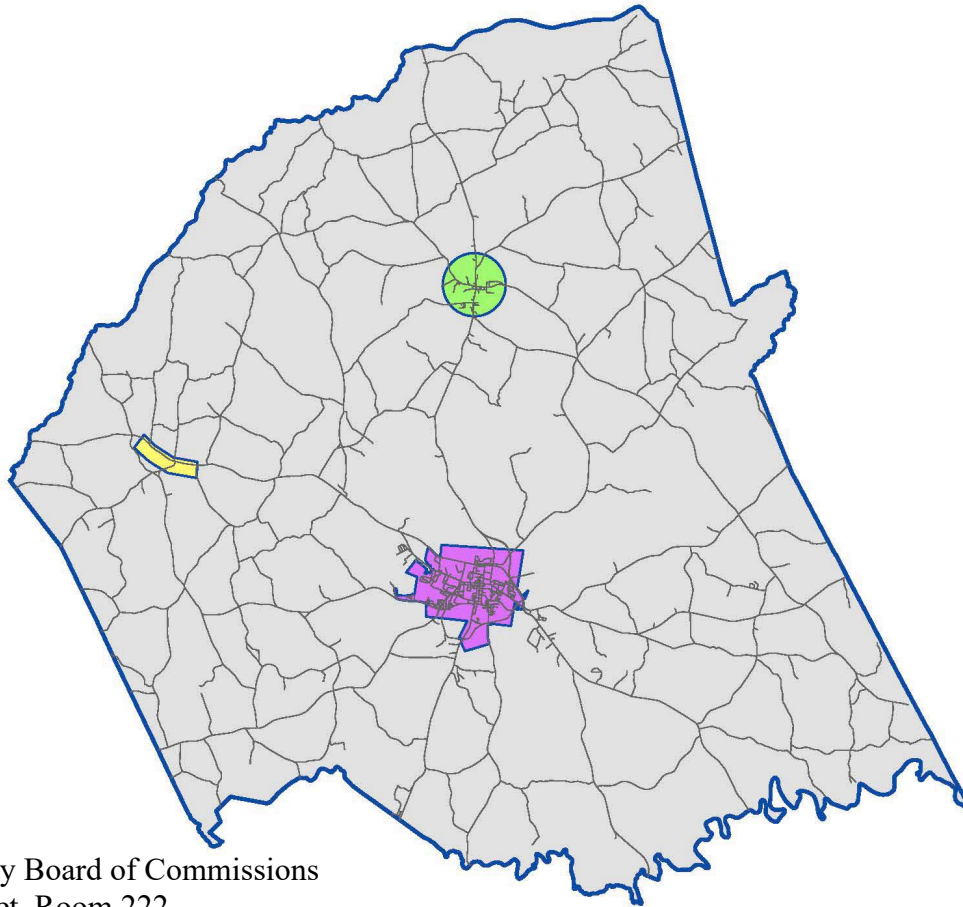


Wilkes County, Georgia
Pre-Disaster Hazard Mitigation Plan Update
Original Approval: 06/19/2006
Update Approval: 02/06/2024
Second Update Approval 04/05/2024



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Resolution # 2024-01

WHEREAS, Wilkes County and its jurisdictions of Rayle, Tignall, and Washington recognize that it is threatened by several different types of natural hazards that can and have on many occasions, in the past, resulted in property loss, loss of life, economic hardship, and threats to public health and safety; and

WHEREAS, the Federal Emergency Management Agency (FEMA) has required that every county and municipality have a pre-disaster mitigation plan in place, and requires the adoption of such plans in order to receive funding from the Hazard Mitigation Grant Program; and

WHEREAS, a Hazard Mitigation Plan is a community's plan for evaluating hazards, identifying resources and capabilities, selecting appropriate actions, and developing and implementing the preferred mitigation actions to eliminate or reduce future damage in order to protect the health, safety and welfare of the residents in the community; and

WHEREAS, the Wilkes County Multi-Jurisdictional Hazard Mitigation Plan Update 2023 has been prepared in accordance with FEMA requirements at 44 CFR 201.6; and

WHEREAS, the Plan will be updated every five years; and

NOW, THEREFORE, BE IT RESOLVED by the Mayor and the Town of Tignall, Georgia, that:

1. The Wilkes County Multi-Jurisdictional Hazard Mitigation Plan is hereby adopted as the official Plan of Wilkes County and its municipalities of Rayle, Tignall, and Washington; and
2. The respective officials identified in the strategy of the Plan are hereby directed to implement the recommended actions assigned to them in the Plan. These officials will report as directed in this Plan on their activities; and
3. The Wilkes County Joint Mitigation Planning Committee will provide progress reports (as directed in the Plan) on the status of the implementation of the Plan to the Wilkes County Board of Commissioners.

PASSED, APPROVED AND ADOPTED by the Mayor and Town of Tignall, Georgia,
this 14 day of February

Scott A. Ware
Chairman

ATTESTED and FILED in my office
this 14 day of February

Holly Hargett
Clerk

SEAL



Rayle
Resolution # _____

WHEREAS, Wilkes County and its jurisdictions of Rayle, Tignall, and Washington recognize that it is threatened by several different types of natural hazards that can and have on many occasions, in the past, resulted in property loss, loss of life, economic hardship, and threats to public health and safety; and

WHEREAS, the Federal Emergency Management Agency (FEMA) has required that every county and municipality have a pre-disaster mitigation plan in place, and requires the adoption of such plans in order to receive funding from the Hazard Mitigation Grant Program; and

WHEREAS, a Hazard Mitigation Plan is a community's plan for evaluating hazards, identifying resources and capabilities, selecting appropriate actions, and developing and implementing the preferred mitigation actions to eliminate or reduce future damage in order to protect the health, safety and welfare of the residents in the community; and

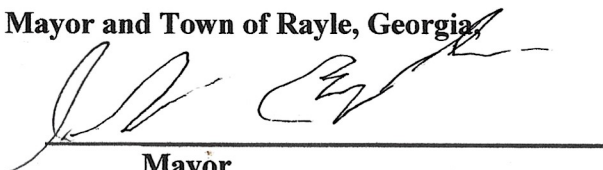
WHEREAS, the Wilkes County Multi-Jurisdictional Hazard Mitigation Plan Update 2023 has been prepared in accordance with FEMA requirements at 44 CFR 201.6; and

WHEREAS, the Plan will be updated every five years; and

NOW, THEREFORE, BE IT RESOLVED by the Mayor and the Town of Rayle, Georgia, that:

1. The Wilkes County Multi-Jurisdictional Hazard Mitigation Plan is hereby adopted as the official Plan of Wilkes County and its municipalities of Rayle, Tignall, and Washington; and
2. The respective officials identified in the strategy of the Plan are hereby directed to implement the recommended actions assigned to them in the Plan. These officials will report as directed in this Plan on their activities; and
3. The Wilkes County Joint Mitigation Planning Committee will provide progress reports (as directed in the Plan) on the status of the implementation of the Plan to the Wilkes County Board of Commissioners.

PASSED, APPROVED AND ADOPTED by the Mayor and Town of Rayle, Georgia
this 14th day of March



Mayor

ATTESTED and FILED in my office this 14th day of March 2024



Clerk

SEAL

Resolution # _____

WHEREAS, Wilkes County and its jurisdictions of Rayle, Tignall, and Washington recognize that it is threatened by several different types of natural hazards that can and have on many occasions, in the past, resulted in property loss, loss of life, economic hardship, and threats to public health and safety; and

WHEREAS, the Federal Emergency Management Agency (FEMA) has required that every county and municipality have a pre-disaster mitigation plan in place, and requires the adoption of such plans to receive funding from the Hazard Mitigation Grant Program; and

WHEREAS, a Hazard Mitigation Plan is a community's plan for evaluating hazards, identifying resources and capabilities, selecting appropriate actions, and developing and implementing the preferred mitigation actions to eliminate or reduce future damage to protect the health, safety, and welfare of the residents in the community; and

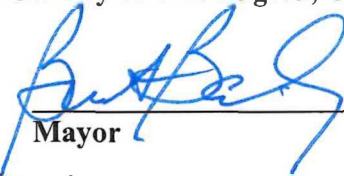
WHEREAS, the Wilkes County Multi-Jurisdictional Hazard Mitigation Plan Update 2023 has been prepared in accordance with FEMA requirements at 44 CFR 201.6; and

WHEREAS, the Plan will be updated every five years; and

NOW, THEREFORE, BE IT RESOLVED by the Mayor and the City of Washington, Georgia, that:

1. The Wilkes County Multi-Jurisdictional Hazard Mitigation Plan is hereby adopted as the official Plan of Wilkes County and its municipalities of Rayle, Tignall, and Washington; and
2. The respective officials identified in the strategy of the Plan are hereby directed to implement the recommended actions assigned to them in the Plan. These officials will report as directed in this Plan on their activities; and
3. The Wilkes County Joint Mitigation Planning Committee will provide progress reports (as directed in the Plan) on the status of the implementation of the Plan to the Wilkes County Board of Commissioners.

PASSED, APPROVED, AND ADOPTED by the Mayor and City of Washington, Georgia, this 12th day of February 2024.



Mayor

ATTESTED and FILED in my office this 12th day of February 2024.



Clerk

SEAL

Resolution # 02082024HMP

WHEREAS, Wilkes County and its jurisdictions of Rayle, Tignall, and Washington recognize that it is threatened by several different types of natural hazards that can and have on many occasions, in the past, resulted in property loss, loss of life, economic hardship, and threats to public health and safety; and

WHEREAS, the Federal Emergency Management Agency (FEMA) has required that every county and municipality have a pre-disaster mitigation plan in place, and requires the adoption of such plans in order to receive funding from the Hazard Mitigation Grant Program; and

WHEREAS, a Hazard Mitigation Plan is a community's plan for evaluating hazards, identifying resources and capabilities, selecting appropriate actions, and developing and implementing the preferred mitigation actions to eliminate or reduce future damage in order to protect the health, safety and welfare of the residents in the community; and

WHEREAS, the Wilkes County Multi-Jurisdictional Hazard Mitigation Plan Update 2023 has been prepared in accordance with FEMA requirements at 44 CFR 201.6; and

WHEREAS, the Plan will be updated every five years; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Wilkes County, Georgia, that:

1. The Wilkes County Multi-Jurisdictional Hazard Mitigation Plan is hereby adopted as the official Plan of Wilkes County and its municipalities of Rayle, Tignall, and Washington; and
2. The respective officials identified in the strategy of the Plan are hereby directed to implement the recommended actions assigned to them in the Plan. These officials will report as directed in this Plan on their activities; and
3. The Wilkes County Joint Mitigation Planning Committee will provide progress reports (as directed in the Plan) on the status of the implementation of the Plan to the Wilkes County Board of Commissioners.

PASSED, APPROVED AND ADOPTED by the Board of Commissioners of Wilkes County, Georgia, this 8th day of February, 2024.


Chairman

ATTESTED and FILED in my office this 8th day of February, 2024.


County Clerk

SEAL



CHAPTER I. INTRODUCTION TO THE PLANNING PROCESS

Table 1.1 provides a brief description of each chapter section and a summary of the changes made.

Table 1.1

Chapter I. Section	Updates to Section
I. Purpose and need of the plan, authority & statement of problem	Updated text of this section.
II. Local methodology, brief description of plan update process, Participants in update process	Updated the participants, planning process and how data collection was performed
III. Description of how each section of the original plan was reviewed and analyzed and whether it was revised	Since there have been numerous changes to the GEMA-PDM planning template since the 2012 approval all sections of the original plan were analyzed and revised.
IV. Organization of the plan	Organized updated by GEMA local planning template Local Hazard Mitigation Plan Update Template 5-23-12 and includes a timeline.
V. Local Hazard, Risk, and Vulnerability (HRV) summary, local mitigation goals and objectives	Added new information to summary, new purpose for plan.
VI. Multi-Jurisdictional special considerations (HRV, goals, special needs)	Added new information regarding multijurisdictional concerns.
VII. Adoption, implementation, monitoring and evaluation	Evaluated the chapter, added additional text clearly delineating the task for implementation, and monitoring. Adopted after GEMA and FEMA reviewed and approved the update.
VIII. Community Data (demographics, census, commerce, history, etc.)	Updated demographic and added additional information by jurisdiction.

SECTION I. PURPOSE AND NEED OF THE PLAN, AUTHORITY AND STATEMENT OF PROBLEM

The Wilkes County 2023 Plan Update is a review and improvement of our Multi-Hazard Pre-Disaster Mitigation Plan approved on October 01, 2013. The plan fulfills the requirements of the Federal Disaster Mitigation Act of 2000 (DMA2K). The Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA) administer the Act. The act provides federal assistance to state and local emergency management and other disaster response organizations to reduce damage from disasters. The plan has involved many community partners including elected officials and city, county, fire, emergency management, and law enforcement personnel. The plan’s goal is to identify natural disasters that threaten our community and develop strategies to lessen the impact of these events.

The 2023 update is written to comply with Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act Title 44 CFR as amended by Section 102 of the Disaster Mitigation Act of 2000. The act gives state and local governments the framework to evaluate and mitigate all hazards as a condition of receiving federal disaster funds. The update covers all of Wilkes County including the Towns of Rayle and Tignall, and the City of Washington.

The plan will identify all-natural disasters that threaten the lives and properties of our community. The scope of the update includes both short and long-term mitigation strategies, implementation policies, and possible sources of project funding. It also identifies mitigation strategies implemented since the 2018 plan update.

The plan also contains the following information on:

- The vision of mitigation in our community;
- A profile of Wilkes County, its geography, history, physical features and other community indicators;
- The planning process and the involvement of all municipal, state and federal governments, the public, industry, and other community players;
- Wilkes County's past and predicted exposure to natural hazards and the potential risks that include the impacts on critical infrastructure with anticipated losses was documented;
- An overview of Wilkes County's capabilities to implement hazard mitigation goals and objectives, and policies that will effectively mitigate risks to our community;
- Procedures for maintaining an effective, long-range hazard mitigation plan and implantation strategy;
- An assessment of Wilkes County's current policies, goals, and regulations that pertain to hazard mitigation;
- Documentation of the planning process;
- Update hazard events that occurred since 2018;
- Update critical facilities that have been added since 2018;
- To document current mitigation strategies that have been implemented since 2013; and
- Examine and update mitigation strategy goals, objectives, and action steps.

The update is the product of the combined efforts of Wilkes County, Rayle, Tignall, and Washington. Realizing that identifying the community's risks and working collectively toward the prevention of disasters in the community is in the county's best interest, the Wilkes County Emergency Management Agency (EMA) took the lead role. Under the agency's leadership, there has been an endorsement and a commitment by all jurisdictions.

Continued mitigation planning is imperative to lessen the impacts of disasters in Wilkes County. This plan serves as an excellent method to organize and document current and ongoing mitigation strategies; however, the implementation of the plan and its components is vital to achieve a community that is resistant to the impact of a disaster. The objective is implementation of this plan will result in a reduction of the loss of life and property, while allowing the county to prosper with minimal disruption of services to the community.

SECTION II. LOCAL METHODOLOGY, PLAN UPDATE PROCESS, AND PARTICIPANTS

The Wilkes County Board of Commissioners contracted with the Central Savannah River Area Regional Commission (RC) to assist in the plan update. The RC has assisted 11 counties in the completion and update of their Pre-Disaster Mitigation Plans. The RC is currently assisting nine counties with their second update. The RC was tasked to review the current plan and to identify new information that needs to be incorporated into the update. The RC, in conjunction with the EMA Director, supervised the project, organized the data, set meeting dates, documented in-kind services, and worked with GEMA to complete the update. The EMS Director, Dan Wright assembled the Hazard Mitigation Planning Committee.

Table 1.2 identifies the 2018 committee:

Table 1.2

Name	Agency/Title	Jurisdiction
Pam W. Hall	Clerk	Town of Rayle
Elaine Jackson	City Clerk	Town of Tignall
Sherri Bailey	Administrator	City of Washington
Jack Garrett	Public Works Director	City of Washington
Elizabeth H Denard	Wilkes Board of Tax Assessors	Wilkes County
Amy Howard	Wilkes EMA	Wilkes County
Jerry M. Hackney	Director	Washington-Wilkes 911
Bobby Mills	Superintendent	Washington Street Department
Steve M Harrington	North Alexander School System	Wilkes County
Kathy Boardman	North Alexander School System	Wilkes County
Karen Burton	County Administrator	Wilkes County Board of Commissions
Dr. Rosemary W. Caddell	Superintendent	Wilkes County Board of Education
Blake Thompson	Director	Wilkes County EMA/EMS
Jennifer Jackson	County Nurse Manager	Wilkes County Health Department
Richard A McAvoy	Director	Wilkes County Public Works
Mark A. Moore	Sheriff	Wilkes County Sheriff's Office
Gene Marsh	Chief Deputy	Wilkes County Sheriff's Office
Ron Byrd	Red Cross	Wilkes County
Henry Binns	Street Department	City of Washington
Alvin Jones	Parks and Recreation	Wilkes County
Leon Aycock	Council Member	Town of Tignall
Albert Huyck	Council Member	Town of Tignall
Jake Buff	Mayor	Town of Rayle

The 2023 planning committee members still employed by their respective jurisdictions received an invitation to participate in the update. The 2023 committees are identified in Table 1.3 by their respective organizations and political subdivisions.

Table 1.3

Name	Agency	Jurisdiction
Jake Buff	Mayor	Town of Rayle
Linda Buff	Clerk	Town of Rayle
Henry Brown	Mayor	Town of Tignall
Holley Kangeter	Clerk	Town of Tignall
Bill DeGolian	Mayor	City of Washington
Jerry deBin	Administrator	City of Washington
William Canup	Electrical Supervisor	City of Washington
Chris Rounds	Water, Sewer & Sanitation Director	City of Washington
Greg Fanning	Manager, Water Department	City of Washington
Jerry M. Hackney	Director	Washington-Wilkes 911
Joselyn Torres	Director	Community Development
John Barnett	Director	City of Washington-Public Works
John Barnett	Director	City of Washington-Street Department
Sam Moore	Chairman	Wilkes County Board of Commissioners
Karen M. Burton	County Clerk	Wilkes County Board of Commissioners
Dr. Rosemary W. Caddell	Superintendent	Wilkes County Board of Education
Blake Thompson	Director	Wilkes County EMA/EMS
Jennifer Jackson	County Nurse Manager	Wilkes County Health Department
Richard A McAvoy	Director	Wilkes County Public Works
Mark A. Moore	Sheriff	Wilkes County Sheriff's Office
Gene Turner	Chief Deputy	Wilkes County Sheriff's Office
Tracy Haughy	CEO	Wills Memorial Hospital

The 2023 committee was responsible for the organization, data collection, and completion of the plan. It is the responsibility of the committee to include all pertinent departments within their respective governments and to request information needed for plan completion. The following agencies/departments/organizations provided specific information and support for the original plan and provided any new information for the update:

- Wilkes County Board of Education was responsible for providing structural replacement and content values for all schools as well as square footage and occupancy limits.
- Wilkes County Sheriff's Office provided staff support to the PDM planning effort.
- Wilkes County Health Department identified vulnerable populations. They also provided replacement value estimates for their properties.
- All Fire Departments provided staff support to the PDM planning effort and assisted with identifying occupancy limits for some of the critical structures and replacement value estimates.
- Officials from Wilkes County, Rayle, Tignall, and Washington provided information relative to their jurisdiction and provided replacement value estimates for their critical facilities.
- Georgia Forestry Commission provided data on wildfire events and assisted with the formulation of mitigation measures.
- Wilkes County Chamber of Commerce assisted in identifying major businesses.
- Wilkes County Code Enforcement Officer provided information about county government buildings including their respective replacement and content values and square footage.

- Wilkes County Tax Assessor’s Office provided most of the aggregate values for the critical structures. The valuations were converted to full values since the values are calculated at 40%. This information, combined with demographic data, is located on GEMA Worksheet #3a in Appendix D for all jurisdictions.
- The RC’s Geographical Information System (GIS) Department produced several of the maps contained in the update. Maps are in Appendix A.
- GEMA provided the HAZ-US report for Wilkes County and provided guidance for the plan’s completion as needed.

Several resources were consulted to facilitate the development of the update. Data was collected from numerous sources, including the National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information (NCEI), Spatial Hazard Events and Losses Database for the United States (SHELDUS™), National Weather Service, US Geological Survey (USGS), Southeast Regional Climate Center (SERCC), US Census Bureau, Georgia Department of Natural Resources (DNR), Georgia Forestry Commission (GFC), Georgia Tornado History Project Database, Georgia Department of Community Affairs (DCA), US Department of Agriculture (USDA), local and regional newspaper articles, as well as personal interviews. Table 1.4 provides a list of existing planning documents used during the update.

Table 1.4

Existing planning mechanisms	Reviewed (Yes/No)	Method of use in Hazard Mitigation Plan
Washington-Wilkes Unified Comprehensive Plan 2014-2024	Yes	Development trends, capability assessment, mitigation strategies
Local Emergency Operations Plan	Yes	Identifying hazards; Assessing vulnerabilities; Capability assessment
Georgia Emergency Operations Plan	Yes	Identifying hazards; Assessing vulnerabilities;
Flood Damage Protection Ordinance	Yes	Mitigation strategies, capability assessment
Building and Zoning Codes and Ordinances	Yes	Development trends; Future growth, capability assessment, mitigation strategies
Mutual Aid Agreements	Yes	Assessing vulnerabilities, determine assets added to disaster relief and response.
State Hazard Mitigation Plan	Yes	Risk assessment, review of recommended strategies
Land Use Maps	Yes	Assessing vulnerabilities; Development trends; Future growth
Critical Facilities Maps	Yes	Locations
Community Wildfire Protection Plan	Yes	Evaluation of the wildland-urban interface areas of the county, risk to properties, local firefighting resources. It further incorporates a locally devised action plan to mitigate risk from wildland fire.
Soil Survey for Lincoln and Wilkes	Yes	Physical Characteristics of the County
Flood Insurance Study	Yes	Review for historical Data and Information
Hazard Risk Analyses Supplement to the Wilkes County Joint Hazard Mitigation Plan Provided by The Polis Center	Yes	Assessing vulnerabilities; Mitigation strategies, risk assessment
CSRA Regional Plan 2035	Yes	Development trends; Future growth, regional concerns and data

Existing planning mechanisms	Reviewed (Yes/No)	Method of use in Hazard Mitigation Plan
Flood Mitigation Assistance Plan	No	The county does not have a Flood Mitigation Assistance Plan.

The committee held four meetings over an eight-month period to guide the development of the plan. Individual jurisdictions and/or agencies were contacted, as information was needed. The committee was responsible for developing the mission statement, as well as the goals, objectives, and action steps identified in the plan. The committee researched previous hazard information in the areas of earthquakes, flooding, wildfires, tornados, winter storms, hurricanes, high winds, dam failure, lightning, hail, and drought. However, some hazards were eliminated due to their low level of risk. Committee members collected critical facilities information based on their area of expertise or jurisdiction. The RC was responsible for assessing vulnerability and estimating potential losses from the information collected. Potential losses include people, structures/properties, infrastructure, and other important community assets.

Table 1.5 provides the dates and synopsis of committee meetings. All meetings were open to the public and meeting notices were posted at all governmental offices. Of the six meetings, four were advertised in *The Journal Messenger*, the County’s legal organ. This is the most efficient means to disseminate information to residents and organizations located in the county. To meet the requirement to afford an opportunity for neighboring communities, local and regional agencies, businesses, academia, and other private and non-profit interests to be involved in the planning process, the RC sent email invitations to Burke, Columbia, Glascock, Hancock, Jefferson, Jenkins, Lincoln, Wilkes, Richmond, Taliaferro, Warren, and Washington counties. The RC also posted meeting flyers at the Washington Wilkes Senior Center to notify vulnerable populations. It is noted that no comments or feedback were provided by the public. Copies of correspondence, emails, and advertisements are in Appendix E.

Table 1.5

Meeting Date	Purpose of Meeting
March 21, 2023	The advertisement ran in <i>The Journal Messenger</i> for a public meeting for Kick-off with GEMA
March 28, 2023	To solicit public input on the goals and objectives of the Plan Update. We reviewed critical facilities and updated mitigation goals from the 2018 plan.
August 24, 2023	Discuss the new requirements from the update and review STAPLEE worksheet as it applied to mitigation strategies
	Reviewed plan, mitigation strategies, and HASUZ information.
	All EMA meet to review the plan and HASUZ report
October 15, 2023	Flyers were posted at the Senior Center and on the RC and EMS Facebook pages to advertise the public meeting for public input before the submission of the plan to GEMA
October 23, 2023	This meeting was to ensure the public had a final opportunity to provide input before submission to GEMA for review.
	This meeting was to review the final plan to ensure all information was correct.

Meeting Date	Purpose of Meeting
February 8, 2024	Jurisdictions adopted the GEMA/FEMA-reviewed plan during the monthly Board of Commissioners meeting.

SECTION III. ORIGINAL PLAN REVIEW AND REVISION

The Federal Disaster Mitigation Act of 2000 requires an update to the Pre-Disaster Mitigation Plan every five years. The EMA Director was responsible for meeting this requirement. The committee, with the assistance of the RC, was involved in the planning process to ensure thorough data collection. All members of the committee were responsible for the evaluation of 2018 plan. During the review process, the committee noted mitigation accomplishments, updated and prioritized mitigation projects, added additional hazard information, developed new goals and objectives, solicited input from the public and made any needed or required revisions. The evaluation included analyzing any changes in the needs and/or capabilities of Wilkes County, Rayle, Tignall, and Washington.

SECTION IV. ORGANIZATION OF THE PLAN

The estimated time to complete the plan update was approximately 12 months. Plan completion was identified by the adoption of the resolution by all jurisdictions. The update contains a Hazard, Risk, and Vulnerability (HRV) Assessment describing the natural hazards typically occurring within the county, as well as a review of all mitigation goals, objectives, and related courses of action. In addition, plan implementation and maintenance were reviewed, which includes methods to provide opportunities for public involvement.

The hazards included in this plan are considered to have the highest probability of occurrence, vulnerability, potential loss/damages, and highest frequency of occurrence. The plan also identifies and prioritizes hazard mitigation opportunities in each vulnerable area based on the input from the committee members, relevant government agencies, local businesses, and Wilkes County citizens.

SECTION V. LOCAL HAZARD RISK AND VULNERABILITY, SUMMARY LOCAL MITIGATION PLANNING GOALS OBJECTIVES

The committee, early in the update process, established a set of goals and objectives in order to ensure the effectiveness of this plan. These goals and objectives established the paradigm for the planning process and proved very successful through the many accomplishments of the 2018 plan update. These goals and objectives are as follows:

- To actively involve and gain support from Rayle, Tignall, Washington, and unincorporated Wilkes County for the reduction of disasters in our community.
- Prioritize identified mitigation projects.

- Seek and implement any grant funding for the reduction of disasters in Wilkes County, Rayle, Tignall, and Washington.
- Monitor, evaluate, and update the progress of the plan as needed.
- To form partnerships among local, state, and federal agencies to make Wilkes County more resistant to the effects of disasters.
- Strengthen our communities against the impacts of disasters through the development of new mitigation strategies and strict enforcement of current regulations that have proven effective.
- Reduce and where possible eliminate repetitive damage, loss of life and property from disasters.
- Bring greater awareness throughout the community about potential hazards and the need for community preparedness.
- To further enhance common mitigation projects and goals between Wilkes County, Rayle, Tignall, and Washington.

An HRV assessment was accomplished by compiling and reviewing historical data on the location of specific hazards, the value of existing structures/properties in hazard locations, and analyzing the risk to life, property and the environment that could potentially result from future hazard events. The committee accomplished the HRV goals and objectives by completing the following steps:

Inventory of Critical Facilities: Critical facilities are crucial for providing essential services necessary for preserving the safety and quality of life of its residents. In addition, these facilities fulfill important public safety, emergency response, and/or disaster recovery functions. All critical facilities were added to the Georgia Mitigation Information System (GMIS). Critical facilities for Wilkes County, Rayle, Tignall, and Washington were identified, updated, mapped, and illustrated in Appendix A.

Hazard Identification: Maps and historical data sources were studied and reviewed to identify the geographic extent, intensity, and probability of occurrence for various hazard events. The 2023 committee identified seven major hazards that have the potential to affect Wilkes County: flooding, drought, wildfire, severe weather (tornadoes, tropical storms,), winter storms, dam failure, and earthquakes. The update committee reviewed current hazard data and added hail to the already identified hazard. Appendix D provides an updated comprehensive hazard.

Profiling Hazard Events: The committee analyzed the causes and characteristics of each hazard, and its effect on Wilkes County in the past to determine what segment of the population and infrastructure has historically been vulnerable to each specific hazard. A discussion of each hazard's updated profile is in Chapter 2.

Vulnerability Assessment: This step was accomplished by comparing each previously identified hazard with the inventory of affected critical facilities and the population exposed to each hazard. An updated Worksheet #3a is provided in Appendix D.

Estimating Losses: Using the best available data, tax digest data, parcel maps and GMIS reports and maps for critical facilities allowed the committee to estimate damages and financial losses

that might occur in a geographic area. Describing vulnerability in terms of dollar losses provides the county with a common framework in which to measure the effects of hazards on critical facilities. All information in this section has been updated (*Appendix A and Appendix D*).

Mitigation Goals and Objectives: After ensuring that all interested people had been given ample opportunity to contribute to strategy development, mitigation action steps were next given priority status by committee members. To evaluate priorities, committee members used as a guide a planning tool prepared by FEMA known as STAPLEE (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) criteria. Each mitigation strategy step was evaluated using STAPLEE criteria as the guiding principle to identify those steps best for Wilkes County. Steps were ranked as a high, medium, or low priority. Past occurrences of disasters and historical trend data aided committee members in assigning priorities.

SECTION VI. MULTI-JURISDICTIONAL SPECIAL CONSIDERATIONS

Rayle, Tignall, and Washington were notified in January of 2023 of the requirement concerning the 2023 update to the 2018 plan. Representatives from Wilkes County, Rayle, Tignall, and Washington have worked collectively over the past months to gather data that included researching old records, newspaper articles, databases, historical data, past and present flood plain data, and technical information for the plan. The collected data was forwarded to the RC for review and plan development. The committee held subsequent meetings in an effort to ensure that all information was correct and that all agencies’ and organizations’ input was included.

The EMA Director led activities for mitigation planning countywide. The committee’s goals are to work in partnership with municipal partners toward a common mitigation strategy that significantly reduces the vulnerability of natural disasters. Most natural threats overlap jurisdictions and are all susceptible to effects. Wilkes County, Rayle, Tignall, and Washington share the same passion and desire for protecting and reducing risk through mitigation projects. Specific risks and areas were identified through working relationships and data collection from all areas of the county and are identified in this plan.

SECTION VII. ADOPTION, IMPLEMENTATION AND MONITORING AND EVALUATION

Adoption Date

Table 1.6

Jurisdiction	Adoption Date
Wilkes County	02/08/2024
Town of Rayle	02/08/2024
Town of Tignall	02/08/2024
City of Washington	02/08/2024

The plan was submitted to GEMA for review and then to FEMA for approval. Wilkes County, Rayle, Tignall, and Washington served as active participants throughout the planning process and identified mitigation goals, objectives, and actions specific to their jurisdiction. Their respective governing bodies have formally adopted the 2023 update after GEMA and FEMA approval. The

plan is intended to be implemented into policy and to enhance state and federal recommendations for the mitigation of natural hazards in the following ways:

- Substantially reduces the risk of life, injuries, and hardship from the destruction of natural disasters.
- Create awareness to the public about the need for individual preparedness and about building safer, disaster-resistant communities.
- Develop strategies for long-term community sustainability during community disasters.
- Develop governmental and business continuity plans that will continue essential private sector and governmental activities during disasters.

FEMA publishes many guidance documents for local governments for mitigating natural disasters. The plan fully recognizes, adopts, incorporates, and endorses the following principles.

- Develop a strategic mitigation plan for Wilkes County.
- Enforce current building codes.
- Develop incentives to promote mitigation.
- Incorporate mitigation of natural hazards into land use plans.
- Promote awareness of mitigation opportunities throughout Wilkes County community on a continual basis.
- Identify potential funding sources for mitigation projects.

The private sector is often an overlooked segment of the community during disasters. It is vital that this sector of a community is included in mitigation efforts that are consistent with state and federal recommendations as such:

- Develop mitigation incentives with insurance agencies and lending institutions.
- Encourage the creation of a business continuity plan for the continuance of commerce during disasters.
- Collaborate with businesses in an effort to communicate with customers about community hazards and possible solutions.

