to adopt a floodplain ordinance	Flood	3.3	High	Town Administration, Town Board	Local	2023	Carried Forward	Postponed but still a priority
P-3	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	Town currently has two committee representatives.
Property Protection									
PP-1	Seek funding to place generators at our lift stations that do not have them to ensure this critical infrastructure continues functioning during power outages	Dam & Levee Failure, Extreme Heat, Flood, Hurricane & Tropical Storm, Severe Weather, Severe Winter Storm, Tornado, Wildfire	3.3	High	Town Administration, Town Board	Local, State, Federal	2025	Carried Forward	No progress to report.
Public Education & Awareness									
PEA-1	Expand the use of new website for public information & emergency updates (www.townofmiddlesexnc.com)	All Hazards	1.1	High	Town Clerk	Local	Ongoing	Carried Forward	This is an ongoing effort that must be regularly updated.

Table 7.7 – Mitigation Action Plan, Town of Momeyer

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Purchase generators for critical facilities	All Hazards	3.3	Moderate	Town Clerk, County	Local, Federal	2021	Carry Forward	The first target critical facility for backup power is the Town Hall. The Town is continuing to pursue obtaining funding via a FEMA grant for this action
Public Education & Awareness									
PEA-1	Provide residents FEMA handouts	All Hazards	1.1	High	Mayor, Town Board	Local	2022	Carry Forward	No progress to report

Table 7.8 – Mitigation Action Plan, Town of Nashville

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more person local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	The Town would like to expand membership and encourage continued participation on the committee during annual reviews.
Property Protection									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; provides final report to the governing board	All Hazards	3.3	Moderate	Public Works	Local	2023	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Provide hazard risk, mitigation, and preparedness information in public facility waiting areas	All Hazards	1.1	High	Zoning Administrator	Local	2021	Carried Forward	No progress to report

Table 7.9 – Mitigation Action Plan, Town of Red Oak

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Consider implementing a Capital Improvement Program to assist in maintaining critical facilities	All Hazards	3.3	High	Town Board	Local	2020	Carried Forward	Needs to be formalized and updated
P-2	Research/consider mitigation actions in reference to installation of the Atlantic Coast Pipeline	Dam & Levee Failure, Extreme Heat, Flood, Hurricane & Tropical Storm, Severe Weather, Severe Winter Storm, Tornado, Wildfire	3.3	High	Town Board	Local	2021	Carried Forward	No progress to report
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical facilities	All Hazards	3.3	High	Town Administration	Local, State, Federal	2023	Carried Forward	Fire Department and Town Hall have generators. Town will identify needs for other critical facilities.
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.1	Moderate	Town Board	Local	2021	Carried Forward	No progress to report

Table 7.10 – Mitigation Action Plan, Town of Sharpsburg

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Conduct and internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	Moderate	Public Works	Local	2023	Carried Forward	No progress to report
Structural Projects									
SP-1	Work with engineer to develop plan for repair/mitigation of drainage issues on Creekside & Oak Forrest/Holly Drive	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.3	High	Town	Local	2020	New	
SP-2	NCDOT Project to install a road connect E. Railroad Street to Rock Quarry Road. Enabling emergency vehicles access to entire Town.	All Hazards	3.3	Moderate	NCDOT	NCDOT, Local	2025	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Identify roads having a problem with High water during Hurricane Floyd and place signs on streets stating "Road Subject to Flooding"	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	1.1	High	Public Works, NCDOT	NCDOT, Local	2023	Carried Forward	Town coordinates with NCDOT for major street detours, etc; working with NCDOT for ditch maintenance to reduce localized flooding.

Table 7.11 – Mitigation Action Plan, Town of Spring Hope

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	Town will seek to expand participation and involve more residents and stakeholders
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Town Administration	State, Federal Grants, Local	2021	Carried Forward	Town will identify need for generators in critical facilities and seek FEMA grant funding where necessary.
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at town hall	All Hazards	1.1	Moderate	Town Board	Local	2022	Carried Forward	Completed but no longer current, request staff to contact FEMA for more brochures

Table 7.12 – Mitigation Action Plan, Edgecombe County

Action #	Action Description	Applicable Jurisdictions	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Implementation Status Comments
Prevention										
P-1	Improve enforcement of NC Building Codes to regulate tie downs for mobile homes. Building inspectors can withhold Certificate of Occupancy to enforce codes for new residences but will seek additional enforcement options for existing residences.	Edgecombe County	Tornado, Hurricane & Tropical Storm, Flood, Severe Winter Storm	3.3	Moderate	County Building Inspections	Local	Ongoing	Carried Forward	**Required by:** 2018 Building Codes NC State Building Volume VIII - Modular Construction Regulation 1994 Edition NC Regulations for Manufactured Homes 2004 Edition Codes
Property Protection										
PP-1	Place generators at critical facilities (structural)	Edgecombe County, Conetoe, Leggett, Macclesfield, Pinetops, Princeville, Speed, Tarboro, Whitakers	All Hazards	3.3	Moderate	County EM	County, State	2021	Carried Forward	We have added to our generator inventory, Working with schools for hook ups at schools.
Structural Projects										
SP-1	Maintain Army Corp of Engineers Dikes	Edgecombe County, Conetoe, Leggett, Macclesfield, Pinetops, Princeville, Speed, Tarboro, Whitakers	Flood	3.3	High	County EM	County	2021	Carried Forward	Do inspections and upgrades as funding is available.
SP-2	Maintain all dams and dikes	Edgecombe County, Conetoe, Leggett, Macclesfield, Pinetops, Princeville, Speed, Tarboro, Whitakers	Flood, Dam & Levee Failure	3.3	High	County Maintenance Dept.	Local	2022	Carried Forward	This is an ongoing effort
Emergency Services										
ES-1	Replace Hwy 33 new bridges over Tar River	Edgecombe County	Flood	3.3	High	NCDOT	NCDOT, State	2022	Carried Forward	Scheduled for 2020
ES-2	Combine Tarboro & Edgecombe 911 Centers	Edgecombe County, Tarboro	All Hazards	2.2	High	County EM	Federal, State	2025	Carried Forward	Still working on this project.
ES-3	Improve County bridges and road drainage	Edgecombe County	Flood, Tornado, Hurricane & Tropical Storm, Severe Weather	3.3	High	NCDOT	Local, State, Federal	2024	Carried Forward	Most have been completed, but still have a few that DOT is working on.
ES-4	ICS Training in EOC operations for all	Edgecombe County	All Hazards	2.2	Moderate	County EM	County, State	2021	Carried Forward	This is an ongoing process with new employees coming in. All current EOC staff have training.
ES-5	Place new EOC in full operational status	Edgecombe County, Conetoe, Leggett, Macclesfield, Pinetops, Princeville, Speed, Tarboro, Whitakers	All Hazards	2.2	High	County EM	County, State, Federal	2021	Carried Forward	Looking for a location. We have added multiple locations to be backup locations
Public Education & Awareness										
PEA-1	Encourage or assist residents through information to sign up for the county's emergency warning notification system. Information provided through mailings, social media, and direct in-person outreach.	Edgecombe County	All Hazards	1.2	Moderate	County Administration, County EM	Local, State, Federal	2024	Carried Forward	Ongoing process. The County sends information annually in water bill inserts, the Emergency Management Department posts quarterly on the their Facebook page, and the Fire Department conducts direct outreach during inspections, trainings, and smoke alarm tests. These outreach methods will be continued.

Table 7.13 – Mitigation Action Plan, Town of Conetoe

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Drought Respond Program (providing steps to help alleviate the effects of a drought on the agriculture community)	Drought	3.3	Moderate	Edgecombe County EM, Town Soil & Water Conservation	Local	2022	Carried Forward	No progress to report
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities (structural)	All Hazards	3.3	High	Edgecombe County EM, Town Administration	Local, State, Federal, Grants	2021	Carried Forward	Looking for funding
Emergency Services									
ES-1	Encourage or assist residents through information to sign up for the county's emergency warning notification system	All Hazards	1.2	Moderate	Edgecombe County EM, Town Administration	Local, State, Federal	Town Administration, Mayor	Carried Forward	Still add new people as they move in.
Public Education & Awareness									
PEA-3	Obtain FEMA and/or other handouts on multiple hazards & make available for residents at Town Hall	All Hazards	1.1	Moderate	Edgecombe County EM, Town Board	FEMA, Local	2023	Carried Forward	Ongoing with new info

Table 7.14 – Mitigation Action Plan, Town of Leggett

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Improve enforcement of NC Building Codes to regulate tie downs for mobile homes. Building inspectors can withhold Certificate of Occupancy to enforce codes for new residences but will seek additional enforcement options for existing residences.	Tornado, Hurricane & Tropical Storm, Flood, Severe Weather, Severe Winter Storm	3.3	Moderate	Edgecombe County EM, Town Building Inspections	Local, State, Federal, Code mandate	2020	Carried Forward	**Required by:** 2018 Building Codes NC State Building Volume VIII - Modular Construction Regulation 1994 Edition NC Regulations for Manufactured Homes 2004 Edition Codes
PP-2	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Edgecombe County EM, Town Administration	Local, State, Federal, Grants	2021	New	
Emergency Services									
ES-1	Improve county bridges and roads drainage	Flood, Tornado, Hurricane & Tropical Storm, Severe Weather, Severe Winter Storm	3.3	High	NCDOT	Local, State, Federal	2021	Carried Forward	DOT is still working on multiple areas.
ES-2	Encourage or assist residents through information to sign up for Code Red and/or the county's emergency warning notification system	All Hazards	1.2	Moderate	Edgecombe County EM, Town Administration, Mayor	Local, State, Federal	2021	Carried Forward	Ongoing process
Public Education & Awareness									
PEA-1	Obtain FEMA Hazard Mitigation related handouts & make available for residents at Town Hall and/or as inserts in Utility Bills	All Hazards	1.1	Moderate	Edgecombe County EM, Cooperative Extension	FEMA, Local	2023	Carried Forward	Ongoing with new info

Table 7.15 – Mitigation Action Plan, Town of Macclesfield

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Drought Response Program (providing steps to help alleviate the effects of a drought on the agriculture community)	Drought	3.3	Moderate	Edgecombe County EM, Town Soil & Water Conservation	Local	2022	Carried Forward	No progress to report
Property Protection									
PP-1	Improve enforcement of NC Building Codes to regulate tie downs for mobile homes. Building inspectors can withhold Certificate of Occupancy to enforce codes for new residences but will seek additional enforcement options for existing residences.	Tornado, Hurricane & Tropical Storm, Flood, Severe Weather, Severe Winter Storm	3.3	Moderate	Edgecombe County EM, Town Building Inspections	Local, State, Federal, Code mandate	2020	Carried Forward	**Required by:** 2018 Building Codes NC State Building Volume VIII - Modular Construction Regulation 1994 Edition NC Regulations for Manufactured Homes 2004 Edition Codes
PP-2	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Edgecombe County EM, Town Clerk	Local, State, Federal, Grants	2021	Carried Forward	Looking for funding
Emergency Services									
ES-1	Encourage or assist residents through information to sign up for the county's emergency warning notification system	All Hazards	1.2	Moderate	Edgecombe County EM, Town Clerk	Local, State, Federal	2024	Carried Forward	Ongoing process
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.1	Moderate	Edgecombe County EM, Town Clerk	FEMA, Local	2023	Carried Forward	On Going with new info

Table 7.16 – Mitigation Action Plan, Town of Pinetops

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Improve enforcement of NC Building Codes to regulate tie downs for mobile homes. Building inspectors can withhold Certificate of Occupancy to enforce codes for new residences but will seek additional enforcement options for existing residences.	Tornado, Hurricane & Tropical Storm, Flood, Severe Weather, Severe Winter Storm	3.3	Moderate	Edgecombe County EM, Town Building Inspections	Local, State	2020	Carried Forward	**Required by:** 2018 Building Codes NC State Building Volume VIII - Modular Construction Regulation 1994 Edition NC Regulations for Manufactured Homes 2004 Edition Codes
PP-2	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; includes findings that will be presented to the elected governing Board	All Hazards	3.3	High	Edgecombe County EM, Town Administration, Town Manager, Town Council	State, Federal, Local, Grant funds	2023	Carried Forward	Working on this for 2020
Emergency Services									
ES-1	Improve county bridges and roads drainage	Flood, Tornado, Hurricane & Tropical Storm, Severe Weather, Severe Winter Storm	3.3	High	NCDOT	Local, State, Federal	2021	Carried Forward	Still Working on a few areas
ES-2	Encourage or assist residents through information to sign up for the county's emergency warning notification system	All Hazards	1.2	Moderate	Edgecombe County EM, Town Administration or Mayor	Local, State, Federal	2024	Carried Forward	Still adding on new people as they move in.
ES-3	Cooling Stations Shelters with A/C (Office of Aging currently has a fan program)	Extreme Heat	3.3	Moderate	Staff/Volunteers	Local	2020	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA hazard mitigation related handouts & make available for residents at Town Hall and/or as inserts in Utility Bills	All Hazards	1.1	Moderate	Edgecombe County EM, Town Council	FEMA, Local	2023	Carried Forward	Ongoing with new info

Table 7.17 – Mitigation Action Plan, Town of Princeville

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; includes findings that will be presented to the elected governing Board	All Hazards	3.3	High	Edgecombe County EM, Town Administration, Town Manager, Town Council	State, Federal, Local, Grant funds	2023	Carried Forward	No progress to report
Emergency Services									
ES-1	Improve County bridges and roads drainage	Flood, Tornado, Hurricane & Tropical Storm, Severe Weather, Severe Winter Storm	3.3	High	NCDOT	Local, State, Federal	2021	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Council	FEMA, Local	2023	Carried Forward	No progress to report

Table 7.18 – Mitigation Action Plan, City of Rocky Mount

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Maintain FEMA flood hazard map	Flood	2.1	High	Planning Department	Local, FEMA	2020	Carried Forward	Map updates adopted in 2013; Continue to provide public access to maps and participate in CRS program.
P-2	Maintain and update City Codes, Plans, and Ordinances	All Hazards	3.3	Moderate	Planning and Inspections	Local	2020	Carried Forward	Perpetual analysis of development patterns is expected with subsequent updates to ordinances and plans to be carried out accordingly.
P-3	Develop a Continuity of Operations Plan	All Hazards	2.2	High	Fire Department	Local	2021	Carried Forward	No progress to report
Property Protection									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; includes findings that will be presented to the elected governing Board	All Hazards	3.3	High	City Administration, City Manager, City Council	State, Federal, Local, Grants	2023	Carried Forward	No progress to report
Structural Projects									
S-1	Evaluate city-maintained bridges and culverts for elevation or capacity improvements	Flood	3.3	Moderate	Public Works	Local	2022	Carried Forward	Existing bridges and culverts are inspected biannually; improvements made as needed.
Emergency Services									
ES-1	Continue to be a certified "Storm Ready Community"	All Hazards	2.2	Moderate	Fire Department	Local	2021	Carried Forward	Recertification in progress
ES-2	Work with NCDOT to improve bridges, bridge approaches, and culverts/drainage on NCDOT maintained roads	Flood	3.3	Moderate	Public Works	Local, NCDOT	2022	Carried Forward	Analyzed biannually as part of basin master planning.
ES-3	Encourage or assist residents through information to sign up for "Code Red" and/or the County's emergency warning notification systems	All Hazards	1.2	Moderate	Mayor, City Administration	Local, State, Federal	2024	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Insert floodplain awareness brochure in utility bill annually	Flood	1.1	High	Planning Department & Public Affairs	Local	2020	Carried Forward	Recurring inserts in utility bills planned on an annual basis.
PEA-2	Provide information on the City's website about flood hazards	Flood	1.2	High	Planning Department	Local	2020	Carried Forward	Commitment to permanently updating flood hazard information on the City’s website
PEA-3	Partner with local broadcast media to disseminate information on hazard risk and mitigation options to reduce risk.	All Hazards	1.2	Low	Public Affairs	Local	2020	Carried Forward	Rolling agreements with local broadcast media are in place to ensure information reaches public in a timely manner.

Table 7.19 – Mitigation Action Plan, Town of Speed

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Town Administration	State, Federal, Local, Grant funds	2021	Carried Forward	Looking for funding
Emergency Services									
ES-1	Improving County bridges and roads drainage	All Hazards	3.3	High	Town Council	State, Local	2021	Carried Forward	Most have been completed, but still have a few that DOT is working on.
ES-2	Encourage or assist residents through information to sign up for County's emergency warning notification system	All Hazards	1.2	Moderate	Town Administration, Mayor	Local, State, Federal	2023	Carried Forward	Ongoing process
ES-3	Emergency Animal Shelter	All Hazards	2.2	Moderate	Town Council	Local	2023	Carried Forward	We have a temporary, but not one that is owned by the county. Looking for a more permanent solution.
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Council	FEMA, Local	2023	Carried Forward	Ongoing with new info

Table 7.20 – Mitigation Action Plan, Town of Tarboro

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Place generators at critical facilities (structural)	All Hazards	3.3	Moderate	County EM	County, State, FEMA	2021	New	Targeting critical facilities that serve as shelters
Structural Projects									
S-1	Inspect storm sewer system to see if functioning properly and make improvements as necessary	Flood	2.2	High	Public Works	Local	2023	Carried Forward	No progress to report
Emergency Services									
ES-1	Coordinate an emergency response training/exercise with the County, State, and Federal Emergency Agencies	All Hazards	2.2	Moderate	Fire, Police, County Emergency Services	State, Federal	2024	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Place information concerning hazard risk, mitigation, and preparedness on the Town Website	All Hazards	1.2	Moderate	Planning & Inspections	Local	2022	Carried Forward	Expanded from information on cooling stations and the elderly fan distribution program to include all hazards

Table 7.21 – Mitigation Action Plan, Town of Whitakers

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Work with NCDOT & RPO to identify long term solutions to localized flooding on US 301 with implementation strategy	Flood	3.3	High	RPO, Town Board, NCDOT	Local, NCDOT	2021	Carried Forward	Identified solution with NCDOT but implementation is still not complete
Property Protection									
PP-1	Obtain a generator to provide emergency power for Town Hall/Police Station (critical facilities) which was built for a quick connect	All Hazards	3.3	High	Town Administration	State, Federal, Grant Funds, Local	2022	Carried Forward	No progress to report
Emergency Services									
ES-1	Encourage or assist residents through information to sign up for County's emergency warning notification system	All Hazards	1.2	Moderate	Town Administration, Mayor	Local, State, Federal	2024	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Coordinate with Nash and Edgecombe Counties to maintain digital zoning and land use maps	All Hazards	4.1	Moderate	Edgecombe County EM, Nash County EM, Town Administration	County	2021	Carried Forward	Town has prepared digital maps. Updates and coordination with the Counties will be ongoing once implemented.
PEA-2	Obtain FEMA handouts on all hazards & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Administration	FEMA, Local	2023	Carried Forward	No progress to report

Table 7.22 – Mitigation Action Plan, Wilson County

Action #	Action Description	Applicable Jurisdictions	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention										
P-1	Add drainage as an issue to be discussed during Technical Review Committee review of proposed development plans	Wilson County	Flood	3.3	High	Planning & Inspections	Local	2025	Carried Forward	In process of creating a TRC
P-2	Inventory existing lots and structures within flood hazard areas to establish baseline data regarding current state of development within flood hazard areas	Wilson County	Flood	3.3	Moderate	Planning & Inspections	Local	2025	Carried Forward	No progress to report
P-3	Establish coordinating committee to ensure that all parties responsible for stormwater management communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems within the County	Wilson County	Flood	3.3	Moderate	Planning & Inspections	Local	2025	Carried Forward	No progress to report
P-4	Establish and maintain coordinated debris inspection program with debris removal program to correct problem sites.	Wilson County	Flood	2.2	Moderate	Planning & Inspections, NRCS, EM, County Solid Waste Department	Local	2025	Carried Forward	Not complete due to lack of funding
P-5	Update flood maps to reflect new subdivisions, changes in corporate limits, and all new FIRM data; publicize the availability of maps and keep record of service (CRS 320)	Wilson County	Flood	2.1	Moderate	County Manager, County Commissioners	Local	2022	Carried Forward	No progress to report
P-6	Establish a three or more member local HM committee with private sector participation	Wilson County	All Hazards	3.3	Moderate	Fire Marshall, County Administration	Local, State, Federal	2024	Carried Forward	Need to identify private sector participation and formalize committee's role
Property Protection										
PP-1	Acquire destroyed or substantially damaged properties and relocate households (voluntary program) (CRS 520/420)	Wilson County	Flood	3.3	High	Planning & Inspections	FEMA, NCEM	Ongoing	Carried Forward	No progress to report
Natural Resource Protection										
NRP-1	Require all developments that involve the disturbance of more than one acre of land to receive a sediment/erosion control permit from NCDEQ	Wilson County	Flood	3.3	High	Planning & Inspections, DEQ	Local	Ongoing	Carried Forward	No progress to report
Emergency Services										
ES-1	Evaluate evacuation routes considering road upgrades and new road construction	Wilson County, Wilson, Black Creek, Elm City, Lucama, Saratoga, Sims, Stantonsburg	All Hazards	2.2	High	EM, Planning	Local	2025	Carried Forward	No progress to report
ES-2	Require fire protection equipment be installed in new subdivisions as determined by the County Fire Marshal and fire service agency	Wilson County, Wilson, Black Creek, Elm City, Lucama, Saratoga, Sims, Stantonsburg	Wildfire	3.3	High	Planning & Inspections, EM	Local	2021	Carried Forward	No progress to report
Public Education & Awareness										
PEA-1	Advise/assist property owners in retrofitting homes and businesses (retrofitting is defined as any modification to an existing building or yard to protect the property from flood damage)	Wilson County	Flood	3.3	High	Planning & Inspections	Local	Ongoing	Carried Forward	Retrofitting information is provided when building permits are applied for to develop in flood prone areas.

Action #	Action Description	Applicable Jurisdictions	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
PEA-2	Establish and maintain information on retrofitting techniques at the Planning and Inspections Department and also at the public library. Publicize through citizen news bulletins or newsletters (CRS 330/350/360)	Wilson County	Flood	1.1	High	Planning & Inspections	Local	Ongoing	Carried Forward	Ongoing inclusion in citizen news bulletins
PEA-3	Provide information on the County website about hazard risk, mitigation, and preparedness	Wilson County, Wilson, Black Creek, Elm City, Lucama, Saratoga, Sims, Stantonsburg	All Hazards	1.2	High	Planning & Inspections	Local	Ongoing	New	

Table 7.23 – Mitigation Action Plan, Town of Black Creek

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Conduct an internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	Moderate	Town Administration, Town Board	State, Federal, Grant funds, Local	2021	Carried Forward	No progress to report
Emergency Services									
ES-1	Encourage or Assist residents through information to sign up for County's emergency notifications	All Hazards	1.2	Moderate	Town Administration, Town Board	Local, State, Federal	2024	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA Hazard Mitigation related handouts & make available for residents at Town Hall and/or as inserts in Utility Bills	All Hazards	1.2	Moderate	Town Administration	Local	2023	Carried Forward	No progress to report

Table 7.24 – Mitigation Action Plan, Town of Elm City

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Continue to pursue funding in order to assist in mitigating all hazards	All Hazards	3.3	Moderate	Town Administration, Town Board, Public Utilities, Town Clerk	Local, State, Federal	2024	Carried Forward	The Town will pursue mitigation of repetitive loss if repetitive losses are identified in the Town
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power to critical town facilities (generator for town hall)	All Hazards	3.3	Moderate	Town Administration, Town Board	State, Federal, Grant funds, Local	2021	Carried Forward	No progress to report
Emergency Services									
ES-1	Encourage or assist residents through information to sign up for County's emergency warning notification system	All Hazards	1.2	Moderate	Town Administration, Town Board	Local, State, Federal	Ongoing	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Work in conjunction with Wilson County to produce and maintain digital maps	All Hazards	3.3	Moderate	Wilson County	County	Ongoing	Carried Forward	Maps will be updated with Council of Government or County support
PEA-2	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Administration	Local	2023	Carried Forward	No progress to report

Table 7.25 – Mitigation Action Plan, Town of Lucama

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more member local Hazard Mitigation Advisory Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	Full committee was not in place for this plan update. The Town will expand participation in future regional mitigation planning through this effort
Property Protection									
PP-1	Conduct an internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	High	Town Administration, Town Board	State, Federal, Grant funds, Local	2023	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Administration	Local	2023	Carried Forward	No progress to report

Table 7.26 – Mitigation Action Plan, Town of Saratoga

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish or continue a three or more member local HM Committee with private sector participation	All Hazards	2.2	Medium	Town Council	Local	2021	Carried Forward	Town Council to formalize committee role
Property Protection									
PP-1	Conduct an internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	High	Town Administration, Town Council	State, Federal, Grant funds, Local	2023	Carried Forward	Wells, lift station, and filter plant have generators. Will continue to evaluate need and pursue funding for additional critical facility improvements.
Public Education & Awareness									
PEA-1	Obtain FEMA Hazard Mitigation Related handouts & make available for residents at Town Hall and/or as inserts in Utility Bills	All Hazards	1.2	Medium	Town Administration	Local, FEMA	2023	Carried Forward	No progress to report

Table 7.27 – Mitigation Action Plan, Town of Sims

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	No progress to report
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities (water well & town hall)	All Hazards	3.3	Moderate	Town Administration, Town Board	State, Federal, Grant funds, Local	2021	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain new FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Clerk	Local	2023	Carried Forward	No progress to report

Table 7.28 – Mitigation Action Plan, Town of Stantonsburg

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Update and amend the Zoning Ordinance (1985)	All Hazards	3.3	Moderate	Planning Board, Town Council	Local	2023	Carried Forward	This update was delayed due to budgetary restraints and other ongoing capital projects. However, some minor amendments have been approved
P-2	Update Town website with accurate information on hazard risk and mitigation options to reduce risk.	All Hazards	1.1	High	Town Manager, Town Council	Local	2021	Carried Forward	This update was delayed due to budgetary restraints and other ongoing capital projects.
P-3	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	The establishment of this committee was delayed until a future date
Property Protection									
PP-1	Conduct an internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	Moderate	Public Works	Local	2023	Carried Forward	This project was delayed due to budgetary restraints and other ongoing capital projects.
Natural Resource Protection									
NRP-1	Update and amend the Wellhead Protection Plan to correspond to new flood maps	Flood, Hurricane & Tropical Storm, Dam & Levee Failure, Drought	3.3	Moderate	Town Manager, Town Council	Local	2023	Carried Forward	This revision was delayed to allow for the completion of a new water supply well to be constructed outside the Central Coastal Plains Capacity Use Area

Table 7.29 – Mitigation Action Plan, City of Wilson

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Floodplain Management: Consider a floodplain/stream modeling program that allows evaluation of flooding potential along streams based upon new developments that occur upstream	Flood	3.3	Moderate	Stormwater	Local, State	2025	Carried Forward	The City will continue to seek grant funding to support implementation.
P-2	Building Code: Encourage builders to incorporate mitigative measures for disaster resiliency during construction	All Hazards	3.3	High	Construction Standards	Local, State	2025	Carried Forward	CS discussed mitigation measures at their annual meeting with contractors.
Property Protection									
PP-1	Capital Improvement Program: Evaluate the feasibility the relocation/elevation/flood proofing needs of designated critical facilities	All Hazards	3.3	Moderate	Engineering, Planning & Development Services, Utilities	Local, Federal	2025	Carried Forward	No progress to report
PP-2	Repetitive Loss: Wilson seeks funds to buyout repetitive loss properties.	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.3	Moderate	Planning & Development Services	Local, State, Federal	2025	Carried Forward	Actively seeking grants for acquisitions
PP-3	Preservation: Seek funding for acquisition of properties within the floodplain, apply for acquisition funds to purchase other properties flooded	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.3	Moderate	Engineering, Stormwater, Planning & Development Services	Local	2025	Carried Forward	Seeking grant funding
Natural Resource Protection									
NRP-1	Stormwater Management: Acquire easements along drainage features and streams for public maintenance	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.1	Moderate	Engineering, Stormwater, Planning & Development Services	Local, State, Federal	2025	Carried Forward	Seeking grant funding
NRP-2	Restoration Program: Begin design and development of Hominy Creek Water Quality Park & Greenway Plan.	All Hazards	3.1	Moderate	Engineering, Stormwater, Planning & Development Services	Local	2025	Carried Forward	Seeking grant funding
Structural Projects									
SP-1	Stormwater management: install detention facilities to mitigate peak flow in the downtown area	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.3	Moderate	Engineering, Stormwater, Land Development, Planning & Development Services	Local	2025	Carried Forward	City peak flow policy exceeds state requirements.
SP-2	Stormwater Management: Continue improving and maintaining streams throughout the community	All Hazards	3.1	Moderate	PS, Stormwater	Local	2025	Carried Forward	No progress to report
Emergency Services									
ES-1	Capital Improvement Program: Install monitoring systems for flood waters.	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	2.2	Moderate	Engineering, Stormwater	Local	2025	Carried Forward	Seeking grant funding
ES-2	Natural Gas Infrastructure: Continue to replace aging steel gas facilities with polyethylene that has a longer life span	All Hazards	3.3	High	PS	Local	2025	Carried Forward	Goal of having all aging steel pipelines in our system replaced with plastic by 2033
ES-3	Natural Gas Infrastructure: Continue Cathodic Protection and Leakage surveys to better understand our buried facilities so that trouble spots are recognized	All Hazards	3.3	Moderate	PS	Local	2025	Carried Forward	Cathodic Protection and Leak Surveys completed annually to support scheduling the replacement of pipelines.

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

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 and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their own unique mitigation action list as needed without altering the broader focus of the regional plan.

In addition to the assignment of a local lead department or agency, an implementation timeline or a specific implementation date or window has been assigned to each mitigation action to help assess whether reasonable progress is being made toward implementation. The participating jurisdictions will seek outside funding sources to implement mitigation projects in both the pre-disaster and post-disaster environments. When applicable, potential funding sources have been identified for proposed actions listed in the Mitigation Action Plan.

An important implementation mechanism that is highly effective and low-cost is incorporation of the Hazard Mitigation Plan (HMP) recommendations and their underlying principles into other plans and mechanisms. 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 requirements of this plan with other local planning documents and 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 HMP and will not contribute to increased hazard vulnerability in the Plan Area. 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.

Several communities have already identified specific opportunities for integration, including Nash County's upcoming Land Development Plan update and the City of Wilson's 2030 Comprehensive Plan update and CRS program work. 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 at this time.

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 NCEM and FEMA Region IV, 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 in 2020, the next plan update for the N.E.W. Region will be completed by 2025.

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. Representatives should provide input on whether the action as implemented met the defined objectives and/or is likely to successfully reduce 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.

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 IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

November 6, 2020

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

We are pleased to inform you that the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan Update is in compliance with the Federal hazard mitigation planning requirements resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR 201.6. The plan is approved for a period of five (5) years effective November 6, 2020 to November 5, 2025.

This plan approval extends to the following participating jurisdictions that provided a copy of their resolutions adopting the plan:

- Edgecombe County, Unincorporated
- Nash County, Unincorporated
- Town of Leggett
- Town of Momeyer
- Town of Princeville
- Town of Red Oak
- City of Rocky Mount
- Town of Saratoga
- Town of Sharpsburg
- Town of Sims
- Town of Stantonsburg
- City of Wilson

The approved participating jurisdictions are hereby 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note, all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the

eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development. When you prepare a comprehensive plan update, it must be resubmitted through the State as a "plan update" and is subject to a formal review and approval process by our office. If the plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

The State and the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan should be commended for their close coordination and communications with our office in the review and subsequent approval of the plan. If you or the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any questions or need any additional information, please do not hesitate to contact Catherine Strickland, of the Hazard Mitigation Assistance Branch, at (770) 220-5328 or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

2

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

November 16, 2020

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolution for inclusion within this plan and subsequently have approved the community under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective November 16, 2020:

- Wilson County, Unincorporated

The approved participating community is hereby an eligible applicant 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We also encourage each community to conduct a plan update process within one (1) year of being

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included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development.

When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Catherine Strickland, of the Hazard Mitigation Assistance Branch, at (770) 220-5328 or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

2

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

November 19, 2020

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolutions for inclusion within this plan and subsequently have approved the communities under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective November 19, 2020:

- Town of Castalia
- Town of Dortches
- Town of Macclesfield
- Town of Speed
- Town of Tarboro

The approved participating communities are hereby 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

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We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development.

When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Catherine Strickland, of the Hazard Mitigation Assistance Branch, at (770) 220-5328 or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

2

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

December 9, 2020

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolution for inclusion within this plan and subsequently have approved the community under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective December 9, 2020:

- Town of Spring Hope

The approved participating community is hereby an eligible applicant 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We also encourage each community to conduct a plan update process within one (1) year of being

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included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development.

When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Catherine Strickland, of the Hazard Mitigation Assistance Branch, at (770) 220-5328 or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

2

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

January 5, 2021

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolution for inclusion within this plan and subsequently have approved the community under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective January 5, 2021:

- Town of Pinetops

The approved participating community is hereby an eligible applicant 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years.

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We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development.

When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Celicia A. Davis, of the Hazard Mitigation Assistance Branch, at (770) 220-5253, Dontrey L. Garnett, of the Hazard Mitigation Assistance Branch, at (770) 220-3145, or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

2

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

February 8, 2021

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolutions for inclusion within this plan and subsequently have approved the community under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective February 5, 2021:

- Town of Middlesex

The approved participating community is hereby an eligible applicant 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years.

We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development. When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Celicia A. Davis, of the Hazard Mitigation Assistance Branch, at (770) 220-5253, Dontrey L. Garnett, of the Hazard Mitigation Assistance Branch, at (770) 220-3145, or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

February 10, 2021

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolutions for inclusion within this plan and subsequently have approved the community under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective February 10, 2021:

- Town of Conetoe

The approved participating community is hereby an eligible applicant 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years.

We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development. When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Celicia A. Davis, of the Hazard Mitigation Assistance Branch, at (770) 220-5253, Dontrey L. Garnett, of the Hazard Mitigation Assistance Branch, at (770) 220-3145, or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

February 22, 2021

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolutions for inclusion within this plan and subsequently have approved the community under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective February 22, 2021:

- Town of Nashville

The approved participating community is hereby an eligible applicant 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development.

When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Celicia A. Davis, of the Hazard Mitigation Assistance Branch, at (770) 220-5253, Dontrey L. Garnett, of the Hazard Mitigation Assistance Branch, at (770) 220-3145, or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

April 15, 2021

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolutions for inclusion within this plan and subsequently have approved the community under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective April 15, 2021:

- Town of Lucama

The approved participating community is hereby an eligible applicant 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local

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Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development. When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Celicia A. Davis, of the Hazard Mitigation Assistance Branch, at (770) 220-5253, Dontrey L. Garnett, of the Hazard Mitigation Assistance Branch, at (770) 220-3145, or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

2

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

April 22, 2021

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolutions for inclusion within this plan and subsequently have approved the community under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan effective April 22, 2021:

- Town of Black Creek

The approved participating community is hereby an eligible applicant 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local

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Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development. When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information please do not hesitate to contact Celicia A. Davis, of the Hazard Mitigation Assistance Branch, at (770) 220-5253, Dontrey L. Garnett, of the Hazard Mitigation Assistance Branch, at (770) 220-3145, or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

2

U. S. Department of Homeland Security
Region IV
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

July 21, 2021

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: Multi-Jurisdictional Hazard Mitigation Plan: Nash Edgecombe Wilson Regional

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of November 6, 2020, in which we approved the Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan and all the participating communities that submitted their resolutions at the time of plan approval. We have recently received from your office the following resolutions for inclusion within this plan and subsequently have approved the communities under the approved Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan, effective July 21, 2021:

- Town of Bailey
- Town of Elm City
- Town of Whitakers

The approved participating communities are hereby 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)
- Building Resilient Infrastructure and Communities (BRIC)

National Flood Insurance Program (NFIP) participation is required for some programs.

We commend the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan for the development of a solid, workable plan that will guide hazard mitigation activities over the coming years. Please note that all requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular program under which the application is submitted. For example, a specific mitigation activity or project identified in the plan may not meet the eligibility requirements for FEMA funding, and even eligible mitigation activities are not automatically approved for FEMA funding under any of the aforementioned programs.

We strongly encourage each community to perform an annual review and assessment of the effectiveness of their hazard mitigation plan; however, a formal plan update is required at least every five (5) years. We

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also encourage each community to conduct a plan update process within one (1) year of being included within a Presidential Disaster Declaration or of the adoption of major modifications to their local Comprehensive Land Use Plan or other plans that affect hazard mitigation or land use and development. When the Plan is amended or revised, the amendments and revisions should be incorporated into the next plan update. If the Plan is not updated prior to the required five (5) year update, please ensure that the Draft update is submitted at least six (6) months prior to expiration of this plan approval.

If you or the participants in Nash Edgecombe Wilson Regional Multi-Jurisdictional Hazard Mitigation Plan have any further questions or need any additional information, please do not hesitate to contact Celicia Davis, of the Hazard Mitigation Assistance Branch, at (202) 997-7490, Carol Maldonado, of the Hazard Mitigation Assistance Branch, at (470) 307-6294, Hailey Peterson, of the Hazard Mitigation Assistance Branch, at (202) 655-8757, or Edwardine S. Marrone, of my staff, at (404) 433-3968.

Sincerely,

Kristen M. Martinenza, P.E., CFM
Branch Chief
Risk Analysis
FEMA Region IV

2

RESOLUTION ADOPTING
N.E.W. (Nash, Edgecombe, and Wilson County)
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Nash County is vulnerable to an array of natural hazards that can cause loss of life and damages to public and private property; and

WHEREAS, the Nash County 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 natural hazards; and

WHEREAS, it is the intent of the Nash County 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 Nash County 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 of a declared disaster affecting the Nash County; and

WHEREAS, Nash County, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures; and

WHEREAS, the current N.E.W. Regional Hazard Mitigation Plan expires August 13, 2020;

NOW, THEREFORE, BE IT RESOLVED that the Nash County Board of Commissioners hereby:

1. Adopts the Nash-Edgecombe-Wilson Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Adopted on the 3rd day of August 2020.

NASH COUNTY BOARD OF COMMISSIONERS

By: _____
Robbie B. Davis. Chairman

ATTEST:

_____
Janice Evans, Clerk to the Board

(OFFICAL SEAL)

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Edgecombe County is vulnerable to an array of natural hazards that can cause loss of life and damages to public and private property; and

WHEREAS, Edgecombe County 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 natural hazards; and

WHEREAS, it is the intent of the Edgecombe County 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 Edgecombe County 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 of a declared disaster affecting Edgecombe County; and

WHEREAS, Edgecombe County, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Edgecombe County Commissioners hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Adopted this 5th day of **October, 2020**.

Leonard Wiggins, Chairman

Frangie Mungo, Clerk to the Board



Approved By Board of Commissioners on 8/3/20
Clerk to the Board

Wilson County Government
Commissioner's Agenda Information Sheet
Date: August 3, 2020

Item:	Hazard Mitigation Plan
Initiated By:	Gordon Deno, Emergency Management Director
Action Proposed:	Approve the Updated Regional Hazard Mitigation Plan

Description:
2020 Nash, Edgecombe, Wilson (N.E.W.) Regional Hazard Mitigation Plan - update 2020

In 2000, the US 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 Pre-Disaster Mitigation (PDM) 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.

Originally, counties were required to create their own plans, to include the municipalities within the counties. These plans are required to be updated every five years. In 2014, Wilson County, along with Nash and Edgecombe Counties entered to an agreement to establish a regional hazard mitigation plan. That plan was approved in 2015. This year is the update year for that plan.

NC Emergency Management took on the cost of the mitigation plans through a federal grant and contracted private consultants to update the plans.

Through a series of meetings that included all three counties, the municipalities within the counties and members of the community from all three counties, the 2015 plan was reviewed and updated to include current information regarding hazards, past disasters, costs of recovering from those disasters and projects that can be put in place to reduce damages from those hazards.

Some of those projects include:

- Add drainage as an issue to be discussed during technical review committee review of proposed development plans
- Inventory existing lots and structures within flood hazard areas to establish baseline data regarding current state of development within flood hazard areas
- Establish coordinating committee to ensure that all parties responsible for storm water management communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems within the County
- Establish and maintain coordinated debris inspection program with debris removal program to correct problem sites
- Update flood maps to reflect new subdivisions, changes in corporate limits, and all the FIRM (flood insurance rating map) data, publicize the availability of maps and keep record of service
- Establish three or more-member local hazard mitigation committee with private sector participation
- Acquire destroyed or substantially damaged properties and relocate households (voluntary participation)
- Require all developments that involve the disturbance of more than one acre of land to receive a sediment/erosion control permit from NCDEQ
- Evaluate evacuation routes considering road upgrades and new road construction
- Require fire protection equipment to be installed in new subdivisions
- Advise/assist property owners in retrofitting homes and businesses to protect the property from flood damage
- Establish and maintain information on retrofitting techniques at the Planning and Inspections Department and at the Public Library.
- Provide information on the County website about hazard risk, mitigation, and preparedness

The plan is currently on review by NCEM and FEMA. It also is required to be approved by the various governing bodies within all three counties. A link to the entire plan has been placed in Board Effect for your access to the plan.

R-2020-25

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ROCKY MOUNT ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Rocky Mount is vulnerable to an array of natural hazards that can cause loss of life and damages to public and private property; and

WHEREAS, the Rocky Mount 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 natural hazards; and

WHEREAS, it is the intent of the City 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 City 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 of a declared disaster affecting the Rocky Mount; and

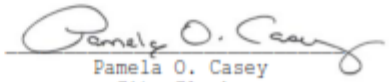
WHEREAS, the Rocky Mount, in coordination with all other participating jurisdictions of the N.E.W. Region, has prepared a regional hazard mitigation plan with input from the appropriate local and state officials; and

WHEREAS, the North Carolina Division of Emergency Management and the Federal Emergency Management Agency will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Council of Rocky Mount hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Adopted: 7-27-2020



Pamela O. Casey
City Clerk

R-029-20

**RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF WILSON, NORTH CAROLINA
ADOPTING THE N.E.W. REGIONAL
HAZARD MITIGATION PLAN**

WHEREAS, the City of Wilson is vulnerable to an array of natural hazards that can cause loss of life and damages to public and private property; and

WHEREAS, the City of Wilson 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 natural hazards; and

WHEREAS, it is the intent of the City 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 City 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 of a declared disaster affecting the City of Wilson; and

WHEREAS, the City of Wilson, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Wilson, North Carolina hereby:

1. Adopts the Nash-Edgecombe-Wilson Regional Hazard Mitigation Plan (Plan); and

1

2. Vests the Office of the 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 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 Office of the Mayor 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 Council or consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

DULY ADOPTED, this 20th day of August, 2020.

Carlton L. Stevens, Mayor

ATTEST

Tonya A. West, City Clerk

CITY OF WILSON INCORPORATED 1849 WILSON COUNTY, N.C.

2

RESOLUTION
ADOPTING THE N.E.W. REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Town of Bailey 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 Bailey 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 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 Bailey 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 Bailey to fulfill this obligation in order that the Town of Bailey 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 Town of Bailey hereby:

1

1. Adopts the N.E.W. Regional Hazard Mitigation Plan.

2. Vests Town of Bailey 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 Town of Bailey 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 Bailey 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 nineteenth day of April, 2021.

Mayor Thomas Richards

Attest:

Kellie Glover, Town Clerk

Certified by: (SEAL)

Date: 4-19-21

2

RESOLUTION
ADOPTING N.E.W. REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Black Creek 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 Black Creek 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 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 Black Creek 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 Black Creek to fulfill this obligation in order that the Town of Black Creek 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 Black Creek hereby:

1

1. Adopts the N.E.W. Regional Hazard Mitigation Plan.

2. Vests the Town of Black Creek 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 Town of Black Creek 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 Black Creek 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 13 day of April, ~~2021.~~

Name, Chair
Town of Black Creek Board of Commissioners

Attest:

Cindy Dougherty
Name, Clerk
Town of Black Creek Board of Commissioners

Certified by: Mary Lou (SEAL)

Date: April 13, 2021

2

RESOLUTION ADOPTING THE NASH EDGECOMBE WILSON (N.E.W.) REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Castalia 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 Castalia 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 natural hazards; and

WHEREAS, it is the intent of the Town of Castalia 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 Town of Castalia 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 of a declared disaster affecting the Town of Castalia; and

WHEREAS, the Town of Castalia, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

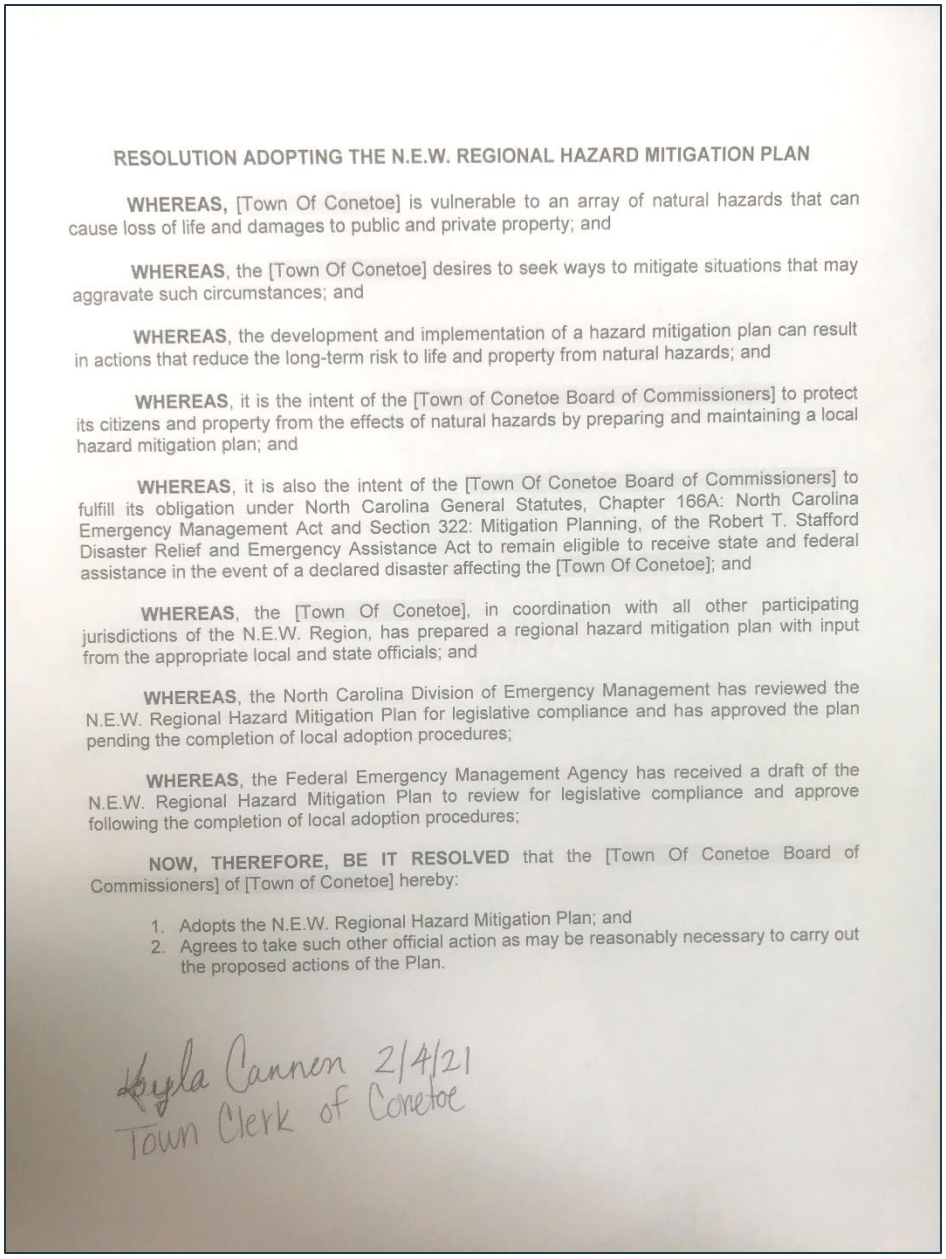
NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of the Town of Castalia hereby:

1. Adopts the Nash Edgecombe Wilson (N.E.W.) Regional Hazard Mitigation Plan; and
2. Vests the Office of Mayor with the responsibility, authority and the means to liaise with Federal, State and local agencies and private firms concerning all aspects of implementing the Plan.
3. Appoints the Office of Mayor to assure that the Plan is reviewed annually and every 5 years for compliance with all Federal and State regulations. Any needed revisions or amendments to the Plan must be developed and presented to the Town Board of Commissioners for consideration.
4. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Adopted on this 7th day of July, 2020

James E. Alston
Mayor

Marsha S. Thompson
Attest



RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, [Town Of Conetoe] 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 Conetoe] 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 natural hazards; and

WHEREAS, it is the intent of the [Town of Conetoe 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 [Town Of Conetoe 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 of a declared disaster affecting the [Town Of Conetoe]; and

WHEREAS, the [Town Of Conetoe], in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the [Town Of Conetoe Board of Commissioners] of [Town of Conetoe] hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Kayla Cannon 2/4/21
Town Clerk of Conetoe

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Town of Dortches 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 Dortches 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 natural hazards; and

WHEREAS, it is the intent of the Town 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 Town 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 of a declared disaster affecting the Town of Dortches; and

WHEREAS, the Town of Dortches, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Commissioners of the Town of Dortches hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

This, the 21st day of July, 2020

Kirby B. Brown, Mayor

ATTEST:

Gerald C Batts, Town Clerk/Administrator

RESOLUTION
ADOPTING THE N.E.W. REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Elm 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, the Town of Elm 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 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 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 Elm 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 Board of Commissioners of the Town of Elm City to fulfill this obligation in order that the Town of Elm 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 Board of Commissioners of the Town of Elm City hereby:

1

1. Adopts the N.E.W. Regional Hazard Mitigation Plan.

2. Vests the Town of Elm City 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 Town of Elm City 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 Elm 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 Hazard Mitigation Plan.

Adopted this the 13th day of April, 2021.

Grady N. Smith

Name, Grady N. Smith, Mayor
Town of Elm City Board of Commissioners

Attest:

Dena H. Owens

Dena H. Owens, Clerk
Town of Elm City Board of Commissioners

Certified by: _____ (SEAL)

Date: 4/13/21

TOWN OF ELM CITY CORPORATE SEAL 1873 ELM CITY, N.C.

2

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Town of Leggett 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 Leggett 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 natural hazards; and

WHEREAS, it is the intent of the Leggett 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 Leggett 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 of a declared disaster affecting the Town of Leggett; and

WHEREAS, the Town of Leggett, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Leggett Town Council of Town of Leggett hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Teresa M Summerlin
10-19-2020

RESOLUTION
ADOPTING THE N.E.W. REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Lucama 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, the Town of Lucama 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 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 Lucama 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 Lucama NC to fulfill this obligation in order that the Town of Lucama 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 Lucama NC hereby:

1

1. Adopts the N.E.W. Regional Hazard Mitigation Plan.

2. Vests Town of Lucama 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 Town of Lucama 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 Lucama 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 12th day of April, 2021.

Jeff Johnson, Mayor
Lucama NC Board of Commissioners

Attest:

Teresa Whitehead, Clerk
Lucama NC Board of Commissioners

Certified by: _____ (SEAL)

Date: 4-12-2021

2

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Town of Macclesfield 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 Macclesfield 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 natural hazards; and

WHEREAS, it is the intent of the Macclesfield 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 Macclesfield 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 of a declared disaster affecting the Town of Macclesfield; and

WHEREAS, the Town of Macclesfield, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Macclesfield Board of Commissioners of the Town of Macclesfield hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out
the proposed actions of the Plan.



Mayor

10/9/2020

R2020-1187

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Middlesex 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 Middlesex 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 natural hazards; and

WHEREAS, it is the intent of the 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 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 of a declared disaster affecting the Town of Middlesex; and

WHEREAS, the Town of Middlesex, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of the Town of Middlesex hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Adopted this the 17th day of July 2020 at Middlesex, North Carolina

Luther H. Lewis Jr. / Mayor

Gloria Vinson / Town Clerk

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Momeyer 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 Momeyer 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 natural hazards; and

WHEREAS, it is the intent of the 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 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 of a declared disaster affecting the Town of Momeyer; and

WHEREAS, the Town of Momeyer, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Town Council of the Town of Momeyer hereby:

SECTION 1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and

SECTION 2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

THIS RESOLUTION passed and adopted this Thirteenth Day of July.

TOWN OF MOMEYER
TOWN COUNCIL

(Municipal Seal)

By: Kenneth Lee Parker
Kenneth Lee Parker, Mayor

Attest:
Karen Hendricks
Karen Hendricks, Town Clerk

Town of Nashville

BRENDA BROWN
MAYOR

RANDY LANSING
TOWN MANAGER

TOWN COUNCIL
LOUISE W. HINTON
KATE C. BURNS
LYNNE HOBBS
LARRY D. TAYLOR

RESOLUTION 2021-08

ADOPTING THE N.E.W. (NASH-EDGECOMBE-WILSON) REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Nashville 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 Nashville 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 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 Nashville 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.

Town of Nashville

WHEREAS, it is the intent of the Town Council of Nashville to fulfill this obligation in order that the Town of Nashville 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 Nashville hereby:

1. Adopts the N.E.W. (Nash-Edgecombe-Wilson) Regional Hazard Mitigation Plan.

2. Vests the Office of the 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 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 Office of the Mayor 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 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 2nd day of February, 2021.

Brenda Brown
Brenda Brown, Mayor

Certified by: [signature] (SEAL)

Date: 2/10/2021

OFFICIAL SEAL
NASHVILLE, NORTH CAROLINA



RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Town of Pinetops 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 Pinetops 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 natural hazards; and

WHEREAS, it is the intent of the Pinetops 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 Pinetops 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 of a declared disaster affecting the Town of Pinetops; and

WHEREAS, the Town of Pinetops, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Pinetops Board of Commissioners of Town of Pinetops hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Brenda Harrell

Brenda Harrell, Mayor
Town of Pinetops

Tammy Keesler

Tammy Keesler, Town Clerk
Town of Pinetops

Adopted Nov 3, 2020

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Princeville, North Carolina is vulnerable to an array of natural hazards that can cause loss of life and damages to public and private property; and

WHEREAS, the Princeville, North Carolina 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 natural hazards; and

WHEREAS, it is the intent of the 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 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 of a declared disaster affecting the Princeville, North Carolina; and

WHEREAS, the Princeville, North Carolina in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of Princeville, North Carolina hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

8/17/2020
Bobbie Jones, Mayor

Attest:
Lakia Roberson 8-17-2020
Lakia Roberson, Town Clerk

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, [Red Oak, 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 [Red Oak, 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 natural hazards; and

WHEREAS, it is the intent of the Red Oak 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 Red Oak 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 of a declared disaster affecting Red Oak, NC]; and

WHEREAS, the [Red Oak, NC], in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Mayor and Council of [Red Oak, NC] hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

This 13th day of July, 2020.

Attest:

Tracy Sherrin, Town Clerk

Levell Langley, Mayor

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Saratoga 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 Saratoga 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 natural hazards; and

WHEREAS, it is the intent of the Town of Saratoga 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 Town of Saratoga 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 of a declared disaster affecting the Town of Saratoga; and

WHEREAS, the Town of Saratoga, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Town of Saratoga Board of Commissioners in Saratoga, North Carolina hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Adopted this 7th day of October, 2020.

By: _____
Charles Thomas Hawkins - Mayor

Certified by: Brenda Wilson Date: 10-7-2020
Town Clerk

Seal:

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, TOWN OF SHARPSBURG 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 SHARPSBURG 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 natural hazards; and

WHEREAS, it is the intent of the Sharpsburg Town Board 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 Sharpsburg Town Board 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 of a declared disaster affecting the TOWN OF SHARPSBURG; and

WHEREAS, the TOWN OF SHARPSBURG, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of the TOWN OF SHARPSBURG hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

ADOPTED THIS 4th DAY OF AUGUST, 2020.

(S) TOWN OF SHARPSBURG INCORPORATED 1883 NORTH CAROLINA

Robert Williams, Mayor

Attest:

Tracy H. Sullivan, Town Clerk

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Sims 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 Sims 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 natural hazards; and

WHEREAS, it is the intent of the 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 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 of a declared disaster affecting the Town of Sims; and

WHEREAS, the Town of Sims, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of the Town of Sims hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Sandra H. Boykin 10/12/2020
Clerk Date

Miranda Boykin 10/12/2020
Mayor Date

Seal:



RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Speed 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 Speed 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 natural hazards; and

WHEREAS, it is the intent of the 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 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 of a declared disaster affecting the Town of Speed; and

WHEREAS, the Town of Speed, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Wilbert Harrison
11-17-2020

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, Town of Spring Hope 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 Spring Hope 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 natural hazards; and

WHEREAS, it is the intent of the Spring Hope 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 Spring Hope 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 of a declared disaster affecting the Town of Spring Hope; and

WHEREAS, the Town of Spring Hope, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 has reviewed the N.E.W. Regional Hazard Mitigation Plan for legislative compliance and has approved the plan pending the completion of local adoption procedures;

WHEREAS, the Federal Emergency Management Agency has received a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve following the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Spring Hope Board of Commissioners hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

ADOPTED this the 7TH day of December, 2020.

James F. Gwaltney, III, Mayor

ATTEST:

Michele Collins, Town Clerk

THE TOWN OF SPRING HOPE NORTH CAROLINA

RESOLUTION ADOPTING THE N.E.W. REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Stantonsburg 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 Stantonsburg 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 natural hazards; and

WHEREAS, it is the intent of the 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 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 of a declared disaster affecting the Town of Stantonsburg; and

WHEREAS, the Town of Stantonsburg, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Town Council of the Town of Stantonsburg hereby:

1. Adopts the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Adopted this the 13th day of July, 2020.

Coley H. Rhodes
MAYOR

ATTEST: _____
Tabitha Bailey
TOWN CLERK

BOARD OF COMMISSIONERS OF STANTONSBURG, N.C. 1909 (Seal)

A RESOLUTION ADOPTING THE N.E.W.
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Tarboro 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 Tarboro 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 natural hazards; and

WHEREAS, it is the intent of the 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 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 of a declared disaster affecting the Town of Tarboro; and

WHEREAS, the Town of Tarboro, in coordination with all other participating jurisdictions of the N.E.W. Region, 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 will receive a draft of the N.E.W. Regional Hazard Mitigation Plan to review for legislative compliance and approve pending the completion of local adoption procedures;

NOW, THEREFORE, BE IT RESOLVED that the Town Council of the Town of Tarboro do hereby:

1. Adopt the N.E.W. Regional Hazard Mitigation Plan; and
2. Agrees to take such other official action as may be reasonably necessary to carry out the proposed actions of the Plan.

Mayor

ATTEST:

Town Clerk

MINUTES OF A REGULAR MEETING OF THE TOWN COUNCIL OF THE TOWN OF TARBORO, HELD AT 7:00 PM ON MONDAY, JULY 13, 2020 IN THE COUNCIL ROOM, TOWN HALL, TARBORO, NORTH CAROLINA

MEMBERS PRESENT

Mayor Pitt
Councilman Woodard
Councilman Taylor
Councilman Burnette
Councilman Brown
Councilman Jenkins
Councilmember Jordan
Councilmember Bynum
Councilman Mayo

MEMBERS ABSENT

ALSO PRESENT

Troy Lewis, Town Manager
Leslie Lunsford, Town Clerk
Chad Hinton, Town Attorney

1. MEETING CALLED TO ORDER BY THE MAYOR

2. INVOCATION

Councilman Taylor.

3. PLEDGE OF ALLEGIANCE

4. APPROVAL OF AGENDA BY COUNCIL

Agenda approved as presented.
Leo Taylor made a motion, which was seconded by Othar Woodard and Passed, Motion.

5. REQUESTS AND PETITIONS OF CITIZENS

Mayor Joe Pitt read a letter from Shirley Hill extending her appreciation to the Town for support during a mobile food service.

The following individuals spoke about current racial situations including the Confederate monument on the Town Commons.

Monica Fleming, 812 Saint Andrew Street
Jay Vick, 9642 NC Hwy 97 W
Lewis Ridgeway, 1009 Saint Andrew Street
Jay Cutler, 1008 Palmer Street
Bill Long, 301 Maryland Avenue
William Parker, 3826 McKendree Church Rd
Eddie Taylor, 611 S. Howard Circle

Viola Harris, 609 Saint David Street
Mary Ann Cumpata, 1812 Lake Drive
Doris Stith, 1816 Lake Drive
Rick Basil, 1410 Captains Road
J.O. Williams, 732 McMillan Drive
Martin Fleming, 812 Saint Andrew Street
Sherri Redhage, 900 Saint Andrew Street
Karen Andrus, 1008 N. Main Street
Alyssa Ruffing, 110 E. Park Avenue
Morris Mays, 802 E. Wilson Street
John Battle, 615 Clark Drive
Marc Ruffing, 110 E. Park Avenue
Stoney Roberson, 603 S. Howard Circle
Quincey Robinson, 1005 Martin Luther King Jr Drive
Marquetta Dickens, 913 Panola Street

6. TOWN MANAGERS RECOMMENDATIONS

Consent Items

Consent Items approved as presented.
Leo Taylor made a motion, which was seconded by John Jenkins and Passed, Motion.

(1) Approve minutes of the June 8, 2020 regular meeting.

(2) Budget Transfers

(3) 2019 Tax Levy Adjustment

(4) 2018 Tax Levy Adjustment

(5) Taxes - Preliminary Report & Annual Settlement of Tax Collector

(6) Tax Collector's Report

Action Items

(7) Confederate Monument Discussion

After much discussion, Councilman Woodard made a motion, which was seconded by Councilmember Bynum, that Council vote to carefully and respectfully move the Confederate statue located in the Tarboro Town Common, once a more suitable location has been found where it still can be honored by those who wish to do so, subject to the Town Council's final approval of the location, the process and cost as determined by the Town Manager and his staff. Councilman Woodard agreed to table his motion until the August meeting, pending information presented by staff.

Council requested Town staff research a new location, cost related to relocating the monument, contact the State Historic Commission and the possibility of adding item to the November ballot.

No action was taken at this time.

(8) N.E.W. Regional Hazard Mitigation Plan

Council approved the resolution to adopt the 2020 N.E.W. Regional Hazard Mitigation Plan.
Leo Taylor made a motion, which was seconded by Sabrina Bynum and Passed, Motion.

(9) Amendment to the Fee Schedule

Council approved the amendment to the 2020-2021 Fee Schedule regarding specific temporary uses.
Steve Burnette made a motion, which was seconded by John Jenkins and Passed, Motion. Ayes: Brown, Burnette, Bynum, Jenkins, Jordan, Taylor, Woodard; Nays: Mayo

(10) Resolution - NCGHSP Region 4 Law Enforcement Liaison

Council approved a resolution in the amount of $25,000.00 and authorized staff to execute all documents pertaining to this grant.
John Jenkins made a motion, which was seconded by Sabrina Bynum and Passed, Motion.

7. OTHER REPORTS

A. Town Manager

None.

B. Town Attorney

Chad Hinton stated that he was impressed with the conduct of Councilmembers and citizens during this meeting.

C. Council Members

Councilman Woodard - stated that enjoyed working on this Council, he thanked everyone for conducting themselves in a respectful manner.

Councilman Taylor - stated that the meeting went well and that he was proud of Tarboro.

Councilman Mayo - thanked citizens for attending the meeting and participating in a respectful discussion.

Councilmember Jordan - stated that the meeting went well. She also thanked the Police Department for the service they provide when called.

Councilman Jenkins - stated that he was pleased with the meeting.

Councilmember Bynum - none.

Councilman Burnette - none.

Councilman Brown - stated that he enjoyed the July 4th firework display. He also stated that he was

RESOLUTION
ADOPTING THE N.E.W. REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Whitakers 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 Whitakers 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 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 Whitakers 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 Whitakers 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 County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Whitakers hereby:

1

1. Adopts the N.E.W. Regional Hazard Mitigation Plan.

2. Vests the Board of Town Commissioners 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 Board of Town Commissioners 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 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 20 day of July, 2021.

Esterine Gary Pitt, Mayor
Esterine Gary Pitt, Mayor
Whitakers Board of Commissioners

Attest:

Shante Williams, Clerk
Whitakers Board of Commissioners

Certified by: _____ (SEAL)

Date: _____

2

Annex A Unincorporated Nash County

A.1 PLANNING PROCESS

The table below lists the HMPC members who represented Nash County unincorporated areas.

Table A.1 – HMPC Members

Member Name	Title	Agency
Brent Fisher	Assistant Director (Fire/Rescue & Emergency Management)	Nash County Emergency Services
Adam Tyson	Planning Director	Nash County Planning & Inspections
Valerie Harris	--	Soil & Water
Adam Culpepper	--	Nash County
Carolyn Stern	Disaster Specialist	American Red Cross
Olivia Moss	Director of EMS Programs	Nash Community College - Primary
Bryant Waters	Emergency Management Curriculum Coordinator	Nash Community College - Secondary
Kim Langston	Emergency Management Coordinator/Emergency Department Director	Nash UNC Hospital
Jonathan Boone	Public Utilities Director	Nash County
Nancy Nixon	Retired County Planning Director	Citizen
Clifford B. Miller III	--	UNC Nash Healthcare
Jennifer Boulder	--	UNC Nash Emergency Dept.
Brian Miller	Chief of Staff	Nash Rocky Mount School System

A.2 COMMUNITY PROFILE

Geography

Nash County is located in the northwestern third of the N.E.W. Region. It is surrounded by Edgecombe County to the east, Wilson County to the south, Johnston County to the southwest, Franklin County to the west, and Halifax County to the north. The County comprises a total land area of nearly 543 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 50,478 acres of wetlands in the unincorporated areas of the County.

Population and Demographics

Table A.2 provides population counts and growth estimates for all of Nash County, including incorporated areas, as compared to the region overall. Note that multiple incorporated places cross county boundaries within the region; therefore, an accurate population for the unincorporated areas of Nash County could not be estimated by simple subtraction of incorporated areas from the county total.

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Nash County	**87,420**	**95,840**	**94,003**	**-1,837**	**-1.92%**

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table A.3 provides demographic information for the County as compared to the whole region.

Table A.2 – Population Counts, Nash County, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Nash County	**87,420**	**95,840**	**94,003**	**-1,837**	**-1.92%**

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table A.3 – Racial Demographics, Nash County, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Nash County	**52.9**	**39.2**	**1**	**4.1**	**2.8**	**6.8**

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Nash County unincorporated areas in order to estimate the total physical exposure to hazards in this area.

Table A.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Unincorporated Nash County	4,363	2	0	571	0	224	1	123	3	0	0	0	0	46	4	7	0	5,344

Source: NCEM Risk Management Tool

Table A.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Nash County	2	7	10	24	4	4	4	55

Source: NCEM Risk Management Tool

There are five listings on the National Register of Historic Places for Nash County unincorporated areas, including one historic district. These sites are listed in the table below.

Table A.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
74001360	Meadows, The	5/16/1974	Building	Battleboro
82003491	Bellamy-Philips House	7/12/1982	Building	Battleboro
88001050	Hart, Dr. Franklin, Farm	7/21/1988	District	Drake
74001361	Arrington, Gen. Joseph, House	7/15/1974	Building	Hilliardston
16000561	Burt--Arrington House	8/22/2016	Building	Hilliardston

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Nash County as compared to the region overall.

Table A.7 – Housing Statistics, Nash County, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Nash County	**41,766**	**42,876**	**2.7**	**65.7**	**14.4**	**$126,200**

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Nash County as compared to the region overall.

Table A.8 – Employment Statistics, Nash County, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Nash County	**46,235**	**57.3**	**3.8**	**38.8**	**6.3**

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table A.9 – Percent of Employed Population by Occupation, Nash County, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Nash County	**32.0**	**16.7**	**22.7**	**10.1**	**18.6**

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

A.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for Nash County than for the N.E.W. Region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

A.3.1 Flood

Table A.10 details the acreage of unincorporated Nash County's total area by flood zone on the effective DFIRM. Per this assessment, just under 9 percent of the unincorporated area in the County falls within the mapped 1%-annual-chance floodplains.

Table A.10 – Flood Zone Acreage in Unincorporated Nash County

Flood Zone	Acreage	Percent of Total (%)
Zone A	1.54	0.07
Zone AE	30,492.24	8.78
Zone X (500-year)	2,988.63	0.86
Zone X Unshaded	313,888.42	90.36
Total	**347,370.84**	--

Source: FEMA Effective DFIRM

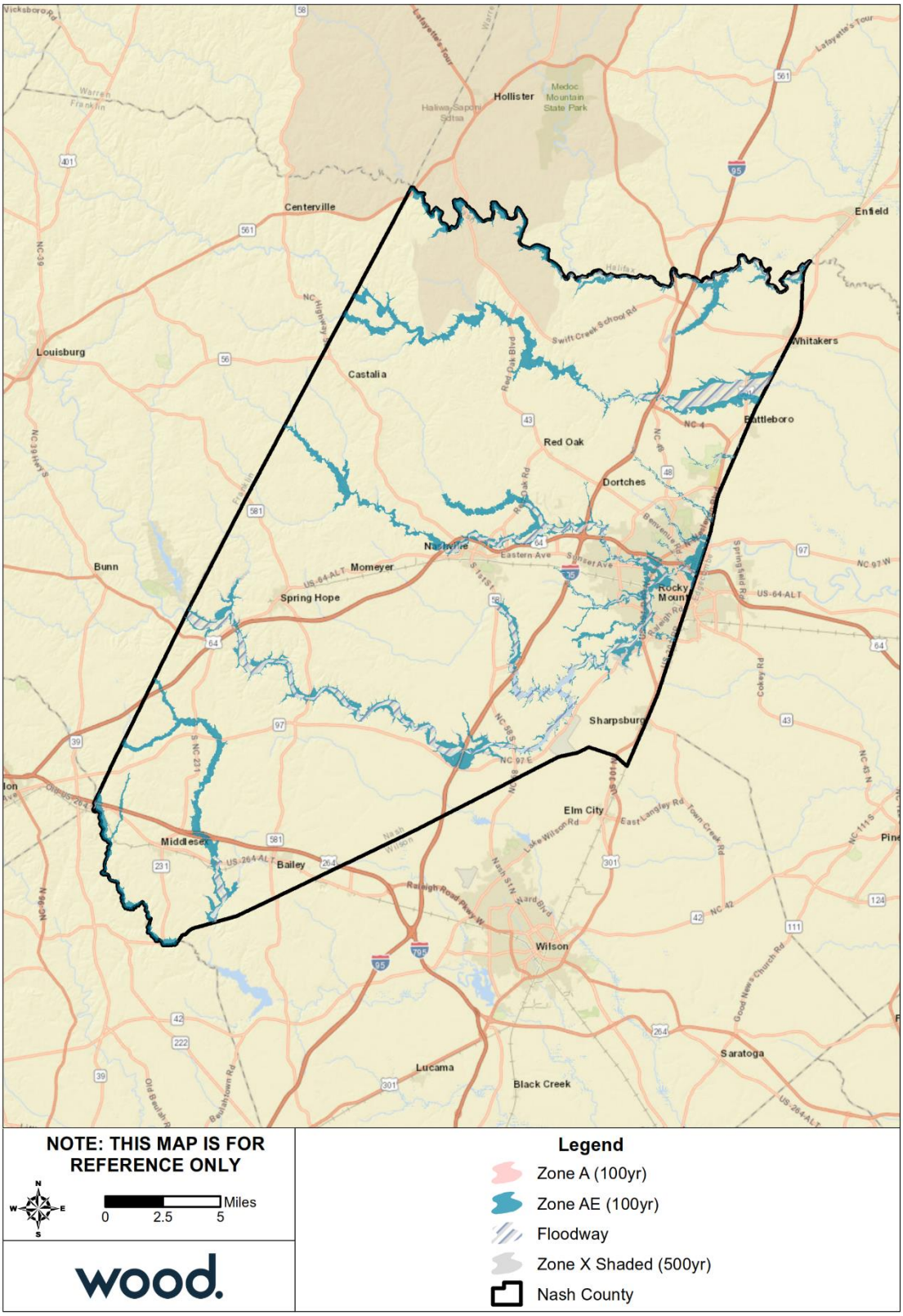
Figure A.1 reflects the effective mapped flood hazard zones for Nash County, and Figure A.2 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table A.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in Unincorporated Nash County.

Table A.11 – Critical Facilities Exposed to Flooding, Unincorporated Nash County

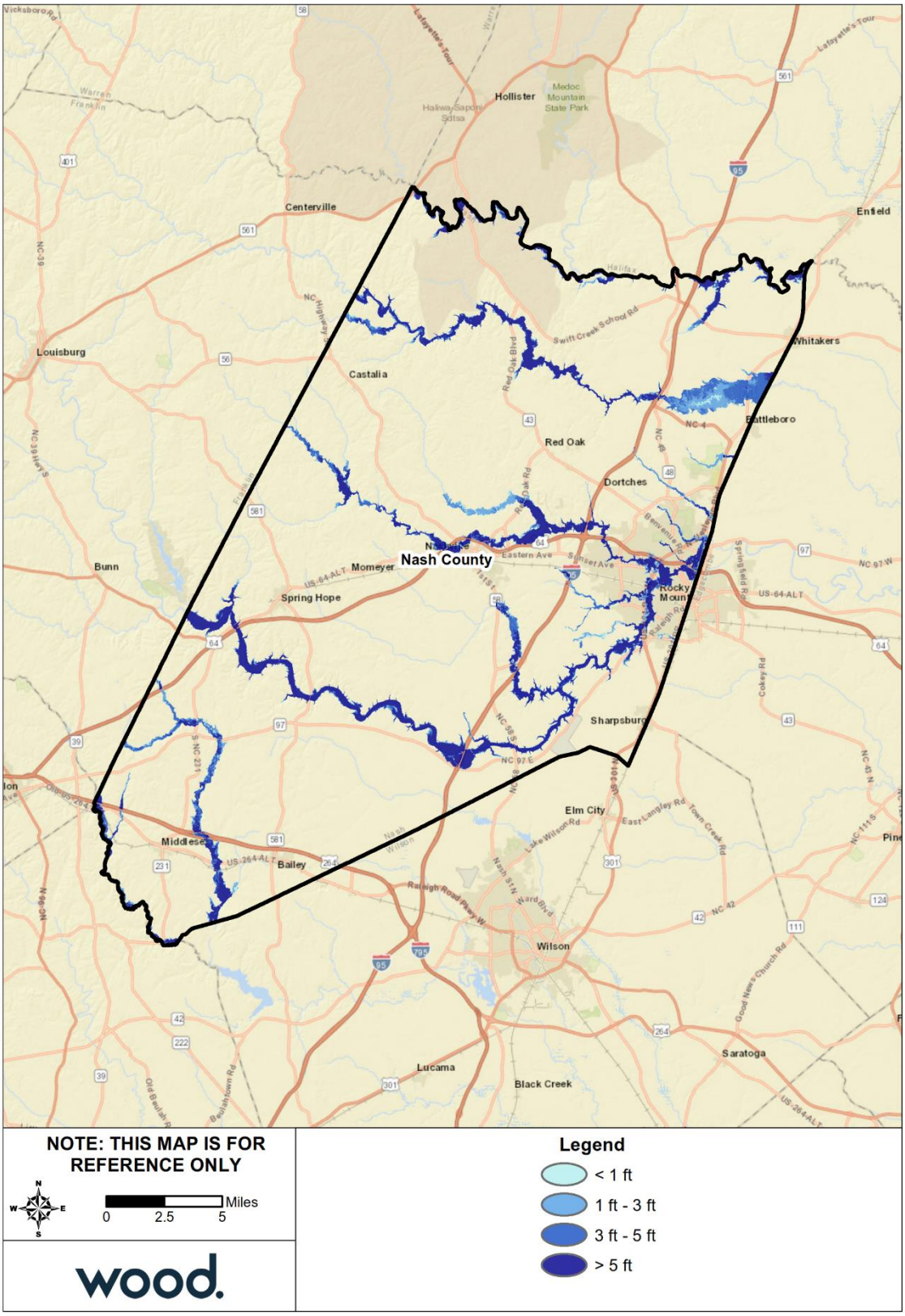
Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	100 Year	13	$102,199
	500 Year	24	$219,512
Critical Manufacturing	500 Year	2	$9,787
Food and Agriculture	100 Year	10	$40,907
	500 Year	22	$151,281
All Categories	**100 Year**	**23**	**$143,106**
	500 Year	**48**	**$380,580**

Figure A.1 – FEMA Flood Hazard Areas, Unincorporated Nash County



Source: FEMA Effective DFIRM

Figure A.2 – Flood Depth, 1%-Annual-Chance Floodplain, Unincorporated Nash County



Source: FEMA Effective DFIRM

A.3.2 Wildfire

Table A.12 summarizes the acreage in unincorporated Nash 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. Just under 50 percent of unincorporated Nash County is not included in the WUI.

Table A.12 – Wildland Urban Interface Acreage, Unincorporated Nash County

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*150,676.43*	*49.79%*
	LT 1hs/40ac	44,614.18	14.74%
	1hs/40ac to 1hs/20ac	25,354.49	8.38%
	1hs/20ac to 1hs/10ac	31,655.10	10.46%
	1hs/10ac to 1hs/5ac	23,963.44	7.92%
	1hs/5ac to 1hs/2ac	19,767.60	6.53%
	1hs/2ac to 3hs/1ac	6,537.01	2.16%
	GT 3hs/1ac	69.82	0.02%
	Total	**302,638.07**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for unincorporated Nash County. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts. These three maps depict both incorporated and unincorporated areas of Nash county and will be referenced in individual jurisdictional annexes moving forward.

Potential fire intensity varies across the county with patches of potentially high intensity scattered throughout. The largest patch is in northwest Nash County, bordering Franklin County. However, burn probability is uniformly low across all unincorporated areas of the County. Additionally, unincorporated areas with higher potential fire intensities are largely outside of the WUI, meaning little to no development is at risk. Still, areas in the northeast where potential fire intensity overlays with relatively higher burn probability are at a higher risk.

Table A.13 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table A.14 provides counts and estimated damages for High Potential Loss Properties in unincorporated Nash County.

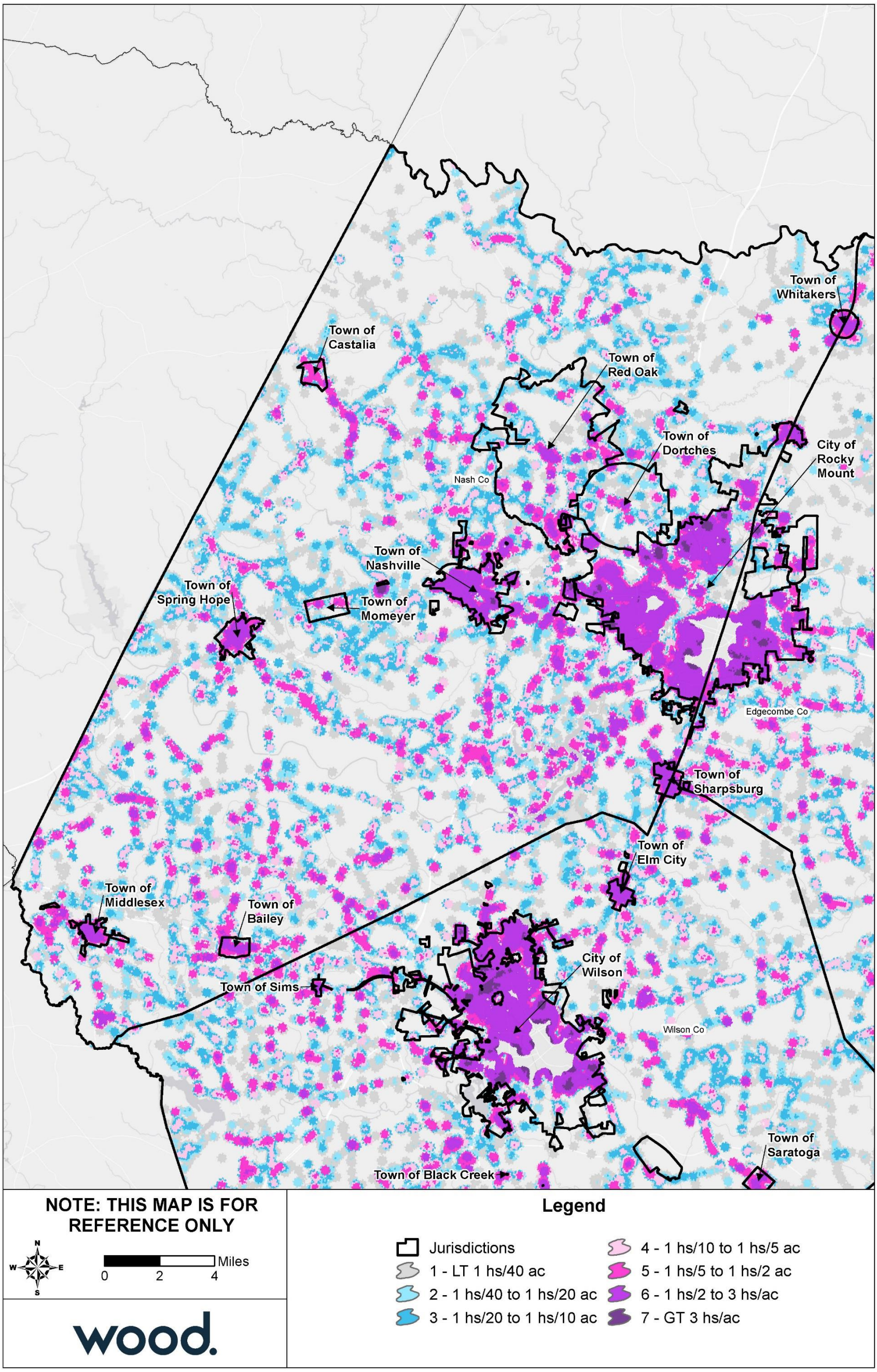
Table A.13 – Critical Facilities Exposed to Wildfire, Unincorporated Nash County

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	148	$170,250,159
Critical Manufacturing	Wildfire Hazard	24	$56,229,528
Emergency Services	Wildfire Hazard	2	$2,599,719
Energy	Wildfire Hazard	4	$200,000,000
Food and Agriculture	Wildfire Hazard	543	$36,061,415
Government Facilities	Wildfire Hazard	9	$16,993,737
Transportation Systems	Wildfire Hazard	7	$4,816,337
All Categories	**Wildfire Hazard**	**737**	**$486,950,895**

Table A.14 – High Potential Loss Properties Exposed to Wildfire, Unincorporated Nash County

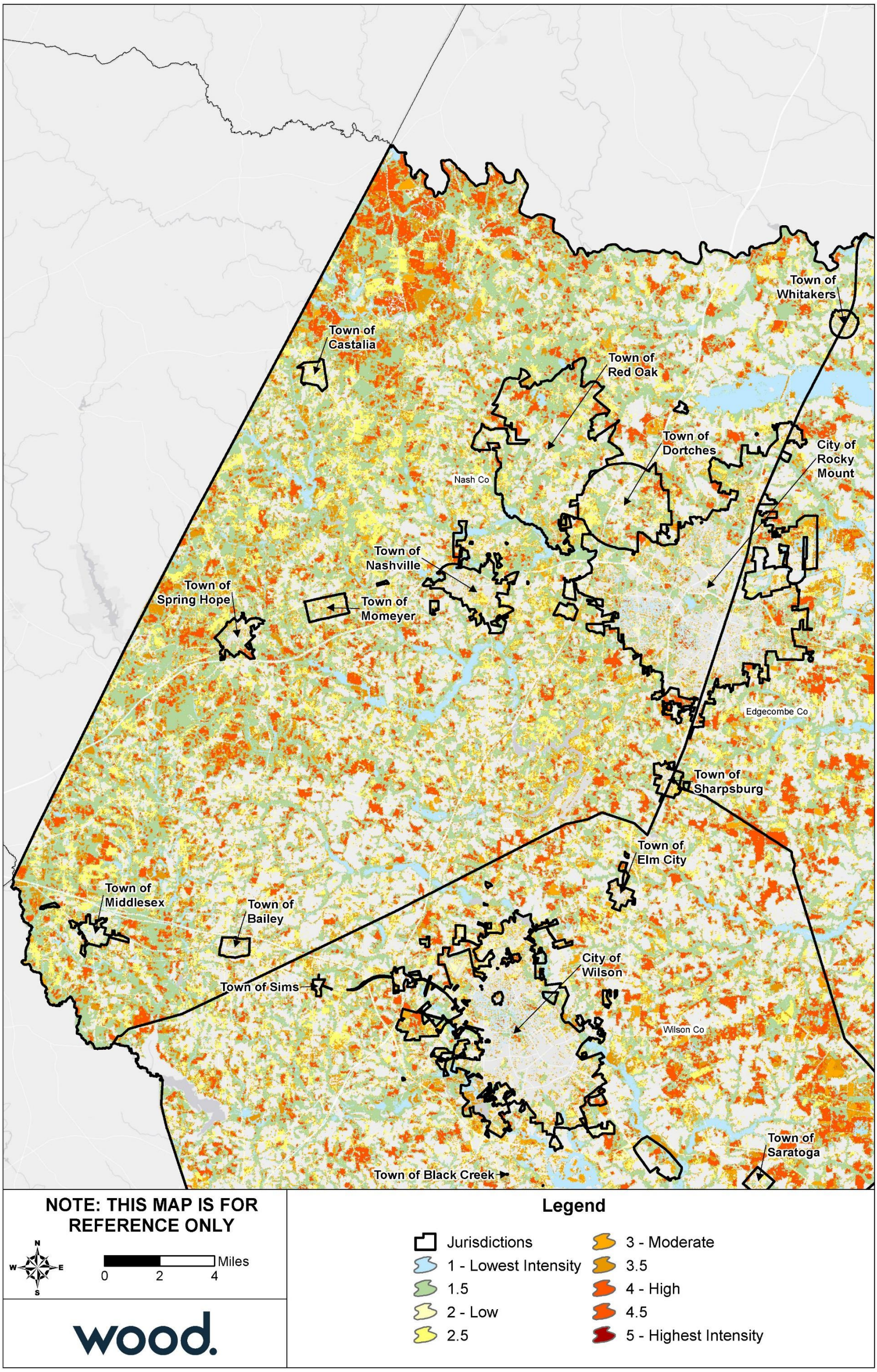
Category	Event	Number of Buildings at Risk	Estimated Damages
Commercial	Wildfire Hazard	1	$39,307,616
Government	Wildfire Hazard	1	$8,849,407
Industrial	Wildfire Hazard	4	$32,305,217
Religious	Wildfire Hazard	2	$23,496,591
Utilities	Wildfire Hazard	4	$200,000,000
All Categories	**Wildfire Hazard**	**12**	**$303,958,831**

Figure A.3 – Wildland Urban Interface, Nash County



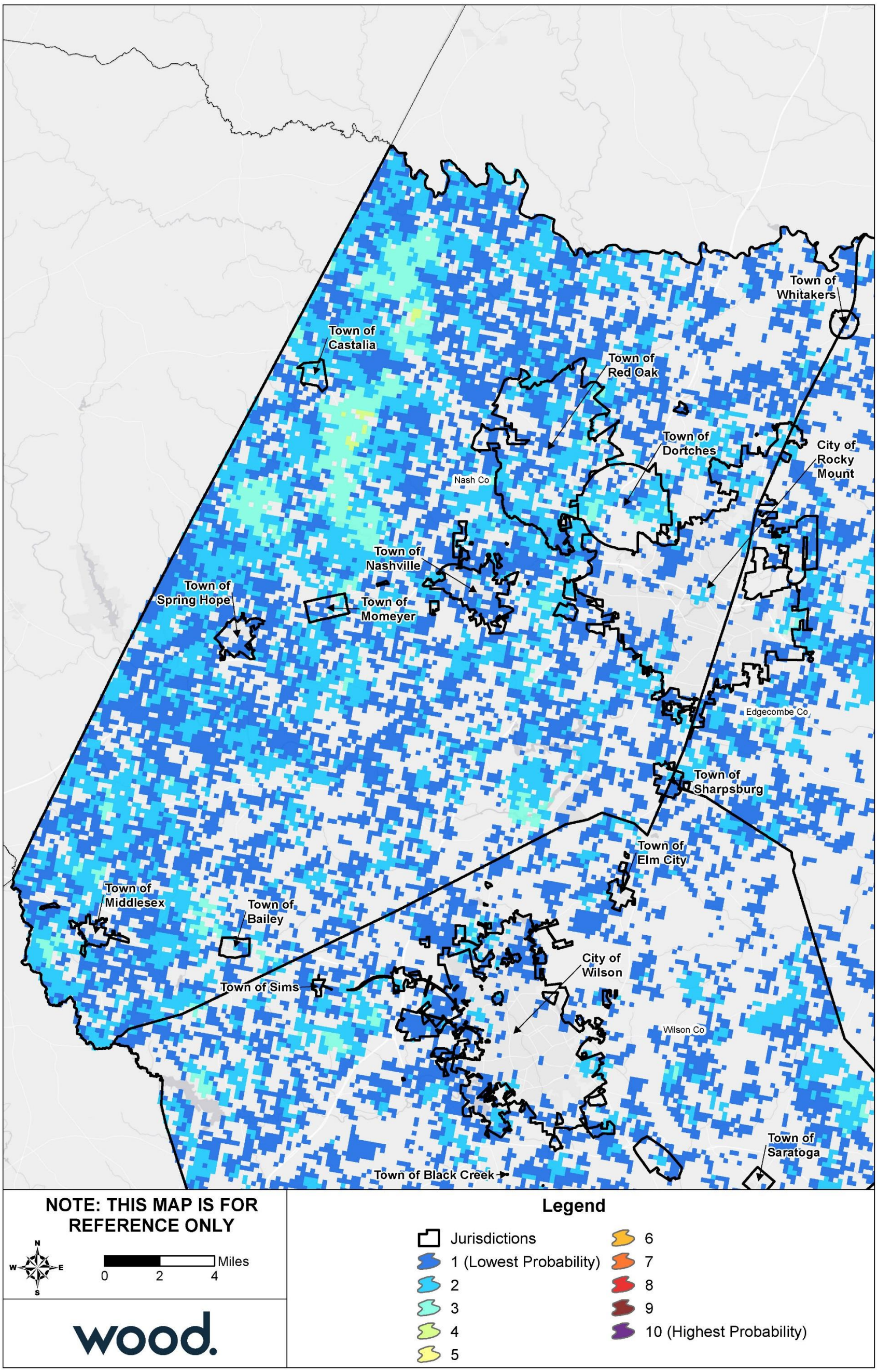
Source: Southern Wildfire Risk Assessment

Figure A.4 – Fire Intensity Scale, Nash County



Source: Southern Wildfire Risk Assessment

Figure A.5 – Burn Probability, Nash County



Source: Southern Wildfire Risk Assessment

A.4 CAPABILITY ASSESSMENT

A.4.1 Floodplain Management

Nash County joined the NFIP emergency program in 1974 and has been a regular participant in the NFIP since June 1978. The following tables reflect NFIP policy and claims data for the County categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table A.15 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	113	$70,657	$31,632,700	66	$2,758,084.21
2-4 Family	0	$0	$0	2	$11,752.38
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	1	$303	$95,300	1	$12,303.50
Total	114	$70,960	$31,728,000	69	$2,782,140.09

Source: FEMA Community Information System, accessed March 2020

Table A.16 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	52	$38,448	$13,031,200	41	$2,182,150.74
A Zones	0	$0	$0	4	$59,080.31
B, C & X Zone					
Standard	14	$14,364	$3,611,800	12	$368,305.52
Preferred	48	$18,148	$15,085,000	11	$172,603.52
Total	114	$70,960	$31,728,000	68	$2,782,140.09

Source: FEMA Community Information System, accessed March 2020

Table A.17 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	10	$7,955	$2,075,300	16	$754,195.41
A Zones	0	$0	$0	2	$22,060.24
B, C & X Zone	15	$6,677	$3,935,800	10	$372,686.84
Standard	3	$2,448	$610,800	8	$326,366.45
Preferred	12	$4,229	$3,325,000	2	$46,320.39
Total	25	$14,632	$6,011,100	28	$1,148,942.49

Source: FEMA Community Information System, accessed March 2020

Table A.18 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	42	$30,493	$10,955,900	25	$1,427,955.33
A Zones	0	$0	$0	2	$37,020.07
B, C & X Zone	47	$25,835	$14,761,000	13	$168,222.20

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Standard	11	$11,916	$3,001,000	4	$41,939.07
Preferred	36	$13,919	$11,760,000	9	$126,283.13
Total	89	$56,328	$25,716,900	40	$1,633,197.60

Source: FEMA Community Information System, accessed March 2020

A.5 MITIGATION STRATEGY

Action #	Action Description	Applicable Jurisdictions	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Implementation Status Comments
Prevention										
P-1	Establish a three or more member local Hazard Mitigation Committee	Nash County	All Hazards	2.2	High	CC/CM	N/A	2021	Carried Forward	Proposed Committee Members: Emergency Management Director, Planning Director, & Public Utilities Director
Structural Projects										
SP-1	Expand Emergency Shelter Capabilities with the installation of transfer switches at identified shelter sites	Nash County, Bailey, Castalia, Dortches, Middlesex, Momeyer, Nashville, Red Oak, Sharpsburg, Spring Hope	All Hazards	3.3	High	EMS	Local, NCEM, FEMA	2021	Carried Forward	Transfer switches installed at Englewood Baptist Church & Nash County Warehouse. Grant funds applied for under Pre-Disaster Mitigation Program in 2017 to install transfer switches at Southern Nash High School & Nash Central High School, but funds not received.
Emergency Services										
ES-1	Establish predetermined evacuation areas in flood-prone areas	Nash County	All Hazards	2.2	High	EMS	Local	2022	Carried Forward	Utilize NC Flood Inundation Mapping and Alert Network (FIMAN) data to identify flood prone areas for potential pre-storm evacuation. Consider utilizing the services of the U.S. Army 83rd Civil Affairs Battalion to survey, inventory, and categorize critical facilities and infrastructure throughout the County and develop recommendations for protection. Enter critical facilities into existing Orion Damage Assessment Solution software for tracking.
Public Education and Awareness										
PEA-1	Develop speakers bureau & presentation/materials suitable for construction professionals and homeowners regarding fire issues in materials, landscaping, and maintenance of easements and access	Nash County	Wildfire	1.2	Moderate	EMS, PD, & NC Forest Service (Outside Agency)	Local	2021	Carried Forward	The NC Forest Service has developed a Wildland Fire Protection Plan for Nash County. Wildfire awareness education is conducted independently by local fire departments. Nash County to disseminate wildfire awareness information via social media accounts and "Nash County Now" TV/YouTube programming.

Annex B Unincorporated Edgecombe County

B.1 PLANNING PROCESS

The table below lists the HMPC members who represented Edgecombe County unincorporated areas.

Table B.1 – HMPC Members

Member Name	Title	Agency
Cynthia Jones	Director	Edgecombe County Planning
Daniel Webb	ES Coordinator	Edgecombe County Emergency Services
David Coker	Citizen	Retired School Maintenance Director
Antwan Brown	Citizen	Volunteer Fire Chief-Princeville FD

B.2 COMMUNITY PROFILE

Geography

Edgecombe County is located in the northeastern third of the N.E.W. Region. It is surrounded by Martin County to the east, Pitt County to the southeast, Wilson County to the southwest, Nash County to the west, and Halifax County to the north. The County comprises a total land area of nearly 507 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 47,198 acres of wetlands in the unincorporated areas of the County.

Population and Demographics

Table B.2 provides population counts and growth estimates for all of Edgecombe County, including incorporated areas, as compared to the region overall. Note that multiple incorporated places cross county boundaries within the region; therefore, an accurate population for the unincorporated areas of Edgecombe County could not be estimated by simple subtraction of incorporated areas from the county total.

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Edgecombe County	**55,606**	**56,552**	**53,332**	**-3,220**	**-5.69%**

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table B.3 provides demographic information for the County as compared to the whole region.

Table B.2 – Population Counts, Edgecombe County, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Edgecombe County	**55,606**	**56,552**	**53,332**	**-3,220**	**-5.69%**

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table B.3 – Racial Demographics, Edgecombe County, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Edgecombe County	**38.5**	**57.3**	**0.1**	**2.2**	**1.9**	**4.4**

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Edgecombe County unincorporated areas in order to estimate the total physical exposure to hazards in this area.

Table B.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Edgecombe County	2,251	19	0	358	0	60	0	41	7	0	0	0	0	138	4	0	0	2,878

Source: NCEM Risk Management Tool

Table B.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Edgecombe County Unincorporated Area	0	7	1	8	0	1	0	17

Source: NCEM Risk Management Tool

There are three listings on the National Register of Historic Places for Edgecombe County unincorporated areas. These sites are listed in the table below.

Table B.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
71000577	St. John's Episcopal Church	2/18/1971	Building	Battleboro
72000961	Old Town Plantation	12/1/1983	Building	Battleboro
80002825	Nobles, Dr. A. B., House and McKendree Church	6/19/1980	Building	Mercer

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Edgecombe County as compared to the region overall.

Table B.7 – Housing Statistics, Edgecombe County, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Edgecombe County	**24,894**	**24,945**	**0.2**	**59.4**	**14.3**	**$85,200**

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Edgecombe County as compared to the region overall.

Table B.8 – Employment Statistics, Edgecombe County, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Edgecombe County	**23,641**	**51.1**	**4.4**	**44.5**	**7.9**

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table B.9 – Percent of Employed Population by Occupation, Edgecombe County, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Edgecombe County	**26.4**	**19.8**	**21.1**	**9.9**	**22.7**

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

B.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for Edgecombe County than for the N.E.W. Region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

B.3.1 Flood

Table B.10 details the acreage of unincorporated Edgecombe County's total area by flood zone on the effective DFIRM. Per this assessment, just over 20 percent of the unincorporated area in the County falls within the mapped 1%-annual-chance floodplains.

Table B.10 – Flood Zone Acreage in Unincorporated Edgecombe County

Flood Zone	Acreage	Percent of Total (%)
Zone AE	67,621.53	20.85
Zone X (500-year)	10,508.03	3.24
Zone X Unshaded	246,222.79	75.91

Total	324,352.35	--

Source: FEMA Effective DFIRM

Figure B.1 reflects the effective mapped flood hazard zones for Edgecombe County, and Figure B.2 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table B.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in Unincorporated Edgecombe County.

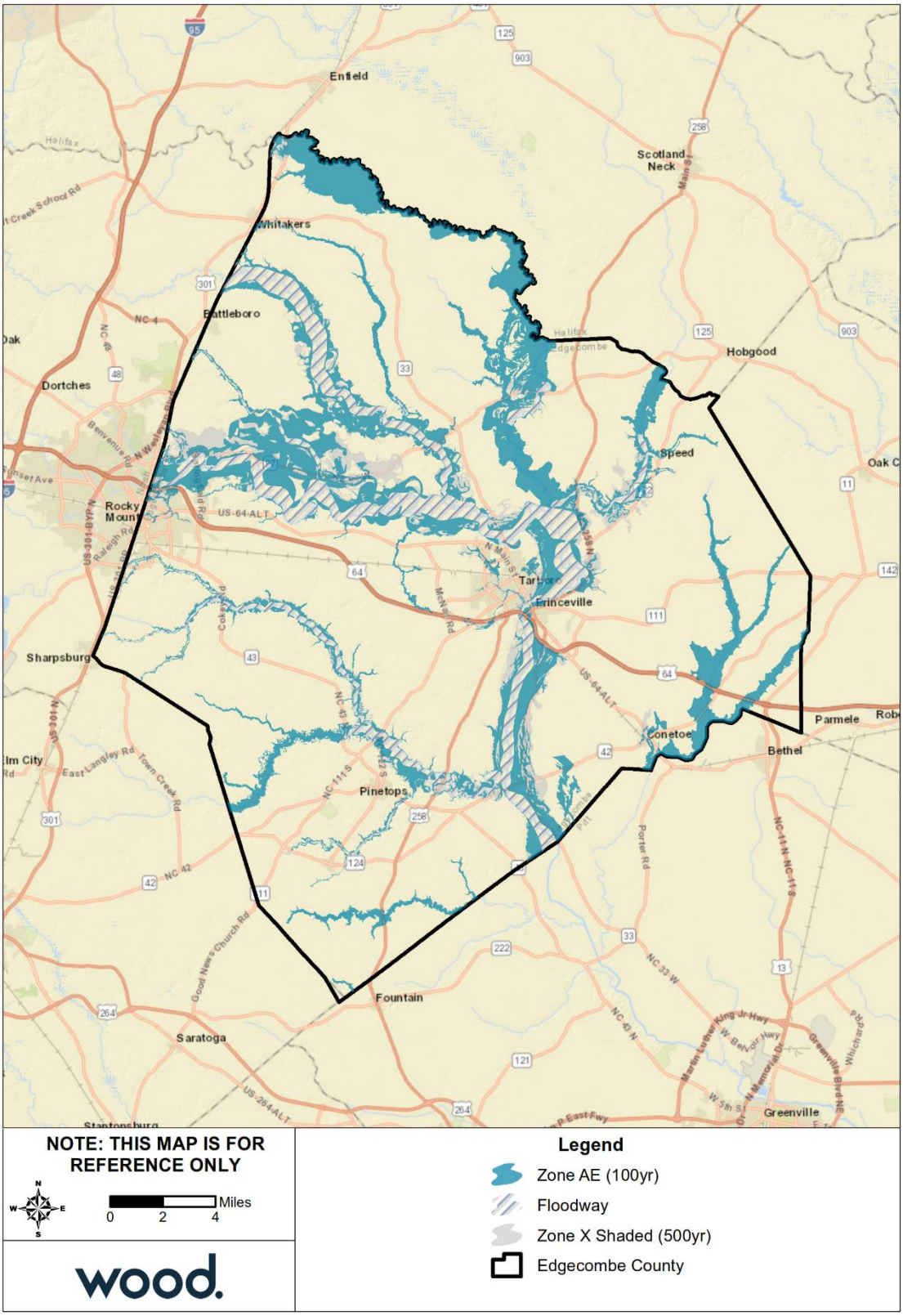
Table B.11 – Critical Facilities Exposed to Flooding, Unincorporated Edgecombe County

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	100 Year	20	$346,466
	500 Year	27	$909,444
Critical Manufacturing	100 Year	4	$70,270
	500 Year	5	$93,936
Food and Agriculture	100 Year	10	$156,369
	500 Year	22	$484,505
Government Facilities	100 Year	1	$8,434
	500 Year	5	$394,603
Transportation Systems	500 Year	2	$45,866
All Categories	**100 Year**	**35**	**$581,539**
	500 Year	**61**	**$1,928,354**

Table B.12 – High Potential Loss Properties Exposed to Flood, Unincorporated Edgecombe County

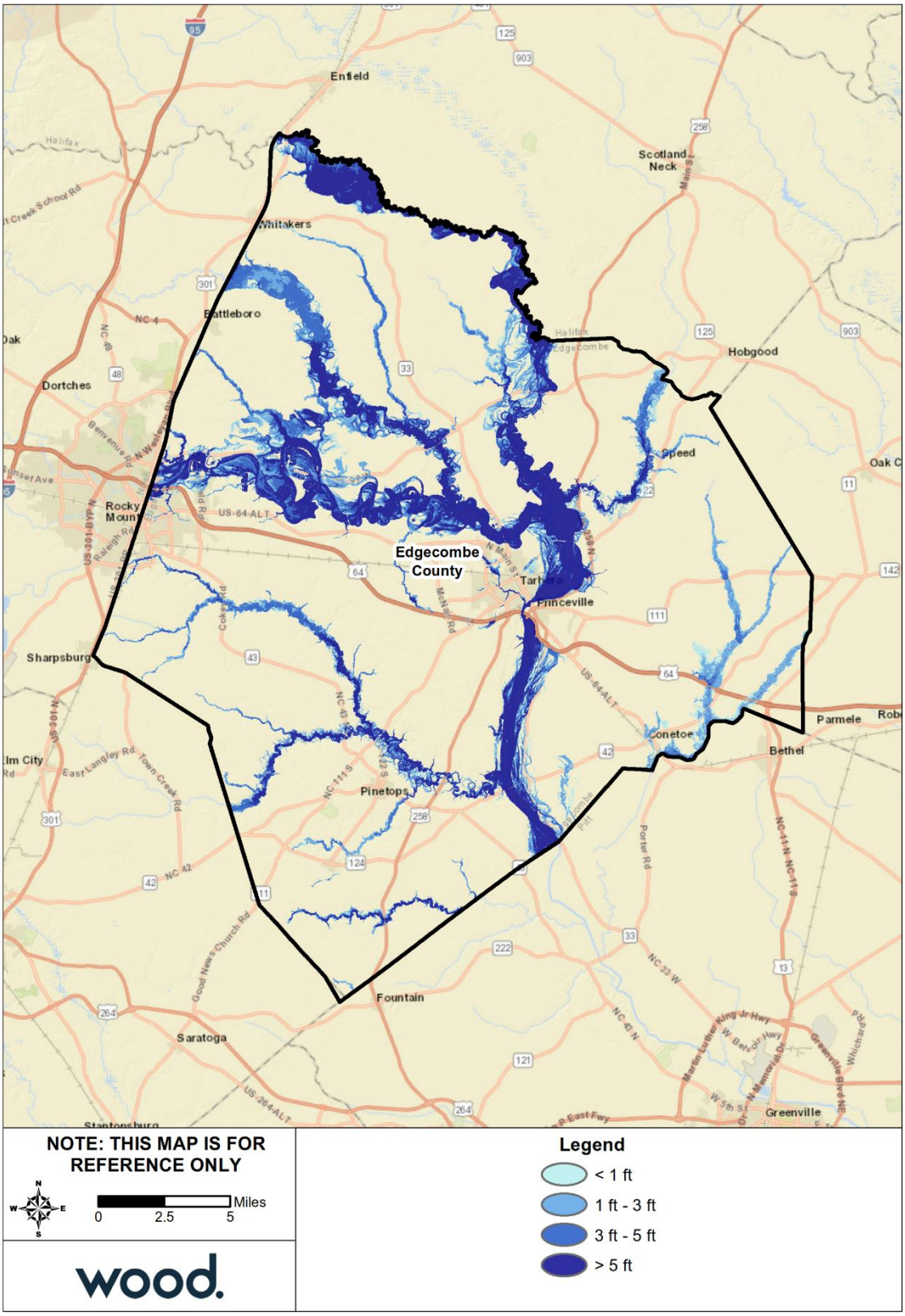
Category	Event	Number of Buildings at Risk	Estimated Damages
Government	500 Year	3	$238,640
All Categories	**500 Year**	**3**	**$238,640**

Figure B.1 – FEMA Flood Hazard Areas, Unincorporated Edgecombe County



Source: FEMA Effective DFIRM

Figure B.2 – Flood Depth, 1%-Annual-Chance Floodplain, Unincorporated Edgecombe County



Source: FEMA Effective DFIRM

B.3.2 Wildfire

Table B.13 summarizes the acreage in unincorporated Edgecombe 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 58 percent of unincorporated Edgecombe County is not included in the WUI.

Table B.13 – Wildland Urban Interface Acreage, Unincorporated Edgecombe County

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*177,565.01*	*58.24%*
	LT 1hs/40ac	57,510.17	18.86%
	1hs/40ac to 1hs/20ac	19,986.43	6.56%
	1hs/20ac to 1hs/10ac	20,824.74	6.83%
	1hs/10ac to 1hs/5ac	14,892.89	4.88%
	1hs/5ac to 1hs/2ac	11,329.37	3.72%
	1hs/2ac to 3hs/1ac	2,773.51	0.91%
	GT 3hs/1ac	0.21	0.00%
	Total	**304,882.33**	

Source: Southern Wildfire Risk Assessment

Figure B.3 depicts the WUI for unincorporated Edgecombe County. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts. These three maps depict both incorporated and unincorporated areas of Edgecombe county and will be referenced in individual jurisdictional annexes moving forward.

Areas of high potential fire intensity are scattered throughout the unincorporated areas of Edgecombe County, most notably along the northeastern border and the southern half of the County. While some of the areas have relatively higher burn probabilities, though still low, they are largely outside of the WUI, meaning little to no development is at risk.

Table B.14 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table B.15 provides counts and estimated damages for High Potential Loss Properties in unincorporated Edgecombe County.

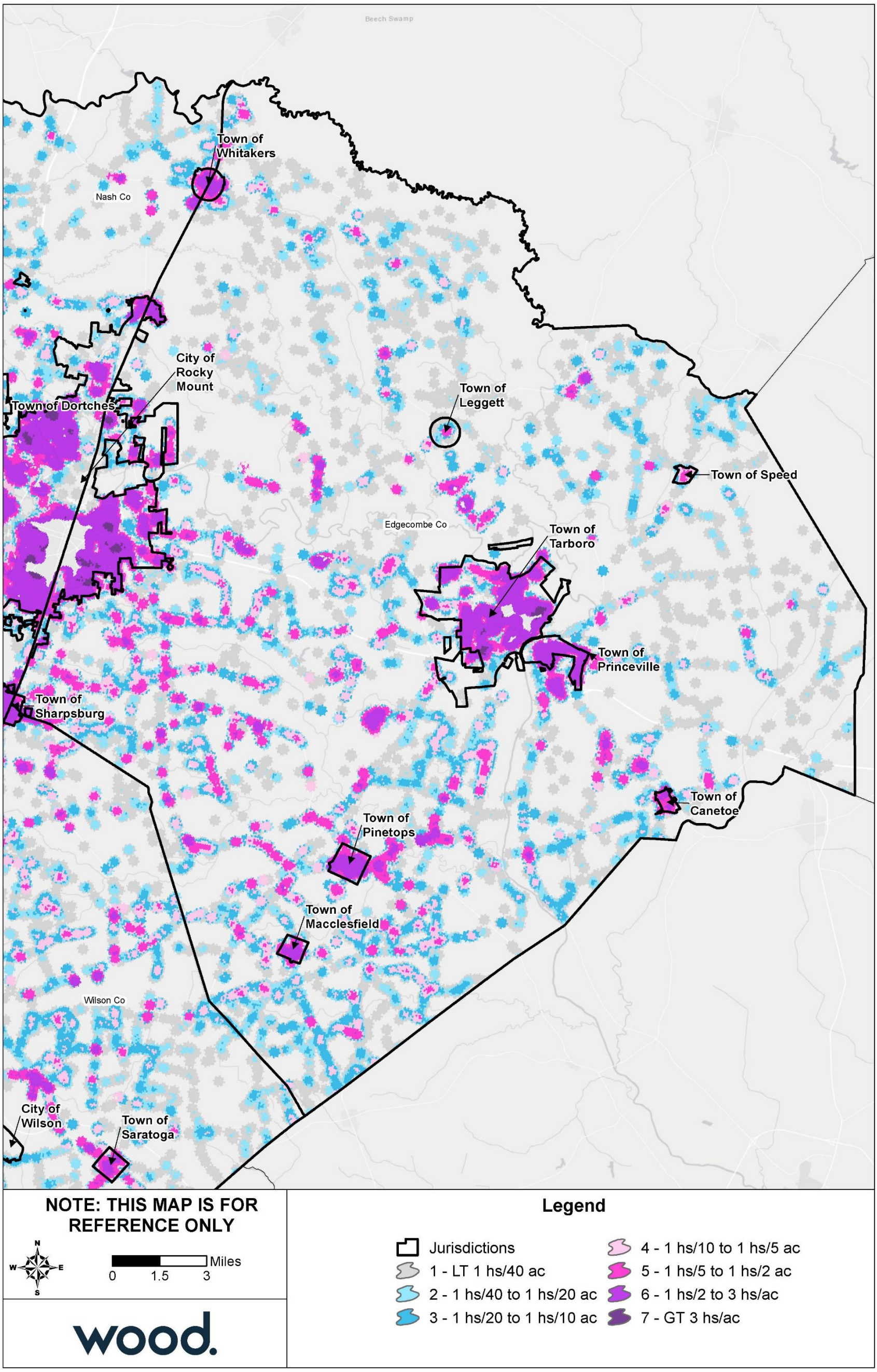
Table B.14 – Critical Facilities Exposed to Wildfire, Unincorporated Edgecombe County

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	75	$31,917,019
Critical Manufacturing	Wildfire Hazard	12	$4,221,935
Energy	Wildfire Hazard	1	$2,512,712
Food and Agriculture	Wildfire Hazard	245	$18,726,118
Government Facilities	Wildfire Hazard	18	$19,283,824
Transportation Systems	Wildfire Hazard	18	$3,800,517
All Categories	**Wildfire Hazard**	**369**	**$80,462,125**

Table B.15 – High Potential Loss Properties Exposed to Wildfire, Unincorporated Edgecombe County

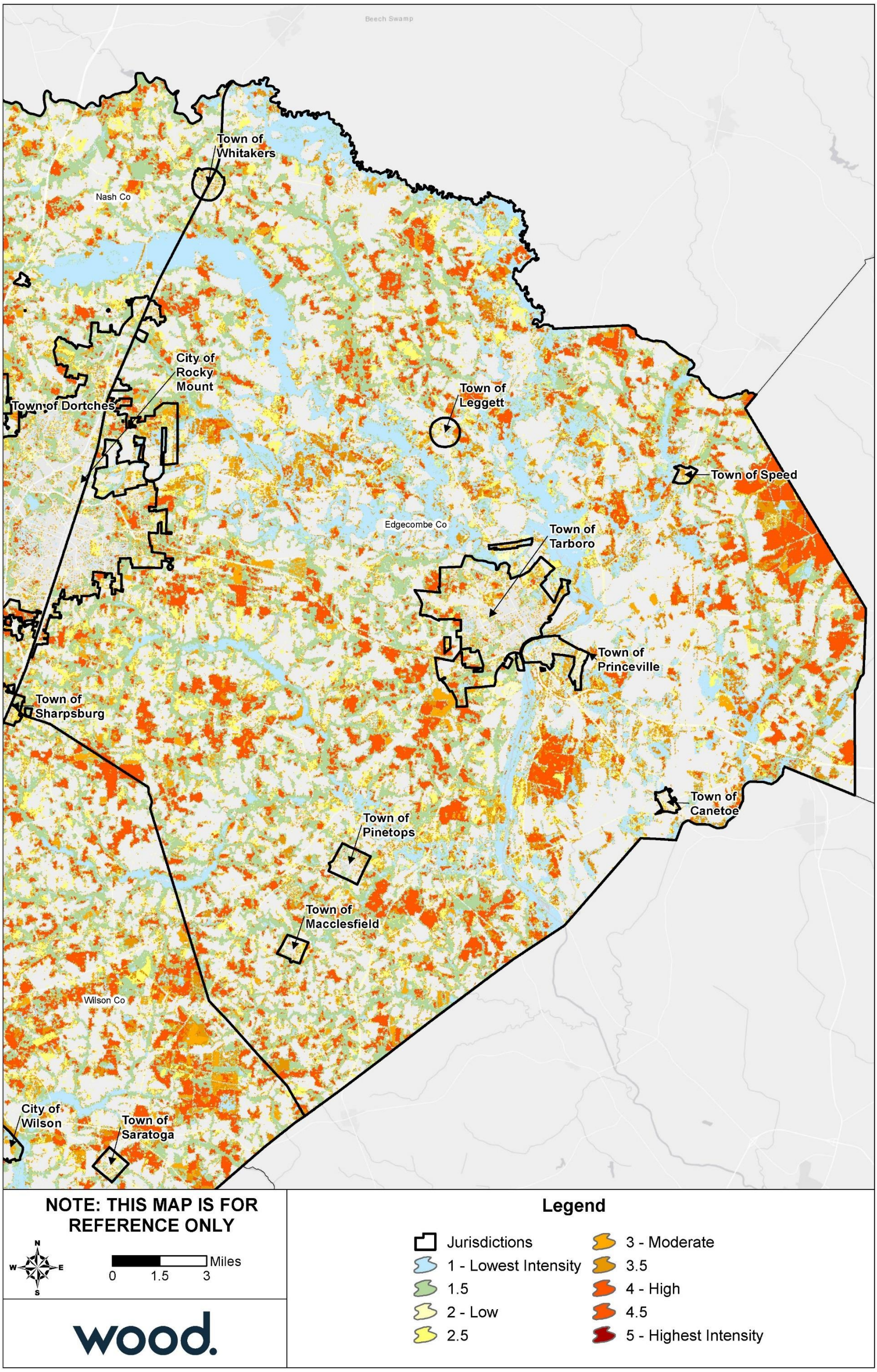
Category	Event	Number of Buildings at Risk	Estimated Damages
Government	Wildfire Hazard	5	$10,431,997
Industrial	Wildfire Hazard	1	$1,799,045
Religious	Wildfire Hazard	1	$2,233,160
All Categories	**Wildfire Hazard**	**7**	**$14,464,202**

Figure B.3 – Wildland Urban Interface, Edgecombe County



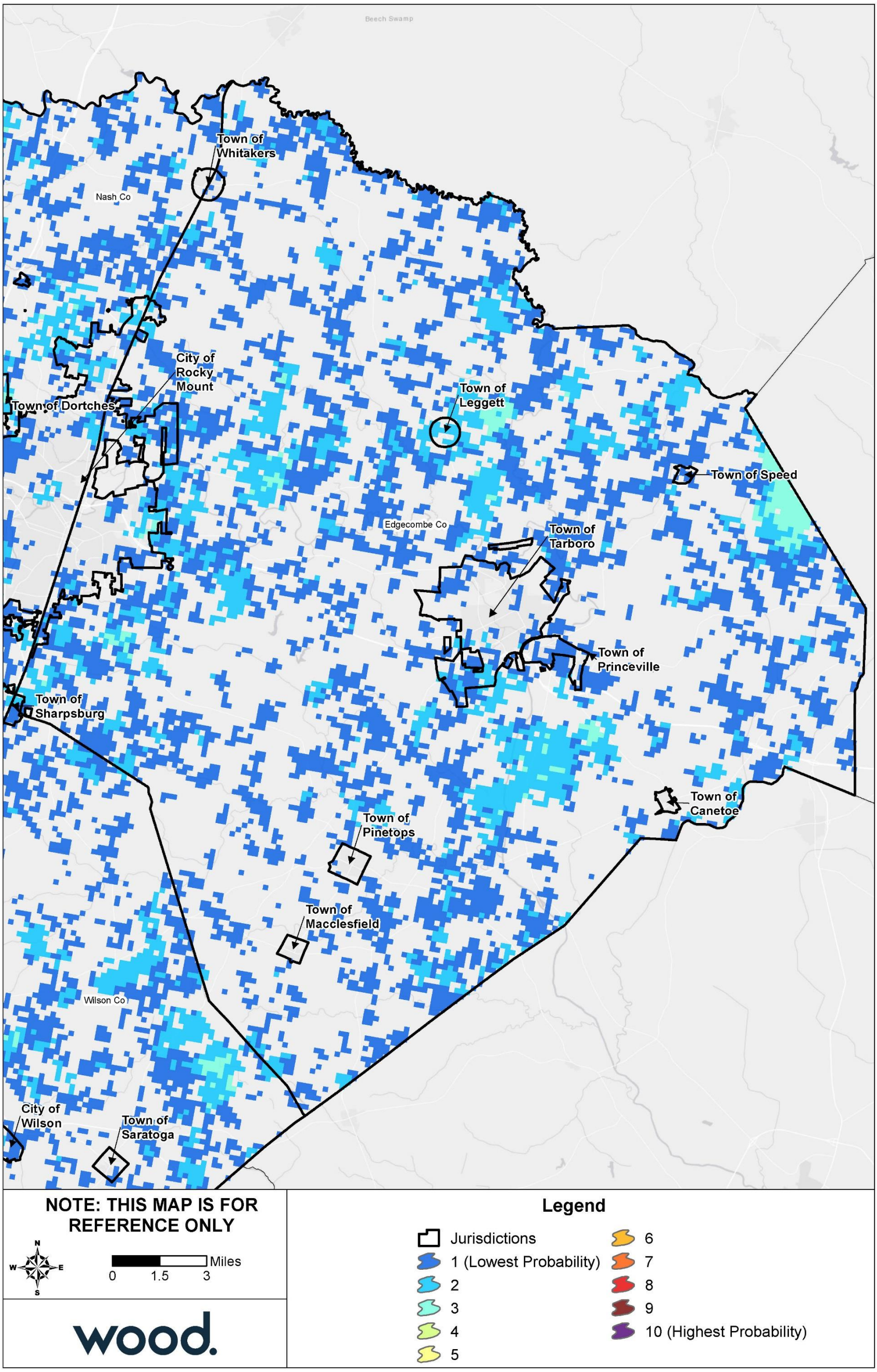
Source: Southern Wildfire Risk Assessment

Figure B.4 – Fire Intensity Scale, Edgecombe County



Source: Southern Wildfire Risk Assessment

Figure B.5 – Burn Probability, Edgecombe County



Source: Southern Wildfire Risk Assessment

B.4 CAPABILITY ASSESSMENT

B.4.1 Floodplain Management

Edgecombe County joined the NFIP emergency program in 1975 and has been a regular participant in the NFIP since August 1981. The following tables reflect NFIP policy and claims data for the County categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table B.16 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	125	$61,928	$28,509,600	95	$2,365,972.39
2-4 Family	0	$0	$0	1	$200,000.00
Non-Residential	10	$34,389	$4,963,200	7	$496,963.25
Total	**135**	**$96,317**	**$33,472,800**	**103**	**$3,062,935.64**

Source: FEMA Community Information System, accessed March 2020

Table B.17 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	50	$48,578	$9,770,600	49	$1,673,442.61
A Zones	1	$493	$179,300	18	$435,012.35
B, C & X Zone					
Standard	7	$18,458	$2,685,900	12	$359,792.51
Preferred	77	$28,788	$20,837,000	22	$589,869.78
Total	**135**	**$96,317**	**$33,472,800**	**101**	**$3,058,117.25**

Source: FEMA Community Information System, accessed March 2020

Table B.18 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	16	$25,662	$2,522,200	24	$1,108,413.40
A Zones	1	$493	$179,300	9	$185,002.27
B, C & X Zone	37	$14,117	$9,454,000	19	$280,981.25
Standard	2	$2,127	$312,000	6	$45,179.82
Preferred	35	$11,990	$9,142,000	13	$235,801.43
Total	**54**	**$40,272**	**$12,155,500**	**52**	**$1,574,396.92**

Source: FEMA Community Information System, accessed March 2020

Table B.19 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	34	$22,916	$7,248,400	25	$565,029.21
A Zones	0	$0	$0	9	$250,010.08
B, C & X Zone	47	$33,129	$14,068,900	15	$668,681.04
Standard	5	$16,331	$2,373,900	6	$314,612.69

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Preferred	42	$16,798	$11,695,000	9	$354,068.35
Total	**81**	**$56,045**	**$21,317,300**	**49**	**$1,483,720.33**

Source: FEMA Community Information System, accessed March 2020

B.5 MITIGATION STRATEGY

Action #	Action Description	Applicable Jurisdictions	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Implementation Status Comments
Prevention										
P-1	ICS Training in EOC operations for all	Edgecombe County	All Hazards	2.2	Moderate	County EM	County, State	2021	Carried Forward	This is an ongoing process with new employees coming in. All current EOC staff have training.
P-2	NC Building Codes to regulate tie downs	Edgecombe County	Tornado, Hurricane & Tropical Storm, Flood, Severe Winter Storm	3.3	Moderate	County Building Inspections	Local	Ongoing	Carried Forward	**Required by:** 2018 Building Codes NC State Building Volume VIII - Modular Construction Regulation 1994 Edition NC Regulations for Manufactured Homes 2004 Edition Codes
Property Protection										
PP-1	Place new EOC in full operational status	Edgecombe County, Conetoe, Leggett, Macclesfield, Pinetops, Princeville, Speed, Tarboro, Whitakers	All Hazards	2.2	High	County EM	County, State, Federal	2021	Carried Forward	Looking for a location. We have added multiple locations to be backup locations
PP-2	Place generators at shelters (structural)	Edgecombe County, Conetoe, Leggett, Macclesfield, Pinetops, Princeville, Speed, Tarboro, Whitakers	All Hazards	3.3	Moderate	County EM	County, State	2021	Carried Forward	We have added to our generator inventory, Working with schools for hook ups at schools.
Structural Projects										
SP-1	Maintain Army Corp of Engineers Dikes	Edgecombe County, Conetoe, Leggett, Macclesfield, Pinetops, Princeville, Speed, Tarboro, Whitakers	Flood	3.3	High	County EM	County	2021	Carried Forward	Do inspections and upgrades as funding is available.
SP-2	Maintain all dams and dikes	Edgecombe County, Conetoe, Leggett, Macclesfield, Pinetops, Princeville, Speed, Tarboro, Whitakers	Flood, Dam & Levee Failure	3.3	High	County Maintenance Dept.	Local	2022	Carried Forward	This is an ongoing effort
Emergency Services										
ES-1	Replace Hwy 33 new bridges over Tar River	Edgecombe County	Flood	3.3	High	NCDOT	NCDOT, State	2022	Carried Forward	Scheduled for 2020
ES-2	Combine Tarboro & Edgecombe 911 Centers	Edgecombe County, Tarboro	All Hazards	2.2	High	County EM	Federal, State	2025	Carried Forward	Still working on this project.
ES-3	Improve County bridges and road drainage	Edgecombe County	Flood, Tornado, Hurricane & Tropical Storm, Severe Weather	3.3	High	NCDOT	Local, State, Federal	2024	Carried Forward	Most have been completed, but still have a few that DOT is working on.
Public Education and Awareness										
PEA-1	Encourage or assist residents through information to sign up for the county's emergency warning notification system	Edgecombe County	All Hazards	1.2	Moderate	County Administration, County EM	Local, State, Federal	2024	Carried Forward	Ongoing process

Annex C Unincorporated Wilson County

C.1 PLANNING PROCESS

The table below lists the HMPC members who represented Wilson County unincorporated areas.

Table C.1 – HMPC Members

Member Name	Title	Agency
Gordon Deno	Director	Emergency Management
Rodney Dancy	Community Preparedness Coordinator	Emergency Management
Mark Johnson	Director	Planning
Scott Thomas Sr.	Owner	Great Gardens
Phil Batts	Fire Chief	Silver Lake Volunteer Fire Department

C.2 COMMUNITY PROFILE

Geography

Wilson County is located in the southern third of the N.E.W. Region. It is surrounded by Nash County to the northwest, Edgecombe County to the northeast, Pitt and Greene Counties to the southeast, Wayne County to the south, and Johnston County to the southwest. The County comprises a total land area of over 374 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 44,544 acres of wetlands in the unincorporated areas of the County.

Population and Demographics

Table C.2 provides population counts and growth estimates for all of Wilson County, including incorporated areas, as compared to the region overall. Note that multiple incorporated places cross county boundaries within the region; therefore, an accurate population for the unincorporated areas of Wilson County could not be estimated by simple subtraction of incorporated areas from the county total. Table C.3 provides demographic information for the County as compared to the whole region.

Table C.2 – Population Counts, Wilson County, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Wilson County	**73,814**	**81,234**	**81,336**	**102**	**0.13%**

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table C.3 – Racial Demographics, Wilson County, 2016

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Wilson County	**51.1**	**39.5**	**0.8**	**6.2**	**2.4**	**10.2**

Source: US Census Bureau American Community Survey 2014-2018 5yr estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Wilson County unincorporated areas in order to estimate the total physical exposure to hazards in this area.

Table C.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Wilson County	2,026	0	0	390	0	146	0	23	1	0	0	0	0	27	4	5	0	2,622

Source: NCEM Risk Management Tool

Table C.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Wilson County	2	40	29	10	2	23	2	108

Source: NCEM Risk Management Tool

There is one listing on the National Register of Historic Places for Wilson County unincorporated areas. The site is listed in the table below.

Table C.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
02000007	Thompson, Alfred and Martha Jane, House and Williams Barn	2/14/2002	Building	N.E.W. Hope

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The following table details key housing statistics for Wilson County as compared to the region overall.

Table C.7 – Housing Statistics, Wilson County, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Wilson County	**34,942**	**36,005**	**3.0**	**59**	**10.8**	**$121,300**

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Wilson County as compared to the region overall.

Table C.8 – Employment Statistics, Wilson County, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Wilson County	**38,095**	**54.5**	**4.7**	**40.6**	**8.0**

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table C.9 – Percent of Employed Population by Occupation, Wilson County, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Wilson County	**31.3**	**18.0**	**19.5**	**10.8**	**20.4**

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

C.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for Wilson County than for the N.E.W. Region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

C.3.1 Flood

Table C.10 details the acreage of unincorporated Wilson County's total area by flood zone on the effective DFIRM. Per this assessment, just under 14 percent of the unincorporated area in the County falls within the mapped 1%-annual-chance floodplains.

Table C.10 – Flood Zone Acreage in Unincorporated Wilson County

Flood Zone	Acreage	Percent of Total (%)
Zone AE	32,804.46	13.74
Zone X (500-year)	2,036.04	0.85
Zone X Unshaded	203,901.93	85.41
Total	238,742.43	--

Source: FEMA Effective DFIRM

Figure C.1 reflects the effective mapped flood hazard zones for Wilson County, and Figure C.2 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

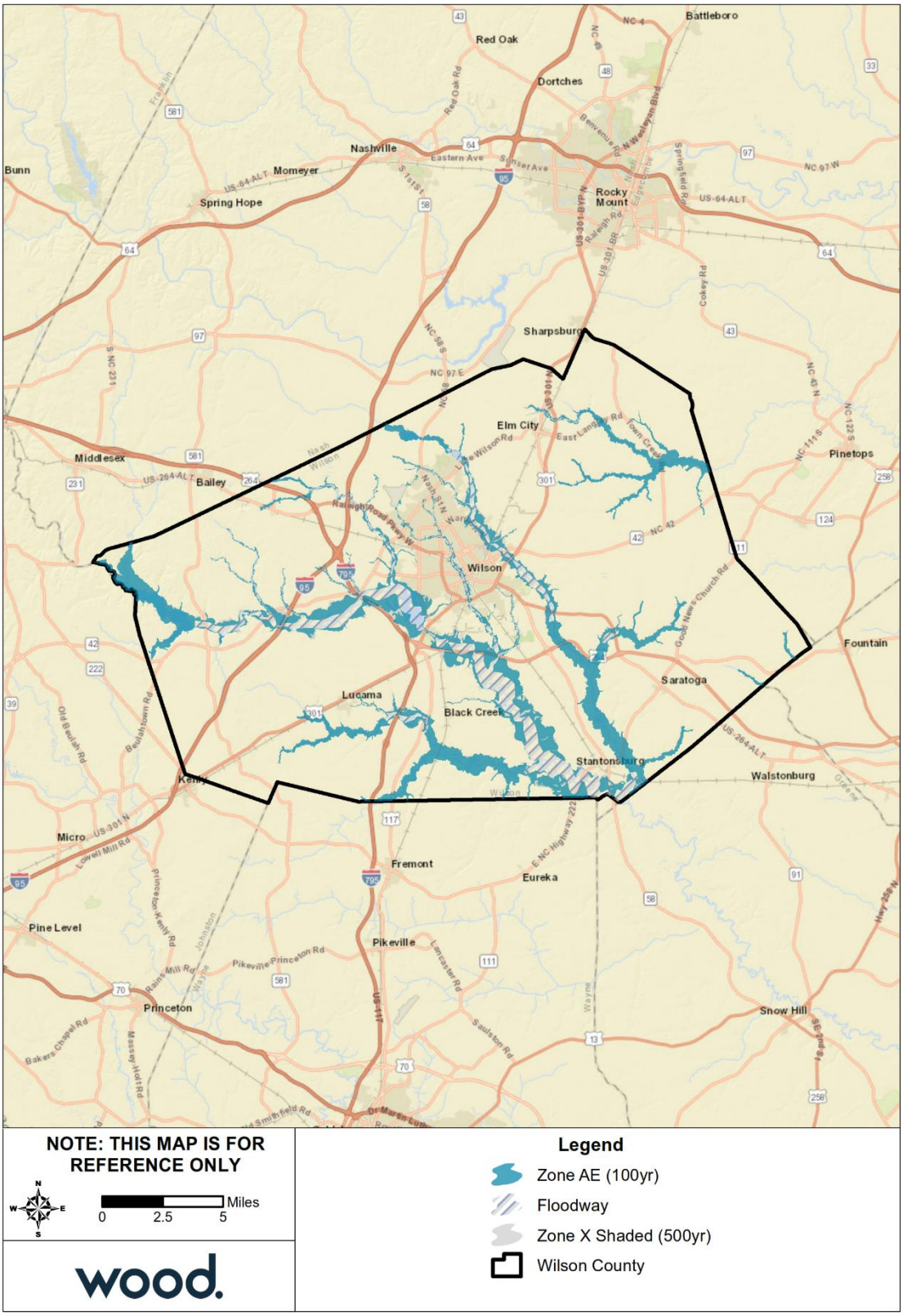
Table C.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in Unincorporated Wilson County.

Table C.11 – Critical Facilities Exposed to Flooding, Unincorporated Wilson County

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	100 Year	2	$733
	500 Year	2	$29,395

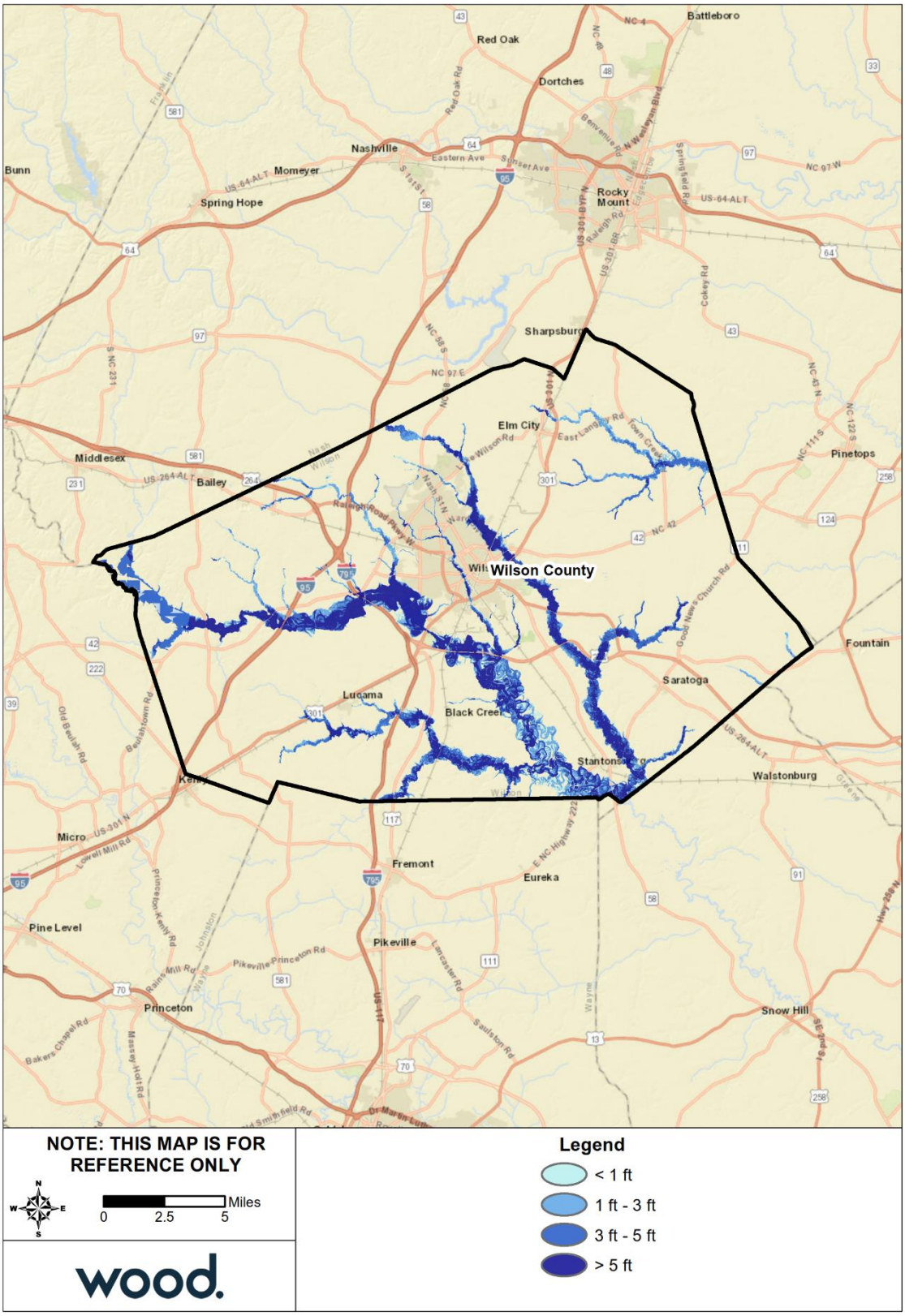
Sector	Event	Number of Buildings at Risk	Estimated Damages
Critical Manufacturing	100 Year	1	$51,390
	500 Year	1	$57,298
Food and Agriculture	100 Year	4	$7,874
	500 Year	12	$89,132
All Categories	**100 Year**	**7**	**$59,997**
	500 Year	**15**	**$175,825**

Figure C.1 – FEMA Flood Hazard Areas, Wilson County



Source: FEMA Effective DFIRM

Figure C.2 – Flood Depth, 1%-Annual-Chance Floodplain, Unincorporated Wilson County



Source: FEMA Effective DFIRM

C.3.2 Wildfire

Table C.12 summarizes the acreage in unincorporated Wilson 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 47 percent of unincorporated Wilson County is not included in the WUI.

Table C.12 – Wildland Urban Interface Acreage, Unincorporated Wilson County

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*102,278.70*	*47.37%*
	LT 1hs/40ac	38,301.14	17.74%
	1hs/40ac to 1hs/20ac	18,870.39	8.74%
	1hs/20ac to 1hs/10ac	21,090.79	9.77%
	1hs/10ac to 1hs/5ac	17,368.52	8.04%
	1hs/5ac to 1hs/2ac	13,521.04	6.26%
	1hs/2ac to 3hs/1ac	4,449.93	2.06%
	GT 3hs/1ac	12.32	0.01%
	Total	**215,892.83**	

Source: Southern Wildfire Risk Assessment

Figure C.3 depicts the WUI for unincorporated Wilson County. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure C.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Potential fire intensity is highest along the County's borders, especially in the east near Saratoga. However, burn probability is uniformly low across the unincorporated areas of the county. Areas where high potential fire intensity overlap with relatively higher burn probability are largely outside of the WUI, meaning little to no development is at risk. Areas where WUI, higher burn probability, and high potential fire intensity overlap are the areas of greatest risk.

Table C.13 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table C.14 provides counts and estimated damages for High Potential Loss Properties in unincorporated Wilson County.

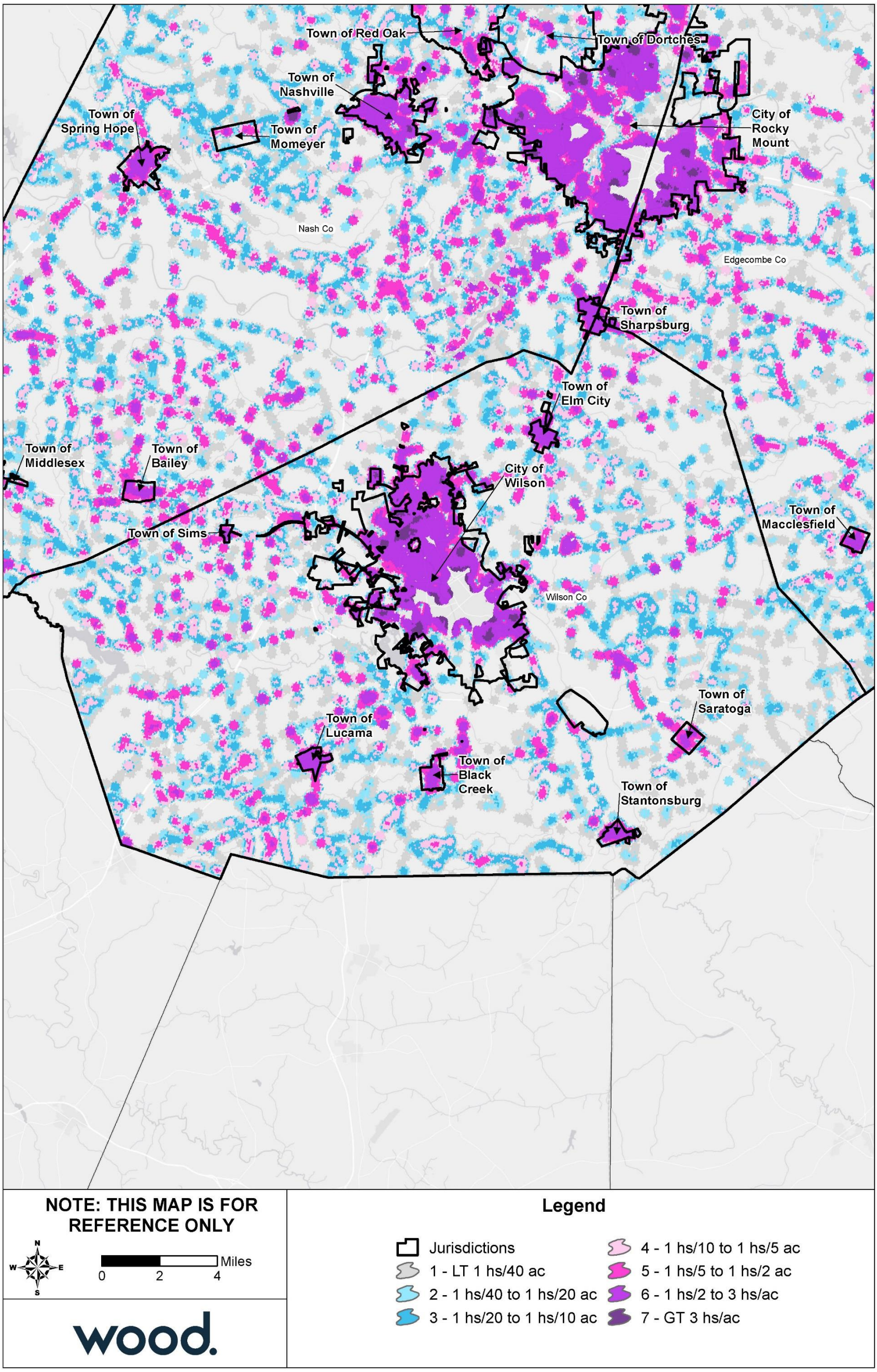
Table C.13 – Critical Facilities Exposed to Wildfire, Unincorporated Wilson County

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	146	$108,301,151
Critical Manufacturing	Wildfire Hazard	60	$283,558,974
Food and Agriculture	Wildfire Hazard	614	$64,200,945
Government Facilities	Wildfire Hazard	6	$18,863,490
Healthcare and Public Health	Wildfire Hazard	1	$356,027
Transportation Systems	Wildfire Hazard	10	$7,377,314
All Categories	**Wildfire Hazard**	**837**	**$482,657,901**

Table C.14 – High Potential Loss Properties Exposed to Wildfire, Unincorporated Wilson County

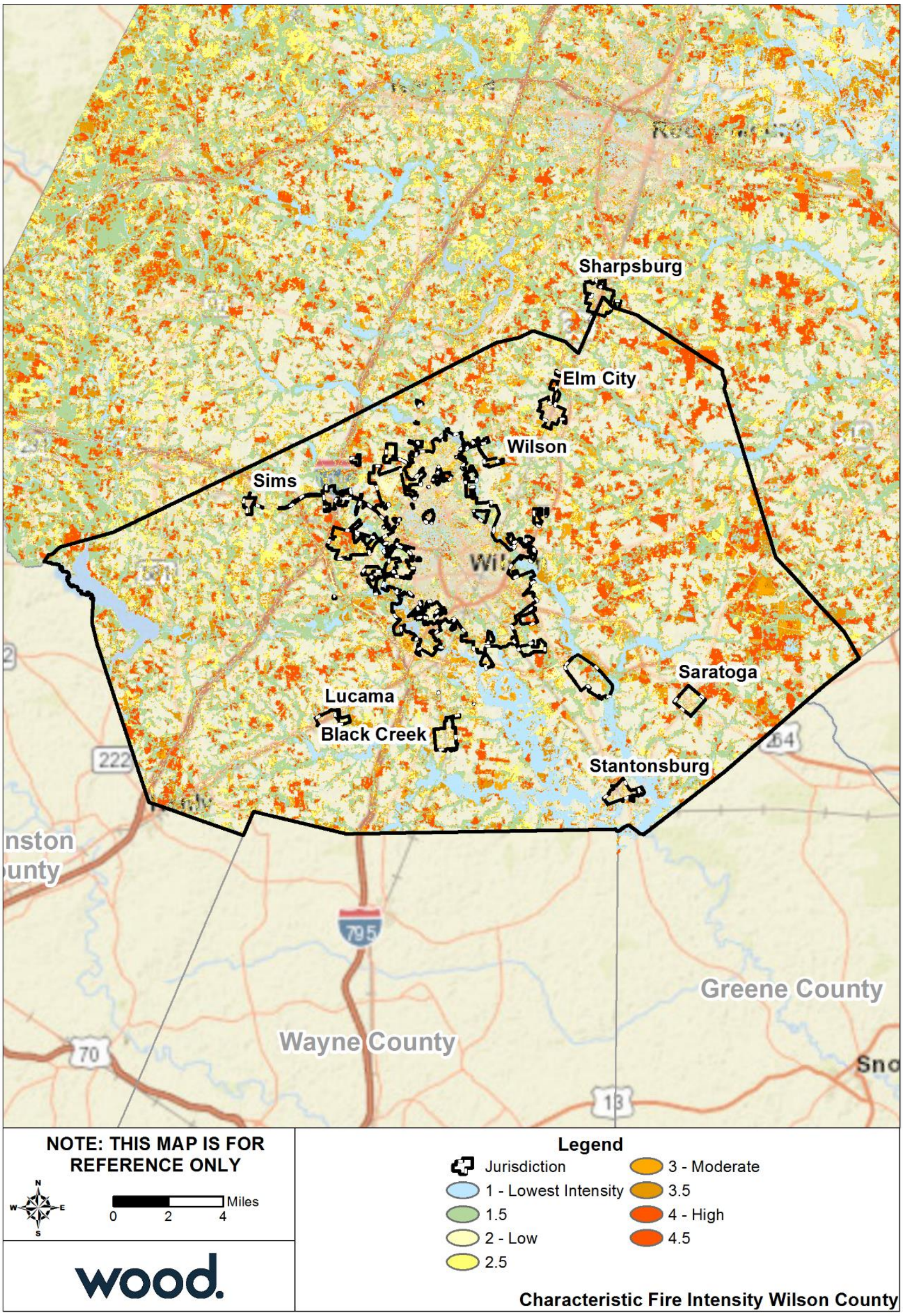
Category	Event	Number of Buildings at Risk	Estimated Damages
Agricultural	Wildfire Hazard	1	$1,209,646
Commercial	Wildfire Hazard	21	$95,678,889
Government	Wildfire Hazard	3	$17,601,092
Industrial	Wildfire Hazard	18	$220,790,350
Religious	Wildfire Hazard	10	$22,478,322
Residential	Wildfire Hazard	2	$2,320,000
All Categories	**Wildfire Hazard**	**55**	**$360,078,299**

Figure C.3 – Wildland Urban Interface, Wilson County



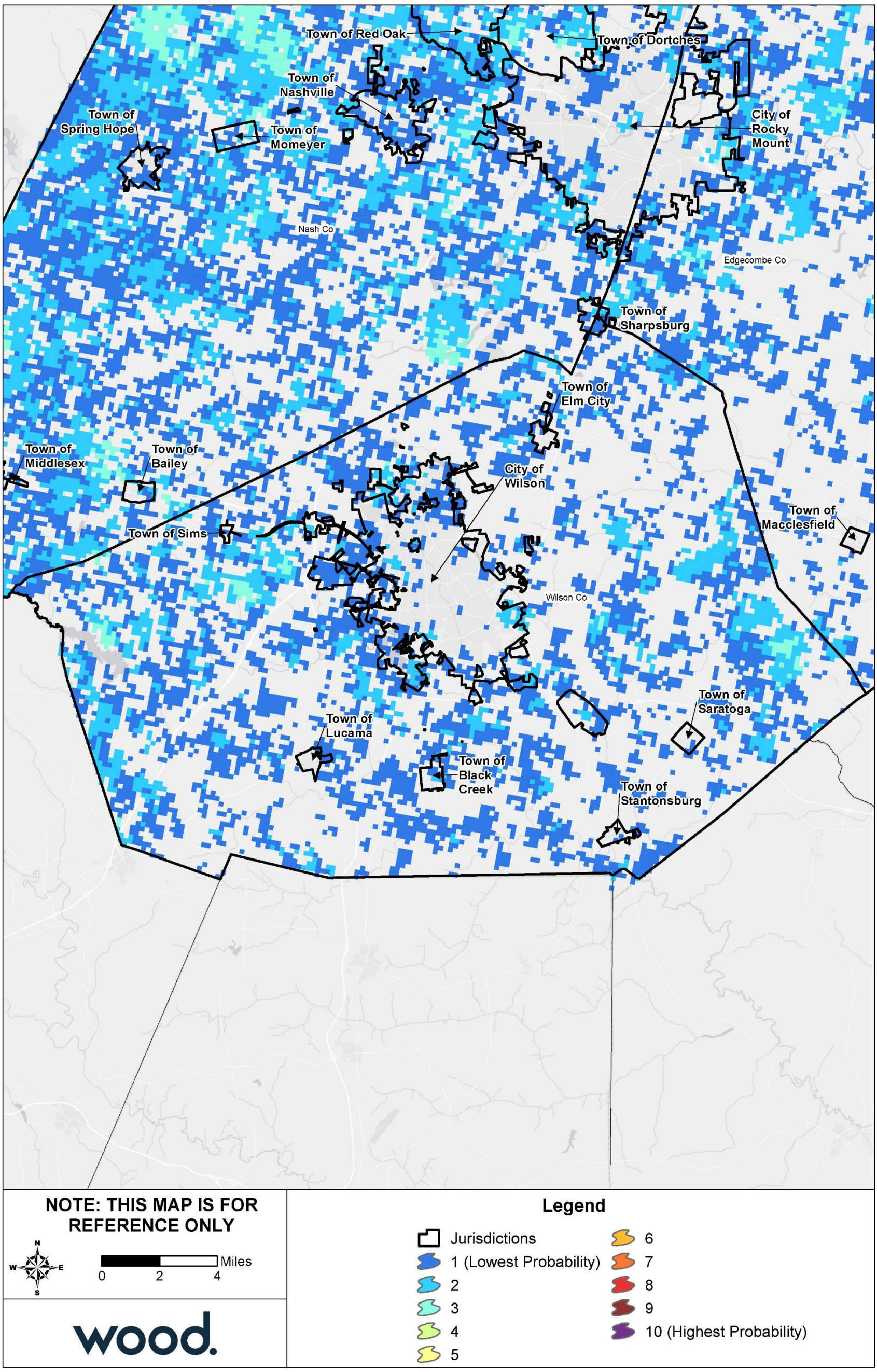
Source: Southern Wildfire Risk Assessment

Figure C.4 – Fire Intensity Scale, Wilson County



Source: Southern Wildfire Risk Assessment

Figure C.5 – Burn Probability, Wilson County



Source: Southern Wildfire Risk Assessment

C.4 CAPABILITY ASSESSMENT

C.4.1 Floodplain Management

Wilson County joined the NFIP emergency program in 1983 and has been a regular participant in the NFIP since January 1983. The following tables reflect NFIP policy and claims data for the County categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table C.15 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	71	$34,914	$16,487,000	69	$1,308,231.31
Non-Residential	3	$4,352	$1,002,800	8	$1,277,616.56
Total	**74**	**$39,266**	**$17,489,800**	**77**	**$2,585,847.87**

Source: FEMA Community Information System, accessed March 2020

Table C.16 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	23	$14,625	$5,066,800	41	$1,283,001.99
A Zones	0	$0	$0	6	$224,137.70
B, C & X Zone					
Standard	10	$11,015	$2,333,000	13	$848,275.22
Preferred	41	$13,626	$10,090,000	17	$230,432.96
Total	74	$39,266	$17,489,800	77	$2,585,847.87

Source: FEMA Community Information System, accessed March 2020

Table C.17 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	9	$9,059	$1,935,100	23	$960,132.85
A Zones	0	$0	$0	3	$103,691.11
B, C & X Zone	26	$12,684	$6,082,000	18	$949,253.17
Standard	6	$6,372	$1,600,000	7	$764,318.00
Preferred	20	$6,312	$4,482,000	11	$184,935.17
Total	35	$21,743	$8,017,100	44	$2,013,077.13

Source: FEMA Community Information System, accessed March 2020

Table C.18 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	14	$5,566	$3,131,700	18	$322,869.14
A Zones	0	$0	$0	3	$120,446.59
B, C & X Zone	25	$11,957	$6,341,000	12	$129,455.01
Standard	4	$4,643	$733,000	6	$83,957.22
Preferred	21	$7,314	$5,608,000	6	$45,497.79
Total	39	$17,523	$9,472,700	33	$572,770.74

Source: FEMA Community Information System, accessed March 2020

C.5 MITIGATION STRATEGY

Action #	Action Description	Applicable Jurisdictions	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention										
P-1	Add drainage as an issue to be discussed during Technical Review Committee review of proposed development plans	Wilson County	Flood	3.3	High	Planning & Inspections	Local	2025	Carried Forward	In process of creating a TRC
P-2	Inventory existing lots and structures within flood hazard areas to establish baseline data regarding current state of development within flood hazard areas	Wilson County	Flood	3.3	Moderate	Planning & Inspections	Local	2025	Carried Forward	No progress to report
P-3	Establish coordinating committee to ensure that all parties responsible for stormwater management communicate to ensure maximum cooperation in developing and maintaining stormwater drainage systems within the County	Wilson County	Flood	3.3	Moderate	Planning & Inspections	Local	2025	Carried Forward	No progress to report
P-4	Establish and maintain coordinated debris inspection program with debris removal program to correct problem sites.	Wilson County	Flood	2.2	Moderate	Planning & Inspections, NRCS, EM, County Solid Waste Department	Local	2025	Carried Forward	Not complete due to lack of funding
P-5	Update flood maps to reflect new subdivisions, changes in corporate limits, and all new FIRM data; publicize the availability of maps and keep record of service (CRS 320)	Wilson County	Flood	2.1	Moderate	County Manager, County Commissioners	Local	2022	Carried Forward	No progress to report
P-6	Establish a three or more member local HM committee with private sector participation	Wilson County	All Hazards	3.3	Moderate	Fire Marshall, County Administration	Local, State, Federal	2024	Carried Forward	Need to identify private sector participation and formalize committee's role
Property Protection										
PP-1	Acquire destroyed or substantially damaged properties and relocate households (voluntary program) (CRS 520/420)	Wilson County	Flood	3.3	High	Planning & Inspections	FEMA, NCEM	Ongoing	Carried Forward	No progress to report
Natural Resource Protection										
NRP-1	Require all developments that involve the disturbance of more than one acre of land to receive a sediment/erosion control permit from NCDEQ	Wilson County	Flood	3.3	High	Planning & Inspections, DEQ	Local	Ongoing	Carried Forward	No progress to report
Emergency Services										
ES-1	Evaluate evacuation routes considering road upgrades and new road construction	Wilson County, Wilson, Black Creek, Elm City, Lucama, Saratoga, Sims, Stantonsburg	All Hazards	2.2	High	EM, Planning	Local	2025	Carried Forward	No progress to report
ES-2	Require fire protection equipment be installed in new subdivisions as determined by the County Fire Marshal and fire service agency	Wilson County, Wilson, Black Creek, Elm City, Lucama, Saratoga, Sims, Stantonsburg	Wildfire	3.3	High	Planning & Inspections, EM	Local	2021	Carried Forward	No progress to report
Public Education & Awareness										
PEA-1	Advise/assist property owners in retrofitting homes and businesses (retrofitting is defined as any modification to an existing building or yard to protect the property from flood damage)	Wilson County	Flood	3.3	High	Planning & Inspections	Local	Ongoing	Carried Forward	Retrofitting information is provided when building permits are applied for to develop in flood prone areas.

Action #	Action Description	Applicable Jurisdictions	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
PEA-2	Establish and maintain information on retrofitting techniques at the Planning and Inspections Department and also at the public library. Publicize through citizen news bulletins or newsletters (CRS 330/350/360)	Wilson County	Flood	1.1	High	Planning & Inspections	Local	Ongoing	Carried Forward	Ongoing inclusion in citizen news bulletins
PEA-3	Provide information on the County website about hazard risk, mitigation, and preparedness	Wilson County, Wilson, Black Creek, Elm City, Lucama, Saratoga, Sims, Stantonsburg	All Hazards	1.2	High	Planning & Inspections	Local	Ongoing	New	

Annex D City of Rocky Mount

D.1 PLANNING PROCESS

The table below lists the HMPC members who represented the City of Rocky Mount.

Table D.1 – HMPC Members

Member Name	Title	Agency
JoSeth Bocook	Planning Administrator	Planning Department
Donnie Daniels	Division Chief of Operations and Emergency Management Coordinator	Rocky Mount Fire Department
Kim Langston	Emergency Management Coordinator/Emergency Department Director	Nash UNC Hospital
Mike Latham	President of Student and Enrollment Services	Nash Community College
Carl Moore	--	Rocky Mount Fire Department

D.2 COMMUNITY PROFILE

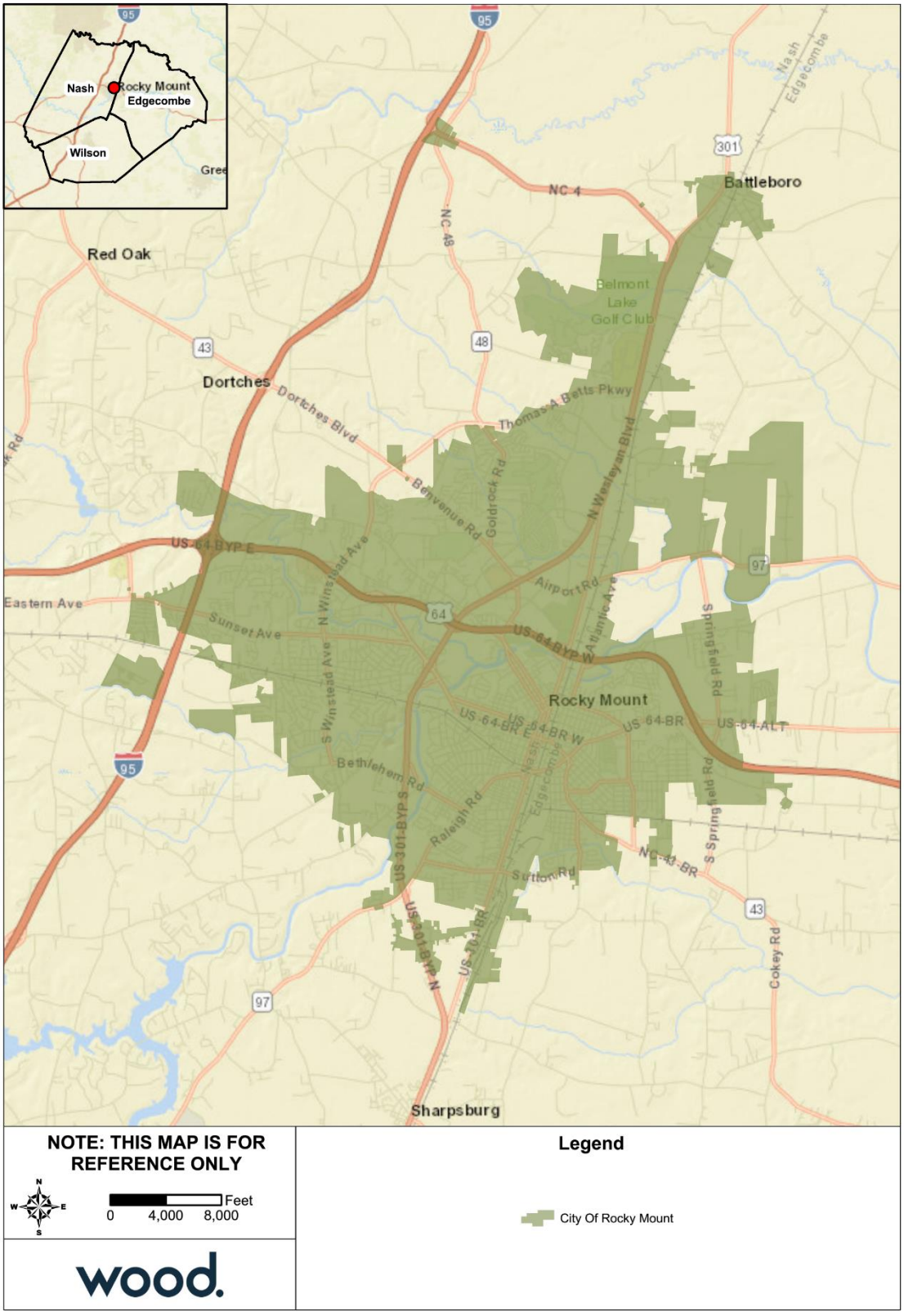
Geography

The City of Rocky Mount is located in the northern central portion of the region, across both Nash and Edgecombe Counties. Rocky Mount is neighbored by Dortches to the northwest, Nashville to the west, Sharpsburg to the south, and Whitakers to the north. The City comprises a total land area of 44.4 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 2,630 acres of wetlands in Rocky Mount.

Figure D.1 shows a base map of the City of Rocky Mount.

Figure D.1 – Location, City of Rocky Mount



Population and Demographics

Table D.2 provides population counts and growth estimates for Rocky Mount as compared to the region overall. Table D.3 provides demographic information for the City as compared to the whole region.

Table D.2 – Population Counts, Rocky Mount, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2017 ACS Population Estimate	Total Change 2010-2017	% Change 2010-2017
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
City of Rocky Mount	55,893	57,477	54,982	-2,495	-4.34%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table D.3 – Racial Demographics, Rocky Mount, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
City of Rocky Mount	29.5	64	1.3	2.3	2.9	3.6

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Rocky Mount in order to estimate the total physical exposure to hazards in this area.

Table D.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
City of Rocky Mount	325	73	0	1,527	2	554	1	252	149	0	0	2	0	265	19	7	22	3,198

Source: NCEM Risk Management Tool

Table D.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
City of Rocky Mount	7	109	31	46	0	29	40	262

Source: NCEM Risk Management Tool

There are 16 listings on the National Register of Historic Places for the City of Rocky Mount, including 10 historic districts. These sites are listed in the table below.

Table D.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
70000463	Stonewall	6/2/1970	Building	Rocky Mount
80002891	Rocky Mount Mills	2/1/1980	Building	Rocky Mount
80002826	Rocky Mount Central City Historic District	6/19/1980	District	Rocky Mount
80002890	Machaven	11/25/1980	Building	Rocky Mount
82003493	Benvenue	4/29/1982	Building	Rocky Mount
82003494	Rocky Mount Electric Power Plant	7/15/1982	Building	Rocky Mount
89002132	Bellemonte	12/21/1989	Building	Rocky Mount
99000479	Rocky Mount Mills Village Historic District	4/22/1999	District	Rocky Mount
99001365	Edgemont Historic District	11/12/1999	District	Rocky Mount
99001367	Falls Road Historic District	11/12/1999	District	Rocky Mount
99001368	Villa Place Historic District	11/12/1999	District	Rocky Mount
02000931	West Haven Historic District	9/6/2002	District	Rocky Mount
02000942	Villa Place Historic District (Boundary Increase)	9/6/2002	District	Rocky Mount
02000989	Edgemont Historic District (Boundary Increase)	9/14/2002	District	Rocky Mount
09000659	Rocky Mount Central City Historic District (Boundary Increase and Decrease)	8/27/2009	District	Rocky Mount
11001042	Lincoln Park Historic District	1/20/2012	District	Rocky Mount

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Rocky Mount as compared to the region overall.

Table D.7 – Housing Statistics, Rocky Mount, 2010-2016

Jurisdiction	Housing Units (2010)	Housing Units (2016)	Housing Units Percent Change (2010-2016)	Owner-Occupied, % (2016)	Vacant Units, % (2016)	Median Home Value (2016)
N.E.W. Counties Total	*101,602*	*102,802*	1.2	*61.8*	*12.7*	*n/a*
City of Rocky Mount	26,813	26,355	-1.7	51.9	16.6	$109,500

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Rocky Mount as compared to the region overall.

Table D.8 – Employment Statistics, Rocky Mount, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
City of Rocky Mount	25,890	54.8	5	40.2	8.3

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table D.9 – Percent of Employed Population by Occupation, Rocky Mount, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
City of Rocky Mount	30	20.3	21.8	7.7	20.2

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

D.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the City of Rocky Mount than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

D.3.1 Flood

Table D.10 details the acreage of the City of Rocky Mount's total area by flood zone on the effective DFIRM. Per this assessment, approximately 18 percent of the City of Rocky Mount falls within the mapped 1%-annual-chance floodplains.

Table D.10 – Flood Zone Acreage in City of Rocky Mount

Flood Zone	Acreage	Percent of Total (%)
Zone AE	5,111.76	17.99
Zone X (500-year)	1,457.19	5.13
Zone X Unshaded	21,845.45	76.88
Total	28,414.40	--

Source: FEMA Effective DFIRM

Figure D.2 reflects the effective mapped flood hazard zones for Rocky Mount, and Figure D.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table D.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the City of Rocky Mount. Table D.12 provides counts and estimated damages for High Potential Loss Properties in Rocky Mount.

Table D.11 – Critical Facilities Exposed to Flooding, City of Rocky Mount

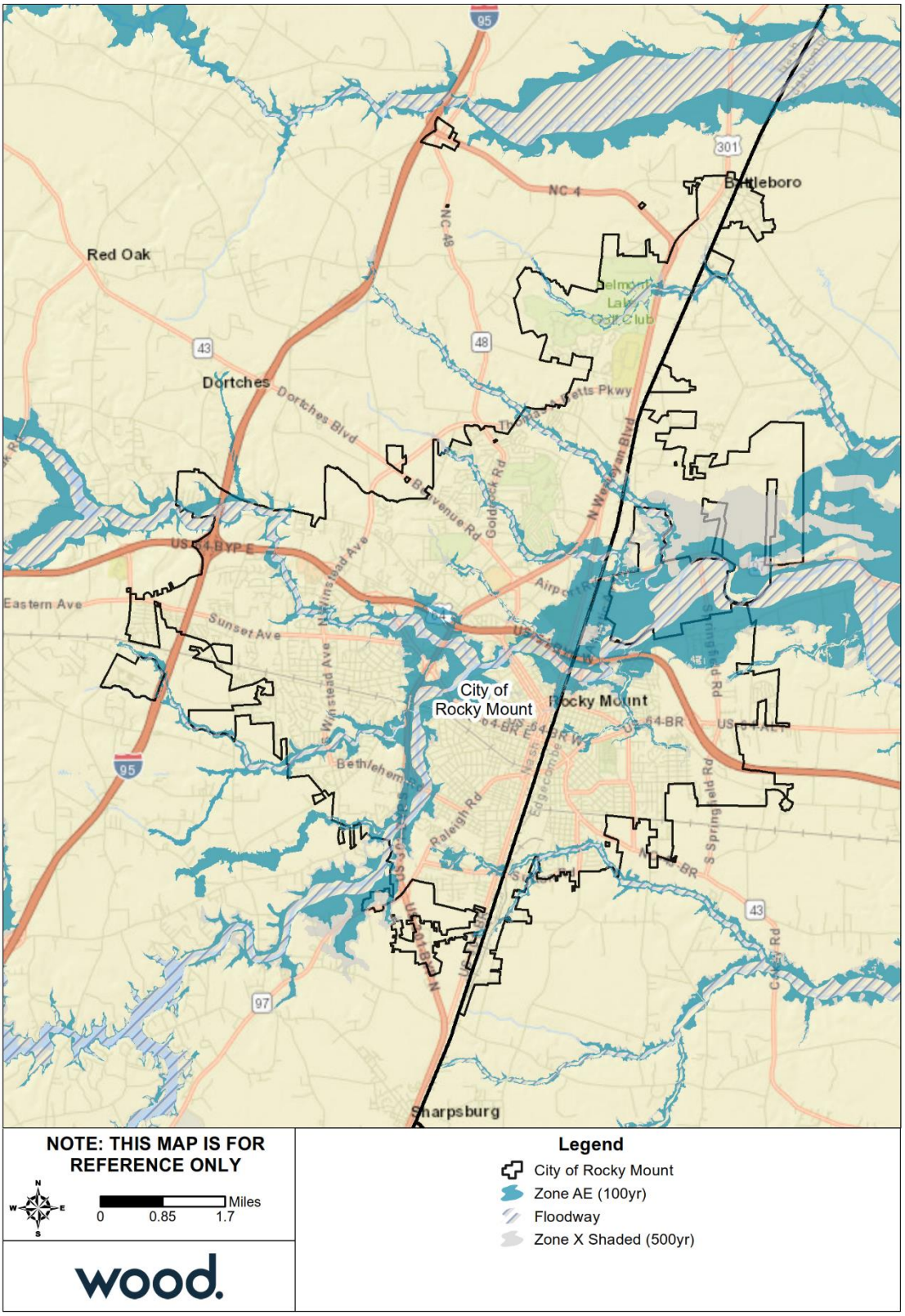
Sector	Event	Number of Buildings at Risk	Estimated Damages
Banking and Finance	100 Year	5	$615,037
	500 Year	9	$1,862,075
Commercial Facilities	100 Year	197	$16,627,766
	500 Year	268	$38,496,621
Critical Manufacturing	100 Year	46	$32,861,795
	500 Year	58	$54,574,610
Food and Agriculture	100 Year	17	$245,538
	500 Year	21	$356,032
Government Facilities	100 Year	17	$303,681

Sector	Event	Number of Buildings at Risk	Estimated Damages
	500 Year	19	$771,011
Healthcare and Public Health	100 Year	5	$468,595
	500 Year	10	$1,423,987
Transportation Systems	100 Year	5	$1,095,529
	500 Year	12	$3,161,476
All Categories	**100 Year**	**292**	**$52,217,941**
	500 Year	**397**	**$100,645,812**

Table D.12 – High Potential Loss Properties Exposed to Flood, City of Rocky Mount

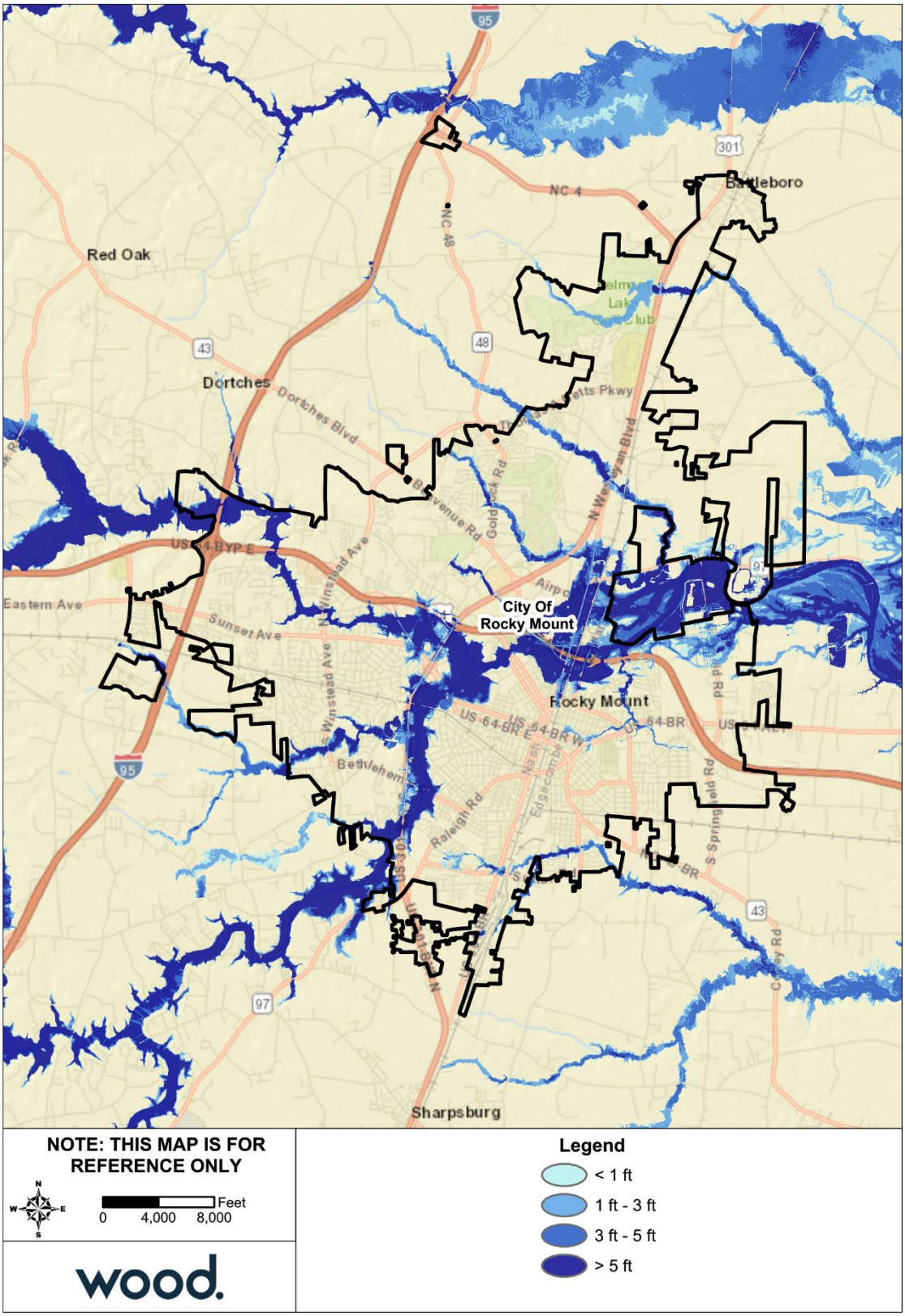
Category	Event	Number of Buildings at Risk	Estimated Damages
Commercial	100 Year	6	$7,941,474
	500 Year	7	$16,817,962
Industrial	100 Year	5	$12,571,066
	500 Year	6	$21,887,471
All Categories	**100 Year**	**11**	**$20,512,540**
	500 Year	**13**	**$38,705,433**

Figure D.2 – FEMA Flood Hazard Areas, City of Rocky Mount



Source: FEMA Effective DFIRM

Figure D.3 – Flood Depth, 1%-Annual-Chance Floodplain, City of Rocky Mount



Source: FEMA Effective DFIRM

D.3.2 Wildfire

Table D.13 summarizes the acreage in the City of Rocky Mount 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 20 percent of the City of Rocky Mount is not included in the WUI.

Table D.13 – Wildland Urban Interface Acreage, City of Rocky Mount

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*5,809.45*	*20.44%*
	LT 1hs/40ac	2,212.57	7.79%
	1hs/40ac to 1hs/20ac	990.19	3.48%
	1hs/20ac to 1hs/10ac	1,457.90	5.13%
	1hs/10ac to 1hs/5ac	1,810.66	6.37%
	1hs/5ac to 1hs/2ac	3,309.07	11.64%
	1hs/2ac to 3hs/1ac	12,069.17	42.47%
	GT 3hs/1ac	758.32	2.67%
	Total	**28,417.32**	

Source: Southern Wildfire Risk Assessment

Figure A.3 and Figure B.3 depict the WUI for the Nash and Edgecombe Counties, where the City of Rocky Mount is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure D.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 and Figure B.5 depict Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Rocky Mount, approximately 4 percent of the City's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in eastern Rocky Mount, with other patches scattered throughout the City. The city as a whole has no to low burn probability. The large patches of high fire intensity are largely in areas outside of the WUI and with no burn probability, however areas where these three factors overlap would be at greater risk.

Table D.14 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table D.15 provides counts and estimated damages for High Potential Loss Properties in Rocky Mount.

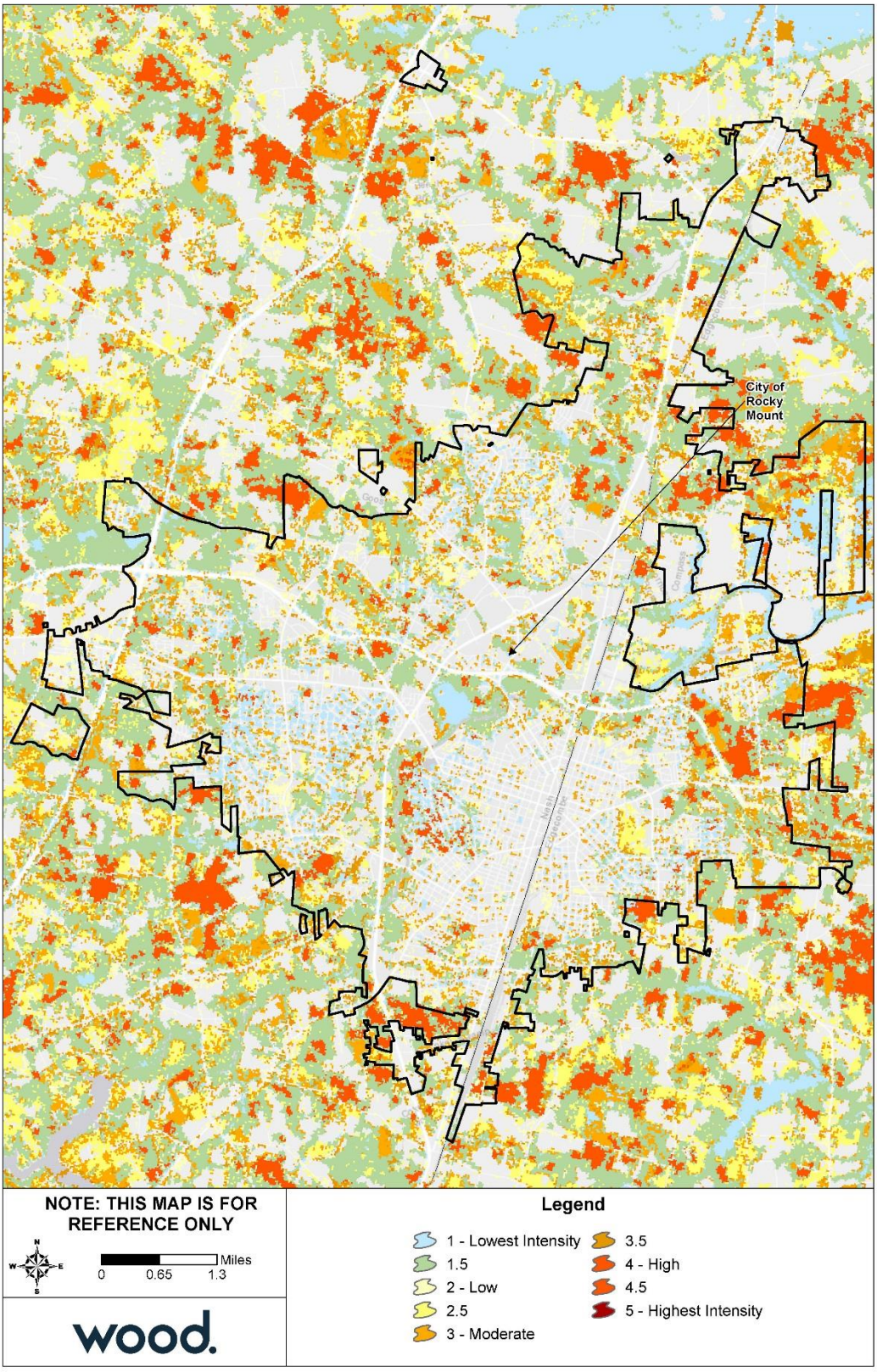
Table D.14 – Critical Facilities Exposed to Wildfire, City of Rocky Mount

Sector	Event	Number of Buildings at Risk	Estimated Damages
Banking and Finance	Wildfire Hazard	2	$284,368
Commercial Facilities	Wildfire Hazard	114	$85,314,334
Critical Manufacturing	Wildfire Hazard	45	$308,896,286
Food and Agriculture	Wildfire Hazard	52	$2,095,056
Government Facilities	Wildfire Hazard	51	$93,539,778
Healthcare and Public Health	Wildfire Hazard	2	$314,806
Transportation Systems	Wildfire Hazard	31	$9,819,607
All Categories	**Wildfire Hazard**	**297**	**$500,264,235**

Table D.15 – High Potential Loss Properties Exposed to Wildfire, City of Rocky Mount

Category	Event	Number of Buildings at Risk	Estimated Damages
Commercial	Wildfire Hazard	2	$8,646,149
Government	Wildfire Hazard	10	$57,713,156
Industrial	Wildfire Hazard	4	$268,990,529
Religious	Wildfire Hazard	2	$11,325,130
Residential	Wildfire Hazard	1	$5,634,771
All Categories	**Wildfire Hazard**	**19**	**$352,309,735**

Figure D.4 – Potential Fire Intensity, City of Rocky Mount



Source: Southern Wildfire Risk Assessment

D.4 CAPABILITY ASSESSMENT

D.4.1 Floodplain Management

The City of Rocky Mount joined the NFIP through emergency entry in January 1974 and has been a regular participant since May 1978. The following tables reflect NFIP policy and claims data for the City categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table D.16 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	679	$448,954	$139,620,800	711	$21,028,091.00
2-4 Family	26	$17,665	$3,836,200	26	$1,381,615.03
All Other Residential	14	$25,123	$3,430,700	43	$4,135,386.89
Non-Residential	128	$350,023	$57,404,000	117	$12,397,939.94
Total	**847**	**$841,765**	**$204,291,700**	**897**	**$38,943,032.86**

Source: FEMA Community Information System, accessed March 2020

Table D.17 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	578	$652,046	$128,334,900	742	$32,319,080.63
A Zones	0	$0	$0	1	$0.00
B, C & X Zone					
Standard	78	$112,094	$21,807,800	92	$5,839,509.23
Preferred	191	$77,625	$54,149,000	52	$751,552.47
Total	847	$841,765	$204,291,700	887	$38,910,142.33

Source: FEMA Community Information System, accessed March 2020

Table D.18 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	312	$420,843	$53,039,300	483	$21,118,370.64
A Zones	0	$0	$0	1	$0.00
B, C & X Zone	110	$69,427	$29,035,100	91	$4,492,314.78
Standard	30	$36,049	$7,151,100	62	$4,224,505.89
Preferred	80	$33,378	$21,884,000	28	$267,808.89
Total	**422**	**$490,270**	**$82,074,400**	**575**	**$25,610,685.42**

Source: FEMA Community Information System, accessed March 2020

Table D.19 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	266	$231,203	$75,295,600	259	$11,200,709.99
B, C & X Zone	159	$120,292	$46,921,700	54	$2,098,746.92
Standard	48	$76,045	$14,656,700	30	$1,615,003.34
Preferred	111	$44,247	$32,265,000	24	$483,743.58
Total	425	$351,495	$122,217,300	313	$13,299,456.91

Source: FEMA Community Information System, accessed March 2020

D.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Maintain FEMA flood hazard map	Flood	2.1	High	Planning Department	Local, FEMA	2020	Carried Forward	Map updates adopted in 2013; Continue to provide public access to maps and participate in CRS program.
P-2	Maintain and update City Codes, Plans, and Ordinances	All Hazards	3.3	Moderate	Planning and Inspections	Local	2020	Carried Forward	Perpetual analysis of development patterns is expected with subsequent updates to ordinances and plans to be carried out accordingly.
P-3	Develop a Continuity of Operations Plan	All Hazards	2.2	High	Fire Department	Local	2021	Carried Forward	No progress to report
Property Protection									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; includes findings that will be presented to the elected governing Board	All Hazards	3.3	High	City Administration, City Manager, City Council	State, Federal, Local, Grants	2023	Carried Forward	No progress to report
Structural Projects									
S-1	Evaluate city-maintained bridges and culverts for elevation or capacity improvements	Flood	3.3	Moderate	Public Works	Local	2022	Carried Forward	Existing bridges and culverts are inspected biannually; improvements made as needed.
Emergency Services									
ES-1	Continue to be a certified "Storm Ready Community"	All Hazards	2.2	Moderate	Fire Department	Local	2021	Carried Forward	Recertification in progress
ES-2	Work with NCDOT to improve bridges, bridge approaches, and culverts/drainage on NCDOT maintained roads	Flood	3.3	Moderate	Public Works	Local, NCDOT	2022	Carried Forward	Analyzed biannually as part of basin master planning.
ES-3	Encourage or assist residents through information to sign up for "Code Red" and/or the County's emergency warning notification systems	All Hazards	1.2	Moderate	Mayor, City Administration	Local, State, Federal	2024	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Insert floodplain awareness brochure in utility bill annually	Flood	1.1	High	Planning Department & Public Affairs	Local	2020	Carried Forward	Recurring inserts in utility bills planned on an annual basis.
PEA-2	Provide information on the City's website about flood hazards	Flood	1.2	High	Planning Department	Local	2020	Carried Forward	Commitment to permanently updating flood hazard information on the City's website
PEA-3	Partner with local broadcast media	All Hazards	1.2	Low	Public Affairs	Local	2020	Carried Forward	Rolling agreements with local broadcast media are in place to ensure information reaches public in a timely manner.