Individual citizens must be made aware of the hazards they face and educated on how to protect themselves and their property. They must be shown mitigation is an important part of reducing loss of life and property in their community. The public support is critical to the success of any mitigation effort. The Wilkes County Plan supports the following FEMA recommendations regarding individual citizens:

- Become educated on the hazards that your community and you may face.
- Become part of the process by supporting and encouraging mitigation programs that reduce vulnerability to disasters.
- That individual responsibility for safeguarding you and your family prior to a disaster is essential.

Chapter IV. Plan Integration and Maintenance details the formal process that will ensure that the plan remains an active and relevant document. The plan maintenance process includes monitoring and evaluating the plan annually and producing a plan revision every five years. Additionally, Wilkes County will develop steps to ensure public participation throughout the plan maintenance process. Finally, this section describes how Wilkes County will incorporate the mitigation strategies identified in this plan into other relevant planning documents such as the Wilkes

County Joint Comprehensive Plan, Short-Term Work Program (STWP), and Local Emergency Operations Plan (LEOP).

SECTION VIII. COMMUNITY DATA

Political Boundaries - Wilkes County



Wilkes County



*GA Department of Community Affairs
Region 7*



Georgia

History: Wilkes County was created in 1777 and incorporated on February 25, 1784. It is named after John Wilkes, a member of the British Parliament who supported the colonies' cause. The world's first cotton gin was developed by Eli Whitney on a Wilkes County plantation in 1794. Wilkes County is a rural county covering 474 square miles. Wilkes County is one of 13 counties that comprise the Central Savannah River Area (CSRA). There are three incorporated municipalities in Wilkes County, Rayle, Tignall, and Washington.

Government: Wilkes County operates under a commission-based system of government in which four commissioners and a commission chair are elected to four-year terms. Other County officials are the County Administrator, County Clerk, County Attorney, and Roads and Bridges Supervisor.

The Town of Rayle, operates a Mayor and Town Council-based system of government with three elected council members. The additional officials in Rayle include the City Clerk, Water Superintendent, and Fire Chief.

The Town of Tignall, operates a Mayor and Town Council-based system of government with five elected council members. The additional officials in Tignall include the City Clerk, City Attorney, Police Chief, Fire Chief, Public Works Director, and Municipal Court Clerk.

The City of Washington operates a Mayor and City Council-based system of government with six elected council members. Other officials charged with presiding over activities are the City Administrator, City Clerk, City Attorney, Finance Officer, Purchasing Agent, Personnel Director, Police Chief, Fire Chief, City Engineer, Electrical Superintendent, Public Works Director, Code Enforcement, Municipal Court Judge and Clerk, and Downtown Manager.

Demographics: Presently, Wilkes County has a population of 9,797. The two tables below provide a comparison of the jurisdictions and a historical perspective of the population trends within the county.

Table 1.7

Category	Wilkes County	Rayle	Tignall	Washington	Unincorporated
Population	9,797	198	485	3,947	4,839
Number of Households	4,115	59	385	1,707	1,964
Average Household Size	2.35	2.71	2.11	2.34	-
Race - White	53.4%	39.9%	26.3%	39.6%	-
Race - Black	41.9%	60.1%	73.2%	56.8%	-
Race - Hispanic	5.2%	3%	1.3%	0.2%	-
Race - Other	3.1%	0%	0.9%	0%	-
Median HH Income	\$36,486	\$16,250	\$48,512	\$31,902	-
Per Capita Income	\$27,914	\$15,160	\$19,166	\$34,516	-

Source: 2020 -US Census Bureau, 2020 American Community Survey

Table 1.8

Community	Population					Growth (%)			
	1980	1990	2000	2010	2020	1980-1990	1990-2000	2000-2010	2010-2020
Wilkes County	10,951	10,597	10,687	10,593	9,797	-3.20%	0.80%	-0.90%	-7.14
Rayle	-	-	139	199	198	-	-	43.6%	-.5%
Tignall	733	711	653	546	485	-3.00%	-8.20%	-16.40%	-11.82%
Washington	4,662	4,279	4,295	4,134	3,947	-8.2%	0.4%	-3.7%	-9.2%

Source: US Census Bureau

Economy: In the year 2023, the average weekly wage for employment sectors in Wilkes County was \$859, compared to the statewide average of \$ 1,292. The county’s per capita income was \$ \$27,914. The current unemployment rate is 4.1 % as of May 2023.

In 2023, the total number of employees located in Wilkes County was 3,716. Of the total workforce, 71.7 % were employed in the private service followed by 28.3 % in the government sector. In 2023, 20 % of the population live below the poverty level.

The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. The table below provides a list of jobs, number of establishments, and jobs along with average weekly wages per job for 2016 in Wilkes County.

Table 1.9

Annual Industry Distribution of Jobs and Average Wage in 2022 (NAICS)	Establishments	Jobs	Weekly Average Wage Per Job
Total Covered Employment and Wages	260	2665	859
Total Private Sector	228	1910	877
Total Government	32	755	618
Agriculture, forestry, fishing, hunting	14	88	836
Mining, Quarrying, and Oil and Gas Extraction	2	*	*
Construction	17	324	1351
Manufacturing	15	626	680
Wholesale trade	9	80	1,226
Retail trade	47	326	542
Transportation, warehousing	8	40	861
Utilities	1	*	*
Information	2	*	*
Finance and Insurance	13	96	1,074
Real Estate, rental, leasing	5	*	*
Professional, Scientific, and Technical Services	12	40	972
Management of Companies and enterprises	1	*	*
Administrative and Support and Waste Management and Remediation Services	8	53	763
Educational services	0	0	0
Health care, social assistance	22	219	459
Arts, entertainment, recreation	1	0	0
Accommodation and food services	19	137	336
Other services, except public administration	10	43	512
Unclassified-Industry not assigned	21	5	877

Source: Georgia Department of Labor * Industry group does not meet criteria for disclosure

Climate: According to the National Weather Service, Central Georgia where Wilkes County is located experiences all four seasons. Wilkes County, GA, gets 47.4 inches of rain per year. The US average is 37. Snowfall is 0.3 inches. The average US city gets 25 inches of snow per year. The number of days with any measurable precipitation is 97. On average, there are 218 sunny days per year. The July high is around 90 degrees, and the January low is 31. Our comfort index, which is based on humidity during the hot months, is 30 out of 100, where the higher is more comfortable. The US average on the comfort index is 44.

Physical Features: Wilkes County has a total land area of 474 square miles in east central Georgia, located 95 miles east of Atlanta between Athens and Augusta. It is located along the southern border of the Southern Piedmont geological region, also known as the Southern Piedmont Major Land Resource Area (MLRA). The Southern Piedmont stretches from the Sand Hills to the foot of the Appalachian Mountains and covers nearly 10.5 million acres. Elevation

ranges from 500 to 1500 feet above sea level. Topography is gently rolling to steep. The soils are underlain by acid crystalline and metamorphic rocks. Dominant soils of the Southern Piedmont have mostly clayey subsoils and kaolinitic mineralogy. Soils of the Piedmont are acid and low in nitrogen and phosphorus. In many cases, much of the original topsoil has been eroded leaving the clayey subsoil exposed.

Soils of the Piedmont are acid and low in nitrogen and phosphorus. In many cases, much of the original topsoil has been eroded leaving the clayey subsoil exposed. The less steep slopes and areas where the topsoil has not been completely eroded are adapted to corn, cotton, soybean, and grain sorghum production. Although row crops are productive in this region, the area is better adapted to pasture production. It is important to control erosion when you cultivate these soils.

Wilkes County is located within the Savannah River drainage basin. Within this basin, portions of three major watersheds can be found: the Broad River Watershed across the northern third of the county, the Upper Savannah Watershed in the central and eastern portion of the county, and the Little River Watershed across the county’s southern third. In Wilkes County, wetlands are adjacent to Clarks Hill Lake, along the creeks that run throughout the County and in the vicinity of small ponds that dot the county’s landscape. A map of the soil types, wetlands and flood plains are located in Appendix A.

A survey of Wilkes County soil associations was conducted and approved by the Soil Conservation Service in 2006 and can be found at the following URL: https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/georgia/GA645/0/Lincoln&Wilkes.pdf A map of the soil types, wetlands, and flood plains are located in Appendix A.

Transportation

Vehicle Traffic: Most streets in Wilkes County are classified as rural local roads. US highways 78 and 378 along with state highways 10, 17, 44, 47, and 80 connect the cities in Wilkes County to the surrounding counties. Wilkes County has no mass transit system.

Table 1.10

Mileage by Route and Road System Report 445 for 2019			
	Total Road Mileage (2016)	Lane Mileage	Vehicle Miles Traveled (VMT)
State Route	103.68	225	267,349
County Road	417.68	835	101,022
City Street	44.62	88	19,707
Total	565.14	1,147	352,112

Source: Georgia Department of Transportation, Office of Transportation Data, “445 Series Reports.”

Public Transportation: Public transportation is available to County residents through the Section 18 Program and is not a widespread system found in urban areas. This federally funded program apportions transit assistance funds to rural areas and places having fewer than 50,000 residents, administered by the county and the Georgia Department of Transportation (GDOT). Public buses assist the elderly, provide transportation to senior citizens centers for congregate meals, and serve in the meal delivery process. There is no public transportation system that services the residents of Wilkes County.

Rail Traffic: Georgia Woodlands Railroad, owned by OmniTRAX of Denver, Colorado, is a 17-mile short-line railroad that terminates in Washington. The spur connects Wilkes County with CSX Transportation's Atlanta to Augusta mainline and provides distribution services for rural and industrial businesses in Wilkes, Taliaferro, and Warren Counties. Lumber, wood chips, pulpwood, plastic pellets, fertilizer, and grain are the major commodities handled by this railroad. Operation and daily maintenance of the spur in Washington is handled locally. Currently, Wilkes County is not served by passenger rail.

Air Service: Washington-Wilkes Airport, located on Highway 78 five minutes from downtown Washington, is a Level II airport owned and operated by the city of Washington. Commercial air service is available in Augusta's Bush Field and at Atlanta's Hartsfield International Airport.

Utilities

Electricity: Residential electrical service in Wilkes County is provided by three companies: Georgia Power, Rayle Electric Membership Corporation, and the City of Washington.

Natural gas: Wilkes County's natural gas is supplied by Atlanta Gas Light Company. Natural gas is available in industrial quantities on both a firm and an interruptible basis.

Water and Sewer: The City of Washington and the Towns of Rayle and Tignall operate independent municipal water systems. All three communities serve primarily residential and commercial customers within the municipal limits.

The city of Washington's water system is by far the largest and provides water from residential to industrial clients in the unincorporated portion of the County just south of the city in addition to the residential customers inside the city limits. The city of Washington's system is dependent on surface water sources for its water supply.

Because of their small customer base, the water systems for Rayle and Tignall are supplied exclusively by groundwater sources. With some limited exceptions, residents within the unincorporated portions of Wilkes County rely on private wells for potable water.

The City of Washington and the Town of Tignall own and maintain their own municipal sewage and wastewater treatment systems. Both systems service properties principally within the municipal limits, but also include some customers in adjacent portions of the unincorporated county. Most property owners in Rayle and unincorporated Wilkes County rely on septic systems to meet their sewerage needs.

Solid Waste: Solid waste generated by the residents of Rayle, Tignall, and Wilkes County may be disposed of throughout the County at many unstaffed green-box collection sites. The City of Washington provides municipal solid waste collection for all residents of the city. All four communities consolidate their waste at the Wilkes County Transfer Facility. This consolidated waste is then transported by Republic Services to the Oak Grove MSW landfill located in Winder, Georgia.

Communications: Wilkes Telephone Company is the county’s landline phone service providers and provides broadband internet services. Broadband cable is available from Comcast. The County has many media outlets that consist of print, radio, and television. Local print media consists of *The News-Reporter* (which serves as the legal organ of the county) and *The Augusta Chronicle*. Wilkes County is served by 19 FM radio stations. All metro Augusta television stations broadcast in Wilkes County; they are WRDW, WJBF, WAGT, and WFXG.

Fire and Emergency Services

Response: Enhanced 911 Service (E-911) is available 24 hours a day throughout the county and is operated and coordinated by the Wilkes County EMA. CodeRED® is a new County service by which County officials can notify residents by telephone about emergencies or critical community alerts. The system can send messages only to people affected or in the case of a widespread emergency like a tornado, to the County’s entire population.

Fire and Rescue: Wilkes County Fire Service -- Wilkes County fire protection services are provided by fire departments in three of the four Washington-Wilkes jurisdictions. Most countywide fire service personnel are volunteers. The Wilkes County Fire Department has seven stations in the county. Its equipment includes six pumpers, eight tankers, two knockers, and one Air truck. It is operated by 70-80 volunteer firefighters. The County has an Insurance Services Organization (ISO) rating of 4-9.

Rayle relies on the county to provide fire protection. Tignall Fire Department provides volunteer fire service within its municipal limits; it is augmented by Wilkes County’s fire service whenever there is a need. The towns of Rayle and Tignall each have one station. Tignall has two pumpers, one knocker, and one supply van. Tignall has an ISO rating of three (3) inside the town limits of Tignall. The town of Rayle has one pumper and an ISO rating of seven (7) inside the town limits of Rayle.

Washington Fire Department - provides service to the city of Washington. The City of Washington has one fire station. Washington Fire Department has nine (9) full-time paid personnel and 25 volunteer firefighters. Washington has three (3) pumpers, one (1) ladder truck, one (1) rescue truck, one (1) QRV Ford Explorer for medical / rescue calls, one (1) chief’s truck, one (1) AIR / Rescue truck, one (1) 2,000-gal. tanker, one (1) rescue boat, and one (1) brush truck. with an ISO rating of three (3) inside the city limits.

EMS services are provided to all residents countywide by Wilkes County. The EMS service is staffed by 12 full-time and 17 part-time professionals with six ambulances, one administrative vehicle, and three off-road vehicles.

Law Enforcement: The Wilkes County Sheriff’s Office provides law enforcement services for the entire county. The Wilkes County jail is operated by the Sheriff’s Office, and both are located at the Wilkes County Law Enforcement Center. The Wilkes County Sheriff’s Office employs 35 full-time deputies and five (5) part-time deputies in the law enforcement division. They have 16 full-time jailers and three (3) part-time jailers in the detention center. The office is served by 41 vehicles. Both divisions are supported by two (2) administrative staff members. 9-11 Dispatch is also a division of the sheriff’s office, with 12 full-time and five (5) part-time dispatchers.

CHAPTER II. NATURAL HAZARD RISK AND VULNERABILITY (HRV)

The committee identified all-natural hazards that could potentially affect Wilkes County, Rayle, Tignall, and Washington utilizing FEMA Worksheet #1 (Appendix D). Task A of Worksheet #1 instructed committee members to research newspapers and other historical records, existing community plans, and reports, as well as internet websites to determine which hazards might occur in Wilkes County. Task B then narrowed the list to only hazards most likely to impact the county by reviewing hazard websites to determine if Wilkes County is located in a high-risk area.

Initially, the committee found that droughts, earthquakes, hurricanes, extreme heat, severe winter storms, tornados, wildfires, dam failure, and windstorms might affect Wilkes County. However, the committee later concluded that some of these hazards did not pose a significant threat. Because of the planning process, the committee determined that five natural hazards pose a direct, measurable threat: flooding, drought, wildfire, severe weather (tornados, tropical storms, thunderstorm winds, lightning, and hail), and winter storms. The committee profiled each of these hazards using FEMA worksheets #2 and #3a, which included obtaining a base map and recording hazard-event profile information. Of the five hazards mentioned, the entire County is exposed to four: severe weather, winter storms, wildfire, and drought while flooding is isolated to select areas. Each of these potential hazards is addressed with relevant supporting data.

Chapter II. Section	Updates to Section
I. Flood	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data. Added information from Hazus-MH analyses
II. Drought	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
III. Wildfire	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
IV. Severe Weather	Updated events, added critical facilities to GMIS, updated tax information. Hail was added to hazards. Recalculated hazard frequency data. Added information from Hazus-MH analyses.
V. Winter Storms	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
VI. Dam Failure	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.
VII. Earthquake	Updated events, added critical facilities to GMIS, updated tax information. Recalculated hazard frequency data.

SECTION I. FLOODING

A. Hazard Identification: Flood plains are relatively flat lands that border streams and rivers that are normally dry, but are covered with water during floods. The susceptibility of a stream to flooding is dependent upon several different variables. Among these are topography, ground saturation, rainfall intensity and duration, soil types, drainage, drainage

patterns of streams, and vegetative cover. A large amount of rainfall over a short time can result in flash flood conditions. A small amount of rain can also result in floods where the soil is saturated from a previous wet period or if rain is concentrated in an area of impermeable surfaces such as large parking lots, paved roadways, etc. Topography and ground cover are contributing factors for floods where water runoff is greater in areas with steep slopes and little or no vegetation. The severity of a flood is usually measured in terms of the depth of flooding.

Flooding occurs when the volume of water exceeds the ability of a water body (stream, river, or lake) to contain it within its normal banks. Floodplains serve three major purposes: Natural water storage and conveyance, water quality maintenance, and groundwater recharge. These three purposes are greatly inhibited when floodplains are misused or abused through improper and unsuitable land development. Wilkes County and the City of Washington will continue to participate in the NFIP. Rayle and Tignall are identified as non-flood-prone communities according to the Flood Insurance Study and do not participate in the NFIP. The following table provides information about each jurisdiction’s participation level.

Jurisdiction	Init FHBM Identified	Init. FIRM Identified	Curr. Eff. Map Date	Reg-Emer Date	Sanction Date
Wilkes County		07/22/2010	07/22/2010	07/22/2010	
Washington	06/27/1975	05/01/1987	07/22/2010	05/01/1987	
Rayle	Non-flood prone community				
Tignall	Non-flood prone community				

Source: FEMA Community Status Book

B. Hazard Profile: Severe flooding within Wilkes County is a relatively infrequent event. The county has 48 rivers/streams and 14 reservoirs. 95 % of the land in Wilkes County has slopes between two and ten %. Steeper slopes of 10 to 25 twenty-five % compromise only six % of the county and are located on the hillsides of the Piedmont section to the north. Slopes of less than 2% compromise 3% of the county’s total land area and are located in the floodplain. The committee examined historical data from the NCEI, USGS, SHELDUS™, and newspaper articles, as well as conducted interviews on the effects of past flooding events. In the last 72 years, 14 flooding events were recorded, all occurring in the unincorporated area of the County. The table below is a result of information gathered from interviews, newspaper articles, and the NCEI and SHELDUS™ databases.

Date	Fatality	Inj	PrD	CrD	Event Narrative
10/04/1995	WILKES	0	0	0.00K	
06/11/2001	WILKES	0	0.00K	0.00K	The remnants of Tropical Storm Allison with 10 inches observed in 24 hours on the Little River five miles southeast of Washington in Wilkes county. Two to three-day rainfall totals exceeded 10 inches in several places in this area. The Little River crested at 28.4 feet, exceeding the previous highest stage ever recorded of 26.4 feet.
06/12/2001	WILKES	16	16.00k	0.00K	The Wilkes County Emergency Manager reported that high water caused minor damage to a couple of roads and culverts and washed out a few gravel roads.

Date	Fatality	Inj	PrD	CrD	Event Narrative
09/14/2002	WILKES	0	0.00K	0.00K	Tropical Storm Hanna moved caused heavy rainfall, flooding was minimal.
09/06/2004	WILKES	0	0.00K	0.00K	The remnants of Hurricane Frances heavy rainfall caused some minor flooding of roads.
09/16/2004	WILKES	0	0.00K	0.00K	The remnants of Hurricane Ivan Average rainfall of 5-8 inches causing some flooding in the county
09/27/2004	WILKES		5.00k	0.00K	The remnants of Hurricane Jeanne Rainfall of 4-6 inches, but flooding problems observed were minor.
07/06/2005	WILKES	0	0.00K	0.00K	The remnants of Tropical storm Cindy brought strong bands of thunderstorms with damaging winds, flash flooding.
08/08/2005	WILKES	0	1.50K	0.00K	Thunderstorms persisted over Wilkes county for 3 hours minor flooding was reported on some roads. The 911 Center reported a couple of inches of water flowing across some roads in the western portion of the county. Damage was minor limited to debris cleanup.
03/01/2009	FICKLIN	1	0.00K	0.00K	Flooding was observed along the Little River. Damage was confined to minor debris removal.
03/29/2009	LITTLE RIVER	1	0.00K	0.00K	Little River west of Washington exceeded the flood stage of 22 feet. Damage was confined to minor debris clean up.
04/03/2009	LITTLE RIVER	1	0.00K	0.00K	The USGS stream gage on the Little River south of Washington briefly exceeded its flood stage of 19.0 feet. Minor flooding was observed along the woodlands and fields near the river. Damage was confined to minor debris removal.
09/21/2009	BRICK HOUSE	5	0.00K	0.00K	Kettle Creek just south of Washington reached its flood stage of 14 feet. Monetary damage was confined to minor debris removal from areas adjacent to the creek.
12/30/2015	Wilkes County		400k		The water is flowing fast, causing culverts to wash away. We got bridges underwater, roads underwater, and we got one bridge that is 7 feet underwater. If you look at it, it might look like one or two inches, but its 7 feet underwater. eight roads were closed. Not only did it rain, it poured, and flooded. Probably out of 240 miles of dirt road, every one of them was damaged or had some type of flooding over the roads or over the bridges,"
01/13/2020	Wilkes County	1	N/A	N/A	WRDW reported that "Rocker Road was completely washed out earlier Monday. EMA officials say a driver was going down the road when it caved in and she fell 30 feet down into the water. She was taken to the hospital with minimal injuries."
Total		25	422.5K	0.00K	

Source: NCEI, SHELDUS and The News-Reporter

The picture (left) shows the effects of the flood event from January 13, 2020, resulting in a complete washout of Rocker Road. WRDW/WAGT reported at least one person sustained minor injuries when their car fell into the caved-in part of the road.



(Photo source: WRDW/WAGT)



Most flood events resulted in flash flooding which washed out several roads and wooden bridges. Data pinpointing the depth of floodwaters and exact locations of all washed-out roads and bridges is not available. While severe flooding within the county is a very infrequent event, there is a potential for

flooding. Flash flooding is the most prominent flooding event as riverbanks overflow due to rainfall. The GMIS flood hazard map assigns a flood zone rating of zero for unincorporated parts of the County, Rayle, Tignall, and Washington where there are no identified or undesignated flood hazards. A hazard score of four has been assigned for known floodplain areas in Tignall, Washington, and unincorporated parts of the county.

The magnitude of a major flood event could have approximately 20 % of the county experiencing some damage from flooding. While data were collected looking at 72 years of data, the frequency rate was calculated using a 20-year hazard cycle per guidance from GEMA. Based on a 20-year hazard cycle, the calculated frequency per year predicts Wilkes County has a 70 % annual chance of a significant flooding event or will experience a flooding event every 17 months. No prediction can be made for the three incorporated jurisdictions of the county, as no data is available. *See Appendix A, Historical Event Tables, Critical Facilities Reports, and Flood Maps and Appendix D for Section I for Worksheet 3A and Hazard Frequency Tables).*

- C. Assets Exposed to Hazard and Estimates of Potential Loss:** To determine assets exposed to risk maps created by FEMA, data and available parcel data were used. Based on FIRM, tax digests, and FEMA Worksheet #3a, 263 structures/properties valued at \$14.5 million and a population of 60 are located in flood-prone areas within the County.

All 263 structures/properties have been identified by federal floodplain maps and/or parcel maps and not all structures/properties will experience damage from floods. The extent of each flood varies according to the amount of rainfall in each area.

The GMIS flood hazard map has the unincorporated areas of the county along with Rayle, Tignall, and Washington with a hazard score of zero. A hazard score of three has been assigned to areas in known floodplains in the unincorporated areas of the county and Washington. Rayle and Tignall have no floodplains.

Based on floodplain maps, tax digests, parcel maps, and FEMA Worksheet #3a for asset inventory, the following assets are at risk during a flood event:

- Unincorporated Wilkes County has approximately 200 structures/properties valued at approximately \$12 million with a population of 24.
- Washington has approximately 63 structures/properties valued at approximately \$1.8 million with a population of 42.
- Rayle and Tignall have no properties located in or adjacent to flood-prone areas.

The table below shows the hazard scores assigned by the GMIS to critical facilities with replacement values content values and daily occupancy.

Jurisdiction	Flood Hazard Score	# of Critical Facilities	Replacement Value \$	Content Value \$	Daily Occupancy	
					Day	Night
Wilkes County	1	33	\$95,488,212.00	\$19,050,000.00	2,051	17
Rayle	1	3	\$1,238,982.00	\$375,000.00	0	0
Tignall	1	6	\$2,638,200.00	\$715,000.00	35	5
Washington	1	29	\$48,387,403.00	\$1,295,000.00	339	234
TOTAL		71	\$147,752,797.00	\$21,435,000.00	2,425	256

The GMIS has no repetitive flooding NFIP properties and no NFIP mitigated property. There are no estimates for future structures since future development will be limited in known floodplains. (See Appendix A and Appendix D).

FEMA Hazus-MH Version 2.2 SP1 was used to analyze a probabilistic risk assessment of a 1% annual chance riverine flood event (100-Year Flood) for Wilkes County. A copy of the complete report can be found in Appendix C. Land area covered by floodwaters of the base flood is identified as a Special Flood Hazard Area (SFHA). The Wilkes County flood risk assessment analyzed at-risk structures in the SFHA. The results of the Riverine 1% Flood Scenario revealed that buildings in Wilkes County are vulnerable to flooding from events equivalent to the 1% riverine flood. The economic and social impacts of a flood of this magnitude can be significant. The Hazus analysis generated information to building loss, essential facility loss, food and shelter requirements and debris because of the Riverine 1% Flood Scenario. The results of this scenario are as follows:

- **Building Losses:** 3,201 residential buildings and 60 industrial building damaged at a loss of \$374,838, with \$357,411,424 in total building exposure.
- **Essential Facility Losses:** The analysis identified no essential facilities damaged.
- **Flood Shelter Requirements:** The scenario estimates 72 households are subject to displacement. Displaced households represent 217 individuals, of which 12 may require short-term publicly provided shelter.
- **Flood Debris:** Hazus-MH estimates that an approximate total of 1,934 tons of debris might be generated by the flood. The model breaks debris into three general categories:
 - Finishes (drywall, insulation, etc.) - 766 tons generated.
 - Structural (wood, brick, etc.) – 458 tons generated; and

- Foundations (concrete slab, concrete block, rebar, etc.) - 676 tons generated.

D. Land Use and Development Trends: The Washington-Wilkes Unified Comprehensive Plan 2014-2024 presents future development scenarios for Wilkes County. There has been little change to the overall county population over the course of the last 10-plus years, or to other demographic sub-categories. With any development, the enforcement of Wilkes County's Land Development Code is essential. All areas within the county that are within or upon a floodplain shall remain unalterable open space and have no impervious surfaces, except where roads and bridges may intersect the floodplain, or where a Section 404 permit has been approved by the U.S. Army Corps of Engineers. In addition, when a major commercial or industrial use requires a large, paved parking lot (more than 100 spaces or one acre in area), whichever is greater, the developer may be required to provide unpaved vegetated islands or reserved strips to be integrated within the proposed parking area not to exceed fifteen % of the area covered by paved surfaces. The Land Use section of the Wilkes County/Washington/Rayle Comprehensive Plan through 2024 indicates that all land use controls should be attentive to environmentally sensitive areas. Specifically, the plan suggests that *Rules for Environmental Planning Criteria* should be considered to provide additional protection to sensitive flood and wetland areas. A copy of the comprehensive plan on land use can be found in Appendix B.

E. Multi-Jurisdictional Concerns: During a natural hazard, it is imperative that all emergency personnel can communicate with each other throughout the entire planning area. The County and its jurisdictions have numerous dead spots throughout the area due to topography and lack of adequate communication equipment. The County and its emergency personnel are dependent on the private sector for towers to use for signals. If these towers are ever removed, the County will be without any adequate means to transmit signals. The County, Rayle, Tignall, and Washington are aware of the need to develop communication capabilities that will serve their County. Since flooding has the potential to affect all of Wilkes County, any mitigation steps taken related to flooding should be undertaken on a countywide basis to include Rayle, Tignall, and Washington.

F. Hazard Summary: Based on interviews, data from the NCEI covering 72 years, and the local paper, *The News-Reporter*, there have been fourteen reported flooding events. All of these events took place in the unincorporated areas of the county. These flooding events were the result of heavy rains. The rainfall resulted in flash flooding, washed out several roads and downed trees and power lines.

The hazard frequency table calculates a 70 % chance of an annual flooding event countywide. Hazard frequency tables can be found in Appendix D. Severe flooding, although relatively rare in occurrence, has the potential to inflict significant damage in Wilkes County. Mitigation of flood damage requires the community to know where flood-prone areas are, what roads and bridges may be affected, and which facilities fall below anticipated flood levels. The committee recognized the potential for losses caused by flooding and identified it as a hazard requiring mitigation measures.

Based on tax data, parcel, and flood maps, all or a portion of 263 known structures/properties valued at approximately \$14.5 million and a population of 60 are located in known floodplains. The committee identified specific mitigation goals, objectives, and action items related to flooding, which can be found in Chapter III, Section I.

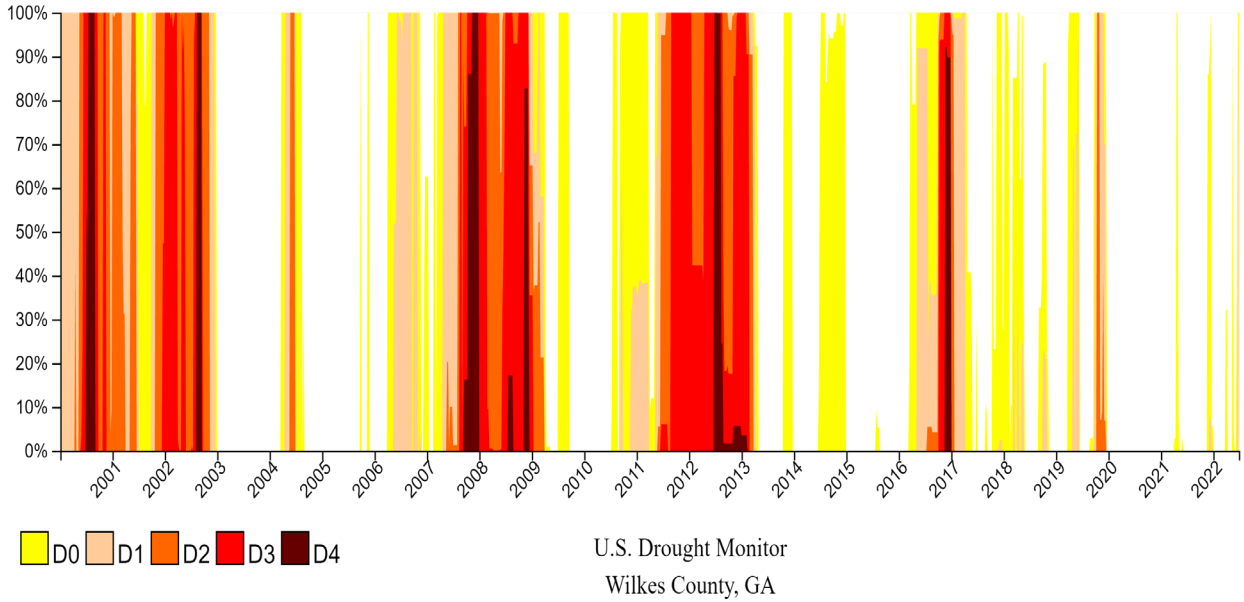
G. Climate Change: Per the Fourth National Climate Assessment, the frequency and intensity of heavy precipitation events is expected to increase across the country. More specifically, it is “very likely” (90-100% probability) that most areas of the United States will exhibit an increase of at least 5% in the maximum 5-day precipitation by late 21st century. Additionally, increases in precipitation totals are expected in the Southeast and Wilkes County. The mean change in the annual number of days with rainfall over 1 inch for the Southeastern United States is 0.5 to 1.5 days. 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.