Annex E City of Wilson

E.1 PLANNING PROCESS

The table below lists the HMPC members who represented the City of Wilson.

Table E.1 – HMPC Members

Member Name	Title	Agency
Janet Holland	Land Development Manager	Developmental Services
Jessica Watson	Engineering Services Technician	Developmental Services
Kelly Vick	President/CEO	Wilson Housing Authority
Alan Winstead	Agent	NC Farm bureau

E.2 COMMUNITY PROFILE

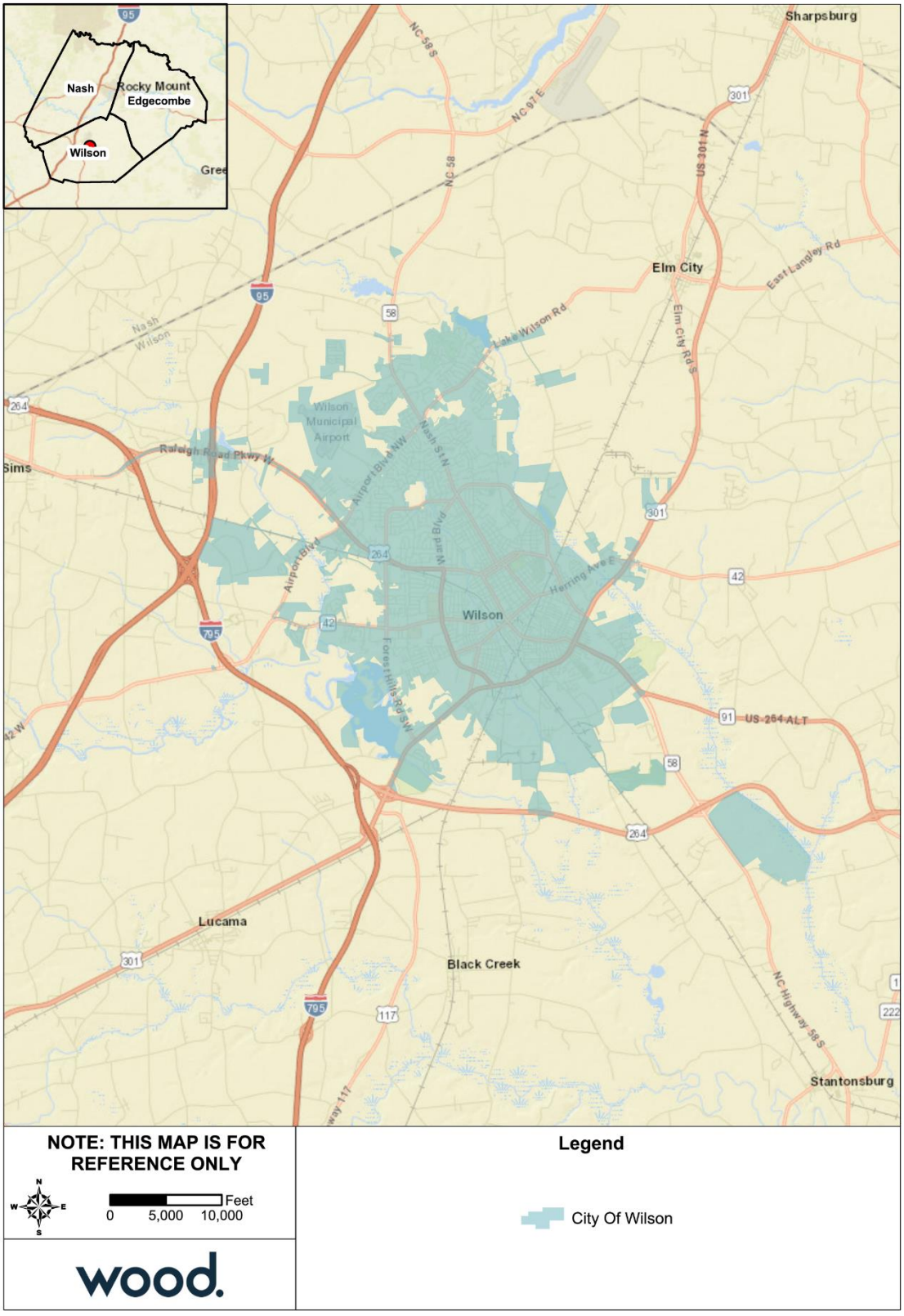
Geography

The City of Wilson is located in central Wilson County and is the County seat. The City comprises a total land area of 31.9 square miles. There are an additional 26.5 square miles in the City's extra-territorial jurisdiction (ETJ).

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 5,800 acres of wetlands in Wilson.

Figure E.1 shows a base map of the City of Wilson.

Figure E.1 – Location, City of Wilson



Population and Demographics

Table E.2 provides population counts and growth estimates for the City of Wilson as compared to the region overall. American Community Survey 2014-2018 5yr Estimates

Table E.3 provides demographic information for the City as compared to the whole region.

Table E.2 – Population Counts, Wilson, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
City of Wilson	44,405	49,167	49,230	63	0.13%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table E.3 – Racial Demographics, Wilson, 2016

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
City of Wilson	42.4	47.9	1.2	5.7	2.8	10.1

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates

*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Wilson in order to estimate the total physical exposure to hazards in this area.

Table E.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
City of Wilson	176	35	0	1401	1	392	2	267	150	0	0	2	0	223	30	17	14	2,710

Source: NCEM Risk Management Tool

Table E.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
City of Wilson	17	245	119	79	2	41	23	526

Source: NCEM Risk Management Tool

There are 15 listings on the National Register of Historic Places for the City of Wilson, including 7 historic districts. These sites are listed in the table below.

Table E.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
78001986	Branch Banking	8/11/1978	Building	Wilson
79001765	Wilson County Courthouse	5/10/1979	Building	Wilson
82003533	Rountree, Moses, House	4/26/1982	Building	Wilson
82003532	Davis-Whitehead-Harriss House	6/14/1982	Building	Wilson
82003531	Cherry Hotel	8/26/1982	Building	Wilson
83004004	Williams, Olzie Whitehead, House	12/19/1983	Building	Wilson
84000736	Old Wilson Historic District	12/20/1984	District	Wilson
84001033	West Nash Street Historic District	12/20/1984	District	Wilson
84003876	Wilson Central Business-Tobacco Warehouse Historic District	12/20/1984	District	Wilson
86000764	Barnes, Gen. Joshua, House	2/13/1986	Building	Wilson
86000766	Pender, Joseph John, House	2/13/1986	Building	Wilson
86001656	Upper Town Creek Rural Historic District	8/29/1986	District	Wilson
86001657	Woodard Family Rural Historic District	8/29/1986	District	Wilson
88000371	East Wilson Historic District	4/11/1988	District	Wilson
88002084	Broad--Kenan Streets Historic District	10/27/1988	District	Wilson

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Wilson as compared to the region overall.

Table E.7 – Housing Statistics, Wilson, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
City of Wilson	21,337	22,051	3.3	49.8	10.4	$139,000

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Wilson as compared to the region overall.

Table E.8 – Employment Statistics, Wilson, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
City of Wilson	22,708	53.8	5.1	40.8	8.7

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table E.9 – Percent of Employed Population by Occupation, Wilson, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
City of Wilson	33.1	17.5	19.4	8.4	21.5

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

E.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the City of Wilson than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards in this section are: Flood and Wildfire.

E.3.1 Flood

Table E.10 details the acreage of City of Wilson's total area by flood zone on the effective DFIRM. Per this assessment, approximately 17 percent of the City falls within the mapped 1%-annual-chance floodplains.

Table E.10 – Flood Zone Acreage in the City of Wilson

Flood Zone	Acreage	Percent of Total (%)
Zone AE	3,413.45	16.70
Zone X (500-year)	536.49	2.62
Zone X Unshaded	16,491.42	80.68
Total	20,441.37	--

Source: FEMA Effective DFIRM

Figure E.2 reflects the effective mapped flood hazard zones for the City of Wilson, and Figure E.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table E.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the City of Wilson. Source: NCEM Risk Management Tool

Table E.12 provides counts and estimated damages for High Potential Loss Properties in Wilson.

Table E.11 – Critical Facilities Exposed to Flooding, City of Wilson

Sector	Event	Number of Buildings at Risk	Estimated Damages
Banking and Finance	500 Year	1	$4,133
Commercial Facilities	100 Year	84	$2,808,981
	500 Year	118	$7,209,928
Critical Manufacturing	100 Year	2	$430,035
	500 Year	12	$1,723,267
Food and Agriculture	100 Year	12	$114,314
	500 Year	18	$320,806
Government Facilities	100 Year	10	$220,777
	500 Year	14	$568,773
Water	500 Year	2	$126,416
All Categories	**100 Year**	**108**	**$3,574,107**
	500 Year	**165**	**$9,953,323**

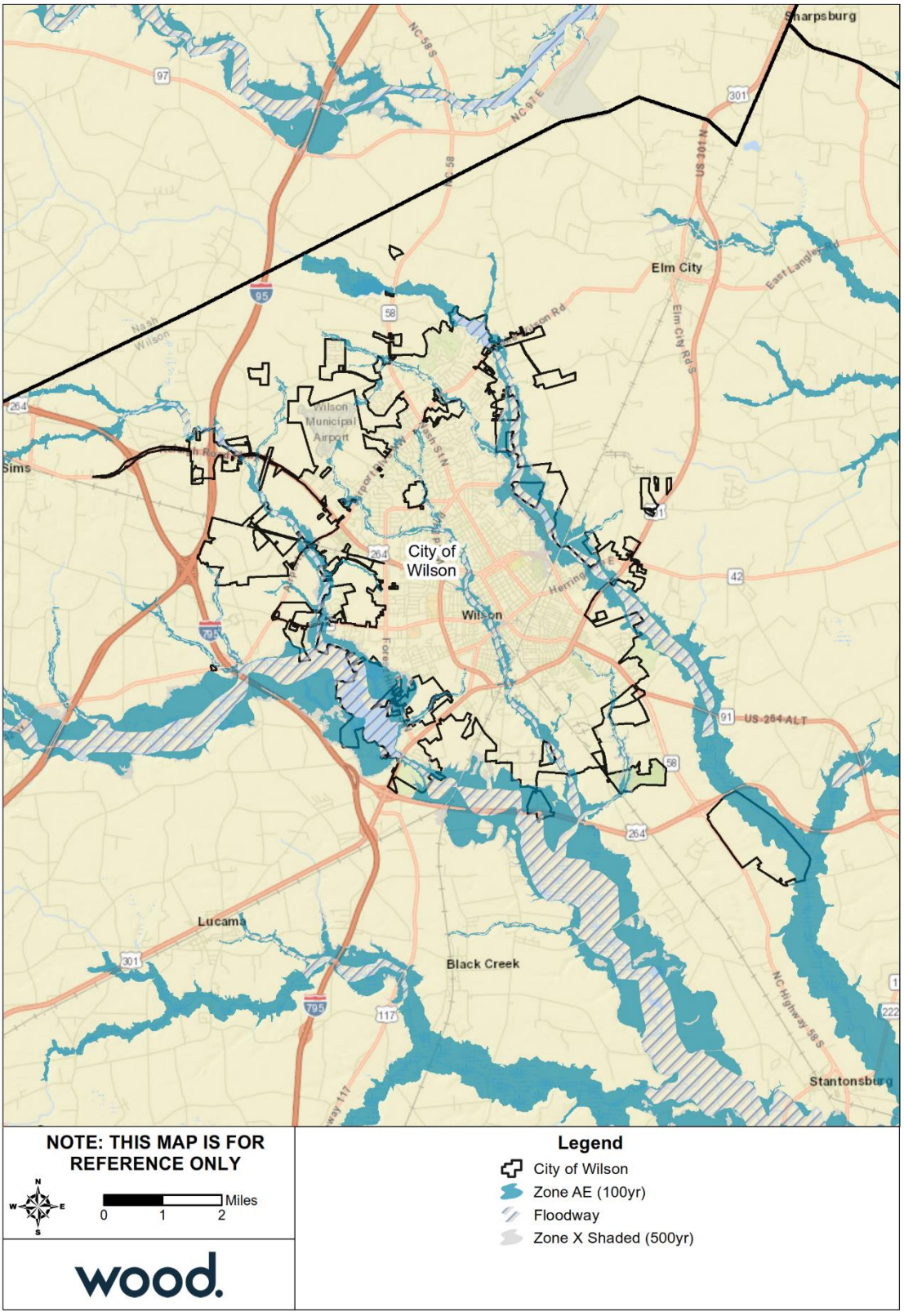
Source: NCEM Risk Management Tool

Table E.12 – High Potential Loss Properties Exposed to Flood, City of Wilson

Category	Event	Number of Buildings at Risk	Estimated Damages
Commercial	100 Year	4	$479,655
	500 Year	8	$1,670,188
Utilities	500 Year	2	$126,416
All Categories	**100 Year**	**4**	**$479,655**
	500 Year	**10**	**$1,796,604**

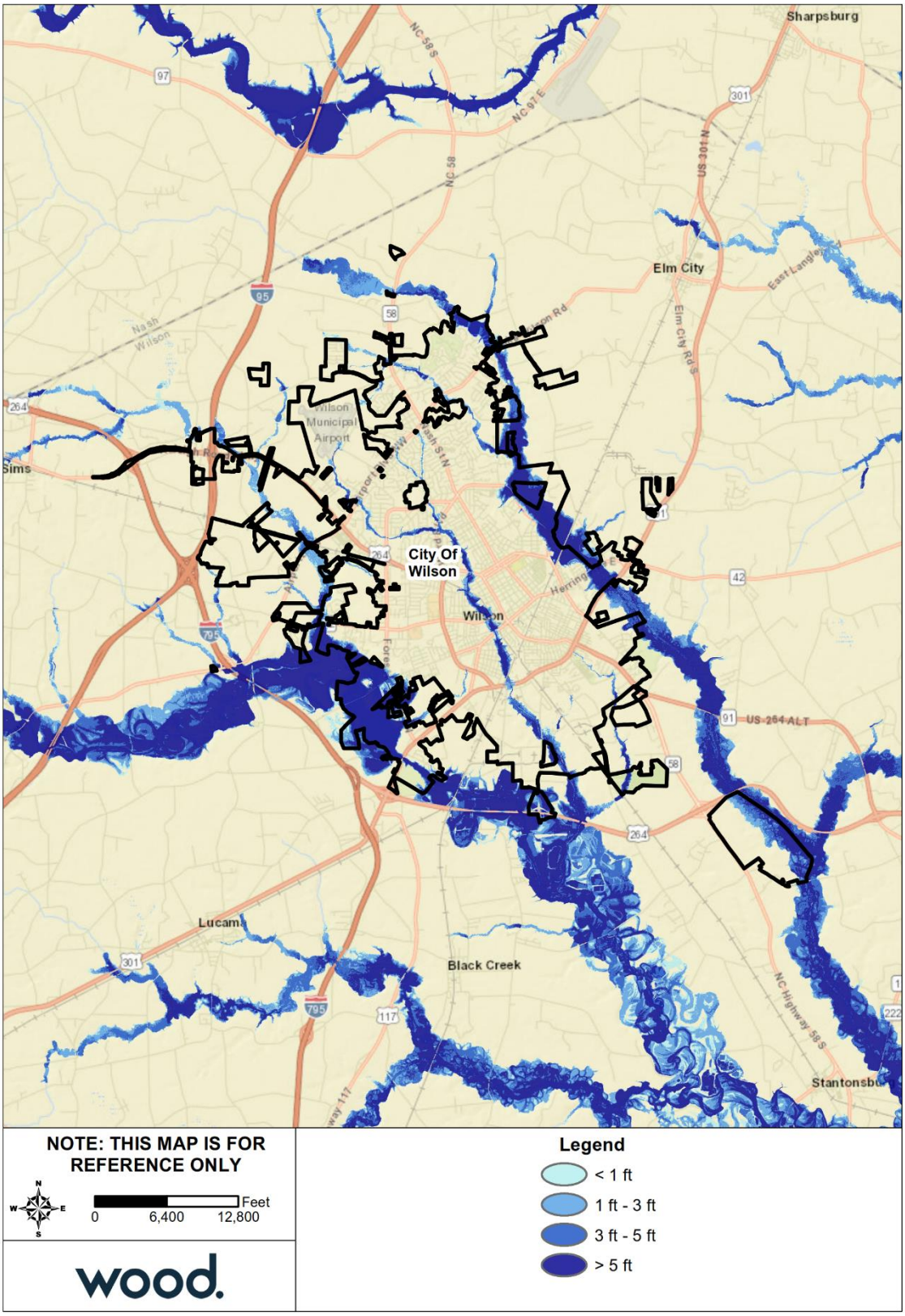
Source: NCEM Risk Management Tool

Figure E.2 – FEMA Flood Hazard Areas, City of Wilson



Source: FEMA Effective DFIRM

Figure E.3 – Flood Depth, 1%-Annual-Chance Floodplain, City of Wilson



Source: FEMA Effective DFIRM

E.3.2 Wildfire

Table E.13 summarizes the acreage in the City of Wilson 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 29 percent of unincorporated Nash County is not included in the WUI.

Table E.13 – Wildland Urban Interface Acreage, City of Wilson

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*6,073.25*	*29.70%*
	LT 1hs/40ac	1,106.80	5.41%
	1hs/40ac to 1hs/20ac	598.51	2.93%
	1hs/20ac to 1hs/10ac	829.30	4.06%
	1hs/10ac to 1hs/5ac	783.63	3.83%
	1hs/5ac to 1hs/2ac	1,735.67	8.49%
	1hs/2ac to 3hs/1ac	8,412.11	41.14%
	GT 3hs/1ac	905.95	4.43%
	Total	**20,445.22**	

Source: Southern Wildfire Risk Assessment

Figure C.3 depicts the WUI for Wilson County where the City of Wilson is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure C.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Wilson, approximately 3 percent of the City's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest on the edges of the City of Wilson, particularly in the western portion of the City. The entire city, however, has low or no burn probability. While much of the City is within the Wildland Urban interfaces, the areas where higher potential fire intensity overlap with burn probability, although low, are largely outside of the WUI, meaning little to no development is at risk.

Table E.14 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table E.15 provides counts and estimated damages for High Potential Loss Properties in Wilson.

Table E.14 – Critical Facilities Exposed to Wildfire, City of Wilson

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	83	$68,877,647
Critical Manufacturing	Wildfire Hazard	36	$107,994,199
Defense Industrial Base	Wildfire Hazard	2	$42,616,867
Emergency Services	Wildfire Hazard	2	$870,508
Energy	Wildfire Hazard	4	$23,766,853
Food and Agriculture	Wildfire Hazard	51	$5,392,696
Government Facilities	Wildfire Hazard	32	$36,312,779
Healthcare and Public Health	Wildfire Hazard	2	$4,001,255
Transportation Systems	Wildfire Hazard	25	$14,797,946
All Categories	**Wildfire Hazard**	**237**	**$304,630,750**

Table E.15 – High Potential Loss Properties Exposed to Wildfire, City of Wilson

Category	Event	Number of Buildings at Risk	Estimated Damages
Agricultural	Wildfire Hazard	1	$1,245,697
Commercial	Wildfire Hazard	21	$98,762,382
Government	Wildfire Hazard	9	$29,767,251
Industrial	Wildfire Hazard	13	$97,984,817
Residential	Wildfire Hazard	1	$1,158,542
Utilities	Wildfire Hazard	2	$23,180,374
All Categories	**Wildfire Hazard**	**47**	**$252,099,063**

E.4 CAPABILITY ASSESSMENT

E.4.1 Floodplain Management

The City of Wilson joined the NFIP through emergency entry in March 1975 and has been a regular participant since July 1982. The following tables reflect NFIP policy and claims data for the City categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table E.16 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	404	$243,760	$91,915,300	245	$3,861,003.66
2-4 Family	4	$1,002	$640,000	22	$722,276.29
All Other Residential	14	$16,095	$5,032,000	9	$607,164.97
Non-Residential	67	$248,942	$21,801,000	98	$2,719,976.83
Total	489	$509,799	$119,388,300	374	$7,910,421.75

Source: FEMA Community Information System, accessed March 2020

Table E.17 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	297	$407,696	$61,747,500	245	$5,804,062.01
A Zones	0	$0	$0	7	$33,516.56
B, C & X Zone					
Standard	36	$30,030	$10,575,800	60	$1,676,167.76
Preferred	156	$72,073	$47,065,000	46	$389,284.49
Total	489	$509,799	$119,388,300	358	$7,903,030.82

Source: FEMA Community Information System, accessed March 2020

Table E.18 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	139	$279,120	$28,669,100	203	$4,882,814.36
A Zones	0	$0	$0	7	$33,516.56
B, C & X Zone	94	$56,775	$30,392,400	81	$1,893,730.36
Standard	25	$17,735	$7,789,400	50	$1,561,326.08

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Preferred	69	$39,040	$22,603,000	31	$332,404.28
Total	233	$335,895	$59,061,500	291	$6,810,061.28

Source: FEMA Community Information System, accessed March 2020

Table E.19 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	158	$128,576	$33,078,400	42	$921,247.65
B, C & X Zone	98	$45,328	$27,248,400	25	$171,721.89
Standard	11	$12,295	$2,786,400	10	$114,841.68
Preferred	87	$33,033	$24,462,000	15	$56,880.21
Total	256	$173,904	$60,326,800	67	$1,092,969.54

Source: FEMA Community Information System, accessed March 2020

E.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Floodplain Management: Consider a floodplain/stream modeling program that allows evaluation of flooding potential along streams based upon new developments that occur upstream	Flood	3.3	Moderate	Stormwater	Local, State	2025	Carried Forward	The City will continue to seek grant funding to support implementation.
P-2	Building Code: Encourage builders to incorporate mitigative measures for disaster resiliency during construction	All Hazards	3.3	High	Construction Standards	Local, State	2025	Carried Forward	CS discussed mitigation measures at their annual meeting with contractors.
Property Protection									
PP-1	Capital Improvement Program: Evaluate the feasibility the relocation/elevation/flood proofing needs of designated critical facilities	All Hazards	3.3	Moderate	Engineering, Planning & Development Services, Utilities	Local, Federal	2025	Carried Forward	No progress to report
PP-2	Repetitive Loss: Wilson seeks funds to buyout repetitive loss properties.	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.3	Moderate	Planning & Development Services	Local, State, Federal	2025	Carried Forward	Actively seeking grants for acquisitions
PP-3	Preservation: Seek funding for acquisition of properties within the floodplain, apply for acquisition funds to purchase other properties flooded	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.3	Moderate	Engineering, Stormwater, Planning & Development Services	Local	2025	Carried Forward	Seeking grant funding
Natural Resource Protection									
NRP-1	Stormwater Management: Acquire easements along drainage features and streams for public maintenance	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.1	Moderate	Engineering, Stormwater, Planning & Development Services	Local, State, Federal	2025	Carried Forward	Seeking grant funding
NRP-2	Restoration Program: Begin design and development of Hominy Creek Water Quality Park & Greenway Plan.	All Hazards	3.1	Moderate	Engineering, Stormwater, Planning & Development Services	Local	2025	Carried Forward	Seeking grant funding
Structural Projects									
SP-1	Stormwater management: install detention facilities to mitigate peak flow in the downtown area	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.3	Moderate	Engineering, Stormwater, Land Development, Planning & Development Services	Local	2025	Carried Forward	City peak flow policy exceeds state requirements.
SP-2	Stormwater Management: Continue improving and maintaining streams throughout the community	All Hazards	3.1	Moderate	PS, Stormwater	Local	2025	Carried Forward	No progress to report
Emergency Services									
ES-1	Capital Improvement Program: Install monitoring systems for flood waters.	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	2.2	Moderate	Engineering, Stormwater	Local	2025	Carried Forward	Seeking grant funding
ES-2	Natural Gas Infrastructure: Continue to replace aging steel gas facilities with polyethylene that has a longer life span	All Hazards	3.3	High	PS	Local	2025	Carried Forward	Goal of having all aging steel pipelines in our system replaced with plastic by 2033
ES-3	Natural Gas Infrastructure: Continue Cathodic Protection and Leakage surveys to better understand our buried facilities so that trouble spots are recognized	All Hazards	3.3	Moderate	PS	Local	2025	Carried Forward	Cathodic Protection and Leak Surveys completed annually to support scheduling the replacement of pipelines.

Annex F Town of Bailey

F.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Bailey.

Table F.1 – HMPC Members

Member Name	Title	Agency
Thomas Richards	Mayor	Town of Bailey
Joel Killion	Board Police Represenative	Town of Bailey

F.2 COMMUNITY PROFILE

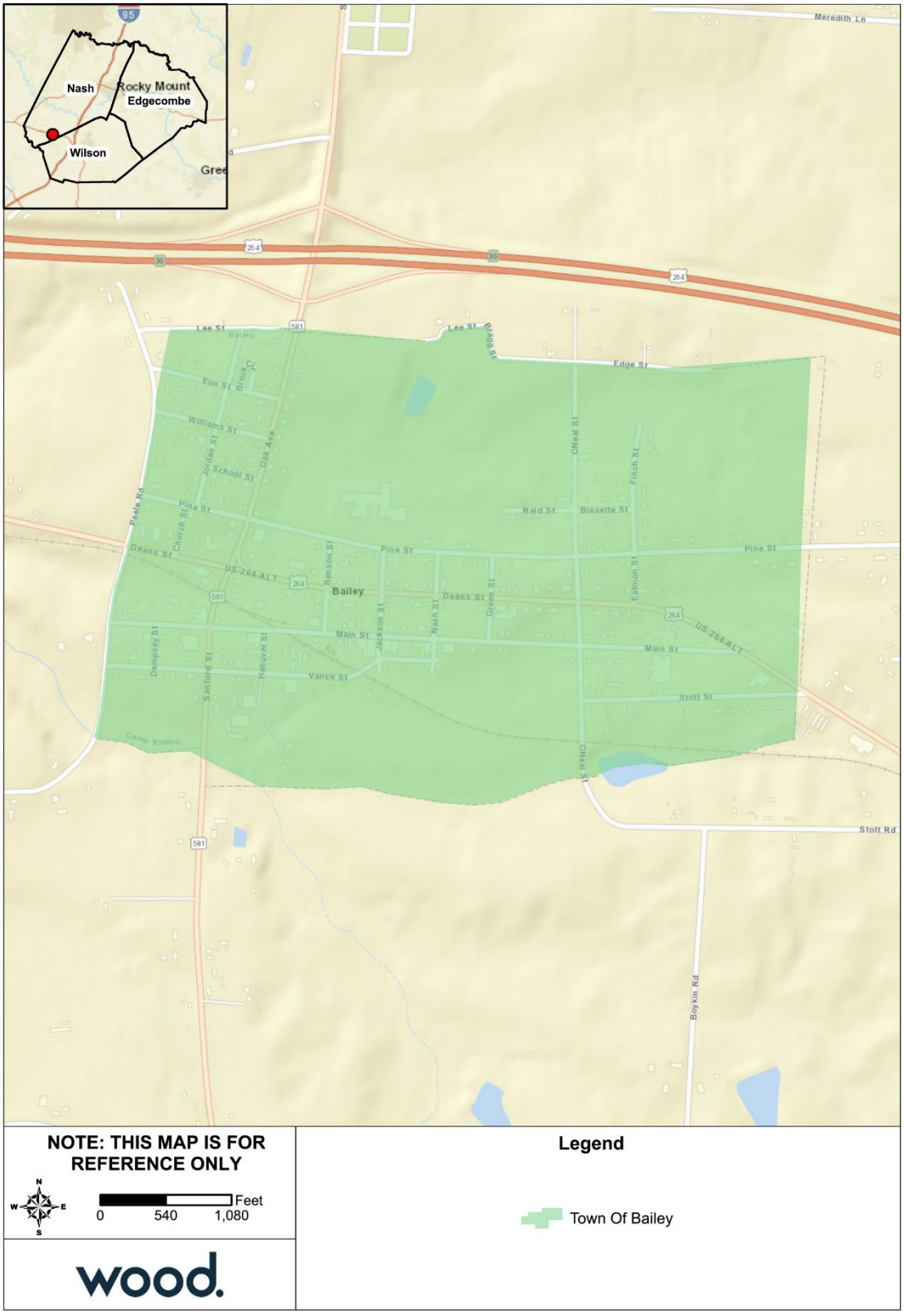
Geography

The Town of Bailey is located in southern Nash County. It sits along US-264 Alternate Route between Middlesex to the west and Sims to the east. The Town comprises a total land area of 0.7 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 86 acres of wetlands in Bailey.

Figure F.1 shows a base map of the Town of Bailey.

Figure F.1 – Location, Town of Bailey



Population and Demographics

Table F.2 provides population counts and growth estimates for the Town of Bailey as compared to the region overall. Table F.3 provides demographic information for the Town as compared to the whole region.

Table F.2 – Population Counts, Bailey, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Bailey	670	569	450	-119	-20.91%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table F.3 – Racial Demographics, Bailey, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Bailey	70.4	8.4	0	9	12.2	12

Source: US Census Bureau; American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Bailey in order to estimate the total physical exposure to hazards in this area.

Table F.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Bailey	107	3	0	68	0	31	0	6	3	0	0	0	0	3	0	1	0	222

Source: NCEM Risk Management Tool

Table F.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Bailey	0	1	0	0	0	0	0	1

Source: NCEM Risk Management Tool

There is one listing on the National Register of Historic Places for the Town of Bailey. The site is listed in the table below.

Table F.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
06000867	Morgan School	9/15/2006	Building	Bailey

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The following table details key housing statistics for Bailey as compared to the region overall.

Table F.7 – Housing Statistics, Bailey, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Bailey	334	230	-31.1	64.2	17.4	$110,900

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Bailey as compared to the region overall.

Table F.8 – Employment Statistics, Bailey, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Bailey	196	56.1	2.1	41.8	3.6

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table F.9 – Percent of Employed Population by Occupation, Bailey, 2016

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Bailey	27	17.5	37	1.6	16.9

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

F.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Bailey than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

F.3.1 Flood

Table F.10 details the acreage of the Town of Bailey's total area by flood zone on the effective DFIRM. Per this assessment, none of Bailey falls within the mapped 1%-annual-chance floodplains.

Table F.10 – Flood Zone Acreage in Town of Bailey

Flood Zone	Acreage	Percent of Total (%)
Zone X Unshaded	449.16	100
Total	449.16	--

Source: FEMA Effective DFIRM

F.3.2 Wildfire

Table F.11 summarizes the acreage in the Town of Bailey 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. Just under 5 percent of the Town of Bailey is not included in the WUI.

Table F.11 – Wildland Urban Interface Acreage, Town of Bailey

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*21.42*	*4.75%*
	LT 1hs/40ac	10.83	2.40%
	1hs/40ac to 1hs/20ac	15.83	3.51%
	1hs/20ac to 1hs/10ac	9.93	2.20%
	1hs/10ac to 1hs/5ac	37.71	8.36%
	1hs/5ac to 1hs/2ac	131.64	29.19%
	1hs/2ac to 3hs/1ac	223.67	49.59%
	Total	**451.03**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for Nash County where the Town of Bailey is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Bailey, approximately 2 percent of the Town's acreage has a potential fire intensity rated 4 or higher. The areas of highest fire intensity are in the northern portion of the Town; however, burn probability is uniformly low across the Town. As noted above, though, most of the town is within the Wildland Urban Interface, so areas most at risk are where WUI overlaps with relatively higher potential fire intensity and burn probability.

Table F.12 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table F.13 provides counts and estimated damages for High Potential Loss Properties in Bailey.

Table F.12 – Critical Facilities Exposed to Wildfire, Town of Bailey

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	4	$1,497,603
Food and Agriculture	Wildfire Hazard	20	$660,261
Government Facilities	Wildfire Hazard	1	$7,827,074
Transportation Systems	Wildfire Hazard	1	$196,951
All Categories	**Wildfire Hazard**	**26**	**$10,181,889**

Table F.13 – High Potential Loss Properties Exposed to Wildfire, Town of Bailey

Category	Event	Number of Buildings at Risk	Estimated Damages
Commercial	Wildfire Hazard	1	$7,827,074
All Categories	**Wildfire Hazard**	**1**	**$7,827,074**

F.4 CAPABILITY ASSESSMENT

F.4.1 Floodplain Management

The Town of Bailey's initial FIRM was published in November 2004. At present, the Town is not participating in the NFIP.

F.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Strengthen the Public Water and Sewer Ordinance by adding language that specifically prohibits extending public services and utilities into flood hazard or other environmentally sensitive areas to discourage growth	Flood	4.1	Moderate	Town Board	Local	2023	Carried Forward	No progress to report
P-2	Update Subdivision Ordinance	All Hazards	3.3	Moderate	Planning Board, Town Board	Local	2025	Carried Forward	No progress to report
P-3	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2025	Carried Forward	Town currently has two committee representatives.
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Town Administration	State, Federal Grant funds, Local	2021	Carried Forward	No progress to report
Emergency Services									
ES-1	Identify roads that had a problem with high water during Hurricane Floyd and place signs on streets stating "Road Subject to Flooding"	Flood	1.1	High	Public Works, NCDOT	Local	2021	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at town hall	All Hazards	1.1	Moderate	Town Clerk	FEMA, Local	2023	Carried Forward	No progress to report

Annex G Town of Black Creek

G.1 PLANNING PROCESS

The Town of Black Creek was represented by Wilson County throughout the planning process due to the Town's limited administrative capability.

G.2 COMMUNITY PROFILE

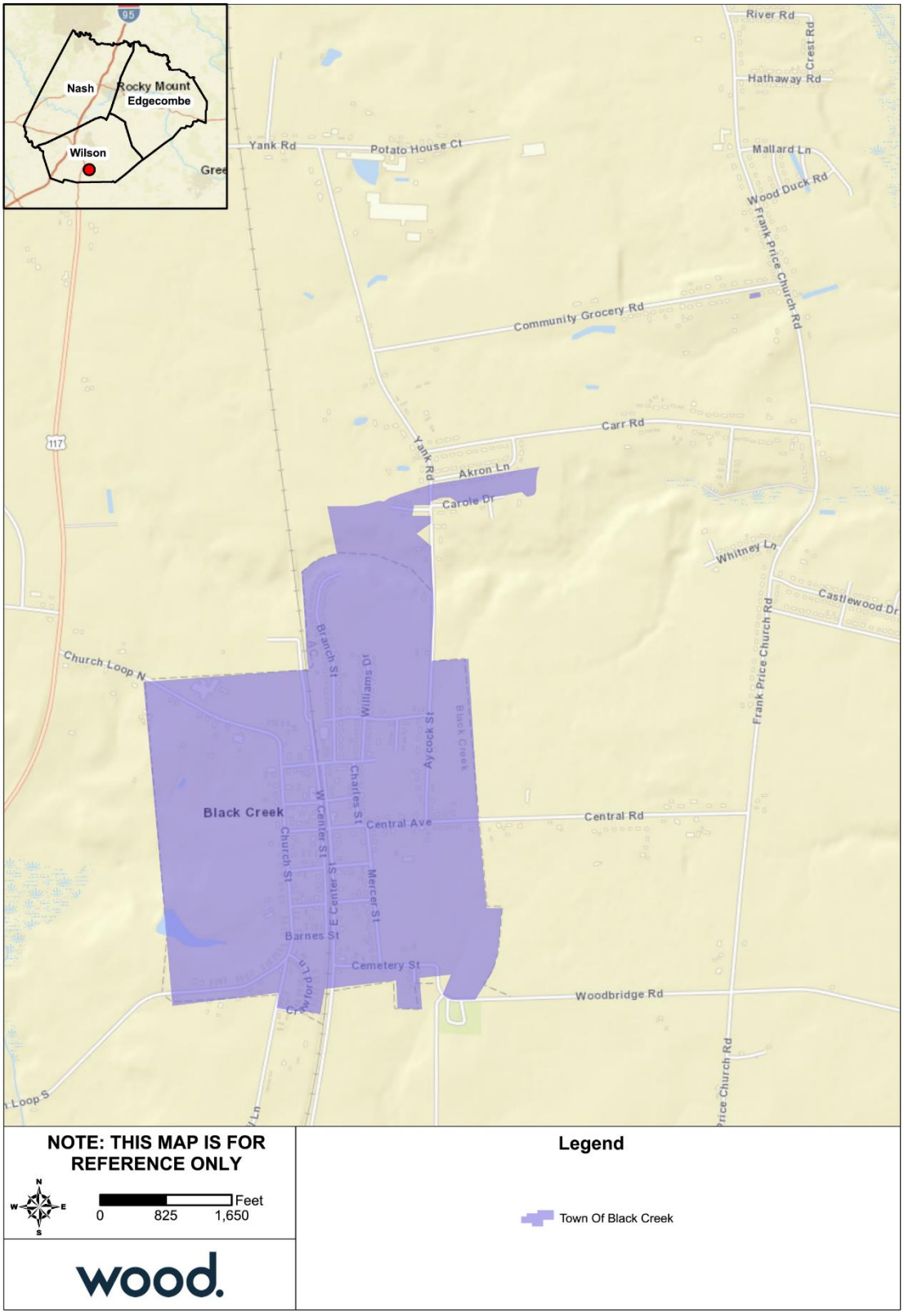
Geography

The Town of Black Creek is located in southern Wilson County. It is neighbored by Lucama to the west, Stantonsburg to the east, and Wilson to the north. Black Creek comprises a total land area of 0.7 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are only 4.0 acres of wetlands in Black Creek.

Figure G.1 shows a base map of the Town of Black Creek.

Figure G.1 – Location, Town of Black Creek



Population and Demographics

Table G.1 provides population counts and growth estimates for the Town of Black Creek as compared to the region overall. Table G.2 provides demographic information for the Town as compared to the whole region.

Table G.1 – Population Counts, Black Creek, 2010-2017

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Black Creek	714	769	865	96	12.48%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table G.2 – Racial Demographics, Black Creek, 2016

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Black Creek	57.7	37.6	0	4.4	0.3	7.6

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Black Creek in order to estimate the total physical exposure to hazards in this area.

Table G.3 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Black Creek	38	0	0	26	0	1	0	8	0	0	0	0	0	1	0	3	0	77

Source: NCEM Risk Management Tool

Table G.4 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Black Creek	0	0	1	2	0	0	0	3

Source: NCEM Risk Management Tool

There are three listings on the National Register of Historic Places for the Town of Black Creek, including two historic districts. These sites are listed in the table below.

Table G.5 – Historic Properties

Ref#	Property Name	Status Date	Category	City
86000765	Aycock, Manalcus, House	2/13/1986	Building	Black Creek
86000771	Lucas, Dr. H. D., House	2/13/1986	Building	Black Creek
86001659	Black Creek Rural Historic District	10/14/1986	District	Black Creek

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The following table details key housing statistics for Black Creek as compared to the region overall.

Table G.6 – Housing Statistics, Black Creek, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Black Creek	342	299	-12.6	70.6	6.7	$86,300

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Black Creek as compared to the region overall.

Table G.7 – Employment Statistics, Black Creek, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Black Creek	406	59.3	7.8	32.9	11.6

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table G.8 – Percent of Employed Population by Occupation, Black Creek, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Black Creek	19.2	16.4	20.3	10.6	33.4

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

G.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Black Creek than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

G.3.1 Flood

Table G.9 details the acreage of the Town of Black Creek's total area by flood zone on the effective DFIRM. Per this assessment, just over 2 percent of the Town falls within the mapped 1%-annual-chance floodplains.

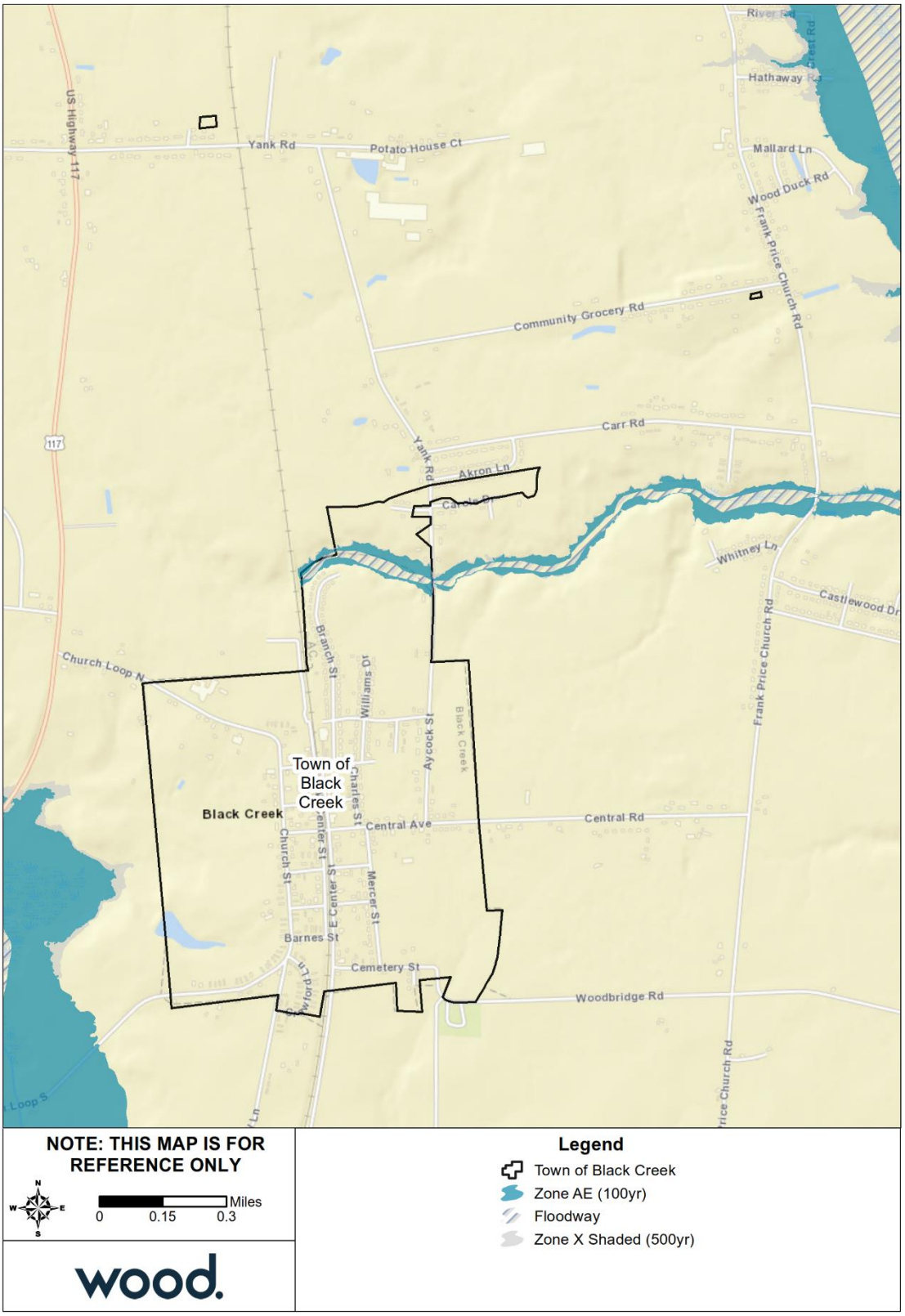
Table G.9 – Flood Zone Acreage in the Town of Black Creek

Flood Zone	Acreage	Percent of Total (%)
Zone AE	9.81	2.13
Zone X (500-year)	0.50	0.11
Zone X Unshaded	450.68	97.76
Total	461.00	--

Source: FEMA Effective DFIRM

Figure G.2 reflects the effective mapped flood hazard zones for the Town of Black Creek, and Figure G.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Figure G.2 – FEMA Flood Hazard Areas, Town of Black Creek



Source: FEMA Effective DFIRM

Figure G.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Black Creek



Source: FEMA Effective DFIRM

G.3.2 Wildfire

Table G.10 summarizes the acreage in the Town of Black Creek 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 5 percent of the Town of Black Creek is not included in the WUI.

Table G.10 – Wildland Urban Interface Acreage, Town of Black Creek

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*24.19*	*5.25%*
	LT 1hs/40ac	7.45	1.65%
	1hs/40ac to 1hs/20ac	7.24	1.60%
	1hs/20ac to 1hs/10ac	28.84	6.39%
	1hs/10ac to 1hs/5ac	43.37	9.62%
	1hs/5ac to 1hs/2ac	123.24	27.33%
	1hs/2ac to 3hs/1ac	226.77	50.28%
	Total	**461.10**	

Source: Southern Wildfire Risk Assessment

Figure C.3 depicts the WUI for Wilson County, in which the Town of Black Creek is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure C.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Black Creek, less than one percent of the Town's acreage has a potential fire intensity rated 4 or higher. There are spots of relatively higher intensity along the Town's edges, especially on the southwest and the eastern borders. However, the entire town has a low burn probability. The areas of higher potential fire intensity that do overlap with some burn probability and are within the WUI, as much of the Town is, are of greatest risk.

Table G.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard.

Table G.11 – Critical Facilities Exposed to Wildfire, Town of Black Creek

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	4	$1,127,823
Food and Agriculture	Wildfire Hazard	16	$1,065,596
All Categories	**Wildfire Hazard**	**20**	**$2,193,419**

G.4 CAPABILITY ASSESSMENT

G.4.1 Floodplain Management

The Town of Black Creek joined the NFIP through emergency entry in April 2002 and has been a regular participant since November 2004. The following tables reflect NFIP policy and claims data for the City categorized by structure type, flood zone, and Pre-FIRM. There are no Post-FIRM policies in force in Black Creek.

Table G.12 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	3	$1,460	$476,000	--	--
Total	**3**	**$1,460**	**$476,000**	**0**	**$0.00**

Source: FEMA Community Information System, accessed March 2020

Table G.13 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$949	$98,000	--	--
B, C & X Zone					
Standard	0	$0	$0	--	--
Preferred	2	$511	$378,000	--	--
Total	**3**	**$1,460**	**$476,000**	**0**	**$0.00**

Source: FEMA Community Information System, accessed March 2020

Table G.14 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$949	$98,000	--	--
B, C & X Zone	2	$511	$378,000	--	--
Standard	0	$0	$0	--	--
Preferred	2	$511	$378,000	--	--
Total	**3**	**$1,460**	**$476,000**	**0**	**$0.00**

Source: FEMA Community Information System, accessed March 2020

G.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Conduct an internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	Moderate	Town Administration, Town Board	State, Federal, Grant funds, Local	2021	Carried Forward	No progress to report
Emergency Services									
ES-1	Encourage or Assist residents through information to sign up for County's emergency notifications	All Hazards	1.2	Moderate	Town Administration, Town Board	Local, State, Federal	2024	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA Hazard Mitigation related handouts & make available for residents at Town Hall and/or as inserts in Utility Bills	All Hazards	1.2	Moderate	Town Administration	Local	2023	Carried Forward	No progress to report

Annex H Town of Castalia

H.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Castalia.

Table H.1 – HMPC Members

Member Name	Title	Agency
James Alston	Board Member	Town of Castalia

H.2 COMMUNITY PROFILE

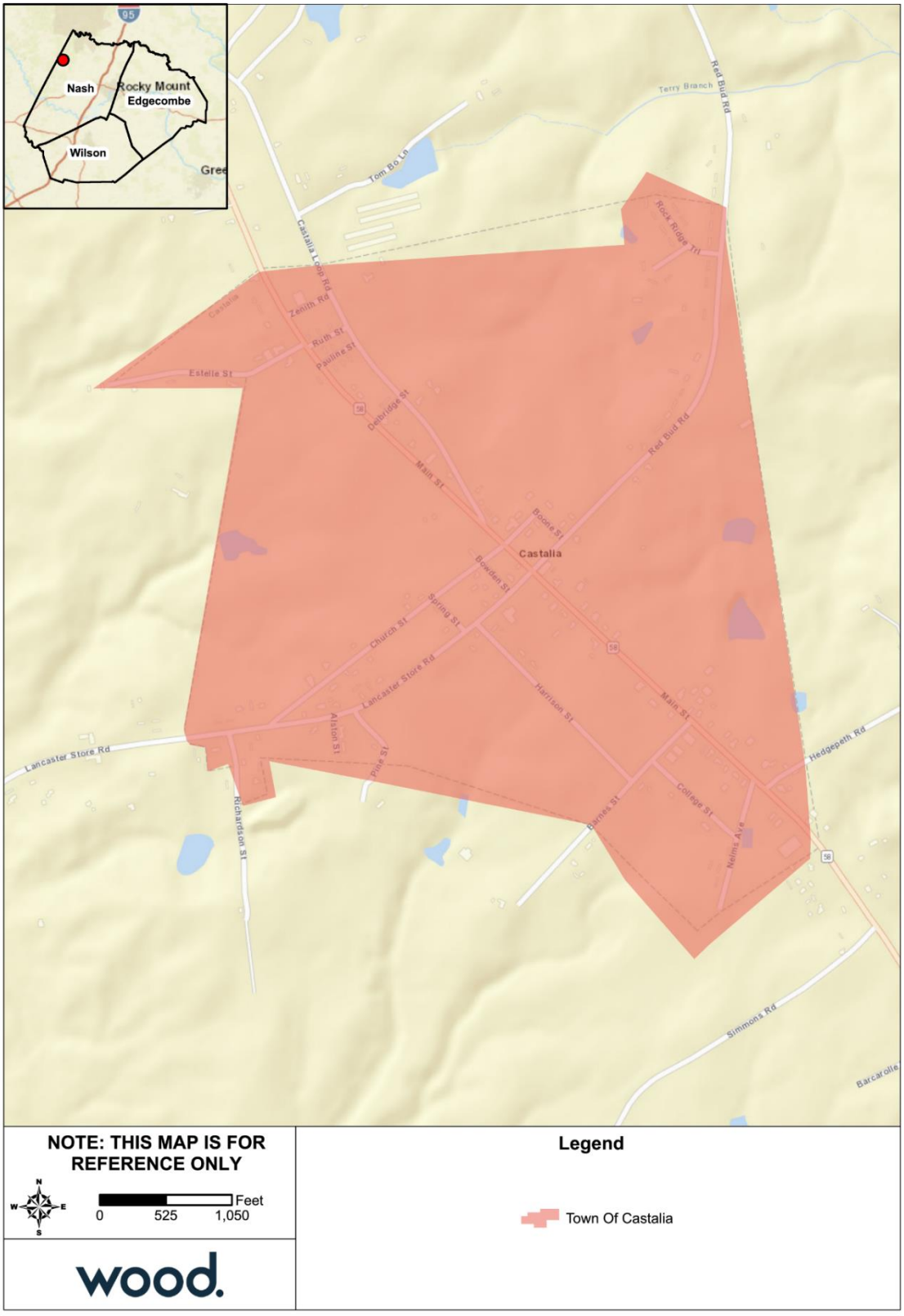
Geography

The Town of Castalia is located in northwestern Nash County. It sits along NC-58 to the northwest of the Town of Nashville. Castalia comprises a total land area of nearly 0.8 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 75 acres of wetlands in Castalia.

Figure H.1 shows a base map of the Town of Castalia.

Figure H.1 – Location, Town of Castalia



Population and Demographics

Table H.2 provides population counts and growth estimates for the Town of Castalia as compared to the region overall. Table H.3 provides demographic information for the Town as compared to the whole region.

Table H.2 – Population Counts, Castalia, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Castalia	340	268	418	150	55.97%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table H.3 – Racial Demographics, Castalia, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Castalia	42.6	56.7	0	0.7	0	0.7

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Castalia in order to estimate the total physical exposure to hazards in this area. There are no reported High Potential Loss Facilities in Castalia.

Table H.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Castalia	8	0	0	11	0	5	0	4	1	0	0	0	0	0	0	1	0	30

Source: NCEM Risk Management Tool

There is one listing on the National Register of Historic Places for the Town of Castalia. The site is listed in the table below.

Table H.5 – Historic Properties

Ref#	Property Name	Status Date	Category	City
100002597	Castalia School	6/22/2018	Building	Castalia

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The following table details key housing statistics for Castalia as compared to the region overall.

Table H.6 – Housing Statistics, Castalia, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Castalia	109	202	85.3	70.1	18.8	$61,800

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Castalia as compared to the region overall.

Table H.7 – Employment Statistics, Castalia, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Castalia	187	40.1	8.6	51.3	17.6

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table H.8 – Percent of Employed Population by Occupation, Castalia, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Castalia	18.2	16.9	26.6	9.7	28.6

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

H.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Castalia than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

H.3.1 Flood

Table H.9 details the acreage of the Town of Castalia's total area by flood zone on the effective DFIRM. Per this assessment, none of the Town falls within the mapped 1%-annual-chance floodplains.

Table H.9 – Flood Zone Acreage in Town of Castalia

Flood Zone	Acreage	Percent of Total (%)
Zone X Unshaded	481.69	100
Total	481.69	--

Source: FEMA Effective DFIRM

H.3.2 Wildfire

Table H.10 summarizes the acreage in the Town of Castalia 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. Just one percent of the Town of Castalia is not included in the WUI.

Table H.10 – Wildland Urban Interface Acreage, Town of Castalia

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*29.01*	*6.02%*
	LT 1hs/40ac	11.23	2.33%
	1hs/40ac to 1hs/20ac	18.38	3.82%
	1hs/20ac to 1hs/10ac	47.10	9.78%
	1hs/10ac to 1hs/5ac	79.60	16.52%
	1hs/5ac to 1hs/2ac	271.65	56.39%
	1hs/2ac to 3hs/1ac	24.73	5.13%
	Total	**481.72**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for the Town of Castalia. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Castalia, less than one-tenth of a percent of the Town's acreage has a potential fire intensity rated 4 or higher, however along the northwestern border, there is a spot of higher potential fire intensity. Still, burn probability is low throughout the Town. Risk is highest along the western border, where WUI overlaps with higher potential fire intensity and burn probability, although still low.

Table H.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard

Table H.11 – Critical Facilities Exposed to Wildfire, Town of Castalia

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	2	$3,187,791
Food and Agriculture	Wildfire Hazard	1	$44,630
All Categories	**Wildfire Hazard**	**3**	**$3,232,421**

H.4 CAPABILITY ASSESSMENT

H.4.1 Floodplain Management

The Town of Castalia joined the NFIP in March 2008 and has since been a regular participant. The Town's initial FIRM was put in place in March 2008, however the Town does not currently have any policies in force or past claims.

H.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2025	Carried Forward	Town currently has one committee representative.
Property Protection									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; provides final report to the governing board	All Hazards	3.3	Moderate	Public Works	Local	2023	Carried Forward	No progress to report
Natural Resource Protection									
NR-1	Implement Wellhead Protection Program	All Hazards	3.3	High	Town Board	Local	2020	Carried Forward	Ongoing effort; Town will identify needed program updates
Public Education & Awareness									
PEA-1	Outreach project on hazard mitigation strategy education	All Hazards	1.2	Moderate	Town Board, Town Clerk	Local	2020	Carried Forward	Expanding use of social media
PEA-2	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.1	Moderate	Town Clerk	FEMA, Local	2023	Carried Forward	No progress to report

Annex I Town of Conetoe

I.1 PLANNING PROCESS

The Town of Conetoe was represented by Edgecombe County throughout the planning process due to the Town's limited administrative capability.

I.2 COMMUNITY PROFILE

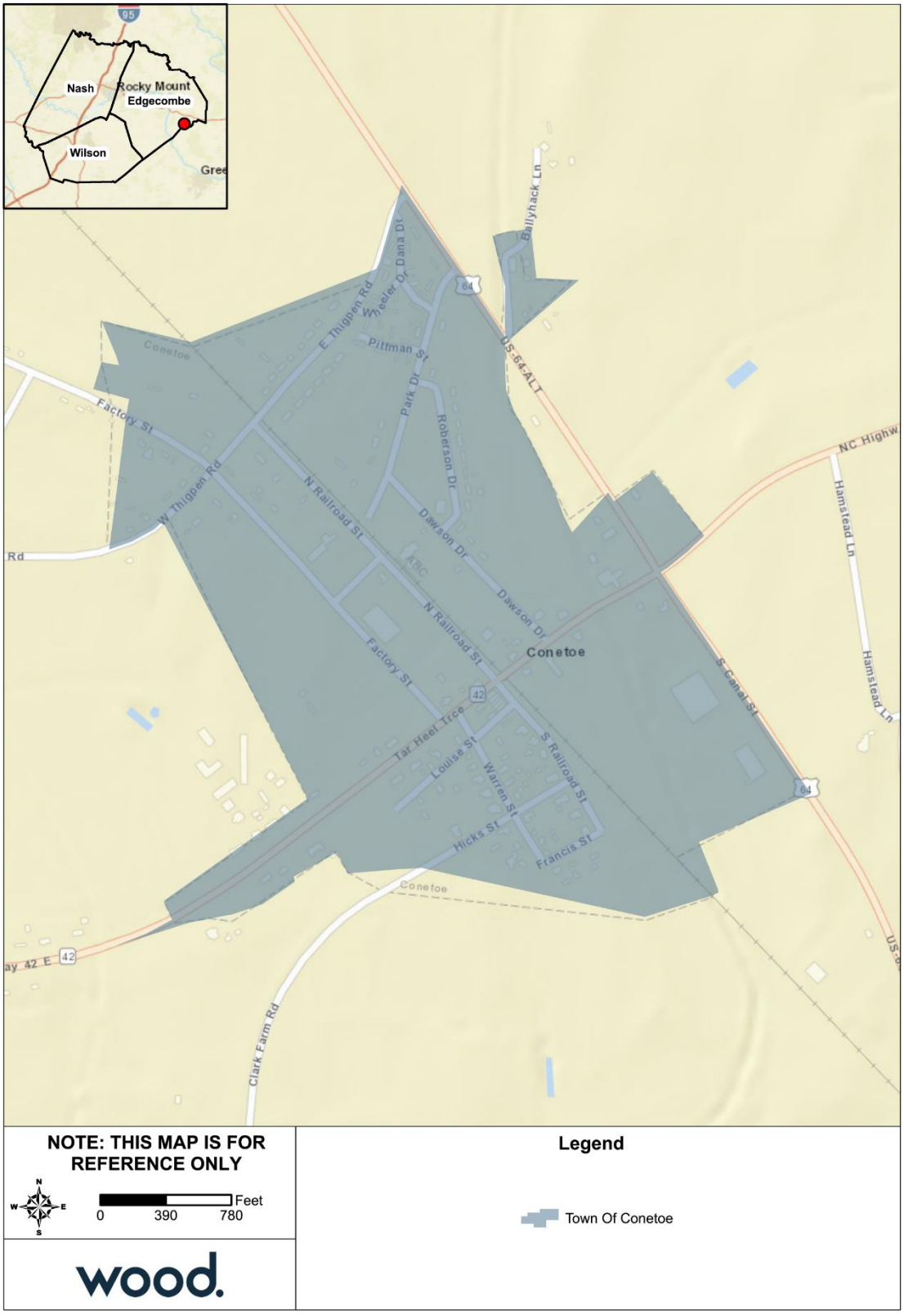
Geography

The Town of Conetoe is located in southeast Edgecombe County. The Town sits at the intersection of US-64 Alternate and NC-42. Conetoe comprises a total land area of 0.4 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 126 acres of wetlands in Conetoe.

Figure I.1 shows a base map of the Town of Conetoe.

Figure I.1 – Location, Town of Conetoe



Population and Demographics

Table I.1 provides population counts and growth estimates for Conetoe as compared to the region overall. Table I.2 provides demographic information for the Town as compared to the whole region.

Table I.1 – Population Counts, Conetoe, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Conetoe	365	294	294	0	0.00%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table I.2 – Racial Demographics, Conetoe, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Conetoe	34.4	58.5	0	6.1	1	6.1

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Conetoe in order to estimate the total physical exposure to hazards in this area. There are no reported High Potential Loss Facilities in Conetoe.

Table I.3 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Conetoe	4	0	0	15	0	2	0	3	0	0	0	0	0	8	0	0	0	32

Source: NCEM Risk Management Tool

There are two listings on the National Register of Historic Places for the Town of Conetoe. These sites are listed in the table below.

Table I.4 – Historic Properties

Ref#	Property Name	Status Date	Category	City
74001348	Wilkinson-Dozier House	10/23/1974	Building	Conetoe
90000791	Worsley--Burnette House	5/24/1990	Building	Conetoe

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The following table details key housing statistics for Conetoe as compared to the region overall.

Table I.5 – Housing Statistics, Conetoe, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Conetoe	198	167	-15.7	76.3	19.2	$62,700

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Conetoe as compared to the region overall.

Table I.6 – Employment Statistics, Conetoe, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Conetoe	130	48.6	3.2	48.2	6.2

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table I.7 – Percent of Employed Population by Occupation, Conetoe, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Conetoe	9.8	27.9	24.6	6.6	31.1

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

I.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Conetoe than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards in this section are: Flood and Wildfire.

I.3.1 Flood

Table I.8 details the acreage of the Town of Conetoe's total area by flood zone on the effective DFIRM. Per this assessment, just under 35 percent of the Town of Conetoe falls within the mapped 1%-annual-chance floodplains.

Table I.8 – Flood Zone Acreage in Town of Conetoe

Flood Zone	Acreage	Percent of Total (%)
Zone AE	79.71	34.64
Zone X (500-year)	28.23	12.27
Zone X Unshaded	122.14	53.08

Flood Zone	Acreage	Percent of Total (%)
Total	230.08	--

Source: FEMA Effective DFIRM

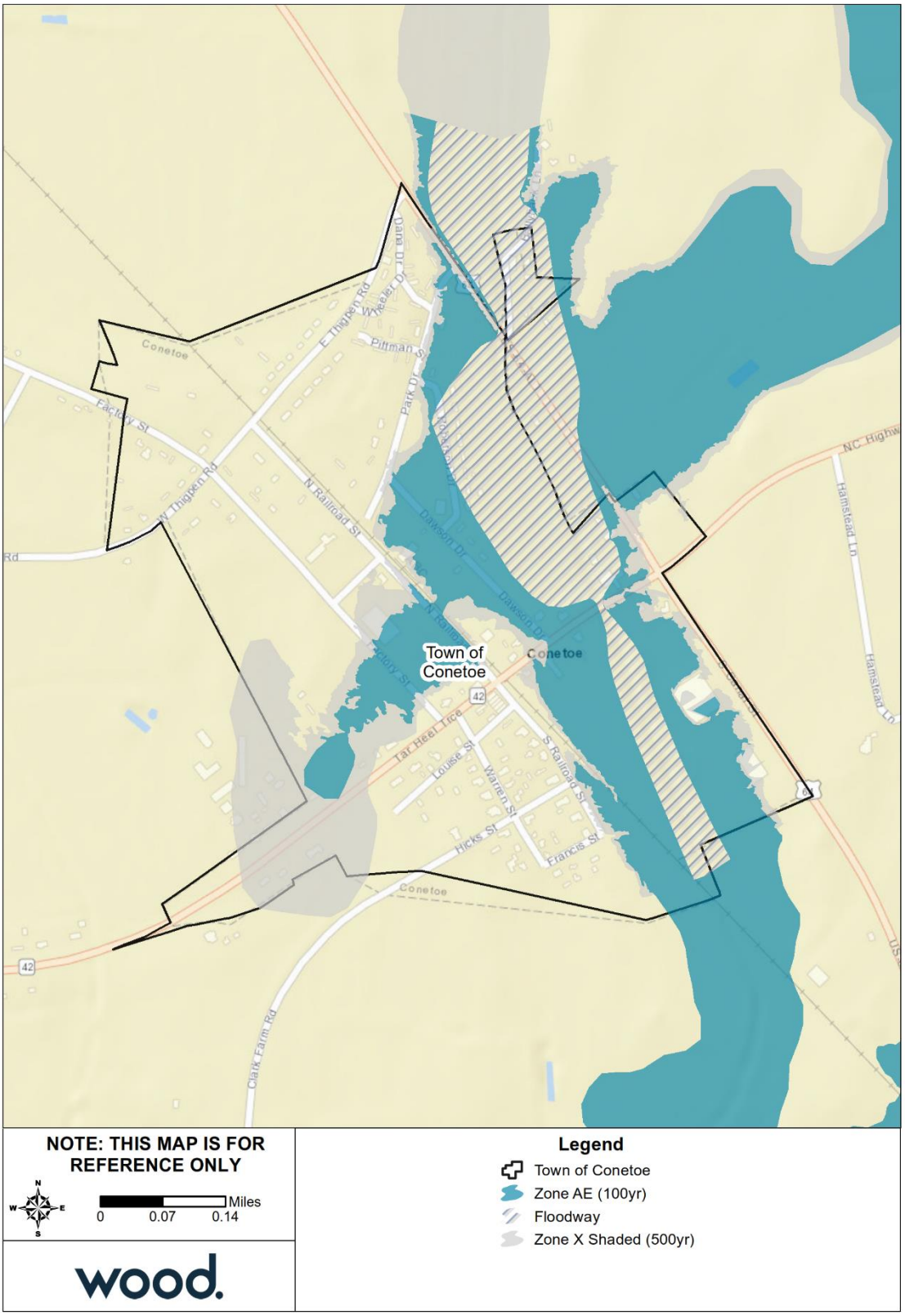
Figure I.2 reflects the effective mapped flood hazard zones for the Town of Conetoe, and Figure I.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table I.9 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Conetoe.

Table I.9 – Critical Facilities Exposed to Flooding, Town of Conetoe

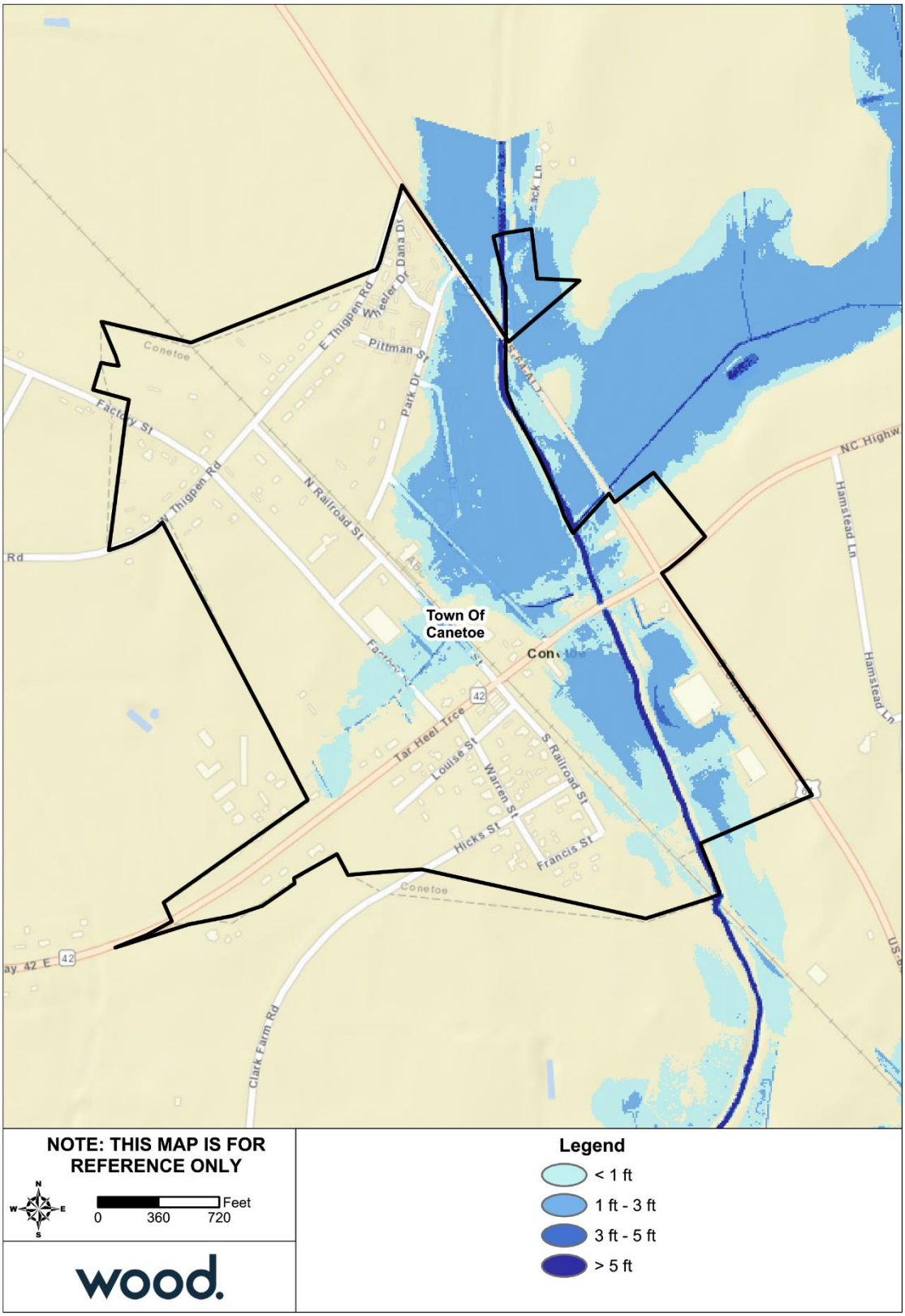
Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	100 Year	1	$3,250
	500 Year	1	$8,389
Food and Agriculture	100 Year	1	$2,621
	500 Year	1	$4,486
Transportation Systems	500 Year	1	$382
All Categories	**100 Year**	**2**	**$5,871**
	500 Year	**3**	**$13,257**

Figure I.2 – FEMA Flood Hazard Areas, Town of Conetoe



Source: FEMA Effective DFIRM

Figure I.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Conetoe



Source: FEMA Effective DFIRM

I.3.2 Wildfire

Table I.10 summarizes the acreage in the Town of Conetoe 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. Only about one percent of the Town of Conetoe is not included in the WUI.

Table I.10 – Wildland Urban Interface Acreage, Town of Conetoe

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*2.89*	*1.25%*
	LT 1hs/40ac	2.45	1.06%
	1hs/40ac to 1hs/20ac	0.00	0.00%
	1hs/20ac to 1hs/10ac	2.89	1.25%
	1hs/10ac to 1hs/5ac	15.12	6.54%
	1hs/5ac to 1hs/2ac	129.64	56.06%
	1hs/2ac to 3hs/1ac	78.27	33.85%
	Total	**231.26**	

Source: Southern Wildfire Risk Assessment

Figure B.3 depicts the WUI for the Edgecombe County, in which the Town of Conetoe is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Conetoe, approximately 100 percent of the Town's acreage has a potential fire intensity below 4. It is relatively highest in the southwest and northwest; however, there is no burn probability is low across the town. While most of the town is within the WUI, meaning there is potentially development at risk, the combination of relatively low fire intensity and no burn probability equates to less risk.

Table I.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard.

Table I.11 – Critical Facilities Exposed to Wildfire, Town of Conetoe

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	4	$2,414,169
Critical Manufacturing	Wildfire Hazard	1	$97,763
Transportation Systems	Wildfire Hazard	1	$65,856
All Categories	**Wildfire Hazard**	**6**	**$2,577,788**

I.4 CAPABILITY ASSESSMENT

I.4.1 Floodplain Management

The Town of Conetoe joined the NFIP through emergency entry in February 2000 and has been a regular participant since April 2000. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table I.12 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	6	$2,240	$1,086,500	1	$9,358.58
Non-Residential	1	$360	$50,000	1	$90,445.06
Total	7	$2,600	$1,136,500	2	$99,803.64

Source: FEMA Community Information System, accessed March 2020

Table I.13 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$704	$106,500	1	$90,445.06
B, C & X Zone					
Standard	0	$0	$0	0	$0.00
Preferred	6	$1,896	$1,030,000	1	$9,358.58
Total	7	$2,600	$1,136,500	2	$99,803.64

Source: FEMA Community Information System, accessed March 2020

Table I.14 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone	4	$1,222	$505,000	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	4	$1,222	$505,000	0	$0.00
Total	4	$1,222	$505,000	0	$0.00

Source: FEMA Community Information System, accessed March 2020

Table I.15 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$704	$106,500	1	$90,445.06
B, C & X Zone	2	$674	$525,000	1	$9,358.58
Standard	0	$0	$0	0	$0.00
Preferred	2	$674	$525,000	1	$9,358.58
Total	3	$1,378	$631,500	2	$99,803.64

Source: FEMA Community Information System, accessed March 2020

I.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Drought Respond Program (providing steps to help alleviate the effects of a drought on the agriculture community)	Drought	3.3	Moderate	Edgecombe County EM, Town Soil & Water Conservation	Local	2022	Carried Forward	No progress to report
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities (structural)	All Hazards	3.3	High	Edgecombe County EM, Town Administration	Local, State, Federal, Grants	2021	Carried Forward	Looking for funding
Emergency Services									
ES-1	Encourage or assist residents through information to sign up for the county's emergency warning notification system	All Hazards	1.2	Moderate	Edgecombe County EM, Town Administration	Local, State, Federal	Town Administration, Mayor	Carried Forward	Still add new people as they move in.
Public Education & Awareness									
PEA-3	Obtain FEMA and/or other handouts on multiple hazards & make available for residents at Town Hall	All Hazards	1.1	Moderate	Edgecombe County EM, Town Board	FEMA, Local	2023	Carried Forward	Ongoing with new info

Annex J Town of Dortches

J.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Dortches.

Table J.1 – HMPC Members

Member Name	Title	Agency
Gerald Batts	Town Administrator	Town of Dortches
Thomas Bottoms	Citizen of Dortches/Retired Fire Inspector	N/A

J.2 COMMUNITY PROFILE

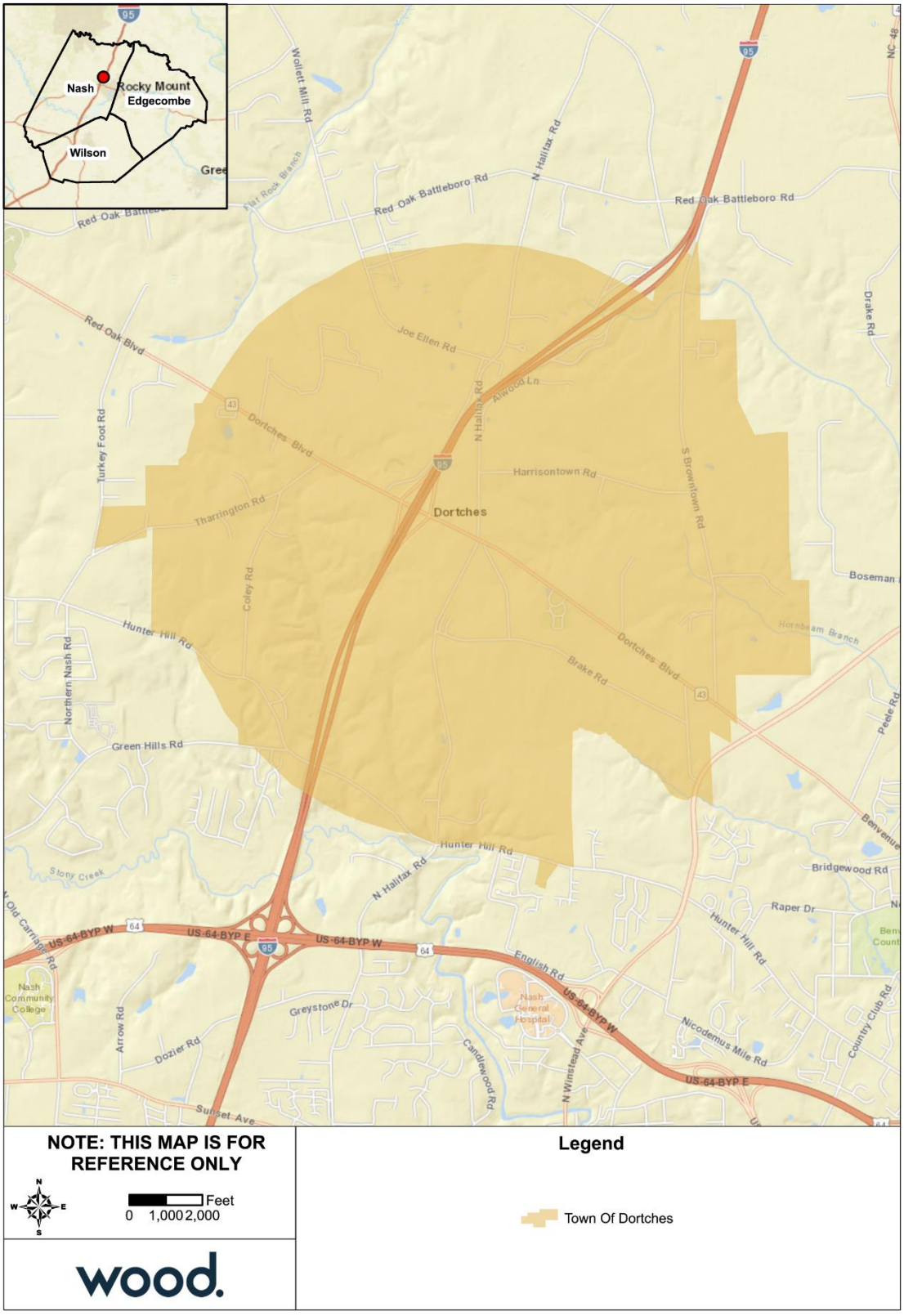
Geography

The Town of Dortches is located in eastern Nash County. It is neighbored by Rocky Mount to the southeast and Red Oak to the northwest. Dortches comprises a total land area of 8.1 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 330 acres of wetlands in Dortches.

Figure J.1 shows a base map of the Town of Dortches.

Figure J.1 – Location, Town of Dortches



Population and Demographics

Table J.2 provides population counts and growth estimates for the Town of Dortches as compared to the region overall. Table J.3 provides demographic information for the Town as compared to the whole region.

Table J.2 – Population Counts, Dortches, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Dortches	809	935	1,085	150	16.04%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table J.3 – Racial Demographics, Dortches, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Dortches	67.8	30	0.6	0	1.6	1.3

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Dortches in order to estimate the total physical exposure to hazards in this area.

Table J.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Dortches	64	1	0	21	0	22	0	0	0	0	0	0	0	2	0	1	0	111

Source: NCEM Risk Management Tool

Table J.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Dortches	0	1	0	0	0	0	0	1

Source: NCEM Risk Management Tool

There is one listing on the National Register of Historic Places for the Town of Dortches. The site is listed in the table below.

Table J.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
72000979	Dortch House	12/26/1972	Building	Dortches

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The following table details key housing statistics for Dortches as compared to the region overall.

Table J.7 – Housing Statistics, Dortches, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Dortches	372	495	33.1	81.1	18.8	$183,300

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Dortches as compared to the region overall.

Table J.8 – Employment Statistics, Dortches, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Dortches	472	54.4	2.5	42.6	4.4

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table J.9 – Percent of Employed Population by Occupation, Dortches, 2016

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Dortches	35.9	13.5	27.7	8.6	14.2

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

J.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Dortches than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

J.3.1 Flood

Table J.10 details the acreage of the Town of Dortches' total area by flood zone on the effective DFIRM. Per this assessment, 1.5 percent of the Town falls within the mapped 1%-annual-chance floodplains.

Table J.10 – Flood Zone Acreage in Town of Dortches

Flood Zone	Acreage	Percent of Total (%)
Zone AE	78.16	1.51
Zone X (500-year)	8.38	0.16
Zone X Unshaded	5,089.84	98.33
Total	5,176.38	--

Source: FEMA Effective DFIRM

Figure J.2 reflects the effective mapped flood hazard zones for the Town of Dortches, and Figure J.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table J.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Dortches.

Table J.11 – Critical Facilities Exposed to Flooding, Town of Dortches

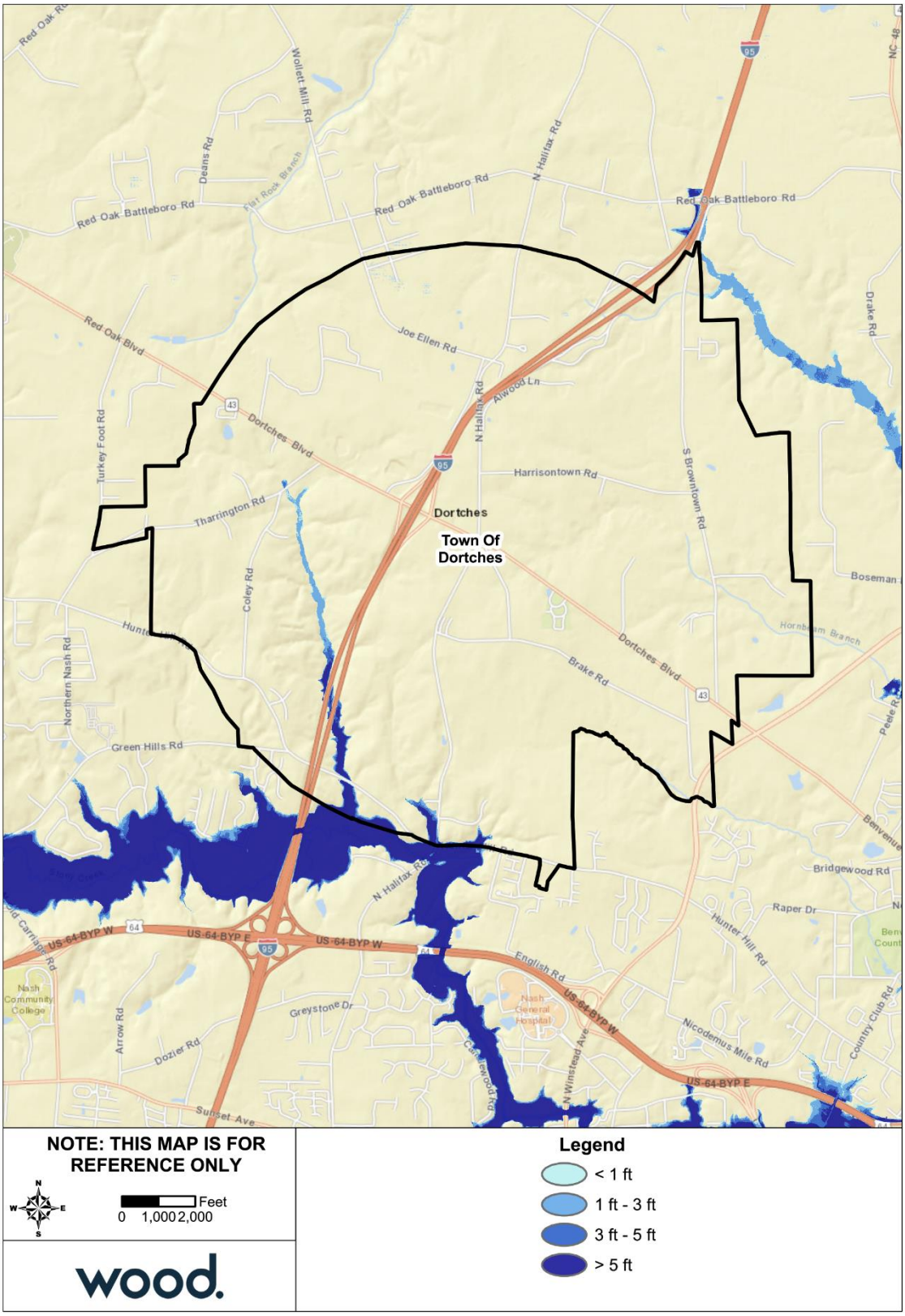
Sector	Event	Number of Buildings at Risk	Estimated Damages
Food and Agriculture	100 Year	1	$5,918
	500 Year	1	$12,601
All Categories	**100 Year**	**1**	**$5,918**
	500 Year	**1**	**$12,601**

Figure J.2 – FEMA Flood Hazard Areas, Town of Dortches



Source: FEMA Effective DFIRM

Figure J.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Dortches



Source: FEMA Effective DFIRM

J.3.2 Wildfire

Table J.12 summarizes the acreage in the Town of Dortches 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 18 percent of the Town of Dortches is not included in the WUI.

Table J.12 – Wildland Urban Interface Acreage, Town of Dortches

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*1,962.59*	*18.33%*
	LT 1hs/40ac	1,209.16	11.30%
	1hs/40ac to 1hs/20ac	705.97	6.60%
	1hs/20ac to 1hs/10ac	989.60	9.24%
	1hs/10ac to 1hs/5ac	603.34	5.64%
	1hs/5ac to 1hs/2ac	693.68	6.48%
	1hs/2ac to 3hs/1ac	4,540.09	42.41%
	Total	**10,704.44**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for Nash County, in Which the Town of Dortches is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Dortches, approximately 7 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in northeast and southeast Dortches along the Town's borders. These areas, however, have lower burn probability and/or are largely outside of the WUI, meaning little to no development is at risk. The area of greatest risk in the Town is along the northeastern border of the Town, where potential fire intensity overlaps with relatively higher burn probability and is within the WUI.

Table J.13 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard.

Table J.13 – Critical Facilities Exposed to Wildfire, Town of Dortches

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	11	$9,900,604
Critical Manufacturing	Wildfire Hazard	15	$4,538,706
Emergency Services	Wildfire Hazard	1	$656,959
Food and Agriculture	Wildfire Hazard	31	$2,222,677
Transportation Systems	Wildfire Hazard	2	$759,196
All Categories	**Wildfire Hazard**	**60**	**$18,078,142**

J.4 CAPABILITY ASSESSMENT

J.4.1 Floodplain Management

The Town of Dortches joined the NFIP as a regular participant in December 2005. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table J.14 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	1	$421	$350,000	--	--
Total	1	$421	$350,000	0	$0.00

Source: FEMA Community Information System, accessed March 2020

Table J.15 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone					
Standard	0	$0	$0	--	--
Preferred	1	$421	$350,000	--	--
Total	1	$421	$350,000	0	$0.00

Source: FEMA Community Information System, accessed March 2020

Table J.16 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone	1	$421	$350,000	--	--
Standard	0	$0	$0	--	--
Preferred	1	$421	$350,000	--	--
Total	1	$421	$350,000	0	$0.00

Source: FEMA Community Information System, accessed March 2020

J.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; provides final report to the governing board	All Hazards	3.3	Moderate	Town Administrator	Operating Budget	2023	Carry Forward	Implementation is in-progress and ongoing
PP-2	Obtain a generator to provide emergency backup power for our emergency shelter	All Hazards	3.3	High	Town Administrator and Board of Commissioners	State/Federal grants funds	2022	New	
Public Education & Awareness									
PEA-1	Create a Hazard Mitigation Web Page on the Dortches Web Site	All Hazards	1.1	High	Town Administrator	Operating Budget	2024	New	

Annex K Town of Elm City

K.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Elm City.

Table K.1 – HMPC Members

Member Name	Title	Agency
Deana Owens	Interim Town Administrator	Town of Elm City

K.2 COMMUNITY PROFILE

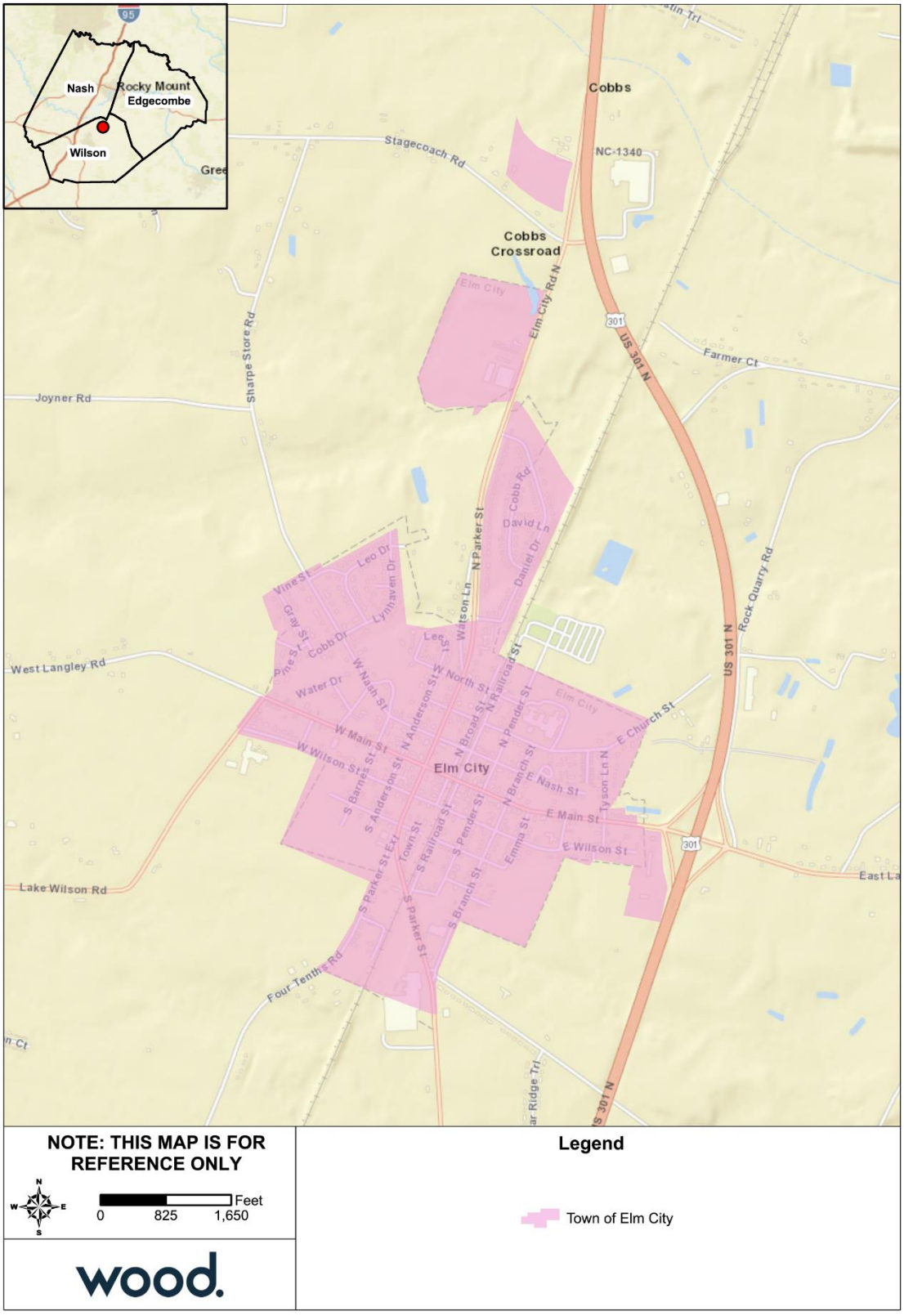
Geography

The Town of Elm City is located in northern Wilson County at the border with Nash County. It is neighbored by Sharpsburg to the north and Wilson to the south. Elm City comprises a total land area of 0.77 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 106.61 acres of wetlands in Elm City.

Figure K.1 shows a base map of the Town of Elm City.

Figure K.1 – Location, Town of Elm City



Population and Demographics

Table K.2 provides population counts and growth estimates for the Town of Elm City as compared to the region overall. Table K.3 provides demographic information for the Town compared to the region.

Table K.2 – Population Counts, Elm City, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Elm City	1,165	1,298	1,360	62	4.78%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table K.3 – Racial Demographics, Elm City, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Elm City*	33.8	53.2	1.4	5.9	5.7	7.8

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Elm City in order to estimate the total physical exposure to hazards in this area.

Table K.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Elm City	22	0	0	94	0	17	0	9	4	0	0	0	0	3	0	2	0	151

Source: NCEM Risk Management Tool

Table K.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Elm City	0	4	4	4	1	1	0	14

Source: NCEM Risk Management Tool

There are three listings on the National Register of Historic Places for the Town of Elm City, including one historic district. These sites are listed in the table below.

Table K.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
86000763	Langley, W. H., House	2/13/1986	Building	Elm City
86000769	Webb--Barron--Wells House	2/13/1986	Building	Elm City
86000770	Elm City Municipal Historic District	2/13/1986	District	Elm City

Source: National Parks Service, National Register of Historic Places, April 2020

Housing

The table below details key housing statistics for Elm City as compared to the region overall.

Table K.7 – Housing Statistics, Elm City, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Elm City	641	589	-8.1	54.3	11.5	$83,400

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Elm City as compared to the region overall.