SECTION II. DROUGHT

A. Hazard Identification: The committee reviewed historical data from the Palmer Drought Index, NCEI, DNR, USDA, and GFC in researching drought conditions. Drought conditions are identified by a prolonged period of moisture deficiency. Climatologists and hydrologists use five indicators of drought: rainfall, soil moisture, stream flows, lake levels, and groundwater-level. Drought conditions affect the cultivation of crops as well as water availability and water quality. Drought is also a key factor in wildfire development. Wildfires will be addressed in a separate HRV.

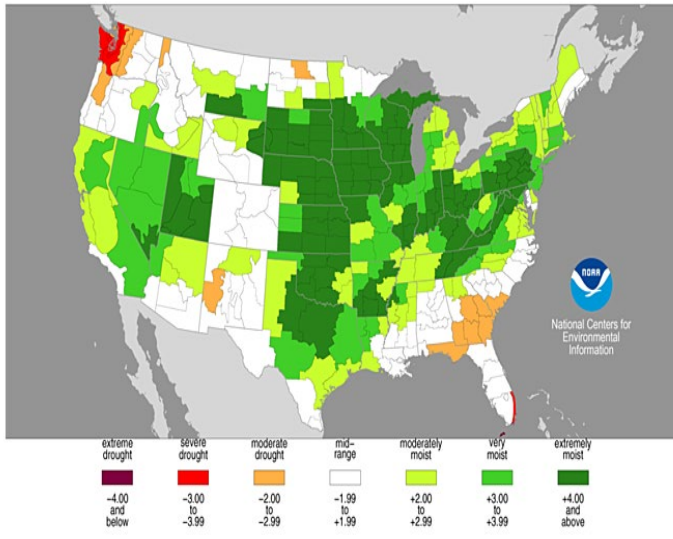
B. Hazard Profile: Drought is not spatially defined and has the potential to affect the entire planning area equally. Wilkes County consists of 474 square miles with 4.6 of these miles being water. The county is comprised of 303,360 acres with 96 % dedicated to agriculture and forestry. According to the USDA 2012 Census of Agriculture 3,335,106 heads of livestock. Agricultural losses due to drought are the primary losses. No critical facilities have sustained any damage or functional downtime due to dry weather conditions.

The Palmer Index is most effective in determining long-term drought, a matter of several months, and is not as good with short-term forecasts (a matter of weeks). NCEI data for surrounding counties and a review of The Palmer Index (from <https://www.NCEI.noaa.gov/temp-and-precip/drought/historical-palmers/>) reveals there have been 31 drought events.

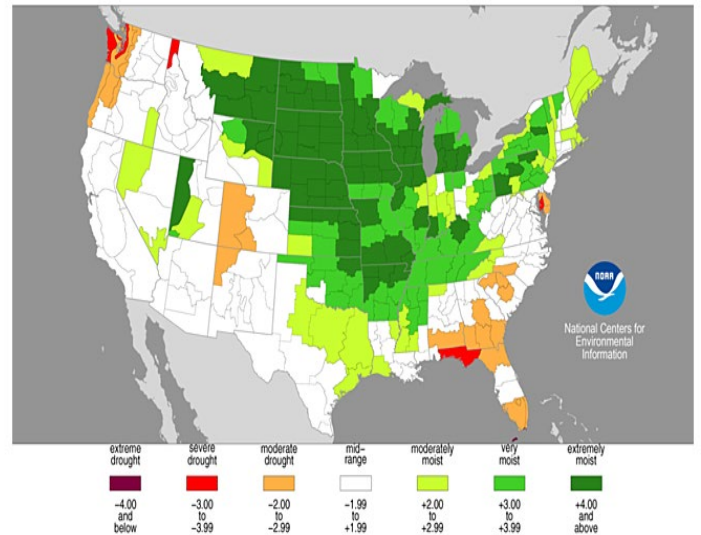


One of the longest-running droughts in recent history began in January 2012 and ended in January 2013. The County was in severe drought conditions from January to July 2012 and in extreme drought conditions from August 2012 to January 2013. In recent years, the longest span of moderate drought conditions near Wilkes County ran from May 2019 to November 2019, as shown in the map below.

Palmer Drought Severity Index
May, 2019



Palmer Drought Severity Index
November, 2019

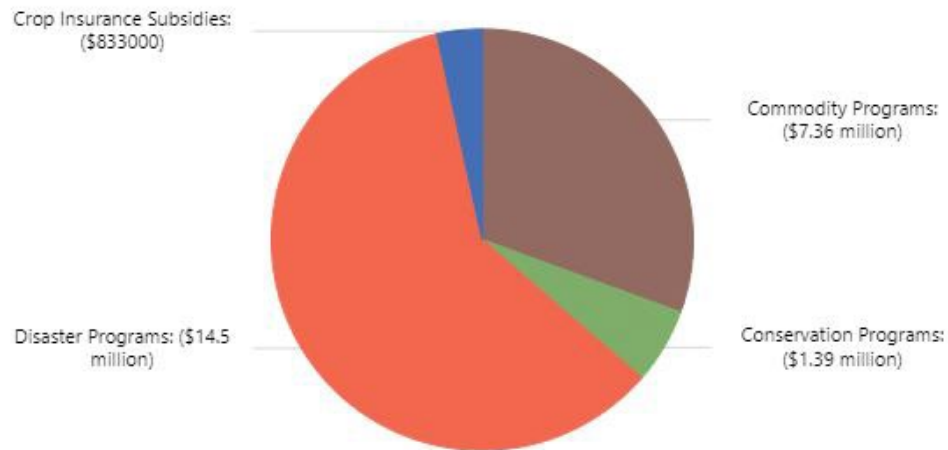


Based on the weekly data from the US Drought Monitor (<http://droughtmonitor.unl.edu/MapsAndData/MapsandDataServices/StatisticalData.aspx>) from January 2000 to January 2022 the county has experienced the following drought conditions:

- 693 weeks where all or a portion of the county has experienced of D0 - Abnormally Dry;
- 484 weeks where all or a portion of the county has experienced of D1 - Moderate Drought;
- 340 weeks where all or a portion of the county has experienced levels of D2 - Severe Drought;
- 220 weeks where all or a portion of the county has experienced levels of D3 - Extreme Drought; and
- 69 weeks where all or a portion of the county has experienced levels of D4 - Exceptional Drought. (US Drought Monitor and Extent Tables can be found in Appendix A.)

According to the USDA Farm Subsidies Database, there has been a total of \$24.04 million in disaster assistance from 1995-2019. The pie chart below depicts the amounts and types of assistance.

Wilkes County, Georgia Farm Subsidy Breakdown, 1995-2021



https://farm.ewg.org/progdetail.php?fips=13189&progcode=total_dis

Historical data is only for the county. A severe, prolonged drought would mainly affect the 95 % of the county that makes up the timber and agriculture business. This could result in loss of crops, and livestock and create the conditions for a major wildfire event. This would also have an impact on the incorporated cities, as water restrictions would be enforced. Based on a 20-year hazard cycle history there is a 95 % chance of an annual drought event for the county. (See Appendix A, Historical Event Tables, Critical Facilities Reports, and Appendix D for Worksheet 3A and Hazard Frequency Tables).

C. Assets Exposed to Hazard and Estimate of Potential Losses: Drought conditions typically pose little or no threat to structures; however, fires can occur because of dry weather. The greatest threat to assets in the county is to forestry and agricultural properties and livestock.

No damage to critical facilities is anticipated because of drought conditions. Crop damage cannot be accurately quantified due to several unknown variables: duration of the drought, temperatures during the drought, the severity of the drought, different crops requiring different amounts of rainfall and different growing seasons. Based on FEMA Worksheet #3a the potential loss in agricultural and forestry properties for each jurisdiction is:

- Rayle has 35 agricultural/forestry structures/properties valued at approximately \$6 million with an estimated population of four (4).
- Tignall has 121 agricultural/forestry structures/properties valued at approximately \$3.4 million with an estimated population of nine (9).
- Washington has 110 agricultural/forestry structures/properties valued at approximately \$5.6 million with an estimated population of thirty-eight (38).
- Unincorporated Wilkes County has 7,378 agricultural/forestry structures/properties valued at approximately \$468 million with an estimated population of three hundred and eighteen (318).

There are 7,404 agricultural/forestry properties in Wilkes County valued at approximately \$513 million with a population of 369 that are at the greatest risk due to a drought event (*See Appendix A, Historical Event Tables, Drought Extent Tables and Drought Maps and Appendix D for Worksheet 3 A and Hazard Frequency Tables*).

D. Land Use and Development Trends: Wilkes County currently has no land use or development trends related to drought conditions. When drought conditions do occur, all jurisdictions follow the restrictions set forth by the Georgia DNR Drought Management Plan and the Statewide Outdoor Water Use Schedule. The Georgia Water Stewardship Act went into effect statewide on June 2, 2010. It allows daily outdoor watering for purposes of planting, growing, managing, or maintaining ground cover, trees, shrubs, or other plants only between the hours of 4 p.m. and 10 a.m. by anyone whose water is supplied by a water system permitted by the Environmental Protection Division.

The following outdoor water uses also are allowed daily at any time of the day by anyone:

- Commercial Agriculture
- Alternative sources of water (grey water, rainwater, condensate, etc.)
- Irrigation of food gardens
- Irrigation of newly installed or reseeded turf for the first 30 days
- Drip irrigation or soaker hoses
- Hand watering with a shut-off nozzle
- Water from a private well
- Irrigation of plants for sale
- Irrigation of athletic fields, golf courses, or public recreational turf
- Hydroseeding

Outdoor water usage for any purpose other than watering plants is still restricted to the current odd/even watering schedule.:

- Odd-numbered addresses: Tuesdays, Thursdays, and Sundays.

- Evenly-numbered and unnumbered addresses: Mondays, Wednesdays, and Saturdays.

Projected changes in land use based on the joint comprehensive plan, have minimal or no change. Limited growth or new development is expected in the County. The vulnerability in terms of future buildings, infrastructure, and critical facilities located in the identified hazard areas is not known since there is no planned or approved future development. Thus, it is impossible to determine vulnerability in terms of future buildings, infrastructure, and critical facilities. Current and future land-use tables, maps, and projections are in Appendix B.

- E. Multi-Jurisdictional Concerns:** Agricultural losses associated with drought are more likely to occur in the rural, less concentrated areas of the county. Although Rayle, Tignall, and Washington are less likely to experience drought-related losses, they should not be excluded from mitigation considerations. Drought creates a deficiency in water supply that affects water availability and water quality. Droughts can and have severely affected private wells, municipal and industrial water supplies, agriculture, stream water quality, recreation at major reservoirs hydropower generation, navigation, and forest resources.
- F. Hazard Summary:** Drought is not spatially defined and affects the entire planning area equally. Droughts do not have the immediate effects of other natural hazards, but sustained drought can cause severe economic stress to not only the agricultural interests in Wilkes County but to the entire State of Georgia. The potential negative effects of sustained drought are numerous. *Historical data is available only for the entire county.* Based on a 20-year cycle hazard history there is a 130 % chance of an annual drought event in Wilkes County. In addition to an increased threat of wildfires, drought can affect private wells, municipal and industrial water supplies, stream-water quality, water recreation facilities, hydropower generation, as well as agricultural and forest resources.

In summary, for Wilkes County as a whole, there are 7,404 agricultural/forestry properties valued at approximately \$256 million including 7,302,263 heads of livestock and an estimated population of 464 that have the greatest potential to be damaged by drought. There is a population of 9,797 and approximately 25,688 structures/properties in the county valued just under \$1 billion, which could be affected if wildfires break out due to drought conditions. Drought mitigation goals and objectives are in Chapter III, Section III.

- G. 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 Wilkes County.

SECTION III. WILDFIRE

A. Hazard Identification: A wildfire is any uncontrolled fire occurring on undeveloped land that needs fire suppression. The potential for wildfire is influenced by three factors: the presence of fuel, the area’s topography, and air mass. There are three different classes of wildland fires. A surface fire is the most common type and burns along the floor of a forest, moving slowly and killing or damaging trees. A ground fire is usually started by lightning and burns on or below the forest floor. Crown fires spread rapidly by wind and move quickly by jumping along the tops of trees. Wildfires are usually signaled by dense smoke that fills the area for miles around. Wildfires caused by lightning have a very strong probability of occurring during drought conditions. Drought conditions make natural fuels (grass, brush, trees, dead vegetation) more fire-prone.

B. Hazard Profile: Wilkes County consists of 474 square miles with 4.6 of the square miles being water. Of the approximate 303,360 acres in the county, 96% are dedicated to agricultural and forestry uses. Given the right weather conditions and variables, wildfire, due to natural causes, creates a potential threat to the lives of residents and property in the planning area. The NCEI has never reported a significant wildfire event in Wilkes County. The committee reviewed historical data from the GFC, which is not found in the NCEI database, to research wildfire events. The GFC provides wildfire data on manmade and natural wildfire occurrences for the county as a whole and not for individual jurisdictions. This plan will address only natural disasters. According to Georgia Forestry data, from 1957 to 2022, there have been 1,876 fire events burning a total of 9,041 acres for an average extent of 4.8 acres. Of these 1,876 fire events, only 103 were a result of a natural hazard event that burned 855 acres. Lightning-related wildfires all occurred in the county’s unincorporated areas. There is no data available for Rayle, Tignall, or Washington.

The frequency rate was calculated using 72 years of data and a 20-year hazard cycle per guidance from GEMA. There were 1,867 wildfire events during the 20-year hazard cycle predicting a 175 % chance of an annual wildfire due to a natural hazard event or statistically the county can expect 2.1 wildfires annually because of lightning. The drier the condition the more susceptible the county is to wildfire (*See Appendix D*).

Jurisdiction	Hazard Score	% of Area
Rayle	4	8
	3	62
	2	21
	0-1	9
Washington	4	23
	3	53
	2	18
	0-1	6

Jurisdiction	Hazard Score	% of Area
Tignall	4	12
	3	56
	2	20
	0-1	12
Unincorporated	4	0
	3	96
	2	0
	1	4

C. Assets Exposed to Hazard and Estimate of Potential Losses: Wildfires are more likely to occur in the county outside of the incorporated areas. The committee concluded that wildfires

present a threat to all existing buildings, infrastructure, and critical facilities since wildfires can spread throughout the county and into urban areas. Wildfire damage is more likely to occur in areas of the county where forestry and woodland are prevalent and can spread into the incorporated areas and cause extensive damage. FEMA Worksheet #3a located in Appendix D shows the number and types of buildings found in Wilkes County, as well as the value of these structures/properties and their population. The following assets by jurisdiction could potentially be exposed to wildfire hazards.

Jurisdiction	Number of Structure/Properties	Value \$	Population
Wilkes County (Unincorporated)	17,216	\$905,961,378	5,714
Rayle	376	\$6,002,198	198
Tignall	1,258	\$27,318,500	485
Washington	7,079	\$281,526,545	3,947
TOTAL FOR COUNTY	25,688	\$994,872,743	9,797

Source: Wilkes County Tax Assessor

The following table reveals all critical facilities in the county by jurisdiction, number of facilities, hazard score, replacement value, and daily occupancy exposed to wildfire hazards. A complete breakdown of each jurisdiction by hazard can be found in Appendix A.

Jurisdiction	Wildfire Hazard	# of Critical Facilities	Replacement Value \$	Content Value \$	Occupancy	
					Day	Night
Wilkes County	0	16	\$10,911,600.00	\$1,500,000.00	2,044	17
Wilkes County	1	5	\$15,550,000.00	\$1,852,017.00	0	0
Wilkes County	2	2	\$8,100,000.00	\$1,650,000.00	0	0
Wilkes County	3	9	\$52,676,612.00	\$13,450,000.00	10	0
Wilkes County	4	1	\$150,000.00	\$350,000.00	0	0
Rayle	3	3	\$1,238,982.00	\$375,000.00	0	0
Tignall	1	1	\$119,100.00	\$20,000	0	0
Tignall	3	5	\$2,519,100.00	\$715,000.00	35	5
Washington	0	2	\$18,650,000.00	\$45,000.00	0	0
Washington	1	3	\$12,650,000.00	\$100,000.00	0	0
Washington	2	4	\$60,000.00	\$0	145	65
Washington	3	19	\$14,227,403.00	\$1,150,000.00	139	169
Washington	4	1	\$650,000.00	\$0	0	0
TOTAL		71	\$147,752,797.00	\$21,435,000.00	2,428	256

According to FEMA Worksheet #3A there are 25,688 structures/properties with a population of % of 9,797 with a value of slightly more than \$1.1 billion worth of assets countywide. If a wildfire started, it is not likely that all of these structures/properties would be affected. (See Appendix A Historical Event Tables, Critical Facilities Reports and Wildfire Map, and Appendix D for Worksheet 3A and Hazard Frequency Tables).

D. Land Use and Development Trends: Wilkes County currently has no land use or development trends related to wildfire conditions. Land use codes do provide for fire protection to any proposed major and minor developments connected to the public water

supply system, and minimum fire flows shall be computed based on standards promulgated by the Wilkes County Fire Services. For those proposed developments that will not have immediate access to the public water supply system, such standards and computations should be based on the National Fire Protection Association *Standards on Water Supply for Suburban and Rural Fire Fighting*.

- E. Multi-Jurisdictional Concerns:** Wildfire has the potential to affect the entire county. As a result, all mitigation steps taken related to wildfires should be undertaken by Wilkes County, Rayle, Tignall, and Washington. It is imperative that all emergency personnel can communicate with each other throughout the entire planning area. Another concern is the lack of available data for the county and individual jurisdictions. A database needs to be created and maintained that provides information on all past and future occurring wildfire events.
- F. Hazard Summary:** Wilkes County consists of 474 square miles with 4.6 of the square miles being water. Of the approximate 303,360 acres in the county, 96% are dedicated to agricultural and forestry uses. Given the right weather conditions and variables, wildfire due to natural causes creates a potential threat to the lives and property of residents in the planning area. According to Georgia Forestry data, from 1957 to 2022, there have been 1,867 fire events burning a total of 9,042 acres for an average extent of 105 acres. Of these 1,819 fire events, only 103 were a result of a natural hazard event that burned 855 acres. Based on the best available data, the 90 wildfire events due to the natural hazard of lightning all occurred in the unincorporated areas of the county. Based on a 20-year hazard cycle there is a 145 % chance of an annual wildfire due to a natural hazard event. However, it must be taken into consideration that the daily chance of a wildfire event will continue to increase annually as a result of continuous climate changes. The wildfire season has lengthened in many areas due to factors including warmer springs, longer summer dry seasons, drier soils and dead vegetation. According to FEMA Worksheet #3A there are 25,688 structures/properties with a population of 9,797 with a value just under \$1 billion worth of assets countywide. Mitigation Goals and Objectives concerning wildfires are in Chapter III, Section IV.

The County continues to follow GFC guidelines to service the construction of firebreaks around forests and structures, maintain fuel breaks along abandoned roadbeds, recommend a defensible space (30-ft minimum setbacks) between buildings, and strictly follow guidelines for control burns and permits.

- G. Climate Change:** It must be taken into consideration that the daily chance of a wildfire event will continue to increase annually as a result of continuous climate changes. The wildfire season has lengthened in many areas due to factors including warmer springs, longer summer dry seasons, drier soils, and dead vegetation.

SECTION IV. SEVERE WEATHER, INCLUDING TORNADOS, TROPICAL STORMS THUNDERSTORM WINDS, LIGHTNING, AND HAIL

A. Hazard Identification: The committee reviewed historical data from the county’s own weather database, the NCEI, SHELDUS™, newspapers and citizen interviews in researching the past effects of severe weather. The month of February marks the beginning of the severe weather season in the South, which can last until the month of August. Five types of severe weather were identified by the mitigation team: (1) tornados, (2) tropical storms, (3) thunderstorm winds, (4) lightning and (5) hail.

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. It is spawned by a thunderstorm or the result of a hurricane and is produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. Tornados are among the most unpredictable and destructive weather phenomena and can strike at any time of the year if essential conditions are present. The damage from a tornado is a result of the high wind velocity and wind-blown debris. The positions of the subtropical and polar jet streams often are conducive to the formation of storms in the Gulf region. The table below shows the original Fujita Scale and the Enhanced Fujita Scale (in use since 2007) to rate the intensity of a tornado by examining the damage caused by the tornado after it has passed over a manmade structure.

FUJITA SCALE			DERIVED EF SCALE		OPERATIONAL EF SCALE	
F Number	Fastest 1/4-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-172	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Source: NOAA

The second type of severe weather is tropical storms. Tropical Storms are an organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39–73 MPH (34–63 knots). In this area, they generally occur due to a hurricane or tropical system that has come inland.

The third severe weather event, thunderstorm winds, can cause death and injury, power outages, property damage, and can disrupt telephone service, severely affect radio communications and surface/air transportation that may seriously impair the emergency management capabilities of the affected jurisdictions.

Thunderstorm winds are winds that arise from convection (with or without lightning), with speeds of at least 50 knots (58 mph), or winds of any speed producing a fatality, injury, or damage. Severe thunderstorms develop powerful updrafts and downdrafts. An updraft of warm, moist air helps to fuel a towering cumulonimbus cloud reaching tens of thousands of

feet into the atmosphere. A downdraft of relatively cool, dense air develops as precipitation begins to fall through the cloud. Winds in the downdraft can reach more than 100 miles per hour. When the downdraft reaches the ground, it spreads out forming a gust front: the strong wind that kicks up just before the storm hits. As the thunderstorm moves through the area, the full force of the downdraft in a severe thunderstorm can be felt as horizontal, straight-line winds with speeds well over 50 miles per hour. Straight-line winds are often responsible for most of the damage associated with a severe thunderstorm. Damaging straight-line winds occur over a range of scales. At one extreme, a severe single-cell thunderstorm may cause localized damage from a microburst, a severe downdraft extending not more than about two miles across. In contrast, a powerful thunderstorm complex that develops as a squall line can produce damaging winds that carve a path as much as 100 miles wide and 500 miles long.

The fourth severe weather event is lightning. Lightning results from the buildup and discharge of electrical energy between positively and negatively charged areas. Rising and descending air within a thunderstorm separates these positive and negative charges. Water and ice particles also affect charge distribution. A cloud-to-ground lightning strike begins as an invisible channel of electrically charged air moving from the cloud toward the ground. When one channel nears an object on the ground, a powerful surge of electricity from the ground moves upward to the clouds and produces a visible lightning strike. Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.

The final severe weather event is hail. Hailstones are created when strong rising currents of air called updrafts carry water droplets high into the upper reaches of thunderstorms where they freeze. These frozen water droplets fall back toward the earth in downdrafts. In their descent, these frozen droplets bump into and coalesce with unfrozen water droplets. Then they are carried back up high within the storm where they refreeze into larger frozen drops. This cycle may repeat itself several times until the frozen water droplets become so large and heavy that the updraft can no longer support their weight. Eventually, the frozen water droplets fall back to earth as hailstones.

Hail can also be a destructive aspect of severe thunderstorms. Hail causes more monetary loss than any other type of thunderstorm-spawned severe weather in the United States, annually producing about one billion dollars in crop damage. Storms that produce hailstones only the size of a dime can produce dents in the tops of vehicles, damage roofs, break windows and cause significant injury or even death.

B. Hazard Profile: Tornados, tropical storms, thunderstorm winds, lightning and hail can affect the entire county given the right conditions. Since the exact time and location of a severe weather event is not always predictable, all of Wilkes County is vulnerable to the threats of severe weather. Based on historic data, there have been seven reported tornados in the planning area: all seven were in the unincorporated areas of the county with one of the seven going through Tignall. There is no recorded record of a tornado in Washington or Rayle. A total of two injuries were reported with \$2,105,000 in property and crop damages reported. Hazard frequency tables using a 20-year hazard cycle calculate an annual chance for a tornado event at:

- 25% chance in the unincorporated areas of the county.

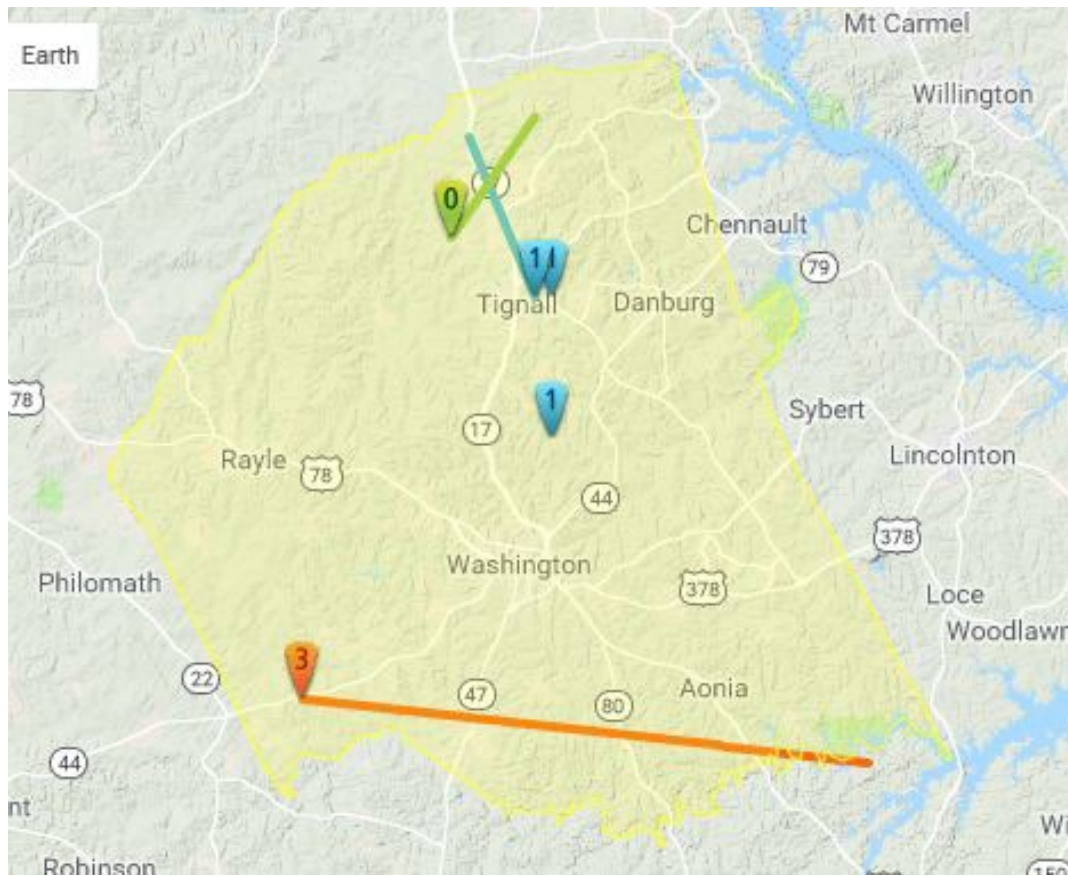
- 5% chance for the Town of Tignall.
- 0% chance for the City of Washington
- 0% for the Town of Rayle.
- 25% for the whole county.

The following table shows the event, severity and estimated cost of damage reported. The map from the Georgia Tornado Projects shows the paths taken by the storms (*See Appendix A, Section I and Appendix D*).

Date	Location	Deaths	Inj	MAG	PD	CrD	Event Narrative
06/03/1954	Wilkesand Tignall	0	2	F1	3K	0	Injured two people
11/22/1992	Wilkes	0	0	F1	3K	0	None Reported
05/07/1998	Wilkes	0	0	F1	0	0	A tornado touched down 12.53 miles from the center of Wilkes County, Georgia. There were 0 injuries and 0 fatalities.
11/11/2002	Wilkes	0	0	F0	0K	0K	A tornado touched down 13.28 miles from the center of Wilkes County, Georgia. There were 0 injuries and 0 fatalities.
09/16/2004	Tignall and Wilkes	0	0	F1	0K	0K	A damage assessment conducted by the Wilkes County Emergency Management Director indicated that an F1 tornado, briefly at the high end of the F1 scale, touched down just south of Tignall near Georgia Highway 17 and continued north from six to seven miles □
08/26/2008	Wilkes	0	0	F0			A damage survey conducted by the National Weather Service in Peachtree City, Georgia and the Wilkes County Emergency Management Director confirmed that an EF0 tornado touched down in northeast Wilkes county about three miles northwest of Tignall near the intersection of Bunch Road and Mallorysville Road. The tornado path length was determined to be around five miles with the tornado lifting at a point approximately three miles northeast of Norman, or near Henry Hill Road. A swath of trees was downed all along the entire track of the tornado. An anchored mobile home along Georgia Highway 17 at Boyd Road was blown six feet of its foundation. Another home along Georgia Highway 17 lost several shingles from its roof.
02/18/2009	Wilkes			F3			A damage survey conducted by the National Weather Service Forecast

Date	Location	Deaths	Inj	MAG	PD	CrD	Event Narrative
							office in Columbia, South Carolina, confirmed that an EF3 tornado had tracked across far southern Wilkes county causing considerable damage along its path. The total tornado path length was 18.6 miles. The tornado initially touched down in the Tyrone community in southwest Washington county. Here a cinder block home was completely destroyed with the cinder block debris blown downstream nearly 1/2 mile. Fifteen other homes along the path of the tornado sustained moderate to major damage from the tornado. Nineteen outbuildings and a commercial chicken house were destroyed. In addition, a steeple was blown off a church and a 2-ton truck was moved 60 feet. The maximum path width was approximately 1/2 mile with maximum winds estimated to be 160 mph.

Sources: Interviews, The News-Reporter Georgia Tornado History Project, NCEI and SHELDUSTM



Source: Georgia Tornado History Project <http://www.tornadohistoryproject.com/tornado/Georgia>

There have been 17 tropical storms reported by the NCEI and SHELDUS™ with \$200,000 of reported property damage. These storms produced winds from 35-45 mph with gusts up to 55 mph. Damages because of the storms were due to power outages, downed trees, and flash flooding. The tropical storms affected the entire planning area. Data for each jurisdiction is not available. Using a 20-year hazard cycle there is a 70 % chance of an annual tropical storm event for county as a whole (See Appendix D).

Details	Date	PrD	CrD
Result of Tropical Storm Allison	06/11/2001	0.00K	0.00K
Result of Tropical Storm Hannah	09/14/2002	0.00K	0.00K
Result of Tropical Depression Bill	07/01/2003	0.00K	0.00K
Result of Hurricane Francis	09/06/2004	0.00K	0.00K
Result of Hurricane Ivan	09/16/2004	0.00K	0.00K
Result of Hurricane Jeanne	09/26/2004	0.00K	0.00K
Result of Tropical Storm Arlene	06/12/2005	0.00K	0.00K
Result of Tropical Storm Cindy	7/6/2005	0.00K	0.00K
Result of Hurricane Dennis	07/10/2005	0.00K	0.00K
Result of Hurricane Katrina	08/29/2005	0.00K	0.00K
Result of Tropical Storm Tammy	10/05/2005	0.00K	0.00K
Result of Tropical Storm Fay	08/21/2008	0.00K	0.00K
Result of Hurricane Ida	11/10/2009	0.00K	0.00K
Result of Tropical Storm Lee	09/04/2011	0.00K	0.00K
Result of Tropical Storm Irma	09/11/2017	200k	0.00k
Result of Hurricane Michael	10/11/2018	0.00K	0.00K
Result of Tropical Storm Zeta	10/29/2020	0.00K	0.00K

Source: NCEI and SHELDUS

Thunderstorms are much more prevalent during the spring and summer months. There have been 70 events reported by the NCEI and SHELDUS™ in the last 72 years with highest winds reported at 60 knots. These storms with more than \$882,850 in property damages reported. The table below breaks down the thunderstorm events by jurisdiction. A complete table of thunderstorm wind events can be found in Appendix A.

Location	# of Events	County-Wide Events*	Total # of events per jurisdiction
Wilkes County(Unincorporated)	19	16	35
Rayle	9	16	25
Tignall	5	16	21
Washington	20	16	36
TOTAL FOR COUNTY	70	16	70

* It is assumed that all 16 countywide events reported occurred in each jurisdiction. Source: NCEI and SHELDUS

While data was collected looking at 72 years, the frequency rate was calculated using a 20-year hazard cycle per guidance from GEMA. Using a 20-year hazard cycle, the frequency table calculates an annual chance for a thunderstorm event producing high winds is:

- 80% chance for the unincorporated areas of the county
- 95% chance for the City of Washington.
- 30% chance for the Town of Rayle
- 25% chance for the Town of Tignall.
- 220% for the whole county.

Hazard frequency tables for individual jurisdictions are in Appendix D.