Table K.8 – Employment Statistics, Elm City, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Elm City	556	42.4	9.3	48.3	18

Source: U.S. Census Bureau, American Community Survey 2014-2018 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table K.9 – Percent of Employed Population by Occupation, Elm City, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Elm City	27.9	29.4	19.1	7	16.7

Source: U.S. Census Bureau, American Community Survey 2014-2018 5-Year Estimates

K.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Elm City than for the region overall. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

K.3.1 Flood

Table K.10 details the acreage of the Town of Elm City's total area by flood zone on the effective DFIRM. Per this assessment, 3.3 percent of the Town falls within the mapped 1%-annual-chance floodplains.

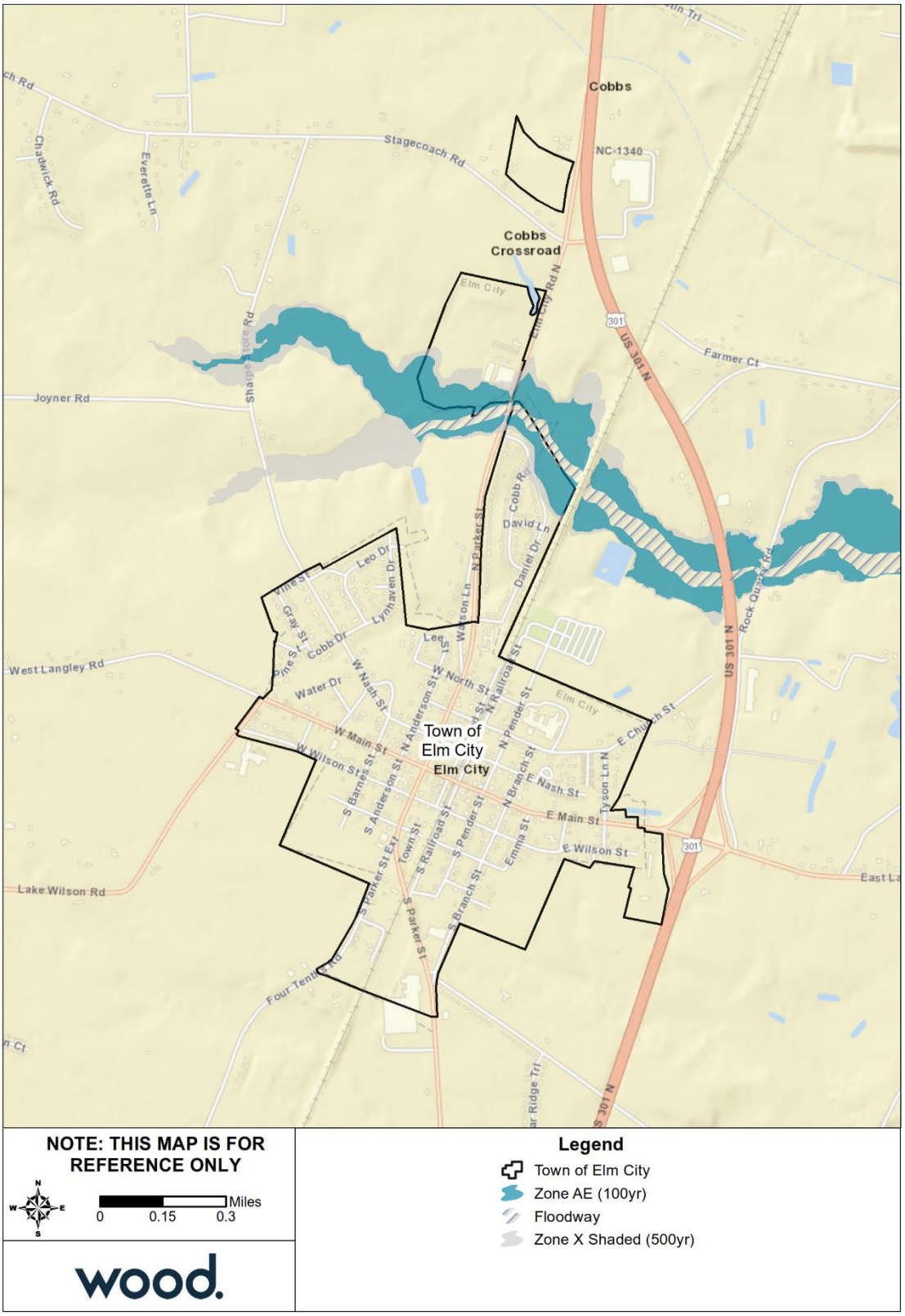
Table K.10 – Flood Zone Acreage in Town of Elm City

Flood Zone	Acreage	Percent of Total (%)
Zone AE	16.29	3.29
Zone X (500-year)	6.68	1.35
Zone X Unshaded	472.33	95.36
Total	495.29	--

Source: FEMA Effective DFIRM

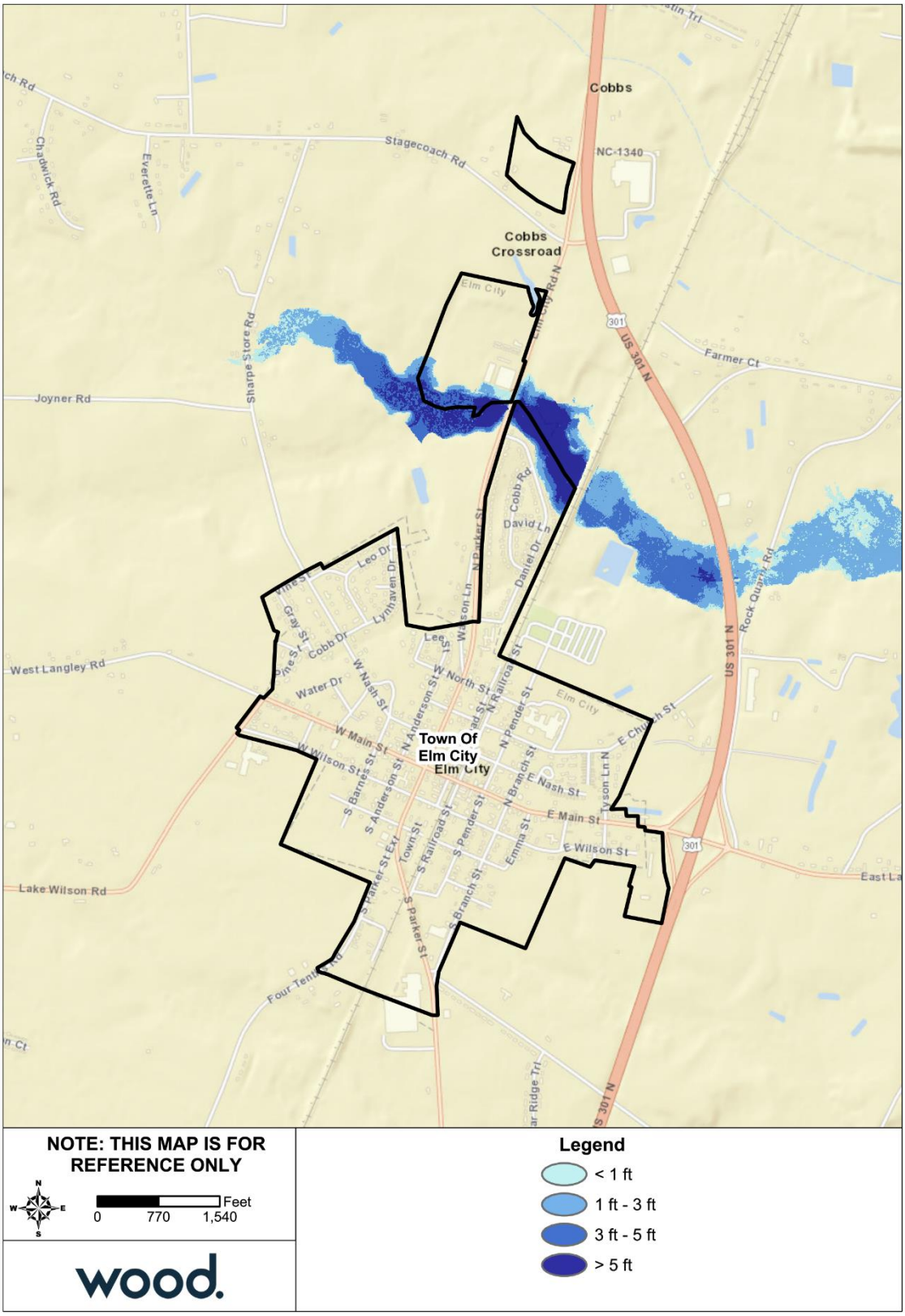
Figure K.2 reflects the effective mapped flood hazard zones for the Town of Elm City, and Figure K.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Figure K.2 – FEMA Flood Hazard Areas, Town of Elm City



Source: FEMA Effective DFIRM

Figure K.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Elm City



Source: FEMA Effective DFIRM

K.3.2 Wildfire

Table K.9 summarizes the acreage in the Town of Elm City 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 9 percent of the Town of Elm City is not included in the WUI.

Table K.11 – Wildland Urban Interface Acreage, Town of Elm City

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*48.07*	*9.36%*
	LT 1hs/40ac	10.82	2.11%
	1hs/40ac to 1hs/20ac	2.12	0.41%
	1hs/20ac to 1hs/10ac	3.55	0.69%
	1hs/10ac to 1hs/5ac	34.61	6.74%
	1hs/5ac to 1hs/2ac	51.12	9.95%
	1hs/2ac to 3hs/1ac	363.40	70.74%
	Total	**513.69**	--

Source: Southern Wildfire Risk Assessment

Figure C.3 depicts the WUI for Wilson County, in which the Town of Elm City is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure C.4depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Elm City, approximately 3 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in north and west Elm City; however, these areas have lower burn probability and/or are largely outside of the WUI, meaning little to no development is at risk. The area of greatest risk in the Town is in the west where WUI overlays with low burn probability and high fire intensity levels.

Table K.12 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard.

Table K.12 – Critical Facilities Exposed to Wildfire, Town of Elm City

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	22	$15,684,112
Critical Manufacturing	Wildfire Hazard	7	$22,807,378
Food and Agriculture	Wildfire Hazard	1	$91,428
Government Facilities	Wildfire Hazard	2	$5,710,633
Transportation Systems	Wildfire Hazard	1	$624,809
All Categories	**Wildfire Hazard**	**33**	**$44,918,360**

Table K.13 – High Potential Loss Properties Exposed to Wildfire, Town of Elm City

Category	Event	Number of Buildings at Risk	Estimated Damages
Commercial	Wildfire Hazard	2	$8,214,365
Government	Wildfire Hazard	1	$4,988,234
Industrial	Wildfire Hazard	2	$21,756,236
Religious	Wildfire Hazard	1	$1,094,888
All Categories	**Wildfire Hazard**	**6**	**$36,053,723**

K.4 CAPABILITY ASSESSMENT

K.4.1 Floodplain Management

The Town of Elm City joined the NFIP through emergency entry in October 1999 and has been a regular participant since November 2004. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table K.14 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	8	$4,865	$1,545,000	1	$7,360.93
Total	8	$4,865	$1,545,000	1	$7,360.93

Source: FEMA Community Information System, accessed March 2020

Table K.15 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	3	$2,533	$420,200	0	$0.00
B, C & X Zone					
Standard	1	$970	$109,800	1	$7,360.93
Preferred	4	$1,362	$1,015,000	0	$0.00
Total	8	$4,865	$1,545,000	1	$7,360.93

Source: FEMA Community Information System, accessed March 2020

Table K.16 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	3	$2,533	$420,200	0	$0.00
B, C & X Zone	5	$2,332	$1,124,800	1	$7,360.93
Standard	1	$970	$109,800	1	$7,360.93
Preferred	4	$1,362	$1,015,000	0	$0.00
Total	8	$4,865	$1,545,000	1	$7,360.93

Source: FEMA Community Information System, accessed March 2020

K.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Continue to pursue funding in order to assist in mitigating all hazards	All Hazards	3.3	Moderate	Town Administration, Town Board, Public Utilities, Town Clerk	Local, State, Federal	2024	Carried Forward	The Town will pursue mitigation of repetitive loss if repetitive losses are identified in the Town
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power to critical town facilities (generator for town hall)	All Hazards	3.3	Moderate	Town Administration, Town Board	State, Federal, Grant funds, Local	2021	Carried Forward	No progress to report
Emergency Services									
ES-1	Encourage or assist residents through information to sign up for County's emergency warning notification system	All Hazards	1.2	Moderate	Town Administration, Town Board	Local, State, Federal	Ongoing	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Work in conjunction with Wilson County to produce and maintain digital maps	All Hazards	3.3	Moderate	Wilson County	County	Ongoing	Carried Forward	Maps will be updated with Council of Government or County support
PEA-2	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Administration	Local	2023	Carried Forward	No progress to report

Annex L Town of Leggett

L.1 PLANNING PROCESS

The Town of Leggett was represented by Edgecombe County throughout the planning process due to the Town's limited administrative capability.

L.2 COMMUNITY PROFILE

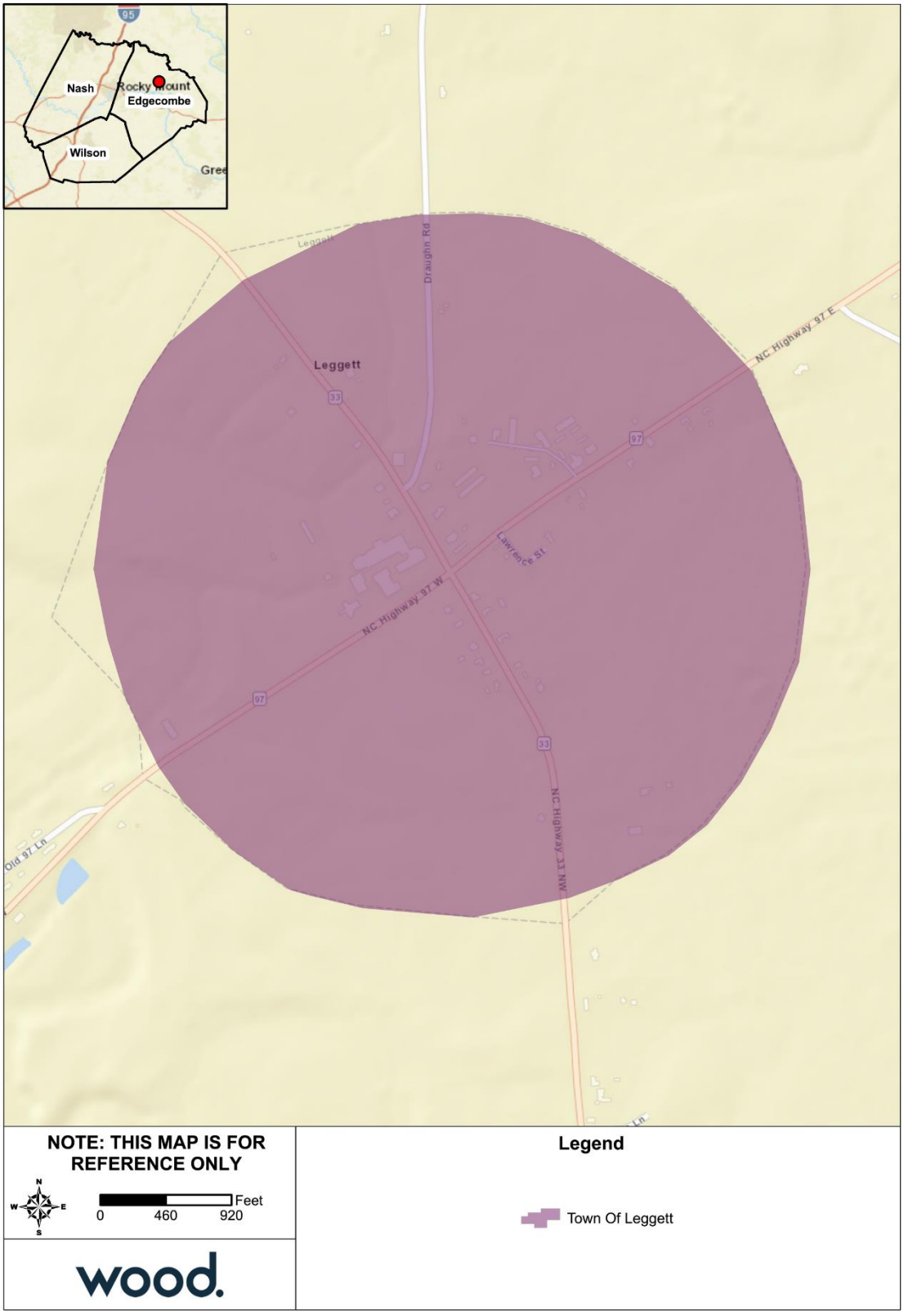
Geography

The Town of Leggett is located in northern Edgecombe County, to the northwest of Tarboro. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Leggett comprises a total land area of 0.7 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 35.4 acres of wetlands in Leggett.

Figure L.1 shows a base map of the Town of Leggett

Figure L.1 – Location, Town of Leggett



Population and Demographics

Table L.1 provides population counts and growth estimates for the Town of Leggett as compared to the region overall. Table L.2 provides demographic information for the Town as compared to the region.

Table L.1 – Population Counts, Town of Leggett, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2017 ACS Population Estimate	Total Change 2010-2017	% Change 2010-2017
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Leggett	77	60	42	-18	-30.00%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table L.2 – Racial Demographics, Town of Leggett, 2016

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Leggett	47.6	52.4	0	0	0	0

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Leggett in order to estimate the total physical exposure to hazards in this area.

Table L.3 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Leggett	42	0	0	10	0	1	0	5	0	0	0	0	0	2	0	0	0	60

Source: NCEM Risk Management Tool

Table L.4 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Other	Total
Town of Leggett	0	0	0	3	0	0	0	3	0

Source: NCEM Risk Management Tool

There are three listings on the National Register of Historic Places for the Town of Leggett, all of which are buildings. These sites are listed in the table below.

Table L.5 – Historic Properties

Ref#	Property Name	Status Date	Category	City
74001347	Mount Prospect	11/20/1974	Building	Leggett
82003451	Cedar Lane	4/15/1982	Building	Leggett
14000518	Savage, William and Susan, House	8/25/2014	Building	Leggett
74001347	Mount Prospect	11/20/1974	Building	Leggett
82003451	Cedar Lane	4/15/1982	Building	Leggett
14000518	Savage, William and Susan, House	8/25/2014	Building	Leggett

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Leggett as compared to the region overall.

Table L.6 – Housing Statistics, Leggett, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2016)	Housing Units Percent Change (2010-2016)	Owner-Occupied, % (2016)	Vacant Units, % (2016)	Median Home Value (2016)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Leggett	93	33	-64.5	63.6	33.3	$74,000

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Leggett as compared to the region overall.

Table L.7 – Employment Statistics, Leggett, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Leggett	533	54.2	5.9	40	9.8

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table L.8 – Percent of Employed Population by Occupation, Leggett, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Leggett	23.1	23.1	23.1	0	30.8

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

L.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Leggett than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

L.3.1 Flood

Table L.9 details the acreage of the Town of Leggett's total area by flood zone on the effective DFIRM. Per this assessment, 10.1 percent of the area in the Town falls within the mapped 1%-annual-chance floodplains.

Table L.9 – Flood Zone Acreage in Town of Leggett

Flood Zone	Acreage	Percent of Total (%)
Zone AE	45.19	10.11
Zone X (500-year)	2.87	0.64
Zone X Unshaded	399.04	89.25
Total	447.10	--

Source: FEMA Effective DFIRM

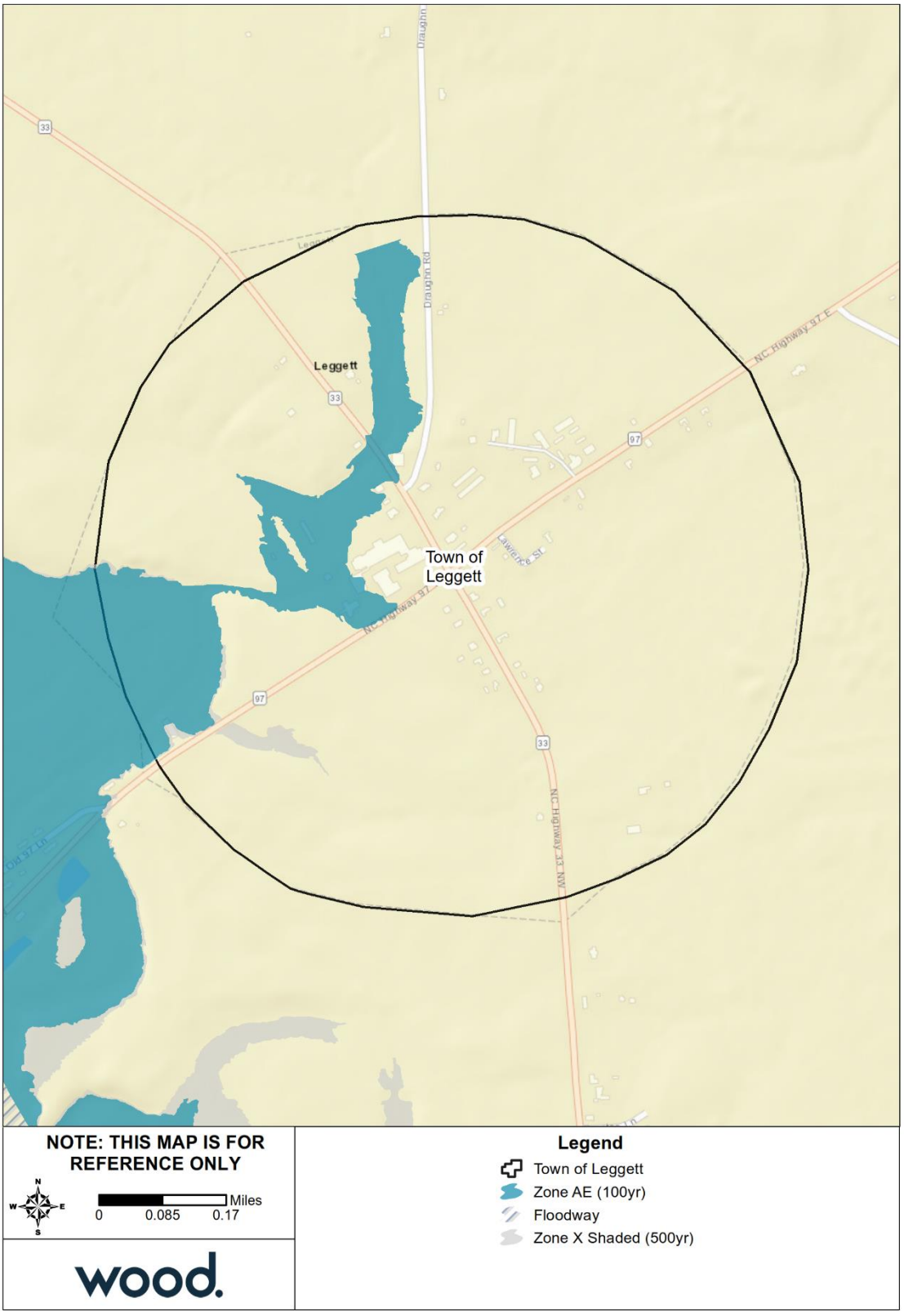
Figure L.2 reflects the effective mapped flood hazard zones for the Town of Leggett, and Figure L.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table L.10 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Leggett.

Table L.10 – Critical Facilities Exposed to Flooding, Town of Leggett

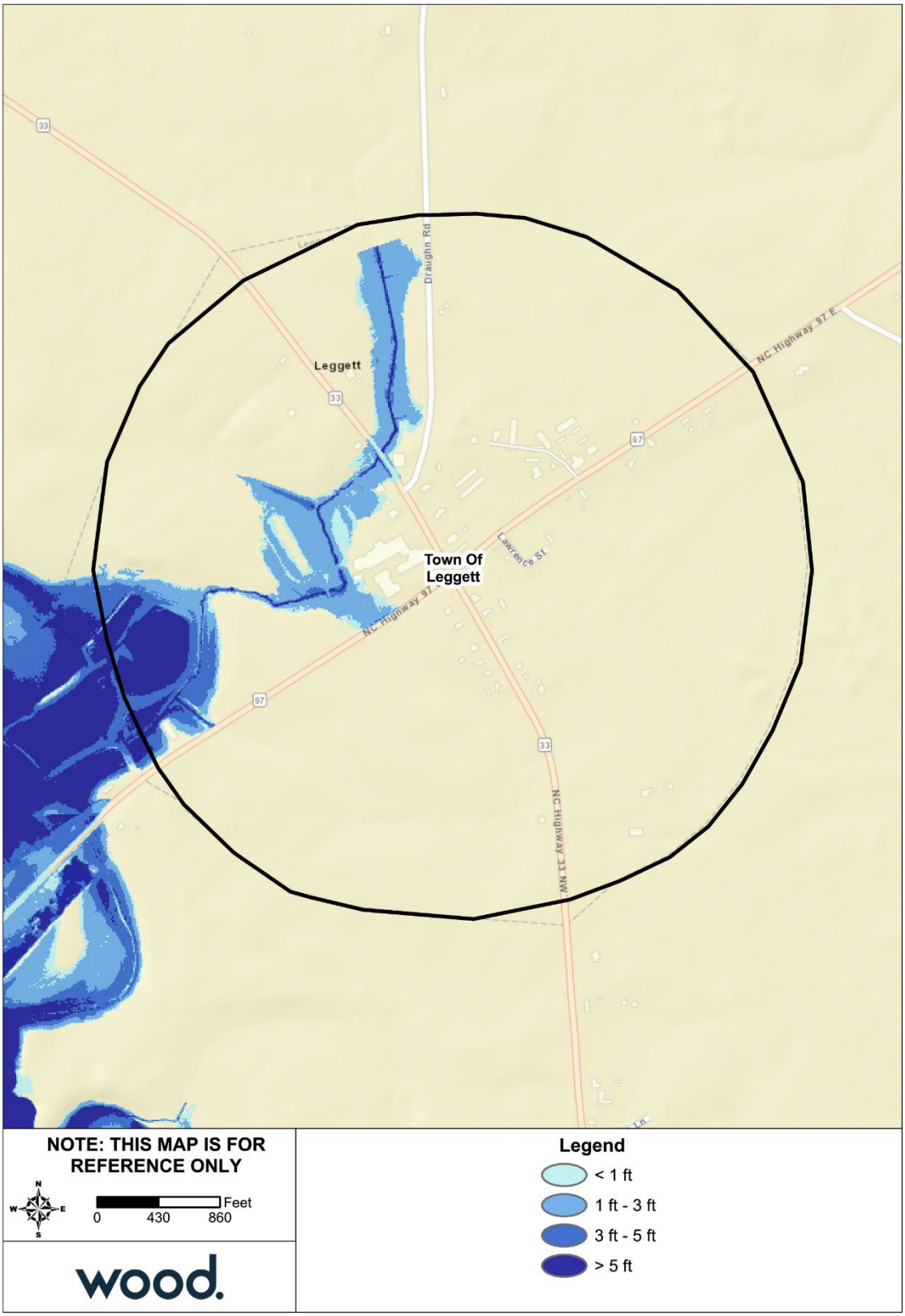
Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	100 Year	1	$7,125
	500 Year	1	$18,526
All Categories	**100 Year**	**1**	**$7,125**
	500 Year	**1**	**$18,526**

Figure L.2 – FEMA Flood Hazard Areas, Town of Leggett



Source: FEMA Effective DFIRM

Figure L.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Leggett



Source: FEMA Effective DFIRM

L.3.2 Wildfire

Table L.11 summarizes the acreage in the Town of Leggett 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 86 percent of the Town of Leggett is not included in the WUI.

Table L.11 – Wildland Urban Interface Acreage, Town of Leggett

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*2,370.54*	*86.25%*
	LT 1hs/40ac	168.15	6.12%
	1hs/40ac to 1hs/20ac	56.78	2.07%
	1hs/20ac to 1hs/10ac	67.80	2.47%
	1hs/10ac to 1hs/5ac	34.35	1.25%
	1hs/5ac to 1hs/2ac	50.93	1.85%
	Total	**2,748.55**	

Source: Southern Wildfire Risk Assessment

Figure B.3 depicts the WUI for Edgecombe County, in which the Town of Leggett is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Leggett, approximately 5 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest along the eastern and western borders in the Town of Leggett; however, these area areas have lower burn probability and/or are largely outside of the WUI, meaning little to no development is at risk.

Table L.12 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table L.13 provides building counts and estimated damages for High Potential Loss Properties at risk to wildfire hazard.

Table L.12 – Critical Facilities Exposed to Wildfire, Town of Leggett

Sector	Event	Number of Buildings at Risk	Estimated Damages
Food and Agriculture	Wildfire Hazard	4	$369,985
Government Facilities	Wildfire Hazard	1	$4,255,661
All Categories	**Wildfire Hazard**	**5**	**$4,625,646**

Table L.13 – High Potential Loss Properties Exposed to Wildfire, Town of Leggett

Category	Event	Number of Buildings at Risk	Estimated Damages
Government	Wildfire Hazard	1	$4,255,661
All Categories	**Wildfire Hazard**	**1**	**$4,255,661**

L.4 CAPABILITY ASSESSMENT

L.4.1 Floodplain Management

The Town of Leggett joined the NFIP through emergency entry in March 1997 and has been a regular participant since December 1999. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table L.14 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	4	$1,896	$813,000	1	$518.32
Total	**4**	**$1,896**	**$813,000**	**1**	**$518.32**

Source: FEMA Community Information System, accessed March 2020

Table L.15 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$986	$85,000	0	$0.00
B, C & X Zone					
Standard	0	$0	$0	0	$0.00
Preferred	3	$910	$728,000	0	$0.00
Total	4	$1,896	$813,000	0	$0.00

Source: FEMA Community Information System, accessed March 2020

Table L.16 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$986	$85,000	0	$0.00
B, C & X Zone	3	$910	$728,000	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	3	$910	$728,000	0	$0.00
Total	4	$1,896	$813,000	0	$0.00

Source: FEMA Community Information System, accessed March 2020

L.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	NC Building codes to regulate tie downs	Tornado, Hurricane & Tropical Storm, Flood, Severe Weather, Severe Winter Storm	3.3	Moderate	Edgecombe County EM, Town Building Inspections	Local, State, Federal, Code mandate	2020	Carried Forward	**Required by:** 2018 Building Codes NC State Building Volume VIII - Modular Construction Regulation 1994 Edition NC Regulations for Manufactured Homes 2004 Edition Codes
PP-2	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Edgecombe County EM, Town Administration	Local, State, Federal, Grants	2021	New	
Emergency Services									
ES-1	Improve county bridges and roads drainage	Flood, Tornado, Hurricane & Tropical Storm, Severe Weather, Severe Winter Storm	3.3	High	NCDOT	Local, State, Federal	2021	Carried Forward	DOT is still working on multiple areas.
ES-2	Encourage or assist residents through information to sign up for Code Red and/or the county's emergency warning notification system	All Hazards	1.2	Moderate	Edgecombe County EM, Town Administration, Mayor	Local, State, Federal	2021	Carried Forward	Ongoing process
Public Education & Awareness									
PEA-1	Obtain FEMA Hazard Mitigation related handouts & make available for residents at Town Hall and/or as inserts in Utility Bills	All Hazards	1.1	Moderate	Edgecombe County EM, Cooperative Extension	FEMA, Local	2023	Carried Forward	Ongoing with new info

Annex M Town of Lucama

M.1 PLANNING PROCESS

The Town of Lucama was represented by Wilson County throughout the planning process due to the Town's limited administrative capability.

M.2 COMMUNITY PROFILE

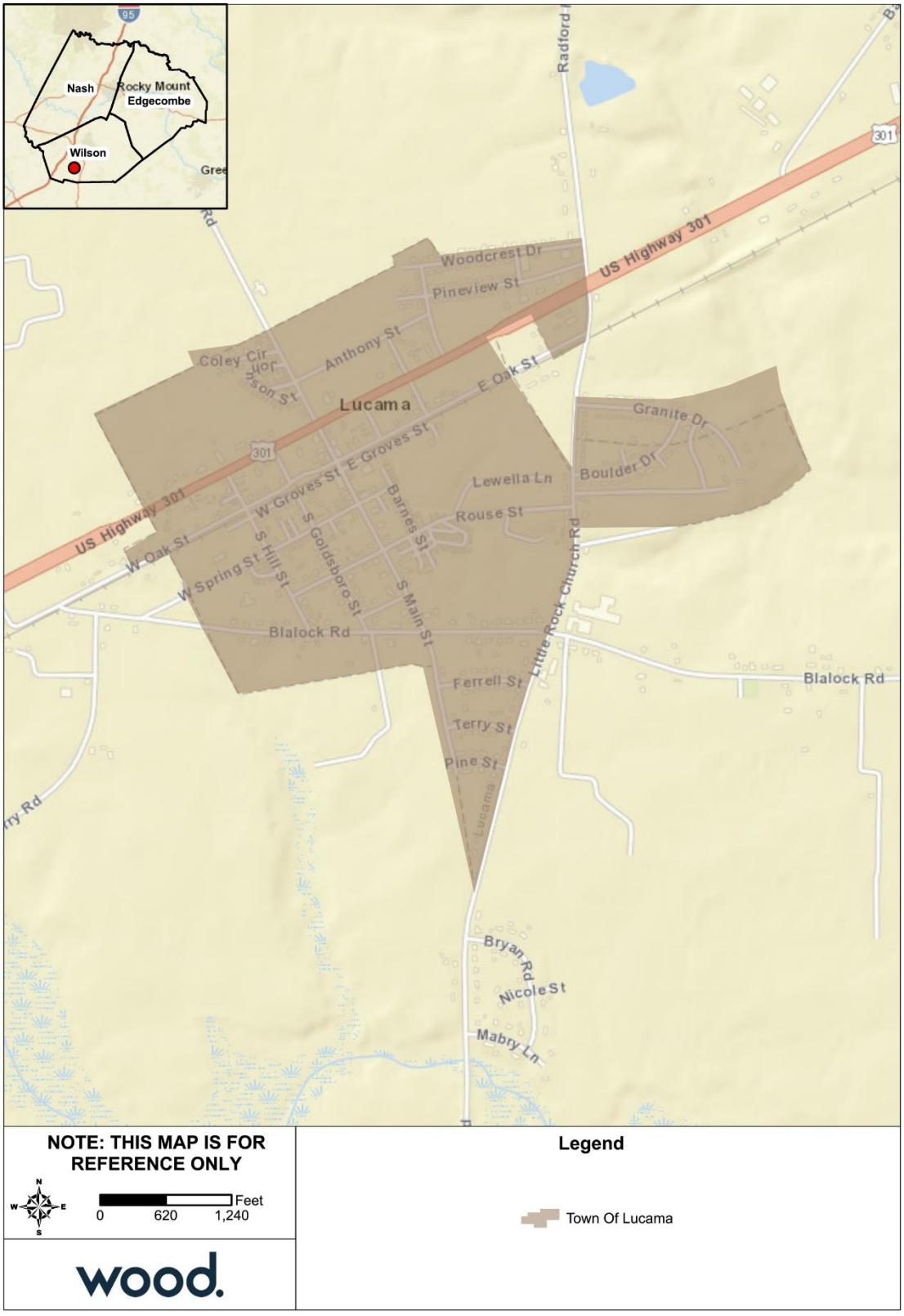
Geography

The Town of Lucama is located in southwestern Wilson County. It is surrounded by unincorporated areas of the County, but most closely neighbored by the City of Wilson to the north and the Town of Black Creek to the east. The Town is within the Wilson Micropolitan Statistical Area, which is included within the Rocky Mount-Wilson-Roanoke Rapids Combined Statistical Area. Lucama comprises at total land area of 0.62 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are no mapped wetlands in Lucama.

Figure M.1 shows a base map of the Town of Lucama.

Figure M.1 – Location, Town of Lucama



Population and Demographics

Table M.1 provides population counts and growth estimates for the Town of Lucama as compared to the region overall. Table M.2 provides demographic information for the Town as compared to the whole region.

Table M.1 – Population Counts, Lucama, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2017 ACS Population Estimate	Total Change 2010-2017	% Change 2010-2017
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Lucama	847	1,108	1,200	92	8.30%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table M.2 – Racial Demographics, Lucama, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Lucama	54.7	16.4	0	26.2	2.7	33.7

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Lucama in order to estimate the total physical exposure to hazards in this area.

Table M.3 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Lucama	39	2	0	56	0	1	0	5	1	0	0	0	0	1	0	3	0	108

Source: NCEM Risk Management Tool

Table M.4 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Lucama	0	1	0	2	0	2	0	5

Source: NCEM Risk Management Tool

There is one listing on the National Register of Historic Places for the Town of Lucama. This site is listed in the table below.

Table M.5 – Historic Properties

Ref#	Property Name	Status Date	Category	City
86000772	Lucama Municipal Historic District	2/13/1986	District	Lucama

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Lucama as compared to the region overall.

Table M.6 – Housing Statistics, Lucama, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2016)	Housing Units Percent Change (2010-2016)	Owner-Occupied, % (2016)	Vacant Units, % (2016)	Median Home Value (2016)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Lucama	449	515	14.7	62.3	22.7	$74,700

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Lucama as compared to the region overall.

Table M.7 – Employment Statistics, Lucama, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Lucama	533	54.2	5.9	40	9.8

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table M.8 – Percent of Employed Population by Occupation, Lucama, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Lucama	13.7	12.3	21	33.3	19.8

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

M.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Lucama than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

M.3.1 Flood

Table M.9 details the acreage of the Town of Lucama's total area by flood zone on the effective DFIRM. Per this assessment, 1.6 percent of the area in the Town falls within the mapped 1%-annual-chance floodplains.

Table M.9 – Flood Zone Acreage in Town of Lucama

Flood Zone	Acreage	Percent of Total (%)
Zone AE	6.47	1.63
Zone X (500-year)	0.54	0.14
Zone X Unshaded	389.84	98.23
Total	396.85	--

Source: FEMA Effective DFIRM

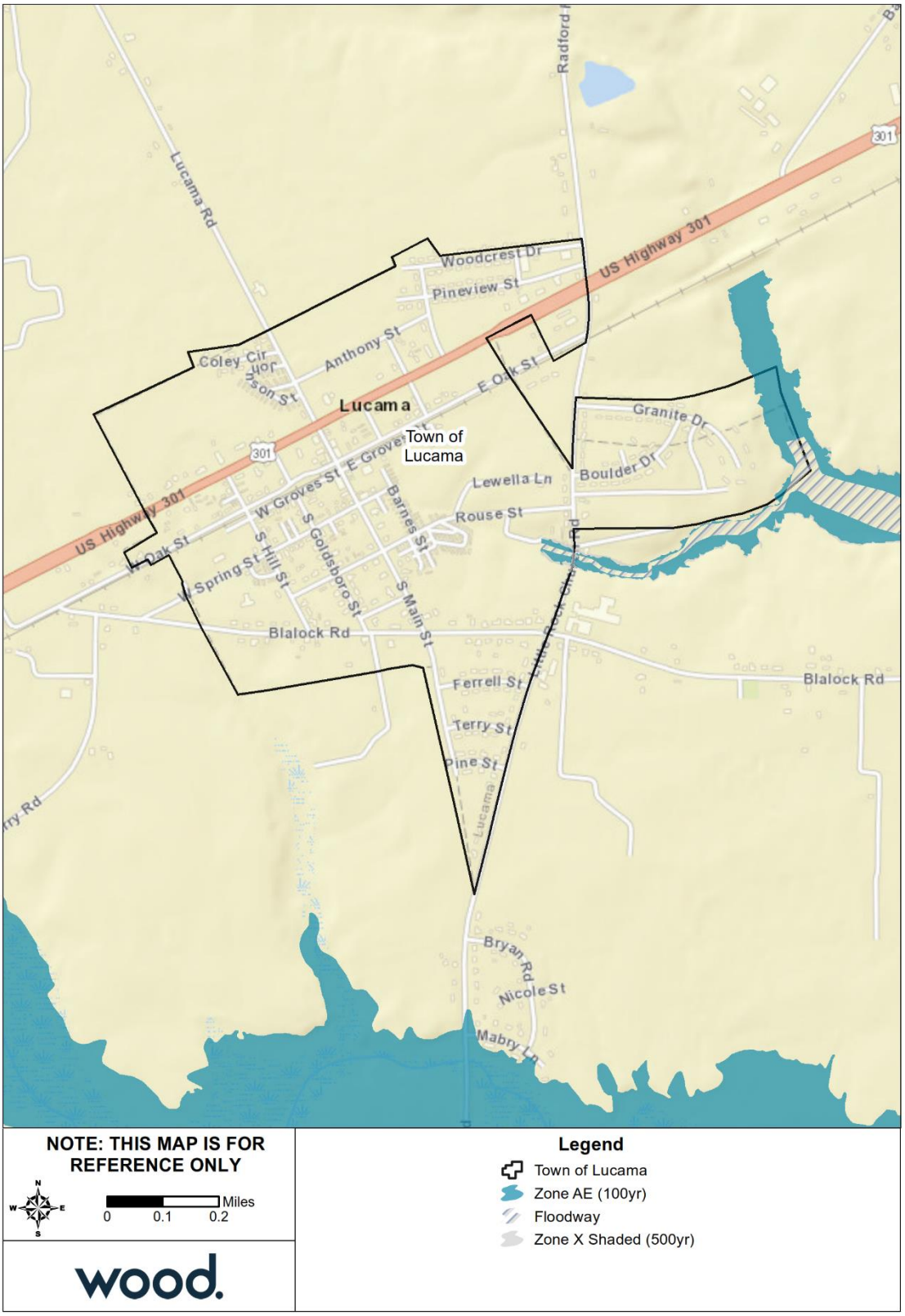
Figure M.2 reflects the effective mapped flood hazard zones for the Town of Lucama, and Figure M.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table M.10 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Lucama.

Table M.10 – Critical Facilities Exposed to Flooding, Town of Lucama

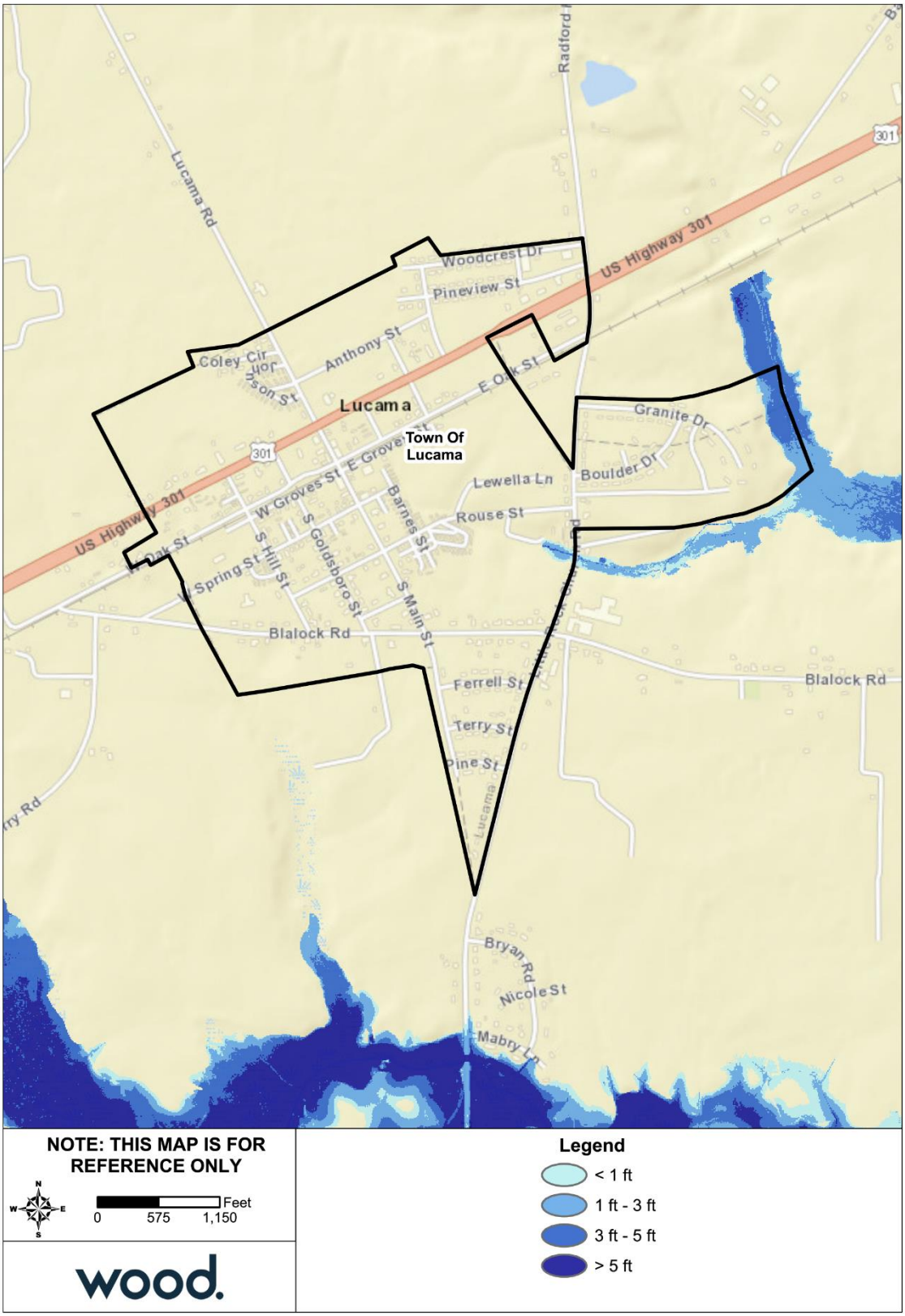
Sector	Event	Number of Buildings at Risk	Estimated Damages
Food and Agriculture	500 Year	4	$1,812
All Categories	**500 Year**	**4**	**$1,812**

Figure M.2 – FEMA Flood Hazard Areas, Town of Lucama



Source: FEMA Effective DFIRM

Figure M.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Lucama



Source: FEMA Effective DFIRM

M.3.2 Wildfire

Table M.11 summarizes the acreage in the Town of Lucama 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 5 percent of the Town of Lucama is not included in the WUI.

Table M.11 – Wildland Urban Interface Acreage, Town of Lucama

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*1,231.10*	*75.64%*
	LT 1hs/40ac	0.00	0.00%
	1hs/40ac to 1hs/20ac	0.00	0.00%
	1hs/20ac to 1hs/10ac	0.35	0.02%
	1hs/10ac to 1hs/5ac	0.61	0.04%
	1hs/5ac to 1hs/2ac	43.34	2.66%
	1hs/2ac to 3hs/1ac	352.17	21.64%
	Total	**1,627.57**	

Source: Southern Wildfire Risk Assessment

Figure C.3 depicts the WUI for Wilson County, in which the Town of Lucama is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure C.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Lucama, approximately 2 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in northwestern Lucama, along the Town's border. Although this area is within the WUI, it is reported to have no burn probability, meaning it is at less risk. Areas where WUI overlaps with higher burn probability and potential fire intensity would have the highest risk.

Table M.12 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table M.13 provides building counts and estimated damages for High Potential Loss Properties at risk to wildfire hazard

Table M.12 – Critical Facilities Exposed to Wildfire, Town of Lucama

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	18	$8,056,590
Emergency Services	Wildfire Hazard	1	$1,341,741
Food and Agriculture	Wildfire Hazard	20	$2,168,087
Food and Agriculture	Wildfire Hazard	2	$1,749,323
Transportation Systems	Wildfire Hazard	1	$134,799
All Categories	**Wildfire Hazard**	**42**	**$13,450,540**

Table M.13 – High Potential Loss Properties Exposed to Wildfire, Town of Lucama

Category	Event	Number of Buildings at Risk	Estimated Damages
Commercial	Wildfire Hazard	1	$1,134,475
Government	Wildfire Hazard	2	$2,546,785
Religious	Wildfire Hazard	1	$1,272,596
All Categories	**Wildfire Hazard**	**4**	**$4,953,856**

M.4 CAPABILITY ASSESSMENT

M.4.1 Floodplain Management

The Town of Lucama joined the NFIP through emergency entry in March 2001 and has been a regular participant since November 2004. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table M.14 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	8	$3,252	$2,212,000	2	$30,327.57
Total	**8**	**$3,252**	**$2,212,000**	**2**	**$30,327.57**

Source: FEMA Community Information System, accessed March 2020

Table M.15 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	8	$3,252	$2,212,000	2	$30,327.57
B, C & X Zone					
Standard	0	$0	$0	0	$0
Preferred	6	$1,974	$1,512,000	1	$20,038.58
Total	8	$3,252	$2,212,000	2	$30,327.57

Source: FEMA Community Information System, accessed March 2020

Table M.16 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	2	$1,278	$700,000	1	$10,288.99
B, C & X Zone	6	$1,974	$1,512,000	1	$20,038.58
Standard	0	$0	$0	0	$0
Preferred	6	$1,974	$1,512,000	1	$20,038.58
Total	8	$3,252	$2,212,000	2	$30,327.57

Source: FEMA Community Information System, accessed March 2020

M.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more member local Hazard Mitigation Advisory Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	Full committee was not in place for this plan update. The Town will expand participation in future regional mitigation planning through this effort
Property Protection									
PP-1	Conduct an internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	High	Town Administration, Town Board	State, Federal, Grant funds, Local	2023	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Administration	Local	2023	Carried Forward	No progress to report

Annex N Town of Macclesfield

N.1 PLANNING PROCESS

The Town of Macclesfield was represented by Edgecombe County throughout the planning process due to the Town's limited administrative capability.

N.2 COMMUNITY PROFILE

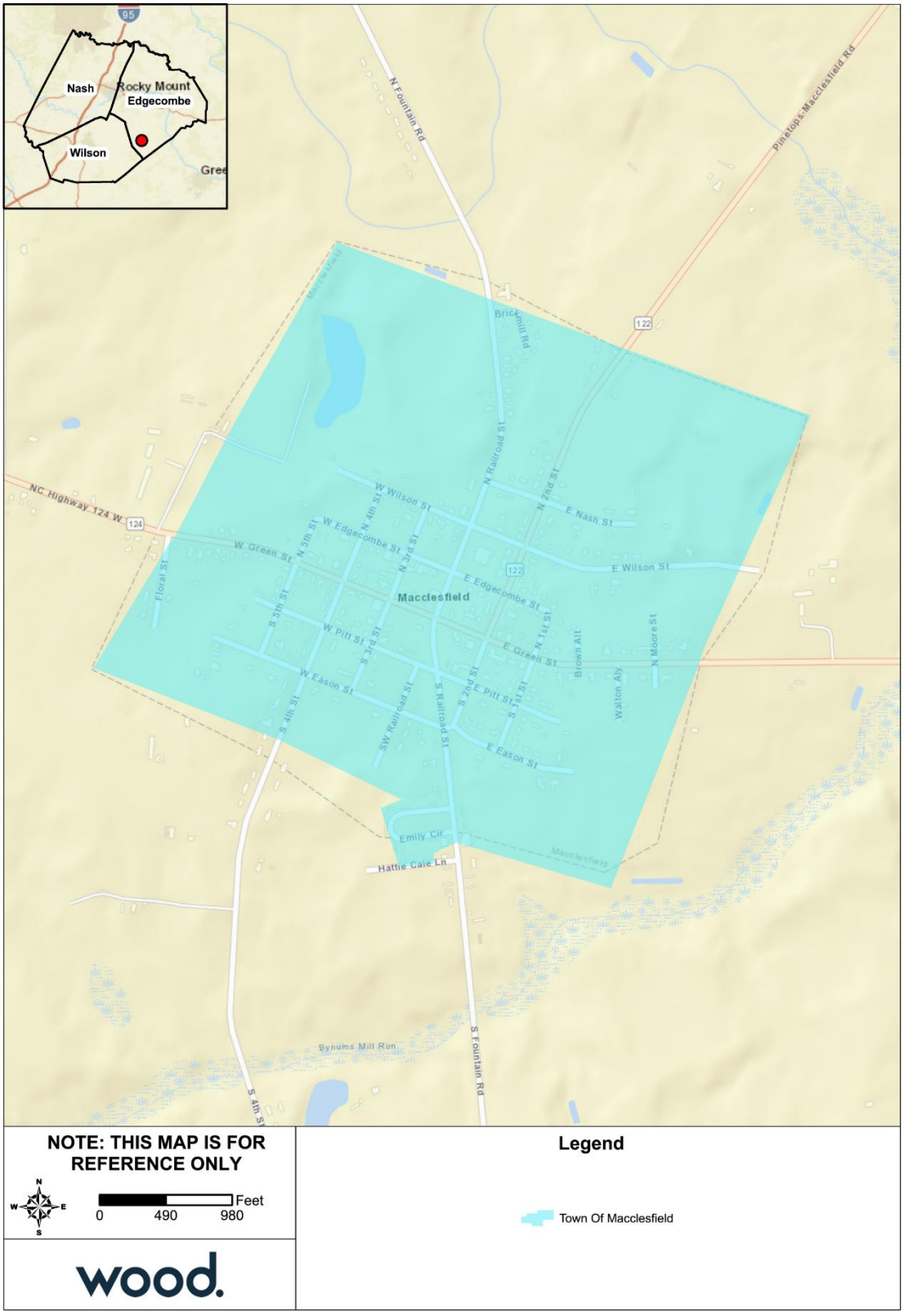
Geography

The Town of Macclesfield is located in southern Edgecombe County. It is neighbored by Pinetops to the northeast and Crisp to the east. Macclesfield is part of the Rocky Mount, NC Metropolitan Statistical Area. The Town comprises a total land area of 0.52 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 120.5 acres of wetlands in Macclesfield.

Figure N.1 shows a base map of the Town of Macclesfield.

Figure N.1 – Location, Town of Macclesfield



Population and Demographics

Table N.1 provides population counts and growth estimates for the Town of Macclesfield as compared to the region overall.

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Macclesfield	458	471	555	84	17.83%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table N.2 provides demographic information for the Town as compared to the whole region.

Table N.1 – Population Counts, Macclesfield, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Macclesfield	458	471	555	84	17.83%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table N.2 – Racial Demographics, Macclesfield, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Macclesfield	67.9	20.7	0	11.4	0	12.3

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following table details the critical facilities in Macclesfield in order to estimate the total physical exposure to hazards in this area. There are no reported High Potential Loss Facilities in Macclesfield.

Table N.3 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Macclesfield	12	3	0	19	0	1	0	2	1	0	0	1	0	10	2	0	0	51

Source: NCEM Risk Management Tool

There is one listing on the National Register of Historic Places for the Town of Macclesfield. This district is detailed in the table below.

Table N.4 – Historic Properties

Ref#	Property Name	Status Date	Category	City
05001412	Bracebridge Hall (Boundary Increase)	12/16/2005	District	Macclesfield

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Macclesfield as compared to the region overall.

Table N.5 – Housing Statistics, Macclesfield, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Macclesfield	240	293	22.1	59.9	19.1	$80,700

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Macclesfield as compared to the region overall.

Table N.6 – Employment Statistics, Macclesfield, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Macclesfield	220	48.4	2.1	49.5	4.1

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table N.7 – Percent of Employed Population by Occupation, Macclesfield, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Macclesfiled	16.1	8.1	27	20.9	28

Source: U.S. Census Bureau, 2012-2018 American Community Survey 5-Year Estimates

N.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Macclesfield than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

N.3.1 Flood

Table N.8 details the acreage of the Town of Macclesfield's total area by flood zone on the effective DFIRM. Per this assessment, less than one percent of the Town's area in the County falls within the mapped 1%-annual-chance floodplains.

Table N.8 – Flood Zone Acreage in Town of Macclesfield

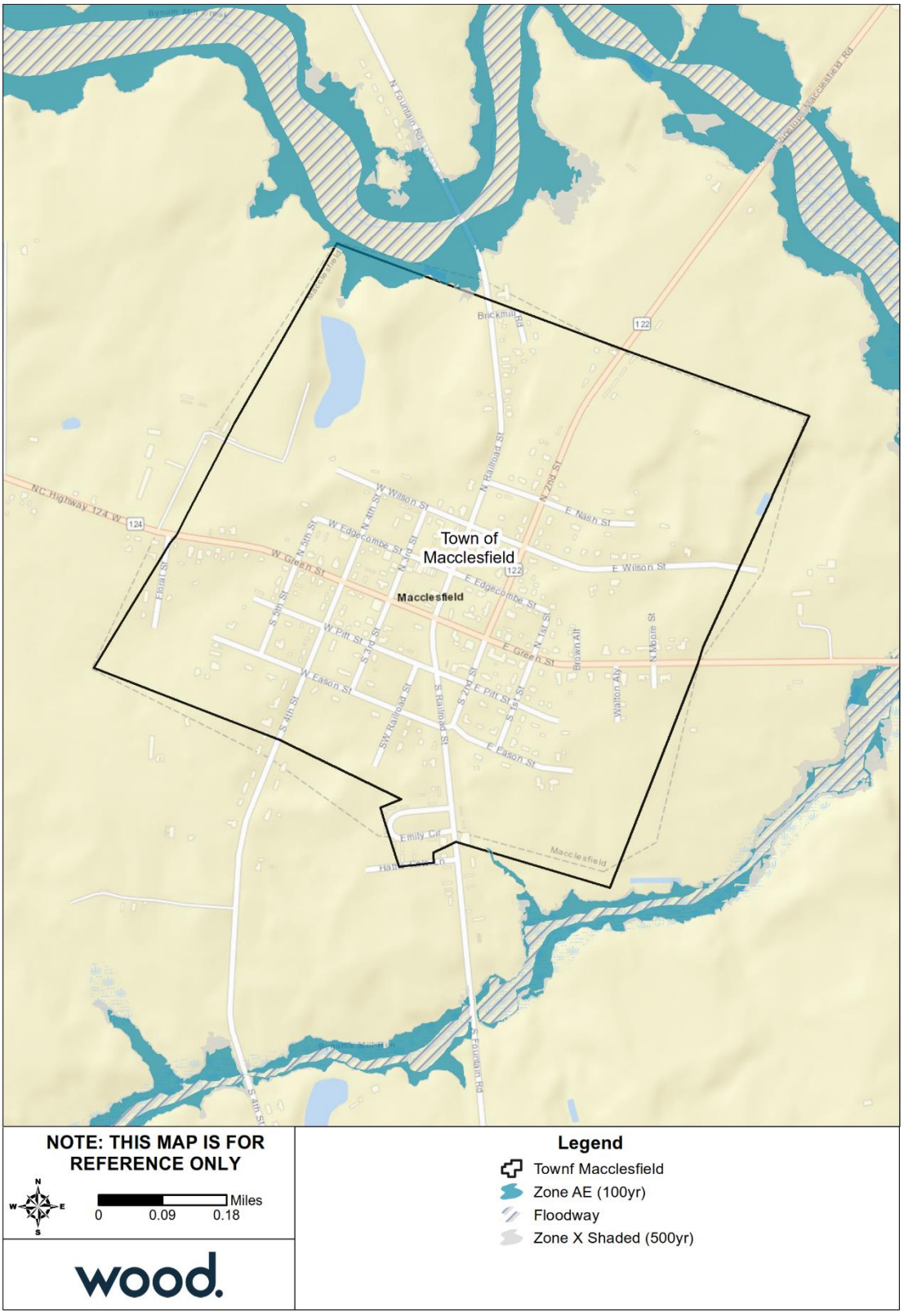
Flood Zone	Acreage	Percent of Total (%)
Zone AE	2.37	0.71
Zone X (500-year)	0.36	0.11
Zone X Unshaded	332.81	99.18
Total	335.55	--

Source: FEMA Effective DFIRM

Figure N.2 reflects the effective mapped flood hazard zones for the Town of Macclesfield, and Figure N.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

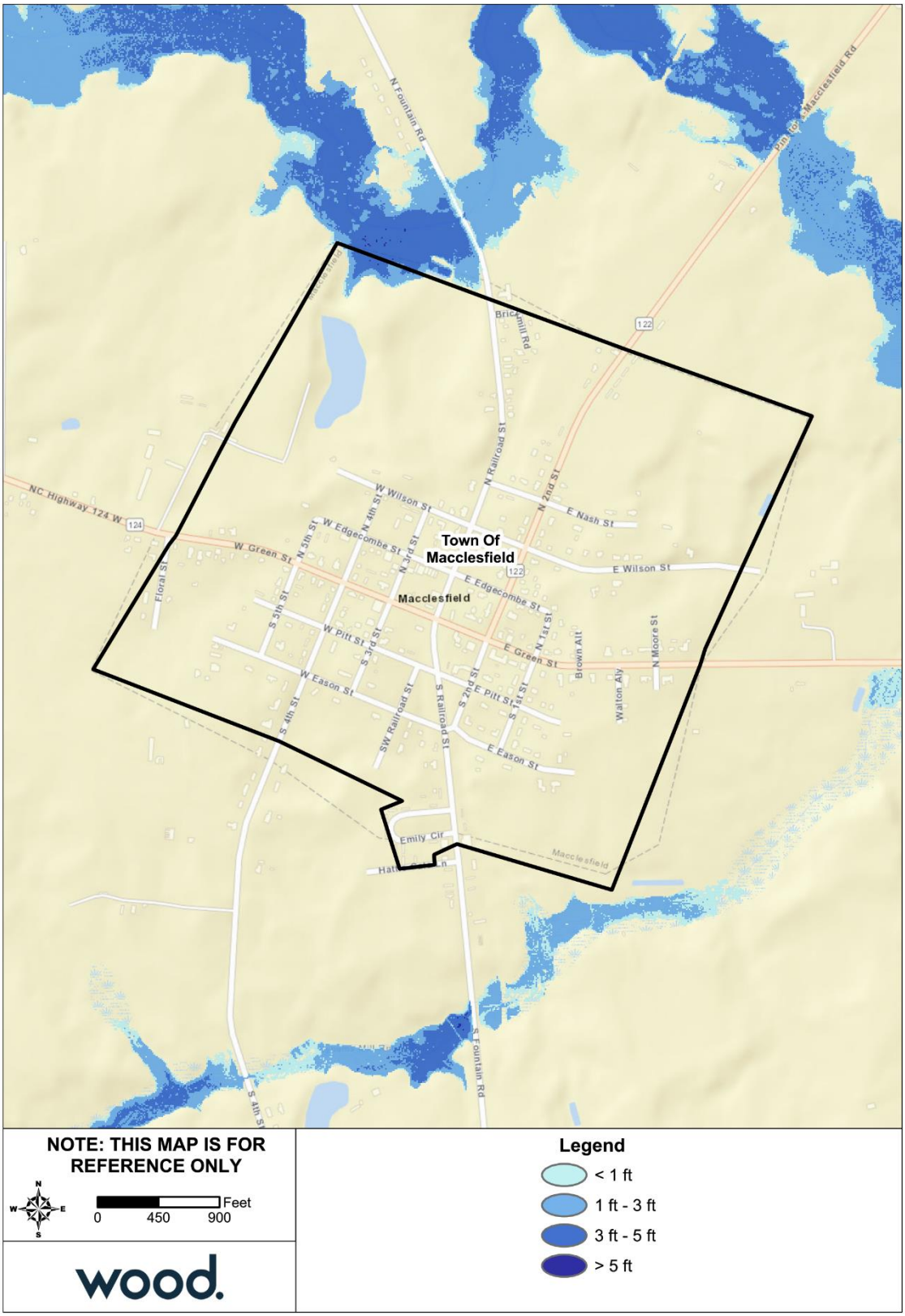
Per NCEM's Risk Management Tool, there are no Critical Facilities or High Potential Loss Properties exposed to flooding in the Town of Macclesfield.

Figure N.2 – FEMA Flood Hazard Areas, Town of Macclesfield



Source: FEMA Effective DFIRM

Figure N.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Macclesfield



Source: FEMA Effective DFIRM

N.3.2 Wildfire

Table N.9 summarizes the acreage in the Town of Macclesfield 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 5 percent of the Town of Macclesfield is not included in the WUI.

Table N.9 – Wildland Urban Interface Acreage, Town of Macclesfield

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*20.14*	*5.87%*
	LT 1hs/40ac	10.02	2.92%
	1hs/40ac to 1hs/20ac	3.78	1.10%
	1hs/20ac to 1hs/10ac	16.43	4.79%
	1hs/10ac to 1hs/5ac	19.88	5.80%
	1hs/5ac to 1hs/2ac	78.51	22.89%
	1hs/2ac to 3hs/1ac	194.17	56.62%
	Total	**342.93**	

Source: Southern Wildfire Risk Assessment

Figure B.3 depicts the WUI for Edgecombe County, in which the Town of Macclesfield is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Macclesfield, approximately 2 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in western Macclesfield; however, these areas have lower burn probability and/or are largely outside of the WUI, meaning little to no development is at risk. In fact, all of the Town has low or not burn probability although it is mostly within the WUI.

According to NCEM's Risk Management Tool, there are no Critical Facilities or High Potential Loss Properties at risk to wildfire in the Town of Macclesfield.

N.4 CAPABILITY ASSESSMENT

N.4.1 Floodplain Management

The Town of Macclesfield joined the NFIP through emergency entry in March 1980 and has been a regular participant since March 1980. The Town's initial firm was published in 1980, however Macclesfield does not currently have any policies in force or past claims paid.

N.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Drought Response Program (providing steps to help alleviate the effects of a drought on the agriculture community)	Drought	3.3	Moderate	Edgecombe County EM, Town Soil & Water Conservation	Local	2022	Carried Forward	No progress to report
Property Protection									
PP-1	NC Building Codes to regulate tie downs	Tornado, Hurricane & Tropical Storm, Flood, Severe Weather, Severe Winter Storm	3.3	Moderate	Edgecombe County EM, Town Building Inspections	Local, State, Federal, Code mandate	2020	Carried Forward	**Required by:** 2018 Building Codes NC State Building Volume VIII - Modular Construction Regulation 1994 Edition NC Regulations for Manufactured Homes 2004 Edition Codes
PP-2	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Edgecombe County EM, Town Clerk	Local, State, Federal, Grants	2021	Carried Forward	Looking for funding
Emergency Services									
ES-1	Encourage or assist residents through information to sign up for the county's emergency warning notification system	All Hazards	1.2	Moderate	Edgecombe County EM, Town Clerk	Local, State, Federal	2024	Carried Forward	Ongoing process
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.1	Moderate	Edgecombe County EM, Town Clerk	FEMA, Local	2023	Carried Forward	On Going with new info

Annex O Town of Middlesex

O.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Middlesex.

Table O.1 – HMPC Members

Member Name	Title	Agency
LuHarvey Lewis	Mayor	Town of Middlesex
Gloria Vinson	Town Clerk	Town of Middlesex

O.2 COMMUNITY PROFILE

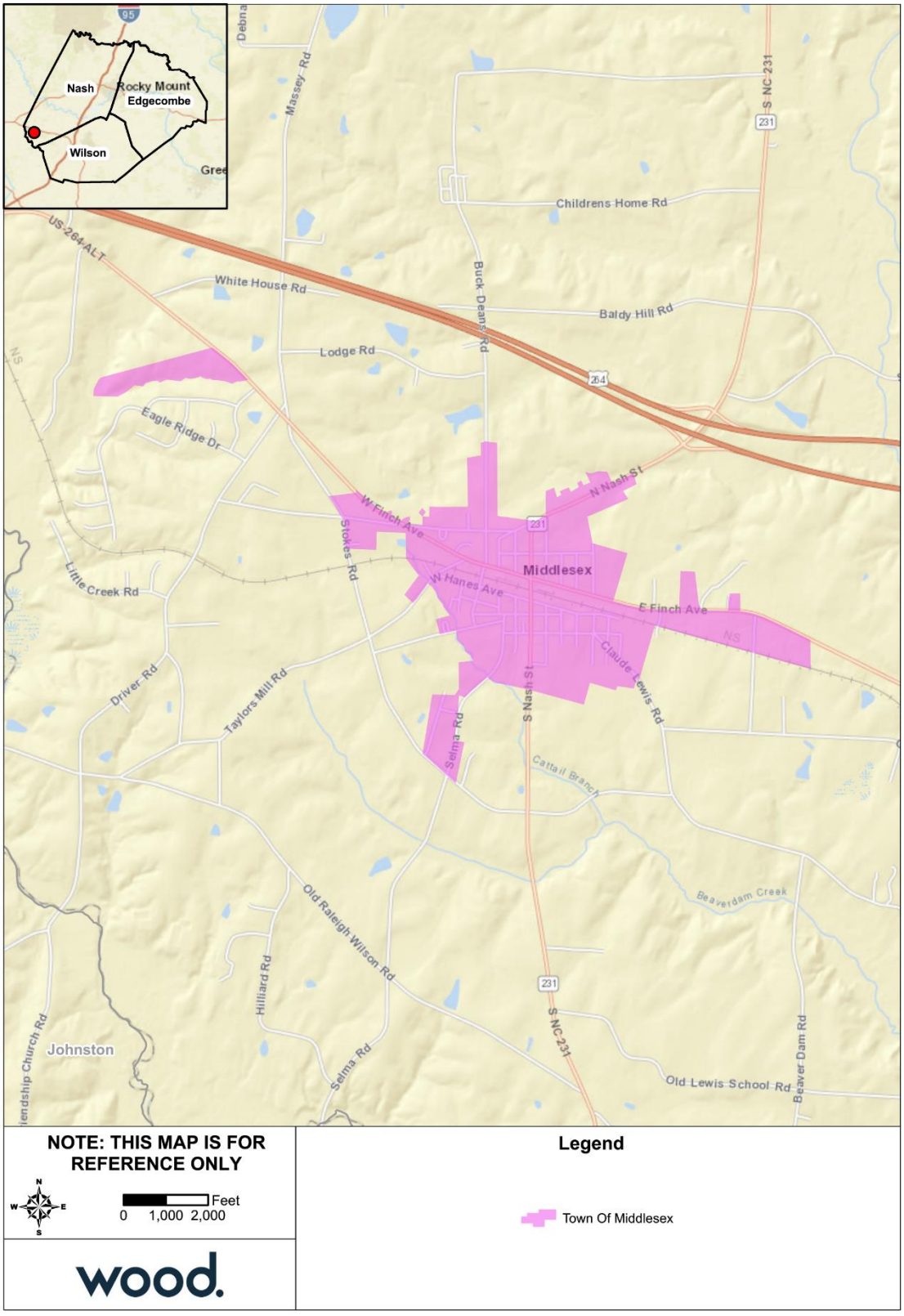
Geography

The Town of Middlesex is located in southwestern Nash County. It is most closely neighbored by the Town of Bailey to the east and the Town of Zebulon, in Wake County, to the west. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Middlesex is 25 miles east of Raleigh.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 140.4 acres of wetlands in Middlesex

Figure O.1 shows a base map of the Town of Middlesex.

Figure O.1 – Location, Town of Middlesex



Population and Demographics

Table O.2 provides population counts and growth estimates for the Town of Middlesex as compared to the region overall.

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Middlesex	838	822	966	144	17.52%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table O.3 provides demographic information for the Town as compared to the whole region.

Table O.2 – Population Counts, Middlesex, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Middlesex	838	822	966	144	17.52%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table O.3 – Racial Demographics, Middlesex, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Middlesex	62.8	29.8	0	7.4	0	15.4

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Middlesex in order to estimate the total physical exposure to hazards in this area.

Table O.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Middlesex	103	1	0	55	0	28	0	16	1	0	0	0	0	1	0	1	0	206

Source: NCEM Risk Management Tool

Table O.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Other	Total
Town of Middlesex	0	1	1	0	0	0	0	2	0

Source: NCEM Risk Management Tool

There is one listing on the National Register of Historic Places for the Town of Middlesex. This site is detailed in the table below.

Table O.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
80002889	Taylor's Mill	5/28/1980	Building	Middlesex

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Middlesex as compared to the region overall.

Table O.7 – Housing Statistics, Middlesex, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Middlesex	433	491	13.4	56.4	16.3	$104,100

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Middlesex as compared to the region overall.

Table O.8 – Employment Statistics, Middlesex, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Middlesex	451	58.4	1.3	40.3	2.2

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table O.9 – Percent of Employed Population by Occupation, Middlesex, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Middlesex	22	15.4	36.1	7.3	19.3

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

O.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Middlesex than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

O.3.1 Flood

Table O.10 details the acreage of the Town of Middlesex's total area by flood zone on the effective DFIRM. Per this assessment, less than one percent of the Town's area falls within the mapped 1%-annual-chance floodplains.

Table O.10 – Flood Zone Acreage in Town of Middlesex

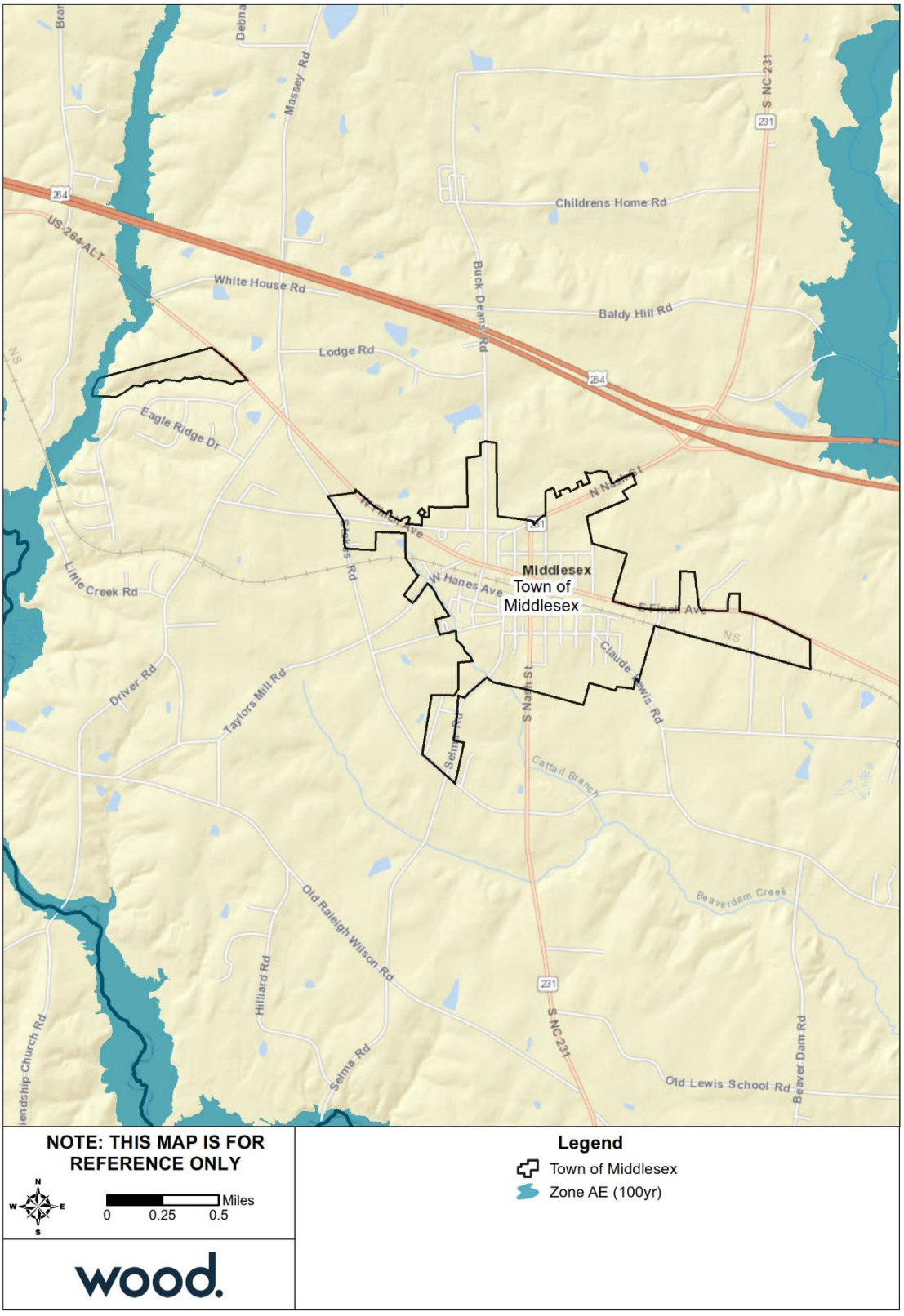
Flood Zone	Acreage	Percent of Total (%)
Zone AE	1.80	0.27
Zone X Unshaded	666.97	99.73
Total	668.77	--

Source: FEMA Effective DFIRM

Figure O.2 reflects the effective mapped flood hazard zones for the Town of Middlesex, and Figure O.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

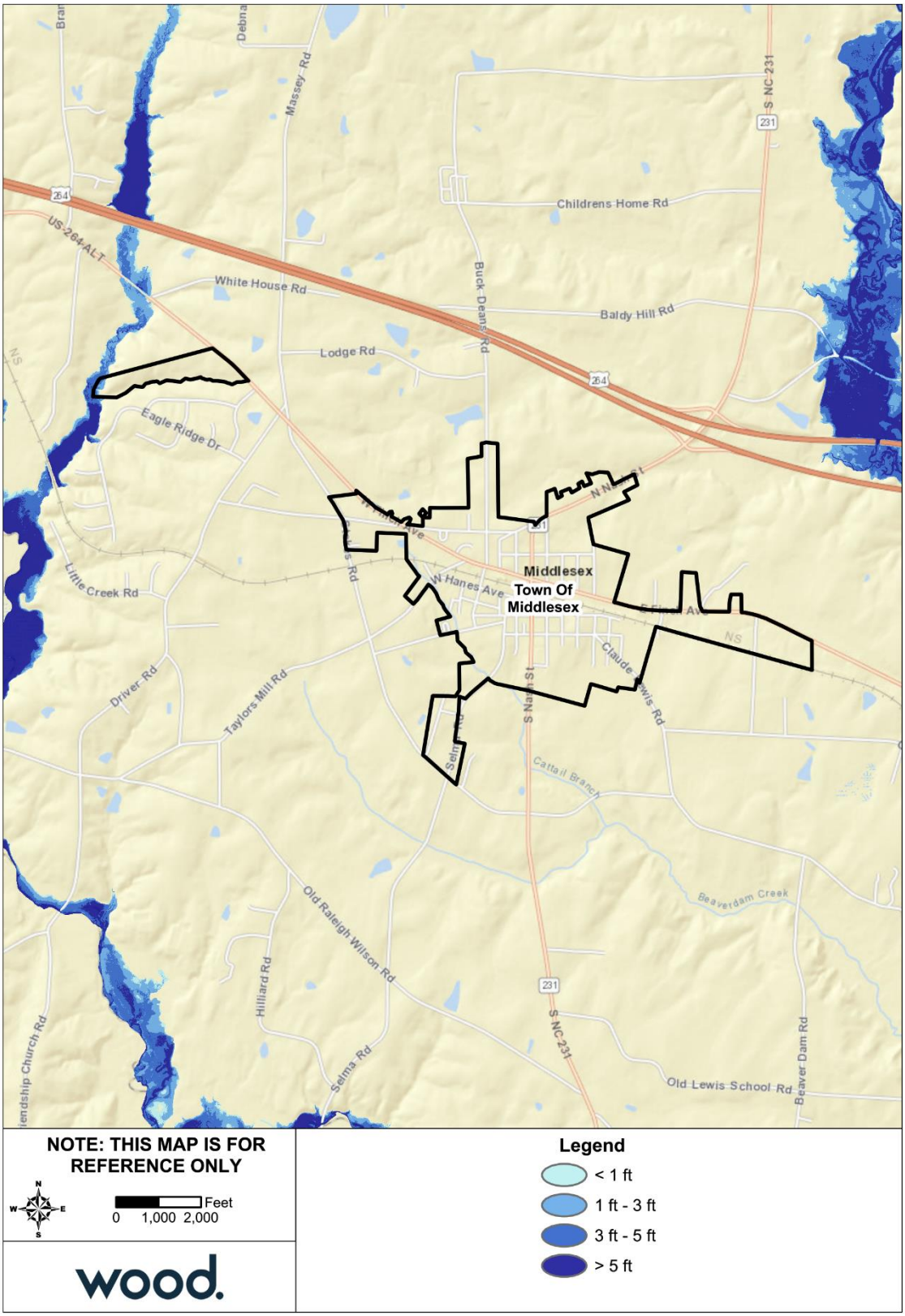
Per NCEM's Risk Management Tool, there are no Critical Facilities or High Potential Loss Properties exposed to flooding in the Town of Middlesex.

Figure O.2 – FEMA Flood Hazard Areas, Town of Middlesex



Source: FEMA Effective DFIRM

Figure O.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Middlesex



Source: FEMA Effective DFIRM

O.3.2 Wildfire

Table O.11 summarizes the acreage in the Town of Middlesex 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. Less than one percent of the Town of Middlesex is not included in the WUI.

Table O.11 – Wildland Urban Interface Acreage, Town of Middlesex

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*3.62*	*0.54%*
	LT 1hs/40ac	43.48	6.50%
	1hs/40ac to 1hs/20ac	18.28	2.73%
	1hs/20ac to 1hs/10ac	39.32	5.88%
	1hs/10ac to 1hs/5ac	89.19	13.33%
	1hs/5ac to 1hs/2ac	166.99	24.96%
	1hs/2ac to 3hs/1ac	308.02	46.05%
	Total	**668.89**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for Nash County, in which the Town of Middlesex is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Middlesex, approximately 5 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in northern Middlesex, as well as along the Town's borders; however, however, these areas have lower burn probability and/or are largely outside of the WUI, meaning little to no development is at risk.

Per NCEM's Risk Management Tool, there are no Critical Facilities or High Potential Loss Properties at risk to wildfire in the Town of Middlesex.

O.4 CAPABILITY ASSESSMENT

O.4.1 Floodplain Management

The Town of Middlesex joined the NFIP as a regular participant in March 1999. The Town only has one policy in effect and no closed paid claims. The single policy is a preferred risk policy for a single-family home built pre-FIRM in the B, C, and X zone. The premium is $376 and the total insurance in force is $350,000.

O.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Revise our zoning ordinances	All Hazards	3.3	High	Planning & Development	Local	2021	Carried Forward	No progress to report
P-2	Expand the use of new website for public information & emergency updates (www.townofmiddlesexnc.com)	All Hazards	1.1	High	Town Clerk	Local	Ongoing	Carried Forward	This is an ongoing effort that must be regularly updated.
P-3	Work to adopt a floodplain ordinance	Flood	3.3	High	Town Administration, Town Board	Local	2023	Carried Forward	Postponed but still a priority
P-4	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	Town currently has two committee representatives.
Property Protection									
PP-1	Seek funding to place generators at our lift stations that do not have them	All Hazards	3.3	High	Town Administration, Town Board	Local, State, Federal	2025	Carried Forward	No progress to report

Annex P Town of Momeyer

P.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Momeyer.

Table P.1 – HMPC Members

Member Name	Title	Agency
Karen Hendricks	Town Clerk/Zoning Administrator	Town of Momeyer
Jordan Jackson	Citizen of Momeyer ETJ/Technical & Regulatory Director for Sweet Potato Grower/Wholesaler	Spring Acres Sales Company

P.2 COMMUNITY PROFILE

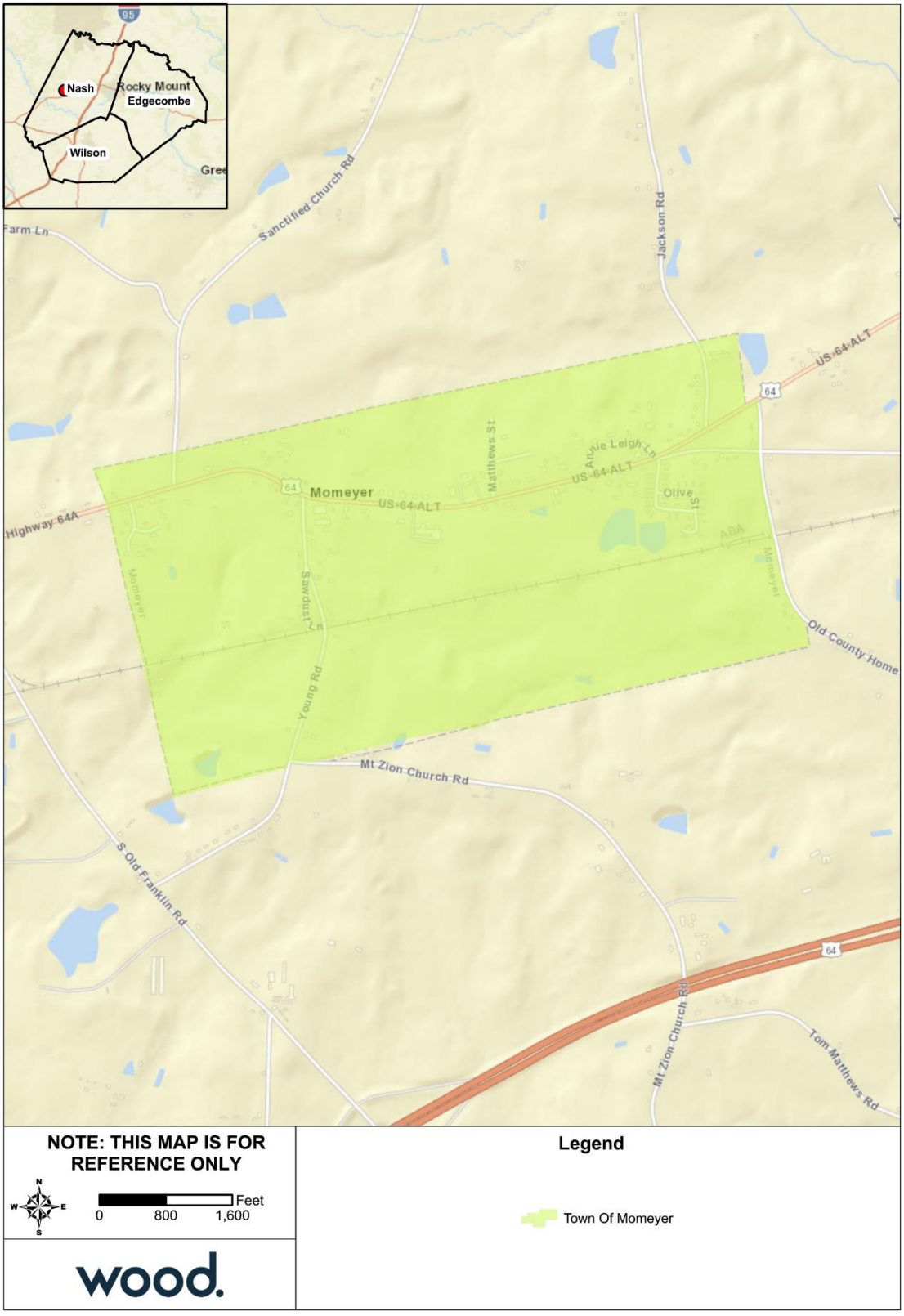
Geography

The Town of Momeyer is located in central Nash County. It is neighbored by Spring Hope to the west and Nashville to the eat. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Momeyer comprises a total land area of 1.1 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 128.5 acres of wetlands in Momeyer.

Figure P.1 shows a base map of the Town of Momeyer.

Figure P.1 – Location, Town of Momeyer



Population and Demographics

Table P.2 provides population counts and growth estimates for the Town of Momeyer as compared to the region overall.

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Momeyer	291	224	279	55	24.55%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table P.3 provides demographic information for the City as compared to the whole region.

Table P.2 – Population Counts, Momeyer, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Momeyer	291	224	279	55	24.55%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table P.3 – Racial Demographics, Momeyer, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Momeyer	93.2	3.2	0	0	3.6	9.7

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following table details the Critical Facility asset inventory for Momeyer in order to estimate the total physical exposure to hazards in this area. Note there are no High Potential Loss Properties in Momeyer as reported by NCEM's Risk Management Tool.

Table P.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Momeyer	72	0	0	8	0	1	0	2	0	0	0	0	0	0	0	1	0	84

Source: NCEM Risk Management Tool

There are no listings on the National Register of Historic Places for the Town of Momeyer.

Housing

The table below details key housing statistics for Momeyer as compared to the region overall.

Table P.5 – Housing Statistics, Momeyer, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Momeyer	158	136	-13.9	79.7	13.2	$62,200

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Momeyer as compared to the region overall.

Table P.6 – Employment Statistics, Momeyer, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Momeyer	113	47.1	4.1	48.9	8

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table P.7 – Percent of Employed Population by Occupation, Momeyer, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Momeyer	28.8	8.7	39.4	16.3	6.7

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

P.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Momeyer than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

P.3.1 Flood

Table P.8 details the acreage of the Town of Momeyer's total area by flood zone on the effective DFIRM. Per this assessment, none of the Town's area falls within the mapped 1%-annual-chance floodplain.

Table P.8 – Flood Zone Acreage in Town of Momeyer

Flood Zone	Acreage	Percent of Total (%)
Zone X Unshaded	708.89	100.00
Total	708.89	--

Source: FEMA Effective DFIRM

According to NCEM's Risk Management Tool, there are not Critical Facilities or High Potential Loss Properties at risk of flooding in the Town of Momeyer.

P.3.2 Wildfire

Table P.9 summarizes the acreage in the Town of Momeyer 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 24 percent of the Town of Momeyer is not included in the WUI.

Table P.9 – Wildland Urban Interface Acreage, Town of Momeyer

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*170.89*	*24.10%*
	LT 1hs/40ac	92.98	13.12%
	1hs/40ac to 1hs/20ac	89.16	12.58%
	1hs/20ac to 1hs/10ac	74.03	10.44%
	1hs/10ac to 1hs/5ac	105.47	14.88%
	1hs/5ac to 1hs/2ac	143.52	20.24%
	1hs/2ac to 3hs/1ac	32.91	4.64%
	Total	**708.96**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for Nash County, in which the Town of Momeyer is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Momeyer, approximately 2 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest throughout central and northern Momeyer; however, these areas have lower burn probability and/or are largely outside of the WUI, meaning little to no development is at risk.

Table P.10provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard.

Table P.10 – Critical Facilities Exposed to Wildfire, Town of Momeyer

Sector	Event	Number of Buildings at Risk	Estimated Damages
Food and Agriculture	Wildfire Hazard	1	$44,045
All Categories	**Wildfire Hazard**	**1**	**$44,045**

P.4 CAPABILITY ASSESSMENT

P.4.1 Floodplain Management

The Town of Momeyer joined the NFIP through regular entry in December 2005. The Town only has one policy in effect and no closed paid claims. The single policy is a preferred risk policy for a single-family home built post-FIRM in the B, C, and X zones. The premium is $376 and the total insurance in force is $350,000.

P.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Purchase Generator for Town Hall	All Hazards	3.3	Moderate	Town Clerk, County	Local, Federal	2021	Carry Forward	The Town is continuing to pursue obtaining funding via a FEMA grant for this action
Public Education & Awareness									
PEA-1	Provide residents FEMA handouts	All Hazards	1.1	High	Mayor, Town Board	Local	2022	Carry Forward	No progress to report

Annex Q Town of Nashville

Q.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Nashville.

Table Q.1 – HMPC Members

Member Name	Title	Agency
Julie Spriggs	Planning & Development Director	Town of Nashville Planning & Development
Tina Price	Planner I	Town of Nashville Planning & Development
Sandy Hall	Nashville resident/Resides near floodplain	North Carolina Cooperative Extension
Barbara Wright	Citizen of Nashville	Citizen of Nashville
Amanda Clark	Local Newspaper Staff Writer	The Nashville Graphic

Q.2 COMMUNITY PROFILE

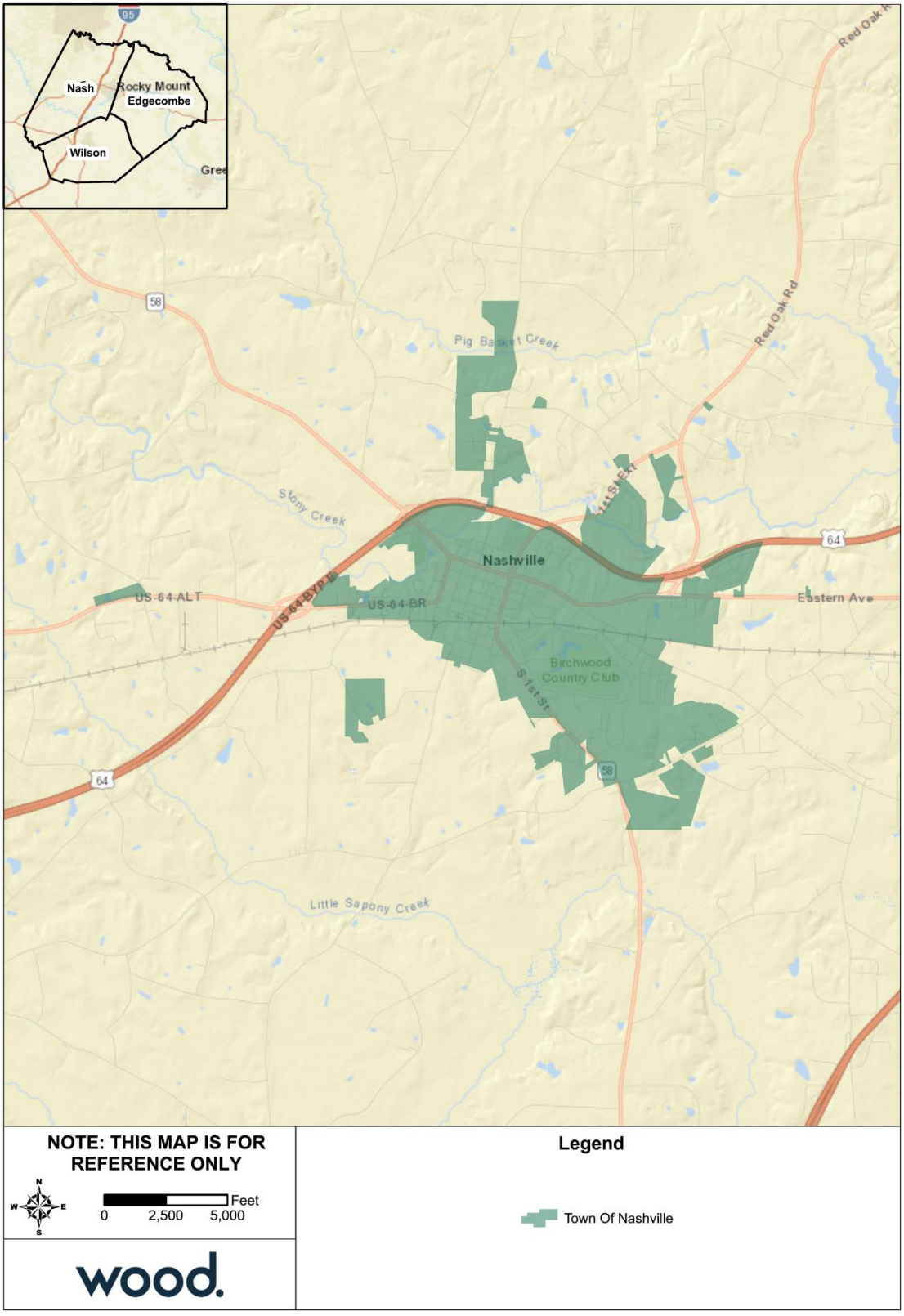
Geography

The Town of Nashville is located in central Nash County. It is neighbored by Momeyer to the west, Red Oak and Dortches to the northeast, and Rocky Mount to the east. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Nashville comprises a total land area of 4.7 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 963 acres of wetlands in Nashville.

Figure Q.1 shows a base map of the Town of Nashville.

Figure Q.1 – Location, Town of Nashville



Population and Demographics

Error! Reference source not found. provides population counts and growth estimates for Nashville as compared to the region overall. Table Q.2 provides demographic information for the Town as compared to the whole region.

Table Q.2 – Racial Demographics, Nashville, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Nashville	57.7	38.9	0	0.1	3.3	0

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Nashville in order to estimate the total physical exposure to hazards in this area.

Table Q.3 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Nashville	59	4	0	161	0	83	0	44	8	0	0	0	0	12	0	3	0	374

Source: NCEM Risk Management Tool

Table Q.4 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Other	Total
Town of Nashville	1	9	3	9	0	4	0	26	1

Source: NCEM Risk Management Tool

There are four listings on the National Register of Historic Places for the Town of Nashville. Of these, thre are buildings and one is a district. These sites are listed in the table below.

Table Q.5 – Historic Properties

Ref#	Property Name	Status Date	Category	City
79001739	Nash County Courthouse	5/10/1979	Building	Nashville
82003492	Rose Hill	4/28/1982	Building	Nashville
85002414	Bissette--Cooley House	9/19/1985	Building	Nashville
87001185	Nashville Historic District	7/22/1987	District	Nashville

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Nashville as compared to the region overall.

Table Q.6 – Housing Statistics, Nashville, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Nashville	2,312	2,672	15.6	68.4	14	$136,900

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Nashville as compared to the region overall.

Table Q.7 – Employment Statistics, Nashville, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Nashville	2,855	58.2	4.4	37.5	7

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table Q.8 – Percent of Employed Population by Occupation, Nashville, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Nashville	38.7	18.7	19.1	9.2	14.3

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Q.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Nashville than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

Q.3.1 Flood

Table Q.9 details the acreage of the Town of Nashville's total area by flood zone on the effective DFIRM. Per this assessment, over 10 percent of the Town's area falls within the mapped 1%-annual-chance floodplains.

Table Q.9 – Flood Zone Acreage in Town of Nashville

Flood Zone	Acreage	Percent of Total (%)
Zone AE	318.71	10.69
Zone X (500-year)	32.59	1.09
Zone X Unshaded	2,628.67	88.21
Total	2,979.97	--

Source: FEMA Effective DFIRM

Figure Q.2 reflects the effective mapped flood hazard zones for the Town of Nashville, Figure Q.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

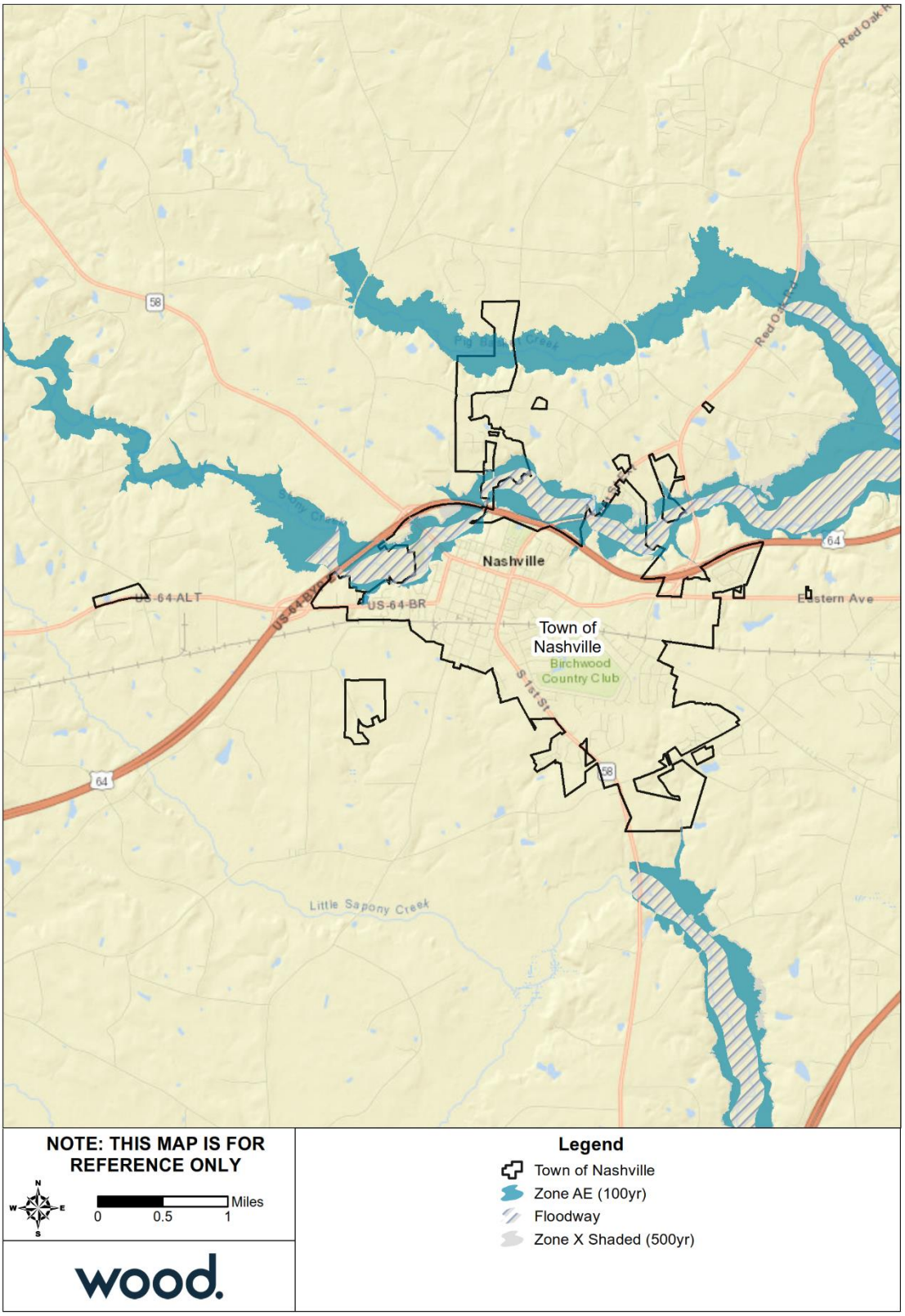
Table Q.10 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Nashville.

Table Q.10 – Critical Facilities Exposed to Flooding, Town of Nashville

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	100 Year	8	$35,711
	500 Year	16	$593,863
Food and Agriculture	100 Year	1	$11,132
	500 Year	1	$13,920
Healthcare and Public Health	500 Year	1	$18,188
All Categories	**100 Year**	**9**	**$46,843**
	500 Year	**18**	**$635,971**

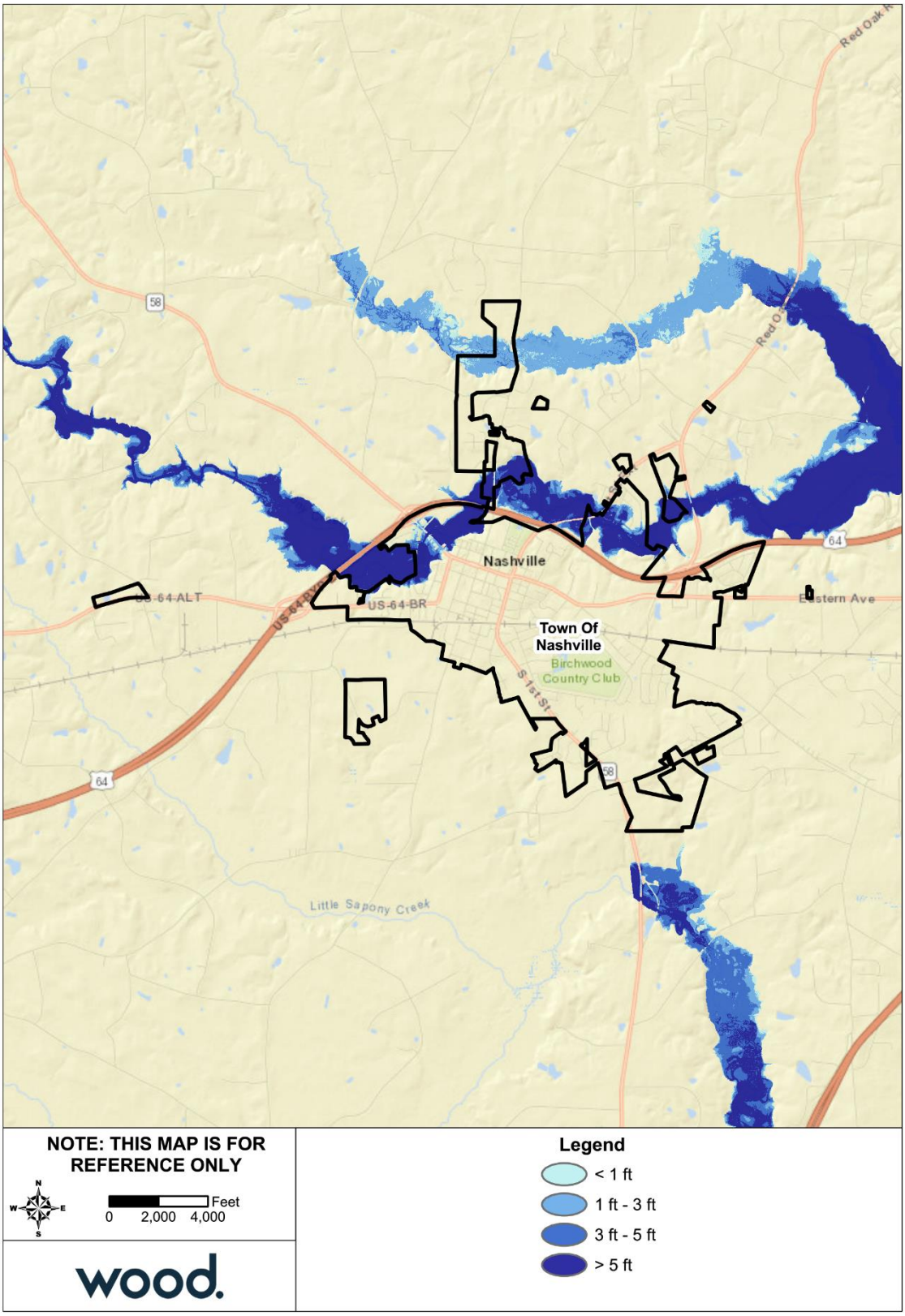
Source: RMT Tool Output

Figure Q.2 – FEMA Flood Hazard Areas, Town of Nashville



Source: FEMA Effective DFIRM

Figure Q.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Nashville



Source: FEMA Effective DFIRM

Q.3.2 Wildfire

Table Q.11Table Q.11summarizes the acreage in the Town of Nashville 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 9 percent of the Town of Nashville is not included in the WUI.

Table Q.11 – Wildland Urban Interface Acreage, Town of Nashville

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*280.50*	*9.49%*
	LT 1hs/40ac	142.16	4.81%
	1hs/40ac to 1hs/20ac	102.69	3.48%
	1hs/20ac to 1hs/10ac	160.67	5.44%
	1hs/10ac to 1hs/5ac	202.79	6.86%
	1hs/5ac to 1hs/2ac	377.25	12.77%
	1hs/2ac to 3hs/1ac	1,688.14	57.14%
	Total	**2,954.21**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for Nash County, in which the Town of Nashville is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Most of the Town of Nashville falls within high density WUI. However, potential fire intensity is low throughout Nashville, where just over 1 percent of the Town's area has a fire intensity rating of 4 or higher, as is burn probability. Therefore, little to no development is exposed to wildfire.

Table Q.12 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard.

Table Q.12 – Critical Facilities Exposed to Wildfire, Town of Nashville

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	1	$37,227
Food and Agriculture	Wildfire Hazard	2	$29,285
All Categories	**Wildfire Hazard**	**3**	**$66,512**

Q.4 CAPABILITY ASSESSMENT

Q.4.1 Floodplain Management

The Town of Nashville joined the NFIP through emergency entry in July 1975 and has been a regular participant since January 1986. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table Q.13 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	27	$15,199	$5,192,900	27	$770,980.95
Non-Residential	14	$14,003	$4,199,200	12	$824,849.92
Total	14	$14,003	$4,199,200	39	$1,595,830.87

Source: FEMA Community Information System, accessed March 2020

Table Q.14 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	26	$23,837	$5,885,100	22	$1,072,815.09
B, C & X Zone					
Standard	3	$1,532	$840,000	10	$363,046.96
Preferred	12	$3,833	$2,667,000	6	$156,986.69
Total	41	$29,091	$9,338,200	38	$1,592,848.74

Source: FEMA Community Information System, accessed March 2020

Table Q.15 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	10	$13,454	$2,561,900	14	$649,454.52
B, C & X Zone	9	$3,281	$1,897,000	13	$459,347.76
Standard	3	$1,532	$840,000	10	$363,046.96
Preferred	6	$1,749	$1,057,000	3	$96,300.80
Total	19	$16,735	$4,458,900	27	$1,108,802.28

Source: FEMA Community Information System, accessed March 2020

Table Q.16 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	16	$10,383	$3,323,200	8	$423,360.57
D Zones	6	$2,071	$1,610,000	3	$60,685.89
B, C & X Zone	6	$2,084	$1,610,000	3	$60,685.89
Standard	0	$0	$0	0	$0.00
Preferred	6	$2,084	$1,610,000	3	$60,685.89
Total	22	$12,467	$4,933,200	11	$484,046.46

Source: FEMA Community Information System, accessed March 2020

Q.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more person local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	The Town would like to expand membership and encourage continued participation on the committee during annual reviews.
Property Protection									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; provides final report to the governing board	All Hazards	3.3	Moderate	Public Works	Local	2023	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Provide disaster preparedness information in public facility waiting areas	All Hazards	1.1	High	Zoning Administrator	Local	2021	Carried Forward	No progress to report

Annex R Town of Pinetops

R.1 PLANNING PROCESS

The Town of Pinetops was represented by Edgecombe County throughout the planning process due to the Town's limited administrative capability.

R.2 COMMUNITY PROFILE

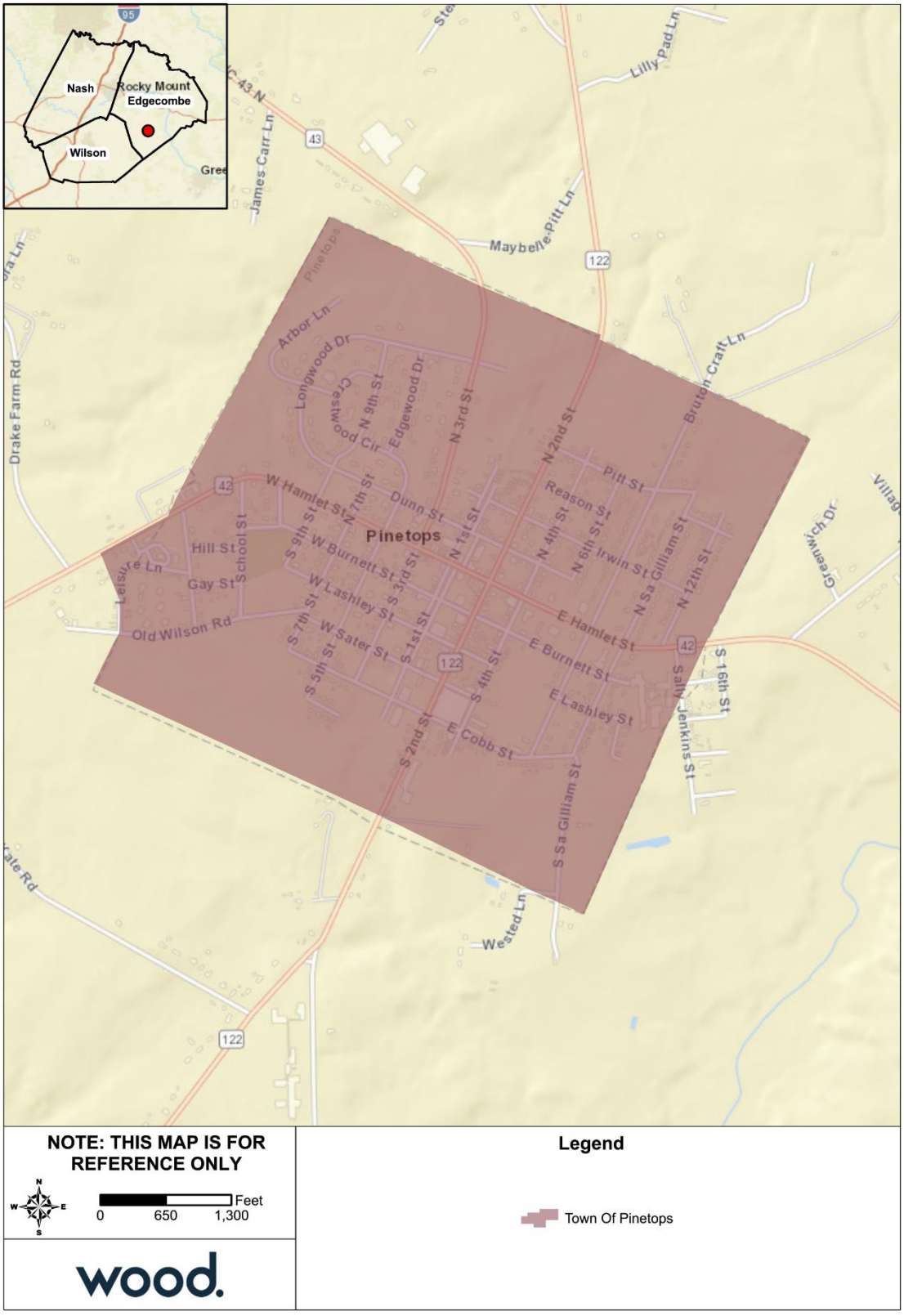
Geography

The Town of Pinetops is located in southeastern Edgecombe County. It is neighbored by Macclesfield to the south and Princeville and Tarboro to the north. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Pinetops comprises a total land area of 1.0 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 217.2 acres of wetlands in Pinetops.

Figure R.1 shows a base map of the Town of Pinetops.

Figure R.1 – Location, Town of Pinetops



Population and Demographics

Table R.1 provides population counts and growth estimates for the Town of Pinetops as compared to the region overall. Table R.2 provides demographic information for the Town as compared to the whole region.

Table R.1 – Population Counts, Pinetops, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Pinetops	1,419	1,374	1,273	-101	-7.35%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table R.2 – Racial Demographics, Pinetops, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Pinetops	38.3	61.7	0	0	0	2.8

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Pinetops in order to estimate the total physical exposure to hazards in this area.

Table R.3 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Pinetops	34	2	0	56	0	11	0	5	6	0	0	0	0	52	2	0	0	168

Source: NCEM Risk Management Tool

Table R.4 – High Potential Loss Properties by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Pinetops	0	0	1	2	0	1	0	4

Source: NCEM Risk Management Tool

There one listing on the National Register of Historic Places for the Town of Pinetops. This site is detailed in the table below.

Table R.5 – Historic Properties

Ref#	Property Name	Status Date	Category	City
82003450	Vinedale	7/15/1982	Building	Pinetops

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Pinetops as compared to the region overall.

Table R.6 – Housing Statistics, Pinetops, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Pinetops	666	652	-2.1	46.6	15.8	$66,300

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Pinetops as compared to the region overall.

Table R.7 – Employment Statistics, Pinetops, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Pinetops	484	45.6	2.7	51.7	5.6

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table R.8 – Percent of Employed Population by Occupation, Pinetops, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Pinetops	19.9	26.7	17.1	9.6	26.7

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

R.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Pinetops than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

R.3.1 Flood

Table R.9 details the acreage of the Town of Pinetops' total area by flood zone on the effective DFIRM. Per this assessment, 100 percent of the Town's area falls outside the mapped 1%-annual-chance floodplains.

Table R.9 – Flood Zone Acreage in Town of Pinetops

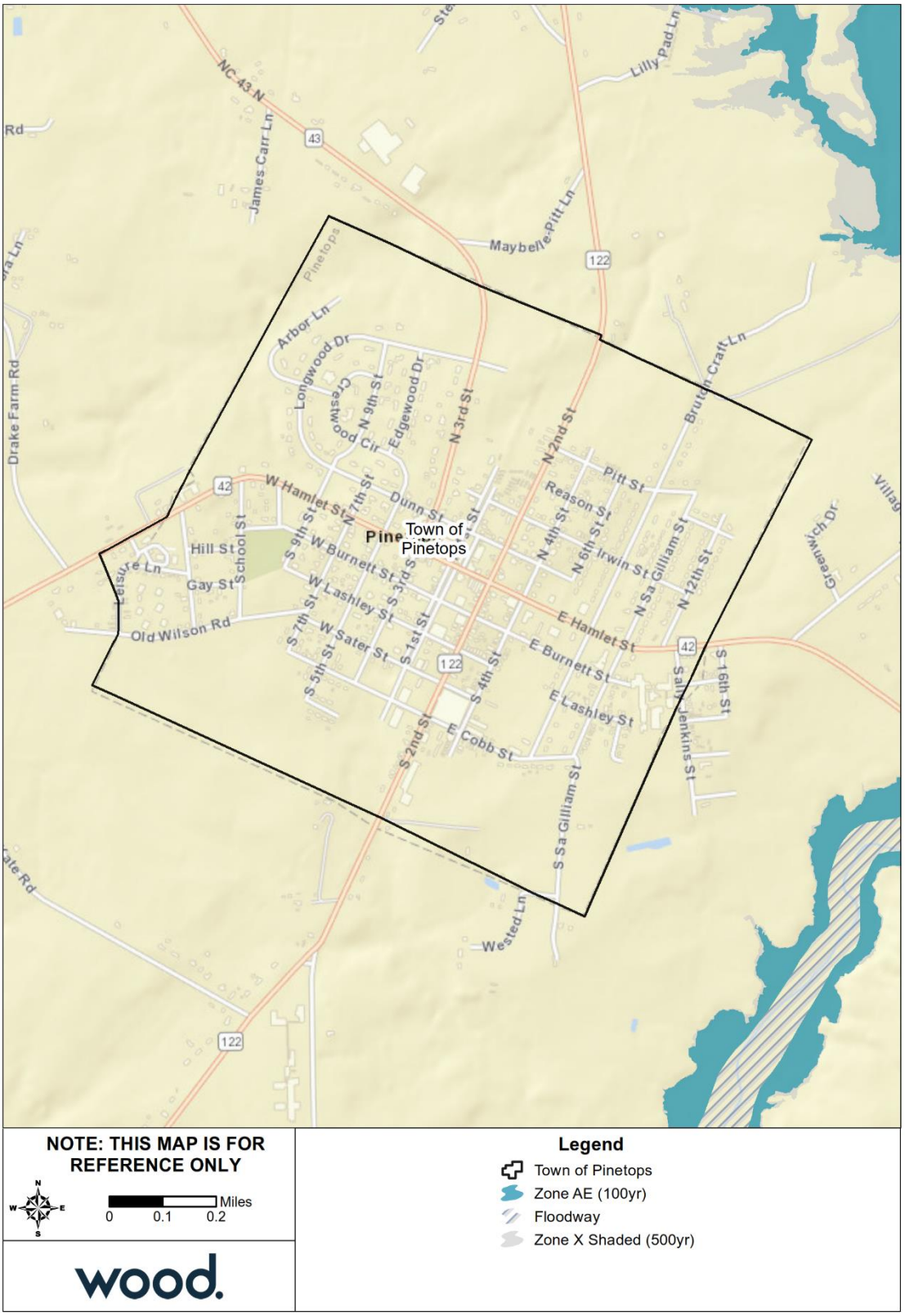
Flood Zone	Acreage	Percent of Total (%)
Zone X Unshaded	642.07	100
Total	642.07	--

Source: FEMA Effective DFIRM

Figure R.2 reflects the effective mapped flood hazard zones near the Town of Pinetops.

Per NCEM's Risk Management Tool, there are no Critical Facilities or High Potential Loss Properties at risk to flooding in the Town of Pinetops.

Figure R.2 – FEMA Flood Hazard Areas, Town of Pinetops



Source: FEMA Effective DFIRM

R.3.2 Wildfire

Table R.10 summarizes the acreage in the Town of Pinetops 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 2 percent of the Town of Pinetops is not included in the WUI.

Table R.10 – Wildland Urban Interface Acreage, Town of Pinetops

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*14.02*	*2.17%*
	LT 1hs/40ac	6.43	0.99%
	1hs/40ac to 1hs/20ac	1.23	0.19%
	1hs/20ac to 1hs/10ac	20.71	3.20%
	1hs/10ac to 1hs/5ac	37.97	5.86%
	1hs/5ac to 1hs/2ac	130.71	20.19%
	1hs/2ac to 3hs/1ac	436.47	67.40%
	Total	**647.55**	

Source: Southern Wildfire Risk Assessment

Figure B.3 depicts the WUI for Edgecombe County, in which the Town of Pinetops is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Most of the Town of Pinetops is located in high density WUI. However, most of the town has no burn probability, and where there is a possibility of burn it is low. Though there are spots of higher potential fire intensity, as approximately 3 percent of the town has a fire intensity rating of 4 or higher, especially in the northern area of the Town, these areas are have low or no burn probability and/or are largely outside of the WUI, meaning little to no development is at risk.

Table R.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table R.12 provides building counts and estimated damages to High Potential Loss Properties at risk to wildfire.

Table R.11 – Critical Facilities Exposed to Wildfire, Town of Pinetops

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	14	$6,676,391
Critical Manufacturing	Wildfire Hazard	4	$8,029,127
Food and Agriculture	Wildfire Hazard	20	$941,866
Government Facilities	Wildfire Hazard	1	$4,403,378
Transportation Systems	Wildfire Hazard	7	$2,323,483
All Categories	**Wildfire Hazard**	**46**	**$22,374,245**

Table R.12 – High Potential Loss Properties Exposed to Wildfire, Town of Pinetops

Category	Event	Number of Buildings at Risk	Estimated Damages
Government	Wildfire Hazard	1	$4,403,378
Industrial	Wildfire Hazard	1	$3,308,854
All Categories	**Wildfire Hazard**	**2**	**$7,712,232**

R.4 CAPABILITY ASSESSMENT

R.4.1 Floodplain Management

The Town of Pinetops joined the NFIP through emergency entry in November 1975 and has been a regular participant since March 1980. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM, and Post-FIRM.

Table R.13 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	11	$5,389	$2,106,400	29	$992,129.51
Total	11	$5,389	$2,106,400	29	$992,129.51

Source: FEMA Community Information System, accessed March 2020

Table R.14 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	3	$2,420	$476,400	20	$707,932.30
B, C & X Zone					
Standard	3	$2,420	$476,400	20	$707,932.30
Preferred	7	$2,304	$1,575,000	3	$66,425.27
Total	11	$5,389	$2,106,400	29	$992,129.51

Source: FEMA Community Information System, accessed March 2020

Table R.15 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	2	$2,017	$223,800	14	$497,933.37
B, C & X Zone	3	$1,394	$685,000	8	$279,771.94
Standard	1	$665	$55,000	6	$217,771.94
Preferred	2	$729	$630,000	2	$62,000.00
Total	5	$3,411	$908,800	22	$777,705.31

Source: FEMA Community Information System, accessed March 2020

Table R.16 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$403	$252,600	6	$209,998.93
B, C & X Zone	5	$1,575	$945,000	1	$4,425.27
Standard	0	$0	$0	0	$0.00
Preferred	5	$1,575	$945,000	1	$4,425.27
Total	6	$1,978	$1,197,600	7	$214,424.20

Source: FEMA Community Information System, accessed March 2020

R.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Cooling Stations Shelters with A/C (Office of Aging currently has a fan program)	Extreme Heat	3.3	Moderate	Staff/Volunteers	Local	2020	Carried Forward	No progress to report
Property Protection									
PP-1	NC Building codes to regulate tie downs Public and provide education through pamphlets	Tornado, Hurricane & Tropical Storm, Flood, Severe Weather, Severe Winter Storm	3.3	Moderate	Edgecombe County EM, Town Building Inspections	Local, State	2020	Carried Forward	**Required by:** 2018 Building Codes NC State Building Volume VIII - Modular Construction Regulation 1994 Edition NC Regulations for Manufactured Homes 2004 Edition Codes
PP-2	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; includes findings that will be presented to the elected governing Board	All Hazards	3.3	High	Edgecombe County EM, Town Administration, Town Manager, Town Council	State, Federal, Local, Grant funds	2023	Carried Forward	Working on this for 2020
Emergency Services									
ES-1	Improve county bridges and roads drainage	Flood, Tornado, Hurricane & Tropical Storm, Severe Weather, Severe Winter Storm	3.3	High	NCDOT	Local, State, Federal	2021	Carried Forward	Still Working on a few areas
ES-2	Encourage or assist residents through information to sign up for the county's emergency warning notification system	All Hazards	1.2	Moderate	Edgecombe County EM, Town Administration or Mayor	Local, State, Federal	2024	Carried Forward	Still adding on new people as they move in.
Public Education & Awareness									
PEA-1	Obtain FEMA hazard mitigation related handouts & make available for residents at Town Hall and/or as inserts in Utility Bills	All Hazards	1.1	Moderate	Edgecombe County EM, Town Council	FEMA, Local	2023	Carried Forward	Ongoing with new info

Annex S Town of Princeville

S.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Princeville.

Table S.1 – HMPC Members

Member Name	Title	Agency
Antwan Brown	Volunteer Fire Chief	Princeville FD

S.2 COMMUNITY PROFILE

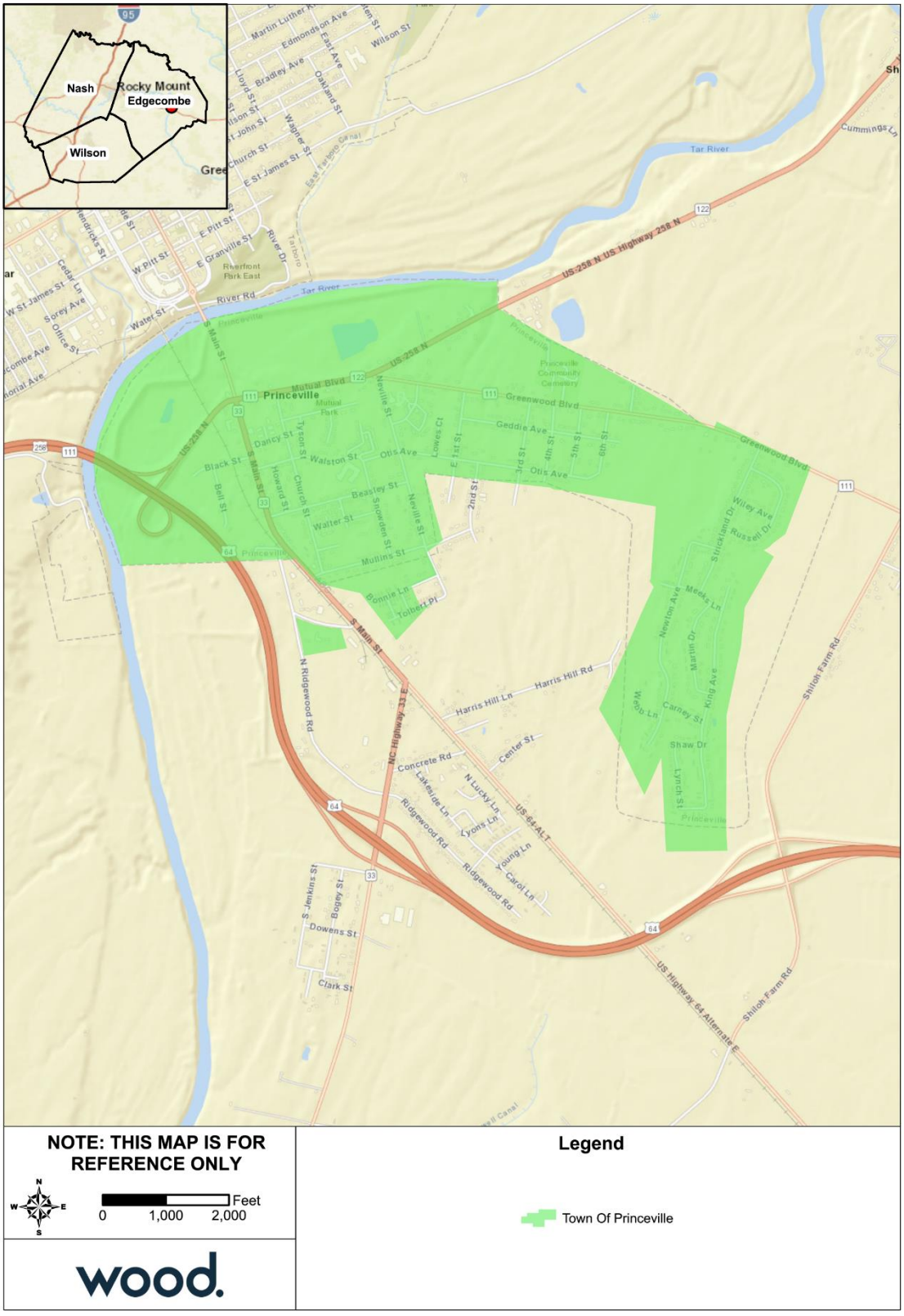
Geography

The Town of Princeville is located in central Edgecombe County. It is immediately bordered by Tarboro to the west. It is further neighbored by Conetoe to the southeast, Speed to the northeast, Pinetops to the south, and Leggett to the northwest. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Princeville comprises a total land area of 1.5 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 1,749.5 acres of wetlands in Princeville.

Figure S.1 shows a base map of the Town of Princeville.

Figure S.1 – Location, Town of Princeville



Population and Demographics

Table S.2 provides population counts and growth estimates for the Town of Princeville as compared to the region overall. Table S.3 provides demographic information for the Town as compared to the whole region.

Table S.2 – Population Counts, Princeville, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Princeville	940	2,082	2,357	275	13.21%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table S.3 – Racial Demographics, Princeville, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Princeville	2.8	93.4	0	0	3.8	2.4

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Princeville in order to estimate the total physical exposure to hazards in this area.

Table S.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Princeville	5	2	0	53	0	4	0	1	5	0	0	1	0	12	0	0	0	83

Source: NCEM Risk Management Tool

Table S.5 – High Potential Loss Properties by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Princeville	0	1	0	1	0	0	0	2

Source: NCEM Risk Management Tool

There one listing on the National Register of Historic Places for the Town of Princeville. This site is detailed in the table below.

Table S.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
00001615	Princeville School	1/9/2001	Building	Princeville

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Princeville as compared to the region overall.

Table S.7 – Housing Statistics, Princeville, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Princeville	1,002	1,125	12.3	57.4	20.5	$70,300

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Princeville as compared to the region overall.

Table S.8 – Employment Statistics, Princeville, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Princeville	900	45.5	4.1	50.5	8.2

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table S.9 – Percent of Employed Population by Occupation, Princeville, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Princeville	21.4	31.2	17.7	4.5	25.2

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

S.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Princeville than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

S.3.1 Flood

Table R.9 details the acreage of the Town of Princeville's total area by flood zone on the effective DFIRM. Per this assessment, over 19 percent of the Town's area falls within the mapped 1%-annual-chance floodplains.

Table S.10 – Flood Zone Acreage in Town of Princeville

Flood Zone	Acreage	Percent of Total (%)
Zone AE	186.48	19.13
Zone X Unshaded	788.51	80.87
Total	974.99	--

Source: FEMA Effective DFIRM

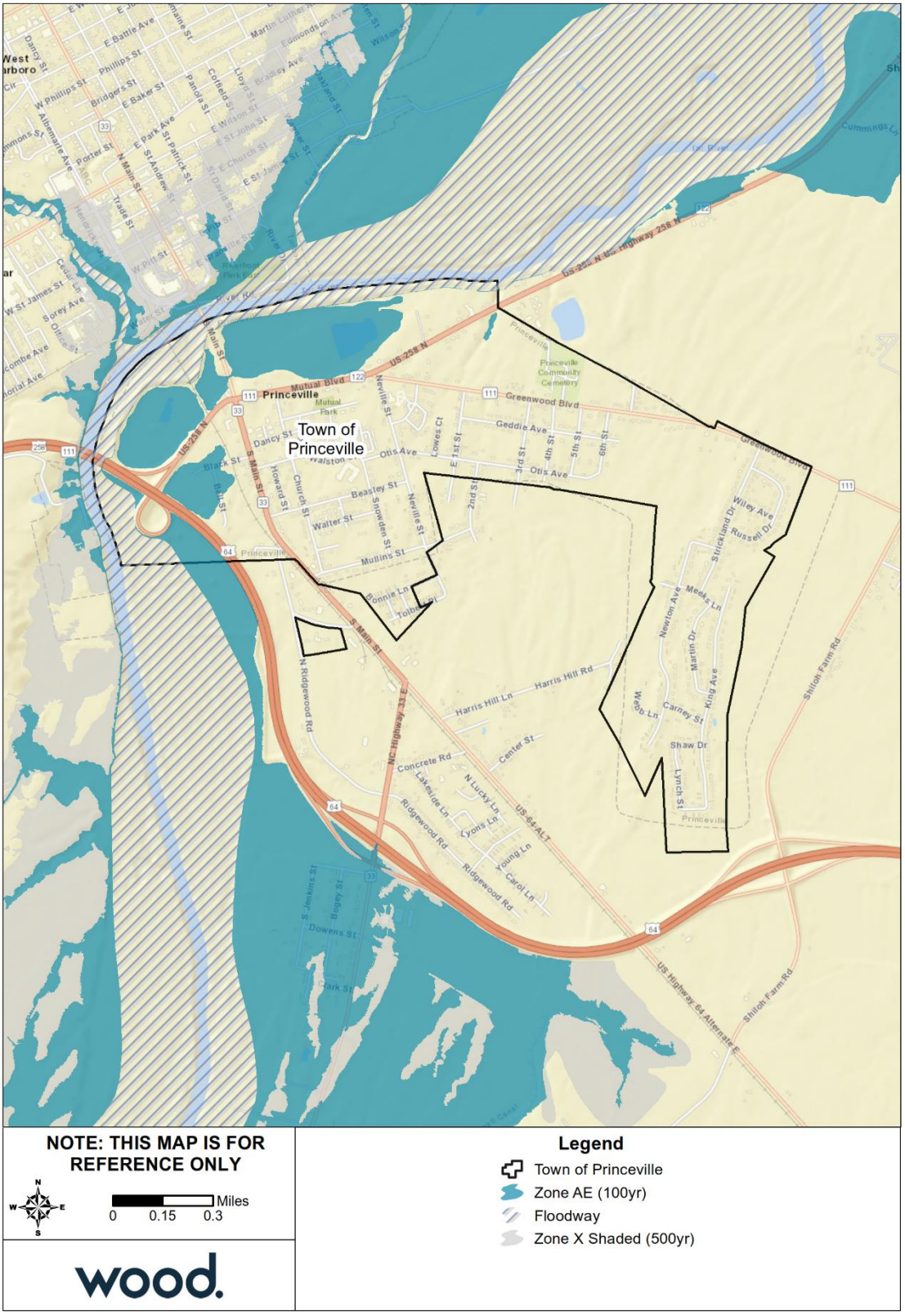
Figure S.2 reflects the effective mapped flood hazard zones for the Town of Princeville, and Figure S.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table S.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Princeville.

Table S.11 – Critical Facilities Exposed to Flooding, Town of Princeville

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	500 Year	2	$69,941
All Categories	**500 Year**	**2**	**$69,941**

Figure S.2 – FEMA Flood Hazard Areas, Town of Princeville



Source: FEMA Effective DFIRM

Figure S.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Princeville



Source: FEMA Effective DFIRM

S.3.2 Wildfire

Table S.12 summarizes the acreage in the Town of Princeville 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 7 percent of the Town of Princeville is not included in the WUI.

Table S.12 – Wildland Urban Interface Acreage, Town of Princeville

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*69.63*	*7.14%*
	LT 1hs/40ac	49.55	5.08%
	1hs/40ac to 1hs/20ac	28.51	2.92%
	1hs/20ac to 1hs/10ac	34.85	3.57%
	1hs/10ac to 1hs/5ac	54.10	5.55%
	1hs/5ac to 1hs/2ac	89.17	9.14%
	1hs/2ac to 3hs/1ac	649.32	66.59%
	Total	**975.13**	

Source: Southern Wildfire Risk Assessment

Figure B.3 depicts the WUI for Edgecombe County, in which the Town of Princeville is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Most of the Town of Princeville falls within high density WUI. However, potential fire intensity is low throughout Princeville, where approximately 2 percent of the Town's total area has a fire intensity rating of 4 or higher, as is burn probability. Therefore, little to no development is exposed to wildfire.

Per NCEM's Risk Management Tool, there are no Critical Facilities or High Potential Loss Properties at risk to wildfire in the Town of Princeville.

S.4 CAPABILITY ASSESSMENT

S.4.1 Floodplain Management

The Town of Princeville joined the NFIP through emergency entry in August 1976 and has been a regular participant since April 1980. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM, and Post-FIRM.

Table S.13 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	131	$43,664	$24,195,600	95	$3,806,272.01
2-4 Family	14	$21,559	$2,970,000	14	$1,512,846.44
All Other Residential	6	$13,678	$2,000,000	11	$3,188,822.96
Non-Residential	19	$42,587	$7,888,600	11	$1,156,463.92
Total	**170**	**$121,488**	**$37,054,200**	**131**	**$9,664,405.33**

Source: FEMA Community Information System, accessed March 2020

Table S.14 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	2	$1,681	$461,700	4	$217,085.26
B, C & X Zone					
Standard	33	$68,017	$9,735,500	17	$2,563,705.73
Preferred	135	$51,790	$26,857,000	110	$6,883,614.34
Total	**170**	**$121,488**	**$37,054,200**	**131**	**$9,664,405.33**

Source: FEMA Community Information System, accessed March 2020

Table S.15 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone	62	$22,035	$11,992,900	43	$1,525,482.92
Standard	3	$2,050	$329,900	3	$201,144.49
Preferred	59	$19,985	$11,663,000	40	$1,324,338.43
Total	62	$22,035	$11,992,900	43	$1,525,482.92

Source: FEMA Community Information System, accessed March 2020

Table S.16 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	59	$19,985	$11,663,000	40	$1,324,338.43
B, C & X Zone	106	$97,772	$24,599,600	84	$7,921,837.15
Standard	30	$65,967	$9,405,600	14	$2,362,561.24
Preferred	76	$31,805	$15,194,000	70	$5,559,275.91
Total	**108**	**$99,453**	**$25,061,300**	**88**	**$8,138,922.41**

Source: FEMA Community Information System, accessed March 2020

S.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; includes findings that will be presented to the elected governing Board	All Hazards	3.3	High	Edgecombe County EM, Town Administration, Town Manager, Town Council	State, Federal, Local, Grant funds	2023	Carried Forward	No progress to report
Emergency Services									
ES-1	Improve County bridges and roads drainage	Flood, Tornado, Hurricane & Tropical Storm, Severe Weather, Severe Winter Storm	3.3	High	NCDOT	Local, State, Federal	2021	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Council	FEMA, Local	2023	Carried Forward	No progress to report

Annex T Town of Red Oak

T.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Red Oak.

Table T.1 – HMPC Members

Member Name	Title	Agency
Levell Langley	Mayor	Town of Red Oak
Tracy Shearin	Town Clerk	Town of Red Oak
Scott Briley	Planning Board Member	Town of Red Oak Planning Board

T.2 COMMUNITY PROFILE

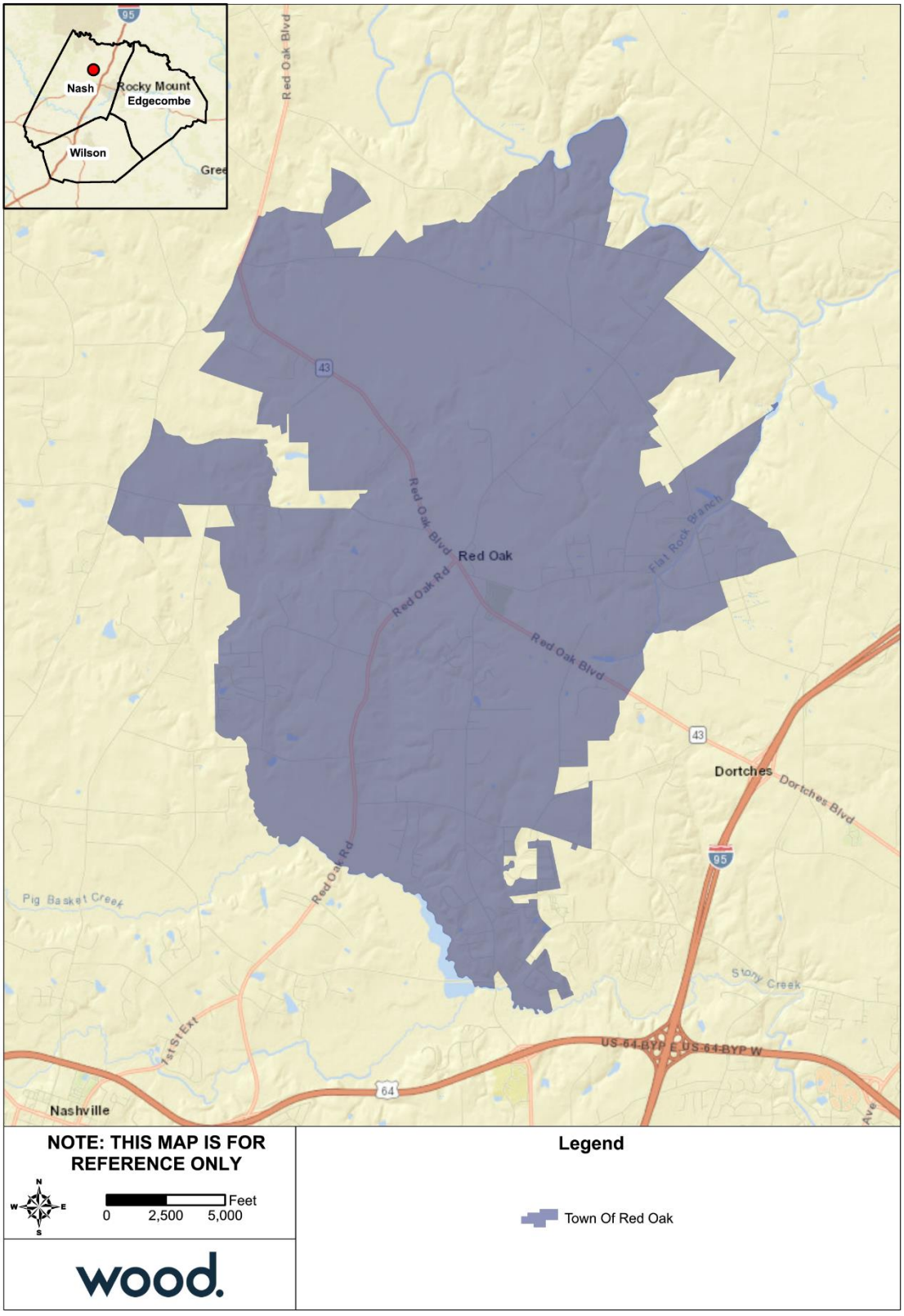
Geography

The Town of Red Oak is located in northeastern Nash County. It is neighbored by Nashville to the south, Dortches Rocky Mount to the east, and Castalia to the west. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Red Oak comprises a total land area of 19.5 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 2,618.9 acres of wetlands in Red Oak.

Figure T.1 shows a base map of the Town of Red Oak.

Figure T.1 – Location, Red Oak



Population and Demographics

Table T.2 provides population counts and growth estimates for the Town of Red Oak as compared to the region overall. Table T.3 provides demographic information for the Town as compared to the whole region.

Table T.2 – Population Counts, Red Oak, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Red Oak	2,723	3,430	3,411	-19	-0.55%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table T.3 – Racial Demographics, Red Oak, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Red Oak	88.7	11.3	0	0	0	0.6

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Red Oak in order to estimate the total physical exposure to hazards in this area.

Table T.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Red Oak	145	1	0	28	0	6	0	10	0	0	0	0	0	2	0	1	0	193

Source: NCEM Risk Management Tool

Table T.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Red Oak	0	2	0	0	0	0	0	2

Source: NCEM Risk Management Tool

There are two listings on the National Register of Historic Places for the Town of Red Oak. These sites are listed in the table below.

Table T.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
74001362	Black Jack	7/31/1974	Building	Red Oak
06000293	Red Oak Community House	4/19/2006	Building	Red Oak

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Red Oak as compared to the region overall.

Table T.7 – Housing Statistics, Red Oak, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Red Oak	1,322	1,500	13.5	90.6	6.1	$198,500

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Red Oak as compared to the region overall.

Table T.8 – Employment Statistics, Red Oak, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Red Oak	1,844	61.8	3.2	35	4.9

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table T.9 – Percent of Employed Population by Occupation, Red Oak, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Red Oak	42.6	11.1	29.9	9.6	6.8

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

T.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Red Oak than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

T.3.1 Flood

Table T.10 details the acreage of the Town of Red Oak's total area by flood zone on the effective DFIRM. Per this assessment, 3.5 percent of the Town's area falls within the mapped 1%-annual-chance floodplains.

Table T.10 – Flood Zone Acreage in Town of Red Oak

Flood Zone	Acreage	Percent of Total (%)
Zone AE	441.43	3.53
Zone X (500-year)	23.99	0.19
Zone X Unshaded	12,039.20	96.28
Total	12,504.63	--

Source: FEMA Effective DFIRM

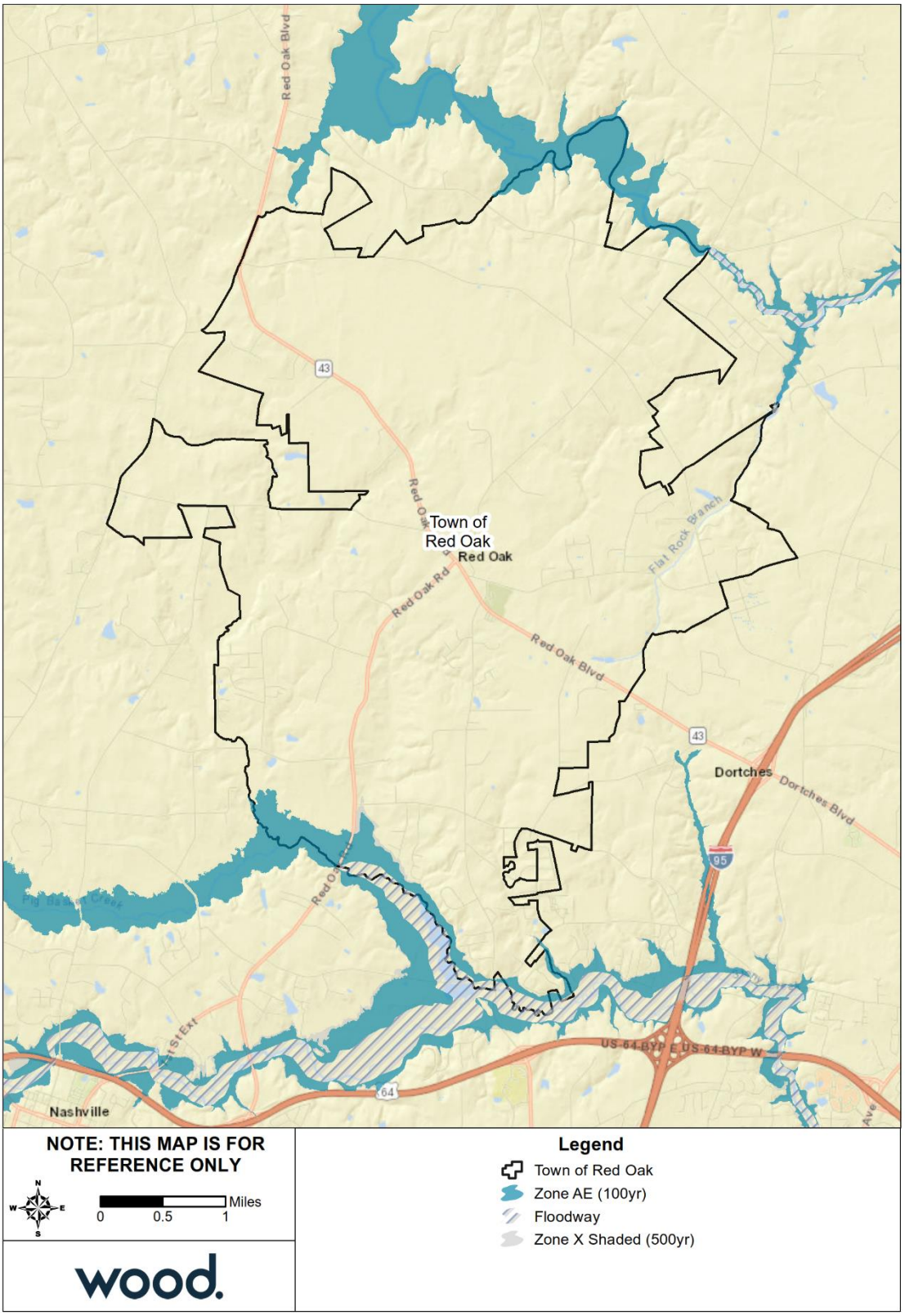
Figure T.2 reflects the effective mapped flood hazard zones for the Town of Red Oak, and Figure T.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table T.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Red Oak.

Table T.11 – Critical Facilities Exposed to Flooding, Town of Red Oak

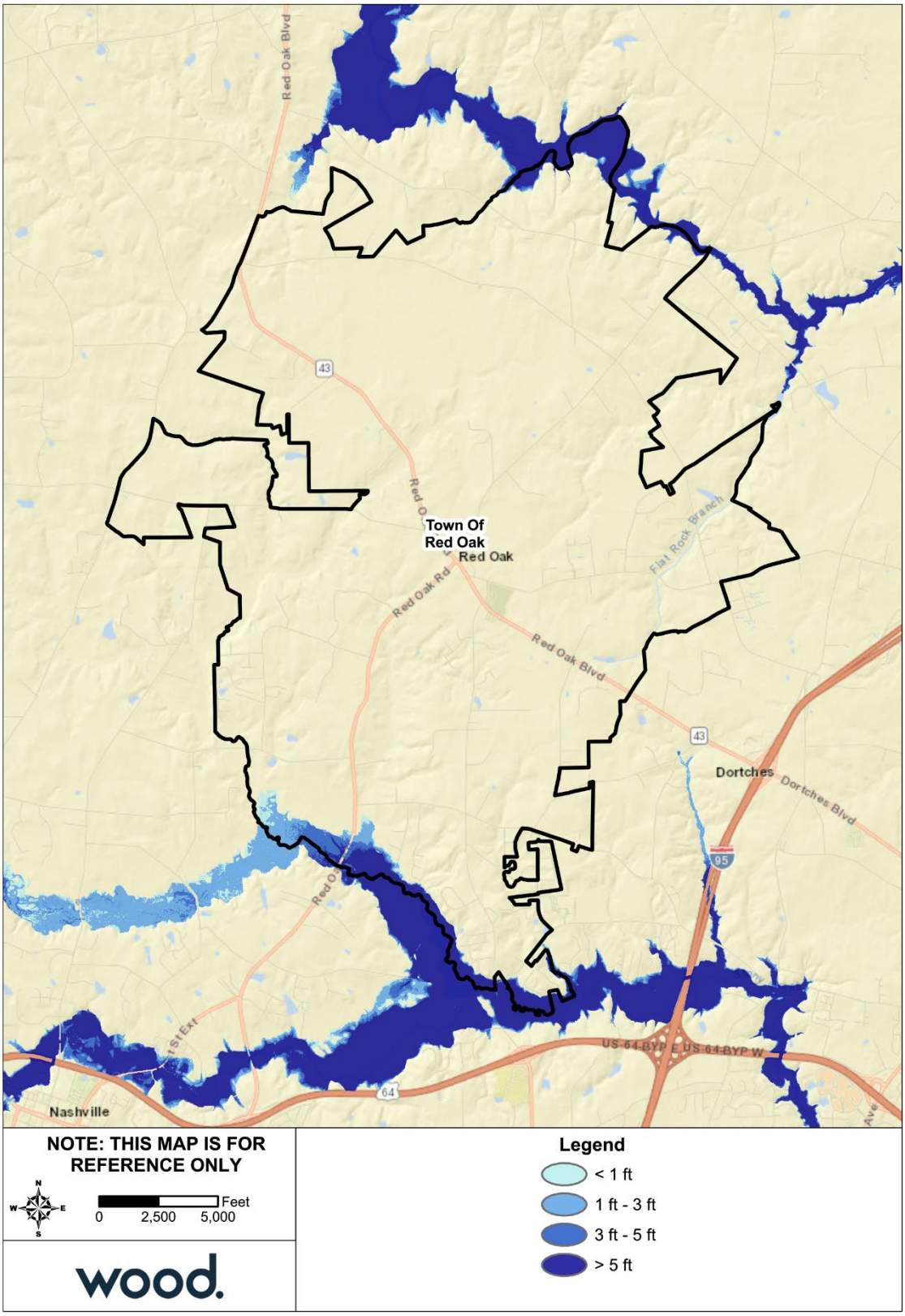
Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	100 Year	1	$7,449
	500 Year	3	$15,868
All Categories	**100 Year**	**1**	**$7,449**
	500 Year	**3**	**$15,868**

Figure T.2 – FEMA Flood Hazard Areas, Town of Red Oak



Source: FEMA Effective DFIRM

Figure T.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Red Oak



Source: FEMA Effective DFIRM

T.3.2 Wildfire

Table T.12 summarizes the acreage in the Town of Red Oak 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 32 percent of the Town of Red Oak is not included in the WUI.

Table T.12 – Wildland Urban Interface Acreage, Town of Red Oak

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*4,084.66*	*32.66%*
	LT 1hs/40ac	2,075.26	16.59%
	1hs/40ac to 1hs/20ac	1,148.21	9.18%
	1hs/20ac to 1hs/10ac	1,616.20	12.92%
	1hs/10ac to 1hs/5ac	1,301.64	10.41%
	1hs/5ac to 1hs/2ac	1,441.16	11.52%
	1hs/2ac to 3hs/1ac	838.35	6.70%
	Total	**12,505.49**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for Nash County, in which the Town of Red Oak is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Red Oak, approximately 7 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest north Red Oak with spots of high burn probability throughout. However, as the entire Town has lower burn probability and these areas are largely outside of the WUI, little to not development is at risk. The area of greatest risk in the Town is in the northeast, where WUI overlays with relatively higher burn probability and high fire intensity levels.

Table T.13 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard.

Table T.13 – Critical Facilities Exposed to Wildfire, Town of Red Oak

Sector	Event	Number of Buildings at Risk	Estimated Damages
Food and Agriculture	Wildfire Hazard	7	$257,124
All Categories	**Wildfire Hazard**	**7**	**$257,124**

T.4 CAPABILITY ASSESSMENT

T.4.1 Floodplain Management

The Town of Red Oak joined the NFIP as a regular participant in January 1999. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table T.14 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	16	$7,622	$5,123,400	3	$3,693.41
Total	16	$7,622	$5,123,400	3	$3,693.41

Source: FEMA Community Information System, accessed March 2020

Table T.15 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	5	$3,312	$1,413,400	0	$0.00
B, C & X Zone					
Standard	1	$530	$350,000	0	$0.00
Preferred	10	$3,780	$3,360,000	3	$3,693.41
Total	16	$7,622	$5,123,400	3	$3,693.41

Source: FEMA Community Information System, accessed March 2020

Table T.16 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone	3	$1,128	$1,050,000	1	$677.96
Standard	0	$0	$0	0	$0.00
Preferred	3	$1,128	$1,050,000	1	$677.96
Total	3	$1,128	$1,050,000	1	$677.96

Source: FEMA Community Information System, accessed March 2020

Table T.17 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	5	$3,312	$1,413,400	0	$0.00
B, C & X Zone	8	$3,182	$2,660,000	2	$3,015.45
Standard	1	$530	$350,000	0	$0.00
Preferred	7	$2,652	$2,310,000	2	$3,015.45
Total	13	$6,494	$4,073,400	2	$3,015.45

Source: FEMA Community Information System, accessed March 2020

T.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Consider implementing a Capital Improvement Program to assist in maintaining critical facilities	All Hazards	3.3	High	Town Board	Local	2020	Carried Forward	Needs to be formalized and updated
P-2	Research/consider mitigation actions in reference to installation of the Atlantic Coast Pipeline	All Hazards	3.3	High	Town Board	Local	2021	Carried Forward	No progress to report
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical facilities	All Hazards	3.3	High	Town Administration	Local, State, Federal	2023	Carried Forward	Fire Department and Town Hall have generators. Town will identify needs for other critical facilities.
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.1	Moderate	Town Board	Local	2021	Carried Forward	No progress to report

Annex U Town of Saratoga

U.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Saratoga.

Table U.1 – HMPC Members

Member Name	Title	Agency
Elaine Saunders	Commissioner	Town of Saratoga

U.2 COMMUNITY PROFILE

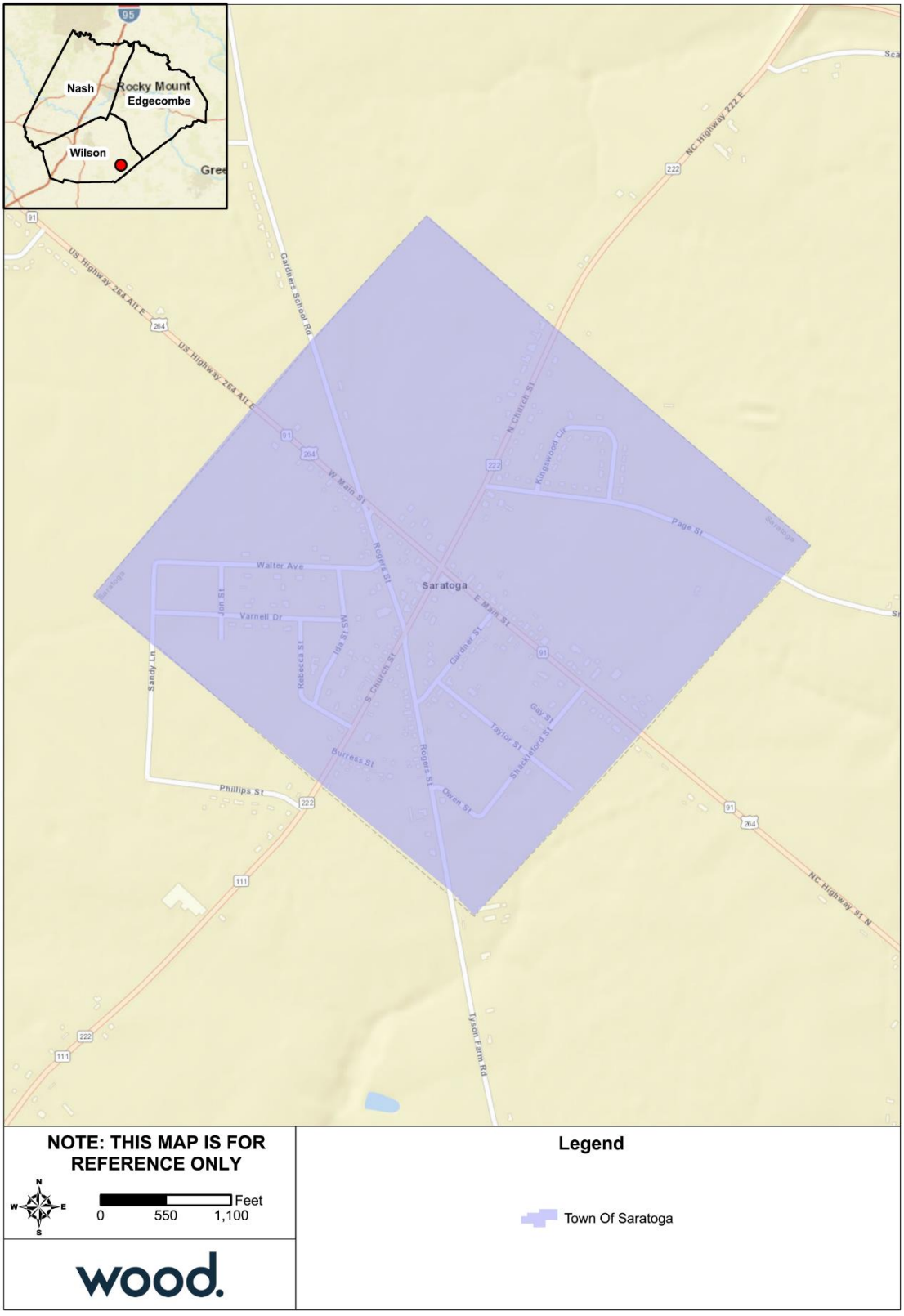
Geography

The Town of Saratoga is located in southeastern Wilson County, close to the border with Greene County. It is neighbored most closely by Stantonsburg to the south. The Town is part of the Wilson County Micropolitan Stastical Area, which is included in the Rocky Mount-Wilson-Roanoke Rapids Combined Statistical Area. Saratoga comprises a total land area of 0.64 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are no recorded wetlands in Saratoga.

Figure U.1 shows a base map of the Town of Saratoga.

Figure U.1 – Location, Town of Saratoga



Population and Demographics

Table U.2 provides population counts and growth estimates for the Town of Saratoga as compared to the region overall. Table U.3 provides demographic information for the City compared to the region.

Table U.2 – Population Counts, Saratoga, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Saratoga	379	408	502	94	23.04%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table U.3 – Racial Demographics, Saratoga, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Saratoga	43.8	54.6	0	0.8	0.8	2.2

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Saratoga in order to estimate the total physical exposure to hazards in this area.

Table U.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Saratoga	33	0	0	23	0	1	0	0	0	0	0	0	0	0	0	1	0	58

Source: NCEM Risk Management Tool

Table U.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Other	Total
Town of Saratoga	1	1	0	0	0	0	0	2	1

Source: NCEM Risk Management Tool

There is one listing on the National Register of Historic Places for the Town of Saratoga. These sites are listed in the table below.

Table U.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
82003530	Scarborough, Maj. James, House	6/14/1982	Building	Saratoga

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Saratoga as compared to the region overall.

Table U.7 – Housing Statistics, Saratoga, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Saratoga	147	219	49.0	53.7	8.2	$105,800

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Saratoga as compared to the region overall.

Table U.8 – Employment Statistics, Saratoga, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Saratoga	244	60.6	1.8	37.6	2.9

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table U.9 – Percent of Employed Population by Occupation, Saratoga, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Saratoga	21.9	11.4	15.2	31.2	20.3

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

U.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Saratoga than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

U.3.1 Flood

Table U.10 details the acreage of the Town of Saratoga's total area by flood zone on the effective DFIRM. Per this assessment, the entirety of the Town falls outside of the mapped 1%-annual-chance floodplain.

Table U.10 – Flood Zone Acreage in Town of Saratoga

Flood Zone	Acreage	Percent of Total (%)
Zone X Unshaded	410.61	100
Total	410.61	--

Source: FEMA Effective DFIRM

Per NCEM's Risk Management Tool, in the Town of Saratoga there, there are no Critical Facilities or High Potential Loss Properties exposed to flooding.

U.3.2 Wildfire

Table U.11 summarizes the acreage in the Town of Saratoga 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 2 percent of the Town of Saratoga is not included in the WUI.

Table U.11 – Wildland Urban Interface Acreage, Town of Saratoga

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*11.61*	*2.83%*
	LT 1hs/40ac	6.14	1.49%
	1hs/40ac to 1hs/20ac	3.46	0.84%
	1hs/20ac to 1hs/10ac	23.55	5.73%
	1hs/10ac to 1hs/5ac	59.98	14.60%
	1hs/5ac to 1hs/2ac	163.75	39.87%
	1hs/2ac to 3hs/1ac	142.20	34.63%
	Total	**410.69**	

Source: Southern Wildfire Risk Assessment

Figure C.3 depicts the WUI for Wilson County, in which the Town of Saratoga is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure C.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Saratoga, approximately 4 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in west and southeast Saratoga; however, these areas largely have low burn probability and are in lower density WUI areas. While there is some development at risk because these areas are within the WUI, because burn probability is so low risk is relatively lower.

Table U.12 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table U.13 provides estimated damages for the High Potential Loss Property at risk to Wildfire in Saratoga

Table U.12 – Critical Facilities Exposed to Wildfire, Town of Saratoga

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	10	$3,082,058
Critical Manufacturing	Wildfire Hazard	1	$84,341
Food and Agriculture	Wildfire Hazard	14	$1,178,031

Sector	Event	Number of Buildings at Risk	Estimated Damages
All Categories	**Wildfire Hazard**	**25**	**$4,344,430**

Table U.13 – High Potential Loss Properties Exposed to Wildfire, Town of Saratoga

Category	Event	Number of Buildings at Risk	Estimated Damages
Residential	Wildfire Hazard	1	$1,239,184
All Categories	**Wildfire Hazard**	**1**	**$1,239,184**

U.4 CAPABILITY ASSESSMENT

U.4.1 Floodplain Management

The Town of Saratoga joined the NFIP through regular entry in October 2008. With 100 percent of the Town's land area outside of the 1%-annual-chance floodplain, there are no active policies or closed paid losses reported by FEMA's Community Information System.

U.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish or continue a three or more member local HM Committee with private sector participation	All Hazards	2.2	Medium	Town Council	Local	2021	Carried Forward	Town Council to formalize committee role
Property Protection									
PP-1	Conduct an internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	High	Town Administration, Town Council	State, Federal, Grant funds, Local	2023	Carried Forward	Wells, lift station, and filter plant have generators. Will continue to evaluate need and pursue funding for additional critical facility improvements.
Public Education & Awareness									
PEA-1	Obtain FEMA Hazard Mitigation Related handouts & make available for residents at Town Hall and/or as inserts in Utility Bills	All Hazards	1.2	Medium	Town Administration	Local, FEMA	2023	Carried Forward	No progress to report

Annex V Town of Sharpsburg

V.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Sharpsburg.

Table V.1 – HMPC Members

Member Name	Title	Agency
Tracy Sullivan	Town Clerk	Town of Sharpsburg
Marvin Robbins	Volunteer Fireman	Sharpsburg Volunteer Fire Department

V.2 COMMUNITY PROFILE

Geography

The Town of Sharpsburg is located in eastern Nash County, southwestern Edgecombe County, and northern Wilson County, at the point where the three counties meet. It is bordered by Rocky Mount to the north and Elm City to the south. The Town is contained within the Rocky Mount, NC Metropolitan statistical area as well as the Wilson County Micropolitan Statistical area, which are both part of the Rocky Mount-Wilson-Roanoke Rapids Combined Statistical Area. Sharpsburg comprises a total land area of 1.02 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 22.6 acres of wetlands in Sharpsburg.

Figure V.1 shows a base map of the Town of Sharpsburg.

Figure V.1 – Town of Sharpsburg



Population and Demographics

Table V.2 provides population counts and growth estimates for the Town of Sharpsburg as compared to the region overall. Table V.3 provides demographic information for the Town compared to the region.

Table V.2 – Population Counts, Sharpsburg, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Sharpsburg	2,421	2,024	2,158	134	6.62%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table V.3 – Racial Demographics, Sharpsburg, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Sharpsburg	17.2	73.7	0	3.5	5.6	3.2

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Sharpsburg in order to estimate the total physical exposure to hazards in this area.

Table V.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Sharpsburg	62	2	0	103	0	28	0	2	2	0	0	0	0	4	0	2	0	205

Source: NCEM Risk Management Tool

Table V.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Other	Total
Town of Sharpsburg	1	0	1	0	0	1	0	3	1

Source: NCEM Risk Management Tool

There are no listings on the National Register of Historic Places for the Town of Sharpsburg.

Housing

The table below details key housing statistics for Sharpsburg as compared to the region overall.

Table V.6 – Housing Statistics, Sharpsburg, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Sharpsburg	870	1,014	16.6	39.8	10.7	$75,600

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Sharpsburg as compared to the region overall.

Table V.7 – Employment Statistics, Sharpsburg, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Sharpsburg	1,020	60	7.5	32.5	11.2

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table V.8 – Percent of Employed Population by Occupation, Sharpsburg, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Sharpsburg	20.6	13.8	31.1	6	28.5

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

V.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Sharpsburg than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

V.3.1 Flood

Table V.9 details the acreage of the Town of Sharpsburg's total area by flood zone on the effective DFIRM. Per this assessment, 100 percent of the Town falls outside of the mapped 1%-annual-chance floodplains.

Table V.9 – Flood Zone Acreage in Town of Sharpsburg

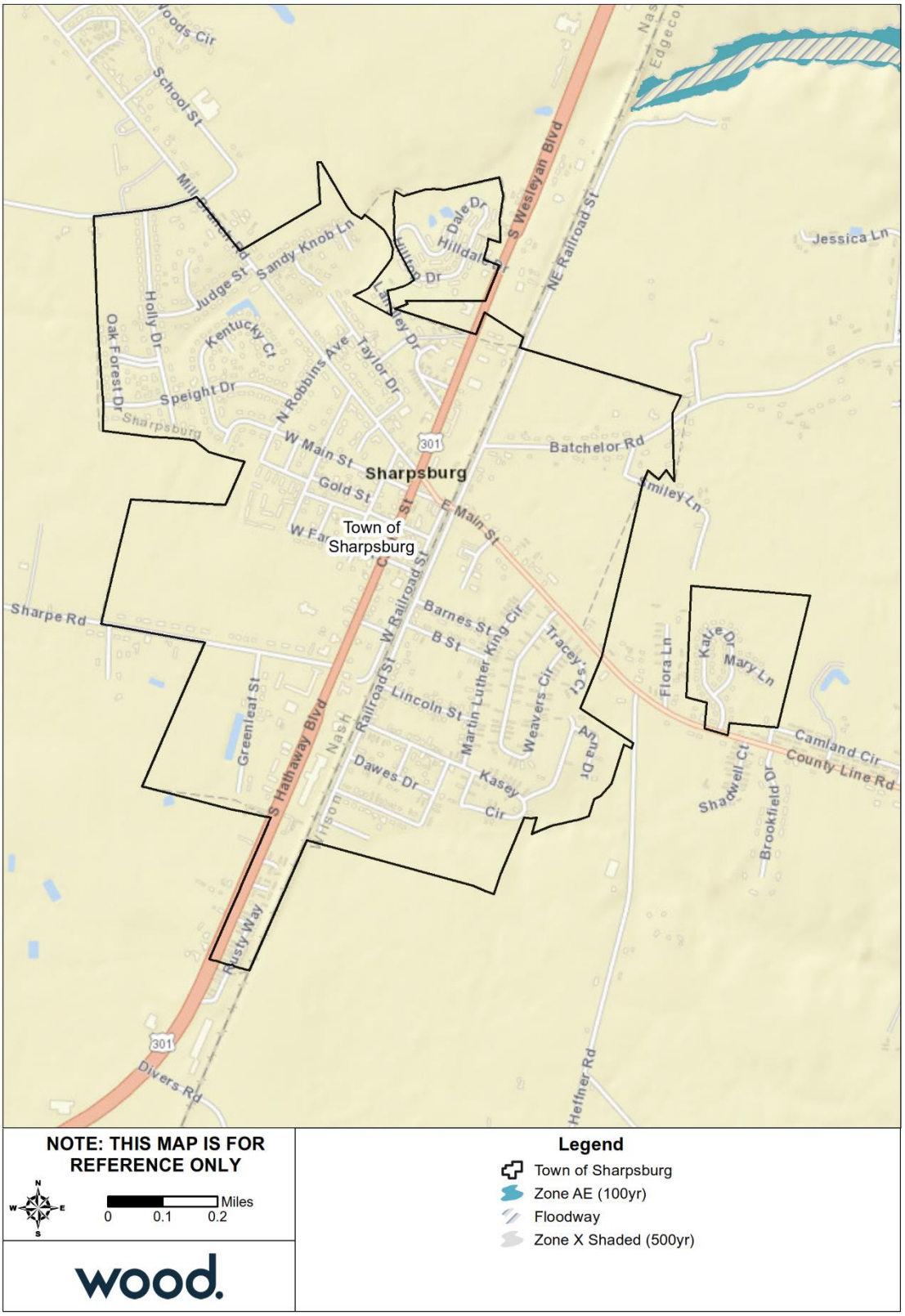
Flood Zone	Acreage	Percent of Total (%)
Zone X Unshaded	650.34	100
Total	650.34	--

Source: FEMA Effective DFIRM

Figure V.2 reflects the effective mapped flood hazard zones near the Town of Sharpsburg.

Per NCEM's Risk Management Tool, in the Town of Sharpsburg there, there are no Critical Facilities or High Potential Loss Properties exposed to flooding.

Figure V.2 – FEMA Flood Hazard Areas, Town of Sharpsburg



Source: FEMA Effective DFIRM

V.3.2 Wildfire

Table V.10 summarizes the acreage in the Town of Sharpsburg 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 2 percent of the Town of Sharpsburg is not included in the WUI.

Table V.10 – Wildland Urban Interface Acreage, Town of Sharpsburg

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*2.33*	*0.36%*
	LT 1hs/40ac	2.96	0.45%
	1hs/40ac to 1hs/20ac	4.96	0.76%
	1hs/20ac to 1hs/10ac	8.29	1.27%
	1hs/10ac to 1hs/5ac	24.90	3.83%
	1hs/5ac to 1hs/2ac	85.50	13.14%
	1hs/2ac to 3hs/1ac	521.50	80.18%
	Total	**650.44**	

Source: Southern Wildfire Risk Assessment

Figure A.3, Figure B.3, and Figure C.3 depict the WUI Nash, Edgecombe, and Wilson County, where the Town of Sharspburg is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure V.3 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5, Figure B.5, and Figure C.5 depict Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Sharpsburg, approximately 2 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in northeast and east Sharpsburg; these areas are within lower density areas of the WUI, but the relative burn probability is low. While there is some risk given the overlap of WUI and high potential fire intensity, this risk is relatively lower due to low burn probability.

Table V.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table V.12 provides estimated damages for a high potential loss residential property exposed to wildfire.

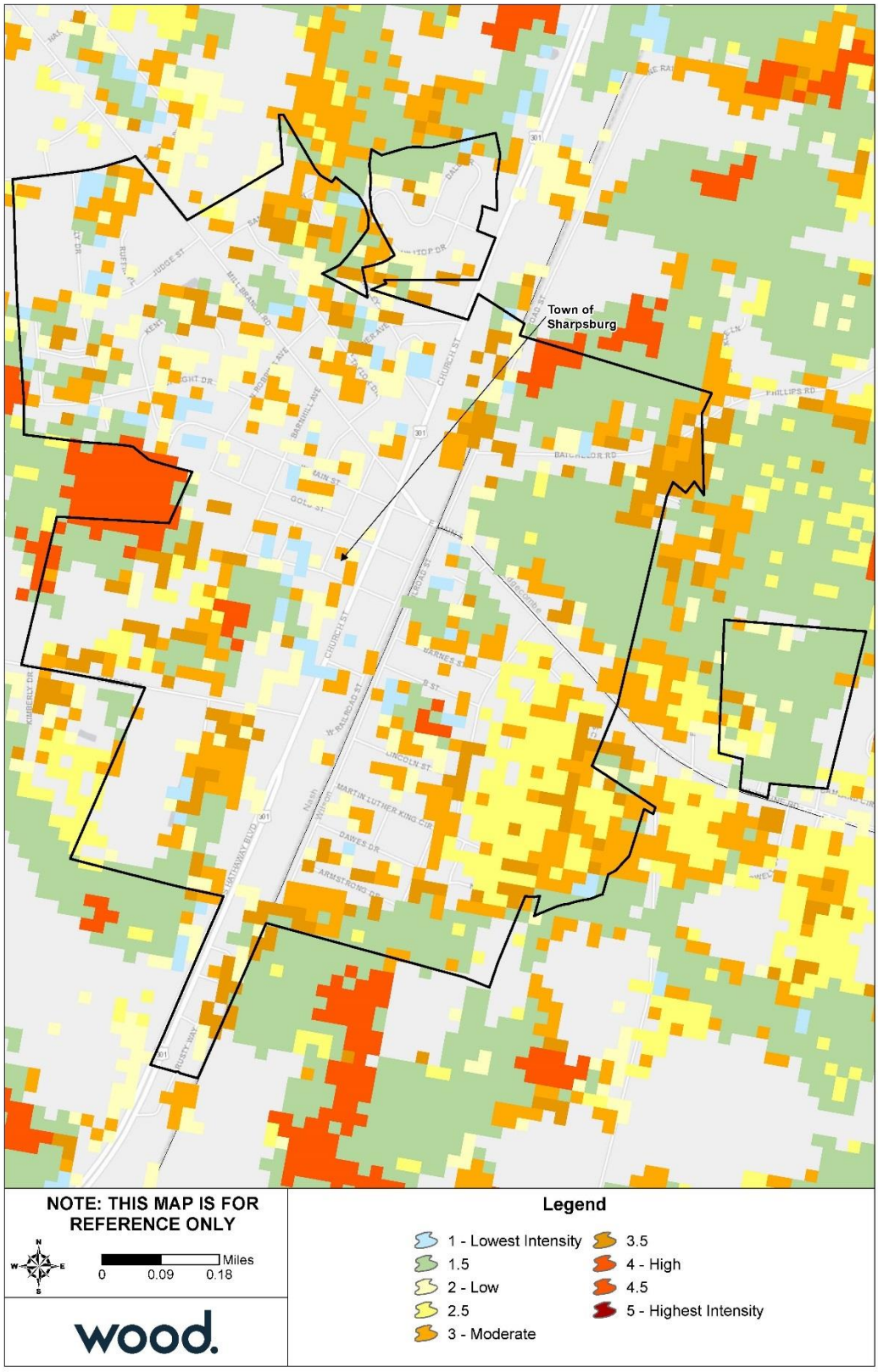
Table V.11 – Critical Facilities Exposed to Wildfire, Town of Sharpsburg

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	Wildfire Hazard	28	$46,052,145
Critical Manufacturing	Wildfire Hazard	6	$7,322,011
Emergency Services	Wildfire Hazard	1	$1,562,452
Food and Agriculture	Wildfire Hazard	4	$115,793
Government Facilities	Wildfire Hazard	1	$90,920
Healthcare and Public Health	Wildfire Hazard	1	$160,795
All Categories	**Wildfire Hazard**	**41**	**$55,304,116**

Table V.12 – High Potential Loss Properties Exposed to Wildfire, Town of Sharpsburg

Category	Event	Number of Buildings at Risk	Estimated Damages
Residential	Wildfire Hazard	1	$9,703,783
All Categories	**Wildfire Hazard**	**1**	**$9,703,783**

Figure V.3 – Potential Fire Intensity, Town of Sharpsburg



Source: Southern Wildfire Risk Assessment

V.4 CAPABILITY ASSESSMENT

V.4.1 Floodplain Management

The Town of Sharpsburg joined the NFIP through emergency entry in December 1984 and has been a regular participant since July 1990. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table V.13 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	10	$4,341	$2,495,000	12	$169,452.21
2-4 Family	5	$1,524	$910,000	0	$0.00
Non-Residential	1	$1,427	$350,000	0	$0.00
Total	16	$7,292	$3,755,000	12	$169,452.21

Source: FEMA Community Information System, accessed March 2020

Table V.14 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone					
Standard	1	$1,317	$150,000	1	$22,432.32
Preferred	15	$5,975	$3,605,000	11	$147,019.89
Total	16	$7,292	$3,755,000	12	$169,452.21

Source: FEMA Community Information System, accessed March 2020

Table V.15 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone	12	$5,967	$2,775,000	12	$169,452.21
Standard	1	$1,317	$150,000	1	$22,432.32
Preferred	11	$4,650	$2,625,000	11	$147,019.89
Total	12	$5,967	$2,775,000	12	$169,452.21

Source: FEMA Community Information System, accessed March 2020

Table V.16 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone	4	$1,325	$980,000	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	4	$1,325	$980,000	0	$0.00
Total	4	$1,325	$980,000	0	$0.00

Source: FEMA Community Information System, accessed March 2020

V.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Conduct and internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	Moderate	Public Works	Local	2023	Carried Forward	No progress to report
Structural Projects									
SP-1	Work with engineer to develop plan for repair/mitigation of drainage issues on Creekside & Oak Forrest/Holly Drive	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	3.3	High	Town	Local	2020	New	
SP-2	NCDOT Project to install a road connect E. Railroad Street to Rock Quarry Road. Enabling emergency vehicles access to entire Town.	All Hazards	3.3	Moderate	NCDOT	NCDOT, Local	2025	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Identify roads having a problem with High water during Hurricane Floyd and place signs on streets stating "Road Subject to Flooding"	Flood, Dam & Levee Failure, Hurricane & Tropical Storm	1.1	High	Public Works, NCDOT	NCDOT, Local	2023	Carried Forward	Town coordinates with NCDOT for major street detours, etc; working with NCDOT for ditch maintenance to reduce localized flooding.

Annex W Town of Sims

W.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Sims.

Table W.1 – HMPC Members

Member Name	Title	Agency
Miranda Boykin	Mayor	Town of Sims

W.2 COMMUNITY PROFILE

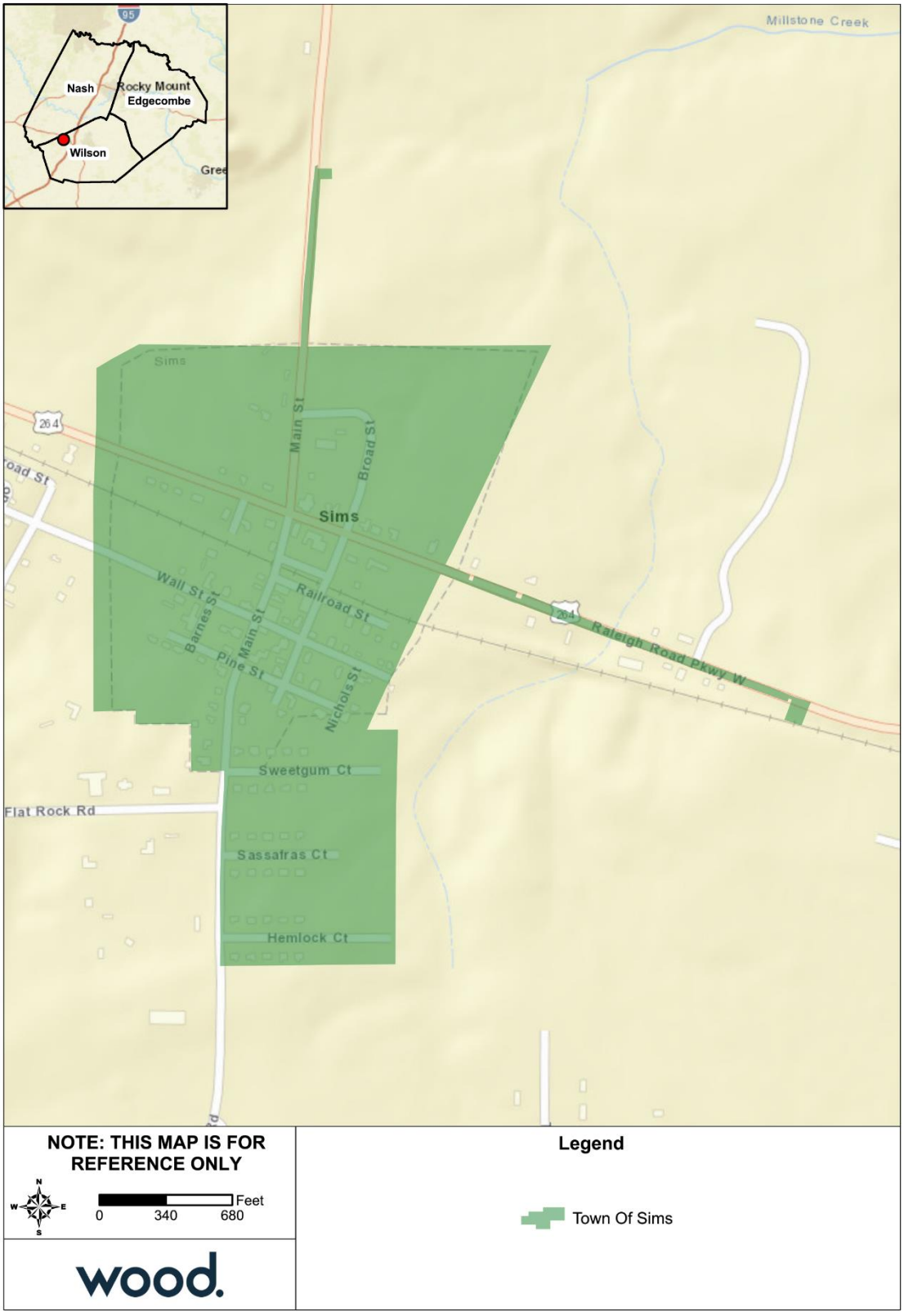
Geography

The Town of Sims is located in western Wilson County. It is neighbored by the City of Wilson to the east and the Town of Bailey to the west. The Town is part of the Wilson Micropolitan Statistical Area. Sims comprises a total land area of 0.17 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 18.8 acres of wetlands in Sims.

Figure W.1 shows a base map for the Town of Sims.

Figure W.1 – Location, Town of Sims



Population and Demographics

Table W.2 provides population counts and growth estimates for the Town of Sims as compared to the region overall. Table W.3 provides demographic information for the Town as compared to the whole region.

Table W.2 – Population Counts, Sims, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Sims	128	282	510	228	80.85%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table W.3 – Racial Demographics, Sims, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Sims	68.2	14.9	0	16.9	0	22.4

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Sims in order to estimate the total physical exposure to hazards in this area.

Table W.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Sims	20	1	0	38	0	8	0	1	0	0	0	0	0	0	0	1	0	69

Source: NCEM Risk Management Tool

Table W.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Sims	0	3	1	0	0	1	0	5

Source: NCEM Risk Management Tool

There are is one listing on the National Register of Historic Places for the Town of Sims. This site is listed in the table below.