The fourth weather event is lightning. During the spring and summer months, the county experiences numerous storms that can often produce lightning. The VAISALA National Lightning Detection Network has an average flash density per square mile between 6 and 12 from 2007-2016. A search of storm data on NCEI has only four reported lightning events in the past 72 years with slightly more than \$335,000 in property damages. Since 1950 there have been 103 lightning strikes recorded resulting in wildfires.

While data was collected looking at 72 years of data, the hazard frequency rate was calculated using a 20-year hazard cycle per guidance from GEMA. Based on a 20-year hazard cycle, the annual chance for a lightning strike is:

- 145% for Wilkes County as a whole.
- No data is available for Rayle, Tignall, Washington, or Unincorporated jurisdictions.

The fifth weather event is hail. A combination of SHELDUS™ and NCEI data reports 26 hail events in the last 72 years with slightly more than \$107,000 in property and crop damages and 0 injuries. Hailstones ranged in size from .75 to 1.75 inches.

Location	# of Events	County-Wide Events*	Total # of events per jurisdiction
Wilkes County (Unincorporated)	10	2	10
Rayle	5	2	5
Tignall	6	2	6
Washington	11	2	11
TOTAL FOR COUNTY	27	2	

* It is assumed that the 2 countywide events occurred in all jurisdictions. Source: NCEI and SHELDUS™

While data was collected looking at 72 years of data, frequency rate was calculated using a 20-year hazard cycle per guidance from GEMA. Using a 20-year hazard cycle, the annual chance for a hail event is:

- 50% chance for the unincorporated areas of the county
- 35% chance for the City of Washington.
- 15% chance for the Town of Rayle
- 15% chance for the Town of Tignall.
- 135% for Wilkes County as a whole.

Hazard frequency tables for individual jurisdictions are in Appendix D.

C. Assets Exposed to Hazard and Estimate of Potential Losses: In evaluating assets exposed to natural hazard, the committee determined that all critical facilities, as well as all public, private and commercial property, are susceptible to tornados, tropical storms, thunderstorm winds, lightning and hail events. The GMIS has 100 % of the county with a wind hazard score of one, where wind speed is less than 90 mph. Rayle, Tignall, and Washington have a hazard score of one. The table below provides data from FEMA Worksheet #3a that estimates the potential loss for each jurisdiction.

Jurisdiction	Number of Structure/Properties	Value \$	Population
Wilkes County (Unincorporated)	17,216	\$905,961,378	5,714
Rayle	376	\$6,002,198	198
Tignall	1,265	\$27,318,500	485
Washington	7,079	\$281,526,545	3,947
TOTAL FOR COUNTY	25,688	\$994,872,743	9,797

Source: Wilkes County Tax Assessor

Of the 71 critical facilities, 100% have a wind hazard score of one placing the critical facilities which has a wind speed of less than 90 mph. GMIS critical facility reports for wind and FEMA Worksheet #3a are located in Appendix D for each individual jurisdiction and the county as a whole. The table below shows the number of critical facilities by jurisdiction, hazard score, replacement value, content value, and daily occupancy.

Jurisdiction	Wind Hazard Score	# of Critical Facilities	Replacement Value \$	Content Value \$	Daily Occupancy	
					Day	Night
Wilkes County	1	33	\$95,488,212.00	\$19,050,000.00	2,051	17
Rayle	1	3	\$1,238,982.00	\$375,000.00	0	0
Tignall	1	6	\$2,638,200.00	\$715,000.00	35	5
Washington	1	29	\$48,387,403.00	\$1,295,000.00	339	234
TOTAL		71	\$147,752,797.00	\$21,435,000.00	2,425	256

FEMA Hazus-MH Version 2.2 SP1 ran a hurricane scenario for probabilistic wind-damage risk assessment modeling a Category 1 storm with maximum winds of 74 mph. There were no shelter requirements for this scenario. Hurricane-wind building damage is shown in the table below:

Storm Classification	Number of Damaged Buildings	Building Damages	Total Economic Loss	Loss Ratio
Category 1	19	\$726,150	\$1,045,830	0.01

Essential facilities are also vulnerable to storm events, and the potential loss of functionality may have significant consequences to the community. Hazus-MH identified the essential facilities that may be moderately or severely damaged by winds.

Classification	Number
EOCs	1
Fire Stations	9
Care Facilities	4
Police Stations	2
Schools	4

Wind-Damaged Essential Facility Losses Classification	Facilities At Least Moderately Damaged > 50%	Facilities Completely Damaged > 50%	Facilities with Expected Loss of Use (< 1 day)
Tropical Storm	0	0	17

Hazus-MH estimates the amount of debris that will be generated by high-velocity hurricane winds by tons is:

- Reinforced Concrete and Steel Debris (none)
- Brick and Wood and Other Building Debris 65 tons
- Tree Debris 887 ton
- Other Tree Debris 25,282 tons

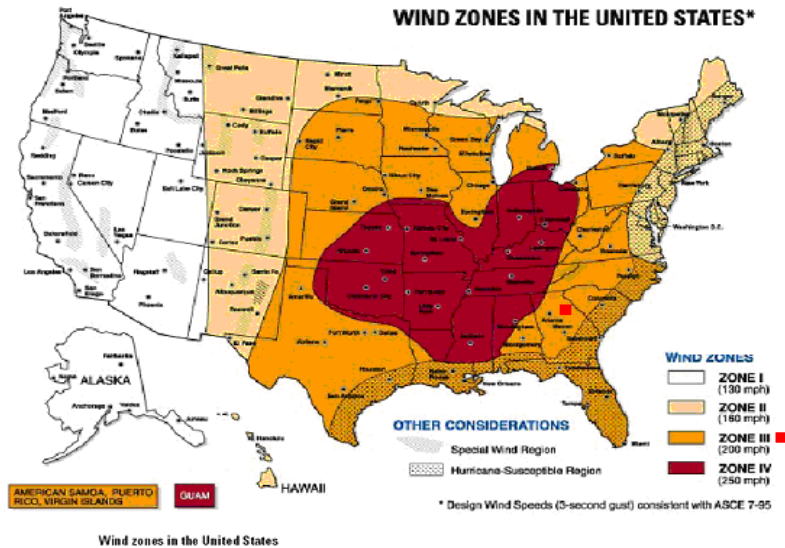
A hypothetical tornado scenario using an EF3 tornado illustrates the potential impacts of tornadoes of this magnitude in the county. The analysis estimated that approximately 421 buildings could be damaged, with estimated building losses of \$25 million dollars. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The table below shows estimated building losses by occupancy type.

Occupancy Classification	Buildings Damaged	Building Losses
Residential	516	\$15,462,483
Commercial	20	\$339,392
Industrial	5	\$342,572
Government	1	\$19,135
Education	12	\$9,123,822
Religious	5	\$83,056
Total	559	\$25,370,460

There were no essential facilities located in the tornado path.

D. Land Use & Development Trends: Wilkes County is located in FEMA wind zone III, which is associated with 200-mph wind speeds. Currently, the county has no land use or development trends related to tornadoes, tropical storms, thunderstorm winds, lightning, or hail events. Information on current and future land-use projections can be found in Appendix B.

E. Multi-Jurisdictional Concerns – All of Wilkes County has the same design wind speed of 200 mph as determined by the American Society of Civil Engineers (ASCE) as evidenced by the map and table below.



		WIND ZONE			
		I	II	III	IV
NUMBER OF TORNADOES PER 1,000 SQUARE MILES	<1	LOW RISK	LOW RISK ★	LOW RISK ★	MODERATE RISK
	1 - 5	LOW RISK	MODERATE RISK ★	HIGH RISK	HIGH RISK
	6 - 10	LOW RISK	MODERATE RISK ★	HIGH RISK	HIGH RISK
	11 - 15	HIGH RISK	HIGH RISK	HIGH RISK	HIGH RISK
	>15	HIGH RISK	HIGH RISK	HIGH RISK	HIGH RISK

LOW RISK Need for high-wind shelter is a matter of homeowner preference

MODERATE RISK Shelter should be considered for protection from high winds

HIGH RISK Shelter is preferred method of protection from high winds

★ Shelter is preferred method of protection from high winds if house is in hurricane-susceptible region

During a natural hazard, it is imperative that all emergency personnel communicate with each other throughout the entire planning area. The county and its jurisdictions have numerous dead spots throughout the area due to topography and lack of adequate communication equipment. The county and its emergency personnel are dependent on the private sector for towers to use for signals. If these towers are ever removed, the county will be without any adequate means to bounce signals.

The entire county has the potential to be affected by tornados, tropical storms, thunderstorm winds, lightning, and hail. As a result, any mitigation steps taken related to these five severe weather events should be considered on a countywide basis to include Rayle, Tignall, and Washington. A concern is the lack of available data for the county and the city. A database needs to be created and maintained that provides information on all past and future severe weather events.

- F. Hazard Summary:** Since the previous plan, there has been limited new development and no increase in population that would affect the overall vulnerability of the community to this hazard. This has been no new adoption of development or building regulations to increase or decrease the overall vulnerability to severe weather events.

Overall, severe weather in the form of thunderstorm winds poses one of the greatest threats to Wilkes County in terms of property damage, injuries, and loss of life. Therefore, the committee recommends mitigation measures identified in this plan should be aggressively pursued. Tornados do not touch down as frequently; however, the unpredictability and the potential for excessive damage caused by tornados make imperative that mitigation measures identified in this plan receive full consideration.

Weather Event	#	Fatalities	Injuries	Approximate Property/Crop Damage
Tornados	7	0	2	\$855,000
Tropical Storms	17	0	0	\$200,000
Thunderstorm Winds	70	0	0	\$687,000
Lightning	103	0	0	NR
Hail	27	0	0	\$107,000

To summarize, there are approximately 25,688 structures/properties in the county totaling nearly \$1 billion with a population of 9,797. A breakdown of information for individual jurisdictions can be found in Appendix A and Appendix D. Specific mitigation actions for tornados, tropical storms, thunderstorm winds, lightning, and hail events are identified in Chapter III, Section V.

- G. Climate Change:** Another aspect that must be taken into consideration is the effect climate change can have on the frequency, probability, and intensity of tornados, tropical storms, thunderstorm winds, lightning, and hail events. Increased greenhouse gases in the atmosphere are known to cause atmospheric warming. This warming raises convective available potential energy (CAPE), which is the measure of energy available for storms to form. This warming and increase of CAPE can significantly increase the number of days, frequency, and intensity of thunderstorm winds that affect Wilkes County and its municipalities. It's important to note that while there is a scientific consensus that climate change is happening and is largely driven by human activities, its exact impacts on specific weather phenomena like thunderstorm winds can also vary based on location and other natural factors such as changes in wind patterns, changes in land use and/or topography, etc.

SECTION V. WINTER STORMS

A. Hazard Identification: Southeastern snow or ice storms often form when an area of low pressure moves eastward across the northern Gulf of Mexico. To produce a significant winter storm in the south, not only must temperatures be cold enough, but there must also be enough moisture in the atmosphere to produce adequate precipitation. A major winter storm can last for several days and be accompanied by ice and freezing rain, high winds, heavy snowfall, and cold temperatures. These conditions can make driving very dangerous, as well as bring down trees and power lines.

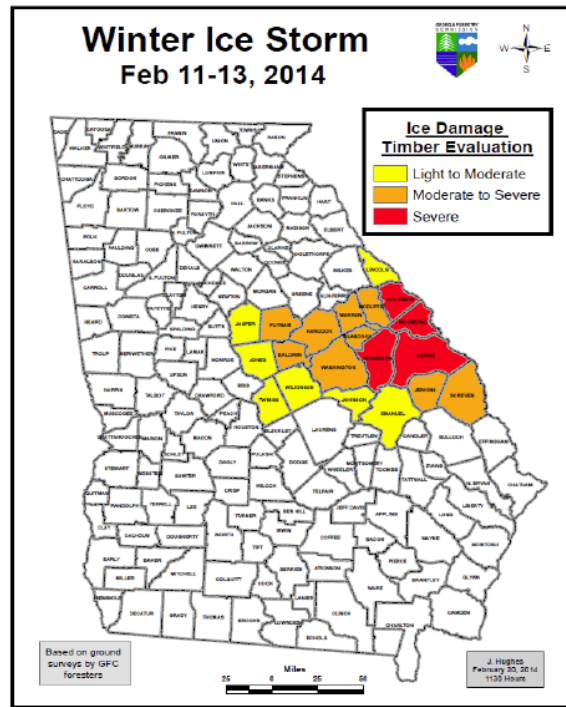
B. Hazard Profile: Winter storms are not spatially defined and affect the entire planning area equally. The committee researched historical data from the NCEI, SHELDUS™, SERCC, as well as information from past newspaper articles relating to winter storms. There have been 29 winter storm events recorded in the county over the last 72 years with no estimated property damage or crop damage.

The most recent ice storm on February 11-13, 2014, had freezing rain and sleet with accumulations of up to 1½ inches of ice and 2 inches of snow and sleet across the area. The heavy sleet and snow overloaded branches that came down on top of power lines when the storm hit late Tuesday, Feb. 11. Electrical service for almost 70 % of the county was interrupted.

The weight of the ice brought down trees, limbs and other vegetative debris that blocked roads and rights of way creating hazardous conditions. The timber industry was severely affected by the storm. Wilkes was one of the nine counties hit by the storm and had moderate to severe timber damage according to the GFC. The GFC examined the levels of damage within two types of pine that were most frequently damaged: the young pine stands and pine stands on which a first thinning had recently occurred. The moderate to severe damage has branches and limbs broken from the trees with damage to the overall stand, having more than 25 % of branches damaged.

Although winter storms are infrequent in the south, they have the potential to cause excessive damage to a community and disrupt the lives of residents. Based on the hazard frequency table located in Appendix D there is a 34 % chance of an annual winter storm event for the entire county.

C. Assets Exposed to Hazard and Estimate of Potential Losses: In evaluating assets that may potentially be impacted by the effects of winter storms, the committee determined that all



critical facilities, as well as all public, private, and commercial property, are susceptible. The table below shows assets by jurisdiction that could be at potential risk of damage from a winter storm event.

Jurisdiction	Number of Structure/Properties	Value \$	Population
Wilkes County (Unincorporated)	17,216	\$905,961,378	5,714
Rayle	376	\$6,002,198	198
Tignall	1,265	\$27,318,500	485
Washington	7,079	\$281,526,545	3,947
TOTAL FOR COUNTY	25,688	\$994,872,743	9,797

Source: Wilkes County Tax Assessor

The GMIS does not provide a report for winter storm damage but there is slightly less than \$1 billion worth of assets with potential loss to winter storm hazards countywide. The table below shows the number of critical facilities by jurisdiction, hazard score, replacement value, content value, and daily occupancy (See Appendix A, Section VI for Historical Event Tables, Winter Storm Maps and Appendix D for Worksheet 3A and Hazard Frequency Tables).

Jurisdiction	# of Critical Facilities	Replacement Value \$	Content Value \$	Daily Occupancy	
				Day	Night
Wilkes County	33	\$95,488,212.00	\$19,050,000.00	2,051	17
Rayle	3	\$1,238,982.00	\$375,000.00	0	0
Tignall	6	\$2,638,200.00	\$715,000.00	35	5
Washington	29	\$48,387,403.00	\$1,295,000.00	339	234
TOTAL	71	\$147,752,797.00	\$21,435,000.00	2,425	256

D. Land Use & Development Trends: Wilkes County currently has no land use or development trends related to winter storms. Projected changes in land use based on the joint comprehensive plan has minimal or no change to land use within the incorporated jurisdictions. The greatest change in land use and future development has a decrease in forestland that will be converted to residential. Since it is impossible to determine where future residents will move in the unincorporated areas of the county, vulnerability in terms of future buildings, infrastructure and critical facilities is not known at this time. It can be surmised that this will bring an increase in population and homes. Current and future-land use tables and projections can be found in Appendix B.

E. Multi-Jurisdictional Concerns: Wilkes County currently has no land use or development trends related to winter storms. All of the county can potentially be negatively impacted by winter storms. As a result, any mitigation steps taken related to winter storms should be undertaken on a countywide basis to include Rayle, Tignall and Washington.

F. Hazard Summary: Since the previous plan, there has been limited new development and no increase in population that would affect the overall vulnerability of the community to this hazard. This has been no new adoption of development or building regulations to increase or decrease the overall vulnerability to winter storm events.

There have been 29 winter storm events recorded in the county over the last 72 years with no property damage reported. There is a 95 % chance of an annual winter storm event. Winter storms can be more accurately predicted than most other natural hazards, making it possible to give advance warning to communities. The National Weather Service issues winter storm warnings and advisories as these storms make their way south. Given the infrequency of these types of storms, southern communities are still not properly equipped to sustain the damage and destruction caused by severe winter storms. 25,688 structures in the county totaling just under \$1 billion with a population of 9,797. The committee recognized the dangers posed by winter storms and identified specific mitigation actions in Chapter III, Section III.

G. Climate Change: The Environment Protection Agency reported in 2016 that the state of Georgia, including Wilkes County, will continue to experience an annual warming trend as a result of broader climate change. Though this may decrease the future risk of ice storms and severe winter weather, Wilkes County must remain vigilant in preparing for winter hazards, given its proclivity of unexpected storms to shudder the county’s response resources.

SECTION VI. DAM FAILURE

A. Hazard Identification – Dam failures and incidents involve unintended release or surges of impounded water. They can destroy property and cause injury and death downstream. While they may involve the total collapse of a dam, that is not always the case. Damaged spillways, overtopping of a dam or other problems may result in a hazardous situation. Dam failures may be caused by structural deficiencies in the dam itself. Dam failures may also come from other factors including but not limited to debris blocking spillways, flooding, earthquakes, improper operation and vandalism. Dam failures are potentially the worst flood events. When a dam fails, a large quantity of water is suddenly released downstream, destroying anything in its path and posing a threat to life and property.

Dams are classified into three categories:

- High Hazard – Dams where failure or disoperation will probably cause loss of human life.
- Significant Hazard – Dams where failure or disoperation will probably not result in loss of life, but can cause economic loss, environmental damage, and disruption of lifeline facilities or other concerns.
- Low Hazard – Dams where failure or disoperation will probably not result in loss of life and cause only low economic and/or environmental loss.

B. Hazard Profile – A review of the National Inventory of Dams shows that Wilkes County has 28 dams all classified as low hazard where potential losses are limited to minimal property

damage. Based on the map of the dams found in Appendix A there are 28 dams located in the unincorporated area of the county. The table below is an inventory of the dams by jurisdiction.

Dam Name	Hazard Potential	City
Washington-Wilkes Orchard Dam	Low	CELESTE COMMUNITY
Washington Country Club Lake Dam	Low	ZION CHURCH (ENVIRONS)
Lowe Irrigation Lake Dam	Low	
3 Sisters Lake Dam	Low	
Dodson Lake Dam	Low	
Parsons Lake Dam	Low	
Cotcher Lake Dam	Low	
City of Washington Little Beaverdam Creek Reservoir Dam	Low	
Barnwell Lake Dam	Low	
Jones Pond Dam	Low	
City of Washington Beaverdam Creek Dam	Low	
City of Washington Settling Pond Dam	Low	
Garrard Irrigation Lake Dam	Low	
King Lake Dam	Low	
Bentley Lake Dam	Low	
Burdette Lake Dam #3	Low	LITTLE RIVER COMMUNITY
Burdette Lake Dam #2	Low	LITTLE RIVER COMMUNITY
Grimaude Lake Dam	Low	CLARK CREEK (ENVIRONS)
Reville Lake Dam	Low	
Hale Lake Dam	Low	AONIA (ENVIRONS)
Booth's Lower Lake Dam	Low	

Booth's Lake Dam	Low	LOGAN (ENVIRONS)
Burdette Lake Dam #5	Low	
Palmer Lake Dam	Low	LITTLE RIVER (ENVIRONS)
Wellman Lake Dam	Low	
Boyd Lake Dam	Low	
Fort Washington Lake Dam	Low	
Garrard Dam	Low	Sandtown Community

Source: National Inventory of Dams Army Corp of Engineers

A dam failure has not occurred within the last 72 years, therefore the estimated annual probability of a future event is less than 1%. There is not enough data to predict the annual risk of a dam failure (*See Appendix A and Appendix D*).

C. Assets Exposed to Hazard and Estimate of Potential Losses: The number of dams posing potential loss of life hazards to Wilkes County residents and the number of residents living downstream from these potentially hazardous dams is unknown at this time. Based on the best available data Rayle, Tignall and Washington appear not to be at risk due to dam failure. The data is not available at this time for the planning committee to determine what assets are exposed to risk due to dam failure in the unincorporated areas of Wilkes County. Projected changes in land use based on the county’s multi-jurisdictional comprehensive plan, have minimal or no change to land use within the incorporated jurisdictions. The greatest change in land use and future development has a decrease in forestland that will be converted to residential. Because it is impossible to determine where future residents will move in the unincorporated areas of the county, vulnerability in terms of future buildings, infrastructure and critical facilities is not known at this time. It can be surmised that this will bring an increase in population and efforts must be made to ensure that new homes are not built downstream of where a dam break may occur. Land use tables and projections can be found in Appendix B. A dam break analysis study is recommended in Chapter III, Section VI to determine the exact assets exposed to risk because of a dam failure.

The potential losses due to dam failure flooding are unknown and cannot be estimated at this time. Using the GEMA critical facilities reports and FEMA Worksheet #3a, all 71 critical facilities have a replacement value of \$147,752,797. There is slightly under \$1 billion worth of assets that could potentially be affected by dam failure events (*See Appendix A and Appendix D*).

D. Land Use and Development Trends – Currently the county has no guidelines that address development in areas surrounding dams.

- E. Multi-Jurisdictional Concerns** – All of Wilkes County can potentially be affected by a dam failure event. Any mitigation steps taken related to dam failure should be undertaken on a countywide basis and include all incorporated jurisdictions. A concern is the lack of available data for the county and its incorporated jurisdictions. A database needs to be created and maintained that provides information on past and future dam break events.
- F. Hazard Summary** – Dam failures and incidents involve unintended release or surges of impounded water. They can destroy property and cause injury and death downstream. While they may involve total collapse of a dam, that is not always the case. Wilkes County has 17 dams all classified as low hazard where minimal property loss is expected. The committee recognized the potential for losses caused by dam failure and identified it as a hazard requiring mitigation measures. To summarize, there are approximately 25,688 structures in the county totaling just under \$1 billion with a population of 9,797. The planning committee identified specific mitigation goals, objectives, and action items related to dam failure, which can be found in Chapter III, Sections II and III.
- G. Climate Change:** Studies have been conducted to investigate the impact of climate change scenarios on dam safety. Climate change impacts on dam failure in Wilkes County will most likely be those related to changes in precipitation and flood likelihood. Climate change projections suggest that precipitation may increase and occur in more extreme events, which may increase risk of flooding, putting stress on dams and increasing the likelihood of dam failure. 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.

SECTION VII. EARTHQUAKE

- A. Hazard Identification** - Earthquakes are one of nature’s most damaging hazards. An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of Earth’s tectonic plates. The severity of these effects is dependent on the amount of energy released from the fault or epicenter. They usually occur without warning and after just a few seconds can cause massive damage and extensive casualties. Common effects of earthquakes are ground motion shaking surface fault ruptures, and ground failure. If an earthquake occurs in a populated area, it may cause many deaths, injuries, and extensive property damage.

Magnitude and intensity measure different characteristics of earthquakes. Magnitude measures the energy released at the source of the earthquake and is determined from measurements on seismographs. Intensity measures the strength of shaking produced by the earthquake at a certain location and is determined by its effects on people, human structures, and the natural environment. The following two tables describe the Abbreviated Modified Mercalli Intensity Scale and show intensities that are typically observed at locations near the epicenter of an earthquake event.

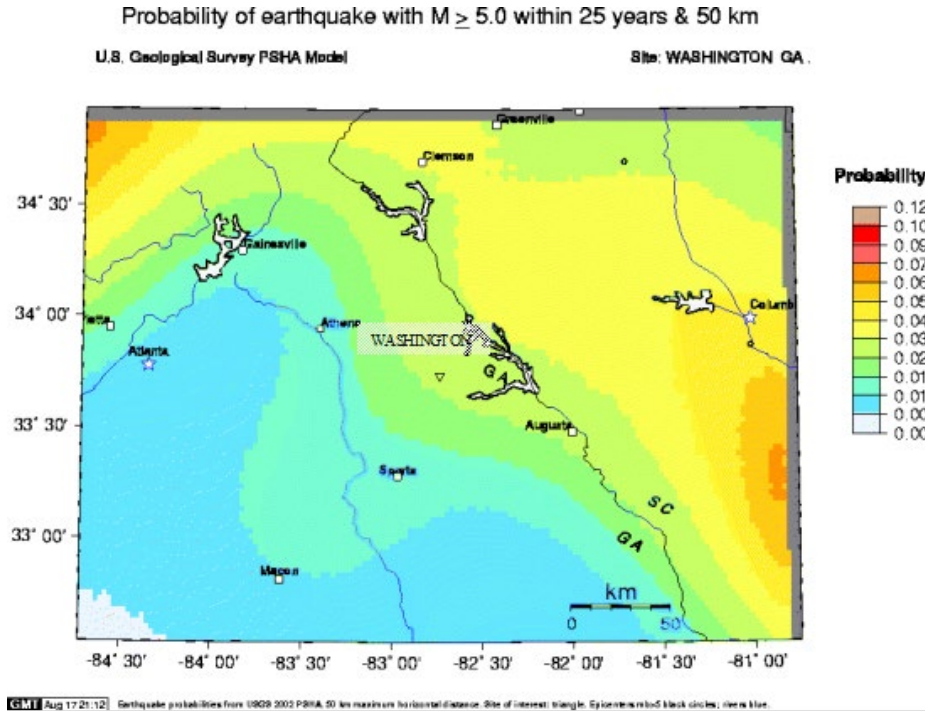
Magnitude	Typical Maximum Modified Mercalli Intensity
1.0 - 3.0	I
3.0 - 3.9	II - III
4.0 - 4.9	IV - V
5.0 - 5.9	VI - VII
6.0 - 6.9	VII - IX
7.0 and higher	VIII or higher

Abbreviated Description of the 12 levels of Modified Mercalli Intensity.		
Intensity	Shaking	Description/Damage
I.	Not felt	Not felt except by a very few under especially favorable conditions.
II.	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III.	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV.	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V.	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI.	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII.	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII.	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX.	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X.	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI.	Extreme	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII.	Extreme	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Source: USGS

Based on U.S. Geological Survey estimations the probability of an earthquake of magnitude 5.0 or less occurring within Wilkes Co. over the next 25 years is between 1% and 4% (see map below). As discussed above, such predictions are based on limited information, and cannot necessarily be relied upon for their precision. However, they do help demonstrate

that the threat of earthquakes cannot be overlooked even in a relatively inactive geographic area such as Wilkes Co.



B. Hazard Profile – The planning committee examined historical data from the NCEI, past newspaper articles, and conducted interviews during its research on the effects of past earthquake events. While earthquake events are a rare occurrence, the USGS states that the probability of an earthquake of Magnitude 5.0 or less occurring within Wilkes Co. over the next 25 years is between 1% and 4% (see map above). *All data covers the county as a whole no data is available by jurisdiction.* GMIS has 99% of the county with a seismic hazard score of three and the remaining one % with a seismic hazard score of one.

The table below shows the date, time location, and magnitude of previous events.

County	Details	Date	Time	Mag
Wilkes	A magnitude 4.9 (4.3 MB, 4.9 LG, Class: Light, Intensity: IV - V) earthquake occurred 16.1 miles away from the county center	08/02/1974	8:52	4.9
Wilkes	A magnitude 3.2 (3.2 MD, Depth: 3.1 mi) earthquake occurred 19.9 miles away from Wilkes County center	01/03/1992	4:21	3.2
Wilkes	A magnitude 3.2 (3.2 LG, Depth: 3.1 mi) earthquake occurred 66.4 miles away from the county center	08/08/1993	9:24	3.2
Wilkes	A magnitude 3.5 (3.5 LG, Depth: 3.1 mi) earthquake occurred 60.2 miles away from the county center	01/18/2000	22:19	3.5
Wilkes	A magnitude 3.5 (3.5 LG, Depth: 3.1 mi, Class: Light, Intensity: II - III) earthquake occurred 10.2 miles away from the county center.	03/18/2003	6:04	3.5

County	Details	Date	Time	Mag
Greene	11 km ENE of Woodville, Georgia	09/05/2006	4:32	2.5
Wilkes	2.1 magnitude earthquake	07/09/2017	4:47	2.1
Taliferro	Crawfordville, Georgia	05/18/2015	9:13	2..51
Wilkes	Near Adasburg, Georgia	12/27/2020	5:17	2.38
Wilkes	8 km E of Washington, Georgia	04/18/2021	3:20	2.27

Source: USGS, The News-Reporter, interviews, city-data.com

While data was collected looking at 72 years of data, the frequency rate was calculated using a 20-year hazard cycle per guidance from GEMA. Using a 20-year hazard cycle, the annual chance for an earthquake is:

- 25% chance for the unincorporated areas of the county
- 40% chance for the City of Washington.
- 25% chance for the Town of Rayle
- 40% chance for the Town of Tignall.
- 25% for Wilkes County.

Hazard frequency tables for individual jurisdictions are in Appendix D.

C. Assets Exposed to Hazard and Estimate of Potential Losses: All critical facilities, personnel, and public property in Wilkes County are susceptible to damage caused by an earthquake. There are no damage records available in relation to earthquakes. Loss would be determined based on intensity and magnitude and would vary in each case. All critical facilities, personnel, and public property in Wilkes County are susceptible to damage caused by an earthquake. Worksheet #3a has assets exposed to an earthquake hazard for each jurisdiction as:

Jurisdiction	Number of Structure/Properties	Value \$	Population
Wilkes County (Unincorporated)	17,216	\$905,961,378	5,714
Rayle	376	\$6,002,198	198
Tignall	1,265	\$27,318,500	485
Washington	7,079	\$281,526,545	3,947
TOTAL FOR COUNTY	25,688	\$994,872,743	9,797

The table below shows the number of critical facilities potentially at risk by jurisdictions, daily occupancy and replacement value (*See Appendix A and Appendix D*).

Jurisdiction	# of Critical Facilities	Replacement Value \$	Content Value \$	Daily Occupancy	
				Day	Night
Wilkes County	33	\$95,488,212.00	\$19,050,000.00	2,051	17
Rayle	3	\$1,238,982.00	\$375,000.00	0	0
Tignall	6	\$2,638,200.00	\$715,000.00	35	5
Washington	29	\$48,387,403.00	\$1,295,000.00	339	234
TOTAL	71	\$147,752,797.00	\$21,435,000.00	2,425	256

D. Land Use and Development Trends—There are no specific land use and development trends in relation to earthquakes currently.

E. Multi-jurisdictional Concerns - All of Wilkes County can potentially be negatively impacted by an earthquake. As a result, any mitigation steps taken related to earthquakes should be undertaken on a countywide basis to include all municipalities. A concern is the lack of available data for the county and all incorporated jurisdictions. A database needs to be created and maintained that provides information on past and future earthquake events.

F. Hazard Summary - An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of Earth’s tectonic plates. The severity of these effects is dependent on the amount of energy released from the fault or epicenter. The effects of an earthquake can be felt far beyond the site of its occurrence. They usually occur without warning and after just a few seconds can cause massive damage and extensive casualties. Common effects of earthquakes are ground motion and shaking surface fault ruptures, and ground failure. If an earthquake occurs in a populated area, it may cause many deaths, injuries, and extensive property damage.

The committee recognized the potential for losses caused by an earthquake and identified it as a hazard requiring mitigation measures. There have been eight earthquake events reported in the last 72 years. Based on a 20-year cycle hazard history there is a 25% chance of an annual earthquake event. To summarize, there are approximately 25,688 structures in the county totaling just under \$1 billion with a population of 9,797. The planning committee identified specific mitigation goals, objectives, and action items related to earthquakes, which can be found in Chapter III, Sections II and III.

G. Climate Change: Scientists are beginning to believe there may be a connection between climate change and earthquakes. Changing ice caps and sea levels 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 suggests that more intense earthquakes and tsunamis may eventually be added to the adverse consequences that are caused by climate change.

CHAPTER III. MITIGATION STRATEGIES

Table 3.1 provides a brief description of each section in this chapter and a summary of the changes to the 2018 update plan.