Table W.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
86000759	Bullock--Dew House	2/13/1986	Building	Sims

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for the Town of Sims as compared to the region overall.

Table W.7 – Housing Statistics, Town of Sims, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Sims	165	206	24.8	77	7.3	$133,900

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Sims as compared to the region overall.

Table W.8 – Employment Statistics, Sims, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Sims	211	56.2	4.3	39.5	7.1

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table W.9 – Percent of Employed Population by Occupation, Sims, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Sims	27.6	24	19.4	21.9	7.1

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

W.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Sims than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

W.3.1 Flood

Table W.10 details the acreage of the Town of Sims' total area by flood zone on the effective DFIRM. Per this assessment, 2 percent of the Town's area falls within the mapped 1%-annual-chance floodplains.

Table W.10 – Flood Zone Acreage in Town of Sims

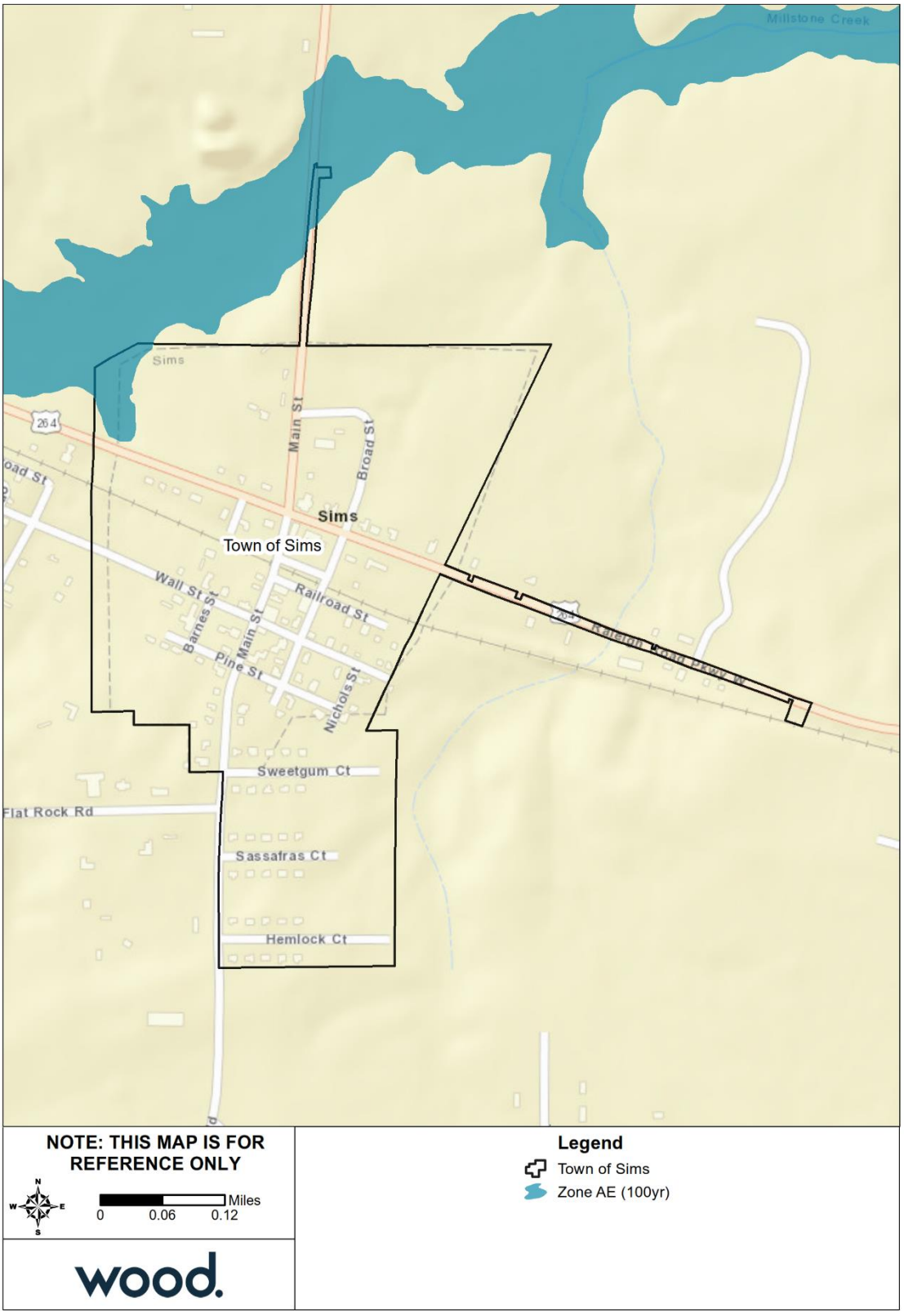
Flood Zone	Acreage	Percent of Total (%)
Zone AE	2.31	2.07
Zone X Unshaded	109.45	97.93
Total	111.76	--

Source: FEMA Effective DFIRM

Figure W.2 reflects the effective mapped flood hazard zones for the Town of Sims, and Figure W.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

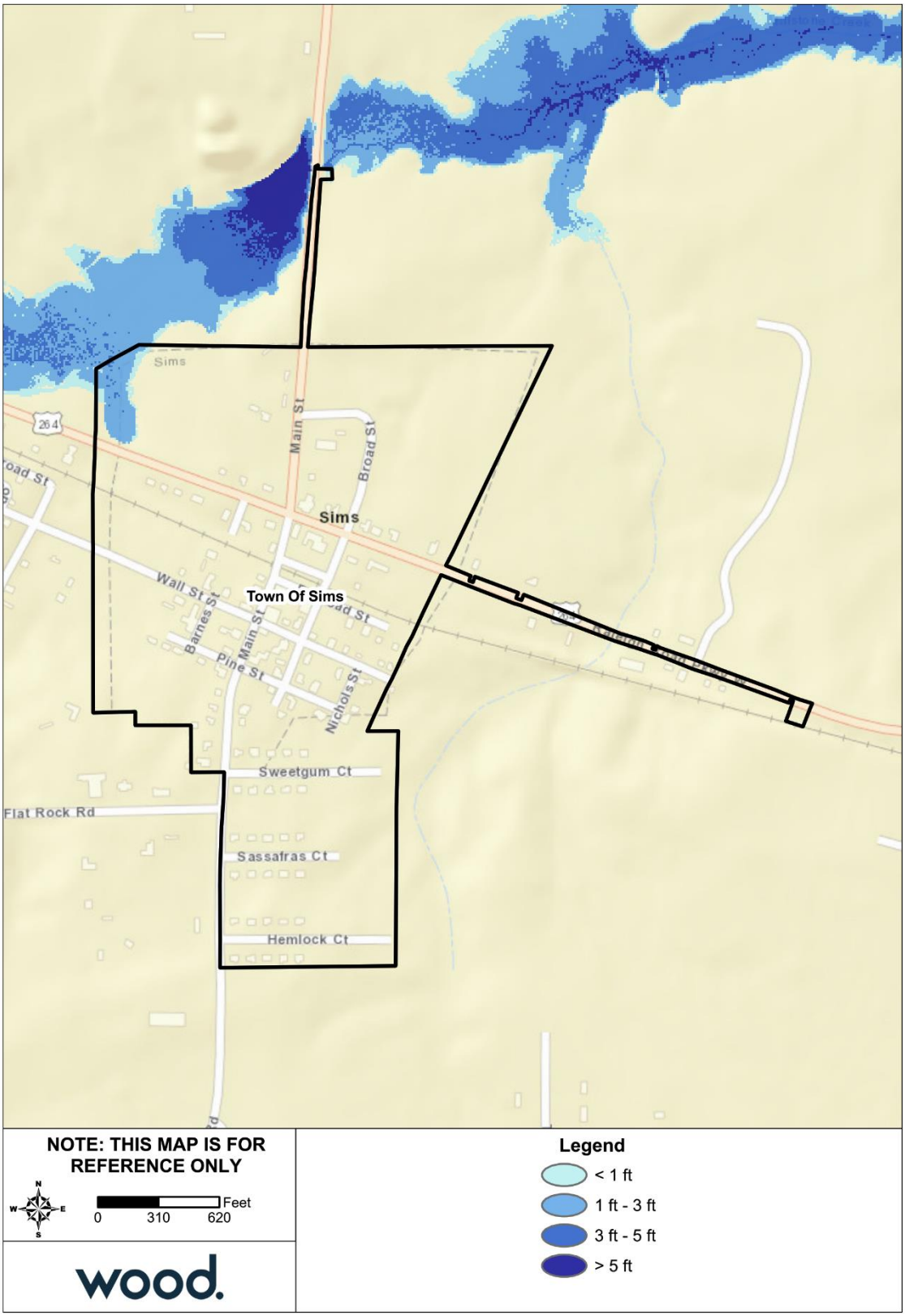
Per NCEM's Risk Management Tool, there are no Critical Facilities or High Potential Loss Properties at risk to flood events in the Town of Sims.

Figure W.2 – FEMA Flood Hazard Areas, Town of Sims



Source: FEMA Effective DFIRM

Figure W.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Sims



Source: FEMA Effective DFIRM

W.3.2 Wildfire

Table W.11 summarizes the acreage in the Town of Sims 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 29 percent of the Town of Sims is not included in the WUI.

Table W.11 – Wildland Urban Interface Acreage, Town of Sims

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*1.90*	*1.70%*
	LT 1hs/40ac	2.88	2.58%
	1hs/40ac to 1hs/20ac	5.77	5.16%
	1hs/20ac to 1hs/10ac	1.13	1.01%
	1hs/10ac to 1hs/5ac	11.72	10.48%
	1hs/5ac to 1hs/2ac	23.08	20.65%
	1hs/2ac to 3hs/1ac	65.30	58.42%
	Total	**111.78**	

Source: Southern Wildfire Risk Assessment

Figure C.3 depicts the WUI for Wilson County, in which the Town of Sims is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure C.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Most of the Town of Sims falls within high density WUI. However, potential fire intensity is moderate to low throughout Sims, where 100 percent of the Town's total area has a fire intensity rating below 4, and burn probability is either low or none. Therefore, little to no development is exposed to wildfire. Areas of relatively higher potential fire intensity overlap with no burn probability.

Table W.12 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table W.13 provides building counts and estimated damages for High Potential Loss Properties exposed to wildfire.

Table W.12 – Critical Facilities Exposed to Wildfire, Town of Sims

Sector	Event	Number of Buildings at Risk	Estimated Damages
Banking and Finance	Wildfire Hazard	1	$184,330
Commercial Facilities	Wildfire Hazard	25	$15,590,884
Critical Manufacturing	Wildfire Hazard	3	$4,596,698
Food and Agriculture	Wildfire Hazard	17	$2,398,813
Government Facilities	Wildfire Hazard	1	$124,757
All Categories	**Wildfire Hazard**	**47**	**$22,895,482**

Table W.13 – High Potential Loss Properties Exposed to Wildfire, Town of Sims

Category	Event	Number of Buildings at Risk	Estimated Damages
Commercial	Wildfire Hazard	3	$11,164,764
Religious	Wildfire Hazard	1	$1,538,784
All Categories	**Wildfire Hazard**	**4**	**$12,703,548**

W.4 CAPABILITY ASSESSMENT

W.4.1 Floodplain Management

The Town of Sims joined the NFIP through regular entry in May 2013. The Town's initial FIRM was published in November 2004 and the most current map was published in April 2013. The Town, however, does not currently have any policies in force or past claims paid.

W.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	No progress to report
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities (water well & town hall)	All Hazards	3.3	Moderate	Town Administration, Town Board	State, Federal, Grant funds, Local	2021	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Obtain new FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Clerk	Local	2023	Carried Forward	No progress to report

Annex X Town of Speed

X.1 PLANNING PROCESS

The Town of Speed was represented by Edgecombe County throughout the planning process due to the Town's limited administrative capability.

X.2 COMMUNITY PROFILE

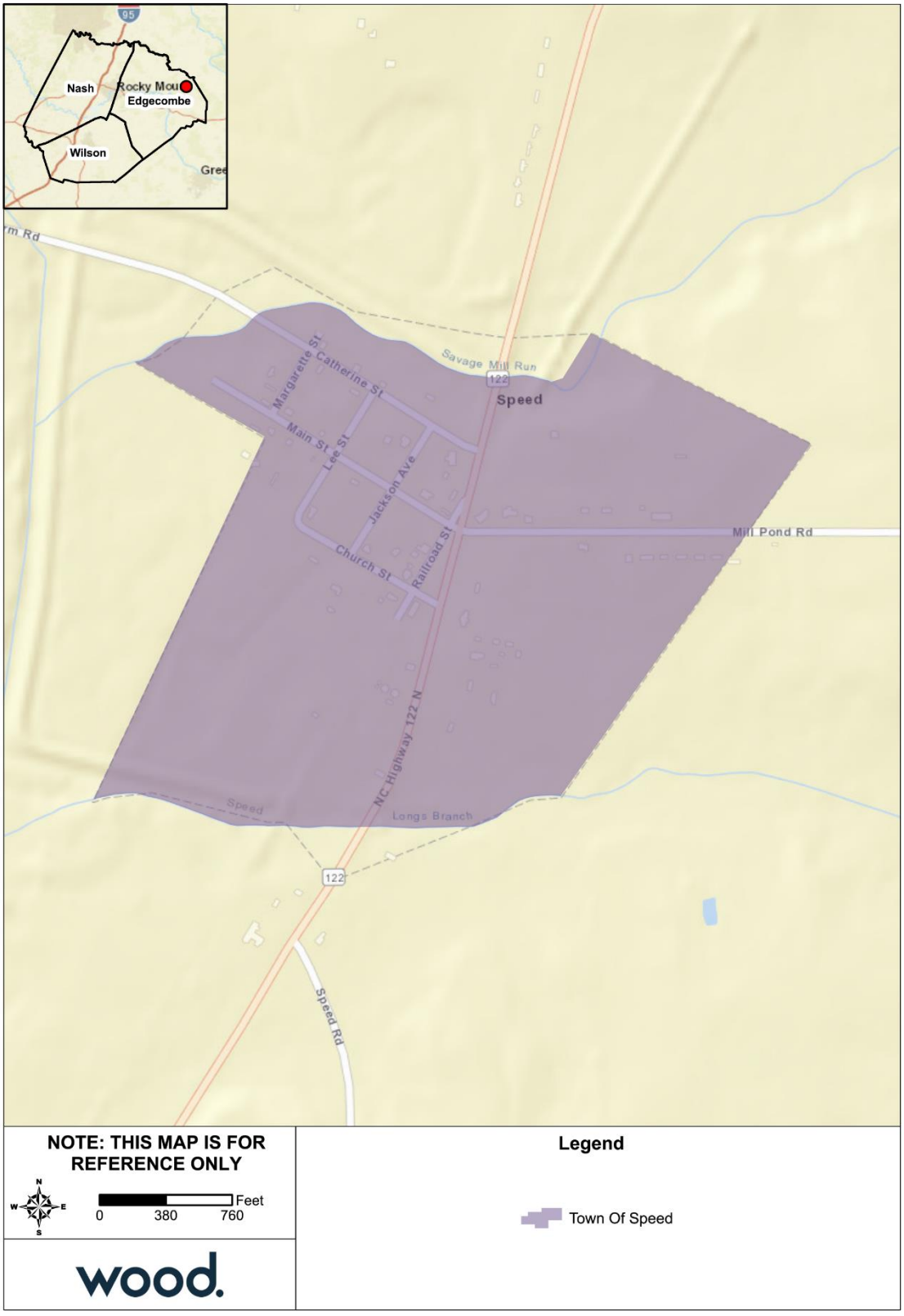
Geography

The Town of Speed is located in northeastern Edgecombe County. It is most closely neighbored by Tarboro to the southwest and Leggett to the west. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Speed comprises a total land area of 0.28 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 310.3 acres of wetlands in Speed.

Figure X.1 shows a base map for the Town of Speed.

Figure X.1 – Location, Town of Speed



Population and Demographics

Table X.1 provides population counts and growth estimates for Speed as compared to the region overall. Table X.2 provides demographic information for the Town as compared to the whole region.

Table X.1 – Population Counts, Speed, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Speed	70	80	73	-7	-8.75%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table X.2 – Racial Demographics, Speed, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Speed	24.7	75.3	0	0	0	0

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Speed in order to estimate the total physical exposure to hazards in this area. There are no High Potential Loss Facilities in the Town as reported by the NCEM Risk Management Tool.

Table X.3 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Speed	19	1	0	12	0	0	0	3	0	0	0	0	0	3	1	0	0	39

Source: NCEM Risk Management Tool

There are no listings on the National Register of Historic Places for the Town of Speed.

Housing

The table below details key housing statistics for the Town of Speed as compared to the region overall.

Table X.4 – Housing Statistics, Speed, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Speed	41	48	17.1	86.4	8.3	n/a

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Speed as compared to the region overall.

Table X.5 – Employment Statistics, Speed, 2016

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Speed	18	26.1	0	73.9	0

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table X.6 – Percent of Employed Population by Occupation, Speed, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Speed	26.1	19.1	21	10	23.9

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

X.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Speed than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards in this section are: Flood and Wildfire.

X.3.1 Flood

Table X.7 details the acreage of the Town of Speed's total area by flood zone on the effective DFIRM. Per this assessment, 20% of the area in the Town falls within the mapped 1%-annual-chance floodplains.

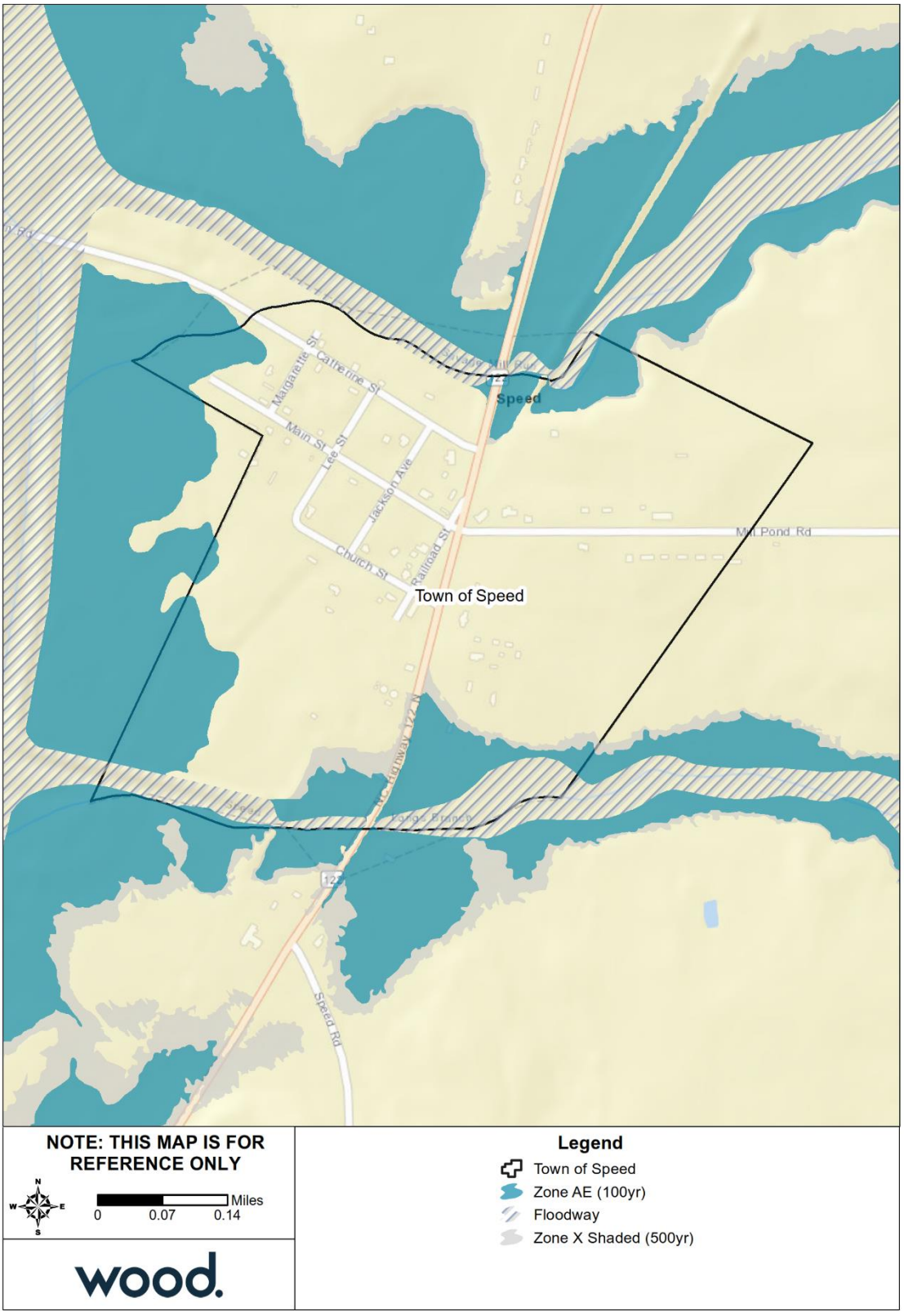
Table X.7 – Flood Zone Acreage in Town of Speed

Flood Zone	Acreage	Percent of Total (%)
Zone AE	36.95	20.40
Zone X (500-year)	3.45	1.90
Zone X Unshaded	140.75	77.70
Total	**181.15**	--

Source: FEMA Effective DFIRM

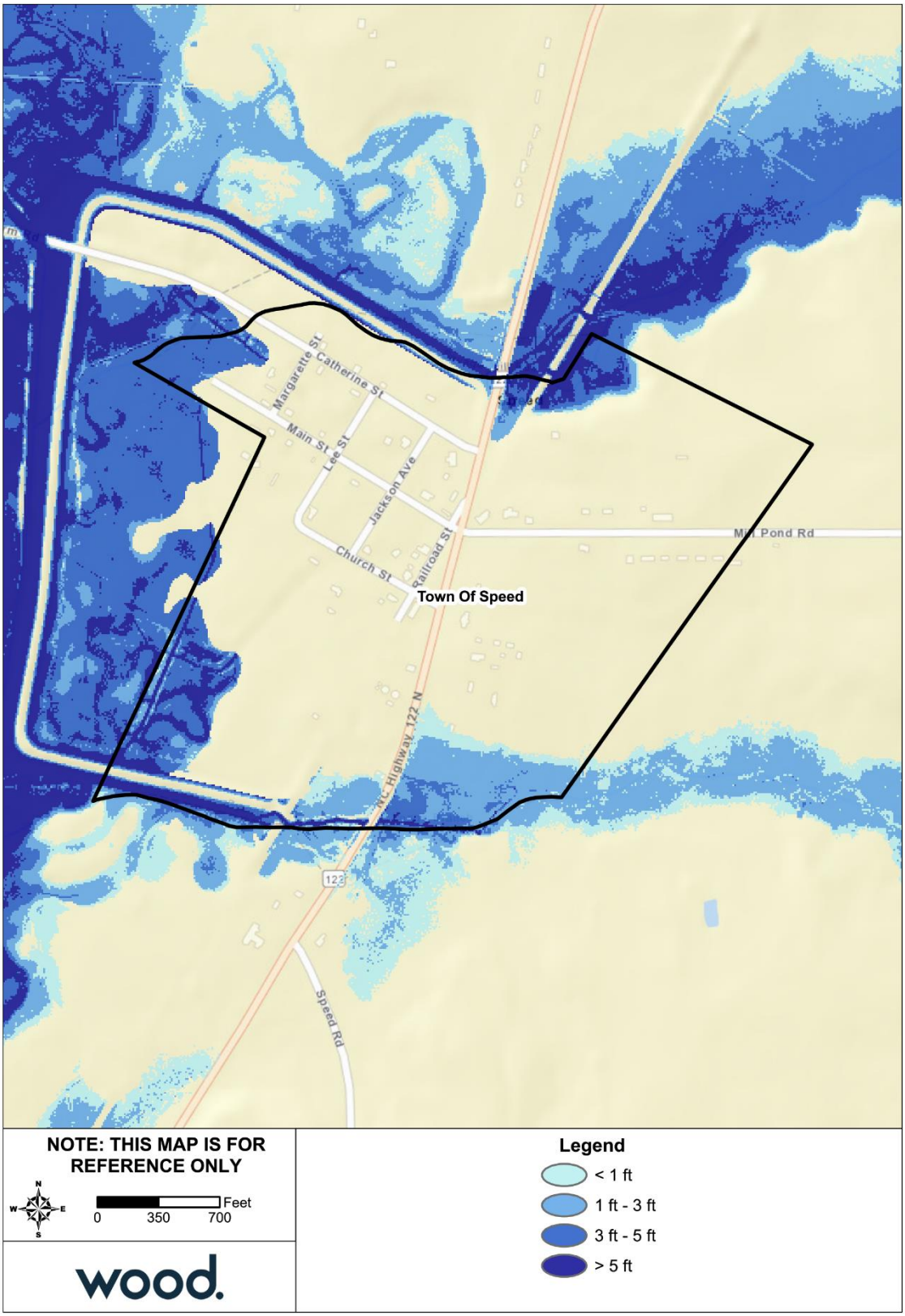
Figure X.2 reflects the effective mapped flood hazard zones for the Town of Speed, and Figure X.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood. There are no Critical Facilities or High Potential Loss Facilities at risk due to flood in the Town of Speed.

Figure X.2 – FEMA Flood Hazard Areas, Town of Speed



Source: FEMA Effective DFIRM

Figure X.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Speed



Source: FEMA Effective DFIRM

X.3.2 Wildfire

Table X.8 summarizes the acreage in the Town of Speed 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. Just under 2 percent of the Town of Speed is not included in the WUI.

Table X.8 – Wildland Urban Interface Acreage, Town of Speed

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*3.58*	*1.98%*
	LT 1hs/40ac	4.37	2.41%
	1hs/40ac to 1hs/20ac	5.21	2.88%
	1hs/20ac to 1hs/10ac	21.90	12.09%
	1hs/10ac to 1hs/5ac	86.71	47.86%
	1hs/5ac to 1hs/2ac	59.40	32.79%
	Total	**181.17**	

Source: Southern Wildfire Risk Assessment

Figure B.3 depicts the WUI for Edgecombe County, in which the Town of Speed is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Potential fire intensity is highest in central and east Speed, although the 100 percent of the Town's area has a fire intensity rating below 4. As these areas do fall within the WUI and an area of some burn probability, although low, there is potential risk to development and property.

Per NCEM's Risk Management Tool, there are no estimated damages to Critical Facilities or High Potential Loss Properties due to wildfire in the Town of Speed.

X.4 CAPABILITY ASSESSMENT

X.4.1 Floodplain Management

The Town of Speed joined the NFIP through emergency entry in September 1979 and has been a regular participant since July 1987. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table X.9 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	14	$8,858	$2,381,000	10	$104,717.63
Total	14	$8,858	$2,381,000	10	$104,717.63

Source: FEMA Community Information System, accessed March 2020

Table X.10 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	4	$4,716	$596,000	4	$68,237.12
B, C & X Zone					

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Standard	1	$1,516	$210,000	1	$3,419.63
Preferred	9	$2,626	$1,575,000	5	$33,060.88
Total	14	$8,858	$2,381,000	10	$104,717.63

Source: FEMA Community Information System, accessed March 2020

Table X.11 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	4	$4,716	$596,000	3	$68,237.12
B, C & X Zone	6	$3,008	$1,085,000	4	$27,738.38
Standard	1	$1,516	$210,000	0	$0.00
Preferred	5	$1,492	$875,000	4	$27,738.38
Total	10	$7,724	$1,681,000	7	$95,975.50

Source: FEMA Community Information System, accessed March 2020

Table X.12 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone	4	$1,134	$700,000	2	$8,742.13
Standard	0	$0	$0	1	$3,419.63
Preferred	4	$1,134	$700,000	1	$5,322.50
Total	4	$1,134	$700,000	3	$8,742.13

Source: FEMA Community Information System, accessed March 2020

X.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Emergency Animal Shelter	All Hazards	2.2	Moderate	Town Council	Local	2023	Carried Forward	We have a temporary, but not one that is owned by the county. Looking for a more permanent solution.
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Town Administration	State, Federal, Local, Grant funds	2021	Carried Forward	Looking for funding
Emergency Services									
ES-1	Improving County bridges and roads drainage	All Hazards	3.3	High	Town Council	State, Local	2021	Carried Forward	Most have been completed, but still have a few that DOT is working on.
ES-2	Encourage or assist residents through information to sign up for County's emergency warning notification system	All Hazards	1.2	Moderate	Town Administration, Mayor	Local, State, Federal	2023	Carried Forward	Ongoing process
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Council	FEMA, Local	2023	Carried Forward	Ongoing with new info

Annex Y Town of Spring Hope

Y.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Spring Hope.

Table Y.1 – HMPC Members

Member Name	Title	Agency
Jae Kim	Town Manager	Town of Spring Hope
Nathan Gant	Police Chief	Town of Spring Hope
Scott Strickland	ETL/Police Officer	Citizen of Spring Hope

Y.2 COMMUNITY PROFILE

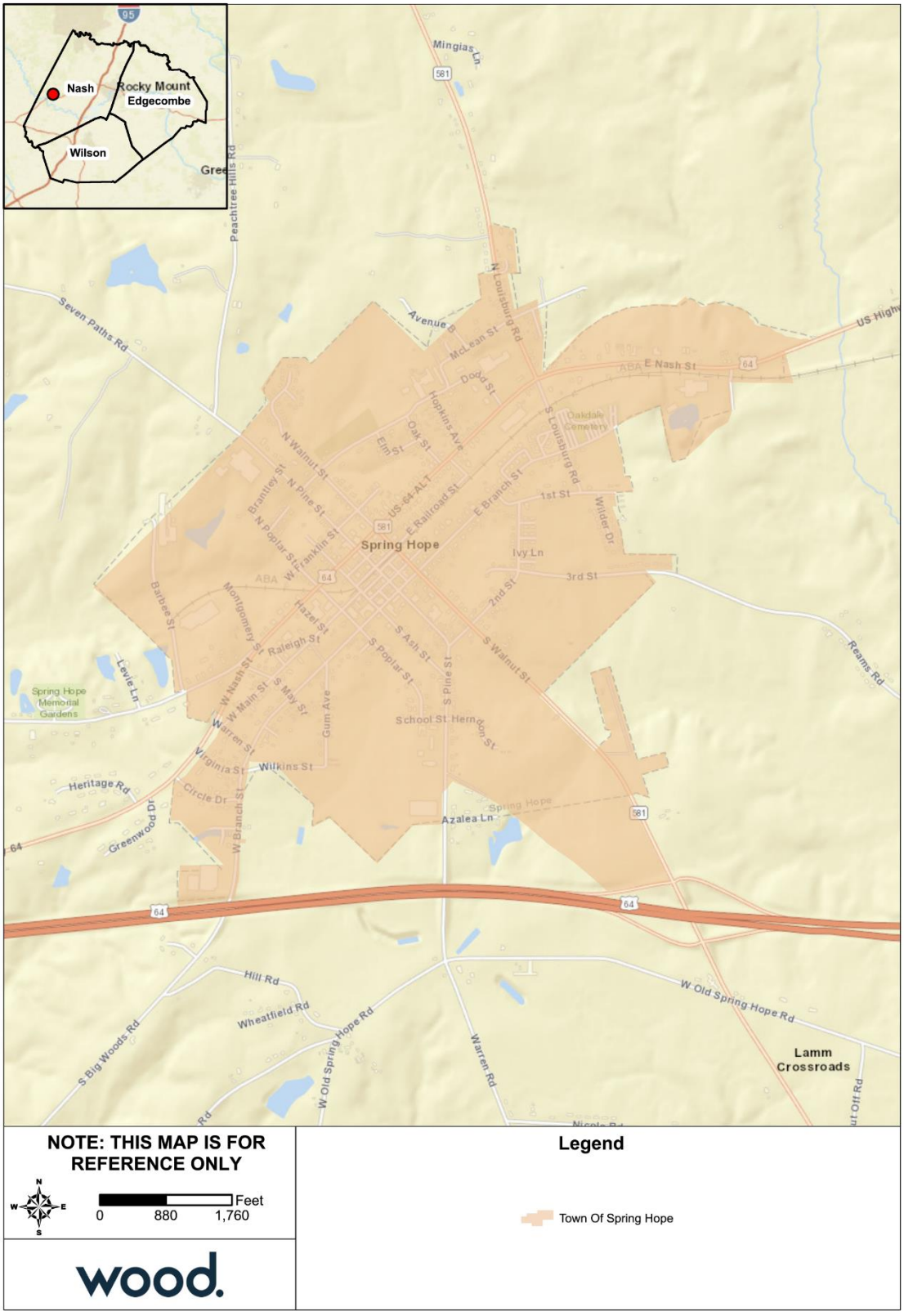
Geography

The Town of Spring Hope is located in southwestern Nash County. It is neighbored by Momeyer to the northeast and the Franklin County border to the west. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Spring Hope comprises a total land area of 1.5 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 292.9 acres of wetlands in Spring Hope.

Figure Y.1 shows a base map of the Town of Spring Hope.

Figure Y.1 – Location, Town of Spring Hope



Population and Demographics

Table Y.2 provides population counts and growth estimates for the Town of Spring Hope as compared to the region overall. Table Y.3 provides demographic information for the Town as compared to the whole region.

Table Y.2 – Population Counts, Spring Hope, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Spring Hope	1,261	1,320	1,603	283	21.44%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table Y.3 – Racial Demographics, Spring Hope, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Spring Hope	41.2	47.5	0	6.9	4.4	3.7

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Spring Hope in order to estimate the total physical exposure to hazards in this area.

Table Y.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Spring Hope	52	2	0	90	0	40	0	15	2	0	0	0	0	6	0	2	0	209

Source: NCEM Risk Management Tool

Table Y.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Spring Hope	0	2	1	1	0	0	0	4

Source: NCEM Risk Management Tool

There are three listings on the National Register of Historic Places for the Town of Spring Hope. This includes one historic district and two buildings. These sites are listed in the table below.

Table Y.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
86001647	Brantley, Dr. Hassell, House	8/14/1986	Building	Spring Hope
88001591	Spring Hope Historic District	9/15/1988	District	Spring Hope
13001028	Valentine--Wilder House	12/31/2013	Building	Spring Hope

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Spring Hope as compared to the region overall.

Table Y.7 – Housing Statistics, Spring Hope, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Spring Hope	616	720	16.9	40.4	13.1	$99,200

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Spring Hope as compared to the region overall.

Table Y.8 – Employment Statistics, Spring Hope, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Spring Hope	647	46.5	4.4	49.1	8.7

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table Y.9 – Percent of Employed Population by Occupation, Spring Hope, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Spring Hope	22.2	22.2	44.4	0	11.1

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Y.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Spring Hope than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

Y.3.1 Flood

Table Y.10 details the acreage of the Town of Spring Hope's total area by flood zone on the effective DFIRM. Per this assessment, 100 percent of the Town's area falls outside of the mapped 1%-annual-chance floodplains.

Table Y.10 – Flood Zone Acreage in Spring Hope

Flood Zone	Acreage	Percent of Total (%)
Zone X Unshaded	968.1	100
Total	968.1	--

Source: FEMA Effective DFIRM

Per NCEM's Risk Management Tool, in the Town of Spring Hope there, there are no Critical Facilities or High Potential Loss Properties exposed to flooding.

Y.3.2 Wildfire

Table Y.11 summarizes the acreage in the Town of Spring Hope 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 2 percent of the Town of Spring Hope is not included in the WUI.

Table Y.11 – Wildland Urban Interface Acreage, Town of Spring Hope

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*21.94*	*2.27%*
	LT 1hs/40ac	59.78	6.17%
	1hs/40ac to 1hs/20ac	31.14	3.22%
	1hs/20ac to 1hs/10ac	39.07	4.04%
	1hs/10ac to 1hs/5ac	85.93	8.88%
	1hs/5ac to 1hs/2ac	209.10	21.60%
	1hs/2ac to 3hs/1ac	521.24	53.84%
	Total	**968.21**	

Source: Southern Wildfire Risk Assessment

Figure A.3 depicts the WUI for Nash County, in which the Town of Spring Hope is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure A.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Spring Hope, approximately 5 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in southeast Spring Hope; where these areas do overlap with burn probability, even if low, and the WUI, there is potential risk to development and property.

Table Y.12 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table Y.13 provides building counts and estimated damages for High Potential Loss Properties exposed to wildfire risk.

Table Y.12 – Critical Facilities Exposed to Wildfire, Town of Spring Hope

Sector	Event	Number of Buildings at Risk	Estimated Damages
Critical Manufacturing	Wildfire Hazard	1	$4,333,653
Food and Agriculture	Wildfire Hazard	9	$287,698

Sector	Event	Number of Buildings at Risk	Estimated Damages
All Categories	**Wildfire Hazard**	**10**	**$4,621,351**

Table Y.13 – High Potential Loss Properties Exposed to Wildfire, Town of Spring Hope

Category	Event	Number of Buildings at Risk	Estimated Damages
Critical Manufacturing	Wildfire Hazard	1	$4,333,653
Food and Agriculture	Wildfire Hazard	9	$287,698

Y.4 CAPABILITY ASSESSMENT

Y.4.1 Floodplain Management

The Town of Spring Hope joined the NFIP as a regular participant in April 2013. In the Town of Spring Hope, there is one preferred-risk policy in force for a single-family residence in the B, C, & X zone, built pre-FIRM. The premium on this policy is $421 and the total insurance in force is $350,000. At the time of this plan, there were no closed paid losses reported.

Y.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	Town will seek to expand participation and involve more residents and stakeholders
Property Protection									
PP-1	Obtain a generator(s) to provide emergency power for critical town facilities	All Hazards	3.3	High	Town Administration	State, Federal Grants, Local	2021	Carried Forward	Town will identify need for generators in critical facilities and seek FEMA grant funding where necessary.
Public Education & Awareness									
PEA-1	Obtain FEMA handouts & make available for residents at town hall	All Hazards	1.1	Moderate	Town Board	Local	2022	Carried Forward	Completed but no longer current, request staff to contact FEMA for more brochures

Annex Z Town of Stantonsburg

Z.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Stantonsburg.

Table Z.1 – HMPC Members

Member Name	Title	Agency
Gary Davis	Manager	Town of Stantonsburg
Dooley Ezzard	Citizen	--

Z.2 COMMUNITY PROFILE

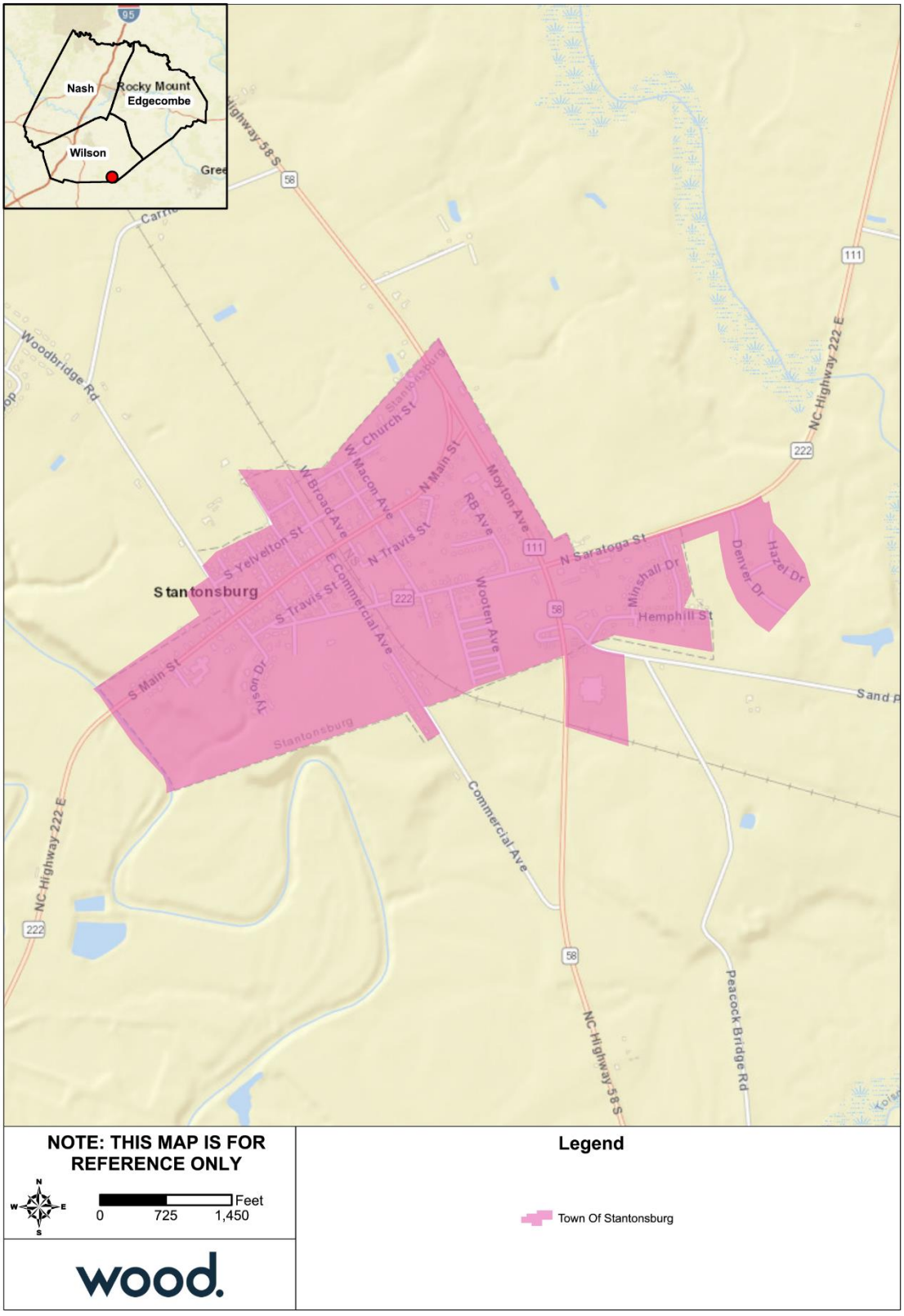
Geography

The Town of Stantonsburg is located in southeastern Wilson County. It is neighbored by Saratoga to the north, Black Creek to the northwest, and close to the borders of Greene and Wayne counties. The town is part of the Wilson Micropolitan Statistical Area. Stantonsburg comprises a total land area of 0.59 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 1,840 acres of wetlands in Stantonsburg.

Figure Z.1 shows a base map of the Town of Stantonsburg.

Figure Z.1 – Location, Town of Stantonsburg



Population and Demographics

Table Z.2 provides population counts and growth estimates for the Town of Stantonsburg as compared to the region overall. Table Z.3 provides demographic information for the Town as compared to the region.

Table Z.2 – Population Counts, Stantonsburg, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Stantonsburg	726	784	683	-101	-12.88%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table Z.3 – Racial Demographics, Stantonsburg, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Stantonsburg	44.7	50.1	0	1.1	4.1	2.2

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Stantonsburg in order to estimate the total physical exposure to hazards in this area.

Table Z.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Stantonsburg	31	1	0	58	0	5	0	6	1	0	0	0	0	3	0	2	0	107

Source: NCEM Risk Management Tool

Table Z.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Stantonsburg	0	0	1	2	0	0	0	3

Source: NCEM Risk Management Tool

There are three listings on the National Register of Historic Places for the Town of Stantonsburg. These sites are listed in the table below.

Table Z.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
86000695	Ward--Applewhite--Thompson House	2/13/1986	Building	Stantonsburg
86000696	Applewhite, W. H., House	2/13/1986	Building	Stantonsburg
86000767	Edmondson--Woodward House	2/13/1986	Building	Stantonsburg

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Stantonsburg as compared to the region overall.

Table Z.7 – Housing Statistics, Stantonsburg, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Stantonsburg	357	374	4.8	61.5	15.2	$67,500

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Stantonsburg as compared to the region overall.

Table Z.8 – Employment Statistics, Stantonsburg, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Stantonsburg	327	51.4	4.3	44.3	7.6

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table Z.9 – Percent of Employed Population by Occupation, Stantonsburg, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Stantonsburg	23.5	20.5	15.2	12.3	28.5

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

Z.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Stantonsburg than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

Z.3.1 Flood

Table Z.10 details the acreage of the Town of Stantonsburg's total area by flood zone on the effective DFIRM. Per this assessment, over 4 percent of the Town's area falls within the mapped 1%-annual-chance floodplains.

Table Z.10 – Flood Zone Acreage in Town of Stantonsburg

Flood Zone	Acreage	Percent of Total (%)
Zone AE	15.18	4.03
Zone X (500-year)	1.64	0.13
Zone X Unshaded	359.46	95.39
Total	376.28	--

Source: FEMA Effective DFIRM

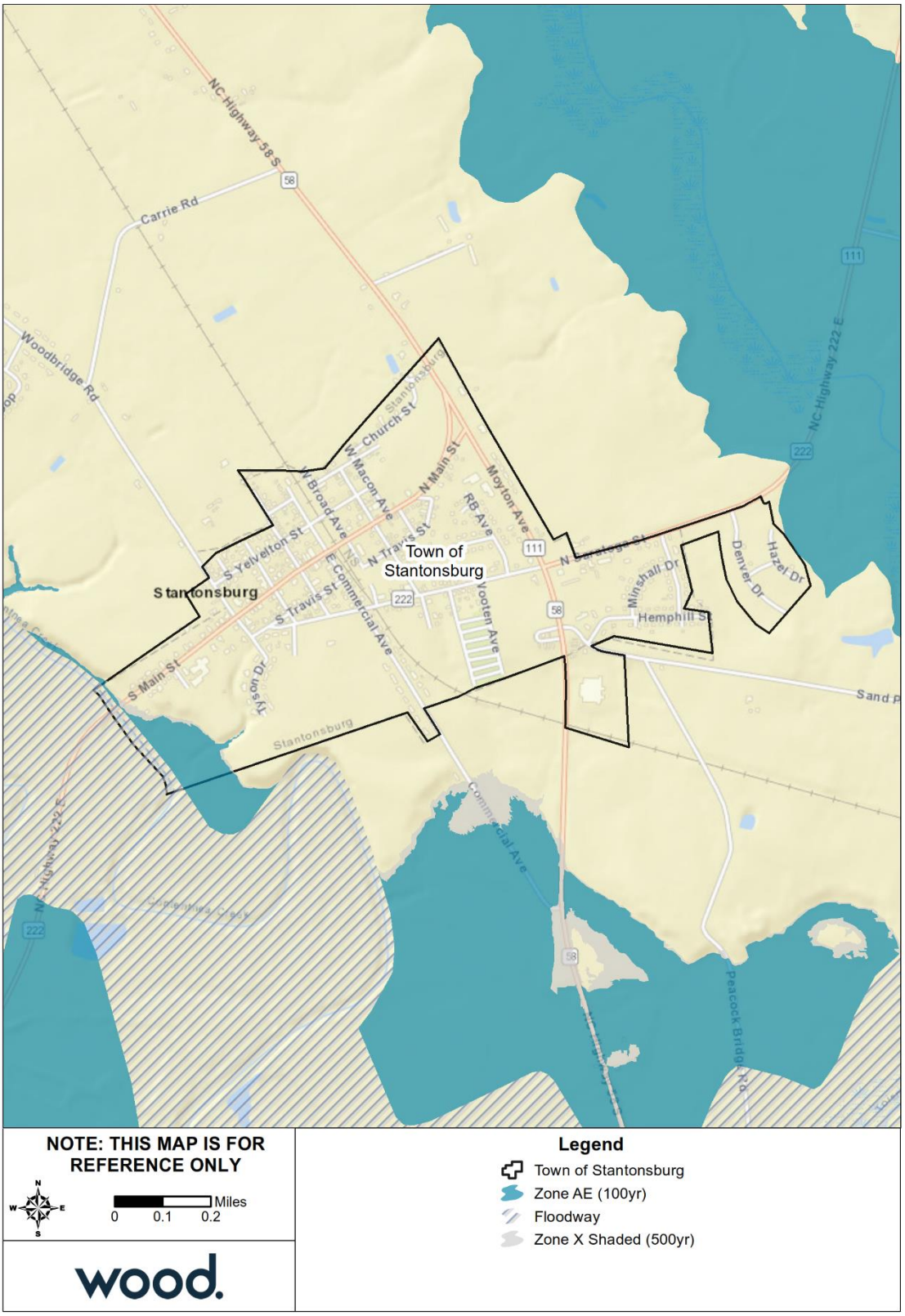
Figure Z.2 reflects the effective mapped flood hazard zones for the Town of Stantonsburg, and Figure Z.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table Z.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Stantonsburg.

Table Z.11 – Critical Facilities Exposed to Flooding, Town of Stantonsburg

Sector	Event	Number of Buildings at Risk	Estimated Damages
Food and Agriculture	500 Year	1	$3,054
All Categories	**500 Year**	**1**	**$3,504**

Figure Z.2 – FEMA Flood Hazard Areas, Town of Stantonsburg



Source: FEMA Effective DFIRM

Figure Z.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Stantonsburg



Source: FEMA Effective DFIRM

Z.3.2 Wildfire

Table Z.12 summarizes the acreage in the Town of Stantonsburg 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. Under one-half of a percent of the Town of Stantonsburg is not included in the WUI.

Table Z.12 – Wildland Urban Interface Acreage, Town of Stantonsburg

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*1.21*	*0.32%*
	LT 1hs/40ac	11.17	2.97%
	1hs/40ac to 1hs/20ac	11.33	3.01%
	1hs/20ac to 1hs/10ac	13.23	3.52%
	1hs/10ac to 1hs/5ac	23.32	6.20%
	1hs/5ac to 1hs/2ac	70.37	18.70%
	1hs/2ac to 3hs/1ac	245.73	65.29%
	Total	**376.36**	

Source: Southern Wildfire Risk Assessment

Figure C.3 depicts the WUI for Wilson County, in which the Town of Stantonsburg is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure C.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Most of the Town of Stantonsburg falls within high density WUI. However, potential fire intensity is low throughout Stantonsburg, where less than one-half of one percent of the Town's total area has a potential fire intensity rating of 4 or above, as is burn probability. Therefore, little to no development is exposed to wildfire.

Table Z.13 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard.

Table Z.13 – Critical Facilities Exposed to Wildfire, Town of Stantonsburg

Sector	Event	Number of Buildings at Risk	Estimated Damages
Food and Agriculture	Wildfire Hazard	6	$360,444
All Categories	**Wildfire Hazard**	**6**	**$360,444**

Z.4 CAPABILITY ASSESSMENT

Z.4.1 Floodplain Management

The Town of Stantonsburg joined the NFIP through emergency entry in August 1988 and has been a regular participant since September 1989. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table Z.14 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	3	$1,049	$840,000	1	$35,444.57

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Non-Residential	1	$2,850	$1,000,000	0	$0.00
Total	4	$3,899	$1,840,000	1	$35,444.57

Source: FEMA Community Information System, accessed March 2020

Table Z.15 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A Zones	0	$0	$0	1	$35,444.57
B, C & X Zone					
Standard	0	$0	$0	0	$0.00
Preferred	4	$3,899	$1,840,000	0	$0.00
Total	4	$3,899	$1,840,000	1	$35,444.57

Source: FEMA Community Information System, accessed March 2020

Table Z.16 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
B, C & X Zone	1	$353	$280,000	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	1	$353	$280,000	0	$0.00
Total	1	$353	$280,000	0	$0.00

Source: FEMA Community Information System, accessed March 2020

Table Z.17 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A Zones	0	$0	$0	1	$35,444.57
B, C & X Zone	3	$3,546	$1,560,000	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	3	$3,546	$1,560,000	0	$0.00
Total	3	$3,546	$1,560,000	1	$35,444.57

Source: FEMA Community Information System, accessed March 2020

Z.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Update and amend the Zoning Ordinance (1985)	All Hazards	3.3	Moderate	Planning Board, Town Council	Local	2023	Carried Forward	This update was delayed due to budgetary restraints and other ongoing capital projects. However, some minor amendments have been approved
P-2	Update Town website with accurate information	All Hazards	1.1	High	Town Manager, Town Council	Local	2021	Carried Forward	This update was delayed due to budgetary restraints and other ongoing capital projects.
P-3	Establish a three or more member local Hazard Mitigation Committee	All Hazards	2.2	Moderate	Mayor, Town Board	Local	2022	Carried Forward	The establishment of this committee was delayed until a future date
Property Protection									
PP-1	Conduct an internal review and prepare a report that: evaluates all critical facilities for possible improvements to reduce their exposure to hazards and includes all findings that will be presented in a report to the elected governing board	All Hazards	3.3	Moderate	Public Works	Local	2023	Carried Forward	This project was delayed due to budgetary restraints and other ongoing capital projects.
Natural Resource Protection									
NRP-1	Update and amend the Wellhead Protection Plan to correspond to new flood maps	All Hazards	3.3	Moderate	Town Manager, Town Council	Local	2023	Carried Forward	This revision was delayed to allow for the completion of a new water supply well to be constructed outside the Central Coastal Plains Capacity Use Area

Annex AA Town of Tarboro

AA.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Tarboro.

Table AA.1 – HMPC Members

Member Name	Title	Agency
Catherine Grimm	Planning Director	Planning
Bruce Edwards	Lieutenant	Police
Thad Winstead	Fire Captain	Fire
John Pigg	Citizen	NCCUMC

AA.2 COMMUNITY PROFILE

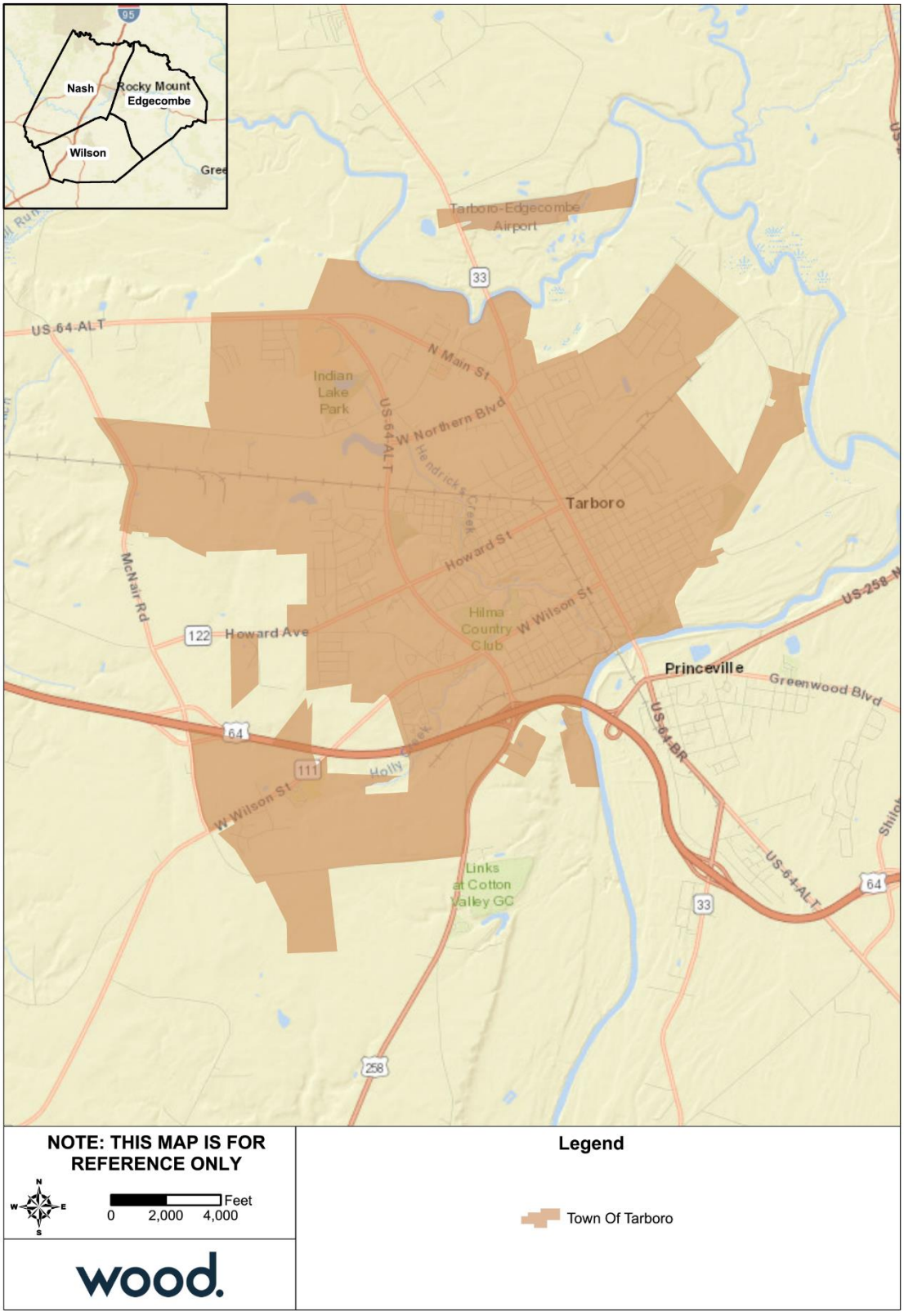
Geography

The Town of Tarboro is located in central Edgecombe County. It is immediately bordered by Princeville to the east and neighbored by Speed and Leggett to the north, Conetoe to the east, and Rocky Mount to the west. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Tarboro comprises a total land area of 11.6 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 2,431.6 acres of wetlands in Tarboro.

Figure AA.1 shows a base map of the Town of Tarboro.

Figure AA.1 – Location, Town of Tarboro



Population and Demographics

Table AA.2 provides population counts and growth estimates for the Town of Tarboro as compared to the region overall. Table AA.3 provides demographic information for the Town as compared to the whole region.

Table AA.2 – Population Counts, Town of Tarboro, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Tarboro	11,138	11,415	11,045	-370	-3.24%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table AA.3 – Racial Demographics, Town of Tarboro, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Tarboro	44.9	48.8	0.1	4.8	1.4	6.9

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Tarboro in order to estimate the total physical exposure to hazards in this area.

Table AA.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Tarboro	51	27	0	297	3	98	1	96	43	0	1	0	3	142	2	1	4	769

Source: NCEM Risk Management Tool

Table AA.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Town of Tarboro	0	21	12	13	1	5	7	59

Source: NCEM Risk Management Tool

There are 22 listings on the National Register of Historic Places for the Town of Tarboro, including one site, two structures and two historic districts. These sites are listed in the table below.

Table AA.6 – Historic Properties

Ref#	Property Name	Status Date	Category	City
70000453	Tarboro Town Common	9/30/1970	Site	Tarboro
71000578	Barracks, The	2/18/1971	Building	Tarboro
71000579	Bracebridge Hall	2/18/1971	Building	Tarboro
71000580	Calvary Episcopal Church and Churchyard	2/18/1971	Building	Tarboro
71000581	Coolmore Plantation	2/18/1971	Building	Tarboro
71000582	Cotton Press	2/18/1971	Structure	Tarboro
71000583	Grove, The	2/18/1971	Building	Tarboro
71000584	Piney Prospect	2/18/1971	Building	Tarboro
71000585	Walston-Bulluck House	2/18/1971	Building	Tarboro
73001339	Coats House	4/3/1973	Building	Tarboro
76001320	Redmond-Shackelford House	12/12/1976	Building	Tarboro
80002827	Eastern Star Baptist Church	4/2/1980	Building	Tarboro
80002828	Edgecombe Agricultural Works	4/2/1980	Building	Tarboro
80002829	Oakland Plantation	4/2/1980	Building	Tarboro
80002830	Railroad Depot Complex	4/2/1980	Building	Tarboro
80002831	St. Paul Baptist Church	4/2/1980	Building	Tarboro
80002832	Tarboro Historic District	4/2/1980	District	Tarboro
84000532	Howell Homeplace	12/20/1984	Building	Tarboro
87001901	Lone Pine	11/6/1987	District	Tarboro
00001232	Quigless Clinic	10/27/2000	Building	Tarboro
06000226	Batts House and Outbuildings	4/5/2006	Building	Tarboro
100002803	C.S.S. COL. HILL (side-wheel steamer)	8/31/2018	Structure	Tarboro

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Tarboro as compared to the region overall.

Table AA.7 – Housing Statistics, Tarboro, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Tarboro	5,243	5,170	-1.4	51.2	7.3	$113,800

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Tarboro as compared to the region overall.

Table AA.8 – Employment Statistics, Tarboro, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Tarboro	5,072	50.9	4.1	45	7.4

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table AA.9 – Percent of Employed Population by Occupation, Tarboro, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Tarboro	5,072	50.9	4.1	45	7.4

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

AA.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Tarboro than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are: Flood and Wildfire.

AA.3.1 Flood

Table AA.10 details the acreage of the Town of Tarboro's total area by flood zone on the effective DFIRM. Per this assessment, over 16 percent of the Town's area falls within the mapped 1%-annual-chance floodplains.

Table AA.10 – Flood Zone Acreage in Town of Tarboro

Flood Zone	Acreage	Percent of Total (%)
Zone AE	1238.60	16.69
Zone X (500-year)	376.83	5.08
Zone X Unshaded	5805.22	78.23
Total	7420.64	--

Source: FEMA Effective DFIRM

Figure AA.2 reflects the effective mapped flood hazard zones for the Town of Tarboro, and Figure AA.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table AA.11 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Tarboro. Table AA.12 provides building counts and estimated damages for High Potential Loss Properties exposed to flooding.

Table AA.11 – Critical Facilities Exposed to Flooding, Town of Tarboro

Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	100 Year	6	$174,722
	500 Year	12	$741,354
Critical Manufacturing	100 Year	1	$88,454
	500 Year	2	$427,618
Food and Agriculture	100 Year	2	$4,280
	500 Year	4	$162,295
Government Facilities	100 Year	2	$5,206
	500 Year	3	$210,113
Transportation Systems	500 Year	3	$163,137
Water	500 Year	1	$6,873,436
All Categories	100 Year	**11**	**$272,662**
	500 Year	**25**	**$8,577,953**

Table AA.12 – High Potential Loss Properties Exposed to Flood, Town of Tarboro

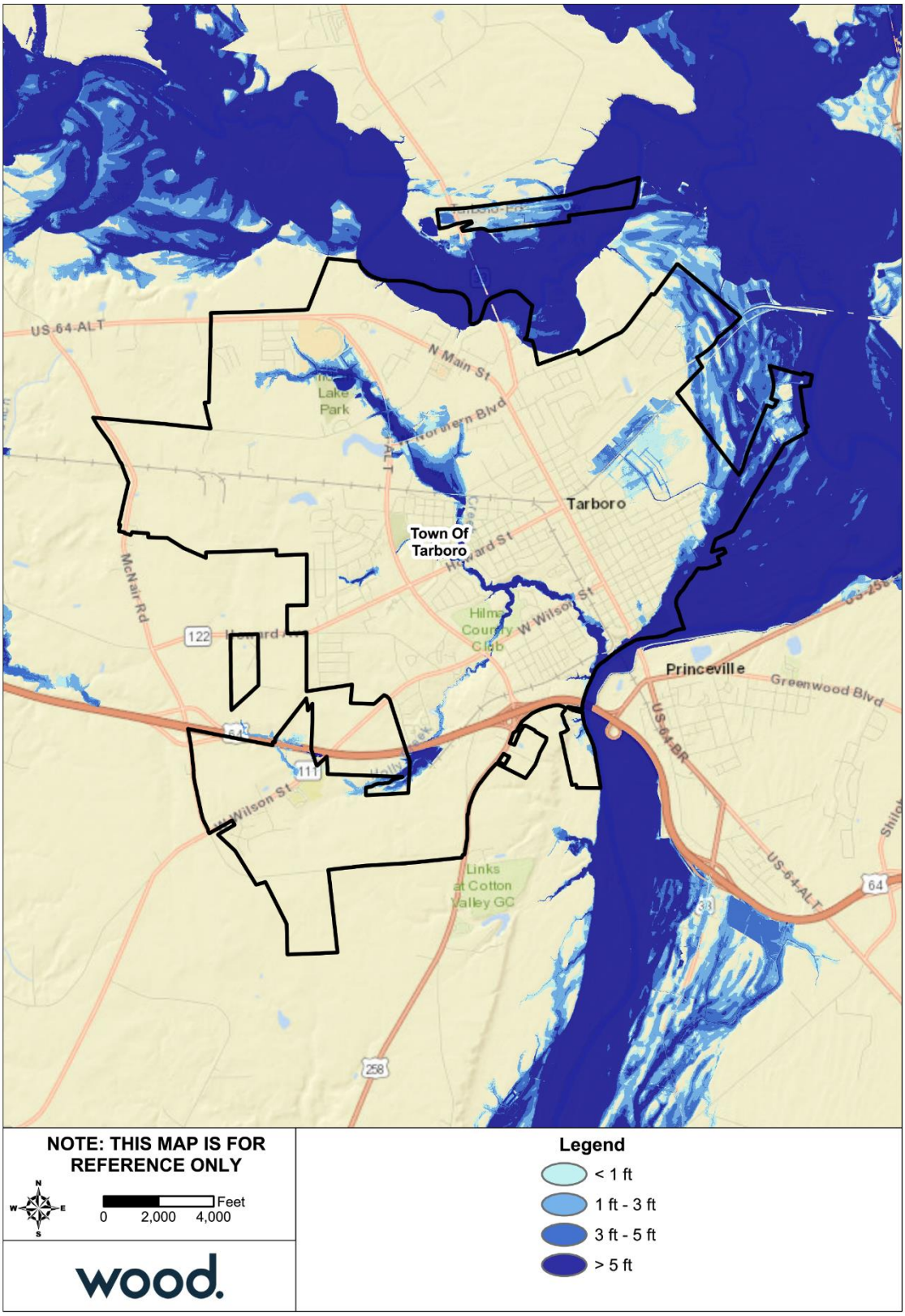
Category	Event	Number of Buildings at Risk	Estimated Damages
Government	500 Year	1	$188,753
Utilities	500 Year	1	$6,873,436
All Categories	**500 Year**	**2**	**$7,062,189**

Figure AA.2 – FEMA Flood Hazard Areas, Town of Tarboro



Source: FEMA Effective DFIRM

Figure AA.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Tarboro



Source: FEMA Effective DFIRM

AA.3.2 Wildfire

Table AA.13 summarizes the acreage in the Town of Tarboro 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 23 percent of the Town of Tarboro is not included in the WUI.

Table AA.13 – Wildland Urban Interface Acreage, Town of Tarboro

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*1,761.30*	*23.73%*
	LT 1hs/40ac	529.36	7.13%
	1hs/40ac to 1hs/20ac	319.37	4.30%
	1hs/20ac to 1hs/10ac	527.64	7.11%
	1hs/10ac to 1hs/5ac	550.41	7.42%
	1hs/5ac to 1hs/2ac	855.31	11.52%
	1hs/2ac to 3hs/1ac	2,766.35	37.27%
	GT 3hs/1ac	111.86	1.51%
	Total	**7,421.60**	

Source: Southern Wildfire Risk Assessment

Figure B.3 depicts the WUI for Edgecombe County, in which the Town of Tarboro is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Tarboro, approximately 6 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity in east and south Tarboro; however, these areas have lower burn probability and/or are largely outside of the WUI, meaning little to no development is at risk.

There are no Critical Facilities or High Potential Loss Properties at risk to wildfire in the Town of Tarboro according to NCEM's Risk Management Tool.

AA.4 CAPABILITY ASSESSMENT

AA.4.1 Floodplain Management

The Town of Tarboro joined the NFIP through emergency entry in February 1974 and has been a regular participant since January 1978. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table AA.14 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	167	$75,992	$35,849,500	85	$1,415,493.72
2-4 Family	37	$16,164	$8,905,800	10	$462,080.26
All Other Residential	4	$5,436	$1,536,000	0	$0.00
Non-Residential	30	$84,960	$10,189,300	12	$793,901.02
Total	238	$182,552	$56,480,600	107	$2,671,475.00

Source: FEMA Community Information System, accessed March 2020

Table AA.15 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	53	$96,485	$10,907,500	55	$1,478,037.37
A Zones	0	$0	$0	4	$30,534.93
B, C & X Zone					
Standard	26	$14,849	$6,260,100	16	$596,605.95
Preferred	159	$71,218	$39,313,000	31	$566,296.75
Total	238	$182,552	$56,480,600	106	$2,671,475.00

Source: FEMA Community Information System, accessed March 2020

Table AA.16 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	34	$83,995	$7,598,000	40	$1,109,411.34
A Zones	0	$0	$0	4	$30,534.93
B, C & X Zone	99	$46,226	$25,380,100	27	$571,961.55
Standard	19	$9,365	$4,985,100	8	$191,177.77
Preferred	80	$36,861	$20,395,000	19	$380,783.78
Total	133	$130,221	$32,978,100	71	$1,711,907.82

Source: FEMA Community Information System, accessed March 2020

Table AA.17 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	19	$12,490	$3,309,500	15	$368,626.03
B, C & X Zone	86	$39,841	$20,193,000	20	$590,941.15
Standard	7	$5,484	$1,275,000	8	$405,428.18
Preferred	79	$34,357	$18,918,000	12	$185,512.97
Total	105	$52,331	$23,502,500	35	$959,567.18

Source: FEMA Community Information System, accessed March 2020

AA.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Property Protection									
PP-1	Place generators at shelters (structural)	All Hazards	3.3	Moderate	County EM	County, State, FEMA	2021	New	
Structural Projects									
SP-1	Inspect storm sewer system to see if functioning properly and make improvements as necessary	Flood	2.2	High	Public Works	Local	2023	Carried Forward	No progress to report
Emergency Services									
ES-1	Coordinate an emergency response training/exercise with the County, State, and Federal Emergency Agencies	All Hazards	2.2	Moderate	Fire, Police, County Emergency Services	State, Federal	2024	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Place information concerning hazard risk and preparedness on the Town Website	All Hazards	1.2	Moderate	Planning & Inspections	Local	2022	Carried Forward	Expanded from information on cooling stations and the elderly fan distribution program to include all hazards

Annex BB Town of Whitakers

BB.1 PLANNING PROCESS

The table below lists the HMPC members who represented the Town of Whitakers.

Table BB.1 – HMPC Members

Member Name	Title	Agency
Linda Bonnette	Town Administrator	Town of Whitakers
Joyce Bailey	Town Clerk	Town of Whitakers
Carlina Hopkins	Citizen	--

BB.2 COMMUNITY PROFILE

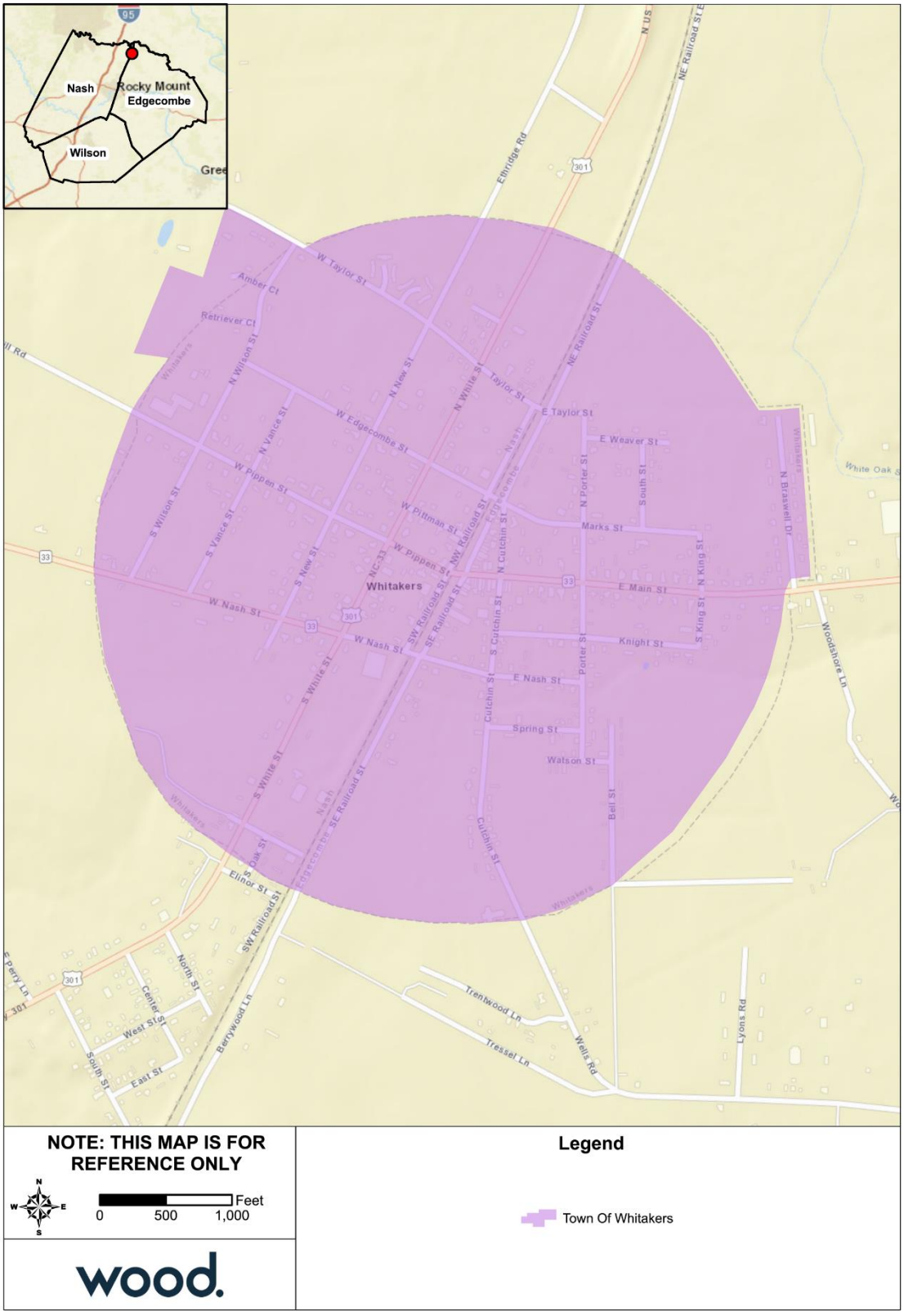
Geography

The Town of Whitakers is located in northeastern Nash and northwestern Edgecombe Counties, split across the border of the two. It is neighbored to the south by Rocky Mount and located just south of the Halifax County border. The Town is part of the Rocky Mount, NC Metropolitan Statistical Area. Whitakers comprises a total land area of 0.82 square miles.

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 10.6 acres of wetlands in Whitakers.

Figure BB.1 shows a base map of the Town of Whitakers.

Figure BB.1 – Location, Town of Whitakers



Population and Demographics

Table BB.2 provides population counts and growth estimates for the Town of Whitakers as compared to the region overall. Table BB.3 provides demographic information for the Town as compared to the region.

Table BB.2 – Population Counts, Whitakers, 2010-2018

Jurisdiction	2000 Census Population	2010 Census Population	2018 ACS Population Estimate	Total Change 2010-2018	% Change 2010-2018
N.E.W. Counties Total	*216,840*	*233,626*	*228,671*	-4,955	-2.12%
Town of Whitakers	799	744	921	177	23.79%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2014-2018 5yr Estimates

Table BB.3 – Racial Demographics, Whitakers, 2018

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
N.E.W. Counties Total	*48.9*	*43.5*	*0.7*	*4.5*	*2.4*	*7.5*
Town of Whitakers	16.5	78	0	0	5.5	2.7

Source: US Census Bureau American Community Survey 2014-2018 5yr Estimates
*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables detail the asset inventory for Whitakers in order to estimate the total physical exposure to hazards in this area. According to NCEM's Risk Management Tool, there are no High Potential Loss Properties located in the Town of Whitakers.

Table BB.4 – Critical Facilities by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Government Facilities	Healthcare	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials & Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Town of Whitakers	1	2	0	29	0	10	0	7	1	0	0	0	0	22	0	2	0	74

Source: NCEM Risk Management Tool

There one listing on the National Register of Historic Places for the Town of Whitakers. This site is detailed in the table below.

Table BB.5 – Historic Properties

Ref#	Property Name	Status Date	Category	City
02000988	Porter Houses and Armstrong Kitchen	9/14/2002	Building	Whitakers

Source: National Parks Service, National Register of Historic Places, October 2018

Housing

The table below details key housing statistics for Whitakers as compared to the region overall.

Table BB.6 – Housing Statistics, Whitakers, 2010-2018

Jurisdiction	Housing Units (2010)	Housing Units (2018)	Housing Units Percent Change (2010-2018)	Owner-Occupied, % (2018)	Vacant Units, % (2018)	Median Home Value (2018)
N.E.W. Counties Total	*101,602*	*103,826*	*2.2*	*53.7*	*13.1*	*n/a*
Town of Whitakers	432	427	-1.2	59.7	18	$73,700

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2014-2018 5-Year Estimates

Economy

The following tables present key economic statistics for Whitakers as compared to the region overall.

Table BB.7 – Employment Statistics, Whitakers, 2018

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
N.E.W. Counties Total	*107,971*	*54.9*	*4.3*	*40.8*	*7.2*
Town of Whitakers	316	42.8	2.6	54.7	5.7

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates
Note: This table reports only the civilian labor force. The population in armed services accounted for 0.3% or less of the labor force. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table BB.8 – Percent of Employed Population by Occupation, Whitakers, 2018

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
N.E.W. Counties Total	*30.5*	*17.8*	*21.2*	*10.3*	*20.1*
Town of Whitakers	23.2	26.8	15.1	7.4	27.5

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

BB.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for the Town of Whitakers than for the region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards in this section are: Flood and Wildfire.

BB.3.1 Flood

Table BB.9 details the acreage of the Town of Whitakers' total area by flood zone on the effective DFIRM. Per this assessment, 8.6% of the Town's area falls within the mapped 1%-annual-chance floodplains.

Table BB.9 – Flood Zone Acreage in Town of Whitakers

Flood Zone	Acreage	Percent of Total (%)
Zone AE	45.00	8.57
Zone X (500-year)	9.90	1.88
Zone X Unshaded	470.26	89.55
Total	525.16	--

Source: FEMA Effective DFIRM

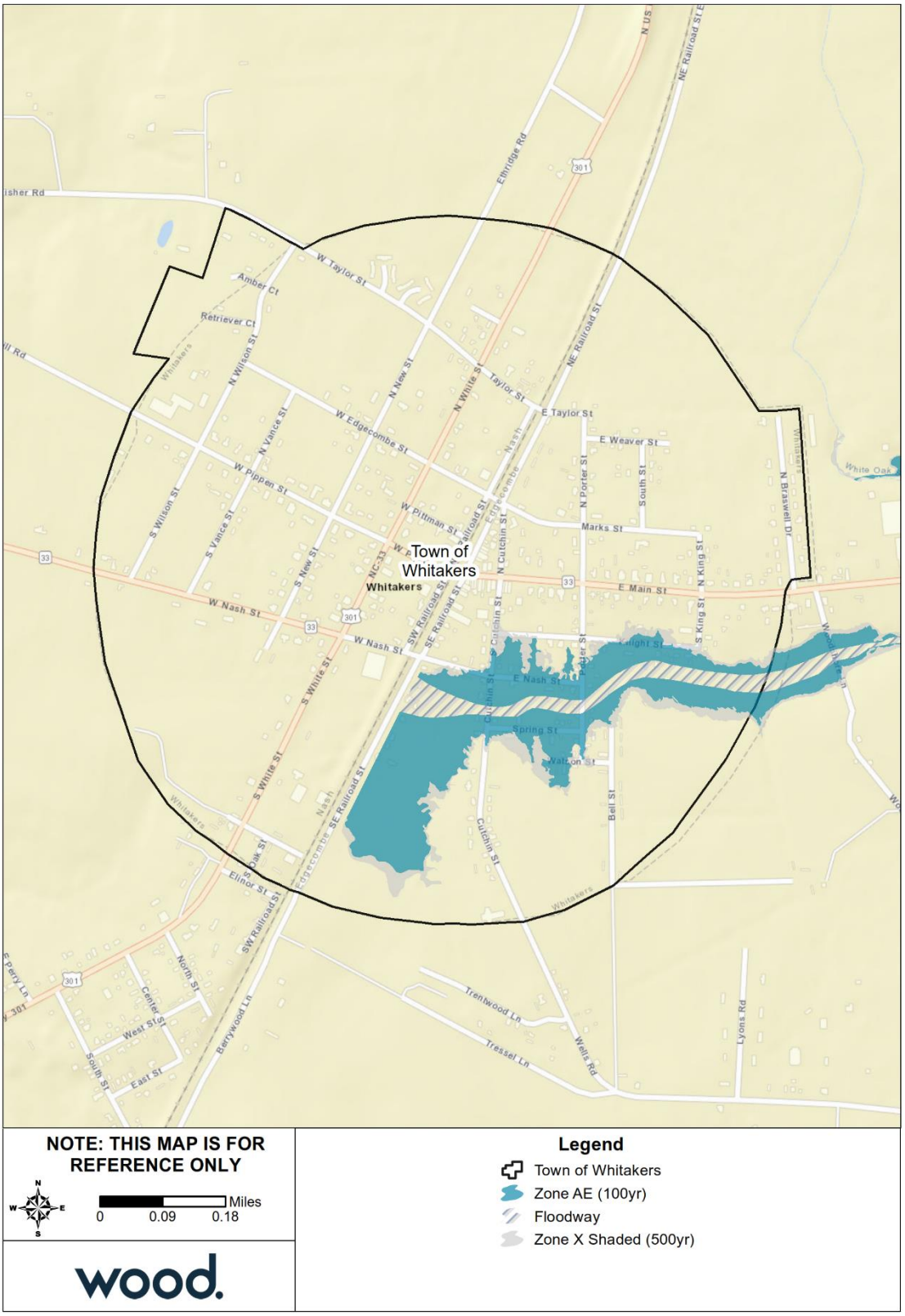
Figure BB.2 reflects the effective mapped flood hazard zones for the Town of Whitakers, and Figure BB.3 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table BB.10 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector and flood event in the Town of Whitakers.

Table BB.10 – Critical Facilities Exposed to Flooding, Town of Whitakers

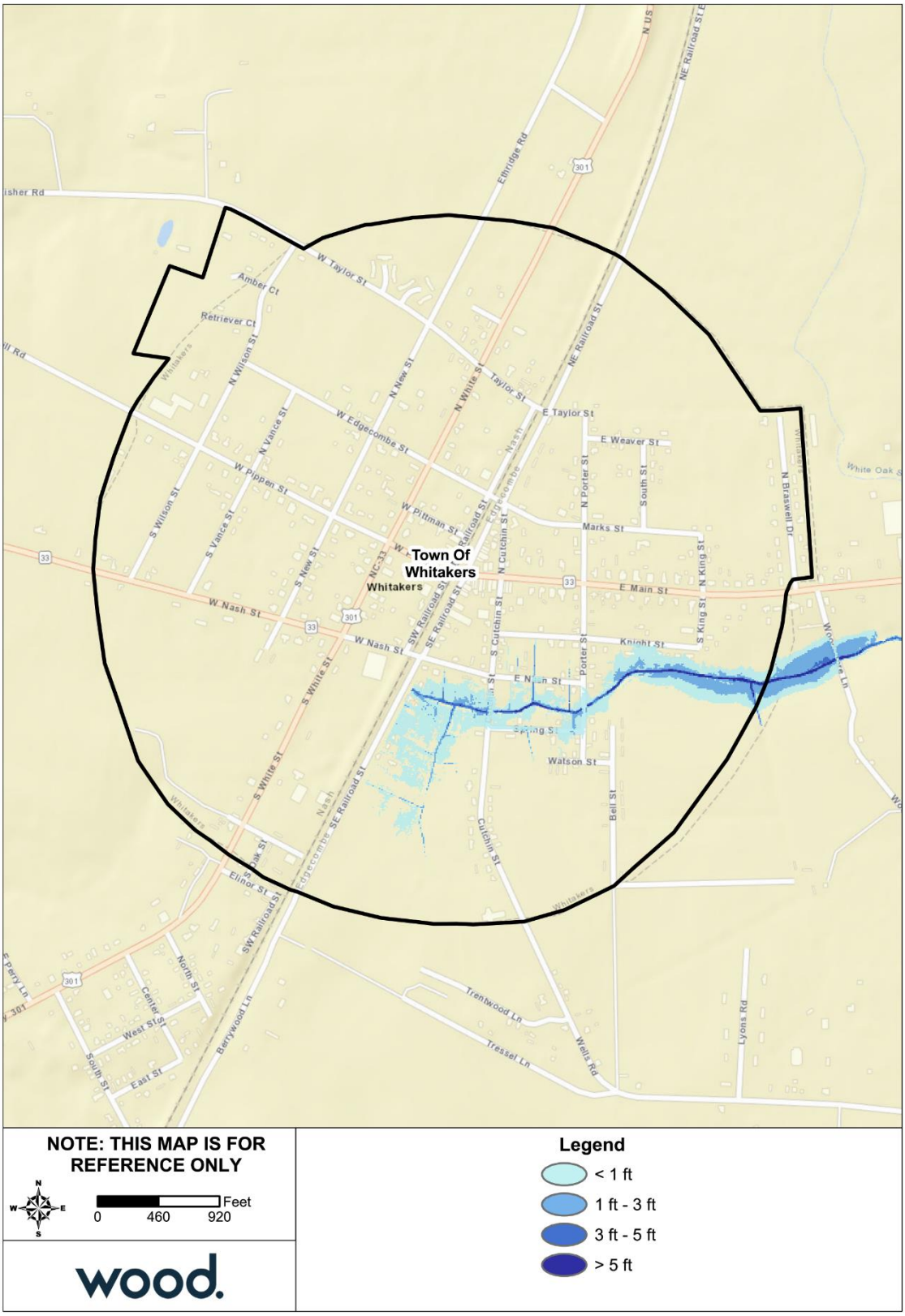
Sector	Event	Number of Buildings at Risk	Estimated Damages
Commercial Facilities	500 Year	1	$344
All Categories	**500 Year**	**1**	**$344**

Figure BB.2 – FEMA Flood Hazard Areas, Town of Whitakers



Source: FEMA Effective DFIRM

Figure BB.3 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Whitakers



Source: FEMA Effective DFIRM

BB.3.2 Wildfire

Table BB.11 summarizes the acreage in the Town of Whitakers 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. Less than one half of one percent of the Town of Whitakers is not included in the WUI.

Table BB.11 – Wildland Urban Interface Acreage, Town of Whitakers

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*1.11*	*0.21%*
	LT 1hs/40ac	10.90	2.08%
	1hs/40ac to 1hs/20ac	7.69	1.47%
	1hs/20ac to 1hs/10ac	15.10	2.87%
	1hs/10ac to 1hs/5ac	37.93	7.22%
	1hs/5ac to 1hs/2ac	183.42	34.92%
	1hs/2ac to 3hs/1ac	269.03	51.23%
	Total	**525.18**	

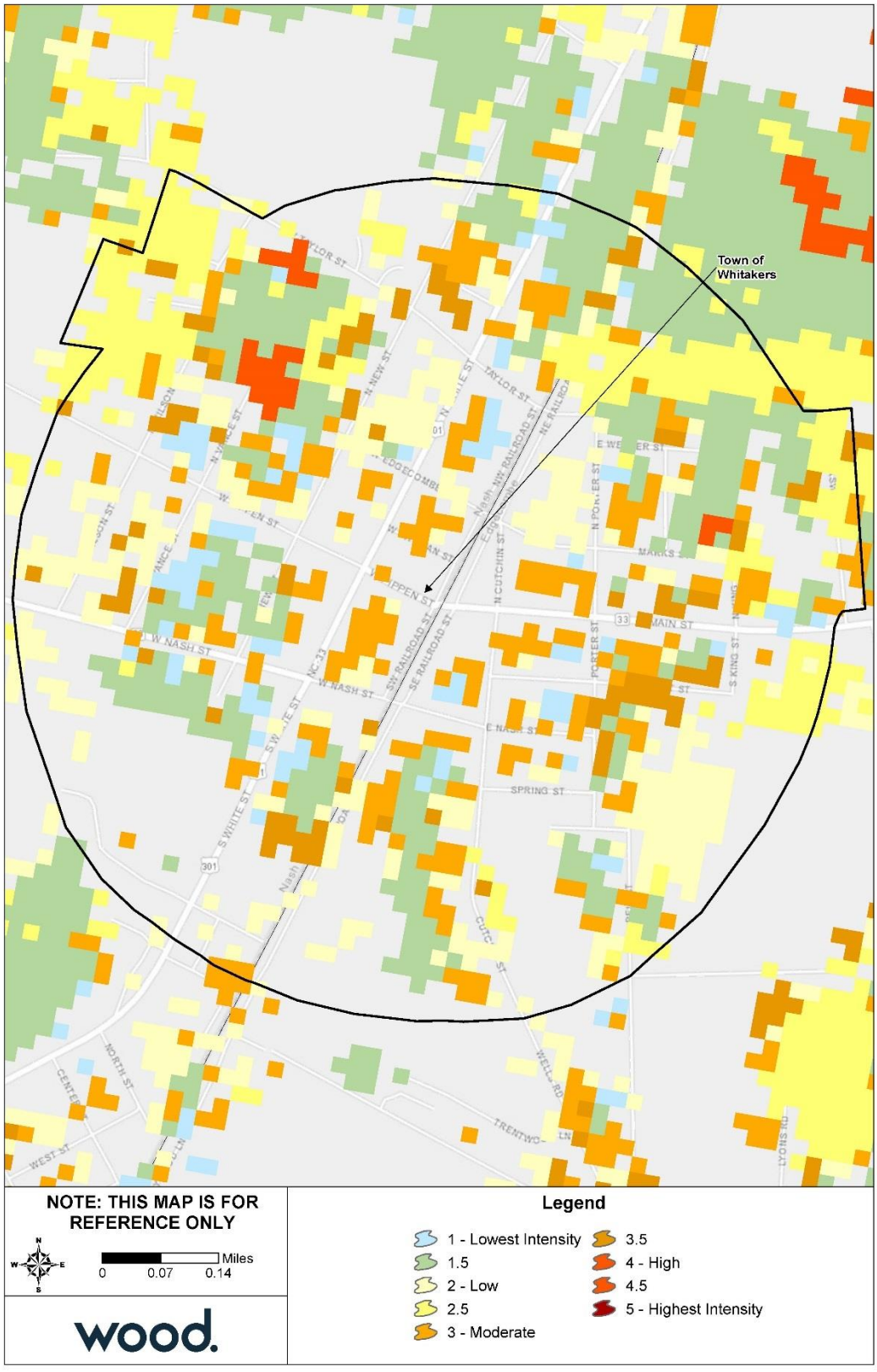
Source: Southern Wildfire Risk Assessment

Figure A.3 and Figure B.3 depicts the WUI for Nash and Edgecombe Counties, across which the Town of Whitakers is located. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure BB.4 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure A.5 and Figure B.5 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

In Whitakers, approximately 5 percent of the Town's acreage has a potential fire intensity rated 4 or higher. Potential fire intensity is highest in northwest Whitakers; although this area is within the WUI, meaning there is potential for risk to development and property, the area is overlapped with low burn probability lowering that risk.

Per NCEM's Risk Management Tool, there are no Critical Facilities or High Potential Loss Properties exposed to wildfire in the Town of Whitakers.

Figure BB.4 – Potential Fire Intensity, Town of Whitakers



Source: Southern Wildfire Risk Assessment

BB.4 CAPABILITY ASSESSMENT

BB.4.1 Floodplain Management

The Town of Whitakers joined the NFIP through emergency entry in August 1975 and has been a regular participant since April 1980. The following tables reflect NFIP policy and claims data for the Town categorized by structure type, flood zone, and Pre-FIRM. There are no Post-FIRM insurance policies in the Town.