Chapter III. Section	Updates to Section
I. Flooding	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
II. Drought	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
III. Wildfire	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
IV. Severe Weather	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format. Added Lightning and Hail Events
V. Winter	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
VI. Dam Failure	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
VII. Earthquake	Completed action steps were removed. Action Steps that apply to all jurisdictions were combined. New goals were added where necessary along with any existing or new multijurisdictional concerns. Goals, Objective, and Actions Steps were updated to new format.
VII. All Hazards	Category added to take goals that apply to all Hazards to reduce redundancy.

SECTION I. INTRODUCTION TO MITIGATION STRATEGY

This chapter addresses the mitigation strategy requirements of 44 CFR Section 201.6 (c)(3): “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 shall include:

- i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
- ii) 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.
- iii) An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a particular emphasis on the extent to which benefits are maximized according to a cost-benefit review of the proposed projects and their associated costs.
- iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.”

A. Priority Changes from Previously Approved Plan

There have been no significant priority changes from the previous plan. The goal of Wilkes County, Rayle, Tignall, and Washington, is to protect the safety, health, and well-being of all county citizens and lessen the overall effects of a hazardous event.

There has been limited new development since the previous plan and no increase in population that would affect the overall vulnerability of the community from identified hazards. This has been no new adoption of development or building regulations to increase or decrease the overall vulnerability to hazard events.

B. Capability Assessment

Wilkes County, Rayle, Tignall, and Washington identified current capabilities for implementing hazard mitigation activities. The capability assessment identifies administrative, technical, legal, and fiscal capabilities. This includes a summary of departments and their responsibilities associated with hazard mitigation as well as codes, ordinances, and plans already in place that contain mitigation activities or programmatic structures. The second part of the assessment examined the fiscal capabilities applicable to providing financial resources to implement identified mitigation action items. Wilkes County has an annual budget of around \$15 million, Rayle's 2023 budget is \$154,545, Tignall's 2023 budget is \$246,876 and Washington's 2023 budget is approximately \$22 million. It should be noted that mitigation action steps with high dollar amounts couldn't be completed without grant funds and careful budget planning by all jurisdictions.

While not all technical and administrative skills are found in-house, all jurisdictions have access to multiple staff through the RC and can contract private firms or any professional services needed. The three tables below identify the administrative, technical, legal and fiscal capabilities of each jurisdiction.

Table 3. 2 Legal and Regulatory Capability (Y/N)

Regulatory Tools (ordinances, codes, plans)	Wilkes County	Rayle	Tignall	Washington	Does State Prohibit
Building codes	Y	N	N	Y	N
Zoning ordinance	Y	Y	Y	Y	N
Subdivision ordinance or regulations	N	N	N	Y	N
Special purpose ordinances (floodplain management, storm water management, soil erosion)	Y	Y	Y	Y	N
Growth management ordinances (also called “smart growth” or anti-sprawl programs)	N	N	N	N	N
Site plan review requirements	Y	N	N	Y	N
General or comprehensive plan	Y	Y	Y	Y	N
A capital improvements plan	Y	N	N	Y	N
An economic development plan	Y	N	N	Y	N
An emergency response plan	Y	Y	Y	Y	N
A post-disaster recovery plan	N	N	N	N	N
A post-disaster recovery ordinance	N	N	N	N	N
Real estate disclosure requirements	N	N	N	N	N

Table 3. 3 Fiscal Capability

Financial Resources	Wilkes County	Rayle	Tignall	Washington	Accessible or Eligible to Use (Yes/No)
Community Development Block Grants (CDBG)	Y	Y	Y	Y	Y
Capital improvements project funding	Y	Y	Y	Y	Y
Authority to levy taxes for specific purposes	Y	Y	Y	Y	Y – Vote required
Fees for water, sewer, gas, or electric service	Y	Y	Y	Y	Y
Impact fees for homebuyers or	N	N	N	N	Y

developers for new developments/homes					
Incur debt through general obligation bonds	Y	Y	Y	Y	Y
Incur debt through special tax and revenue bonds	Y	Y	Y	Y	Y – Vote required
Withhold spending in hazard-prone areas	N	N	N	N	Y
Other Grants	Y	Y	Y	Y	Y

Table 3.4 Administrative and Technical Capacity

Staff/Personnel Resources	Wilkes County	Rayle	Tignall	Washington	Dept./Agency and Position
Planner(s) or engineer(s) with knowledge of land development and land management practices	Y	Y	Y	Y	Building Dept./ Code Enforcement/ Public Works CSRA RC/Contract as Needed
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Y	N	N	Y	Building Dept./ Code Enforcement
Planners or Engineer(s) with an understanding of natural and/or manmade hazards	Y	N	N	Y	Public Works/CSRA RC Staff/ Contract as Needed
Floodplain manager	N	N	N	N	
Surveyors	Y	Y	Y	Y	Contracted as needed
Staff with education or expertise to assess the community’s vulnerability to hazards	Y	N	N	Y	Public Safety/EMA
Personnel skilled in GIS and/or HAZUS	Y	Y	Y	Y	CSRA RC
Emergency manager	Y	Y	Y	Y	EMA
Grant writers	Y	Y	Y	Y	CSRA RC

C. Community Mitigation Goals

Collectively, the jurisdictions reviewed the hazard profiles and the loss estimates in Section II and used it as a basis for developing mitigation goals, objectives and action steps. Mitigation goals are preventive measures to lessen the effect of and losses due to hazard events and are typically long-range visions adapted toward jurisdictional policy. Mitigation objectives are strategies to attain identified goals. Goals and objectives are formulated by reviewing hazard historical data, existing local plans, policy documents, regulations, and

public input. Each jurisdiction developed objectives and actions unique to specific vulnerabilities or concerns within its boundaries.

Mitigation actions were developed as the means to carrying out the objectives and attain goals. All action steps are compatible with the plans, policies, and regulations of each jurisdiction. The jurisdictions must also have the legal, administrative, fiscal, and technical capacities to perform each action.

The capabilities assessment above aided in forming realistic mitigation actions. This capabilities assessment can then incorporate results of the STAPLEE worksheet to identified obstacles that may hinder the completion actions. Each jurisdiction identified and prioritized actions steps along with an implementation schedule, funding source, and coordinating individual or agency.

Based on the capabilities assessment, the STAPLEE and six categories listed above the county and all jurisdictions identified the following goals:

- Goal 1: Protect the safety, health and well-being of all county citizens;
- Goal 2: Protect public infrastructure and private property;
- Goal 3: Educate the community about natural hazards;
- Goal 4: Manage development to minimize loss;
- Goal 5: Natural Resources Protection; and
- Goal 6: Structural modifications to reduce the impacts of hazard events.

D. Identification & Analysis of Range of Mitigation Actions

The framework used to guide jurisdictions in identifying mitigation measures was developed by FEMA and is captured by the following six categories:

- **Prevention:** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples include building and construction code revisions, zoning regulations, and computer hazard modeling.
- **Property Protection:** Actions that involve the medications of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include roadway elevations, improving wind and impact resistance, and floodproofing.
- **Public Education and Awareness:** Action to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples include programs that target repetitive loss properties and vulnerable populations.
- **Natural Resources Protection:** Actions that, in addition to minimizing hazard losses also preserve or restore the function of natural systems. Examples include projects to create open space, green space, and stream restoration.
- **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples include projects that control floodwater, reconstruction of dams, and construction of regional retention areas.

- **Emergency Services:** Actions that protect people and property during and immediately after a disaster event or hazard event. Examples include enhancements that provide advanced warning and redundant communications.

i. **Structural and Non-Structural**

Mitigation relates to concrete actions that are put into practice to reduce the risk of destruction and casualties. Mitigation is generally split into two main types of activities: Structural mitigation refers to any physical construction to reduce or avoid possible impacts of hazards, which include engineering measures and construction of hazard-resistant and protective structures and infrastructure. Non-structural mitigation refers to policies, awareness, knowledge development, public commitment, and methods and operating practices, including participatory mechanisms and the provision of information, which can reduce risk with related impacts. Structural and non-structural actions are identified in Table 3.7.

ii. **Existing Polices, Regulations, Ordinances, and Land Use**

Wilkes County, Rayle, Tignall, and Washington have adopted the following Mandatory codes:

- Georgia State Minimum Standard Building Code (International Building Code 2018 with Georgia State Amendments 2020, 2022, 2024).
- Georgia State Minimum Standard One- and Two-Family Dwelling Code (International Residential Code 2018 for One- and Two-Family Dwellings with Georgia State Amendments 2020).
- Georgia State Minimum Standard Fire Code (International Fire Code 2018 with Georgia State Amendments 2020, 2022, 2023, 2024).
- Georgia State Minimum Standard Plumbing Code (International Plumbing Code 2018 with Georgia State Amendments 2020, 2022, 2023, 2024).
- Georgia State Minimum Standard Mechanical Code (International Mechanical Code 2018 with Georgia State Amendments 2020, 2022).
- Georgia State Minimum Standard Gas Code (International Fuel Gas Code 2018 with Georgia State Amendments 2020, 2022).
- Georgia State Minimum Standard Electrical Code (National Electrical Code 2020 with Georgia State Amendments 2020, 2022, 2023).
- Georgia State Minimum Standard Energy Code (International Energy Conservation Code 2015 with Georgia State Supplements and Amendments 2020, 2022, 2023).
- Life Safety Code (NFPA 101).

They have also adopted the Permissive codes:

- International Property Maintenance Code 2018 with Georgia Amendments 2021.
- International Existing Building Code 2018 with Georgia Amendments 2021.

Other types of ordinances that have been adopted are:

The *Washington-Wilkes Unified Comprehensive Plan 2014-2024* was adopted by resolution by the Wilkes County Board of Commissioners, Rayle Town Council, Tignall City Council, and the Washington City Council. The planning process examines the current and future trends and assesses the strengths and opportunities available to achieve their community vision. This document drives the decision-making process for the County. The Comprehensive Plan also examines existing land use and projects future land use. Existing and Future Land Use Maps can be found in Appendix B.

iii. NFIP Code Adherence

Washington-Wilkes' Code Enforcement Officer serves as the designee that enforces the National Flood Insurance Program requirements for unincorporated Wilkes County and the City of Washington. They also oversee the NFIP requirements and flood prevention within its jurisdiction. The office reviews any permit applications or zoning complaints for their respective jurisdictions. Permits are not approved until signed off as compliant with all building codes and NFIP requirements. As the agencies that implement the addressed commitments and requirements of the NFIP, they also administer and oversee the process of substantial improvement (SI)/substantial damage (SD) regulations post disaster. Assessment of damages after a disaster helps in community resiliency and future mitigation strategies. Implementing existing guidelines and local regulations such as building codes, zoning ordinances, and disaster management plans continues to help these communities recover from natural disasters.

The jurisdictions of Rayle and Tignall do not participate in the NFIP due to a lack of flooding threat in the areas.

Duties of the code enforcement officer shall include, but not be limited to:

- Reviewing proposed development to ensure that the permit requirements of this article have been satisfied.
- Reviewing proposed development to ensure that all necessary permits have been received from governmental agencies from which approval is required by federal or state law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 USC 1344. Copies of such permits are required to be provided and maintained on file.
- Reviewing all permit applications to determine whether proposed building sites will be reasonably safe from flooding.
- When base flood elevation data or floodway data have not been provided in accordance with section 16-25, obtaining, reviewing and reasonably utilizing any base flood elevation and floodway data available from a federal, state or other sources in order to administer the provisions of sections 16-35 through 16-40.

- Reviewing and recording the actual elevation in relation to mean sea level (or highest adjacent grade) of the lowest floor, including basement, of all new or substantially improved structures in accordance with section 16-33(2).
- Reviewing and recording the actual elevation, in relation to mean sea level to which any new or substantially improved structures have been floodproofed, in accordance with section 16-33(2).
- Obtaining certification of design criteria from a registered professional engineer or architect in accordance with sections 16-33(1)c and 16-36(2) when floodproofing is utilized for a structure.
- Making substantial damage determinations following a flood event or any other event that causes damage to structures in flood hazard areas.
- Performing damage assessments after each hazard event; informing property owners of how to apply for permits for repairs and determining if the damage that has occurred qualifies as substantial damage.
- Reviewing permit applications for buildings located within the special flood hazard area to determine if the work being requested constitutes SI or SD repairs, and ensuring all requirements are addressed.
- Reviewing cost estimates of the proposed work to ensure they are reasonable using current market value of the structure and its characteristics, while excluding land value. Using the market value to determine if the proposed improvements meet SI requirements or using market value prior to the damage to determine if repairs meet SD requirements.
- Conduct field inspections during construction to ensure it complies with issued permits and work with owners to correct any violations found.
- Retain all FIRMs and maintain all SFHA permits. Both accessible by the general public.
- Coordinate with property owners and insurance adjusters on all NFIP flood insurance claims and Increased Cost of Compliance (ICC) coverage.
- Notifying adjacent communities and the state department of natural resources prior to any alteration or relocation of a watercourse and submitting evidence of such notification to the Federal Emergency Management Agency (FEMA).
- For any altered or relocated watercourse, submitting engineering data/analysis within six months to FEMA to ensure accuracy of community flood maps through the letter of map revision process. Ensure flood carrying capacity of any altered or relocated watercourse is maintained.
- Making the necessary interpretation where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). Any person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this article.
- Maintaining all records pertaining to the provisions of this article in the office of the code enforcement officer which shall be open for public inspection.

(Ord. No. 06102010, art. 3, § C, 6-10-2010)

Assessment of substantial damage after a disaster helps in resilience and mitigation strategies. Implementing existing guidelines and local regulations such as building codes, zoning ordinances, and disaster management plans has helped recover from natural disasters' aftermath. Documentation and Reporting: Prepare detailed documentation of the damage assessment, cost estimation, and calculations. This documentation will be essential for official determinations, insurance claims, or assistance applications.

iv. Community Values, Historic & Special Considerations

Historical-Cultural: Wilkes County has four districts listed on the National Register of Historic Places, as well as several individual sites.

- East Robert Toombs Historic District was listed in 1972. Period of significance is from 1825-1849, 1850-1874, and 1875-1899. Architectural style: Federal, Greek Revival, and Queen Anne.
- North Washington District was listed in 1973. Period of significance is from 1750-1799, 1825-1849, 1850-1874, and 1900-1924. Architectural style: Federal, Greek Revival, and Colonial Revival.
- Washington Commercial Historic District was listed in 1986. Period of significance is from 1800-1824, 1825-1849, 1850-1874, 1875-1899, 1900-1924 and 1925-1949. Architectural style: Queen Anne, Late Victorian.
- Washington Historic District was listed in 2004. Significant year: 1783, 1795, and 1800. Architectural style: Greek Revival, Federal.
- West Robert Toombs District was listed in 1973. Period of Significance: 1800-1824 and 1875-1899. Architectural style: Other, Classical Revival, Greek Revival.
- Anderson House was listed in 1976 located in Dansburg, Georgia. Architectural style is Romanesque, Other, Greek Revival. Period of significance 1850-1874.
- Arnold-Callaway Plantation was added in 1972. Architectural style is Greek Revival. Period of significance is 1825-1849 and 1850-1874.
- Campbell-Jordan House also known as Duncan G. Cambell House was listed in 1971. The house is located at 208 Liberty St. in Washington, GA. Architectural style is Federal, Classical Revival, Greek Revival. Period of Significance 1800-1824, 1825-1849.



- The Cedars also known as The Cedar Retreat was listed in 1972. Located at 210 Sims St in Washington, GA. Architectural style is Stick/Eastlake. Period of Significance: 1750-1799, 1800-1824, and 1875-1899.



- Daniel, James and Cunningham House also known as Kettle Creek Manor was listed in 1980. Architectural style is federal. Period of significance is 1800-1824.

- Fitzpatrick Hotel was added in 1982. Located at 18 W. Public Square in Washington, GA. Architectural style is Queen Anne and the period of significant is 1875-1899.



- Gartrell Family House was added in 2002, located at 854 Boyd Rd. Tignall, GA. Architectural style is Other and Greek Revival. Period of significance is 1825-1849.
- Gilbert-Alexander Hotel was added in 1972. Located at 116 Alexander Dr in Washington, GA. The architectural style is Federal and the period of significance is 1800-1824 and 1825-1849.
- Thomas M Gilmer House was added in 1977 and located 5 miles outside of Washington, GA.
- Holly Court also known as Ficklen-Lyndon-Johnson House added in 1972. Located at 301 S. Alexander St. in Washington, GA. Architectural style is federal and the period of significance is 1825-1849.
- Kettle Creek Battlefield was added in 1975 and located 9 miles SW of Washington, GA. Period of significance 1700-1749.
- Mary Willis Library added in 1972 located in Washington, GA. Architectural style is Other and Queen Anne. Period of Significance is 1875-1899.

- Old Jail was added in 1974 located at 103 Court St. Washington, GA. Architectural style is Romanesque and the period of significance is 1875-1899.
- Peacewood also known as Wingfield-Cade-Saunders House was added in 1972. Located at 120 Tignall Rd in Washington, GA. Architectural style is Federal, Other, and Greek Revival. Period of significance is 1750-1799, 1825-1849, 1850-1874.
- Pharr-Callaway-Sethness House was added in 1976. Located north of Tignall, GA. Architectural style is Greek Revival. Period of significance is 1800-1824 and 1850-1874.
- Poplar Corner was added in 1972. Located at 210 W. Liberty St in Washington, GA. Architectural style is Federal, Other and Beaux Arts. Period of significance 1800-1824, 1825-1849, 1850-1874, 1900-1924.
- Robert Shand Smith House added in 2002. Located at 902 S. Spring St in Washington, GA.
- Robert Toombs was added in 1972. Located at 216 E. Robert Toombs Ave in Washington, GA. Architectural style is Federal and Greek Revival. Significant year is 1837, 1885, 1797.
- Tupper-Barnett House was added in 1972. Located at 101 W. Robert Toombs Ave in Washington, GA. Architectural style is Federal and Greek Revival. Period of significance is 1825-1849 and 1850-1874.
- Washington Presbyterian Church added in 1972. Located at 206 E. Robert Toombs Ave in Washington, GA. Architectural Style is Other and the period of significance is 1825-1849 and 1875-1899.
- Washington-Wilkes Historical Museum added in 1970. Located at 308 E. Robert Toombs Ave in Washington, GA.
- The Washington Gymnasium Auditorium circa 1937 and was listed in 2002. Location 304 South Gibson Street Washington, GA. Architectural style is Classical Revival. The architectural firm was Merry and Parsons.

Recreation: Public parks and recreation facilities are located in Washington, Rayle, and Tignall. These municipalities contain a total of 20 acres of active and passive parks. Wilkes County is currently working with the Wilkes County School Board to improve recreational facilities and provide additional venues. The City of Washington contains multiple recreational areas including a downtown park that contains playground equipment and tennis courts. The Memorial Park located in Rayle is an excellent example of a passive park and should be replicated in other areas.

- v. **Prioritization of Actions:** Those mitigation actions given high priority are in two groups: life safety-related actions that can be accomplished relatively quickly and changes to protect critical facilities on which other emergency management systems are dependent, for example communications focal points. Those actions likely to require extended time frames to accomplish received medium priority status.

The committee consultant used the STAPLEE worksheet (Social, Technical, Administrative, Political, Legal, Economic, Environmental) to select and prioritize

the most appropriate mitigation alternatives and is in Appendix D. This methodology requires that seven categories outlined in the STAPLEE be considered when reviewing potential actions. This process helped ensure that the most equitable and feasible actions would be undertaken based on each jurisdiction's capabilities. Table 3.6 provides information regarding the review and selection criteria for alternatives.

Table 3.6

STAPLEE REVIEW AND SELECTION CRITERIA FOR ALTERNATIVES

- Is the proposed action acceptable to the community?
- Is the action compatible with current and future community values?
- Are equity concerns involved that would result in unjust treatment of any segment of the population?
- Will the proposed action cause social disruption?

TECHNICAL

- Will the proposed action achieve the stated objective and further mitigation goals?
- Will the proposed action create more problems than it solves?
- Does the proposed action resolve the problem completely or partially?
- Is it the most useful action in light of other community values?

ADMINISTRATIVE

- Does the community have the capability to implement proposed action?
- Is there someone to lead or coordinate the proposed action?
- Is there sufficient funding, staff and technical support to implement the proposed action step?
- Are there ongoing administrative needs that are required?

POLITICAL

- Is the proposed action politically acceptable?
- Have political leaders participated in the planning process?
- Who are the stakeholders for this proposed action?
- Have all stakeholders been afforded an opportunity to participate in the planning process?
- Is there public support to implement and maintain the action?

LEGAL

- Does the community have the authority to implement the proposed action?
- Is there a clear legal basis for the proposed action?
- Are there legal side effects? (i.e. could the action be construed as a taking)
- Is the proposed action allowed in the general plan?
- Will the community be liable for action or lack thereof?
- Will the proposed action be challenged?

ECONOMIC

- What is the cost-benefit of the proposed action (do the benefits exceed the cost)?
- Have initial, maintenance and administrative costs been taken into account?
- Has funding been secured for the proposed action? If not have funding sources been identified?
- Will the proposed action affect the fiscal capabilities and/ or budget of the jurisdiction?
- Will the proposed action place a tax burden on the community?
- Does the proposed action contribute to other community goals? (capital improvements, economic development)

ENVIRONMENTAL

- Will the proposed action have a positive or negative effect on the environment?
- Does the proposed action require environmental regulatory approvals?
- Does the proposed action meet local and state regulations?
- Does the proposed action impact a threatened or endangered species?

E. Introduction to Action Plan

The next two sections of Chapter III., Section II. Natural Hazards and Section III. Mitigation Actions comprise the strategies Wilkes County together with Rayle, Tignall, and Washington have identified to reduce the effects of natural hazards. Mitigation actions given high priority are in two groups: (1) life safety-related actions that can be accomplished relatively quickly and (2) changes to protect critical facilities on which other emergency management systems are dependent, for example, communications focal points.

SECTION II. NATURAL HAZARDS**A. Flooding Action Plan**

The committee determined that due to the presence of flood plains in the county efforts to reduce the level of exposure to flooding should be considered. In previous flooding instances, damage has been sustained primarily to roads, bridges, and natural resources. Specific mitigation measures identified by the committee are designed to lessen the effects of such damage to new and existing structures in the future.

Objective A1. Improve the effectiveness of existing flood insurance programs.

Objective A2. Evaluate and improve the present drainage infrastructure.

Objective A3. Warn citizens when the potential for flooding exists.

Objective A4. Lessen the impact on existing buildings, critical facilities, and infrastructure due to flooding.

Objective A5. Limit future development in flood-prone areas.

Objective A6. Reduce the threat of water contamination caused by flooding.

B. Drought Action Plan

As indicated in Chapter II, Section III, drought conditions can cause costly damage to crops. However, from a danger or hazard perspective, the greatest threat posed by drought conditions is from potential wildfires. As 95 percent of the county is made up of forest and woodlands, the possibility for wildfires is distinct and poses a significant threat. In general, wildfires are the result of dry conditions combined with lightning or carelessness. The committee determined that mitigation goals were necessary to prevent crop damage, as well as damage to new and existing structures.

Objective B1. Ensure that there is an adequate water supply during periods of drought.

Objective B2. Educate citizens on water conservation issues.

C. Wildfire Action Plan

As indicated in Chapter II, Section III, wildfires have the potential to cause costly damage in Wilkes County. From a danger or hazard perspective, the greatest threat posed by wildfire is the damage to forest, woodlands, and agricultural property. The possibility for wildfires is distinct and poses a significant threat to the county. Forest fires are generally the result of dry conditions combined with lightning or carelessness. The committee determined that

mitigation goals were necessary to prevent damage to undeveloped areas of the county as well as damage to new and existing structures caused by wildfires.

Objective C1. Ensure that adequate fire protection is available.

Objective C2. Reduce threat of wildfire occurrence.

Objective C3. Increase public awareness of wildfire dangers.

D. Severe Weather (Tornados, Tropical Storms, Thunderstorm Winds, Lightning, Hail)

As with many Georgia communities, if a tornado or tropical storm were to strike Wilkes County, significant damage to both property and agricultural crops could result. In addition, the potential for injuries and loss of life is substantial due to the unpredictability and violent nature of these storms. The committee recognizes the important role advance planning plays in the mitigation process. There is great benefit in identifying appropriate steps that can be taken to help minimize losses to new and existing structures in Wilkes County because of a severe weather event. As indicated in Chapter II, Section IV, of all of the natural hazards profiled in this plan, tornados have the potential to inflict the greatest amount of damage while thunderstorm winds are the most frequently occurring natural hazard in the county and have the greatest chance of affecting the county each year. The committee has identified several courses of action that both local officials and citizens can use in their mitigation efforts against the effects of tornados, tropical storms, thunderstorm winds, lightning and hail to both new and existing structures.

Objective D1. Minimize damage to property from severe weather events.

Objective D2. Minimize damage to public buildings and critical facilities to ensure continual operations of vital services.

Objective D3. Protect vulnerable populations from the effects of severe weather events.

Objective D4. Educate the public including citizens and business owners on disaster preparedness and safety.

E. Winter Storms Action Plan

Within Wilkes County, and the southeast region in general, there is great concern over the threat of winter storms. Although this area does not typically receive the amounts of snow and ice that other regions do, nor do they experience winter storms as frequently as other regions, Wilkes County and other southeastern communities must be prepared for the damage caused by winter storms. The fact that winter storms hit Wilkes County infrequently results in other problems, such as lack of equipment and supplies to combat treacherous winter storm conditions. In Wilkes County, the formation of ice on roads and bridges, tree limbs, and power lines is the cause of most damage. In Chapter II, Section V additional winter storm hazards are addressed, as well as information related to potential losses for the county. The committee has determined that several steps could be undertaken to minimize the effects of winter storms to protect the health and safety of citizens, as well as damage to new and existing structures.

Objective E1. Educate the public on preparedness and safety issues for winter storm events.

Objective E2. Prevent property damage because of a winter storm event.

Objective E3. Minimize power outages during winter storms.

F. Dam Failure Action Plan

Dam failure mainly affects areas that are downstream of the event. Further study of this type of event is required to determine where property damage and loss of life have the greatest potential to occur. Critical facilities and vulnerable populations are in all jurisdictions as well as the unincorporated areas of the County. As a result, any mitigation steps taken related to dam failure events should be undertaken on a countywide basis and specifically include all incorporated jurisdictions.

Objective F1. Identify at-risk populations and properties.

Objective F2. Develop a proposal to regulate protective measures for dam breach zones

G. Earthquake Action Plan

Objective G1. Identify at-risk populations and properties.

Objective G2. Educate the public on preparedness and safety issues for earthquake events.

H. All Hazard Action Steps

The purpose of this section is to allow the committee to recommend mitigation measures within this plan that transcend individual hazards. Certain common mitigation measures are needed regardless of the specific hazard event. Rather than list these multiple times within each different hazard category, the committee decided to list these “all-hazards” mitigation measures within a separate section of the plan. The goal of these mitigation measures is again to minimize the loss of life and property and to prevent disruption of services to the public to the greatest extent possible.

Objective H1. Ensure communication capabilities exist between all Emergency Service Personnel and Agencies.

Objective H2. Ensure the ability to travel for county residents, organizations, and providers of essential services such as Law Enforcement Personnel, hospitals and utilities after a hazard event.

Objective H3. Protect critical facilities from the effects due to power outages because of a hazard event to ensure a continuation of all vital services.

Objective H4. Provide adequate notification to citizens of Wilkes County pertaining to hazard event.

Objective H5. Guarantee all evacuation plans are up to date and adequate to meet the needs of the citizens of Wilkes County.

Objective H6. Guarantee that all Emergency Response Plans are up to date and adequate to meet the needs of citizens of Wilkes County.

Objective H7. Ensure all emergency shelters are ready to meet the needs of the population of Wilkes County, town of Rayle, the city of Tignall, and the city of Washington.

Objective H8. Provide the citizens of Wilkes County educational information on Emergency Preparedness.

Objective H9. Provide the citizens of Wilkes County with accurate and timely information pertaining to Emergency Preparedness.

Objective H10. Collect accurate and complete data pertaining to hazard events within Wilkes County, Rayle, Tignall, and Washington.