Table BB.12 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	4	$1,738	$789,800	0	$0.00
Total	**4**	**$1,738**	**$789,800**	**0**	**$0.00**

Source: FEMA Community Information System, accessed March 2020

Table BB.13 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$727	$19,800	0	$0.00
B, C & X Zone					
Standard	0	$0	$0	0	$0.00
Preferred	3	$1,011	$770,000	0	$0.00
Total	4	$1,738	$789,800	0	$0.00

Source: FEMA Community Information System, accessed March 2020

Table BB.14 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	1	$727	$19,800	0	$0.00
B, C & X Zone	3	$1,011	$770,000	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	3	$1,011	$770,000	0	$0.00
Total	4	$1,738	$789,800	0	$0.00

Source: FEMA Community Information System, accessed March 2020

BB.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Status Comments
Prevention									
P-1	Work with NCDOT & RPO to identify long term solutions to localized flooding on US 301 with implementation strategy	Flood	3.3	High	RPO, Town Board, NCDOT	Local, NCDOT	2021	Carried Forward	Identified solution with NCDOT but implementation is still not complete
Property Protection									
PP-1	Obtain a generator to provide emergency power for Town Hall/Police Station (critical facilities) which was built for a quick connect	All Hazards	3.3	High	Town Administration	State, Federal, Grant Funds, Local	2022	Carried Forward	No progress to report
Emergency Services									
ES-1	Encourage or assist residents through information to sign up for County's emergency warning notification system	All Hazards	1.2	Moderate	Town Administration, Mayor	Local, State, Federal	2024	Carried Forward	No progress to report
Public Education & Awareness									
PEA-1	Coordinate with Nash and Edgecombe Counties to maintain digital zoning and land use maps	All Hazards	4.1	Moderate	Edgecombe County EM, Nash County EM, Town Administration	County	2021	Carried Forward	Town has prepared digital maps. Updates and coordination with the Counties will be ongoing once implemented.
PEA-2	Obtain FEMA handouts on all hazards & make available for residents at Town Hall	All Hazards	1.2	Moderate	Town Administration	FEMA, Local	2023	Carried Forward	No progress to report

Appendix A Plan Review Tool

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APPENDIX A:
LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* 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 community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: **Nash, Edgecombe, and Wilson Counties, NC**	**Title of Plan:** **N.E.W. Regional Hazard Mitigation Plan**	**Date of Plan:** **May 2020**
Local Point of Contact: **David Stroud** **Title:** **Hazard Mitigation Planning & Emergency Lead** **Agency:**	**Address:** **4021 Stirrup Creek Drive, Suite 100** **Durham, NC 27703**	
Phone Number: **919-765-9986**	**E-Mail:** **david.stroud@woodplc.com**	

State Reviewer:	**Title:**	**Date:**
Carl Baker	**Hazard Mitigation Planner**	**June 26, 2020**
Carl Baker	**Hazard Mitigation Planner**	**July 1, 2020**

FEMA Reviewer:	**Title:**	
Edwardine S. Marrone	NC-FIT-Mitigation Planner	09/21/20
Carl Mickalonis	HM Planning Lead	**11/6/2020**
Date Received in FEMA Region IV	07/02/20	
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved	11/06/2020	

✓ Denotes FEMA Reviewer concurs with State Reviewers notations.

SECTION 1:
REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. 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.' The 'Required Revisions' summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan (section and/or page number)**	**Met**	**Not Met**
ELEMENT A. PLANNING PROCESS			
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1)) **QC concurs**	Section 2 (p. 5-20)✓ a. P6-13, Appendix B b. P 2-3 c. Pp 11-12; Table 2.4+ d. Pp13-15 e. P6-13, Appendix B	X	
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	Section 2 (p. 7-8, 15);✓ Appendix B (p. B.58-B.59) ✓ a. P B.58 – B.59 invited via email.	X	
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1)) **QC concurs**	Section 2 (p. 12-14); Appendix B (p. B.22-B.57)✓ Pp 11-15	X	
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3)) **QC concurs.**	Section 2 (p. 7-8) Pp 8-9, 241-260, 262-263	X	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Section 8 (p. 298)✓	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	Section 8 (p. 295-298)✓	X	
ELEMENT A: REQUIRED REVISIONS NCEM 1st Review: A1-A6: None required. **NCEM 2nd Review: None required.**			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	Section 4.5 (p. 64-239; Hazard Description, Location, Extent, Hazard Summary by Jurisdiction), Annexes A-BB ✓ P 45-46 a. P64-239 b. P64-239 c. P66	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	Section 4.5 (p. 64-239; Past Occurrences, Probability of Future Occurrence, Hazard Summary by Jurisdiction), ✓ PP 47-48 (Emergency & Disaster Declarations) a&c. P. 73-74, 79-80, 89-90, 101-102, 117-119, 139-143, 161-165, 182-185, 191, 196-199, 216 b. P. 74, 76, 80-, 84,90-92, 102, 120, 134-135, 143, 166, 186-187, 191, 193, 199, 209-210, 217-218, 224-225	X	
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	Section 4.5 (p. 64-239; Vulnerability Assessment, Hazard Summary by Jurisdiction), Annexes A-BB✓ Overall population P 30, 54. Overall structures P 55-63. a&b. P 66, 73-76, 81-84, 92-99 117-119, 120-135, 142-146, 182-187, 103-105, 157-161, 164-179, 191-193, 197-210, 212-213, 219-225.	X	
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii)) **QC concurs**	Section 4.5.5 ***Page 133***✓	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
ELEMENT B: REQUIRED REVISIONS NCEM 1st Review: B1-B4: None required. Jurisdictional maps in Annexes A-BB. **NCEM 2nd Review: None required.**			
ELEMENT C. MITIGATION STRATEGY			
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3)) **QC concurs**	Section 5 (p. 240-260) P241-260	X	
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii)) **QC concurs**	Section 5 (p. 246-249)✓ P120, 248-249, Annexes	X	
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6©(3)(i)) **QC concurs**	Section 6 (p.261-264)✓ a.&b. P262-263	X	
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 §201.6©(3)(ii)) **QC concurs**	Section 6 (p. 261-264), Section 7 (p. 265-294)✓ a.-c. P265-294	X	
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6©(3)(iv)); (Requirement §201.6©(3)(iii)) **QC concurs**	Section 6 (p. 261-264), Section 7 (p. 265-294)✓ P263-264	X	
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6©(4)(ii))	Section 8 (p.295-298)✓ P B.19	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
ELEMENT C: REQUIRED REVISIONS NCEM 1st Review: C4: The following revisions to mitigation actions are required. Nash County, SP-1, All Hazard; Change action description to include critical facilities. Assume this action is for generator quick connects. Updated Dortches, PP-2, All Hazard; change to critical facilities. Updated Middlesex, P-2, All Hazard; Change to Public Information and Outreach category. Updated Middlesex, PP-1, All Hazard; Are lift stations critical structures? How is power to lift stations an all hazard mitigation action? Change to appropriate categories. Clarified that lift stations are critical infrastructure and updated to list only hazards that may cause power outages. Momeyer, PP-1, All Hazard; Change to obtain generator for critical facilities. Updated Nashville, PEA-1, All Hazard; Should include information on all phases of EM, especially mitigation for this purpose. Updated Red Oak, P-2, All Hazard; How are mitigation actions in relation to the pipeline all hazard? Updated to list only hazards that could impact the pipeline. Edgecombe County: P-1; ICS training is not a mitigation action. Remove from list. Moved to Emergency Services. PP-1; Emergency Operations Center status is not a mitigation action. Remove from list. Moved to Emergency Services. PP-2; Change "shelters" to critical facilities. Updated PEA-1; Residents sign-up for county emergency warning system. Change to Emergency Services. Moved to Emergency Services. Pinetops, Change P-1 to Emergency Services. Moved to Emergency Services. Rocky Mount, PEA-3, All Hazard; Include mitigation actions in description Updated Speed, P-1, All Hazard; Change to Emergency Services. Shelters are not a mitigation action. Updated Tarboro, PP-1, All Hazard; Change to critical facilities. PEA-1, materials to include disaster preparedness and hazard mitigation. Updated Stantonsburg, P-2, All Hazard; Describe what information is being updated. Updated All other sub elements, None required. **NCEM 2nd Review: None required.**			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3)) **QC concurs**	Section 3 (p. 21-44), Section 4 (p. 45-239; Asset Inventory, Vulnerability Assessment), Annexes A-BB Pp 38-41, 74,	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3)) **QC concurs**	Section 2 (p. 15-20), Section 5 (p.295-298)✓	X	
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3)) **QC concurs**	Section 6 (p. 261-264), Section 7 (p. 265-294)`✓	X	
ELEMENT D: REQUIRED REVISIONS NCEM 1st Review: D1-D3: None required. **NCEM 2nd Review: None required.**			
ELEMENT E. PLAN ADOPTION			
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5)) **QC concurs**	Plan will be adopted pending APA letter from FEMA; Adoption resolutions will be added to Section 9	X	
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5)) **QC concurs**	Plan will be adopted pending APA letter from FEMA; Adoption resolutions will be added to Section 9		X

ELEMENT E: REQUIRED REVISIONS

NCEM 1st Review: None required pending FEMA review.

FEMA REQUIRED REVISIONS:

Adoption documentation has not been provided by any of the participating jurisdictions.

E2: Each jurisdiction that is included in the plan must have its governing body adopt the plan prior to FEMA approval, even when a regional agency has the authority to prepare such plans. At least one participating jurisdiction must formally adopt the plan within one calendar year of FEMA's designation of the plan as "Approvable Pending Adoption."

FEMA recommends that all participating jurisdictions coordinate the adoption process as soon as the plan has received APA status to ensure that all participants are covered by a plan for the full five years.

For additional information, please see Element E, Plan Adoption, in the "Local Mitigation Plan Review Guide", October 1, 2011, Pages 28-29 and Task 8 of the Local Mitigation Planning Handbook, March 2013.

Prior to review completion adoption documentation was provided by:
Counties: Nash, Edgecombe
Cities: Rocky Mount, Wilson
Towns: Leggett, Momeyer, Princeville, Red Oak, Saratoga, Sharpsburg, Sims, and Stantonsburg

11-16-20 Wilson County provided adoption documentation.

11-19-20 The following provided adoption documentation:

- Town of Castalia
- Town of Dortches
- Town of Macclesfield
- Town of Speed
- Town of Tarboro

12-09-20 Town of Spring Hope provided adoption documentation.

01-05-21 Town of Pinetops provided adoption documentation.

2-5-21 Town of Middlesex provided adoption documentation.

2-10-21 Town of Conetoe provided adoption documentation.

2-22-21 Town of Nashville provided adoption documentation.

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	Location in Plan (section and/or page number)	Met	Not Met
4-15-21 Town of Lucama provided adoption documentation. 4-22-21 Town of Black Creek provided adoption documentation. 7-21-21 The following provided adoption documentation: • Town of Bailey • Town of Elm City • Town of Whitakers			
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)			
F1.			
F2.			
ELEMENT F: REVISIONS Section 4; Introduction lists Past Occurrences as a category; individual assessments lists Historical Occurrences. Corrected - Updated introduction to "Historical Occurrences" Section 7: Inconsistency in introduction and mitigation action tables between PEA and PIO category. Corrected to PEA in Section 6 introduction **NCEM 2nd Review: None required.**			

SECTION 2:
PLAN ASSESSMENT

INSTRUCTIONS: The purpose of the Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The audience for the Plan Assessment is not only the plan developer/local community planner, but also elected officials, local departments and agencies, and others involved in implementing the Local Mitigation Plan. The Plan Assessment must be completed by FEMA. The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the Plan; 2) specific sections in the Plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically RiskMAP and Hazard Mitigation Assistance programs. The Plan Assessment is divided into two sections:

1. Plan Strengths and Opportunities for Improvement
2. Resources for Implementing Your Approved Plan

Plan Strengths and Opportunities for Improvement is organized according to the plan Elements listed in the Regulation Checklist. Each Element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item, and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each Element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature, and should be open-ended and to provide the community with suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the Plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

Resources for Implementing Your Approved Plan provides a place for FEMA to offer information, data sources and general suggestions on the overall plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

Plan Strengths

- Documented in the Planning Process are activities that would be beneficial for plan updates going forward.
- Following the planning process in "Section 2 – Planning Process" ensures continued development of a community focused hazard mitigation plan with the intent of decreasing vulnerability and increasing resiliency and sustainability for the participating jurisdictions.
- Planning Committee members included Planners, Citizens, Fire Department, Hospitals, Higher Education Institutions, Police Department, Housing Authority, and Farm Bureau, among others.

Element B: Hazard Identification and Risk Assessment

Plan Strengths

- The hazards discussed are those that may affect the participating jurisdictions in varying degrees. The way the plan is written allows the reader to have a full picture of which hazards present a higher risk to the participating jurisdictions, therefore, these are the hazards that have higher priority mitigations strategies.
- The plan draws from each of the community's plans to document the community's sustained efforts to incorporate hazard mitigation principles and practices into routine government activities and functions thus establishing a successful and sustainable local hazard mitigation program.

Opportunities for Improvement

- The plan documents the limitation of the HIRA data provided in the iRisk database. Future update planning committee members should look for alternative resources for the missing data to make the risk assessment more robust.

Element C: Mitigation Strategy

Plan Strengths

- A robust capability assessment is conducted to develop the mitigation strategies. The capability assessment identifies strengths that may further the successful implementation of the mitigation strategies along with weaknesses that are identified actions in the mitigation action plan.
- The mitigation strategies will be incorporated into other county and municipality plans in the future. Inclusion of the mitigation strategies in other plans will ensure the communities are focused on being resilient communities.
- Having a documented structure for developing new actions and reporting on the status of existing actions will provide the living document a path for continued efforts towards maintaining and building resilient communities.
- The proposed mitigation projects are very specific, actionable, and it is clear the actions were evaluated and re-prioritized.

Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)

Plan Strengths

The monitor and evaluate process is documented. Specific parameters have been set for meetings and the responsible parties of the mitigation strategies will provide a status report.

Opportunities for Improvement

Suggestion for future plan updates; tie the growth management maps to meet Element D1 more easily and would enhance the documentation of development since the last plan update.

B. Resources for Implementing Your Approved Plan

- **Local Mitigation Planning Handbook**
  This Handbook provides guidance to local governments on developing or updating hazard mitigation plans to meet the requirements under the Code of Federal Regulations (CFR) Title 44 – Emergency Management and Assistance §201.6.
  Use the Local Plan Guide and Handbook in tandem to understand technical requirements
  http://www.fema.gov/library/viewRecord.do?fromSearch=fromsearch&id=7209
- **Integrating Mitigation Strategies with Local Planning**
  This resource provides practical guidance on how to incorporate risk reduction strategies into existing local plans, policies, codes, and programs that guide community development or redevelopment patterns.
  http://www.fema.gov/library/viewRecord.do?id=7130
- **Mitigation Ideas**
  Communities can use this resource to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.
  http://www.fema.gov/media-library/assets/documents/30627?id=6938

- **Risk MAP Program:**
  This resource provides an introduction to Risk MAP and information about the products Risk MAP offers to better understand flood risk. This information can help planning to reduce flood risk and communicate with residents.
  https://www.fema.gov/risk-map-program-information-community-officials

SECTION 3:
MULTI-JURISDICTION SUMMARY SHEET (OPTIONAL)

INSTRUCTIONS: For multi-jurisdictional plans, a Multi-jurisdiction Summary Spreadsheet may be completed by listing each participating jurisdiction, which required Elements for each jurisdiction were 'Met' or 'Not Met,' and when the adoption resolutions were received. This Summary Sheet does not imply that a mini-plan be developed for each jurisdiction; it should be used as an optional worksheet to ensure that each jurisdiction participating in the Plan has been documented and has met the requirements for those Elements (A through E).

MULTI-JURISDICTION SUMMARY SHEET												
#	Jurisdiction Name	Jurisdiction Type (city/borough/ township/ village, etc.)	Plan POC	Mailing Address	Email	Phone	Requirements Met (Y/N)					
							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Require-ments
1	**Nash County**	**County**					Y	Y	Y	Y	Y	
2	Bailey	Town					Y	Y	Y	Y	Y	
3	Castalia	Town					Y	Y	Y	Y	Y	
4	Dortches	Town					Y	Y	Y	Y	Y	
5	Middlesex	Town					Y	Y	Y	Y	Y	
6	Momeyer	Town					Y	Y	Y	Y	Y	
7	Nashville	Town					Y	Y	Y	Y	Y	
8	Red Oak	Town					Y	Y	Y	Y	Y	

MULTI-JURISDICTION SUMMARY SHEET													
#	Jurisdiction Name	Jurisdiction Type (city/borough/ township/ village, etc.)	Plan POC	Mailing Address	Email	Phone	Requirements Met (Y/N)					
							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Require-ments
9	Spring Hope	Town					Y	Y	Y	Y	Y	
10	**Edgecombe**	**County**					Y	Y	Y	Y	Y	
11	Conetoe	Town					Y	Y	Y	Y	Y	
12	Leggett	Town					Y	Y	Y	Y	Y	
13	Macclesfield	Town					Y	Y	Y	Y	Y	
14	Pinetops	Town					Y	Y	Y	Y	Y	
15	Princeville	Town					Y	Y	Y	Y	Y	
16	Rocky Mount	City					Y	Y	Y	Y	Y	
17	Speed	Town					Y	Y	Y	Y	Y	
18	Tarboro	Town					Y	Y	Y	Y	Y	
19	Whitakers	Town					Y	Y	Y	Y	Y	
20	**Wilson County**	**County**					Y	Y	Y	Y	Y	
21	Black Creek	Town					Y	Y	Y	Y	Y	

MULTI-JURISDICTION SUMMARY SHEET												
#	Jurisdiction Name	Jurisdiction Type (city/borough/ township/ village, etc.)	Plan POC	Mailing Address	Email	Phone	Requirements Met (Y/N)					
							A. Planning Process	B. Hazard Identification & Risk Assessment	C. Mitigation Strategy	D. Plan Review, Evaluation & Implementation	E. Plan Adoption	F. State Require-ments
22	Elm City	Town					Y	Y	Y	Y	Y	
23	Lucama	Town					Y	Y	Y	Y	Y	
24	Saratoga	Town					Y	Y	Y	Y	Y	
25	Sharpsburg	Town					Y	Y	Y	Y	Y	
26	Sims	Town					Y	Y	Y	Y	Y	
27	Stantonsburg	Town					Y	Y	Y	Y	Y	
28	Wilson	City					Y	Y	Y	Y	Y	

Appendix B Planning Process Documentation

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, CRS, and FMA requirements and the planning process 2) Review of HMPC responsibilities and the project schedule.	April 15, 2019	Nash Community College, 1st fl. Rm 8123 3866 Eastern Avenue, Rocky Mount, NC
HMPC Mtg. #2	1) Review and update plan goals 2) Brainstorm a vision statement 3) Report on status of actions from the 2015 plan 4) Complete the capability self-assessment	June 24, 2019	Nash Community College, 1st fl. Rm 8123 3866 Eastern Avenue, Rocky Mount, NC
HMPC Mtg. #3	1) Review Draft Hazard Identification & Risk Assessment (HIRA) 2) Draft objectives and Mitigation Action Plans	September 12, 2019	Nash Community College, 1st fl. Rm 8123 3866 Eastern Avenue, Rocky Mount, NC
HMPC Mtg. #4	1) Review the Draft Hazard Mitigation Plan 2) Solicit comments and feedback	May 27, 2020	Zoom Video Conference Call

Note: All HMPC Meetings were open to the public.

HMPC Meeting Agendas, Minutes, and Sign-in Sheets

HMPC Meeting 1: April 15, 2019

N.E.W. Regional
Hazard Mitigation Plan Update

Meeting 1: Hazard Mitigation Planning Committee Project Kickoff
Time & Date: Monday, April 15, 2019, 3:00-4:30 p.m.
Location: Nash Community College, 1st Fl, Rm. 8123, 3866 Eastern Avenue, Rocky Mount

Agenda

1. Introductions
2. Project Overview
    a. Requirement for Update
    b. Trends in Disasters – Why Plan?
    c. Disaster Mitigation Act (DMA) Requirements
        i. Organize Resources
        ii. Risk Assessment
            1. Hazard Identification
            2. Vulnerability Assessment
            3. Capability Assessment
        iii. Develop Mitigation Plan
            1. Hazard Strategies
            2. Mitigation Categories
    d. Scope of Work
    e. Risk Management Tool
3. Project Schedule
4. Plan Website
5. Public Survey
6. Next Steps
    a. Capability Assessment
    b. Mitigation Action Status Updates
    c. Mitigation Goals Update
7. Questions
8. Adjourn

Page **1** of **1**

N.E.W. Regional Hazard Mitigation Plan

Meeting 1: Hazard Mitigation Planning Committee Project Kick-Off Meeting
Time & Date: Monday, April 15, 2019, 3:00-4:30 p.m.
Location: Nash Community College, Continuing Education Building, 3866 Eastern Avenue, Rocky Mount

Introductions

David Stroud and Abby Moore, consultants from Wood, facilitated the meeting. David began by providing the meeting agenda and had everyone in attendance introduce themselves. There were 41 people in attendance and recorded on the sign-in sheet, including representatives from 15 of the 28 participating jurisdictions.

Hazard Mitigation Plan Update Requirement

David discussed the Disaster Mitigation Act of 2000 plan update requirement and the HMGP grant process. Communities are required to update their hazard mitigation plans every five years to remain eligible for federal disaster funding. HMGP funding is provided by the North Carolina Division of Emergency Management with a 75% federal/25% local cost share.

Trends in Disasters

Trends are resulting in increases costs for disaster response and recovery. As growth and development occur, exposure to hazard events increases. Exposure to risk includes the people as well as the infrastructure and buildings. Because exposure has increased, when hazard events occur they cause more damage. There are also trends toward more severe hazard events. There has been a continual increase in hazard expenses and an increase in the issuance of major disaster declarations. David reviewed a list of the costliest natural disasters by NOAA estimates. All of them occurred within the last 30 years, and 9 occurred within the last 20 years. These figures did not include Hurricanes Florence and Michael because it is still too early to estimate the full costs of these disasters. David also noted that these costs are general damage estimates, but that the actual cost of disasters to state and local governments, businesses, insurance companies, homeowners, and others is much higher.

Four reasons why addressing these trends is a priority were presented: 1) the cost of doing nothing is too high as the costs of response and recovery continue to grow; 2) many events are predictable and repetitive; 3) loss reduction activities can be undertaken, and they work, they're cost effective and environmentally sound, and there are funds available to help; and 4) there are legal and moral responsibilities to act.

Planning Requirements

David reviewed the Disaster Mitigation Act (DMA) of 2000 planning requirements, which include a four-phase planning process: organize resources, risk assessment, develop a mitigation plan, and adoption and implementation. The approach that will be led by the consultant team at Wood blends this four-phase process with the processes of the Flood Mitigation Assistance (FMA) Program and the Community Rating System (CRS) Floodplain Management Planning. This completed Hazard Mitigation Plan (HMP) will meet the requirements of all three FEMA programs.

David discussed the main phases of this planning process, as follows:

Phase I: Organize Resources, will involve planning for public involvement and coordinating with other departments and agencies. Other stakeholders to involve include North Carolina Emergency Management, FEMA Region IV, NOAA, other adjoining communities, citizens, schools, businesses, and others.

Phase II: Risk Assessment entails hazard identification (what can happen here), vulnerability assessment (what will be affected or impacted), and capability assessment (how prepared we are).

David presented Wood's recommendations for which hazards to include in the plan. It was noted that levee failure, though not included in the State plan, should be addressed due to the presence of two levees with a history of failure and/or overtopping in Edgecombe County.

Based on this discussion, the following hazards will be profiled: Flood, Hurricane, Severe Winter Weather, Extreme Heat, Earthquake, Wildfire, Dam Failure, Levee Failure, Drought, Severe Weather (Thunderstorm Winds, Lightning, Hail), and Sinkhole. The vulnerability assessment will use NCEM IRISK data. Hazards will be prioritized using the Priority Risk Index. Each community will self-assess capability to determine ability to implement projects and where gaps exist.

Phase III: Develop Mitigation Plan involves setting planning goals, reviewing mitigation alternatives, and drafting an action plan. Typical strategies are to alter the hazard, avert the hazard, adapt to the hazard, or avoid the hazard. In addition to reviewing actions from the previous plan, the HMPC may need to develop new actions. David noted that in this process Wood will ensure that the Region meets the CRS requirements for considering mitigation alternatives to maximize CRS credit for the plan.

Scope of Work

The plan will meet the following criteria:

- The plan will include all required elements, as defined in the FEMA Local Mitigation Plan Review Guide.
- The plan will meet or exceed the final rule for local mitigation planning found in 44 CFR, Section 201.6, in order to be approved by FEMA.
- Natural hazards assessed in the plan will coordinate with the current FEMA-approved State Mitigation Plan.
- The plan will include natural and human-caused hazards and mitigation measures.
- The plan will incorporate any local climate adaptation data and findings.

Risk Management Tool

Abby discussed North Carolina Emergency Management's new tool for mitigation planning, which will be used in this effort. RMT integrates all available IRISK data to assist in the vulnerability assessment. Additionally, the RMT will generate and maintain a digital version of the plan, which may be useful in plan maintenance and future updates.

Project Schedule

The anticipated project schedule was presented. The process will aim for completion of a final draft document by September 2019 to send to NCEM for review. This timeline does not include final approval and adoption of the plan. The update must be approved and adopted by August 2020.

Plan Website & Public Survey

Abby presented the website for the planning process, which will be a tool for HMPC coordination and public outreach. The website is www.NEW-HMP.com. The site contains upcoming meetings announcements, meeting agendas and minutes, draft documents of the plan update, information on the identified hazards, and opportunities to provide feedback including the public survey. All communities are asked to place a link to this website on their local community pages to encourage more public involvement. Abby noted that the public survey has already received responses and will be a useful tool for information related to hazard priorities, public awareness and preparedness, mitigation priorities, and continued public outreach methods.

Next Steps

Community representatives need to complete the capability assessment and return it to Abby at abigail.moore@woodplc.com by Friday, May 10th. Representatives should come to the next meeting with a status identified for all existing mitigation actions from the 2015 plan. It was noted that more substantial information than "ongoing" must be provided for continuing actions; it should be clearly noted for each action whether it's Completed, Deleted, or Carried Forward. Representatives should also be prepared to discuss revisions to the mitigation goals. The capability assessment and past actions are posted on the plan website.

Nash, Edgecombe, and Wilson Counties – N.E.W. Region
Hazard Mitigation Planning Committee Meeting #1 – Kickoff

Monday, April 15th, 3:00 PM

	Name	Organization	Phone	E-Mail
1.	Abby Moore	Wood	919 768 9927	abigail.moore@woodplc.com
2.	MARVIN ROBBINS	PLANNING BOARD FIRE SHARPSBURG DEPT	252 813-2166	
3.	Olivia Moss	Nash CC	252 451 8355	ofmoss331@nashcc.edu
4.	THOMAS BOTTOMS	DORTCHES	252-903-3922	tbottoms1953@yahoo.com
5.	Adam Culpepper	Nash County	252-4594212	adam.culpepper@nashcountync.gov
6.	Scott Strickland	Spring Hope PD	252-903-1355	sstrickland@springhope.net
7.	DAVID STROUD	WWP	919-325-6497	david.stroud@wwpsc.com
8.	Carolyn Stern	Red Cross	252-571-0936	carolyn.stern3@redcross.org
9.	Brent Fisher	Nash Co EM	252-459-1204	brent.fisher@nashcountync.gov
10.	Antwan Brown	Princeville Fire	252-567-0140	ecpufd17@gmail.com
11.	Jordan Jackson	Town of Momeyer	252-314-5748	jordan@springacres.com
12.	Daniel Webb	Edgecombe County ES	252 813-9647	daniel.webb@edgecombeco.com
13.	Carl Moore	Rocky Mount Fire Dept	252-813-6947	carl.moore@rockymountnc.gov
14.	JESSICA WATSON	CITY OF WILSON	252-399-2214	jwatson@wilsonnc.org
15.	Dooley Ezzard	Stantonsburg Township	2522897156	dkezzard@centurylink.net
16.	Kim Ezzard	"	"	"
17.	BRYANT WATERS	Nash CC	252-451-8456	blwaters248@nashcc.edu
18.	John Mello	NCEM/Mit Planning	252-916-4255	John.Mello@ncdps.gov
19.	Adam Tyson	Nash Co	252-459-7210	adam.tyson@nashcountync.gov
20.	JAE Kim	Town of Spring Hope	252-478-5186	jnkim@springhope.net

Nash, Edgecombe, and Wilson Counties – N.E.W. Region
Hazard Mitigation Planning Committee Meeting #1 – Kickoff

Monday, April 15th, 3:00 PM

21.	Thad Winstead	Town of Tarboro	(252) 641-4288	TFD1185@embarqmail.com
22.	Sandy Hall	Nash Co. NC Cooperative Extension	252 459-9810	sandy_hall@ncsu.edu
23.	Tracy Sullivan	Shapsburg	252-446-9441	tracy.clerk@shapsburgnc.com
24.	Karen Hendricks	Momeyer	252-~~478~~ 459-4788	townclerk@townofmomeyer.com
25.	Gary W. Davis	Stantonsburg	252-238-3609	gdavis@townofstantonsburg.com
26.	Nancy Nixon	Nash Co.	252-904-6863	nixon7720@gmail.com
27.	John Pigg	Tarboro	252-567-0709	john.pigg@nccumc.org
28.	Catherine Grimm	Tarboro	252-641-4249	Catherine.grimm@tarboro-nc.com
29.	Elaine Saunders	Saratoga	252-238-3487	
30.	Rodney Dancy	Wilson Co. Em	252.265.5554	rdancy@wilson-co.com
31.	Gordon Deno	Wilson Co. EM	252.399.2830	gdeno@wilson-co.com
32.	Donnie Daniels	City of Rocky Mount Fire/EM	252-908-2813	donnie.daniels@rockymountnc.gov
33.	Jennifer Boulder	UNC Nash Emergency Dept	919-247 9495	~~jennifer.boulder@~~ jennifer.boulder@unchealth.unc.edu
34.				
35.				
36.	Clifford B Miller III	UNC NASH HealthCare	252-962-8518	Clifford.Millerii@unchealth.unc.edu
37.	Julie Spriggs	Nashville	252-459-4511 ext 232	Julie.Spriggs@TownofNashvilleNC.gov
38.	Tina Price	Nashville	252-459-4511 ext 223	Tena.Price@TOWNofNASHVILLENC.gov
39.	Tracy Shearin	Town of Red Oak	(252) 443-1239	redoak@embarqmail.com
40.				
41.	Valerie Harris	Soil & Water - Nash	252 459-4116 ext 3168	Valerie.Harris@nashcountync.gov

Nash, Edgecombe, and Wilson Counties – N.E.W. Region
Hazard Mitigation Planning Committee Meeting #1 – Kickoff

Monday, April 15th, 3:00 PM

			Phone	
42.	Mark M. Johnson	Planning Dir.	(252) 399-2712	mmjohnson@wilson-co.com
43.	Cynthia Jones	Planning Director	252)264-7808	cynthia.jones@edgecombeco.com
44.	Mike LATHAM	City of Rm Citizen Rep.	(252) 451-8327	dmlatham118@nashcc.edu
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HMPC Meeting 2: June 24, 2019

N.E.W. Regional
Hazard Mitigation Plan Update

Meeting 2: Hazard Mitigation Planning Committee
Time & Date: Monday, June 24, 2019, 1:00-3:00 p.m.
Location: Nash Community College, 1st Fl, Rm. 8123, 3866 Eastern Avenue, Rocky Mount

Agenda

1. Goals and Objectives
    a. Review and Update Goals from the 2015 N.E.W. plan
    b. Review and Update Objectives for each goal
2. Create a Vision Statement
3. Review Additional Mitigation Ideas
4. Workshop: Review Existing Mitigation Projects
    a. Reporting on Actions to be Carried Forward
5. Next Steps
6. Project Schedule Update
7. Questions
8. Adjourn

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N.E.W. Regional
Hazard Mitigation Plan Update

Meeting 2: Hazard Mitigation Planning Committee
Time & Date: Monday, June 24, 2019, 1:00-3:00 p.m.
Location: Nash Community College, 1st Fl, Rm. 8123, 3866 Eastern Avenue, Rocky Mount

Introduction

David Stroud and Frankie Zito, consultants from Wood, who are leading the Region through the plan update process, facilitated the meeting. David began the meeting by asking all attendees to introduce themselves and their jurisdictions and provided the meeting agenda. There were 30 people in attendance and recorded on the sign-in sheet.

Review and Update Mitigation Goals

David reviewed the goals from the N.E.W. region's 2015 Regional Hazard Mitigation plan. The proposed goals are as follows:

#1	Protect the public health, safety and welfare by increasing public awareness of hazards and by encouraging collective and individual responsibility for mitigating hazard risks.
#2	Improve technical capability to respond to hazards and to improve the effectiveness of hazard mitigation actions.
#3	Protect the most vulnerable populations, buildings, and critical facilities through the implementation of cost-effective and technically feasible mitigation actions
#4	Incorporate resiliency and adaptation into future growth by ensuring that hazard mitigation is considered for both new development and post-disaster redevelopment and recovery

David recommended goal #2 should incorporate and emphasize cross-jurisdictional coordination, cooperation, and communication as well as added goal #4 as a way to ask for community buy in. HMPC members agreed with the addition of this goal and saw it as a means for being proactive before a disaster. Finally, David recommended changing goal #3 from the 2015 plan, which read "Enhance existing, or create new, policies and ordinances that will help reduce the damaging effects of natural hazards" to an objective.

The community members did not raise any questions about these changes. David told the group these would be posted for approval and consensus.

Review and Update Mitigation Objectives

David presented the group with the objectives from the 2015 N.E.W. Regional Hazard Mitigation Plan and corresponding to the original goals, which were as follows:

Goal 1: Protect the public health, safety and welfare by increasing public awareness of hazards and by encouraging collective and individual responsibility for mitigating hazard risks.	
#1.1	Engage in activities and practices that will help mitigate the impacts of natural hazards.
#1.2	The counties and municipalities participating in the NFIP will implement a public awareness campaign to educate citizens of the possible hazards associated with locating in floodplains and of measures that can be taken to lessen impacts of future floods.

#1.3	Ensure that emergency services are adequate to protect public health and safety.
Goal 2: Improve technical capability to respond to hazards and to improve the effectiveness of hazard mitigation actions.	
#2.1	Develop policies that limit the provision of public services to proposed new development in flood hazard areas.
#2.2	Continue to evaluate participation in the Community Rating System (CRS) to help monitor hazard mitigation efforts and improve affordability of flood insurance to citizens.
Goal 3: Enhance existing, or create new, policies and ordinances that will help reduce the damaging effects of natural hazards.	
#3.1	Continue to encourage future development to occur in such a way as to protect wetlands, floodplains, and other natural features that serve to reduce flood hazard susceptibility.
#3.2	Enforce NFIP development standards and also study additional methods that would help prevent increases in flood velocities and levels that endanger both people and property.
Goal 4: Protect the most vulnerable populations, buildings, and critical facilities through the implementation of cost-effective and technically feasible mitigation actions.	
#4.1	Continue to restrict or discourage development in known or predictable pathways of natural hazards such as identified floodplains. Where hazard locations are unpredictable, such as during hurricane force winds, ensure that new structures are built to current required standards in order to resist the possible impacts of natural hazards.
#4.2	Work to limit development in areas that may cause emergency workers to put their lives at risk (to rescue someone from a structure build in a hazardous area, etc.)

David noted that, particularly for goal number 1, many objectives were related to flood. Although this is the top priority hazard in the region, it is important to look at this planning process from a multi-hazard perspective. He also recommended moving objective 1.3 under goal #2 and objective 2.1 to goal #3. A member of the committee commented that it is challenging to look at things from a multi-hazard perspective because we know where the flood prone areas are but we don't have the same understanding of spatial extent or potential damage for all hazards.

Wood's proposed changes and final goals and objectives will be posted on the website. The consultant's asked that the HMPC responds with any comments by July 12th, 2019.

Create a Vision Statement

The next meeting task was to develop a vision statement to guide the plan development. David explained the HMPC would generate a list of ideas that the consultant team would combine to develop a draft vision statement. This statement would then be distributed to the HMPC for comment, revision, and approval.

David led the group in this brainstorm by first asking the group to consider what the successful implementation of the plan would bring about, what outcomes the plan would generate, what the N.E.W. Region would look like in five years, how the HMPC would like to be able to describe their communities, what the HMPC thinks their communities are doing well, and what could be improved. With these guiding questions, the N.E.W. HMPC developed the following list of vision concepts:

- **Resiliency –** the ability to bounce back following a disaster event.
- **Education**

- **Preparedness**
- **Cooperation, coordination, and collaboration –** within and between jurisdictions as well as organizations.
- **Empowerment –** empowering citizens to not only be prepared when an event occurs, but to mitigate hazard impacts on an individual scale.
- **Advocacy**
- **Integration –** taking systems level thinking and using it at a local level. Translating detailed technical information into basic language understandable by all.
- **Proactive –** protecting citizens through proactive efforts, including through promotional education.

It was brought up by a member of the HMPC that many of these ideals are much easier to achieve for larger communities with more buy-in from community members. David responded that in writing this vision statement we are striking toward the best end possible, even if we don't immediately reach it. Additionally, HMPC members stressed the idea that *mitigation is not recovery.*

Review Mitigation Action Ideas

David reviewed a selection of mitigation action ideas from the FEMA "Mitigation Ideas" publication. He went over multi-hazard and hazard specific ideas and encouraged the HMPC to review the full document to find ideas for new mitigation actions. Each jurisdiction will need two actions per hazard (high and moderate priority hazards only). For CRS communities, these actions will also need to meet the requirement of two actions per mitigation category.

Existing Mitigation Projects

The HMPC representatives from each jurisdiction have been asked to assign a status to each of their jurisdiction's mitigation actions from the existing plan. This information will be compiled and presented to the HMPC to refine and update any actions being carried forward. Once these have been identified, supporting information and new prioritization ratings will be required for the update. David asked that if an action is being deleted, the HMPC representative write "delete" in the status column rather than deleting the action. Additionally, he asked that any status of "ongoing" be justified.

Next Steps

The consulting team will send out the draft goals, objectives, and vision statement to the HMPC for review within the week. The committee will then have time to submit comments on the goals, objectives, and Vision Statement for inclusion in the final plan. New objectives can be added as needed.

HMPC members should continue working on their mitigation action reporting and send final status updates to abigail.moore@woodplc.com by **Friday, July 12th.** Additionally, David asked that all municipalities fill out their capability sheets. The consultants will compile a document for all municipalities that accounts for what we have received and what we still need from them.

The next meeting will be schedule via doodle. During this meeting, the consultants will review the findings of the Hazard Identification and Risk Assessment (HIRA).

Meeting Adjourned.

Nash, Edgecombe, and Wilson Counties – N.E.W. Region
Hazard Mitigation Planning Committee Meeting #2

Monday, June 24th, 1:00 PM

	Name	Organization	Phone	E-Mail
1.	Francesca Zito	Wood	919-381-9900	francesca.zito@woodplc.com
2.	DAVID STROUD	WOOD	919-325-6497	david.stroud@woodplc.com
3.	Gary W. Davis	Stantonsburg	252-238-3608	gdavis@townofstantonsburg.com
4.	Elaine Saunders	Saratoga	252-236-2798	cesaunders2018@icloud.com
5.	Charles Bunn	Rocky Mount Fire Dept	252-343-3953	Charles.bunniii@rockymountnc.gov
6.	James Alston	Town of Castalia	252-904-5533	alstonjamesis@yahoo.com
7.	Valerie Harris	Nash Co. Soil & Water	252-904-3519	valerie.harris@nashcountync.gov
8.	Edward Long	Nash Co. Soil & Water	252-459-4116 ext.3	Edward.Long@nc.nacdnet.net
9.	GERALD BATTS	DORTCHES	252-443-9131	TOWNOFDORTCHES@EMBARQMAIL.COM
10.	Kirby Brown	↓	↓	
11.	Adam Culpepper	Nash Planning	252-459-1212	adam.culpepper@nashcountync.gov
12.	Catherine Grimm	Town of Tarboro	252-641-4249	catherinegrimm@tarboro-nc.com
13.	Robin Dail	NCEM	919-210-0322	robin.dail@ncdps.gov
14.	Janet B. Holland	City of Wilson	252.205.1896	jholland@wilsonnc.org
15.	Adam Tyson	Nash County	252-459-1210	adam.tyson@nashcountync.gov
16.	Karen Hendrick	Town of Momeyer	252 459 4755	townclerk@townofmomeyer.com
17.	John Mello	NCEM	[illegible]	[illegible]@ncdps.gov
18.	Cynthia Jones	Edgecombe County	252-641-7803	cynthiajones@edgecombeco.com
19.	JoSeth Bocook	City of Rocky Mount	252.972-1179	joseth.bocook@rockymountnc.gov
20.	JULIE SPRIGGS	TOWN OF NASHVILLE	252 459 4511	julie.spriggs@townofnashvillenc.gov

Nash, Edgecombe, and Wilson Counties – N.E.W. Region
Hazard Mitigation Planning Committee Meeting #2

Monday, June 24th, 1:00 PM

21.	Daniel Webb	Edgecombe County	252 813-9647	daniel.webb@edgecombeco.com
22.	Thad Winstead	Tarboro	(252) 883-5862	tfd1185@embarqmail.com
23.	MIKE LATHAM	Rocky Mount	252-451-8327	dmlatham118@nashcc.edu
24.	Bryant Waters	Nash	252 451-8456	blwaters248@nashcc.edu
25.	Brent Fisher	Nash CoEM	252-459-1204	brent.fisher@nashcountync.gov
26.	Kim Langston	Director NashEM	252-962-8811	Kimberly.Langston
27.	EDWARDINE MARRONE	FEMA (FIT-NC)	404 433-3968	EDWARDINE.MARRONE@FEMA.DHS.GOV
28.	Karen C. Smith	Nash County EMS	252-813-9269	Karen.Smith@nashcountync.gov
29.	Jonathan Boone	Nash County	252-462-2613	jonathan.boone@nashcountync.gov
30.	TINA PRICE	TOWN OF NASHVILLE	252 459 4511	tina.price@townofnashvillenc.gov
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HMPC Meeting 3: September 12, 2019

N.E.W. Regional
Hazard Mitigation Plan Update

Meeting 3: Hazard Mitigation Planning Committee
Time & Date: Thursday, September 12, 2019, 1:00-3:00 p.m.
Location: Nash Community College, 1st Fl, Rm. 8123, 3866 Eastern Avenue, Rocky Mount

Agenda

1. Review of Planning Process
    a. HIRA Organization in the Plan
2. Review of the HIRA
    a. Hazard Identification
    b. Asset Inventory
    c. Hazard Profiles
    d. Summary of Priority Risk Index
3. Review Organization of Jurisdictional Annexes
4. Review of Goals & Objectives
    a. Discuss Mitigation Action Plan Requirements
5. Next Steps
6. Questions
7. Adjourn

Page 1 of 1

N.E.W. Regional
Hazard Mitigation Plan Update

Meeting 3: Hazard Mitigation Planning Committee
Time & Date: Thursday, September 12, 2019, 1:00-3:00 p.m.
Location: Nash Community College, 1st Fl, Rm. 8123, 3866 Eastern Avenue, Rocky Mount

Introduction and Announcements

David Stroud and Abby Moore, consultants from Wood, facilitated the meeting. There were 22 people in attendance and recorded on the sign-in sheet. David began by noting that this meeting would provide an overview of the Hazard Identification and Risk Assessment portion of the plan but encouraged everyone to review to actual draft document, which will be posted online by Friday, September 13th, to provide us with feedback and any necessary edits. He then provided the meeting agenda and a review of the planning process as a whole including where we are in that process – Step 4 Assess the Hazard & Step 5 Assess the Problem. We have already completed Step 6 Set Goals. Moving forward, the next step will be to review potential new mitigation actions and draft the plan.

Review the Hazard Identification and Risk Assessment (HIRA)

David reviewed the hazard identification, the HIRA methodology and process, and a summary of each hazard in the plan, explaining the overall risk level assigned to each hazard. Hazards were identified for initial review based on the list of hazards included in the 2018 State Hazard Mitigation Plan and the 2015 N.E.W. Regional Plan. Major disaster declarations, NCEI storm events data, and other sources of hazard risk were reviewed to determine which hazards would be fully profiled in the plan. The full list of hazards profiled is as follows:

- Dam & Levee Failure
- Drought
- Earthquake
- Extreme Heat
- Flood
- Hurricane & Tropical Storm
- Severe Weather (Thunderstorm Wind, Lightning, Hail, Fog)
- Severe Winter Storm
- Sinkhole
- Tornado
- Wildfire
- Radiological Incident
- Terrorism

The summary info that was presented on each hazard can be found in the PDF of the presentation posted on the plan website. The following comments were noted during the discussion:

- Wood noted that the data currently shown in the HIRA is from the State's 2010 IRISK database which is what was provided in the Risk Management Tool. More current data will be provided in the Community Profile and Annexes to put these risk numbers into current context. If HMPC members can send up GIS footprints and parcels we can calculate the growth and the approximate increase in the asset inventory since the IRISK data was compiled.

- It was noted that there are critical facilities missing from the IRISK database data. If HMPC members can provide GIS data or spreadsheets with latitude and longitude data for any missing critical facilities, we can incorporate them into the maps. However, any added facilities will not be able to be accounted for in the IRISK vulnerability assessment.
- Dam failure: There have been 2+ dam failures in both Edgecombe and Wilson Counties that need to be added to the historical occurrences count and reflected in the probability of future occurrences. We will need information on these events from each County Emergency Manager in order to incorporate it into the plan.
- It was noted that the state's SERA program may have dam inundation maps for public dams and that this information could be incorporated into the plan. However, this data is not publicly available and so cannot be incorporated into the risk assessment.
- Levee failure: Deep creek levee also overtopped in '99 due to Floyd; based on these historical occurrences, the probability of dam and levee failure may increase to possible
- Flood: The NCEI records are missing at least one flood event because it should at least include both Floyd and Matthew.
- It was noted that heavy rains have been causing soil expansion and foundation issues, which has been seen in an increase in permits for basement/foundation repairs. This issue will be discussed under flooding.
- Earthquake: numbers for the 500-year earthquake need to be double-checked against IRISK.

In summary, the high priority hazards are: extreme heat, flood, hurricane & tropical storm, severe winter storm, wildfire, tornado, severe weather, and drought. The moderate priority hazards are: radiological emergency, terrorism, and dam & levee failures. Earthquake and sinkhole are low priority hazards and do not need to be prioritized for mitigation.

Plan Vision, Goals & Objectives

The final plan vision, goals, and objectives were provided for the committee to reference while developing mitigation actions. It was noted that only minor changes were made to the goals and objectives following committee feedback on the draft.

Mitigation Action Plan Requirements

Each participating jurisdiction must have two actions for every high and moderate priority hazard. An all hazards action will satisfy the criteria for one action for each hazard. Every jurisdiction must have a Structural Project. Emergency Services actions do not count toward the two actions per hazard requirement but do count toward CRS requirements. For full CRS credit, each CRS-participating jurisdiction must also have actions in at least 5 of the 6 mitigation categories.

Next Steps

The draft HIRA will be posted on the plan website by Friday, September 13th. The HMPC should review the HIRA and submit comments by Friday, October 4th. The HMPC should also work on developing new mitigation actions based on capability gaps and information in the HIRA. New mitigation actions are due to Wood by Friday, October 18th.

Meeting Adjourned

Nash, Edgecombe, and Wilson Counties – N.E.W. Region
Hazard Mitigation Planning Committee Meeting #3

Thursday, September 12th, 1:00 PM

	Name	Organization	Phone	E-Mail
1.	Abby Moore	Wood.	919 768 9927	abigail.moore@woodplc.com
2.	DAVID STROUD	WOOD	919 325 6497	david.stroud@woodplc.com
3.	Gary W. Davis	Stantonsburg	252-238-3609	gdavis@townofstantonsburg.com
4.	GERALD BATTS	Dortches Town	252.443-9131	TOWNOFDORTCHES@EMBARQMAIL.COM
5.	Kirby Brown	" "	" "	" " "
6.	Charles Bunn	City of Rocky Mount	252-885-6522	Charles.Bunn.iii@rockymountnc.gov
7.	Karen Smith	Nash Co Emerg SRVS.	252-459-9805	Karen.Smith@nashcountync.gov
8.	Adam Culpepper	Nash Co	252-459-1212	adam.culpepper@nashcounty nc.gov
9.	Scott W Strickland	Spring Hope	252-903-1355	sstrickland@graphyn.net
10.	Sandy Hall	NC Cooperative Extension Nash	252 4599810	sandy_hall@ncsu.edu
11.	Brent Fisher	Nash Co EM	252-459-1204	brent.fisher@Nashcounty NC.gov
12.	Gordon Deno	Wilson Co. EM	252-399-2830	gdeno@wilson-co.com
13.	Tina Price	Town of Nashville	252-455-4511	tina.plick@townofNashville NC.gov
14.	JULIE SPRIGGS	TOWN OF NASHVILLE	252 459 4511	julie.spriggs@townofnashville.gov
15.	Elaine Saunders	Saratoga	252-238-3487	cesaunders2018@icloud.com
16.	Janet Holland	Wilson (City of Wilson)	252.399.2215	jholland@wilsonnc.org
17.	Robert Edwards	Tarboro PD	252-377-0345	rbedwards@tarboro.NC.com
18.	JoSeth Bocook	City of Rocky Mount	252 972 1179	joseth.bocook@rockymountnc.gov
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Nash, Edgecombe, and Wilson Counties – N.E.W. Region
Hazard Mitigation Planning Committee Meeting #3

Thursday, September 12th, 1:00 PM

21.	Edward Long	Nash County Soil & Water Conservation	252-459-4116 ext. 3	Edward.Long@nc.nacdnet.net
22.	Daniel Webb	Edgecombe County ES	252 813 9647	danielwebb@edgecombeco.com
23.	Shannon Davis	Nash-Rocky Mount Schools	252 903-0143	SDavis@NRMS.K12.NC.US
24.	Nancy Nixon	Nash Co.	252 904-6863	~~Nancy~~ nancy.nixon@nashcounty.us.gov
25.	Tracey WOOD	Nash Community Colley	252-904-2258	tlwood843@Nashcc.edu
26.	Catherine Grimm	Town of Tarboro	252-641-4249	Catherinegrimm@tarboronc.com
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HMPC Meeting 4: May 27, 2020

N.E.W. Regional
Hazard Mitigation Plan Update

Meeting 4: Hazard Mitigation Planning Committee
Time & Date: Wednesday, May 27, 2020, 2:00-3:30 p.m.
Location: Zoom Video Conference Call

Introductions

David Stroud and Abby Moore, consultants from Wood, facilitated the meeting. There were 22 people in attendance on the call.

David and Abby presented the meeting slides according to the following agenda:

1. Where we are in the planning process
    a. Planning Step 7 & Planning Step 8
    b. Structure of the Plan
2. Review of Key Plan Components
    a. Hazards & Priority Risk Index
        i. Updates to the HIRA
    b. Goals & Objectives Review
    c. Mitigation Actions Discussion
    d. Plan Implementation & Maintenance
        i. Responsibilities of the HMPC
    e. Integration with Other Plans
        i. Past Integration Efforts
        ii. Opportunities for Future Integration
3. Completing the Planning Process
4. Next Steps and Questions

Meeting Discussion

The following comments and questions were discussed throughout the meeting.

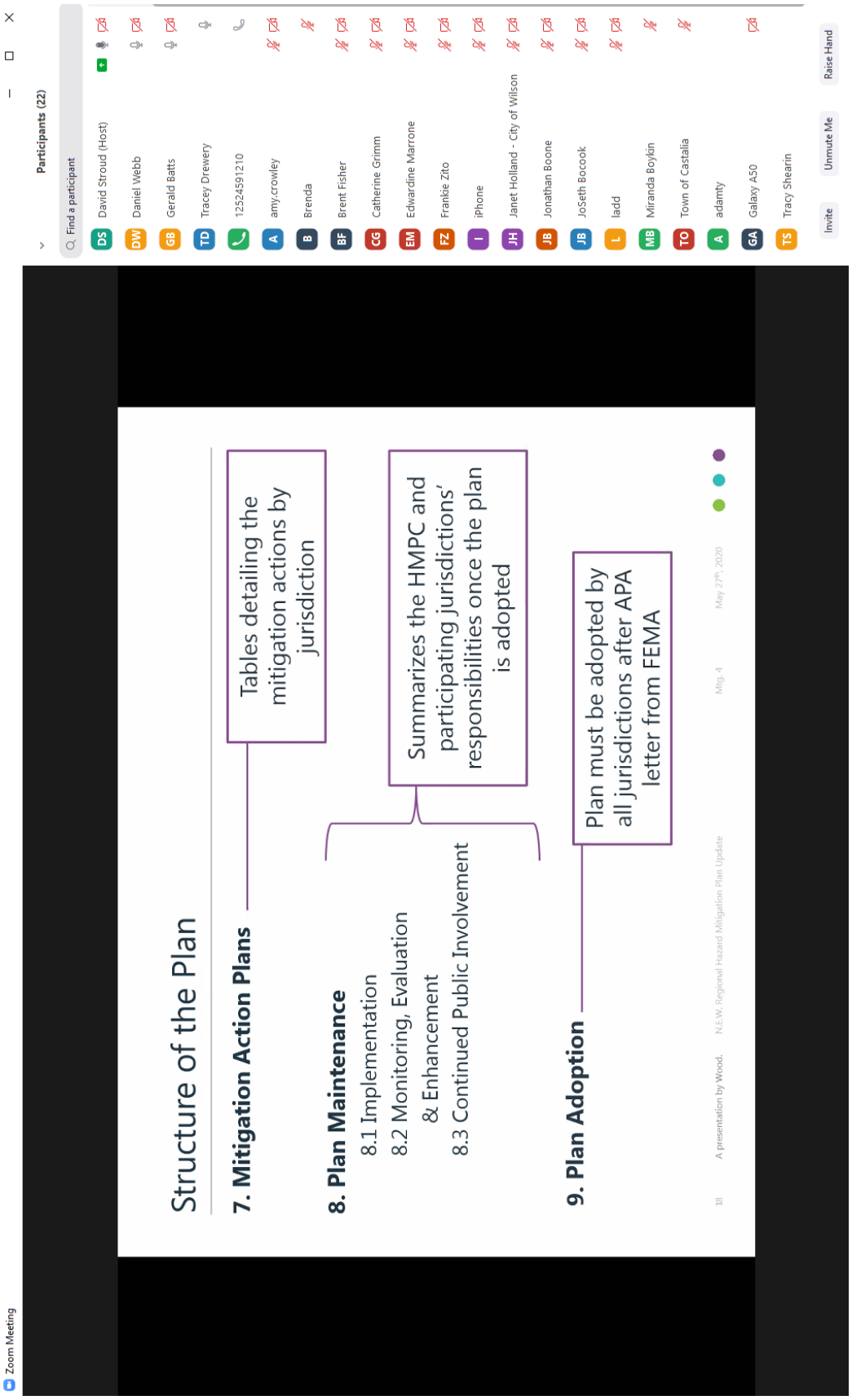
- Mitigation Action Plans: HMPC representatives should review their mitigation actions and look for opportunities to add new actions. Action plans are organized by County according to the grouping established in the 2015 HMP. This allows for multi-jurisdictional county-led actions to be carried forward or added.
- Plan Integration: Abby asked HMPC representatives to share ways in which their communities have integrated the 2015 plans with other planning efforts and/or ways they plan to integrated this 2020 plan update with other local planning efforts. The following opportunities for integration of the 2020 plan were shared and will be incorporated in Section 8 of the draft plan:
    - Nash County: Nash County Planning Department is updating the County's Land Development Plan and will integrate information from the Hazard Mitigation Plan.
    - City of Wilson: The City will be updating the 2030 Comprehensive Plan with information from the HMP and is integrating that effort with Community Rating System initiatives.
- Plan Adoption was discussed, and it was clarified that communities can adopt the plan at any time and do not need to wait for FEMA approval prior to adoption. If changes to the plan are needed following review by the State or FEMA, an adoption will still be valid and applicable to the updated plan.

- The final public meeting will be held on Thursday, June 4th at 5pm via Zoom. Communities need to publicize the meeting to ensure the public has the opportunity to attend. For CRS communities to ensure they receive credit for this second public meeting, it must be publicized at least three different ways, such as via Facebook, Twitter, or other social media, on a community website or event calendar, via a newsletter, or otherwise.

Next Steps

Review mitigation action plans and provide any updates or new actions by Wednesday, June 3rd. Review the full draft plan and provide feedback by Wednesday, June 10th. Wood will incorporate comments and feedback and submit the plan to the state for review ASAP following receipt of comments.

Meeting Adjourned


Zoom Meeting
Participants (22)
Find a participant
David Stroud (Host)
Daniel Webb
Gerald Batts
Tracey Drewery
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amy.crowley
Brenda
Brent Fisher
Catherine Grimm
Edwardine Marrone
Frankie Zito
iPhone
Janet Holland - City of Wilson
Jonathan Boone
JoSeth Bocook
ladd
Miranda Boykin
Town of Castalia
adamby
Galaxy A50
Tracy Shearin
Raise Hand
Unmute Me
Invite
Structure of the Plan
7. Mitigation Action Plans
Tables detailing the mitigation actions by jurisdiction
8. Plan Maintenance
8.1 Implementation
8.2 Monitoring, Evaluation & Enhancement
8.3 Continued Public Involvement
Summarizes the HMPC and participating jurisdictions' responsibilities once the plan is adopted
9. Plan Adoption
Plan must be adopted by all jurisdictions after APA letter from FEMA
18
A presentation by Wood.
N.E.W. Regional Hazard Mitigation Plan Update
Mtg. 4
May 27th, 2020

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 DMA, CRS, and FMA requirements and the planning process 2) Review of HMPC responsibilities and the project schedule.	April 15, 2019	Nash Community College, 1st fl. Rm 8123 3866 Eastern Avenue, Rocky Mount, NC
Public Meeting #2	1) Review "Draft" Hazard Mitigation Plan 2) Solicit comments and feedback	June 4, 2020	Zoom Video Conference Call

Public Meeting Agendas, Minutes, Sign-in Sheets, and Announcements

Public Meeting 1: April 15, 2019

N.E.W. Regional Hazard Mitigation Plan

Meeting 1: Public Kick-Off Meeting
Time & Date: Monday, April 15, 2019, 5:30 p.m.
Location: Red Oak Town Hall, 8406 Red Oak Boulevard, Red Oak, NC 27868

One member of the public came to the meeting and one member of the HMPC was also in attendance. In lieu of providing the prepared presentation, David Stroud and Abby Moore, consultants at Wood, discussed the key points of the presentation with the attendee and answered questions about the planning process. David provided information about the plan website and the public survey. The attendee provided his email in order to receive further information about the website and other ways to stay involved throughout the rest of the planning process.

Nash, Edgecombe, and Wilson Counties – N.E.W. Region
Hazard Mitigation Planning Public Meeting #1

Monday, April 15th, 5:30 PM

	Name	Organization (resident)	Phone	E-Mail
1.	DAVID STROUD	WOOD	919 325-6497	david.stroud@woodplc.com
2.	Abby Moore	Wood	919 768 9927	abigail.moore@woodplc.com
3.	Tracy Shearin	Town of Red Oak	(252) 443-1239	redoak@embarqmail.com
4.	Stuart W. Bass	resident	919 443 4727	swbass@icloud@com
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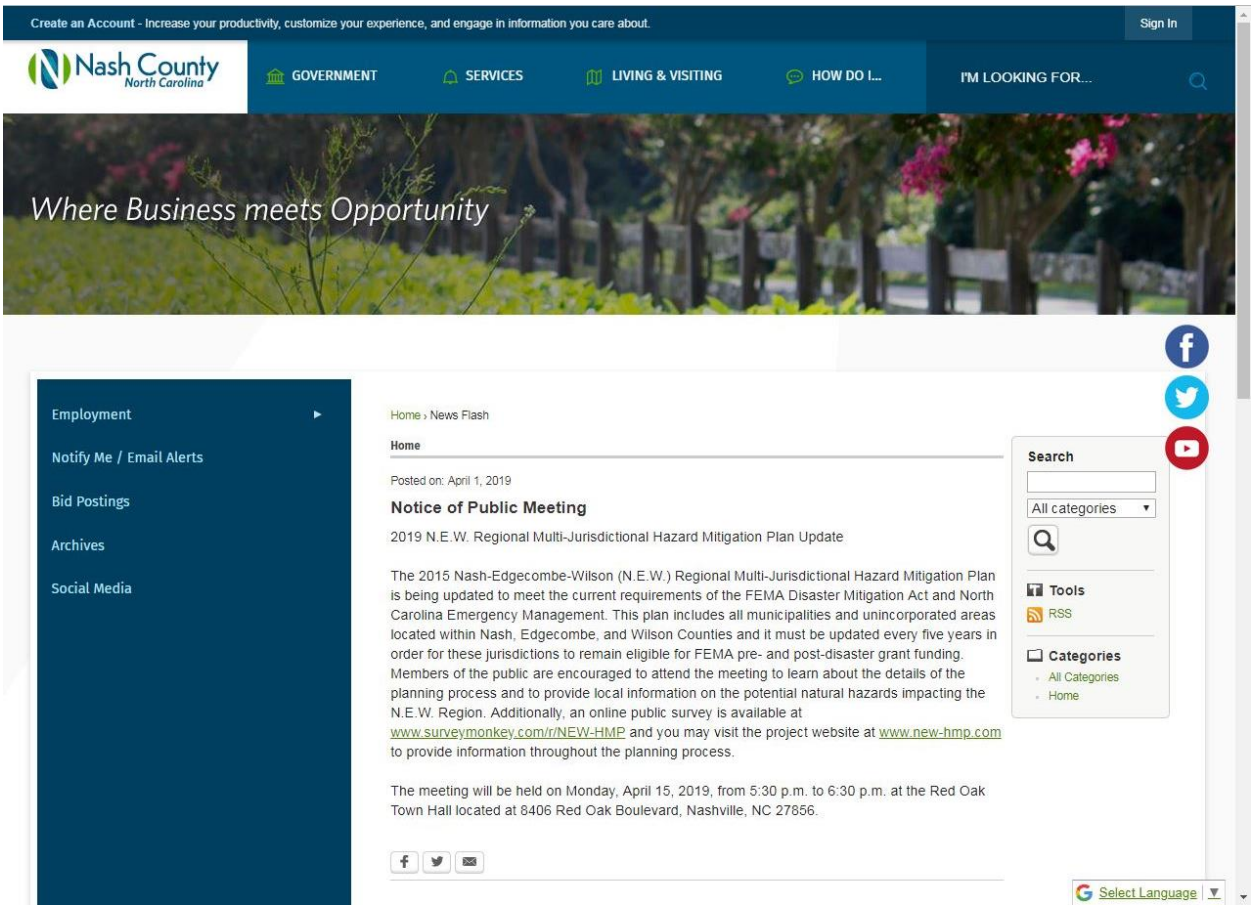
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Nash County North Carolina
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HOW DO I...
I'M LOOKING FOR...
Where Business meets Opportunity
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Home
Posted on: April 1, 2019
Notice of Public Meeting
2019 N.E.W. Regional Multi-Jurisdictional Hazard Mitigation Plan Update
The 2015 Nash-Edgecombe-Wilson (N.E.W.) Regional Multi-Jurisdictional Hazard Mitigation Plan is being updated to meet the current requirements of the FEMA Disaster Mitigation Act and North Carolina Emergency Management. This plan includes all municipalities and unincorporated areas located within Nash, Edgecombe, and Wilson Counties and it must be updated every five years in order for these jurisdictions to remain eligible for FEMA pre- and post-disaster grant funding. Members of the public are encouraged to attend the meeting to learn about the details of the planning process and to provide local information on the potential natural hazards impacting the N.E.W. Region. Additionally, an online public survey is available at www.surveymonkey.com/r/NEW-HMP and you may visit the project website at www.new-hmp.com to provide information throughout the planning process.
The meeting will be held on Monday, April 15, 2019, from 5:30 p.m. to 6:30 p.m. at the Red Oak Town Hall located at 8406 Red Oak Boulevard, Nashville, NC 27856.
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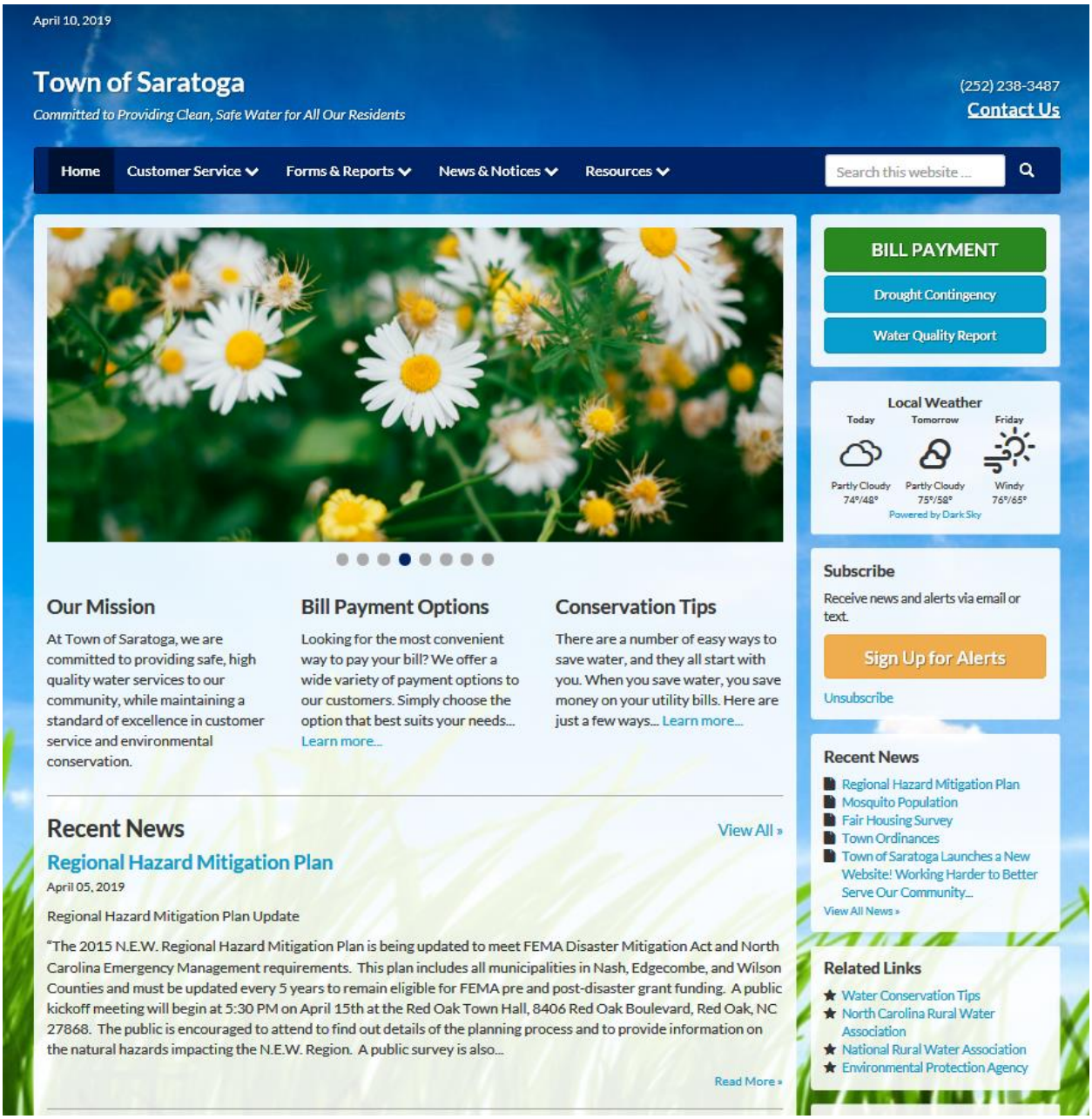
April 10, 2019
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Our Mission
At Town of Saratoga, we are committed to providing safe, high quality water services to our community, while maintaining a standard of excellence in customer service and environmental conservation.
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Looking for the most convenient way to pay your bill? We offer a wide variety of payment options to our customers. Simply choose the option that best suits your needs... Learn more...
Conservation Tips
There are a number of easy ways to save water, and they all start with you. When you save water, you save money on your utility bills. Here are just a few ways... Learn more...
Recent News
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Regional Hazard Mitigation Plan
April 05, 2019
Regional Hazard Mitigation Plan Update
"The 2015 N.E.W. Regional Hazard Mitigation Plan is being updated to meet FEMA Disaster Mitigation Act and North Carolina Emergency Management requirements. This plan includes all municipalities in Nash, Edgecombe, and Wilson Counties and must be updated every 5 years to remain eligible for FEMA pre and post-disaster grant funding. A public kickoff meeting will begin at 5:30 PM on April 15th at the Red Oak Town Hall, 8406 Red Oak Boulevard, Red Oak, NC 27868. The public is encouraged to attend to find out details of the planning process and to provide information on the natural hazards impacting the N.E.W. Region. A public survey is also...
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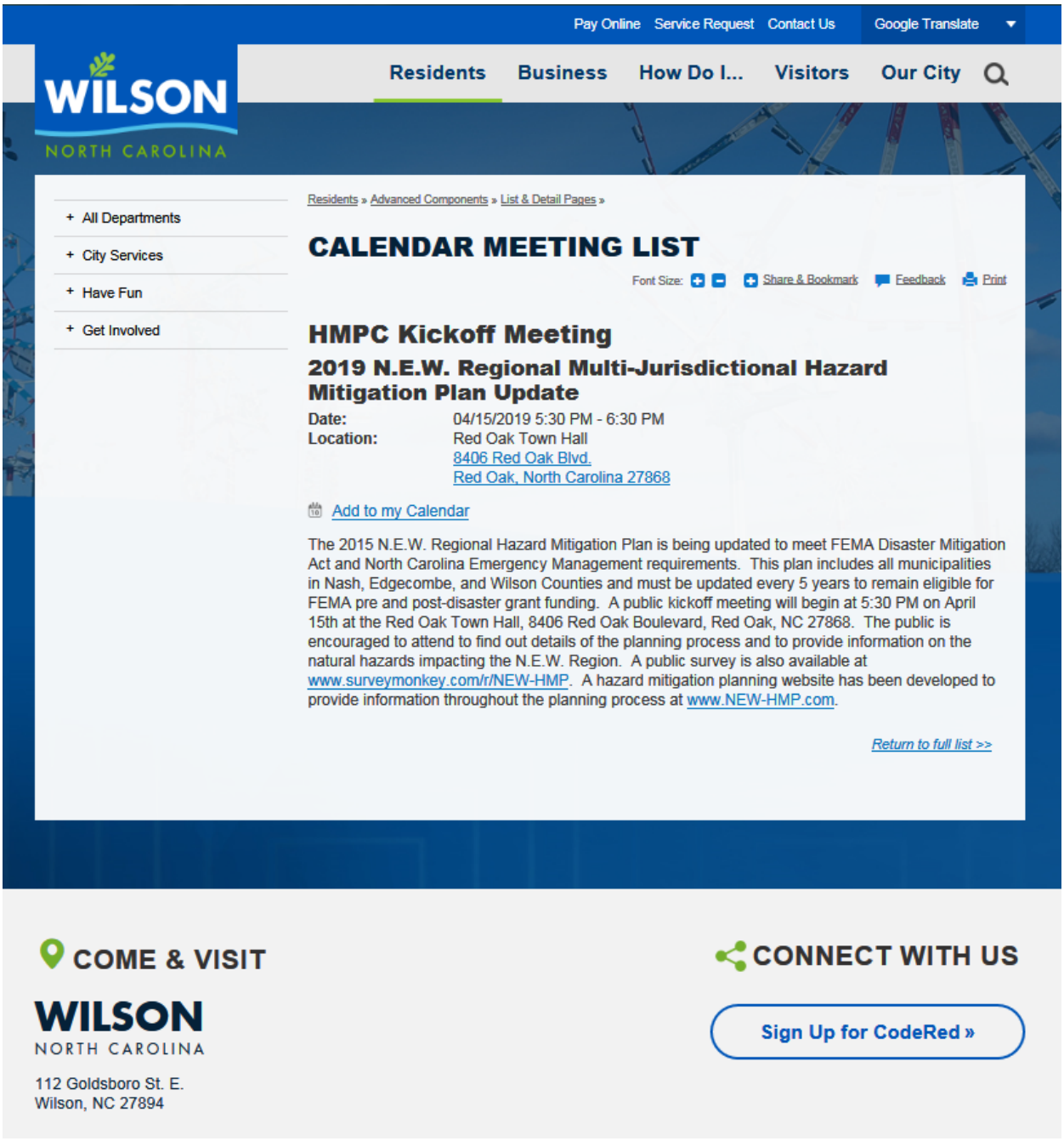
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HMPC Kickoff Meeting
2019 N.E.W. Regional Multi-Jurisdictional Hazard Mitigation Plan Update
Date: 04/15/2019 5:30 PM - 6:30 PM
Location: Red Oak Town Hall
8406 Red Oak Blvd.
Red Oak, North Carolina 27868
Add to my Calendar
The 2015 N.E.W. Regional Hazard Mitigation Plan is being updated to meet FEMA Disaster Mitigation Act and North Carolina Emergency Management requirements. This plan includes all municipalities in Nash, Edgecombe, and Wilson Counties and must be updated every 5 years to remain eligible for FEMA pre and post-disaster grant funding. A public kickoff meeting will begin at 5:30 PM on April 15th at the Red Oak Town Hall, 8406 Red Oak Boulevard, Red Oak, NC 27868. The public is encouraged to attend to find out details of the planning process and to provide information on the natural hazards impacting the N.E.W. Region. A public survey is also available at www.surveymonkey.com/r/NEW-HMP. A hazard mitigation planning website has been developed to provide information throughout the planning process at www.NEW-HMP.com.
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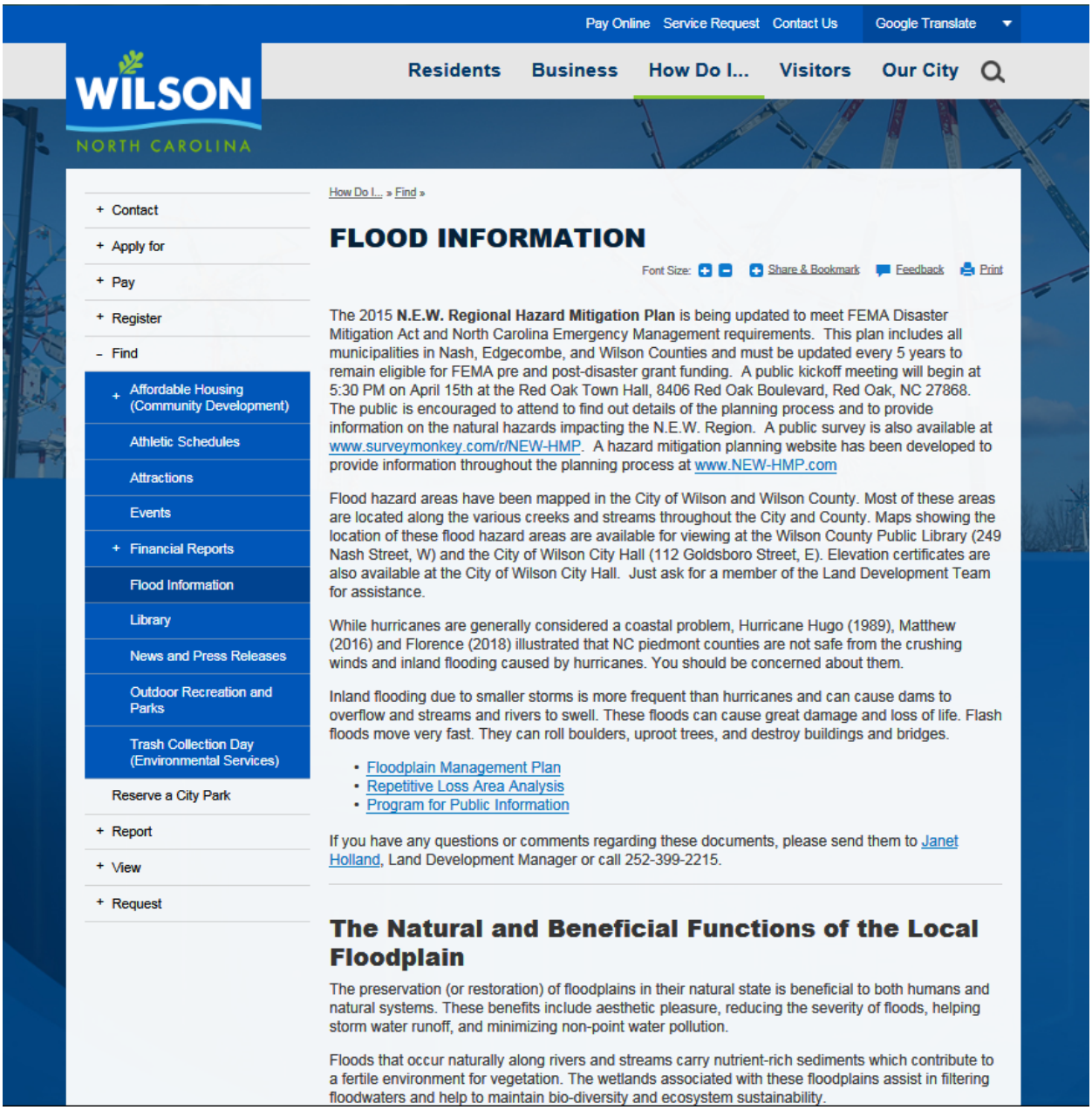

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FLOOD INFORMATION

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The 2015 **N.E.W. Regional Hazard Mitigation Plan** is being updated to meet FEMA Disaster Mitigation Act and North Carolina Emergency Management requirements. This plan includes all municipalities in Nash, Edgecombe, and Wilson Counties and must be updated every 5 years to remain eligible for FEMA pre and post-disaster grant funding. A public kickoff meeting will begin at 5:30 PM on April 15th at the Red Oak Town Hall, 8406 Red Oak Boulevard, Red Oak, NC 27868. The public is encouraged to attend to find out details of the planning process and to provide information on the natural hazards impacting the N.E.W. Region. A public survey is also available at www.surveymonkey.com/r/NEW-HMP. A hazard mitigation planning website has been developed to provide information throughout the planning process at www.NEW-HMP.com

Flood hazard areas have been mapped in the City of Wilson and Wilson County. Most of these areas are located along the various creeks and streams throughout the City and County. Maps showing the location of these flood hazard areas are available for viewing at the Wilson County Public Library (249 Nash Street, W) and the City of Wilson City Hall (112 Goldsboro Street, E). Elevation certificates are also available at the City of Wilson City Hall. Just ask for a member of the Land Development Team for assistance.

While hurricanes are generally considered a coastal problem, Hurricane Hugo (1989), Matthew (2016) and Florence (2018) illustrated that NC piedmont counties are not safe from the crushing winds and inland flooding caused by hurricanes. You should be concerned about them.

Inland flooding due to smaller storms is more frequent than hurricanes and can cause dams to overflow and streams and rivers to swell. These floods can cause great damage and loss of life. Flash floods move very fast. They can roll boulders, uproot trees, and destroy buildings and bridges.

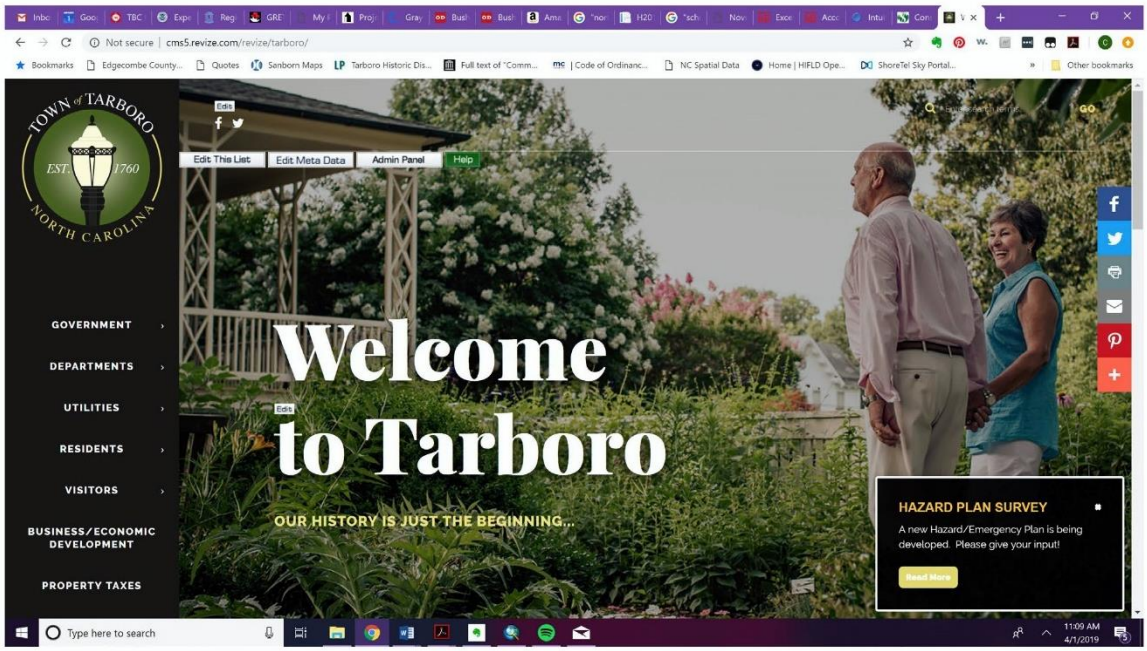
- Floodplain Management Plan
- Repetitive Loss Area Analysis
- Program for Public Information

If you have any questions or comments regarding these documents, please send them to Janet Holland, Land Development Manager or call 252-399-2215.

The Natural and Beneficial Functions of the Local Floodplain

The preservation (or restoration) of floodplains in their natural state is beneficial to both humans and natural systems. These benefits include aesthetic pleasure, reducing the severity of floods, helping storm water runoff, and minimizing non-point water pollution.

Floods that occur naturally along rivers and streams carry nutrient-rich sediments which contribute to a fertile environment for vegetation. The wetlands associated with these floodplains assist in filtering floodwaters and help to maintain bio-diversity and ecosystem sustainability.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HAZARD PLAN SURVEY
A new Hazard/Emergency Plan is being developed. Please give your input!
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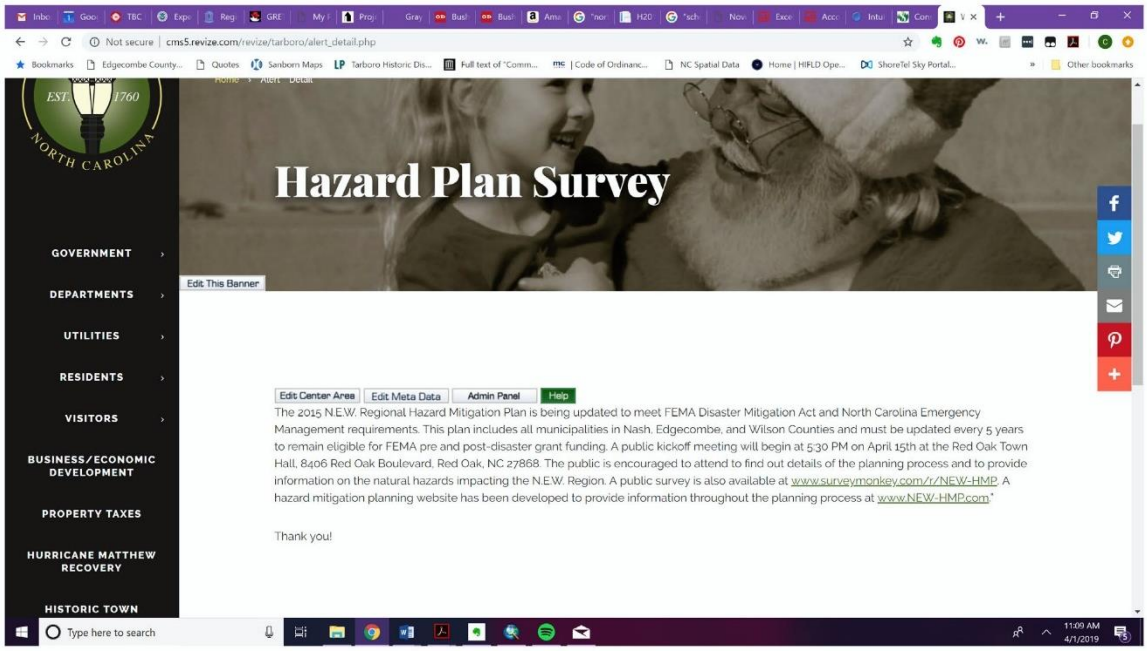
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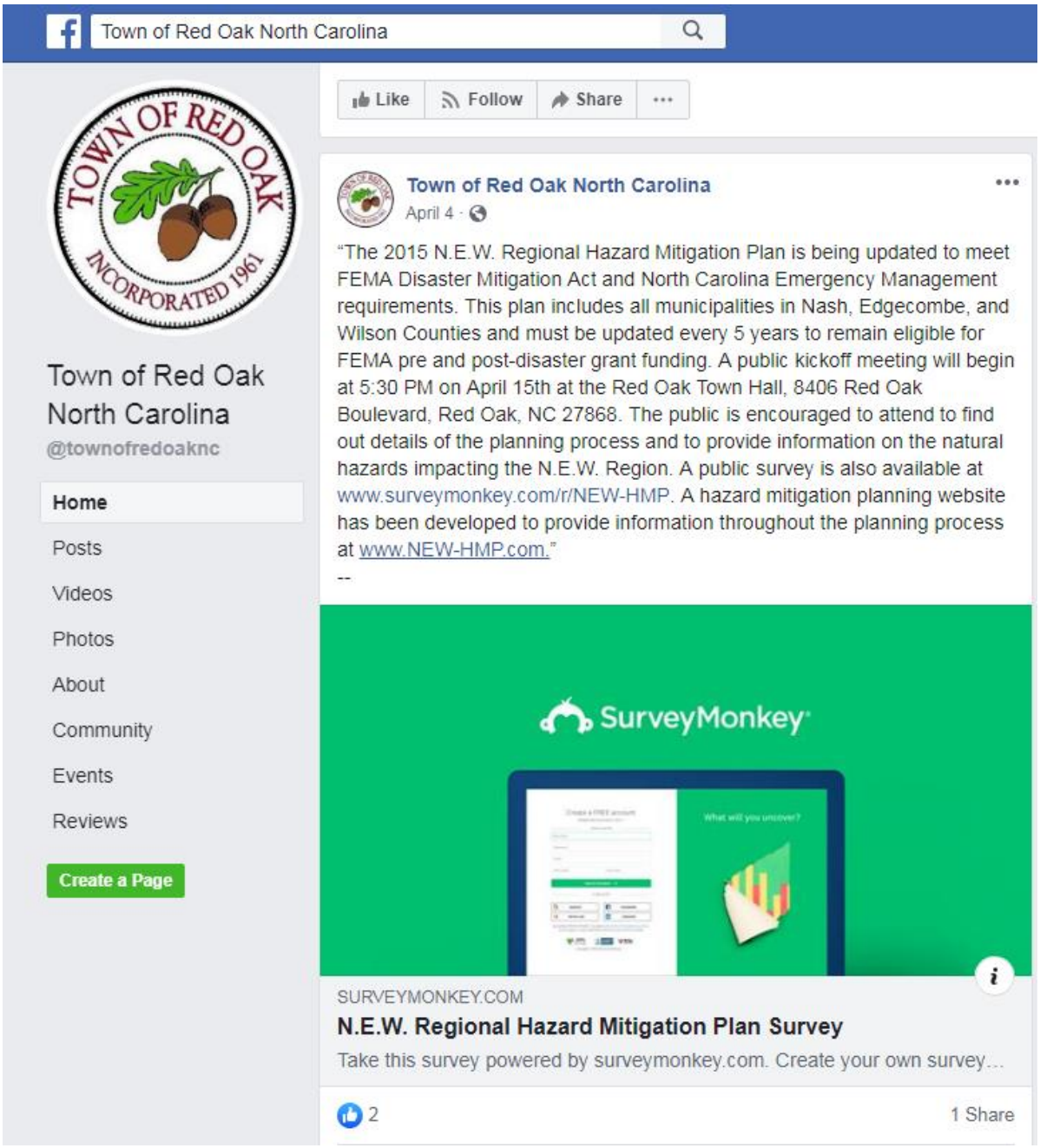
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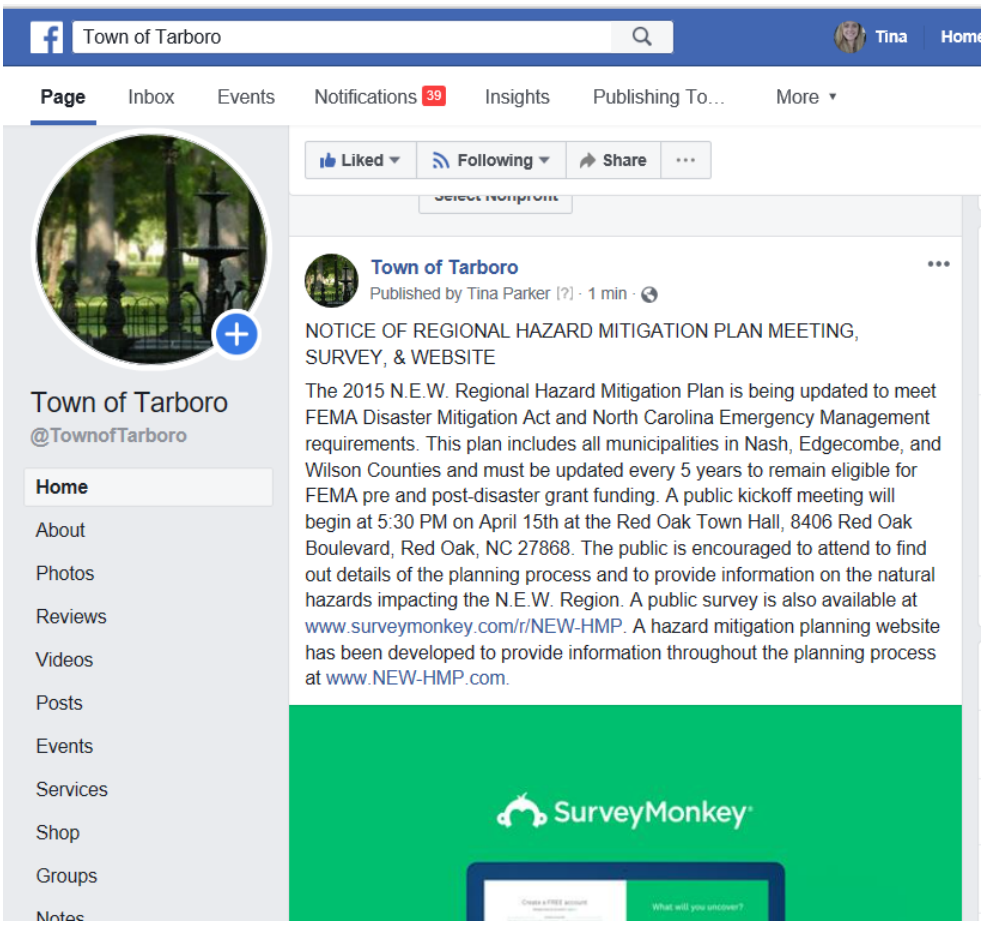
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Published by Tina Parker [?] · 1 min ·
NOTICE OF REGIONAL HAZARD MITIGATION PLAN MEETING, SURVEY, & WEBSITE
The 2015 N.E.W. Regional Hazard Mitigation Plan is being updated to meet FEMA Disaster Mitigation Act and North Carolina Emergency Management requirements. This plan includes all municipalities in Nash, Edgecombe, and Wilson Counties and must be updated every 5 years to remain eligible for FEMA pre and post-disaster grant funding. A public kickoff meeting will begin at 5:30 PM on April 15th at the Red Oak Town Hall, 8406 Red Oak Boulevard, Red Oak, NC 27868. The public is encouraged to attend to find out details of the planning process and to provide information on the natural hazards impacting the N.E.W. Region. A public survey is also available at www.surveymonkey.com/r/NEW-HMP. A hazard mitigation planning website has been developed to provide information throughout the planning process at www.NEW-HMP.com.
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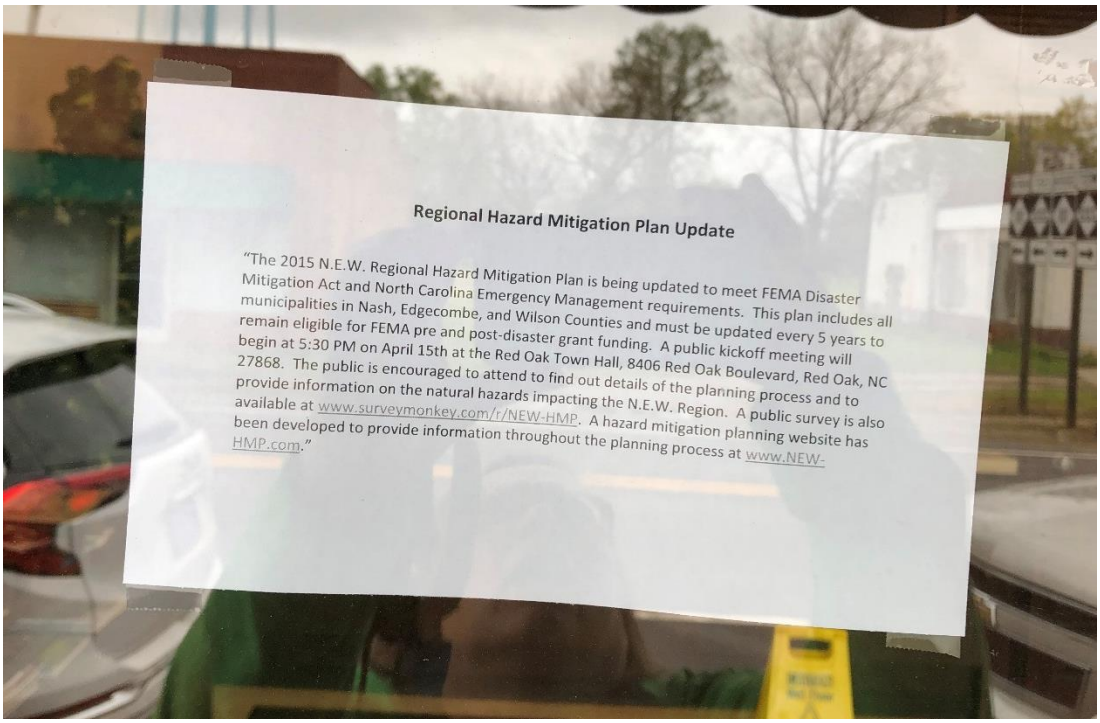
Regional Hazard Mitigation Plan Update
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Public Meeting 2: June 4, 2020

N.E.W. Regional Hazard Mitigation Plan

Public Meeting #2
Time & Date: Thursday, June 4, 2020, 5:00 p.m.
Location: Zoom Video Conference Call

David Stroud and Abby Moore, consultants from Wood, facilitated the meeting. There were 10 participants in attendance on the call.