SECTION III. MITIGATION ACTIONS

Table 3.7

Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
1.	Investigate greater participation Level in the CRS	Wilkes/ Washington	BOC/City Councils	Flood	A1, A5	1, 2, 4, 5	Non-Structural	Staff Time	General Funds	Stalled do to funding	Ongoing	Low
2.	Continue to assess stormwater runoff.	Wilkes/Rayle/ Tignall/ Washington	Public Works	Flood	A2, A6	2, 6	Non-Structural	Staff time	General Funds	1 year and Continual	Ongoing	High
3.	Construct as needed, more stormwater retention facilities, storm drain improvements and channel improvements to protect existing and new developments.	Wilkes/Rayle/ Tignall/ Washington	BOC/City Council/ Public Works	Flood/ Drought	A2	2, 6	Structural	1,000,000	General Funds	2 years and Continual	Ongoing	High
4.	Clear run-off and water retention ditches.	Wilkes/Rayle/ Tignall/ Washington	Public Works/Road Dept.	Flood	A3, A4	1, 2	Structural	Staff Time	General Fund,	1 year and Continual	Ongoing	High
5.	Seek funding for communication towers and voice repeater systems.	Wilkes/Rayle/ Tignall/ Washington	EMA/Police/ Sheriff	All hazards	H1	1	Structural	\$750,000	General Fund, FEMA, CJCC, JAG, USDA, DOJ	2 years and Continual	Ongoing	High
6.	Washington identified stormwater projects on all or parts of Jackson St, Alabama St, Old Skull Shoals Rd, Booker St, Pecan St, Benson St, Williams St, Hill St, Mobile Circle, Ware St, Norman St, South Butler St, and Lincoln Drive to reduce or eliminate flooding.	Washington	Washington/ Public Works	Flood	A2, A4	1, 2, 6	Structural	2,000,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	Near completion	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
7.	Washington identified a stormwater project at Reese Booker Street to install catch basins and stormwater pipe can divert flooding problem away from three homes.	<u>Washington</u>	Washington/ Public Works	Flood	A2, A4	1, 2, 6	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	Complete	High
8.	Wilkes County identified stormwater projects at Peeler Road Bridge needs to be rebuilt and the road elevated	Wilkes County	Wilkes County/ Roads and Bridges	Flood	A2, A4	1, 2, 6	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	Ongoing	High
9.	Wilkes County identified a stormwater project at Herbert Calloway Road to increase existing 24 inch culvert needs to be replaced with a 36 inch culvert and elevate road.	Wilkes County	Wilkes County/ Roads and Bridges	Flood	A2, A4	1, 2, 6	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	Complete	High
10.	Wilkes identified a stormwater project at Boyd Road to increase existing 24 inch culvert to a 36 inch culvert and elevate road.	Wilkes County	Wilkes County/ Roads and Bridges	Flood	A2, A4	1, 2, 6	Structural	1,000,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	Ongoing	High
11.	Wilkes County identified a stormwater project the EMS building to divert stormwater away from the building.	Wilkes County	Wilkes County/ Roads and Bridges	Flood	A2, A4	1, 2, 6	Structural	100,000	CDBG, USDA, EPA, DNR, General Fund,	3 years	Deleted	High
12.	Promote the preservation of areas in and around watercourses.	Wilkes/Rayle/ Tignall/ Washington	BOC/City Councils	Flood	A5, A6	1, 2, 4, 5	Non-Structural	Staff time	CDBG, USDA, EPA, DNR	2 years	Ongoing	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
13. v	Add greenspace to known flood-prone areas.	Wilkes/Rayle/Tignall/Washington	BOC/City Councils	Flood	A5	1, 2, 4, 5	Non-Structural	Staff time	CDBG, USDA, EPA, DNR	2 years	Ongoing	Medium
14.	Evaluate existing water system upgrades as needed	Rayle/Tignall/Washington	Public Works	Flood/Drought/Wildfire	A6, B1, C1	1, 2, 6	Structural	1,000,000	General Fund, CDBG, USDA, EPA, DNR	1 year and Continual	Ongoing	High
15.	Investigate methods to reduce non-point source pollution.	Wilkes/Washington	BOC/City Council	Flood	A6	1, 2, 5	Non-Structural	Staff Time	USDA, EPA, DNR	2 years	Ongoing	Medium
16.	Enact a program to educate the residents about water conservation issues	Wilkes/Rayle/Tignall/Washington	BOC/City Councils/Water Dept.	Drought	B1, B2	1, 3	Non-Structural	\$2,000.00	USDA, EPA, DNR, General Funds	1year and Continual	Ongoing	High
17.	Increase public awareness of watering restrictions and bans.	Wilkes/Rayle/Tignall/Washington	BOC/City Councils/Water Dept.	Drought	B1, B2	1, 3	Non-Structural	Staff Time	General Funds	1year and Continual	Ongoing	High
18.	Develop a public awareness campaign to promote water-saving campaigns (i.e. low-flow water saving devices)	Wilkes/Rayle/Tignall/Washington	BOC/City Councils/Public Works	Drought	B1, B2	1, 3	Non-Structural	Staff Time	General Funds	1year and Continual	Ongoing	High
19.	Continue training of all firefighters to include wildland fire training.	Wilkes/Rayle/Tignall/Washington	EMA/Fire Depts.	Wildfire	C1	1, 2	Non-Structural	100,000	General Funds, FEMA	1year and Continual	Ongoing	High
20.	Seek funding for needed firefighting equipment	Wilkes/Rayle/Tignall/Washington	EMA/Fire Depts.	Wildfire	C1	1, 2	Non-Structural	250,000	General Funds, FEMA	1 year and Continual	Ongoing	High
21.	Seek funding for more paid firefighters.	Wilkes/Rayle/Tignall/Washington	EMA/Fire Depts.	Wildfire	C1	1, 2	Non-Structural	250,000	General Funds, FEMA	1 year and Continual	Ongoing	High
22.	Inventory and replace or install more fire hydrants as needed.	Wilkes/Rayle/Tignall/Washington	Public Works/ Fire Depts.	Wildfire	C1	1, 2	Structural	100,000	General Funds, FEMA	1year and Continual	Ongoing	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
23.	Seek funding fire engines, burhs trucks, equipment trucks and tankers for local fire departments.	Wilkes/Rayle/ Tignall/ Washington EMA/	EMA/Fire Depts.	Wildfire	C1	1, 2	Non-Structural	\$500,000	General Funds, FEMA	1year and Continual	Ongoing	High
24.	Enforce defensible space (30-ft minimum setbacks) between buildings and flammable brush and forestland where possible.	Wilkes/Rayle/ Tignall/ Washington	BOC/City Councils/	Wildfire	C2, C3	1, 2, 3	Structural	Staff Time	General Funds, FEMA	1 year and Continual	Ongoing	Medium
25.	Continue following GFC service of construction and maintenance of firebreaks around forests and structures, along abandoned roadbeds.	Wilkes/Rayle/ Tignall/ Washington	BOC/City Councils/ Planning and Zoning	Wildfire	C2, C3	1, 2, 3	Non-Structural	Staff Time	General Fund	1 year and Continual	Ongoing	High
26.	Strictly follow GFC's guidelines for control burns and permits.	Wilkes/Rayle/ Tignall/ Washington	BOC/City Councils/ GFC	Wildfire	C2, C3	1, 2, 3	Non-Structural	Staff Time	General Funds,	1 year and Continual	Ongoing	High
27.	Investigate the feasibility of Implementing the Firewise Community Initiative where appropriate	Wilkes/Rayle/ Tignall/ Washington	BOC/City Councils/	Wildfire	C2, C3	1, 2, 3	Non-Structural	\$25,000.00	General Funds, GFC	3 years	Ongoing	Low
28.	Improve public awareness of wildfire techniques and awareness of wildfire dangers.	Wilkes/Rayle/ Tignall/ Washington	EMA/ Fire Depts.	Wildfire	C2, C3	1, 2, 3	Non-Structural	\$25,000.00	General Funds	2 years and Continual	Ongoing	High
29.	Equip all county and city recreation parks with adequate early severe weather warning and lightning detection devices.	Wilkes/Rayle/ Tignall/ Washington	BOC/City Councils/ Recreation Dept.	Severe Weather	D1, D2, D3	1, 2, 6	Structural	50,000	General Funds, FEMA	2 years	Ongoing	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
30.	Inspects public buildings and critical facilities and retrofit to reinforce windows, doors, and roofs as needed	Wilkes/Rayle/Tignall/Washington	EMA/ Fire Code Enforcement and Building Inspection	Severe Weather, Winter Storms	D1, D2, D3	1, 2, 6	Structural	200,000	General Funds, FEMA	3 years	Ongoing	Medium
31.	Enforce building codes for all new buildings and critical facilities.	Wilkes/Rayle/Tignall/Washington	Code Enforcement and Building Inspection	Severe Weather, Winter Storm	D1, D2, E2	1, 2, 6	Structural/Non-Structural	Staff Time	General Funds, FEMA	1 year and Continual	Ongoing	High
32.	Install lightning rods in high value critical facilities.	Wilkes/Rayle/Tignall/Washington	EMA/ Code Enforcement and Building Inspection	Severe Weather	D1, D2, D3	1, 2, 6	Structural	100,000	General Funds, FEMA	2 years	Ongoing	High
33.	Install surge protectors on critical facilities' electronic equipment in essential county and city facilities.	Wilkes/Rayle/Tignall/Washington	EMA/ Code Enforcement and Building Inspection/ IT	Severe Weather, Winter Storm	D2, E3	1, 2, 6	Structural	\$2,000	General Funds	Continual	Ongoing	High
34.	Review current LEOP and update when needed.	Wilkes County EMA	EMA	All hazards	H6, H8	1, 2, 3	Non-Structural	Staff Time	General Funds	2 years	Ongoing	High
35.	Review current evacuation plans paying particular attention to vulnerable populations and update as needed.	Wilkes County EMA	EMA/BOE	Flood, Wildfire, Severe Weather, Winter Storm	H5, H8	1, 2, 3	Non-Structural	Staff Time	General Funds	2 years	Ongoing	High
36.	Provide boat owners with safety tie down procedures with boat registration.	Wilkes/Rayle/Tignall/Washington	EMA/ Recreation Dept.	Severe Weather, Winter Storm	D1, E2	1, 2, 3	Non-Structural	2,500	General Funds	1 year and continual	Ongoing	High
37.	Develop a public awareness program about the installation of lightning grounding systems on critical infrastructure, residential and business properties.	Wilkes/Rayle/Tignall/Washington	BOC/ City Councils/ EMA	Severe Weather	D4	1, 2, 3	Non-Structural	Staff Time	General Funds	2 years	Ongoing	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
38.	Inventory all critical facilities and assess generator needs. Install generators where needed.	Wilkes/Rayle/ Tignall/ Washington	EMA	All hazards	H3	1, 2, 6	Structural/Non-Structural	150,000	General Funds, FEMA	1 year and continual	Ongoing	High
39.	Seek funding to ensure all current and future emergency shelters have back-up generators.	Wilkes/Rayle/ Tignall/ Washington	EMA	All hazards	H3, H7	1, 2, 6	Structural/Non-Structural	300,000	General Funds, FEMA	3 years	Ongoing	High
40.	Educate the public on shelter locations and evacuation routes	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/ EMA/BOE	Flood, Wildfire, Severe Weather, Winter Storm	H5, H8	3	Non-Structural	Staff Time	General Funds	1 year and continual	Ongoing	High
41.	Install weather Service Radio Transmitter on existing towers to provide coverage of NWS transmissions	Wilkes/Rayle/ Tignall/ Washington	EMA/	All Hazards	H4, H8, H9	1, 3	Structural	150,000	General Funds, FEMA	2 years	Ongoing	High
42.	Develop public education and awareness programs regarding severe weather events to include home safety measures, purchase of weather radio and personal safety measures before, during and after an event.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/ EMA	Flood, Wildfire, Severe Weather, Winter Storm	A3, A4, C3, D1, D4, E1, E2, G2,H8	3	Non-Structural	\$10,000	General Funds, FEMA	2year and continual	Ongoing	High
43.	Implement a winter storm education program to include winterization of home and/or business and what to do before, during and after.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/ EMA	Winter Storm	E1	3	Non-Structural	\$25,000	General Funds	2 year and continual	Ongoing	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
44.	Create a data base to record hazard event information.	Wilkes/Rayle/ Tignall/ Washington	EMA	All hazards	H10	1, 2, 3,	Non- Structural	Staff Time	General Funds	2 years	Ongoing	Medium
45.	Inventory existing road equipment and purchase needed equipment to maintain roads before, during and after a hazard event.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/ Road Dept.	Flood, Severe Weather, Winter Storm	D2, E2, H2	1, 2	Non- Structural	500,000	General Funds, FEMA	2 years	Ongoing	Medium
46.	Develop coordinated management strategies for deicing, snow plowing, and clearing roads of fallen trees and debris	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/ Road Dept./EMA	Severe Weather, Winter Storm	D2, E2	1, 2	Non- Structural	Staff Time	General Funds	2 years	Ongoing	High
47.	Promote the construction of safe rooms in shelter areas and in public buildings.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/ EMA	Flood, Wildfire, Severe Weather, Winter Storm	H3	1, 2, 6	Structural	1,000,000	General Funds, FEMA	4 years	Ongoing	Medium
48.	Update 911 equipment as needed.	Wilkes County	EMA/ Sheriff	All hazards	H1	1, 2, 6	Structural	250,000	General Funds, FEMA	1 year and Continual	Ongoing	High
49.	Wilkes County will relocate the EMS building to the South Bypass (Andrew Drive) and combine EMS and 911 Dispatch.	Wilkes County/EMA	BOC/EMA	All hazards	H1, H2	1, 2, 6	Structural		General Funds, FEMA, SPLOST	3 years	Deleted	Medium
50.	Request that all new education facilities be designed to serve as public shelters for emergency purposes.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/ BOE	All hazards	H7	1, 2, 6	Non- Structural	Staff Time	General Funds	1 year and Continual	New	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
51.	Promote and participate in the following American Red Cross Programs ▲Disaster Resistant Neighborhoods Program ▲Business and Industry Preparedness Seminar ▲Community Disaster Education Preparedness presentations	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/	All hazards	H4, H8, H9	1, 2 3	Non-Structural	5,000	General Funds, FEMA	2 years and Continual	Ongoing	Medium
52.	Work with local cable and radio providers to enhance and broadcast public education on Emergency Preparedness.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/	All hazards	H8, H9	1, 2 3	Non-Structural	Staff Time	General Funds	1 year and Continual	Deleted	High
53.	Implement GIS technology on fire and emergency management vehicles so data can be readily available in the field so more accurate, timely assessments for future mitigation planning activities.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/	Flood, Wildfire, Severe Weather, Winter Storm	H9, H10	1, 2, 6	Non-Structural	50,000	General Funds, FEMA	1 year and Continual	Ongoing	High
54.	Seek funding to purchase ambulance	Wilkes/ EMA/EMS	EMA/EMS	All Hazards	H1, H2	1, 2	Non-Structural	500,000	General Funds, FEMA	2 years	New	High
55.	Pave Roads in county that are unpassable due to flooding	Wilkes County	BOC/ Road Dept.	Flood, Severe Weather,	A1, A2	1, 2, 4, 6	Structural	\$1,500,000	General Funds T-SPLOST FEMA, DOT	2 years	New	Medium

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
56.	Provide NOAA weather radios to elderly and handicap populations (moved to all hazards).	Wilkes/Rayle/ Tignall/ Washington	EMA	Flood, Wildfire, Severe Weather, Winter Storm	H4	1, 2,	Non- Structural	\$50,000	General Funds, FEMA	2 years	Stalled due to funding	Medium
57.	Review existing comprehensive, development and land use plans to address flood prone areas.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/	Flood	A1, A2	1, 2, 4, 6	Non- Structural	Staff Time	General Funds	3 years	Ongoing	Medium
58.	Perform procurement to contract with debris removal firm to have a contract in place before hazards to ensure the firm can move in immediately.	Wilkes/ Washington	BOC/ City Councils/	Winter Storm, Severe Weather, Flood, Wildfires,	H2	1, 2	Non- Structural	Staff Time	General Funds	3 months	Completed	High
59.	Conduct a survey to determine the structural capability of critical facilities to function after a seismic event. Retrofit as needed.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/	Earthquake	G1	3,6	Structural	Staff Time	General Funds	Stalled	Ongoing	High
60.	Distribute flyers and pamphlets to citizens and businesses on earthquake preparedness.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/	Earthquake	G1, G2	1, 2,3	Non- Structural	Staff Time	General Funds	3 months	Ongoing	High
61.	Conducts earthquake scenarios to estimate potential loss of life and injuries, the types of potential damage, and existing vulnerabilities.	Wilkes/Rayle/ Tignall/ Washington	BOC/ City Councils/	Earthquake	G1, G2	1, 2,3,6	Non- Structural	Staff Time	General Funds	3 months	Ongoing	High

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Action #	Mitigation Action and Description	Jurisdiction	Implement Agency	Hazards Addressed	Objective Supported	Goal	Structural/ Non-Structural	Estimated Project Cost	Possible Funding Source(s)	Time Frame	Status	Priority
62.	Conduct dam breach analysis to identify assets and population at risk in the event of a failure.	Wilkes/Rayle/Tignall/Washington	BOC/ City Councils/	Dam Failure	F1, F2	1, 2,	Non-Structural	100,000	General Funds, DNR	3 years	Ongoing	Medium
63.	Draft ordinance prohibiting development in dam breach zone.	Wilkes/Rayle/Tignall/Washington	BOC/ City Councils/	Dam Failure	F2	1, 2, 4	Non-Structural	Staff Time	General Funds	2 years	Ongoing	Medium
64.	Install dam failure alert systems.	Wilkes/Rayle/Tignall/Washington	BOC/ City Councils/	Dam Failure	H4	1, 2, 6	Structural	50,000	General Funds, DNR	4 years	Completed	Medium

- A. **New Buildings and Infrastructure:** All objectives and action steps are applicable to new buildings and infrastructure.
- B. **Existing Buildings and Infrastructure:** All objectives and action steps are applicable to existing buildings and infrastructure except adopting building codes. Enforcing building codes on existing buildings is not always feasible. Buildings may be retrofitted but cannot always be brought up to stricter regulations.
- C. **Special Multi-Jurisdictional Strategy and Considerations:** During a natural hazard, it is imperative that all emergency personnel can communicate with each other throughout the entire planning area. The County has numerous dead spots throughout the area due to topography and lack of adequate communication equipment. The County and its emergency personnel are dependent on the private sector for towers to use for signals. If these towers are ever removed, the County will be without any adequate means to transmit signals.

Another concern is the lack of available data for the county and individual jurisdictions on hazard events. A database needs to be created and maintained that provides information on flooding events that occur. This database should include information such as location (road names, neighborhoods, GPS coordinates, etc.), damages reported, power outages, road closures, county, and city personnel that are dispatched to the area, etc.

D. **Completed and Deleted Action Steps from Original Plan:**
Flood

- Determine the elevation of critical facilities in known flood areas and seek funding to relocate if necessary. Completed.
- Update Floodplain Maps. ~~FEMA updated all maps in 2010.~~
- Review and adopt floodplain ordinances as needed. Completed for those that participate.
- Review setback requirements from the top of banks of creeks and major rivers. Completed setback requirements are consistent with the DNR guidelines.
- Increase the size of retention basins and run off canals where appropriate. Incorporated into Mitigation Action Step #3.
- Install water level monitoring devices on dams and on all major tributaries in Wilkes County. Removed water level devices are already installed.
- Flood and Drainage project completed in the Danburg Road/State Highway 44 and Baston Road and Baston Trailer Park for 550,000.
- Flood and Drainage Projects in Washington County: Rocker Rd. \$65,000; Stoeny Ridge Rd \$120,000; Newton Rd \$125,000; Oscar Thorton Rd \$25,000.
- Review existing comprehensive, development and land use plans to address flood prone areas. This was completed during the 2014-2024 Comprehensive Plan Update.
- Install measuring devices in creeks, ponds, etc. to provide a warning when water levels become dangerously high. All have monitors.
- Identify property owners who are located in areas continually subject to flooding and relocate or mitigate. There are no repetitive flood properties.

- Cap wells not in use and increase wellhead waterproofing. Deleted deals with private property. Added back as an education component.
- Ensure wellhead elevations are above known flooding levels. Handled by Health Dept.

Drought

- Identify and inventory all vulnerable agricultural properties including livestock and develops a protective action plan. Removed, as this is private property.
- Study the range of federal support programs available to assist Wilkes County's agriculture community. Removed as this is private property and all farmers know about assistance.
- Water Use Ordinances was removed from the plan. All jurisdictions have adopted GA EPD guidelines.
- Seek funding for wells that have gone dry and been removed. Funding does not exist for this activity as a grant. It is a loan and must be applied for by private citizens.
- Conduct a study of proactive measures for Wilkes County's agriculture to include livestock watering ponds and capturing stormwater runoff. Private property removed from plan.
- Map all wells with a flow of 100 Gallons Per Minute (GPM) or more for use by Emergency Management during a drought. Removed as these are all private wells.

Wildfire

- Built a fire station on Hwy 47. Completed.

Severe Weather

- Inspect all county and municipal critical facilities for proper grounding. Completed.
- Seek funding for reverse 911 was removed from the plan as technology is obsolete and the county has implemented CODE RED
- Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations. Building Codes are in compliance.
- Provides NOAA weather radios to elderly and handicap populations. Promoting Code Red.
- To the greatest extent possible, identify all owners of inadequately installed manufactured homes offer a financial incentive to retrofit them with an appropriate level of anchoring and support. Removed due to funding.
- Run HAZUS scenarios once the software is updated and compatible to RC ArcGIS 10.2 update estimated losses. Completed by GEMA.
- Install eight outdoor emergency warning sirens throughout Wilkes County to obtain broader coverage. Removed using Code-Red
- Install two outdoor emergency warning sirens in Tignall. Removed using Code-Red
- Install one outdoor emergency warning siren in Rayle. Removed using Code-Red
- Seek funding for code-red. Have implemented code red

- Create an EMA website and Facebook Page with information pertaining to Emergency Preparedness. Have created and completed.
- Equip school buses with Automated Vehicle Locations. Removed this decision will be made by the Board of Education.

Winter Storm

- Review current codes to comply with and enforce the State building code with criteria for designing snow load for buildings and structures. All jurisdictions follow state-adopted building codes.
- Encourage harvesting of trees along utility and road corridors, preventing potential winter storm damage. This is done by the electric companies.

E. Unchanged and/or Ongoing Action Steps: The following mitigation steps remain in the plan. Based on the STAPLEE Criteria these unchanged action steps were found to be relevant in limiting the damage to people and property from a natural hazard. All action steps have been reformatted to meet the action step criteria established by GEMA and FEMA after the original plan was approved. The new table format from GEMA Plan Update Guidance Template 2013 has been used to organize action steps. STAPLEE worksheet can be found in Appendix D for each action step.

Flood:

- Continue to assess storm water run-off.
- Seek funding to construct more storm-water retention facilities, storm-drain improvements and channel improvements to protect existing and new developments.
- Recommend that run-off and water retention ditches be cleared.
 - This is being done by the Wilkes County Road Department and is a continual goal.
- Promote the preservation of areas in and around watercourses.
- Add greenspace to known flood prone areas.
- Wilkes identified a stormwater project at Boyd Road to increase existing 24-inch culvert needs to be replaced with a 36 inch culvert and elevate road.
- Wilkes County identified a stormwater project at Herbert Calloway Road to increase existing 24-inch culvert needs to be replaced with a 36 inch culvert and elevate road.
- Wilkes County identified a stormwater project at Peeler Road Bridge needs to be rebuilt and the road elevated.
- Wilkes County identified a stormwater project the EMS building to divert stormwater away from the building.
- Wilkes County will relocate the EMS building to the South Bypass (Andrew Drive) and combine EMS and 911 Dispatch.

Drought

- Evaluate existing water system. Upgrades have been made for around 750,000 to the water system over the last 3 years.

- Increase public awareness of watering restrictions.
 - Adopted the Georgia DNR Drought Management Plan and the Statewide Outdoor Water Use Schedule. The Georgia Water Stewardship Act went into effect statewide on June 2, 2010.
- Educate citizens on water conservation.
- Promote increased surface water usage for irrigation.
- Promote usage of surface artesian flow for irrigation.

Wildfire

- Seek funding to install more fire hydrants. The City of Washington installed three new hydrants and installed an additional valve for \$6,338.
- Review previous firefighter training and implement a schedule for the ongoing training of all firefighters to include wildland fire training.
- Seek funding for more paid firefighters.
- Seek funding for needed firefighting equipment. Over the last five years 24 sets of firefighter protective clothing have been purchased for approximately \$41,000
- Seek funding for more fire tankers (2000 to 3000 gallons) for local fire departments. Purchased one platform truck for \$875,000. Bought a new pumper for \$280,000 Bought a used fire truck and refurbished for \$113,000
- Increase public awareness of wildfire dangers by publishing articles in the local newspaper and providing bulletins to local churches and the schools.
- Recommend a defensible space (30-ft minimum setbacks) between buildings and strictly follow GFC guidelines for control burns and permits.
- Increase public awareness of wildfire dangers around the home and community, such as lighted matches, cigarettes, trash, and the process for obtaining burn permits by publishing articles in the local newspaper and providing bulletins to local schools.
- Participate in the Firewise Community Initiative where appropriate.

Severe Weather

- Review building codes for proper wind strength and safety regulations and for consistency with state and federal regulations.
- Inspect public buildings and critical facilities and retrofit to reinforce windows, doors, and roofs as needed.
- Review current evacuation plans paying attention to vulnerable populations and update as needed.
- Review and current Emergency Response Plan and update when needed.
- Install generators where needed. (moved to all hazards)
- Install generators on all new critical facilities. (moved to all hazards)
- Seek funding to ensure all current and future emergency shelters have back-up generators. (moved to all hazards)
- Install National Weather Service Radio Transmitter on existing tower to provide coverage of NWS transmissions Wilkes County, Rayle, Tignall, Washington.
- Educate the public on shelter locations and evacuation routes.

- Develop public education and awareness programs regarding severe weather events to include home safety measures, purchase of weather radio and personal safety measures before, during and after severe event weather.
- Promote and participate in the following American Red Cross Programs
 - i. Disaster Resistant Neighborhoods Program (educating communities)
 - ii. Business and Industry Preparedness Seminar (educating businesses on business continuity planning)
 - iii. Community Disaster Education Preparedness presentations

Winter Weather

- Implement a winter-storm education program to include winterization of home and/or business and what to do before, during and after the winter storm event.
- Seek funding for communication towers and voice repeater systems (moved to all hazards).
- Develop coordinated management strategies for deicing, snow plowing, and clearing roads of fallen trees and debris
- Road maintenance equipment.
- Inventory and assess generator and install where needed. (moved to all hazards)

Dam Failure

- Install dam failure alert systems.
- Perform field survey including dams, spillways, downstream cross section, and downstream structures within dam breach zone.

Earthquake

- Conduct a survey to determine structural capability of critical facilities to function after a seismic event. Retrofit as needed.
- Distribute flyers and pamphlets to citizens and businesses on earthquake preparedness.
- Conducts earthquake scenarios to estimate potential loss of life and injuries, the types of potential damage, and existing vulnerabilities.

All Hazards

- Seek funding for EMS equipment Six LIFEPAK® 15 monitor/defibrillator or \$192,000 Six LUCAS™ Chest Compression System for 195,000
- Install generators where needed: \$24,780 City of Washington portable generator for Wastewater treatment plant. Have six new portable generators for \$200,000
- Seek funding to ensure all current and future emergency shelters have back-up generators. Installed a generator at the Pope Center.
- Install weather Service Radio Transmitter on existing towers to provide coverage of NWS transmissions

CHAPTER IV. PLAN INTEGRATION AND MAINTENANCE

The table below provides a brief description of each section in this chapter and a summary of the changes that have been made.

Chapter 1 Section	Updates to Section
I. Implementation Action Plan	Revised to follow New GEMA planning template
II. Evaluation, Monitoring, Updating Note whether the original method and schedule worked	Revised to follow New GEMA planning template
III. Plan update and maintenance	Regulated update and maintenance schedule and public involvement

SECTION I. Implementation Action Plan

A. Administrative Actions: Wilkes County Emergency Management Agency was responsible for overseeing the original PDM planning process and the plan update. Facilitation of the planning process was conducted by the Central Savannah River Area Regional Commission. The Wilkes County Board of Commissioners has authorized the submission of this plan to both GEMA and FEMA for their respective approvals. The Wilkes County Board of Commissioners, Town Council of Rayle, Town Council of Tignall, and the City Council of Washington have formally adopted this plan after approval from GEMA and FEMA was obtained.

B. Authority and Responsibility: Upkeep and maintenance of the plan shall be the responsibility of the EMA Director, as determined during the planning process. It shall be the responsibility of the EMA Director to ensure that this plan is utilized as a guide for initiating the identified mitigation measures within the community. The Wilkes County Board of Commissioners and the Mayors of all incorporated jurisdictions will be responsible for assigning appropriate staff members to implement the action steps identified in this plan for their jurisdictions. The EMA Director, or his designee, shall be authorized to call the committee to review and update this plan periodically (at least annually) throughout the useful life of the plan, not to exceed five years.

During the plan update process, the EMA Director and committee members shall identify projects that have been successfully undertaken in initiating mitigation measures within the community. These projects shall be noted within the planning document to indicate their completion. Additionally, the committee called together by the EMA Director shall discuss and identify any additional mitigation projects that are necessary in the community.

C. Prioritization: The mitigation goals, objectives and related action items were initially compiled from the input of the committee, as well as from others in the community. The committee prioritized the mitigation actions based on what would be perceived as most beneficial to the community, and the action steps have been listed in this plan as the committee prioritized them. Several criteria were established to assist committee members in

the prioritization of these suggested mitigation actions. Criteria included perceived cost-benefit or cost-effectiveness, availability of potential funding sources, overall feasibility, measurable milestones, multiple objectives, and both public and political support for the proposed actions.

1. **Methodology for prioritization:** To assist with the prioritization of mitigation actions, the STAPLEE worksheet and criteria recommended by FEMA was used. STAPLEE is a tool used to assess the costs and benefits and the overall feasibility of mitigation actions. STAPLEE stands for the following:
 - i. **Social:** Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?
 - ii. **Technical:** Is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?
 - iii. **Administrative:** Are there adequate staffing, funding, and maintenance capabilities to implement the project?
 - iv. **Political:** Will there be adequate political and public support for the project?
 - v. **Legal:** Does your jurisdiction have the legal authority to implement the action?
 - vi. **Economic:** Is the action cost-beneficial? Is there funding available: Will the action contribute to the local economy?
 - vii. **Environmental:** Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

The committee was asked to review the STAPLEE score sheet with a list of mitigation actions and assign a High, Medium, or Low score to each item to help determine the item's priority. Each action item was discussed, and a consensus reached by the group on the importance of each item.

2. **Use of cost-benefit refer to Worksheet #4:** Through the STAPLEE prioritization process, several projects emerged as being a greater priority than others. Some of the projects involved expending considerable amounts of funds to initiate the required actions. Other projects allowed the community to pursue completion of the project using potential grant funding. Others required no significant financial commitment by the community.

The determination of the cost-benefit of a project was based on the anticipated cost in relation to the perceived benefit of the action taken. A proposed action with a high price tag, but minimal benefit to the community, was considered to have a low-cost benefit. Conversely, if minimal expenditures were required and the entire community would benefit, this received a favorable cost-benefit rating. All proposed mitigation actions were evaluated to determine the favorability of the benefit in relation to the cost associated with completing the project. Determining the economic feasibility of mitigating hazards can provide decision-makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

3. **Use of other calculations:** Estimation of potential damages and costs in the event of a natural hazard achieves two ends: (1) it enables the identification of critical economic targets for mitigation measures and (2) to enhance the ability to prioritize post-disaster response in aiding the community to recover.
4. **Use of other review structures:** All goals were discussed in detail to determine what was considered a priority for the EMA personnel.

D. Incorporation of Local PDM Plan into other plans/planning measures: The jurisdictions completed and update their Joint Comprehensive plan in 2019. The 2018 plan was reviewed to determine if any of the mitigation activities needed to be added. Wilkes County, Rayle, Tignall, and Washington work jointly to produce these planning documents. The Joint Comprehensive Plan is due for an update in 2024. This hazard plan will be reviewed and incorporated into the Joint Comprehensive Plan update as needed. In addition, relevant sections of the 2018 plan were included in the revision of the Wilkes Local Emergency Operations Plan.

SECTION II. EVALUATION, MONITORING, AND UPDATING

The original method for evaluation of the plan was unsuccessful. While the plan was discussed at EMA meetings, little attention was given to the monitoring and evaluation of the plan. Changes have been made to ensure a more successful and meaningful use of this plan.

- A. **Method:** The Plan is intended to be a ‘living’ document that informs stakeholders about hazard mitigation projects and plans undertaken by the county and their jurisdictions. In accordance with the requirements set forth in the Disaster Mitigation Act of 2000, Warren County is required to review the plan annually and revise the plan every five years. The revision process will be consistent with the FEMA planning requirements as stipulated in the 44 CFR 201.6.
- B. **Criteria to be used to monitor and evaluate the plan annually or after any natural disaster event.**
 - a. Each hazard will be reviewed. Any new information pertaining to new and/or previous events will be added to the plan.
 - b. Any new critical facilities will be added to the plan.
 - c. Critical facilities information will be updated as needed.
 - d. All mitigation goals, objectives and action steps will be reviewed for relevance and completion status. All mitigation goals, objectives and action steps that have been completed or are no longer relevant will be documented.
 - e. New mitigation activities will be added if necessary.
 - f. Public participation will be monitored and documented.
- C. **Responsibility:** At the direction of the EMA Director, the committee shall be reconvened for the revision process that will include a schedule, timeline, and a list of the agencies or organizations participating in the plan revision. Wilkes County and all incorporated jurisdictions have designated the following participants of the committee to guide plan

maintenance and update activities to ensure that the information in the plan is current. The update committee will also be responsible for disseminating information to stakeholders within their respective jurisdictions.

Jurisdiction	Hazard Mitigation Update Committee	Review
	Point-of-Contact	Schedule
Wilkes County	Emergency Management Director	Annually
Rayle	Mayor	Annually
Tignall	Mayor	Annually
Washington	City Administrator	Annually

D. Timeframe: The committee has set the second Tuesday of every August for the annual review of the plan update and within two months after any natural disaster event. A public notice will be submitted to the legal organ of each jurisdiction and the notice will be published at all government and community buildings.

SECTION III. PLAN UPDATE AND MAINTENANCE

A. Public involvement: Wilkes County is committed to having active public participation during reviews and updates of the PDM Plan. Public participation will follow the guidelines set forth in 44 CFR 201.6. Future public involvement in the community will be more stringent. The original method was not as successful as anticipated in ensuring community involvement. Two weeks before the annual August review meeting, a notice will be published in the legal organ of Wilkes County. Flyers will be placed at all government and community gathering places to ensure that citizens of the county are made aware of the annual review process. The new EMA website will also provide ongoing information about the plan and its implementation.

B. Timeframe: At the direction of the EMA Director, the committee will convene in order to accomplish the revisions the second Tuesday of every August. The EMA Director will ensure the revised plan is presented to the Wilkes County Board of Commissioners for formal adoption. In addition, all holders of the County plan will be notified of affected changes. No later than the conclusion of the five-year period following initial approval of the update plan, the EMA Director shall submit the updated PDM Plan to the Georgia Emergency Management Agency and the Federal Emergency Management Agency for their review and coordination.

CHAPTER V. Conclusion

SECTION I. Summary

Through the update process of this plan, Wilkes County has developed a more thorough hazard history, an inventory of critical facilities, and an updated contact list for emergency contacts at critical facilities. Natural hazards have been identified countywide. Goals, objectives, and mitigation actions have been compiled and prioritized that would reduce the risk to lives and property because of the identified hazards. The committee has been able to work together effectively and efficiently to produce this document and establish a greater awareness of our risks and our mitigation strategies.

As a result of the updated PDM planning process, Wilkes County officials have obtained more complete and accurate information and knowledge regarding the County's disaster history, the presence of natural hazards, the likelihood of each of these hazards occurring within the County, and the potential impacts and challenges these hazards present to the community.

All meetings were open to the public and advertised in *The News-Reporter*, providing Wilkes County citizens with the opportunity to comment on and offer suggestions concerning disaster mitigation actions within the community.

The committee found that it is difficult to predict the geographic threat, and therefore the resulting impact of some natural disasters as compared to others. Tornadoes and related severe weather events strike randomly, usually affecting a small, localized area. On the other hand, natural disasters such as winter ice storms and drought can blanket the entire county, affecting all businesses, public facilities, and residents.

Recognizing this challenge, the committee identified both general and specific measures to aid in the mitigation of several natural hazards most likely to impact Wilkes County. These measures include, but are not limited to, the protection of critical facilities and infrastructure, progressive governmental policies, and the proactive use of codes and regulations. It is worth noting that local government policies can often be the single most important and cost-efficient component of PDM.

The mission of the Wilkes County Pre-Disaster Hazard Mitigation Planning Committee is to *“Make the citizens, businesses, communities, and local governments of Wilkes County less vulnerable to the effects of natural hazards through the effective administration of hazard mitigation grant programs, hazard risk assessments, wise floodplain management, and a coordinated approach to mitigation policy through state, regional and local planning activities.”*

The committee feels that this plan will help to make all of Wilkes County a safer place to live and work for all its citizens.

SECTION II – REFERENCES

Numerous sources were utilized to ensure the most complete planning document could be assembled. In an effort to ensure that all data sources consulted are cited, references are listed in the following format: 1) Publications, 2) Web Sites, 3) Other Sources.

Publications:

FEMA Pre-Disaster Mitigation *How-to Guides* #1, 2, 3, 7 (FEMA)
GEMA Supplements to FEMA Pre-Disaster Mitigation How-to Guides (GEMA)
The Warrenton Clipper
The Augusta Chronicle
Summary of Floods in the United States During 1990 and 1991
<http://pubs.er.usgs.gov/publication/wsp2474>
FLOODS IN GEORGIA. FREQUENCY AND MAGNITUDE. By. R. W. Carter.
<Http://pubs.usgs.gov/circ/1951/0100/report.pdf>
Georgia Archives University System of Georgia
<http://cdm.sos.state.ga.us:2011/cdm/search/searchterm/FLOOD/mode/all/order/subject/ad/desc>

Web Sites:

FEMA www.fema.gov
GEMA www.gema.state.ga.us
Georgia Department of Community Affairs <http://www.dca.state.ga.us/>
Georgia Forestry Commission <http://weather.gfc.state.ga.us>
National Climatic Data Center www.ncdc.noaa.gov
SHELDUST™ | Spatial Hazard Events and Losses Database for the United States
<http://webra.cas.sc.edu/hvri/products/sheldus.aspx>
National Inventory of Dams <http://crunch.tec.army.mil/nid/webpages/nid.cfm>
<https://www.anyplaceamerica.com/directory/ga/wilkes-county-13317/>
New Georgia Encyclopedia <http://www.georgiaencyclopedia.org/nge/Home.jsp>
Georgia Archives University System of Georgia
<http://cdm.sos.state.ga.us:2011/cdm/search/searchterm/FLOOD/mode/all/order/subject/ad/desc>
United States Census Bureau <http://www.census.gov/>
USDA, NASS, 2020 CENSUS OF AGRICULTURE
http://www.nass.usda.gov/Census_of_Agriculture/index.asp
<http://www.sercc.com/> The Southeast Regional Climate Center (SERCC)
<http://www.tornadohistoryproject.com/tornado/Georgia> Tornado History Project

Other Sources:

American Red Cross
CSRA Regional Commission
Georgia Department of Natural Resources
Georgia Forestry Commission
Wilkes County
Wilkes County, Rayle
Wilkes County, Tignall
Wilkes County, Washington
Wilkes County Board of Education
Wilkes County Tax Assessor

APPENDICES

Appendix A – Hazard Identification, Risk Assessment and Vulnerability (HRV)

- I. Hazard A - Flood
 - a. Description
 - b. Data – GEMA Critical Facility Inventory Report
 - c. Maps

- II. Hazard C - Drought
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- III. Hazard D - Wildfire
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- IV. Hazard E – Severe Weather, Including Tornados, Tropical Storms, and Thunder Storms
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- V. Hazard F – Winter Storm
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- VI. Hazard F – Dam Failure
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- VII. Hazard F – Earthquake
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

- VIII. All Hazards --
 - a. Description
 - b. Data– GEMA Critical Facility Inventory Report
 - c. Maps

Appendix B – Growth and Development Trends / Community Information

- I. Local Comp Plan Executive Summary
- II. Statistics/tables from Local Comp Plan
- III. Department of Labor Community Information
- IV. USDA 2020 Census Report Wilkes County

Appendix C –Planning documents

- I. Executive Summary Local Emergency Operations
- II. State of Georgia Hazard Mitigation Strategy
- III. Hazard Risk Analysis
- IV. Flood Insurance Study
- V. Soil Survey Glascock and Jefferson Counties
- VI. Community Wildfire Protection Plan
- VII. Timber Impact Assessment GFC
- VIII. Executive Summary CSRA Regional Commission Regional Plan

Appendix D – Worksheets used in the planning process

- I. Completed GEMA/local worksheets
- II. Blank GEMA/local worksheets
- III. Other misc. worksheets or planning process documents

Appendix E – Copies of Required Planning Documentation

- I. Public notice
- II. Meeting Agendas / Meeting Minutes
- III. Sign-in sheets
- IV. Local proclamations (copy of all resolutions)
- V. GEMA/FEMA correspondence

APPENDIX A

**HAZARD IDENTIFICATION,
RISK ASSESSMENT
AND
VULNERABILTY**

FLOOD

Flood plains are relatively flat lands that border streams and rivers that are normally dry, but are covered with water during floods. The severity of a flood is usually measured in terms of depth of flooding. That data is not normally available for the infrequent flood events in Wilkes and its municipalities. Loss to human life or property, which is available data, is used as a proxy for flood depth.

Flooding occurs when the volume of water exceeds the ability of a water body (stream, river, or lake) to contain it within its normal banks. Floodplains serve three major purposes: Natural water storage and conveyance, water quality maintenance, and groundwater recharge. These three purposes are greatly inhibited when floodplains are misused or abused through improper and unsuitable land development. For example, if floodplains are filled in order to construct a building, then valuable water storage areas and recharge areas are lost. This causes unnecessary flooding in previously dry areas and can damage buildings or other structures.

The susceptibility of a stream to flooding is dependent upon several different variables. Among these are topography, ground saturation, rainfall intensity and duration, soil types, drainage, drainage patterns of streams, and vegetative cover. A large amount of rainfall over a short time period can result in flash flood conditions. A small amount of rain can also result in floods in locations where the soil is saturated from a previous wet period or if the rain is concentrated in an area of impermeable surfaces such as large parking lots, paved roadways, etc. Topography and ground cover are contributing factors for floods in that water runoff is greater in areas with steep slopes and little or no vegetation.

Based on interviews, data from the NCEI covering 72 years, and the local paper, The News-Reporter, there have been fourteen reported flooding events. All of these events took place in the unincorporated areas of the county. These flooding events were the result of heavy rains. The rainfall resulted in flash flooding, washed out several roads and downed trees and power lines.

The hazard frequency table calculates a 25 percent chance of an annual flooding event county-wide. Based on tax data, parcel and flood maps, all or a portion of 263 known structures/properties valued at approximately \$14 million and a population of 60 are located in known floodplains.

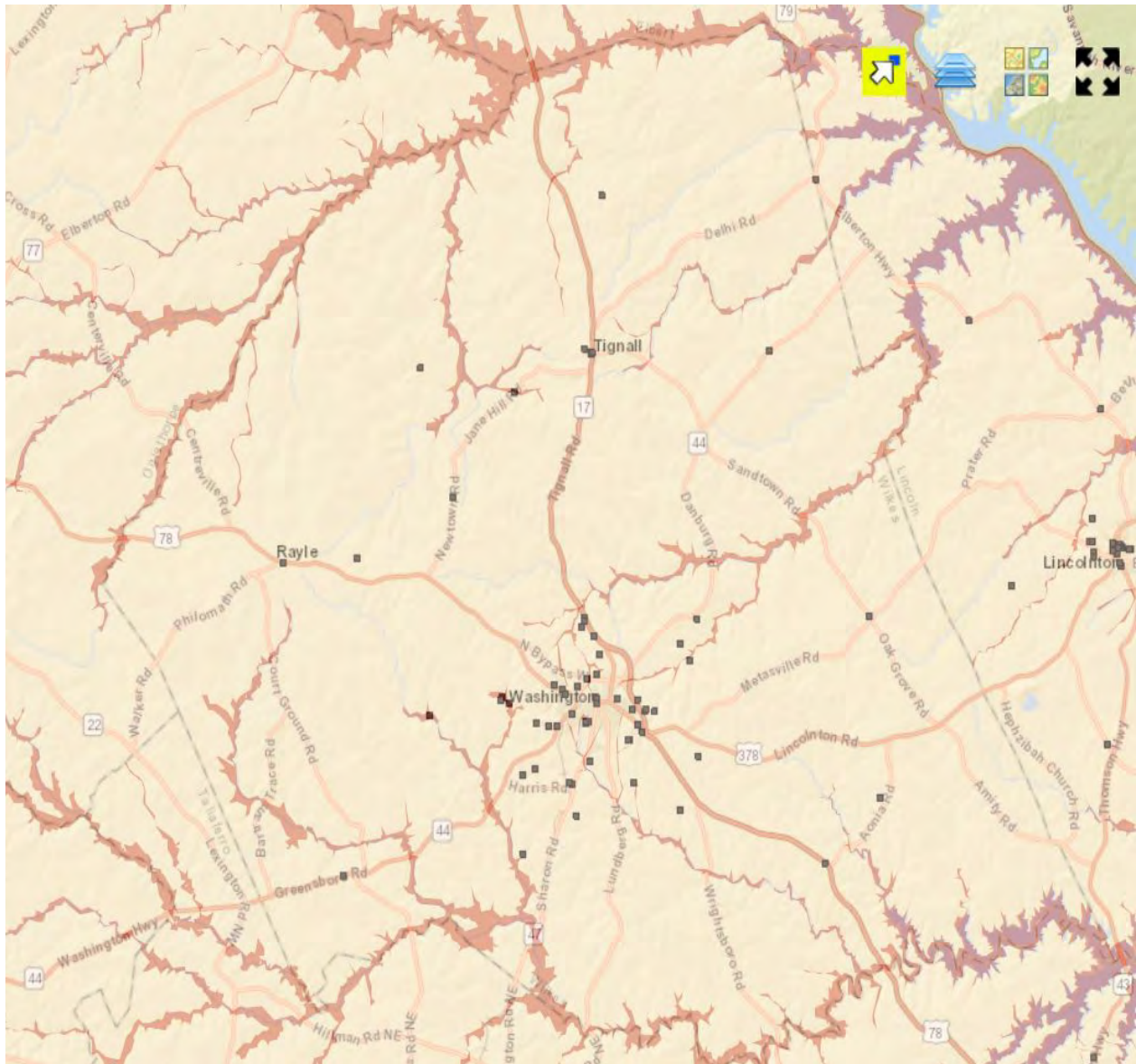
Date	Fatality	Inj	PrD	CrD	Event Narrative
10/04/1995	WILKES	0	0	0.00K	
06/11/2001	WILKES	0	0.00K	0.00K	The remnants of Tropical Storm Allison with 10 inches observed in 24 hours on the Little River five miles southeast of Washington in Wilkes county. Two to three-day rainfall totals exceeded 10 inches in several places in this area. The Little River crested at 28.4 feet, exceeding the previous highest stage ever recorded of 26.4 feet.
06/12/2001	WILKES	16	16.00k	0.00K	The Wilkes County Emergency Manager reported that high water caused minor damage to a couple of roads and culverts and washed out a few gravel roads.
09/14/2002	WILKES	0	0.00K	0.00K	Tropical Storm Hanna moved caused heavy rainfall, flooding was minimal.
09/06/2004	WILKES	0	0.00K	0.00K	The remnants of Hurricane Frances heavy rainfall caused some minor flooding of roads.
09/16/2004	WILKES	0	0.00K	0.00K	The remnants of Hurricane Ivan Average rainfall of 5-8 inches causing some flooding in the county
09/27/2004	WILKES		5.00k	0.00K	The remnants of Hurricane Jeanne Rainfall of 4-6 inches, but flooding problems observed were minor.
07/06/2005	WILKES	0	0.00K	0.00K	The remnants of Tropical storm Cindy brought strong bands of thunderstorms with damaging winds, flash flooding.
08/08/2005	WILKES	0	1.50K	0.00K	Thunderstorms persisted over Wilkes county for 3 hours minor flooding was reported on some roads. The 911 Center reported a couple of inches of water flowing across some roads in the western portion of the county. Damage was minor limited to debris cleanup.
03/01/2009	FICKLIN	1	0.00K	0.00K	Flooding was observed along the Little River. Damage was confined to minor debris removal.
03/29/2009	LITTLE RIVER	1	0.00K	0.00K	Little River west of Washington exceeded the flood stage of 22 feet. Damage was confined to minor debris clean up.
04/03/2009	LITTLE RIVER	1	0.00K	0.00K	The USGS stream gage on the Little River south of Washington briefly exceeded its flood stage of 19.0 feet. Minor flooding was observed along the woodlands and fields near the river. Damage was confined to minor debris removal.
09/21/2009	BRICK HOUSE	5	0.00K	0.00K	Kettle Creek just south of Washington reached its flood stage of 14 feet. Monetary damage was confined to minor debris removal from areas adjacent to the creek.
12/30/2015	Wilkes County		400k		The water is flowing fast, causing culverts to wash away. We got bridges underwater, roads underwater, and we got one bridge that is 7 feet underwater. If you look at it, it might look like one or two inches, but its 7 feet underwater. eight roads were closed. Not only did it rain, it poured, and flooded. Probably out of 240 miles of dirt road, every one of them was damaged or had some type of flooding over the roads or over the bridges,"
01/13/2020	Wilkes County	1	N/A	N/A	WRDW reported that "Rocker Road was completely washed out earlier Monday. EMA officials say a driver was going down the road when it caved in and she fell 30 feet down into the water. She was taken to the hospital with minimal injuries."
Total		25	422.5K	0.00K	

FLOOD HAZARD SCORE

Name	Jurisdiction	Hazard Score	Value	Year	Building size	Content Val	Year	Functional	Facility type	Risk	Day Occ	Night Occ
Rayle City Hall	Rayle town	1	141982	2023	4112	125000	2023	0	Government, G	Essential, Historic Consideration	2	
Rayle Fire Department	Rayle town	1	147000	2023	4112	250000	2023	0	Emergency Serv	Essential		
Rayle Water Tank/System	Rayle town	1	950000	2023	100		2023	0	Government, G	Important, Lifeline		
Tignall City Hall	Tignall town	1	172200	2023	1346	40000	2023	0	Government, G	Essential	1	
Tignall Fire Department	Tignall town	1	149600	2023	1875	622500	2023	0	Emergency Serv	Essential		
Tignall Gymnasium	Tignall town	1	1351000	2023	10506	32500	2023	0	Government, G	Essential		
Tignall Water Tank #1	Tignall town	1	330300	2023	100		2023	0	Government, G	Lifeline		
Tignall Water Tank #2	Tignall town	1	516000	2023	100		2023	0	Government, G	Lifeline		
Tignall WPCP	Tignall town	1	119100	2023	540	20000	2023	0	Government, G	Lifeline	0	
911 call Center	Washington city	0	400000	2023	19702		2023	0	Emergency Services, Emergency Services, EMA, EMA			
Anthony Wood Products Lift Station #13	Washington city	1	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Berkshire Drive Lift Station #6	Washington city	0	650000	2023	100		2023	0	NGO, NGO, Tra	Essential, Hazardous Materials		
Chamber of Commerce	Washington city	0	750000	2023	6725		2023	0	Government, W	Important, Historic Consideration	10	
City of Washington Waste Treatment Plant	Washington city	1	18500000	2023	100	45000	2023	0	Government, G	Essential, Lifeline		
City of Washington Water Treatment Plant #1	Washington city	1	6000000	2023	100	50000	2023	0	Government, G	Essential, Lifeline		
City of Washington Water Treatment Plant #2	Washington city	1	6000000	2023	100	50000	2023	0	Government, G	Lifeline		
Concord Lift Station #10	Washington city	0	650000	2023	100		2023	0	NGO, NGO, Tra	Essential, Hazardous Materials	0	
Electrical Substation - Gordon	Washington city	0	1500000	2023	100		2023	0	Emergency Serv	Lifeline		
Electrical Substation-Dixie Wood	Washington city	1	1500000	2023	150		2023	0	Emergency Serv	Lifeline		
Elijah Clark Drive Lift Station #4	Washington city	0	650000	2023	100		2023	0	NGO, NGO, Tra	Essential	0	
EMA/EMS	Washington city	0	105000	2023	2300		2023	0	Emergency Services, Emergency Services, EMS, EMS			
EMS substaion	Washington city	0	30000	2023	2500		2023	0	Emergency Services, Emergency Services, EMS, EMS			
EMS Substation	Washington city	0	30000	2023			2023	0	Emergency Serv	Essential		
Harpers Personal Care Home Lift Station #3	Washington city	0	497848	2023	7036		2023	0	Medical, EMS	Vulnerable Population	0	
High School Lift Station #8	Washington city	1	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Highway 44 Lift Station#12	Washington city	0	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Hills Street Lift Station #7	Washington city	0	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Old Skull Shoals Lift Station#11	Washington city	0	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Paper Pak Lift Station #14	Washington city	1	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Pope Center	Washington city	0	2500000	2023	10017	500000	2023	0	Government, W	Essential, Important		
Seven Oaks Dr. Lift Station #5	Washington city	0	150000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Skulls Shoal Rd Lift Station #15	Washington city	1	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
South bypass lift Station #1	Washington city	0	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Stockyard Lift Station #9	Washington city	0	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Washington City Hall	Washington city	0	850000	2023	6198	300000	2023	0	Government, G	Important	20	
washington crossing Lift Station #2	Washington city	1	650000	2023	100		2023	0	NGO, NGO, Tra	Essential		
Washington Fire Department	Washington city	0	472403	2023	2240	350000	2023	0	Emergency Serv	Essential		
Wilkes County Communications Center	Washington city	0	400000	2023			2023	0	Emergency Serv	Essential		
3 SISTERS LAKE DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
BARNWELL LAKE DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
BOOTH S LOWER LAKE DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
Booths Lake Dam	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
BURDETTE LAKE DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
BURDETTE LAKE DAM #2	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
CITY OF WASHINGTON BEVERDAM CREEK DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
CITY OF WASHINGTON SETTLING POND DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
GARRARD DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
GRIMAUDE LAKE DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
Hale Lake Dam	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
Harpers Personal Care Home	Wilkes County	0	750000	2023	100		2023	0	NGO, NGO, Tra	Essential	30	26
Heritage Health Care	Wilkes County	0	1200000	2023	19384	150000	2023	0	Medical, Medic	Vulnerable Population	67	55
LOWE IRRIGATION LAKE DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
Palmer Lake dam	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
REVILLE LAKE DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
WASHINGTON COUNTRY CLUB LAKE DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		

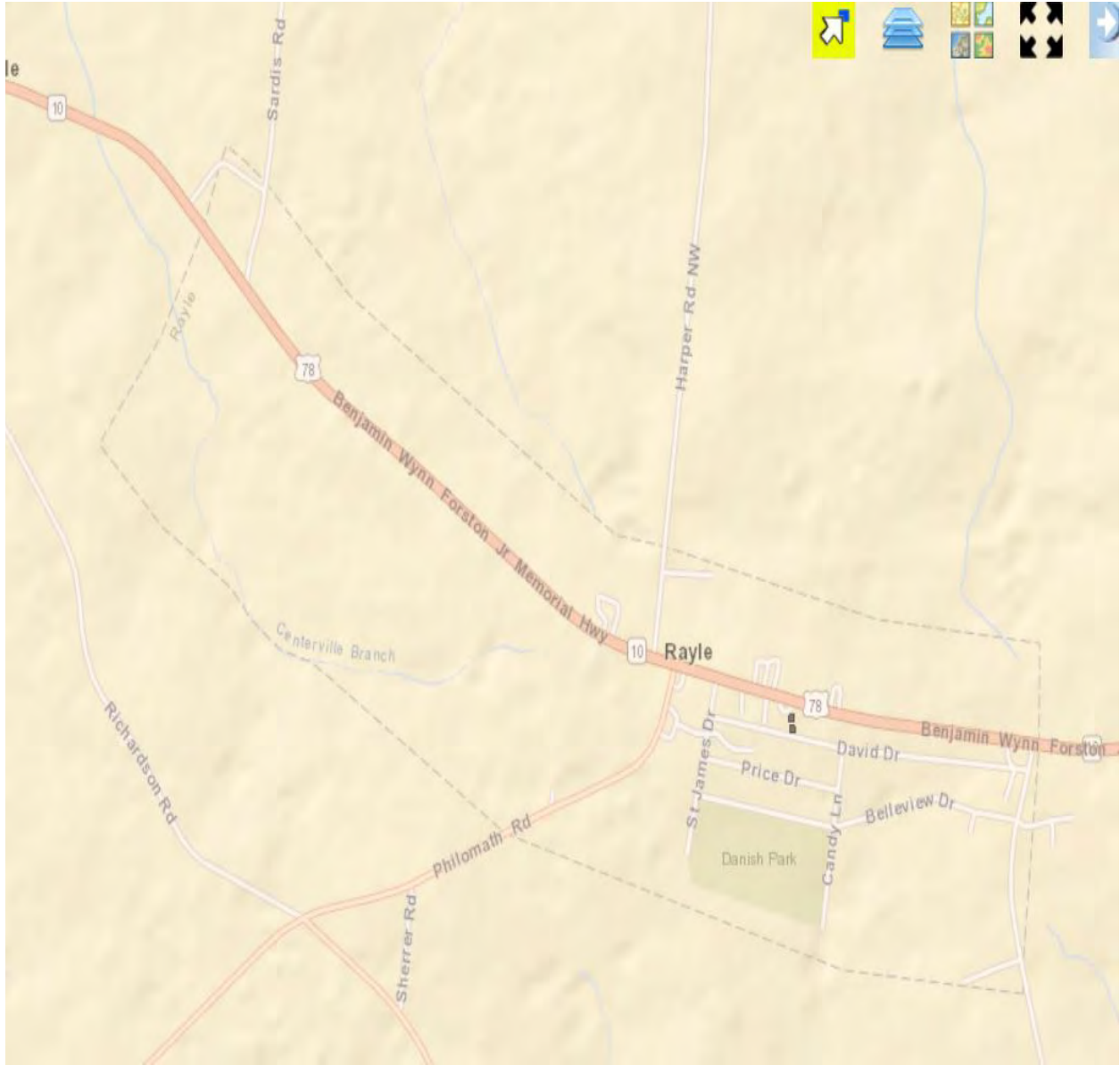
WASHINGTON LITTLE BEAVERDAM CREEK RESERVIO	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
Washington-Wilkes Communications Center	Wilkes County	0	800000	2023	1500	400000	2023	0	Law Enforceme	Essential, Lifeline	5	3
Washington-Wilkes Comprehensive High	Wilkes County	1	15000000	2023	0	1500000	2023	0	Education, Edu	Essential, Vulnerable Population	536	3
Washington-Wilkes Elementary School	Wilkes County	1	8661600	2023	0	1500000	2023	0	Education, Edu	Essential, Vulnerable Population	435	3
Washington-Wilkes Middle School	Wilkes County	1	15000000	2023	0	1500000	2023	0	Education, Edu	Essential, Lifeline, Vulnerable Populatio	421	4
Washington-Wilkes Primary School	Wilkes County	0	10453500	2023	0	1500000	2023	0	Education, Edu	Essential, Vulnerable Population	623	4
WASHINTON-WILKES ORCHARD DAM	Wilkes County	1	150000	2023	100		2023	0	Law Enforceme	Transportation		
Wilkes County Courthouse	Wilkes County	0	5600000	2023	22082	350000	2023	0	Law Enforceme	Essential, Historic Consideration, Impo	25	2
Wilkes County EMS	Wilkes County	0	740000	2023	2300	350000	2023	0	Law Enforceme	Essential	10	3
Wilkes County Jail	Wilkes County	0	1500000	2023	0	250000	2023	0	Law Enforceme	Essential, Vulnerable Population	85	85
Wilkes County Sheriff's Office	Wilkes County	0	1935264	2023	19702	250000	2023	0	Law Enforceme	Essential	10	3
Wilkes Fire Station-Danburg	Wilkes County	1	100000	2023	1100	250000	2023	0	Emergency Serv	Essential		
Wilkes Fire Station-Metasville	Wilkes County	1	150000	2023	1000	350000	2023	0	Emergency Serv	Essential		
Wilkes Fire Station-Newton	Wilkes County	1	150000	2023	1000	350000	2023	0	Emergency Serv	Essential		
Wilkes Fire Station-Tyrone	Wilkes County	1	150000	2023	1000	350000	2023	0	Emergency Serv	Essential		
Willis Memorial Hospital	Wilkes County	0	31000000	2023	51863	10000000	2023	0	Medical, Medic	Essential, Important, Vulnerable Popul	145	65
			147752797			21435000						

Wilkes County Flood Plain Map from GMIS



Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
	VE	1% with Velocity BFE
3	A	1% Annual Chance no BFE
	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
	AR	1% Federal flood protection system
2	X500	0.2% Annual Chance
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

Rayle Flood Plain Map from GMIS



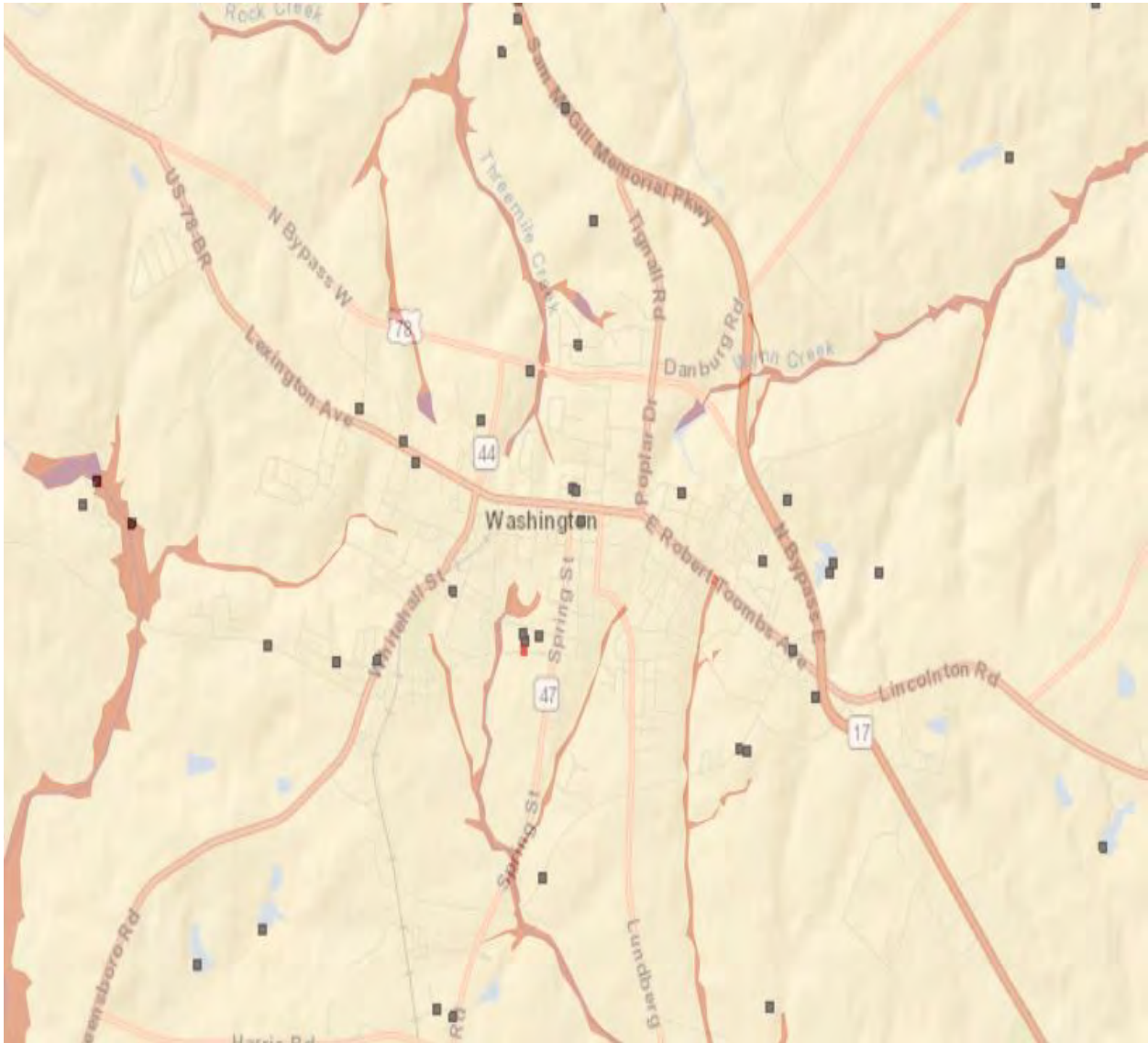
Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
	VE	1% with Velocity BFE
3	A	1% Annual Chance no BFE
	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
	AR	1% Federal flood protection system
	X500	0.2% Annual Chance
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

Tignall Flood Plains GMIS



Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
	VE	1% with Velocity BFE
3	A	1% Annual Chance no BFE
	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
	AR	1% Federal flood protection system
	2	X500
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

Washington Flood Plains GMIS



Score	Original Value	Description
4	Floodway	Floodway (within zone AE)
	V	1% with Velocity no Base Flood Elevation (BFE)
	VE	1% with Velocity BFE
3	A	1% Annual Chance no BFE
	A99	1% Federal flood protection system
	AE	1% has BFE
	AH	1% Ponding has BFE
	AO	1% Sheet Flow has depths
	AR	1% Federal flood protection system
2	X500	0.2% Annual Chance
1	ANI	Area not included in survey
	D	Undetermined but possible
0	UNDES	Undesignated
	X	Outside Flood Zones

DROUGHT

Hazard Identification – The planning committee reviewed 72 years of historical data from the NCDC, The Georgia DNR, the GFC and newspapers in researching drought conditions in the county. Drought conditions are identified by a prolonged period of moisture deficiency. Climatologists and hydrologists use five indicators of drought: rainfall, soil moisture, stream flows, lake levels and groundwater level. Drought conditions affect the cultivation of crops as well as water availability and water quality. Drought is also a key factor in wildfire development. Drought conditions make natural fuels (grass, brush, trees, dead vegetation) more fire-prone, especially during a lightning storm.

Drought is not spatially defined and equally affects the entire planning area. Droughts do not have the immediate effects of other natural hazards, but sustained drought can cause severe economic stress to not only the agricultural interests in Wilkes County, but to the entire State of Georgia. The potential negative effects of sustained drought are numerous. ***Historical data is available only for the county as a whole.*** Based on a 20-year cycle hazard history there is a 95 percent chance of an annual drought event in Wilkes County. In addition to an increased threat of wildfires, drought can affect private wells, municipal and industrial water supplies, stream-water quality, water recreation facilities, hydropower generation, as well as agricultural and forest resources.

In summary, for Wilkes County as a whole, there are 7,404 agricultural/forestry properties valued at approximately \$256 million including 7,302,263 heads of livestock and an estimated population of 464 that have the greatest potential to be damaged by drought. There is a population of 9,797 and approximately 25,688 structures/properties in the county valued just under \$1 billion, which could be affected if wildfires break out due to drought conditions.