David and Abby presented the meeting slides according to the following agenda:

1. Where we are in the planning process
    a. Planning Step 7 & Planning Step 8
    b. Structure of the Plan
2. Review of Key Plan Components
    a. Hazards & Priority Risk Index
        i. Updates to the HIRA
    b. Goals & Objectives Review
    c. Mitigation Actions Discussion
    d. Plan Implementation & Maintenance
        i. Responsibilities of the HMPC
    e. Integration with Other Plans
        i. Past Integration Efforts
        ii. Opportunities for Future Integration
3. Next Steps and Questions

Meeting Discussion

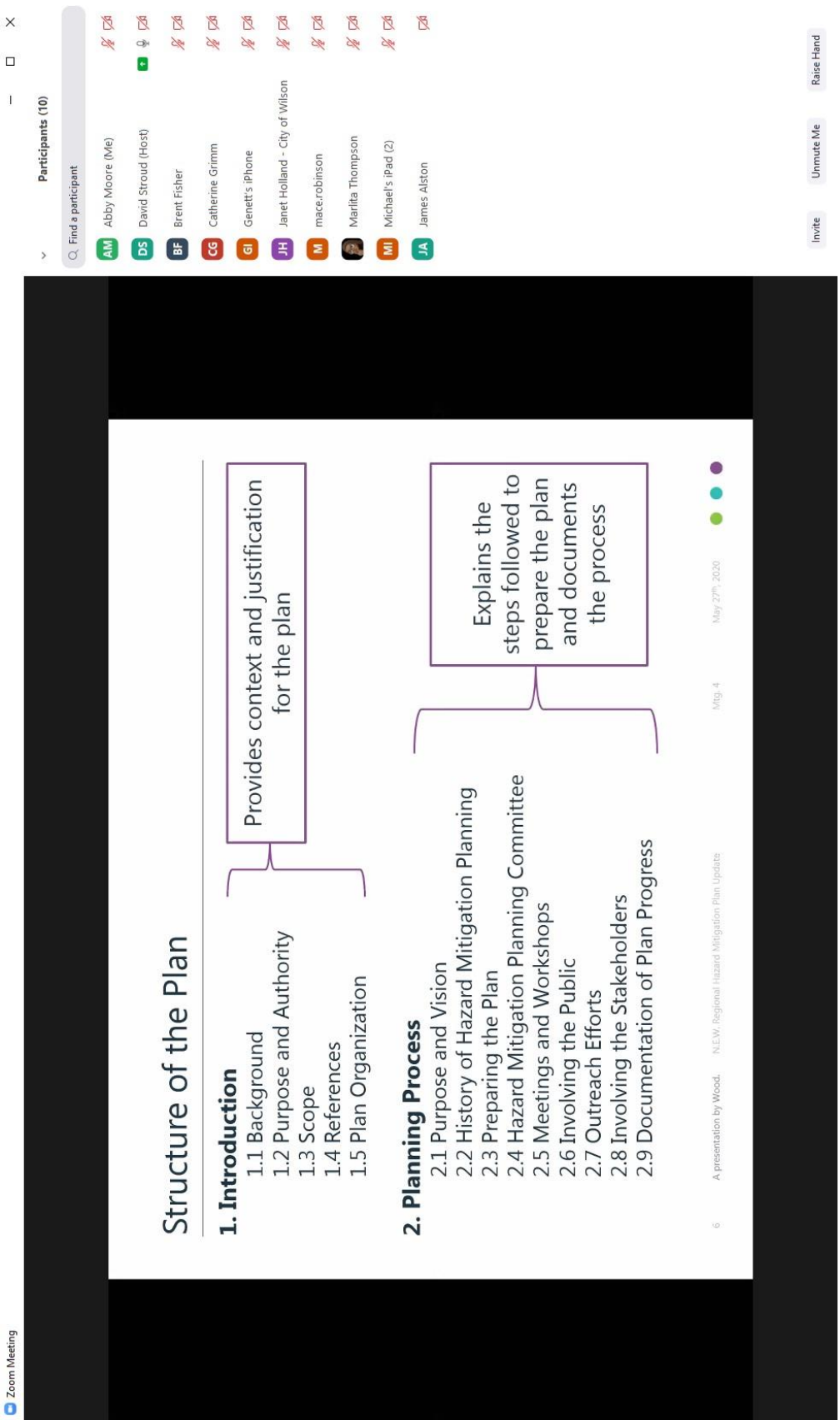
The following comments and questions were discussed throughout the meeting.

- The format of the mitigation action plans was discussed. Although the action plans are grouped by county, each jurisdiction's action plan covers the entirety of that jurisdiction. The groupings were carried forward from the previous plan to maintain consistency and to allow county-level actions that provide benefits to unincorporated areas to be carried forward in this plan.
- Regarding implementation and maintenance, David clarified that communities that participate in the CRS program are encouraged to meet and report on implementation status quarterly rather than annually in order to maximize CRS credits.

Next Steps

Comments and feedback are requested on the draft plan by Wednesday, June 10th. Wood will incorporate feedback and submit the plan to the state for review ASAP following receipt of comments.

Meeting Adjourned


Zoom Meeting
Participants (10)
Find a participant
Abby Moore (Me)
David Stroud (Host)
Brent Fisher
Catherine Grimm
Genett's iPhone
Janet Holland - City of Wilson
mace.robinson
Marlita Thompson
Michael's iPad (2)
James Alston
Invite
Unmute Me
Raise Hand
Structure of the Plan
1. Introduction
1.1 Background
1.2 Purpose and Authority
1.3 Scope
1.4 References
1.5 Plan Organization
Provides context and justification for the plan
2. Planning Process
2.1 Purpose and Vision
2.2 History of Hazard Mitigation Planning
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
Explains the steps followed to prepare the plan and documents the process
6
A presentation by Wood.
N.E.W. Regional Hazard Mitigation Plan Update
Mtg. 4
May 27th, 2020


Nash County
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Home
Posted on: May 29, 2020
Final Public Meeting on the N.E.W. Regional Hazard Mitigation Plan:
A final public meeting on the N.E.W. (Nash-Edgecombe-Wilson) Regional Hazard Mitigation Plan will be held on Thursday, June 4, 2020 at 5:00 p.m. to seek public input on the updated draft plan. This will be a virtual meeting held via Zoom and in order to attend, participants must email abigail.moore@woodplc.com prior to the meeting to request an email invitation.
To review the draft plan online and provide feedback, please visit http://www.new-hmp.com/draftDocuments.html. This plan includes all the municipalities and unincorporated areas located within the three county region and must be updated every five years in order for the participating jurisdictions to remain eligible for FEMA pre- and post-disaster grant funding.
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The Nash, Edgecombe & Wilson Counties (N.E.W.) Region has updated its Hazard Mitigation Plan and is seeking public input on the draft plan. A virtual public meeting is scheduled for Thursday, June 4th at 5 pm to be held via Zoom. To attend this meeting, please email abigail.moore@woodplc.com to request an email invitation. To review the draft plan and provide feedback, visit www.new-hmp.com/draftDocuments.html.

Nash Edgecomb Wilson Region

Hazard Mitigation Plan Update

Virtual Public Meeting Thursday, June 4th

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Stay updated and informed.

COVID-19 Resources and Information

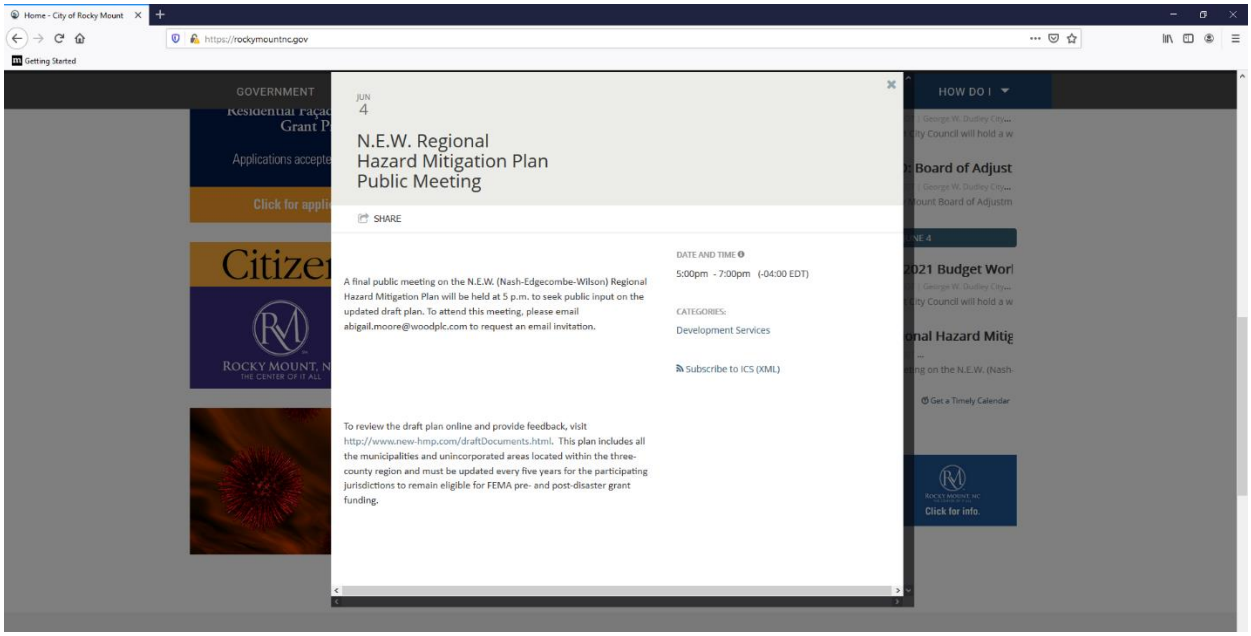
News and Updates

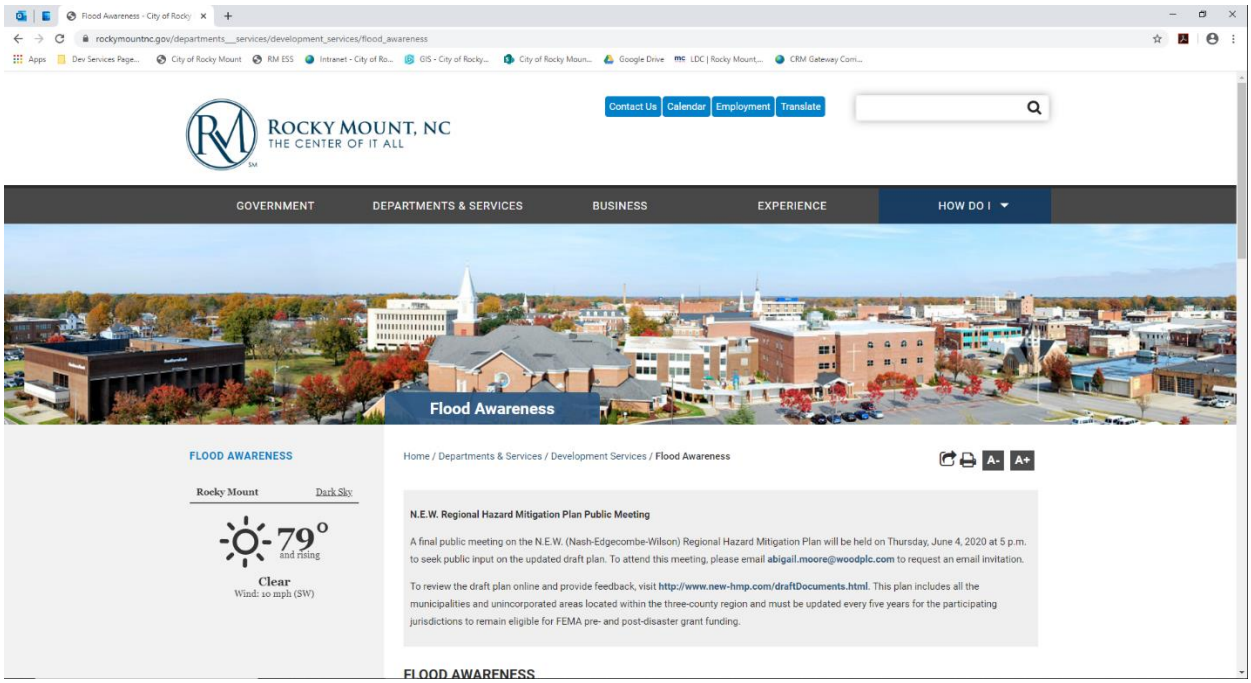
Everything is blooming- a perfect time to take a stroll through the Nash County Arboretum, an outdoor museum located at the Nash County Agriculture Center. The arboretum has been serving the local community since 2004. It boasts 11 different gardens that have all been designed, planted and maintained by Extension Master Gardener Volunteers. Come learn about our botanical collections. Read More

Reconnecting You With the Food, Landscapes and Agriculture of North Carolina Whether it's exploring miles of fertile farmland and fresh produce at the farmers market, discovering flowers blooming in the backyard or nutritious foods for cooking in the kitchen, Homegrown has you covered. Read More

Contact: **NC Cooperative Extension**
Nash County Center
1006 Eastern Ave, Rm 102, Nashville, NC 27856
252-459-9810

Nash County Cooperative Extension | 1006 Eastern Avenue, Rm 102, Nash County Ag Center, Nashville, NC 27856

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79°
and rising
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Wind: 10 mph (SW)
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A-
A+
N.E.W. Regional Hazard Mitigation Plan Public Meeting
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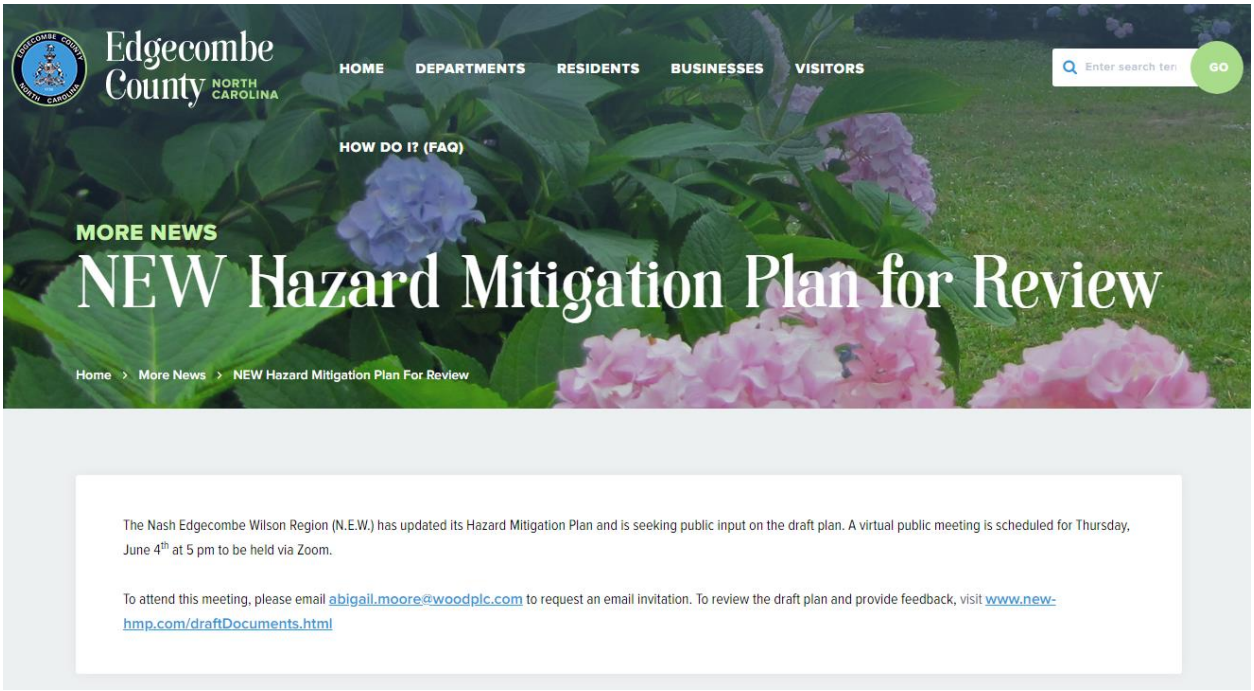
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NEW Hazard Mitigation Plan for Review
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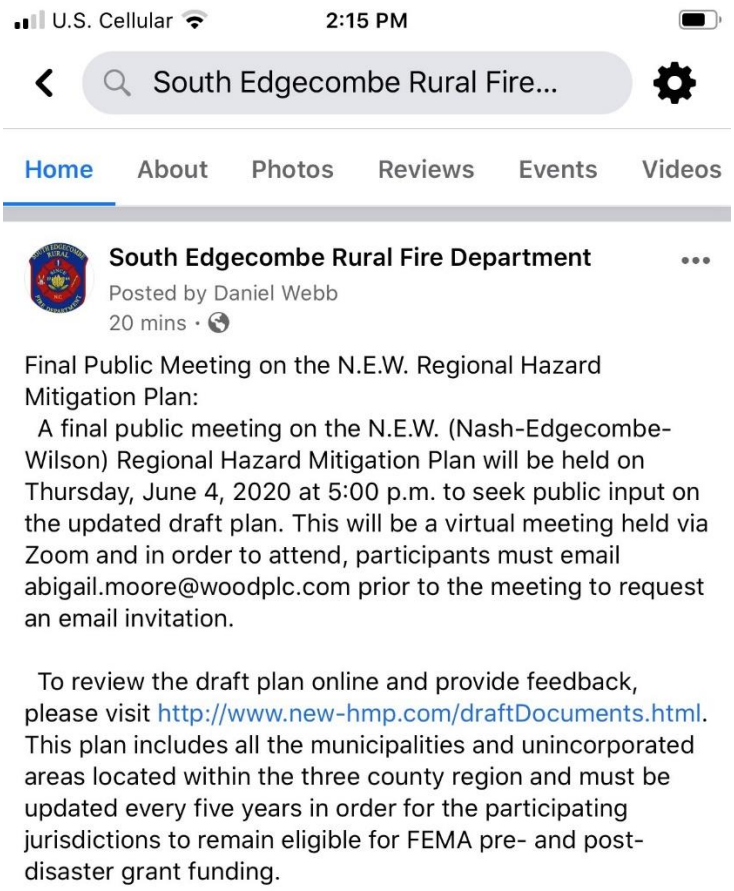
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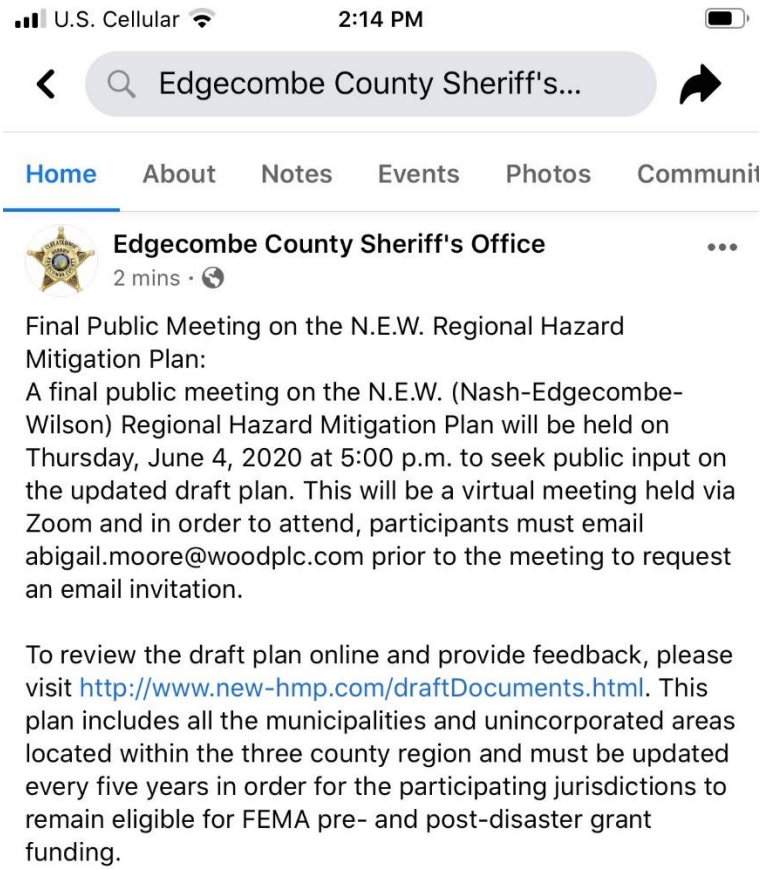
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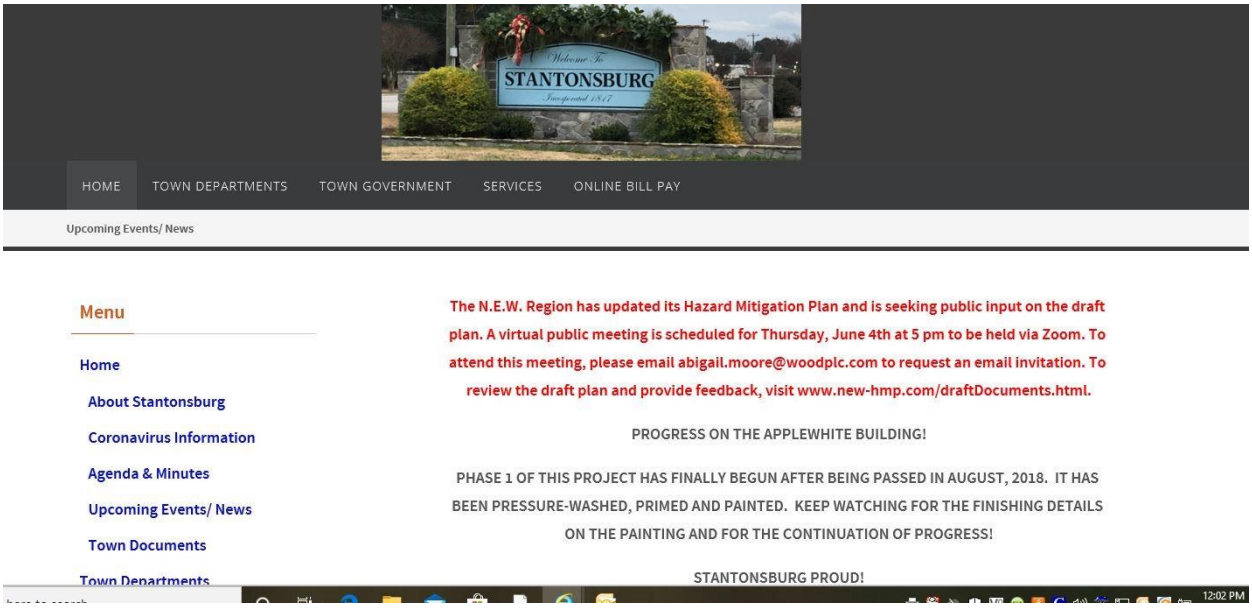
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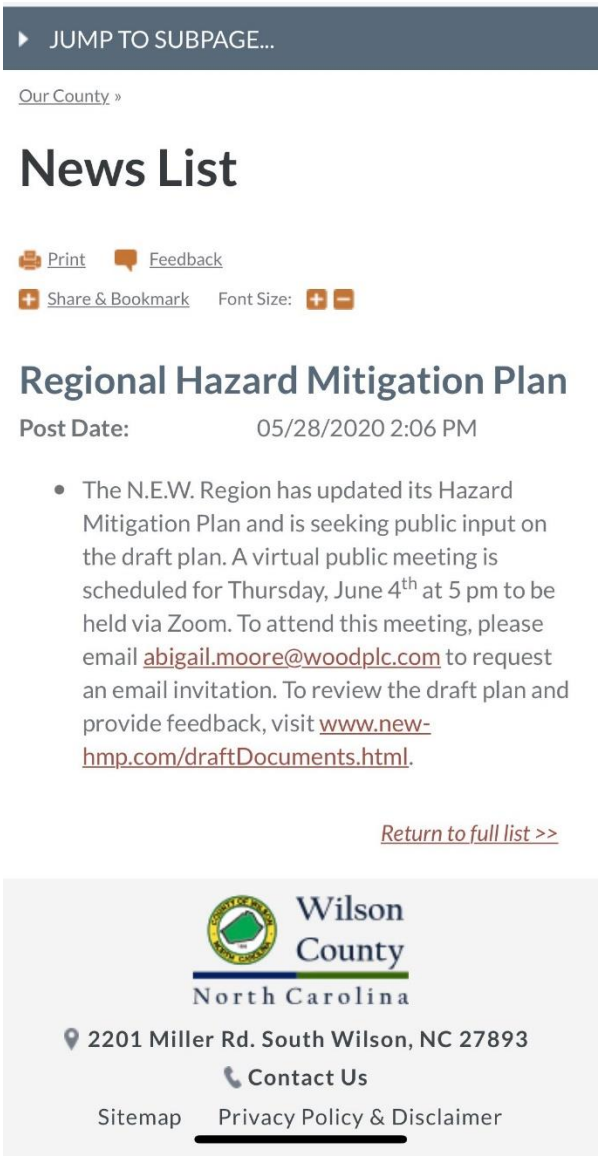
The N.E.W. Region has updated its Hazard Mitigation Plan and is seeking public input on the draft plan. A virtual public meeting is scheduled for Thursday, June 4th at 5 pm to be held via Zoom. To attend this meeting, please email abigail.moore@woodplc.com to request an email invitation. To review the draft plan and provide feedback, visit www.new-hmp.com/draftDocuments.html.
PROGRESS ON THE APPLEWHITE BUILDING!
PHASE 1 OF THIS PROJECT HAS FINALLY BEGUN AFTER BEING PASSED IN AUGUST, 2018. IT HAS BEEN PRESSURE-WASHED, PRIMED AND PAINTED. KEEP WATCHING FOR THE FINISHING DETAILS ON THE PAINTING AND FOR THE CONTINUATION OF PROGRESS!
STANTONSBURG PROUD!
12:02 PM



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Regional Hazard Mitigation Plan

Post Date: 05/28/2020 2:06 PM

- The N.E.W. Region has updated its Hazard Mitigation Plan and is seeking public input on the draft plan. A virtual public meeting is scheduled for Thursday, June 4th at 5 pm to be held via Zoom. To attend this meeting, please email abigail.moore@woodplc.com to request an email invitation. To review the draft plan and provide feedback, visit www.new-hmp.com/draftDocuments.html.

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North Carolina

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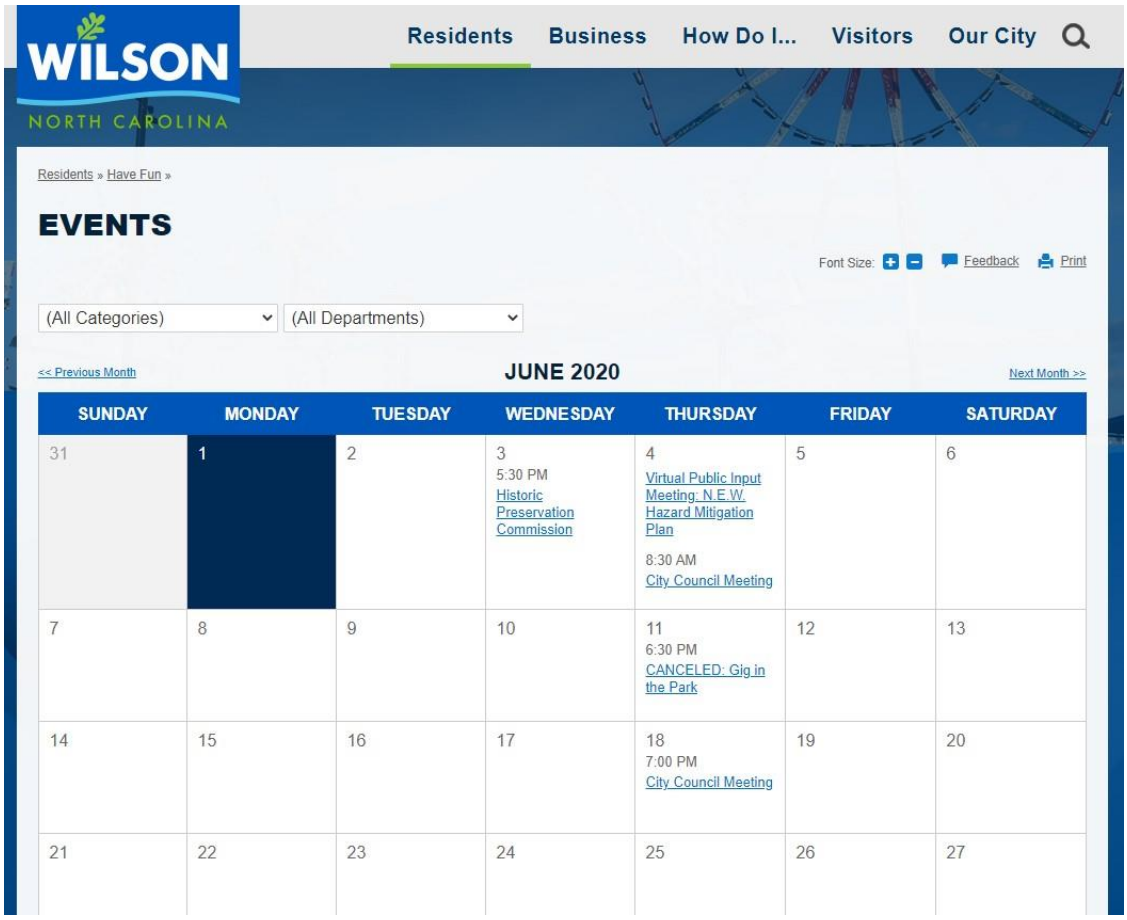
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(All Categories)
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FRIDAY
SATURDAY
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5:30 PM
Historic Preservation Commission
4
Virtual Public Input Meeting: N.E.W. Hazard Mitigation Plan
8:30 AM
City Council Meeting
5
6
7
8
9
10
11
6:30 PM
CANCELED: Gig in the Park
12
13
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7:00 PM
City Council Meeting
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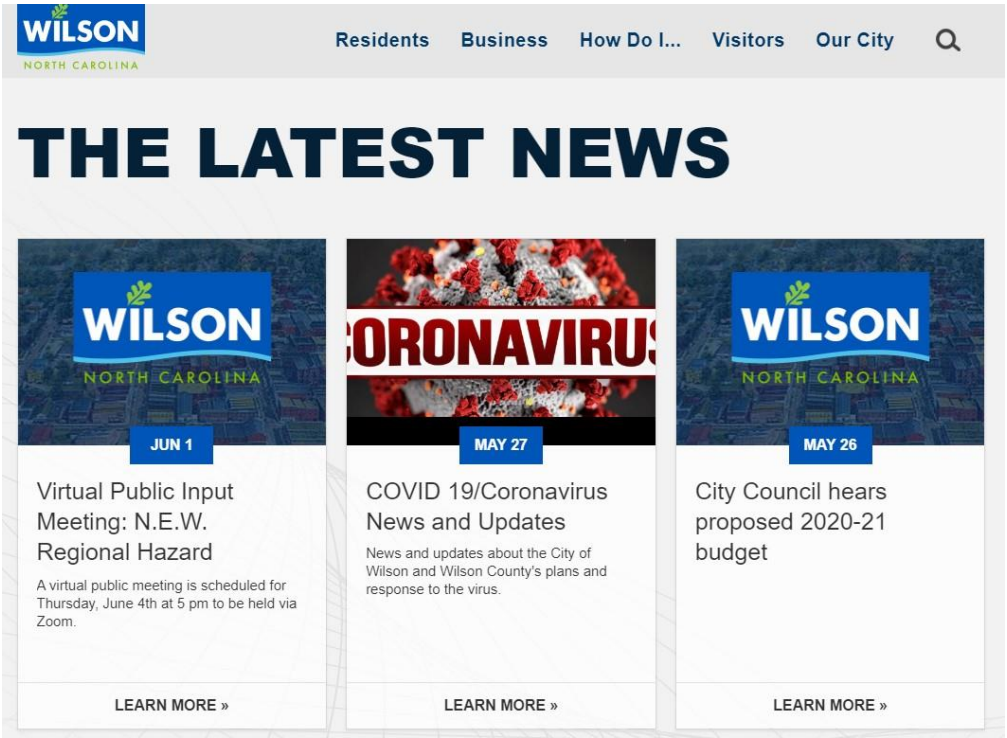
27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JUN 1
Virtual Public Input Meeting: N.E.W. Regional Hazard
A virtual public meeting is scheduled for Thursday, June 4th at 5 pm to be held via Zoom.
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CORONAVIRUS
COVID 19/Coronavirus News and Updates
News and updates about the City of Wilson and Wilson County's plans and response to the virus.
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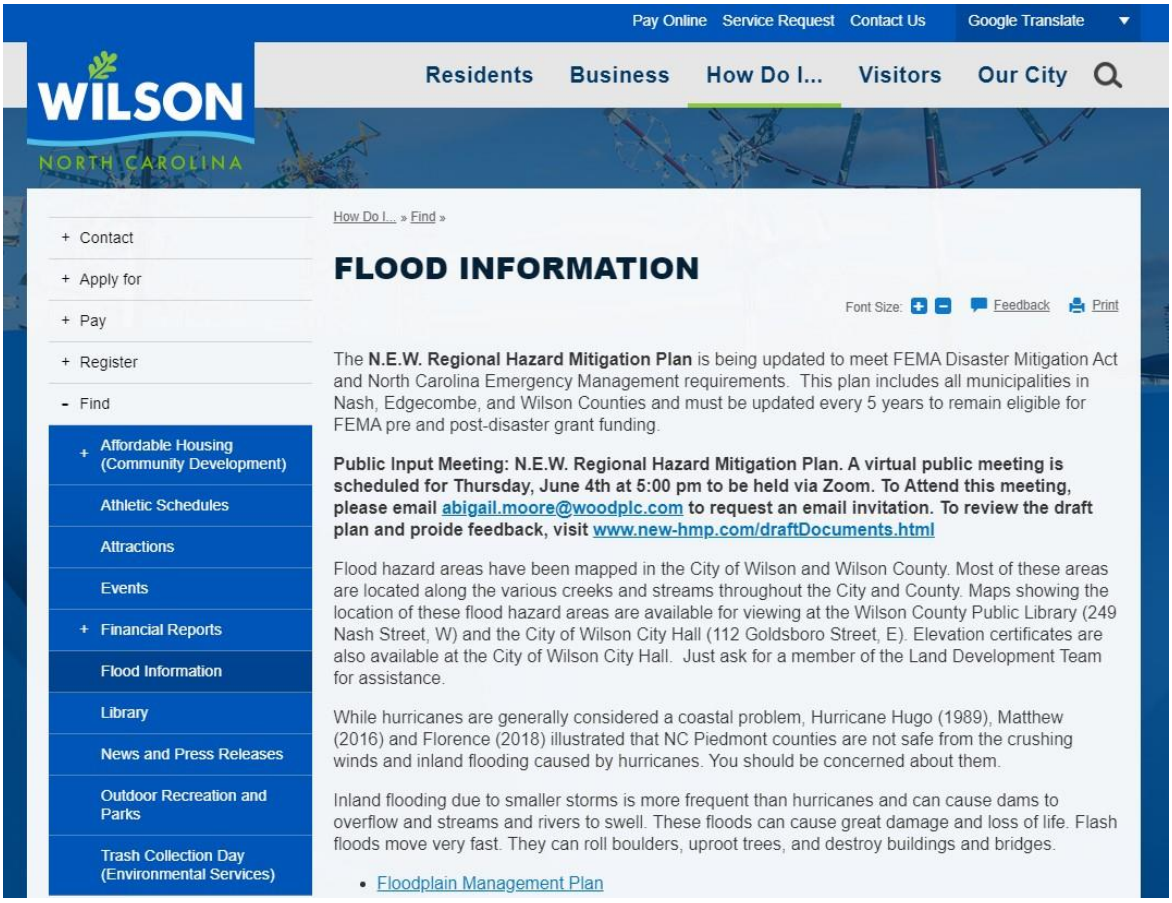
MAY 26
City Council hears proposed 2020-21 budget
LEARN MORE »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Events
+ Financial Reports
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Trash Collection Day (Environmental Services)
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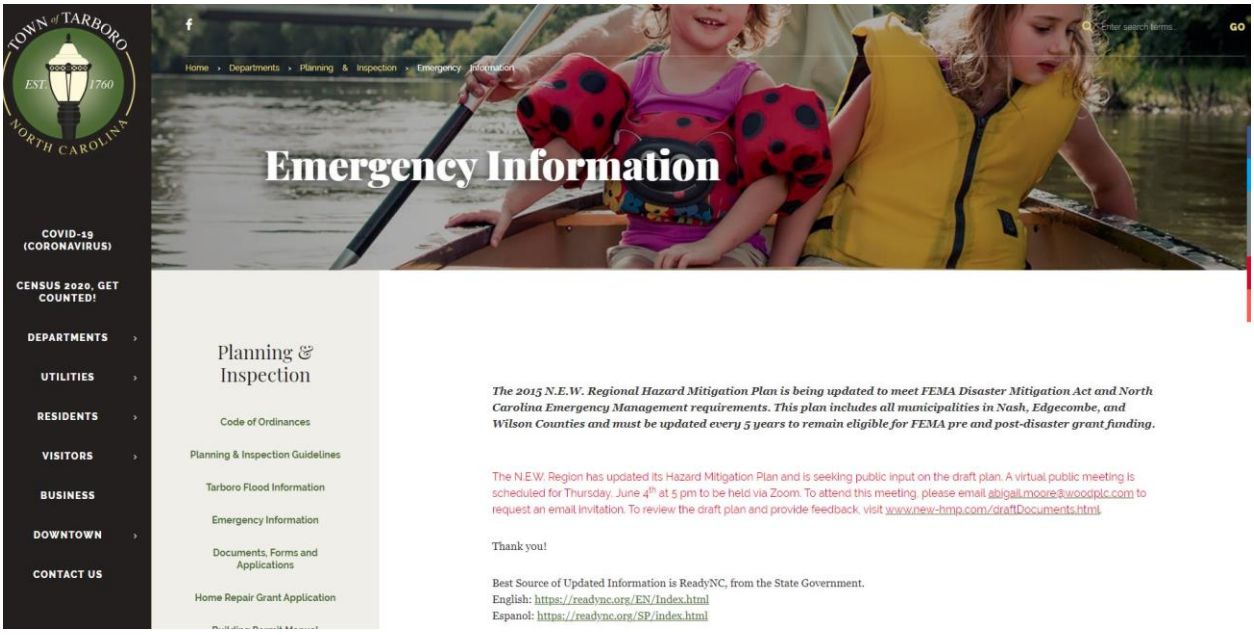
The N.E.W. Regional Hazard Mitigation Plan is being updated to meet FEMA Disaster Mitigation Act and North Carolina Emergency Management requirements. This plan includes all municipalities in Nash, Edgecombe, and Wilson Counties and must be updated every 5 years to remain eligible for FEMA pre and post-disaster grant funding.
Public Input Meeting: N.E.W. Regional Hazard Mitigation Plan. A virtual public meeting is scheduled for Thursday, June 4th at 5:00 pm to be held via Zoom. To Attend this meeting, please email abigail.moore@woodplc.com to request an email invitation. To review the draft plan and proide feedback, visit www.new-hmp.com/draftDocuments.html
Flood hazard areas have been mapped in the City of Wilson and Wilson County. Most of these areas are located along the various creeks and streams throughout the City and County. Maps showing the location of these flood hazard areas are available for viewing at the Wilson County Public Library (249 Nash Street, W) and the City of Wilson City Hall (112 Goldsboro Street, E). Elevation certificates are also available at the City of Wilson City Hall. Just ask for a member of the Land Development Team for assistance.
While hurricanes are generally considered a coastal problem, Hurricane Hugo (1989), Matthew (2016) and Florence (2018) illustrated that NC Piedmont counties are not safe from the crushing winds and inland flooding caused by hurricanes. You should be concerned about them.
Inland flooding due to smaller storms is more frequent than hurricanes and can cause dams to overflow and streams and rivers to swell. These floods can cause great damage and loss of life. Flash floods move very fast. They can roll boulders, uproot trees, and destroy buildings and bridges.
Floodplain Management Plan


TOWN of TARBORO
EST. 1760
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Planning & Inspection
Code of Ordinances
Planning & Inspection Guidelines
Tarboro Flood Information
Emergency Information
Documents, Forms and Applications
Home Repair Grant Application
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Thank you!
Best Source of Updated Information is ReadyNC, from the State Government.
English: https://readync.org/EN/Index.html
Espanol: https://readync.org/SP/index.html


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NOTICE OF HAZARD MITIGATION PLAN PUBLIC INPUT SESSION
The Nash Edgecombe Wilson Region (N.E.W.) has updated its Hazard Mitigation Plan and is seeking public input on the draft plan. A virtual public meeting is scheduled for Thursday, June 4th at 5 pm to be held via Zoom. To attend this meeting, please email abigail.moore@woodplc.com to request an email invitation. To review the draft plan and provide feedback, visit www.new-hmp.com/draftDocuments.html.
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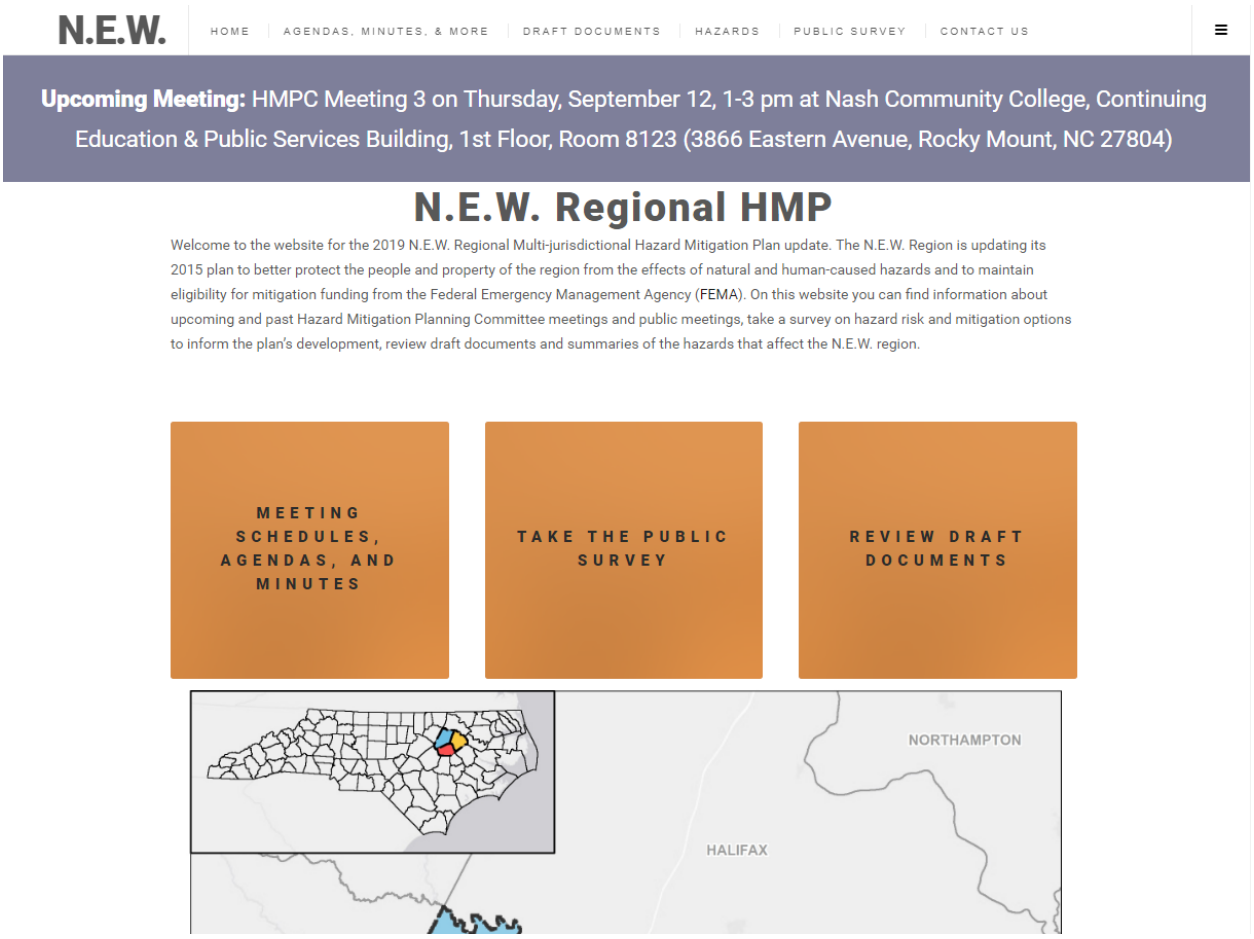
Plan Website Outreach



Public Survey

The N.E.W. 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 web and social media accounts, and made available online on the plan website.

N.E.W. Regional Hazard Mitigation Plan Public Survey

Online version can be found at: https://www.surveymonkey.com/r/NEW-HMP

Nash, Edgecombe, and Wilson Counties, along with their local jurisdictions, are updating the N.E.W. Regional Hazard Mitigation Plan to assess and minimize risk to natural hazards. Your participation in this process is important to us. Your input will help us to better understand the vulnerabilities within the region and decide on how to best mitigate or reduce the impacts of these hazards. **Please help us by completing this survey by Friday, July 26th and returning it to:**

Abby Moore, Wood
4021 Stirrup Creek Drive, Suite 100, Durham, NC 27703
Or by email to: abigail.moore@woodplc.com

This survey can also be completed online at: https://www.surveymonkey.com/r/NEW-HMP

If you have any questions about this survey or want to learn about more ways to participate in the N.E.W. Regional Hazard Mitigation Plan update, please contact the planning consultant for the project, David Stroud with Wood, at 919-765-9986 or by email at david.stroud@woodplc.com. You can also visit the project website at www.NEW-HMP.com.

BACKGROUND INFORMATION

1. Where do you live?
   - ☐ Nash County
   - ☐ Edgecombe County
   - ☐ Wilson County
   - ☐ Other: _____
2. Do you rent or own your home?
   - ☐ Rent
   - ☐ Own
3. How prepared do you feel for a hazard event?
   - ☐ Not at all prepared
   - ☐ Somewhat prepared
   - ☐ Very prepared
4. Do you know where evacuation centers or storm shelters are?
   - ☐ Yes
   - ☐ No
5. Are you able to evacuate or take shelter if necessary?
   - ☐ Yes
   - ☐ No
6. Do you know where/how to get more information on hazard risk and preparedness?
   - ☐ Yes
   - ☐ No

1

HAZARD INFORMATION

7. The hazards addressed in the Hazard Mitigation Plan are listed below. Please indicate the level of significance that you perceive for each hazard. Please rate these hazards 1 through 3 as follows: 1=low, 2=moderate, 3=high.

____ Dam Failure	____ Severe Weather (Thunderstorm/Lightning/Hail)
____ Drought	____ Severe Winter Storm
____ Earthquake	____ Sinkhole
____ Extreme Heat	____ Tornado
____ Flood	____ Wildfire
____ Hurricane	____ Other_____

8. Describe specific hazard issues/problem areas that you would like the planning committee to consider.

9. Describe any actions you have taken to mitigate hazard risk for your family, home, or neighborhood.

10. Which categories of mitigation actions do you feel would be most effective?

- ☐ Preventive activities (e.g. planning and zoning, building codes)
- ☐ Property protection (e.g. retrofitting, insurance, flood prone property buyout)
- ☐ Natural resource protection (e.g. wetlands protection, erosion control, forest health protection)
- ☐ Emergency services (e.g. hazard threat recognition, hazard warning systems, critical facilities protection)
- ☐ Structural projects (e.g. storm drain improvements, hazardous tree removal,
- ☐ Public information (e.g. outreach projects, environmental education, public education)

11. What is the best way for you to receive information about how to make your family, home, or neighborhood more resilient to hazards? Please check all that apply.

☐ Television News/Advertisements	☐ County/Local website
☐ Radio News/Advertisements	☐ County/Local social media
☐ Public Forums/Workshops	☐ Email
☐ Public Library	☐ Text messages
☐ Print Media – newspaper, phone book, informational brochures	☐ Other _____

Thank you for your input!

Please provide your name and email below if you would like to be informed of future meetings related to the planning process.

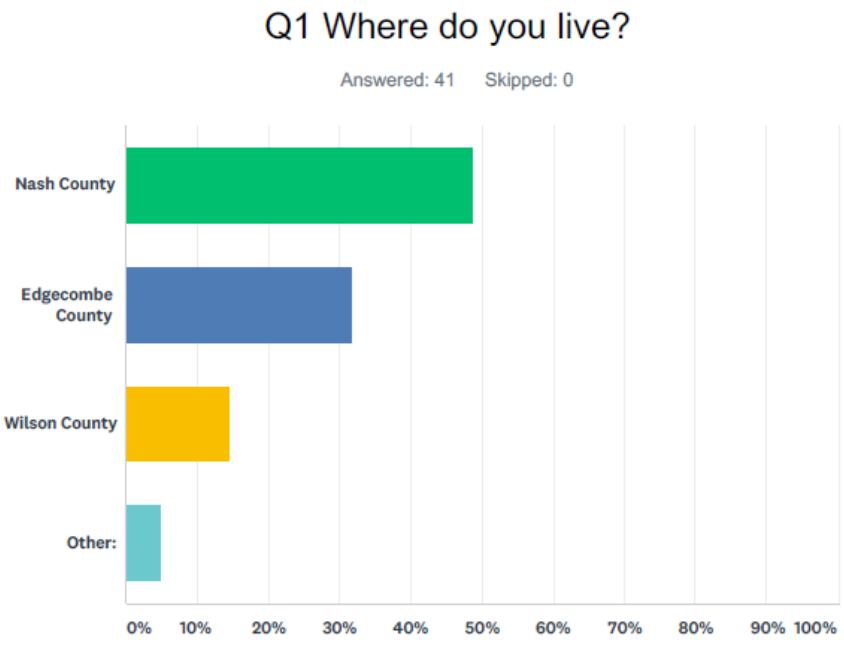
Name: _____ Email: _____

2

The Region received 41 responses to the survey. The following bullet points summarize significant findings from the survey. Key questions and responses are detailed in Figure B.1 through Figure B.11.

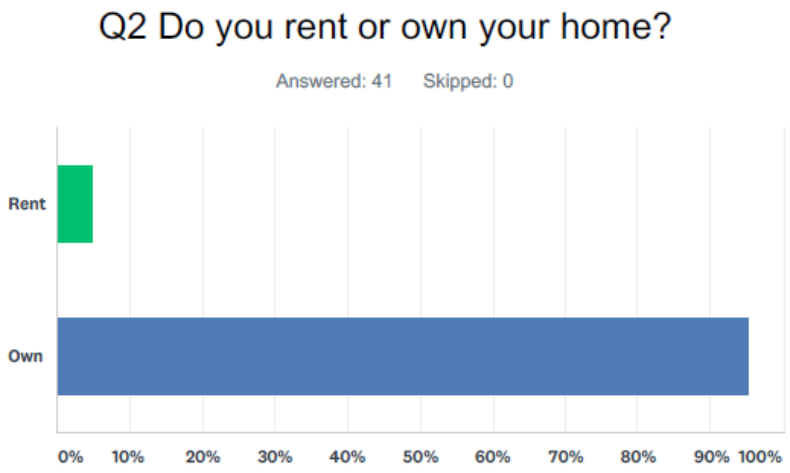
- The majority of responses came from residents of Nash and Edgecombe Counties.
- Over 95% of respondents own their home, which indicates ability of those engaged in the mitigation process to implement mitigation on their own properties.
- Over 95% of respondents feel somewhat prepared or very prepared for a hazard event.
- 85.4% of respondents know where evacuation centers or storm shelters are located and 97.6% say they are able to evacuate or take shelter if necessary.
- Nearly 22% of respondents do not know where to get more information on hazard risk and preparedness. More outreach may be needed and it may be beneficial to pursue new methods of outreach.
- Hurricane was rated the most significant hazard, followed by flood, severe weather, and tornado. Earthquake was rated the least significant hazard, followed closely by sinkhole.
- Many respondents who reported having taken steps to mitigate risk at home reported preparedness actions such as emergency kits and supplies and evacuation plans. Few respondents noted property protection actions; therefore, these may be important ideas to promote in outreach.
- Respondents largely favored structural projects, emergency services projects, and preventive activities for mitigation.
- Text message and email were the most preferred methods of communication for information on hazard events.

Figure B.1 – Survey Response, Place of Residence



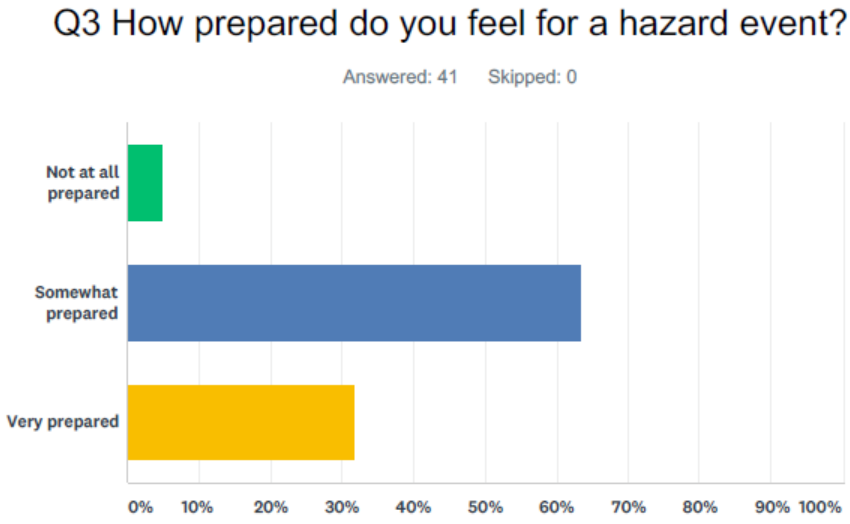
ANSWER CHOICES	RESPONSES	
Nash County	48.78%	20
Edgecombe County	31.71%	13
Wilson County	14.63%	6
Other:	4.88%	2
TOTAL		41

Figure B.2 – Survey Response, Home Ownership



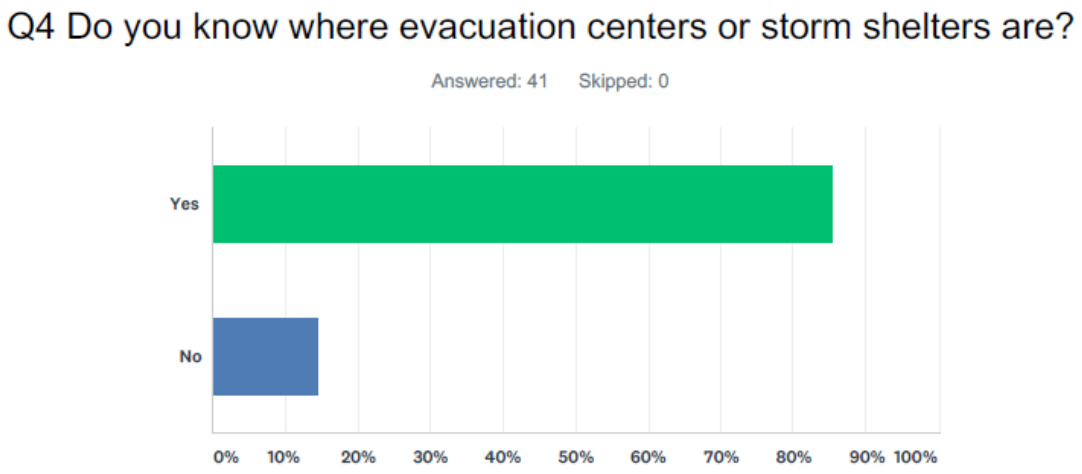
ANSWER CHOICES	RESPONSES	
Rent	4.88%	2
Own	95.12%	39
TOTAL		41

Figure B.3 – Survey Response, Preparedness



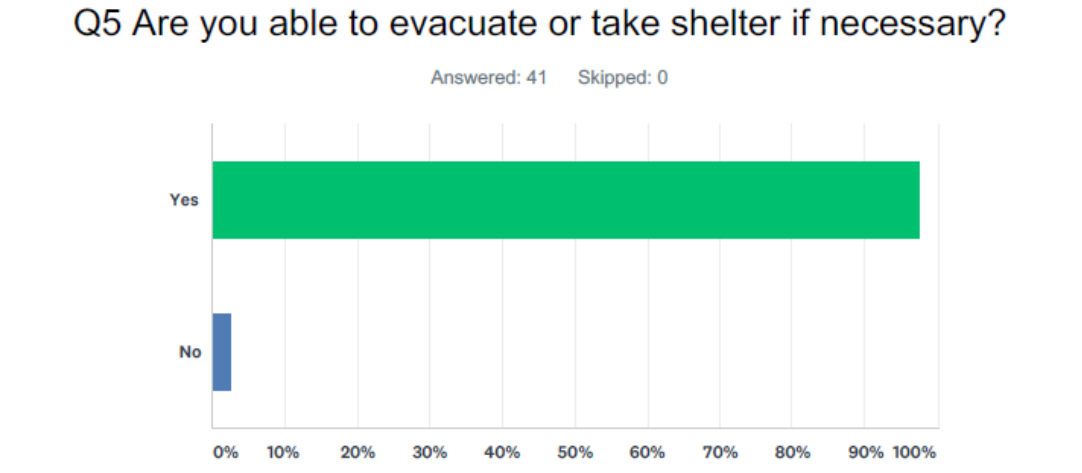
ANSWER CHOICES	RESPONSES	
Not at all prepared	4.88%	2
Somewhat prepared	63.41%	26
Very prepared	31.71%	13
TOTAL		41

Figure B.4 – Survey Response, Evacuation Center/Shelter Awareness



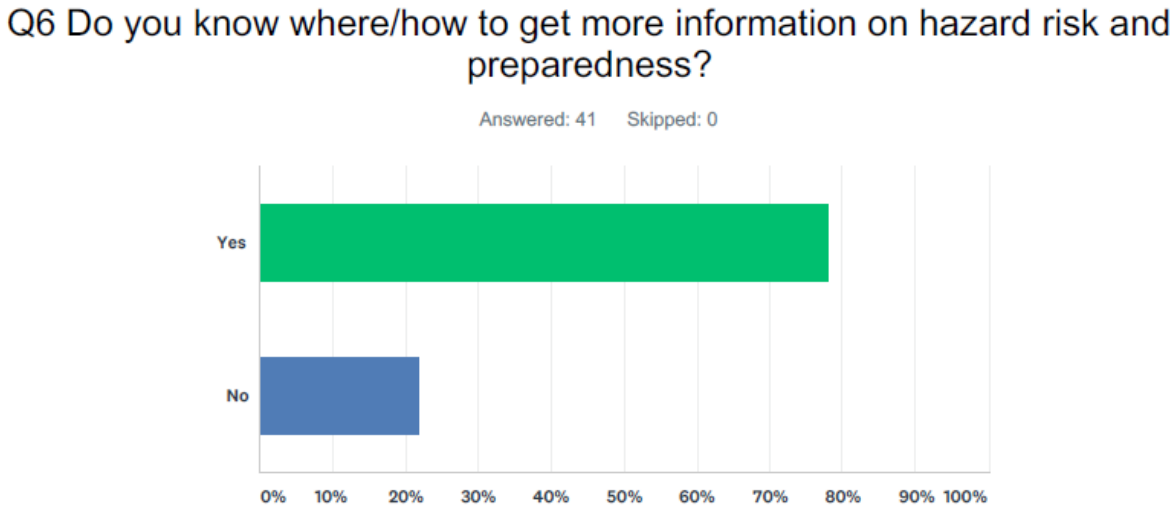
ANSWER CHOICES	RESPONSES	
Yes	85.37%	35
No	14.63%	6
TOTAL		41

Figure B.5 – Survey Response, Ability to Evacuate/Take Shelter



ANSWER CHOICES	RESPONSES	
Yes	97.56%	40
No	2.44%	1
TOTAL		41

Figure B.6 – Survey Response, Knowledge of Where to Find Hazard Information



ANSWER CHOICES	RESPONSES	
Yes	78.05%	32
No	21.95%	9
TOTAL		41

Figure B.7 – Survey Response, Hazard Significance Ratings

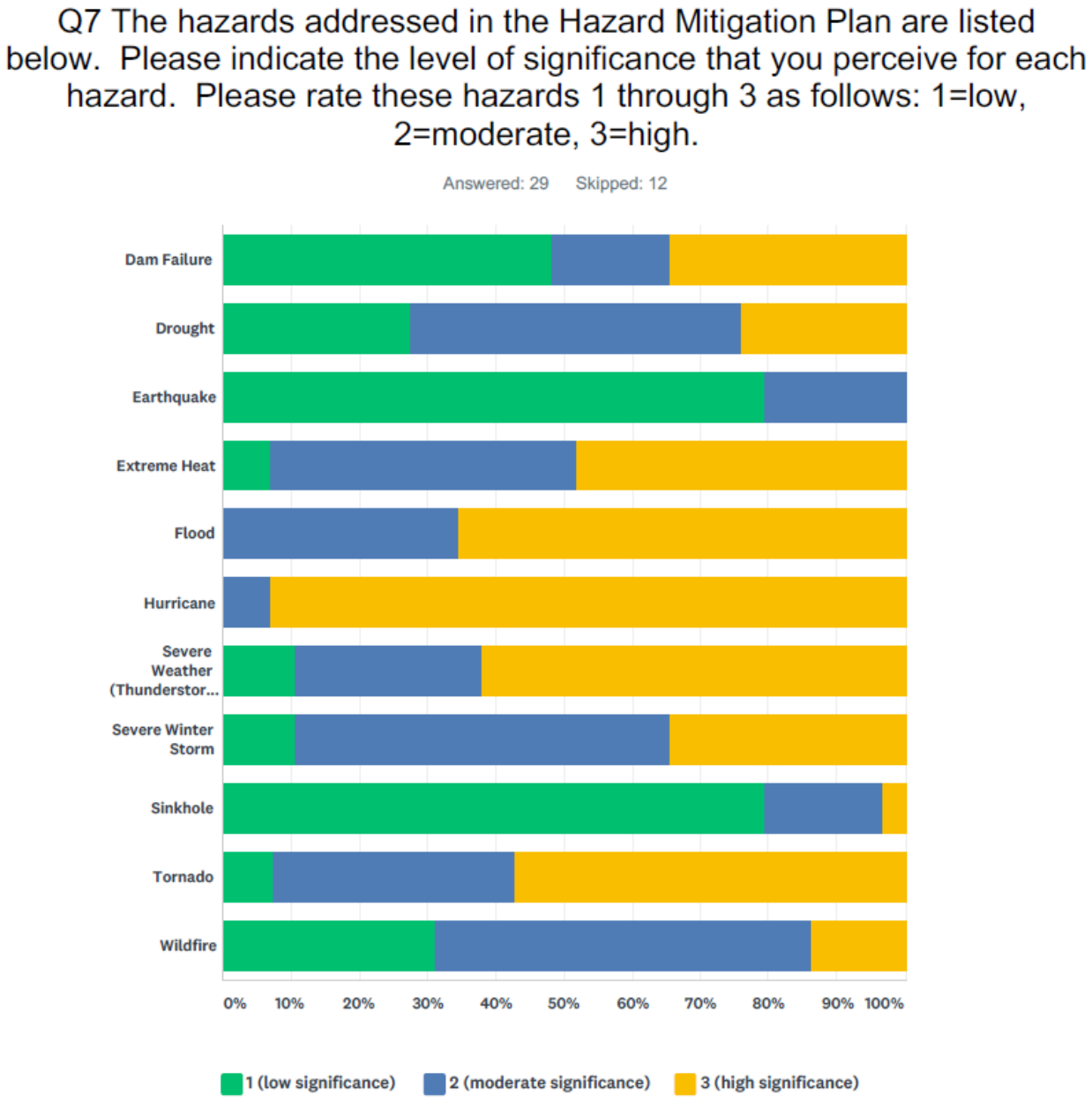


Figure B.8 – Survey Response, Key Hazard Issues/Concerns

Q8 Describe specific hazard issues/problem areas that you would like the planning committee to consider.

Answered: 18 Skipped: 23

#	RESPONSES
1	Fema hazard mitigation grant program (buyouts) for frequently flooded homesites.
2	na
3	Train derailment carrying hazardous materials
4	Train Derailment, Chemical Release
5	?
6	tornado
7	Flooding on roads erosion Ditches trees on power lines
8	Tornado and severe thunderstorm readiness
9	communication
10	road ditches and drainage ditches need cleaning out.
11	na
12	Planning for extended power losses.
13	Erosion,ditch and road flooding
14	Agriculture issues need to be included. During a natural disaster, growers can experience losses from soil erosion, crop loss and animal loss.
15	Erosion, ditches, roads flooding
16	terrorist attack
17	For our area flooding of all types is the main concern
18	n/a

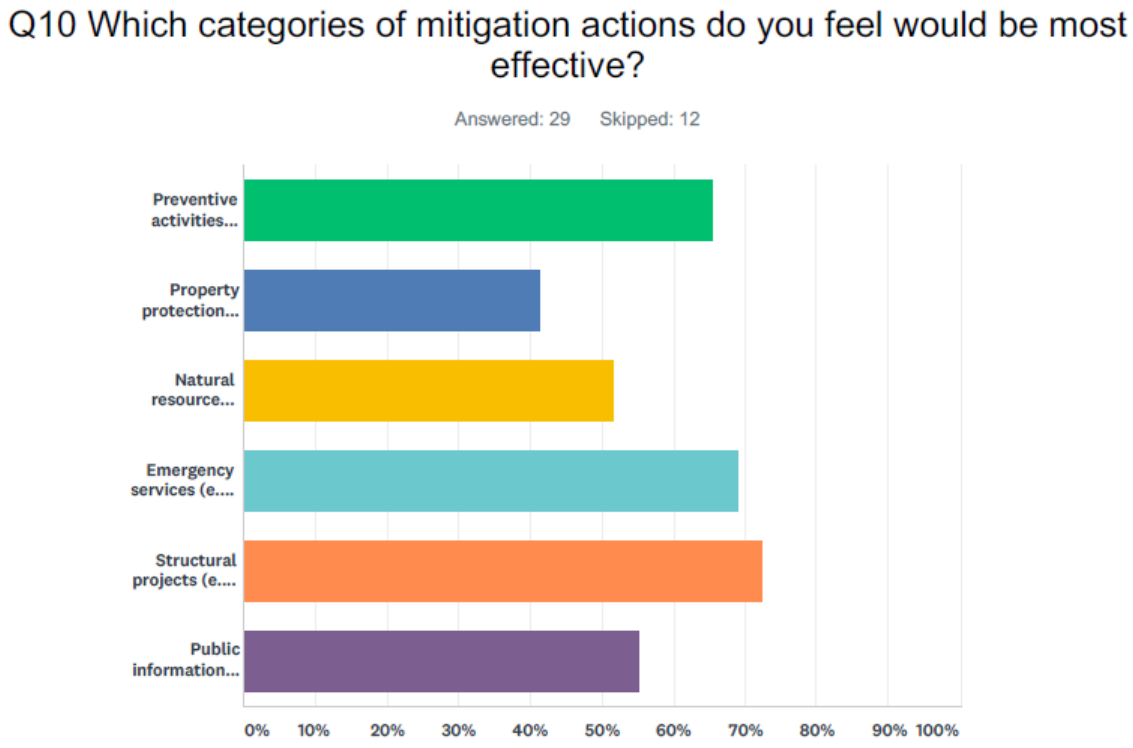
Figure B.9 – Survey Response, Personal Actions Taken for Mitigation

Q9 Describe any actions you have taken to mitigate hazard risk for your family, home, or neighborhood.

Answered: 16 Skipped: 25

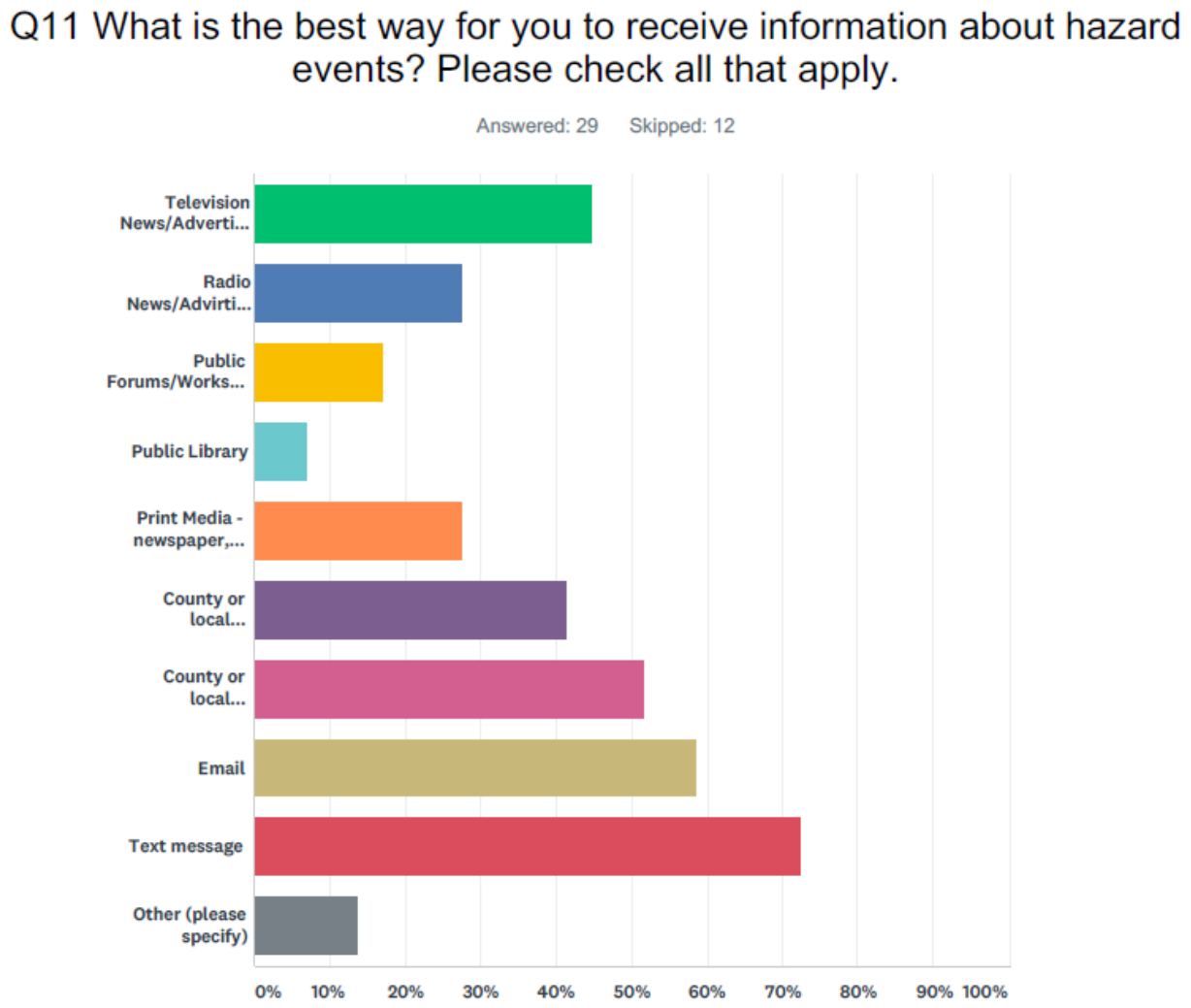
#	RESPONSES
1	Landscaping, new roof, food water preparation, learning who are vulnerable around me such as elderly, disabled, low income, etc., learning first aid, CPR, encouraging others to understand mitigation for resilience
2	Remove large trees very near house subject to falling on roof in big storm/hurricane. Have emergency kits for each person in household & list of things to add if storm is pending. Don't have a weather radio but have extra phone chargers/battery storage
3	na
4	Eliminated stored paints and pesticides. Updated smoke detectors and fire extinguishers
5	location of safe room in house
6	cleaning ditches cutting trees
7	Limbing trees, cleaning ditch tiles and culverts, identified area in home to shelter during storms, securing loose items prior to storms, have a plan in place when and if we or neighbors have damage, park vehicles in safe place
8	own a generator own a weather band radio
9	na
10	Added self contained generator.
11	My family takes time to be prepared ahead of a natural disaster.
12	Keeping ditches as clean as possible
13	shelter in place firearms for protection land for resources
14	I don't know what I can do.
15	Emergency kit, preparation, and information
16	n/a

Figure B.10 – Survey Response, Preferred Mitigation Categories



ANSWER CHOICES	RESPONSES	
Preventive activities (e.g. planning and zoning, building codes)	65.52%	19
Property protection (e.g. retrofitting, insurance, flood prone property buyout)	41.38%	12
Natural resource protection (e.g. wetlands protection, erosion control, forest health protection)	51.72%	15
Emergency services (e.g. hazard threat recognition, hazard warning systems, critical facilities protection)	68.97%	20
Structural projects (e.g. storm drain improvements, hazardous tree removal,	72.41%	21
Public information (e.g. outreach projects, environmental education, public education)	55.17%	16
Total Respondents: 29		

Figure B.11 – Survey Response, Preferred Public Outreach Methods



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 attend a public meeting, review the draft plan, and provide feedback and comments. The coordination letter sent via email is provided below. A list of stakeholders detailing their involvement is provided in Table B.3.

Stakeholders were also involved through specific requests for data to support the development of the plan.

From: Moore, Abigail
Sent: Wednesday, May 27, 2020 4:50 PM
To: cally.edwards@redcross.org; ginnymohrbutter@unitedwaytr.org; stephaniebatton1024@gmail.com; tlord@goldenleaf.org; sjefferies@nrms.k12.nc.us; vbridges@ecps.us; Lane.Mills@wilsonschoolsnc.net; rw5124@wilsoncc.edu; nccpresident@nashcc.edu; president@edgecombe.edu; dsearcy@barton.edu; jlewis@franklincountync.us; kevin.hubbard@johnstonnc.com; ricksp@halifaxnc.com; james.rhodes@pittcountync.gov; jgriffin@martincountyncgov.com; joshua.creighton@wakegov.com; berry.anderson@greenecountync.gov; mel.powers@waynegov.com; dennispaschall@warrencountync.gov; roy.mcclure@fema.dhs.gov; Edwardine.Marrone@fema.dhs.gov; ktodd@ISO.com; jbratcher@iso.com; sharper@iso.com; ewstrom@usgs.gov; randy.mundt@ncdps.gov; jcrew@ncem.org; john.holley@ncdenr.gov; linda.culpepper@ncdenr.gov; tim.baumgartner@ncdenr.gov; Hannah.thompson@ncagr.gov; ahbrown@ncdot.gov; dfarris@rockmountchmaber.org; nashvillencchamber@gmail.com; director@tarborochamber.com
Cc: Stroud, David A
Subject: N.E.W. Hazard Mitigation Plan Final Public Meeting

Good afternoon,

Nash, Edgecombe, and Wilson Counties have developed an update to the 2015 N.E.W. Regional Hazard Mitigation Plan. To assist with this process, the Counties and the Hazard Mitigation Planning Committee are seeking your input and expertise to support the planning effort.

We invite you to attend a public information meeting on the draft plan to be held on Thursday, June 4th at 5 p.m. via a Zoom conference call. In an effort to maintain security of the call, **please reply to this email if you would like to receive a link to access the call.** Additionally, a full draft of the plan has been posted for review at www.new-hmp.com/draftDocuments.html. Please email any comments or feedback on the draft plan to me at abigail.moore@woodplc.com. We appreciate any input you may have!

Thank you for your assistance in this effort to make our communities safer and more resilient to hazards!

Abby Moore, CFM
Hazard Mitigation & Resiliency Planner
Direct: +1 (919) 768 9927
www.woodplc.com

Table B.3 – Stakeholder List

First Name	Last Name	Organization
Non-Profit Organizations		
Cally	Edwards	American Red Cross - Northeastern North Carolina Chapter, Executive Director
Ginny	Mohrbutter	United Way Tar River Region, Executive Director
Stephanie	Batten	Preservation of Wilson, President
Ted	Lord	Golden LEAF Foundation, Senior Vice President
Educational Institutions		
Dr. Shelton	Jefferies	Nash-Rocky Mount Public Schools, Superintendent
Dr. Valerie	Bridges	Edgecombe County Public Schools, Superintendent
Dr. Lane	Mills	Wilson County Schools, Superintendent
Dr. Tim	Wright	Wilson Community College, President
Dr. William	Carver	Nash County Community College
Dr. Gregory	McLeod	Edgecombe Community College
Dr. Douglas	Searcy	Barton College, President
Surrounding Municipalities		
Jeff	Lewis	Franklin County Office of Emergency Services, Emergency Services Director
Kevin	Hubbard	Johnston County Emergency Management, Emergency Management Director
Phil	Ricks	Halifax County Emergency Services Director
James	Rhodes	Pitt County Planning Director
Jody	Griffin	Martin County Emergency Management, Director
Joshua	Creighton	Wake County Emergency Management Deputy Director
Berry	Anderson	Green County Emergency Services, Director
Mel	Powers	Wayne County Office of Emergency Services, Director
Dennis	Paschall	Warren County Emergency Services Director
Federal Government		
Roy	McClure	FEMA NFIP/CRS Specialist
Edwardine	Marrone	FEMA Mitigation Planning Specialist
Mandy	Todd	ISO/CRS Specialist
Mike	Bratcher	ISO/CRS Specialist
Sherry	Harper	ISO/CRS Technical Coordinator
Eric	Strom	USGS - Raleigh Field Office
State Government		
Randy	Mundt	State NFIP Coordinator
Chris	Crew	State Hazard Mitigation Officer
John	Holley	NCDENR - Land Quality Section Regional Office
Linda	Culpepper	DEQ Division of Water Resources, Director
Tim	Baumgartner	DEQ Division of Mitigation Services, Director
Hannah	Thompson-Welch	NC Forest Service, Wildfire Mitigation Specialist
Andy	Brown	NCDOT Division 4
Business Community		
David	Farris	Rocky Mount Area Chamber of Commerce, President and CEO
Mary	Daughtridge	Nashville Chamber of Commerce, President
Susan	Freeman	Tarboro Edgecombe Chamber of Commerce Executive Director

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

Once it was determined which flood hazards warranted the development of specific mitigation actions, the HMPC analyzed viable mitigation options that supported the identified goals and objectives. 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

C.2 ALTERNATIVE MITIGATION MEASURES PER CATEGORY

Note: the CRS Credit Sections are based on the 2017 CRS Coordinator's Manual.

C.2.1 Preventative and Regulatory Measures

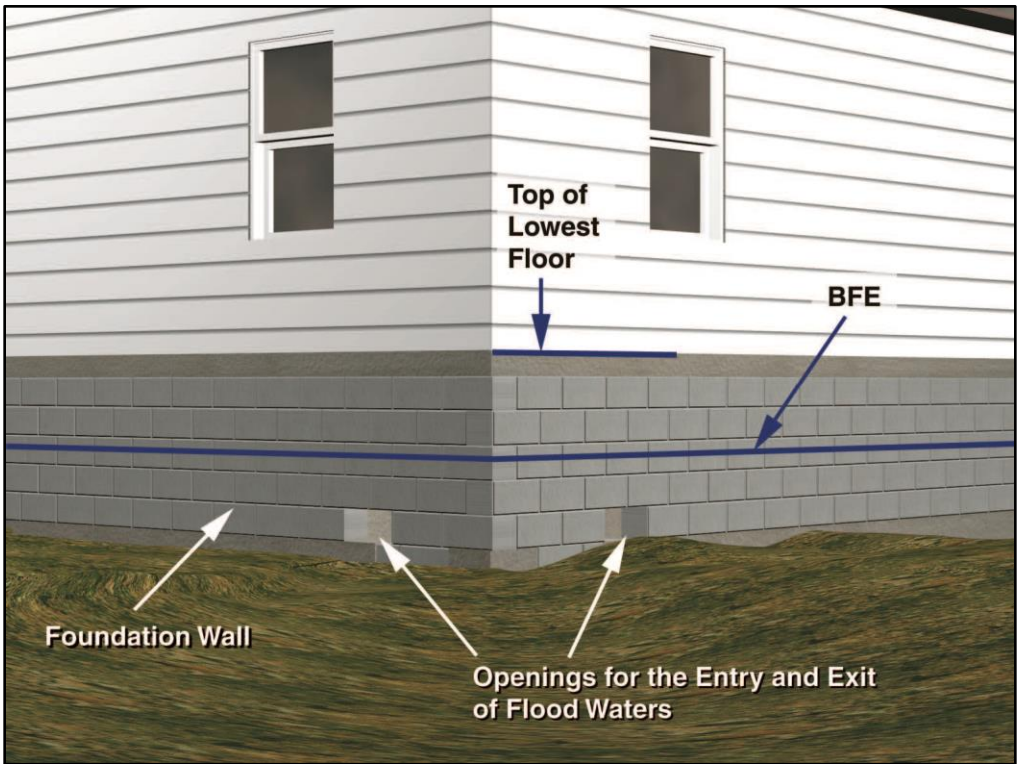
Preventative measures are designed to keep a problem - such as flooding - from occurring or from getting worse. The objective of preventative measures is to ensure that future development is not exposed to damage and does not cause an increase in damages to other properties. Building, zoning, planning and code enforcement offices usually administer preventative measures. Some examples of types of preventative measures include:

- Building codes
- Zoning ordinance
- Comprehensive or land use plan
- 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 B.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.



Source: FEMA Publication: *Above the Flood: Elevating Your Floodprone House, 2000*

Figure B.1 – Building Codes and Flood Elevations

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 Plan

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.

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.

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.

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.

CRS Credit

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 N.E.W. 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			
-	Emergency Management Operations: Review the Emergency Management Operational Plan on an annual basis and revise as needed	The City has established this as an ongoing policy and does not need to commit additional resources through this plan update process to complete this activity.	n/a
-	Using codes, plans, ordinances, and certifications to regulate development in hazard areas	Updates to the Town's codes and ordinances are not being pursued because it would be difficult to garner political support for development restrictions.	n/a

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
Prevention Measures and Funding Recommended for Implementation			
Nashville P-1	Establish a three or more person local Hazard Mitigation Committee	The Town identified more than three participants for this update of the HMP but would like to expand membership and encourage continued participation on the committee during annual reviews.	Local
Rocky Mount P-3	Develop a Continuity of Operations Plan	Developing this plan will help the City to build resilience and prevent lapses in continuity of services	Local
Wilson P-1	Floodplain Management: Consider a floodplain/stream modeling program that allows evaluation of flooding potential along streams based upon new developments that occur upstream	This system would support the City in proactive long-term planning for mitigation.	Local, State

C.2.2 Property Protection Measures

Property protection measures are used to modify buildings or property subject to damage. 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.

Keeping the Hazard Away

Generally, natural hazards do not damage vacant areas. As noted earlier, the major impact of hazards is to people and improved property. 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.

Flooding

There are five common methods to keep a flood from reaching and damaging a building:

- Erect a barrier between the building and the source of the flooding.
- 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.

The latter three approaches are the most effective types to consider for the planning area.

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.



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.

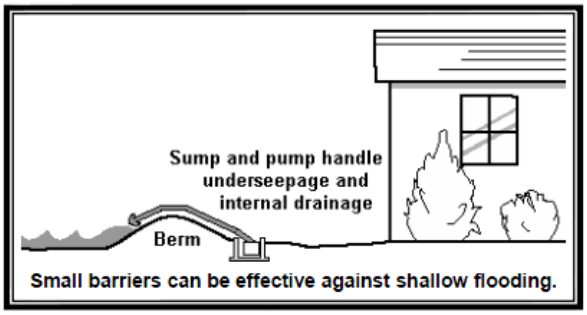


Small, wood frame buildings are the easiest to relocate

Source: Kennedy House Movers, Huntsville, AL

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.



Small barriers can be effective against shallow flooding.

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 nonresidential 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/CRS Credit

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 N.E.W. 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 each community's annex. 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 is available to create this fund and it would likely not gain political support.	n/a
Property Protection Measures and Funding Recommended for Implementation			
Nashville PP-1	Conduct an internal review and prepare a report regarding critical facilities that: evaluates all critical facilities for possible improvements to reduce their exposure to natural hazards; provides final report to the governing board	This effort will help the Town to prioritize future investments in critical facility retrofits and improvements.	Local
Tarboro PP-1	Place generators at shelters (structural)	This effort will protect critical facilities and continuity of operations.	County, State, FEMA
Wilson PP-2	Repetitive Loss: Wilson seeks funds to buyout repetitive loss properties.	Repetitive Loss Properties are known high-risk properties and are important to prioritize for mitigation.	Local, State, Federal

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/River Restoration

There is a growing movement that has several names, such as "stream conservation," "bioengineering," or "riparian corridor restoration." The objective of these approaches is to return streams, stream banks and adjacent land to a more natural condition, including the natural meanders. 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/CRS Credit

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 N.E.W. 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 providing a listing of 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			
-	Work to develop a local erosion and sedimentation control program	The Town now has a program in place, and continued review of this effort is not needed for implementation of the program.	n/a
Natural Resource Protection Measures and Funding Recommended for Implementation			
Wilson NRP-1	Stormwater Management: Acquire easements along drainage features and streams for public maintenance	This measure will enable maintenance and ensure that structures cannot be built in these high-risk areas.	Local, State, Federal
Wilson NRP-2	Restoration Program: Begin design and development of Hominy Creek Water Quality Park & Greenway Plan.	This project will provide an amenity to City residents while also protecting flood prone areas as open space.	Local

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.

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 /CRS Credit

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 N.E.W. 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			
-	Promote the Code Red System provided by Edgecombe County to citizens of the Town of Tarboro through handouts in the utility bill	This action was previously completed. Repeat mailing are not currently being pursued.	n/a
Emergency Services Measures and Funding Recommended for Implementation			
Rocky Mount ES-2	Work with NCDOT to improve bridges, bridge approaches, and culverts/drainage on NCDOT maintained roads	This effort is analyzed biannually as part of basin master planning and is an important partnership to maintain.	Local, NCDOT
Tarboro ES-1	Coordinate an emergency response training/exercise with the County, State, and Federal Emergency Agencies	Training will support improved coordination and operations.	State, Federal
Wilson ES-2	Natural Gas Infrastructure: Continue to replace aging steel gas facilities with polyethylene that has a longer life span	This effort will protect the natural gas infrastructure from damages from natural hazards.	Local

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 /CRS Credit

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 action is not being pursued because channelization can significantly increase erosion and peak flows.	n/a
Structural Project Measures and Funding Recommended for Implementation			
Rocky Mount S-1	Evaluate city-maintained bridges and culverts for elevation or capacity improvements	This ongoing effort will help the City to prioritize improvements.	Local
Tarboro S-1	Inspect storm sewer system to see if functioning properly and make improvements as necessary	Regular inspections will reduce flooding and support prioritization of improvements.	Local
Wilson SP-1	Stormwater management: install detention facilities to mitigate peak flow in the downtown area	This effort will reduce stormwater flooding in downtown.	Local

C.2.6 Public Information

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 on the Internet.

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 /CRS Credit

Communities in the N.E.W. 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			
-	Update website to provide link to FEMA preparedness info	The City already has hazard awareness and preparedness information online and will pursue other methods of public information to ensure variety.	n/a
Public Information and Outreach Measures and Funding Recommended for Implementation			
Nashville PEA-1	Provide disaster preparedness information in public facility waiting areas	The Town will provide FEMA and local information to encourage public awareness and preparedness	Local
Rocky Mount PEA-1	Insert floodplain awareness brochure in utility bill annually	Recurring inserts in utility bills are planned on an annual basis because repeat messaging is shown to be effective.	Local
Tarboro PEA-1	Place information concerning hazard risk and preparedness on the Town Website	Online outreach will increase the potential reach and audience.	Local

Appendix D References

- Chernet, Haregewoin Haile. 2013. The Impact of Climate Change on Dam Safety and Hydropower.
- https://www.carinsurance.com/Articles/top-states-hail-damage-claims.aspx
- Edgecombe County Parcel Data, June 2019.
- FEMA Disaster Declarations Summary, Updated December 20, 2018.
- FEMA Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards. 2013.
- FEMA. Nash County and Incorporated Areas Flood Insurance Study. Revised July 7, 2014.
- FEMA. Edgecombe County and Incorporated Areas Flood Insurance Study. Revised June 2, 2015.
- FEMA. Wilson County and Incorporated Areas Flood Insurance Study. Revised April 16, 2013.
- FEMA. Community Information System, 2019.
- James B. Elsner, Svetoslava C. Elsner, and Thomas H. Jagger. The increasing efficiency of tornadoes in the United States. Climate Dynamics/vol. 45 issue 3-4, pp 651-659.
- Mentaschi, L., Vousdoukas, M., Pekel, J., Voukouvalas, E., and Feyen, L. Global long-term observations of coastal erosion and accretion. Scientific Reports Volume 8, Article number: 12876 (2018).
- Nash County Parcel Data, June 2019.
- National Climate Assessment, 2014.
- National Drought Mitigation Center, Drought Impact Reporter.
- National Integrated Drought Information System, U.S. Drought Portal.
- National Weather Service.
- N.E.W. Regional Hazard Mitigation Plan. 2015.
- NOAA, National Centers for Environmental Information, Storm Events Database.
- NOAA, National Hurricane Center.
- NOAA, Office of Coastal Management.
- North Carolina Department of Environmental Quality. Dam Inventory, July 2018.
- North Carolina Emergency Management. IRISK Database
- North Carolina Emergency Management. Risk Management Tool.
- North Carolina Forest Service. Annual Reports. 2009-2018.
- North Carolina Geological Survey. October 2018.
- North Carolina State Climate Office. Climate Tools.
- Southern Wildfire Risk Assessment, 2019.
- State of North Carolina Hazard Mitigation Plan, February 2018.
- U.S. Army Corps of Engineers, National Inventory of Dams.
- U.S. Census Bureau. American Community Survey 2013-2017 5-Year Estimates.
- U.S. Census Bureau. 2010 Decennial Census.
- U.S. Census Bureau. 2000 Decennial Census.
- U.S. Department of Agriculture, Farm Service Agency, Disaster Designation Information, 2012-2018.
- U.S. Department of Agriculture, 2017 Census of Agriculture.
- U.S. Department of Agriculture, Risk Management Agency, Cause of Loss Historical Data Files, 2007-2018.
- U.S. Drought Monitor.
- U.S. Geological Survey Earthquake Hazards Program, Earthquake Catalog.

- U.S. Global Change Research Program, 2016: The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. http://dx.doi.org/10.7930/J0R49NQX
- USGCRP, 2017: Climate Science Special Report: Fourth National Climate Assessment, Volume I [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 470 pp., doi: 10.7930/J0J964J6.
- VAISALA, National Lightning Detection Network.
- Wilson County Parcel Data, February 2020.