Wilkes Count Drought Hazard Data 1997 - 2019

Jurisdiction	Date	Event
COUNTYWIDE	9/1/1997	Drought
COUNTYWIDE	5/1/1999	Drought
COUNTYWIDE	8/1/1999	Drought
COUNTYWIDE	2/1/2000	Drought
COUNTYWIDE	4/1/2000	Drought
COUNTYWIDE	5/1/2000	Drought
COUNTYWIDE	6/1/2000	Drought
COUNTYWIDE	7/1/2000	Drought
COUNTYWIDE	10/1/2000	Drought
COUNTYWIDE	10/1/2001	Drought
COUNTYWIDE	11/1/2001	Drought
COUNTYWIDE	12/1/2001	Drought
COUNTYWIDE	4/1/2002	Drought
COUNTYWIDE	8/1/2002	Drought
COUNTYWIDE	1/1/2003	Drought
COUNTYWIDE	3/1/2004	Drought
COUNTYWIDE	5/1/2007	Drought
COUNTYWIDE	9/1/2007	Drought
COUNTYWIDE	10/1/2007	Drought
COUNTYWIDE	11/1/2007	Drought
COUNTYWIDE	12/1/2007	Drought
COUNTYWIDE	9/1/2011	Drought
COUNTYWIDE	7/1/2016	Drought
COUNTYWIDE	8/1/2016	Drought
COUNTYWIDE	9/1/2016	Drought
COUNTYWIDE	10/1/2016	Drought
COUNTYWIDE	11/1/2016	Drought
COUNTYWIDE	12/1/2016	Drought
COUNTYWIDE	1/1/2017	Drought
COUNTYWIDE	10/15/2019	Drought
COUNTYWIDE	11/1/2019	Drought

County	None	D0	D1	D2	D3	D4	ValidStart	ValidEnd
Wilkes County	0	100	100	0	0	0	6/28/2022	7/4/2022
Wilkes County	0	100	38.8	0	0	0	6/21/2022	6/27/2022
Wilkes County	61.19	38.81	0	0	0	0	6/14/2022	6/20/2022
Wilkes County	100	0	0	0	0	0	6/7/2022	6/13/2022
Wilkes County	100	0	0	0	0	0	5/31/2022	6/6/2022
Wilkes County	96.23	3.77	0	0	0	0	5/24/2022	5/30/2022
Wilkes County	0	100	0	0	0	0	5/17/2022	5/23/2022
Wilkes County	99.99	0.01	0	0	0	0	5/10/2022	5/16/2022
Wilkes County	99.99	0.01	0	0	0	0	5/3/2022	5/9/2022
Wilkes County	99.99	0.01	0	0	0	0	4/26/2022	5/2/2022
Wilkes County	99.99	0.01	0	0	0	0	4/19/2022	4/25/2022
Wilkes County	99.99	0.01	0	0	0	0	4/12/2022	4/18/2022
Wilkes County	67.88	32.12	0	0	0	0	4/5/2022	4/11/2022
Wilkes County	67.88	32.12	0	0	0	0	3/29/2022	4/4/2022
Wilkes County	100	0	0	0	0	0	3/22/2022	3/28/2022
Wilkes County	100	0	0	0	0	0	3/15/2022	3/21/2022
Wilkes County	100	0	0	0	0	0	3/8/2022	3/14/2022
Wilkes County	100	0	0	0	0	0	3/1/2022	3/7/2022
Wilkes County	100	0	0	0	0	0	2/22/2022	2/28/2022
Wilkes County	100	0	0	0	0	0	2/15/2022	2/21/2022
Wilkes County	100	0	0	0	0	0	2/8/2022	2/14/2022
Wilkes County	100	0	0	0	0	0	2/1/2022	2/7/2022
Wilkes County	100	0	0	0	0	0	1/25/2022	1/31/2022
Wilkes County	100	0	0	0	0	0	1/18/2022	1/24/2022
Wilkes County	100	0	0	0	0	0	1/11/2022	1/17/2022
Wilkes County	100	0	0	0	0	0	1/4/2022	1/10/2022
Wilkes County	94.38	5.62	0	0	0	0	12/28/2021	1/3/2022
Wilkes County	94.38	5.62	0	0	0	0	12/21/2021	12/27/2021
Wilkes County	0	100	6.9	0	0	0	12/14/2021	12/20/2021
Wilkes County	9.29	90.71	7.88	0	0	0	12/7/2021	12/13/2021
Wilkes County	14.08	85.92	0	0	0	0	11/30/2021	12/6/2021
Wilkes County	14.08	85.92	0	0	0	0	11/23/2021	11/29/2021
Wilkes County	100	0	0	0	0	0	11/16/2021	11/22/2021
Wilkes County	100	0	0	0	0	0	11/9/2021	11/15/2021
Wilkes County	100	0	0	0	0	0	11/2/2021	11/8/2021
Wilkes County	100	0	0	0	0	0	10/26/2021	11/1/2021
Wilkes County	100	0	0	0	0	0	10/19/2021	10/25/2021
Wilkes County	100	0	0	0	0	0	10/12/2021	10/18/2021
Wilkes County	100	0	0	0	0	0	10/5/2021	10/11/2021
Wilkes County	100	0	0	0	0	0	9/28/2021	10/4/2021
Wilkes County	100	0	0	0	0	0	9/21/2021	9/27/2021
Wilkes County	100	0	0	0	0	0	9/14/2021	9/20/2021
Wilkes County	100	0	0	0	0	0	9/7/2021	9/13/2021
Wilkes County	100	0	0	0	0	0	8/31/2021	9/6/2021
Wilkes County	100	0	0	0	0	0	8/24/2021	8/30/2021
Wilkes County	100	0	0	0	0	0	8/17/2021	8/23/2021
Wilkes County	100	0	0	0	0	0	8/10/2021	8/16/2021

	D0	D1	D2	D3	D4	Total
# Weeks in	693	483	340	220	69	1805
# of Droug	63144.16	43511.96	29629.4	17098.98	4235.98	157620.5

Wilkes County	100	0	0	0	0	0	8/3/2021	8/9/2021
Wilkes County	100	0	0	0	0	0	7/27/2021	8/2/2021
Wilkes County	100	0	0	0	0	0	7/20/2021	7/26/2021
Wilkes County	100	0	0	0	0	0	7/13/2021	7/19/2021
Wilkes County	100	0	0	0	0	0	7/6/2021	7/12/2021
Wilkes County	100	0	0	0	0	0	6/29/2021	7/5/2021
Wilkes County	100	0	0	0	0	0	6/22/2021	6/28/2021
Wilkes County	100	0	0	0	0	0	6/15/2021	6/21/2021
Wilkes County	100	0	0	0	0	0	6/8/2021	6/14/2021
Wilkes County	97.3	2.7	0	0	0	0	6/1/2021	6/7/2021
Wilkes County	100	0	0	0	0	0	5/25/2021	5/31/2021
Wilkes County	100	0	0	0	0	0	5/18/2021	5/24/2021
Wilkes County	100	0	0	0	0	0	5/11/2021	5/17/2021
Wilkes County	92.6	7.4	0	0	0	0	5/4/2021	5/10/2021
Wilkes County	0	100	0	0	0	0	4/27/2021	5/3/2021
Wilkes County	0	100	0	0	0	0	4/20/2021	4/26/2021
Wilkes County	97.14	2.86	0	0	0	0	4/13/2021	4/19/2021
Wilkes County	97.17	2.83	0	0	0	0	4/6/2021	4/12/2021
Wilkes County	100	0	0	0	0	0	3/30/2021	4/5/2021
Wilkes County	100	0	0	0	0	0	3/23/2021	3/29/2021
Wilkes County	100	0	0	0	0	0	3/16/2021	3/22/2021
Wilkes County	100	0	0	0	0	0	3/9/2021	3/15/2021
Wilkes County	100	0	0	0	0	0	3/2/2021	3/8/2021
Wilkes County	100	0	0	0	0	0	2/23/2021	3/1/2021
Wilkes County	100	0	0	0	0	0	2/16/2021	2/22/2021
Wilkes County	100	0	0	0	0	0	2/9/2021	2/15/2021
Wilkes County	100	0	0	0	0	0	2/2/2021	2/8/2021
Wilkes County	100	0	0	0	0	0	1/26/2021	2/1/2021
Wilkes County	100	0	0	0	0	0	1/19/2021	1/25/2021
Wilkes County	100	0	0	0	0	0	1/12/2021	1/18/2021
Wilkes County	100	0	0	0	0	0	1/5/2021	1/11/2021
Wilkes County	100	0	0	0	0	0	12/29/2020	1/4/2021
Wilkes County	100	0	0	0	0	0	12/22/2020	12/28/2020
Wilkes County	100	0	0	0	0	0	12/15/2020	12/21/2020
Wilkes County	100	0	0	0	0	0	12/8/2020	12/14/2020
Wilkes County	100	0	0	0	0	0	12/1/2020	12/7/2020
Wilkes County	100	0	0	0	0	0	11/24/2020	11/30/2020
Wilkes County	100	0	0	0	0	0	11/17/2020	11/23/2020
Wilkes County	100	0	0	0	0	0	11/10/2020	11/16/2020
Wilkes County	100	0	0	0	0	0	11/3/2020	11/9/2020
Wilkes County	100	0	0	0	0	0	10/27/2020	11/2/2020
Wilkes County	100	0	0	0	0	0	10/20/2020	10/26/2020
Wilkes County	100	0	0	0	0	0	10/13/2020	10/19/2020
Wilkes County	100	0	0	0	0	0	10/6/2020	10/12/2020
Wilkes County	100	0	0	0	0	0	9/29/2020	10/5/2020
Wilkes County	100	0	0	0	0	0	9/22/2020	9/28/2020
Wilkes County	100	0	0	0	0	0	9/15/2020	9/21/2020
Wilkes County	100	0	0	0	0	0	9/8/2020	9/14/2020

Wilkes County	100	0	0	0	0	0	9/1/2020	9/7/2020
Wilkes County	100	0	0	0	0	0	8/25/2020	8/31/2020
Wilkes County	100	0	0	0	0	0	8/18/2020	8/24/2020
Wilkes County	100	0	0	0	0	0	8/11/2020	8/17/2020
Wilkes County	100	0	0	0	0	0	8/4/2020	8/10/2020
Wilkes County	100	0	0	0	0	0	7/28/2020	8/3/2020
Wilkes County	100	0	0	0	0	0	7/21/2020	7/27/2020
Wilkes County	100	0	0	0	0	0	7/14/2020	7/20/2020
Wilkes County	100	0	0	0	0	0	7/7/2020	7/13/2020
Wilkes County	100	0	0	0	0	0	6/30/2020	7/6/2020
Wilkes County	100	0	0	0	0	0	6/23/2020	6/29/2020
Wilkes County	100	0	0	0	0	0	6/16/2020	6/22/2020
Wilkes County	100	0	0	0	0	0	6/9/2020	6/15/2020
Wilkes County	100	0	0	0	0	0	6/2/2020	6/8/2020
Wilkes County	100	0	0	0	0	0	5/26/2020	6/1/2020
Wilkes County	100	0	0	0	0	0	5/19/2020	5/25/2020
Wilkes County	100	0	0	0	0	0	5/12/2020	5/18/2020
Wilkes County	100	0	0	0	0	0	5/5/2020	5/11/2020
Wilkes County	100	0	0	0	0	0	4/28/2020	5/4/2020
Wilkes County	100	0	0	0	0	0	4/21/2020	4/27/2020
Wilkes County	100	0	0	0	0	0	4/14/2020	4/20/2020
Wilkes County	100	0	0	0	0	0	4/7/2020	4/13/2020
Wilkes County	100	0	0	0	0	0	3/31/2020	4/6/2020
Wilkes County	100	0	0	0	0	0	3/24/2020	3/30/2020
Wilkes County	100	0	0	0	0	0	3/17/2020	3/23/2020
Wilkes County	100	0	0	0	0	0	3/10/2020	3/16/2020
Wilkes County	100	0	0	0	0	0	3/3/2020	3/9/2020
Wilkes County	100	0	0	0	0	0	2/25/2020	3/2/2020
Wilkes County	100	0	0	0	0	0	2/18/2020	2/24/2020
Wilkes County	100	0	0	0	0	0	2/11/2020	2/17/2020
Wilkes County	100	0	0	0	0	0	2/4/2020	2/10/2020
Wilkes County	100	0	0	0	0	0	1/28/2020	2/3/2020
Wilkes County	100	0	0	0	0	0	1/21/2020	1/27/2020
Wilkes County	100	0	0	0	0	0	1/14/2020	1/20/2020
Wilkes County	100	0	0	0	0	0	1/7/2020	1/13/2020
Wilkes County	100	0	0	0	0	0	12/31/2019	1/6/2020
Wilkes County	100	0	0	0	0	0	12/24/2019	12/30/2019
Wilkes County	30.88	69.12	6.9	0	0	0	12/17/2019	12/23/2019
Wilkes County	0	100	69.79	6.9	0	0	12/10/2019	12/16/2019
Wilkes County	0	100	69.79	6.9	0	0	12/3/2019	12/9/2019
Wilkes County	0	100	99.9	40.77	0	0	11/26/2019	12/2/2019
Wilkes County	0	100	99.9	8.89	0	0	11/19/2019	11/25/2019
Wilkes County	0	100	100	7.08	0	0	11/12/2019	11/18/2019
Wilkes County	0	100	100	7.08	0	0	11/5/2019	11/11/2019
Wilkes County	0	100	100	100	0	0	10/29/2019	11/4/2019
Wilkes County	0	100	100	100	0	0	10/22/2019	10/28/2019
Wilkes County	0	100	100	100	0	0	10/15/2019	10/21/2019
Wilkes County	0	100	100	0	0	0	10/8/2019	10/14/2019

Wilkes County	0	100	82.47	0	0	0	10/1/2019	10/7/2019
Wilkes County	0	100	2.89	0	0	0	9/24/2019	9/30/2019
Wilkes County	96.53	3.47	0	0	0	0	9/17/2019	9/23/2019
Wilkes County	97.17	2.83	0	0	0	0	9/10/2019	9/16/2019
Wilkes County	97.17	2.83	0	0	0	0	9/3/2019	9/9/2019
Wilkes County	97.17	2.83	0	0	0	0	8/27/2019	9/2/2019
Wilkes County	99.9	0.1	0	0	0	0	8/20/2019	8/26/2019
Wilkes County	100	0	0	0	0	0	8/13/2019	8/19/2019
Wilkes County	100	0	0	0	0	0	8/6/2019	8/12/2019
Wilkes County	100	0	0	0	0	0	7/30/2019	8/5/2019
Wilkes County	100	0	0	0	0	0	7/23/2019	7/29/2019
Wilkes County	100	0	0	0	0	0	7/16/2019	7/22/2019
Wilkes County	100	0	0	0	0	0	7/9/2019	7/15/2019
Wilkes County	100	0	0	0	0	0	7/2/2019	7/8/2019
Wilkes County	100	0	0	0	0	0	6/25/2019	7/1/2019
Wilkes County	100	0	0	0	0	0	6/18/2019	6/24/2019
Wilkes County	0	100	0	0	0	0	6/11/2019	6/17/2019
Wilkes County	0	100	100	0	0	0	6/4/2019	6/10/2019
Wilkes County	0	100	72.33	0	0	0	5/28/2019	6/3/2019
Wilkes County	0	100	72.32	0	0	0	5/21/2019	5/27/2019
Wilkes County	0	100	0	0	0	0	5/14/2019	5/20/2019
Wilkes County	0	100	69.1	0	0	0	5/7/2019	5/13/2019
Wilkes County	0	100	69.1	0	0	0	4/30/2019	5/6/2019
Wilkes County	0	100	0	0	0	0	4/23/2019	4/29/2019
Wilkes County	0	100	0	0	0	0	4/16/2019	4/22/2019
Wilkes County	0	100	0	0	0	0	4/9/2019	4/15/2019
Wilkes County	0	100	0	0	0	0	4/2/2019	4/8/2019
Wilkes County	7.07	92.93	0	0	0	0	3/26/2019	4/1/2019
Wilkes County	100	0	0	0	0	0	3/19/2019	3/25/2019
Wilkes County	100	0	0	0	0	0	3/12/2019	3/18/2019
Wilkes County	100	0	0	0	0	0	3/5/2019	3/11/2019
Wilkes County	100	0	0	0	0	0	2/26/2019	3/4/2019
Wilkes County	100	0	0	0	0	0	2/19/2019	2/25/2019
Wilkes County	100	0	0	0	0	0	2/12/2019	2/18/2019
Wilkes County	100	0	0	0	0	0	2/5/2019	2/11/2019
Wilkes County	100	0	0	0	0	0	1/29/2019	2/4/2019
Wilkes County	100	0	0	0	0	0	1/22/2019	1/28/2019
Wilkes County	100	0	0	0	0	0	1/15/2019	1/21/2019
Wilkes County	100	0	0	0	0	0	1/8/2019	1/14/2019
Wilkes County	100	0	0	0	0	0	1/1/2019	1/7/2019
Wilkes County	100	0	0	0	0	0	12/25/2018	12/31/2018
Wilkes County	100	0	0	0	0	0	12/18/2018	12/24/2018
Wilkes County	100	0	0	0	0	0	12/11/2018	12/17/2018
Wilkes County	100	0	0	0	0	0	12/4/2018	12/10/2018
Wilkes County	100	0	0	0	0	0	11/27/2018	12/3/2018
Wilkes County	100	0	0	0	0	0	11/20/2018	11/26/2018
Wilkes County	100	0	0	0	0	0	11/13/2018	11/19/2018
Wilkes County	79.07	20.93	0	0	0	0	11/6/2018	11/12/2018

Wilkes County	79.07	20.93	0	0	0	0	10/30/2018	11/5/2018
Wilkes County	11.24	88.76	20.91	0	0	0	10/23/2018	10/29/2018
Wilkes County	11.24	88.76	20.91	0	0	0	10/16/2018	10/22/2018
Wilkes County	11.74	88.26	22.75	0	0	0	10/9/2018	10/15/2018
Wilkes County	11.74	88.26	22.75	0	0	0	10/2/2018	10/8/2018
Wilkes County	60.46	39.54	0	0	0	0	9/25/2018	10/1/2018
Wilkes County	67.26	32.74	0	0	0	0	9/18/2018	9/24/2018
Wilkes County	67.26	32.74	0	0	0	0	9/11/2018	9/17/2018
Wilkes County	67.26	32.74	0	0	0	0	9/4/2018	9/10/2018
Wilkes County	100	0	0	0	0	0	8/28/2018	9/3/2018
Wilkes County	100	0	0	0	0	0	8/21/2018	8/27/2018
Wilkes County	100	0	0	0	0	0	8/14/2018	8/20/2018
Wilkes County	100	0	0	0	0	0	8/7/2018	8/13/2018
Wilkes County	100	0	0	0	0	0	7/31/2018	8/6/2018
Wilkes County	100	0	0	0	0	0	7/24/2018	7/30/2018
Wilkes County	100	0	0	0	0	0	7/17/2018	7/23/2018
Wilkes County	100	0	0	0	0	0	7/10/2018	7/16/2018
Wilkes County	100	0	0	0	0	0	7/3/2018	7/9/2018
Wilkes County	100	0	0	0	0	0	6/26/2018	7/2/2018
Wilkes County	100	0	0	0	0	0	6/19/2018	6/25/2018
Wilkes County	100	0	0	0	0	0	6/12/2018	6/18/2018
Wilkes County	100	0	0	0	0	0	6/5/2018	6/11/2018
Wilkes County	100	0	0	0	0	0	5/29/2018	6/4/2018
Wilkes County	67.72	32.28	0	0	0	0	5/22/2018	5/28/2018
Wilkes County	0.78	99.22	24.48	0	0	0	5/15/2018	5/21/2018
Wilkes County	0.78	99.22	24.47	0	0	0	5/8/2018	5/14/2018
Wilkes County	37.94	62.06	0	0	0	0	5/1/2018	5/7/2018
Wilkes County	37.94	62.06	0	0	0	0	4/24/2018	4/30/2018
Wilkes County	0	100	12.42	0	0	0	4/17/2018	4/23/2018
Wilkes County	0	100	37.44	0	0	0	4/10/2018	4/16/2018
Wilkes County	14.89	85.11	0	0	0	0	4/3/2018	4/9/2018
Wilkes County	14.89	85.11	0	0	0	0	3/27/2018	4/2/2018
Wilkes County	14.89	85.11	0	0	0	0	3/20/2018	3/26/2018
Wilkes County	14.89	85.11	42.8	0	0	0	3/13/2018	3/19/2018
Wilkes County	14.89	85.11	0	0	0	0	3/6/2018	3/12/2018
Wilkes County	89.52	10.48	0	0	0	0	2/27/2018	3/5/2018
Wilkes County	89.52	10.48	0	0	0	0	2/20/2018	2/26/2018
Wilkes County	100	0	0	0	0	0	2/13/2018	2/19/2018
Wilkes County	9.54	90.46	0	0	0	0	2/6/2018	2/12/2018
Wilkes County	0	100	0	0	0	0	1/30/2018	2/5/2018
Wilkes County	0	100	0	0	0	0	1/23/2018	1/29/2018
Wilkes County	0	100	0	0	0	0	1/16/2018	1/22/2018
Wilkes County	0	100	0	0	0	0	1/9/2018	1/15/2018
Wilkes County	72.34	27.66	0	0	0	0	1/2/2018	1/8/2018
Wilkes County	72.34	27.66	0	0	0	0	12/26/2017	1/1/2018
Wilkes County	0	100	2.53	0	0	0	12/19/2017	12/25/2017
Wilkes County	0	100	2.53	0	0	0	12/12/2017	12/18/2017
Wilkes County	0	100	2.53	0	0	0	12/5/2017	12/11/2017

Wilkes County	0	100	0.52	0	0	0	0	11/28/2017	12/4/2017
Wilkes County	0	100	0.52	0	0	0	0	11/21/2017	11/27/2017
Wilkes County	0	100	0.52	0	0	0	0	11/14/2017	11/20/2017
Wilkes County	76.83	23.17	0	0	0	0	0	11/7/2017	11/13/2017
Wilkes County	76.83	23.17	0	0	0	0	0	10/31/2017	11/6/2017
Wilkes County	76.83	23.17	0	0	0	0	0	10/24/2017	10/30/2017
Wilkes County	0	100	0	0	0	0	0	10/17/2017	10/23/2017
Wilkes County	100	0	0	0	0	0	0	10/10/2017	10/16/2017
Wilkes County	100	0	0	0	0	0	0	10/3/2017	10/9/2017
Wilkes County	100	0	0	0	0	0	0	9/26/2017	10/2/2017
Wilkes County	100	0	0	0	0	0	0	9/19/2017	9/25/2017
Wilkes County	100	0	0	0	0	0	0	9/12/2017	9/18/2017
Wilkes County	91.12	8.88	0	0	0	0	0	9/5/2017	9/11/2017
Wilkes County	89.11	10.89	0	0	0	0	0	8/29/2017	9/4/2017
Wilkes County	100	0	0	0	0	0	0	8/22/2017	8/28/2017
Wilkes County	100	0	0	0	0	0	0	8/15/2017	8/21/2017
Wilkes County	100	0	0	0	0	0	0	8/8/2017	8/14/2017
Wilkes County	100	0	0	0	0	0	0	8/1/2017	8/7/2017
Wilkes County	100	0	0	0	0	0	0	7/25/2017	7/31/2017
Wilkes County	100	0	0	0	0	0	0	7/18/2017	7/24/2017
Wilkes County	100	0	0	0	0	0	0	7/11/2017	7/17/2017
Wilkes County	100	0	0	0	0	0	0	7/4/2017	7/10/2017
Wilkes County	69.83	30.17	0	0	0	0	0	6/27/2017	7/3/2017
Wilkes County	100	0	0	0	0	0	0	6/20/2017	6/26/2017
Wilkes County	100	0	0	0	0	0	0	6/13/2017	6/19/2017
Wilkes County	100	0	0	0	0	0	0	6/6/2017	6/12/2017
Wilkes County	100	0	0	0	0	0	0	5/30/2017	6/5/2017
Wilkes County	64.91	35.09	0	0	0	0	0	5/23/2017	5/29/2017
Wilkes County	59.24	40.76	0	0	0	0	0	5/16/2017	5/22/2017
Wilkes County	59.24	40.76	0	0	0	0	0	5/9/2017	5/15/2017
Wilkes County	59.24	40.76	0	0	0	0	0	5/2/2017	5/8/2017
Wilkes County	59.24	40.76	0	0	0	0	0	4/25/2017	5/1/2017
Wilkes County	0	100	0	0	0	0	0	4/18/2017	4/24/2017
Wilkes County	0	100	0	0	0	0	0	4/11/2017	4/17/2017
Wilkes County	0	100	100	0	0	0	0	4/4/2017	4/10/2017
Wilkes County	0	100	100	0	0	0	0	3/28/2017	4/3/2017
Wilkes County	0	100	100	0	0	0	0	3/21/2017	3/27/2017
Wilkes County	0	100	98.68	0	0	0	0	3/14/2017	3/20/2017
Wilkes County	0	100	98.68	0	0	0	0	3/7/2017	3/13/2017
Wilkes County	0	100	98.68	0	0	0	0	2/28/2017	3/6/2017
Wilkes County	0	100	98.68	0	0	0	0	2/21/2017	2/27/2017
Wilkes County	0	100	98.68	0	0	0	0	2/14/2017	2/20/2017
Wilkes County	0	100	98.68	0	0	0	0	2/7/2017	2/13/2017
Wilkes County	0	100	98.68	0	0	0	0	1/31/2017	2/6/2017
Wilkes County	0	100	98.68	0	0	0	0	1/24/2017	1/30/2017
Wilkes County	0	100	100	94.98	0	0	0	1/17/2017	1/23/2017
Wilkes County	0	100	100	94.98	0	0	0	1/10/2017	1/16/2017
Wilkes County	0	100	100	98.58	0	0	0	1/3/2017	1/9/2017

Wilkes County	0	100	100	100	100	89.77	12/27/2016	1/2/2017
Wilkes County	0	100	100	100	100	89.77	12/20/2016	12/26/2016
Wilkes County	0	100	100	100	100	89.77	12/13/2016	12/19/2016
Wilkes County	0	100	100	100	100	89.77	12/6/2016	12/12/2016
Wilkes County	0	100	100	100	100	92.07	11/29/2016	12/5/2016
Wilkes County	0	100	100	100	100	92.07	11/22/2016	11/28/2016
Wilkes County	0	100	100	100	99.98	0	11/15/2016	11/21/2016
Wilkes County	0	100	100	100	93.84	0	11/8/2016	11/14/2016
Wilkes County	0	100	100	100	93.84	0	11/1/2016	11/7/2016
Wilkes County	0	100	100	100	93.84	0	10/25/2016	10/31/2016
Wilkes County	0	100	100	100	93.84	0	10/18/2016	10/24/2016
Wilkes County	0	100	100	98.95	93.39	0	10/11/2016	10/17/2016
Wilkes County	0	100	99.32	93.53	0	0	10/4/2016	10/10/2016
Wilkes County	0	100	99.23	4.23	0	0	9/27/2016	10/3/2016
Wilkes County	0	100	35.81	4.23	0	0	9/20/2016	9/26/2016
Wilkes County	0	100	35.81	4.23	0	0	9/13/2016	9/19/2016
Wilkes County	0	100	35.22	4.23	0	0	9/6/2016	9/12/2016
Wilkes County	0	100	35.57	4.23	0	0	8/30/2016	9/5/2016
Wilkes County	0	100	35.57	4.23	0	0	8/23/2016	8/29/2016
Wilkes County	0	100	35.57	5.41	0	0	8/16/2016	8/22/2016
Wilkes County	0	100	39.26	5.41	0	0	8/9/2016	8/15/2016
Wilkes County	0	100	36.35	5.41	0	0	8/2/2016	8/8/2016
Wilkes County	0	100	25.54	5.41	0	0	7/26/2016	8/1/2016
Wilkes County	0	100	91.72	5.41	0	0	7/19/2016	7/25/2016
Wilkes County	0	100	91.88	0	0	0	7/12/2016	7/18/2016
Wilkes County	0	100	91.88	0	0	0	7/5/2016	7/11/2016
Wilkes County	0	100	91.88	0	0	0	6/28/2016	7/4/2016
Wilkes County	0	100	91.88	0	0	0	6/21/2016	6/27/2016
Wilkes County	0	100	91.88	0	0	0	6/14/2016	6/20/2016
Wilkes County	0	100	91.88	0	0	0	6/7/2016	6/13/2016
Wilkes County	0	100	91.88	0	0	0	5/31/2016	6/6/2016
Wilkes County	0	100	91.88	0	0	0	5/24/2016	5/30/2016
Wilkes County	0	100	91.88	0	0	0	5/17/2016	5/23/2016
Wilkes County	0	100	91.88	0	0	0	5/10/2016	5/16/2016
Wilkes County	0	100	0	0	0	0	5/3/2016	5/9/2016
Wilkes County	20.93	79.07	0	0	0	0	4/26/2016	5/2/2016
Wilkes County	20.93	79.07	0	0	0	0	4/19/2016	4/25/2016
Wilkes County	20.93	79.07	0	0	0	0	4/12/2016	4/18/2016
Wilkes County	20.93	79.07	0	0	0	0	4/5/2016	4/11/2016
Wilkes County	0	100	0	0	0	0	3/29/2016	4/4/2016
Wilkes County	0	100	0	0	0	0	3/22/2016	3/28/2016
Wilkes County	79.79	20.21	0	0	0	0	3/15/2016	3/21/2016
Wilkes County	100	0	0	0	0	0	3/8/2016	3/14/2016
Wilkes County	100	0	0	0	0	0	3/1/2016	3/7/2016
Wilkes County	100	0	0	0	0	0	2/23/2016	2/29/2016
Wilkes County	100	0	0	0	0	0	2/16/2016	2/22/2016
Wilkes County	100	0	0	0	0	0	2/9/2016	2/15/2016
Wilkes County	100	0	0	0	0	0	2/2/2016	2/8/2016

Wilkes County	100	0	0	0	0	0	1/26/2016	2/1/2016
Wilkes County	100	0	0	0	0	0	1/19/2016	1/25/2016
Wilkes County	100	0	0	0	0	0	1/12/2016	1/18/2016
Wilkes County	100	0	0	0	0	0	1/5/2016	1/11/2016
Wilkes County	100	0	0	0	0	0	12/29/2015	1/4/2016
Wilkes County	100	0	0	0	0	0	12/22/2015	12/28/2015
Wilkes County	100	0	0	0	0	0	12/15/2015	12/21/2015
Wilkes County	100	0	0	0	0	0	12/8/2015	12/14/2015
Wilkes County	100	0	0	0	0	0	12/1/2015	12/7/2015
Wilkes County	100	0	0	0	0	0	11/24/2015	11/30/2015
Wilkes County	100	0	0	0	0	0	11/17/2015	11/23/2015
Wilkes County	100	0	0	0	0	0	11/10/2015	11/16/2015
Wilkes County	100	0	0	0	0	0	11/3/2015	11/9/2015
Wilkes County	100	0	0	0	0	0	10/27/2015	11/2/2015
Wilkes County	100	0	0	0	0	0	10/20/2015	10/26/2015
Wilkes County	100	0	0	0	0	0	10/13/2015	10/19/2015
Wilkes County	100	0	0	0	0	0	10/6/2015	10/12/2015
Wilkes County	100	0	0	0	0	0	9/29/2015	10/5/2015
Wilkes County	100	0	0	0	0	0	9/22/2015	9/28/2015
Wilkes County	100	0	0	0	0	0	9/15/2015	9/21/2015
Wilkes County	100	0	0	0	0	0	9/8/2015	9/14/2015
Wilkes County	100	0	0	0	0	0	9/1/2015	9/7/2015
Wilkes County	100	0	0	0	0	0	8/25/2015	8/31/2015
Wilkes County	94.71	5.29	0	0	0	0	8/18/2015	8/24/2015
Wilkes County	94.71	5.29	0	0	0	0	8/11/2015	8/17/2015
Wilkes County	94.71	5.29	0	0	0	0	8/4/2015	8/10/2015
Wilkes County	90.43	9.57	0	0	0	0	7/28/2015	8/3/2015
Wilkes County	100	0	0	0	0	0	7/21/2015	7/27/2015
Wilkes County	100	0	0	0	0	0	7/14/2015	7/20/2015
Wilkes County	100	0	0	0	0	0	7/7/2015	7/13/2015
Wilkes County	100	0	0	0	0	0	6/30/2015	7/6/2015
Wilkes County	100	0	0	0	0	0	6/23/2015	6/29/2015
Wilkes County	100	0	0	0	0	0	6/16/2015	6/22/2015
Wilkes County	100	0	0	0	0	0	6/9/2015	6/15/2015
Wilkes County	100	0	0	0	0	0	6/2/2015	6/8/2015
Wilkes County	100	0	0	0	0	0	5/26/2015	6/1/2015
Wilkes County	100	0	0	0	0	0	5/19/2015	5/25/2015
Wilkes County	100	0	0	0	0	0	5/12/2015	5/18/2015
Wilkes County	100	0	0	0	0	0	5/5/2015	5/11/2015
Wilkes County	100	0	0	0	0	0	4/28/2015	5/4/2015
Wilkes County	100	0	0	0	0	0	4/21/2015	4/27/2015
Wilkes County	100	0	0	0	0	0	4/14/2015	4/20/2015
Wilkes County	100	0	0	0	0	0	4/7/2015	4/13/2015
Wilkes County	100	0	0	0	0	0	3/31/2015	4/6/2015
Wilkes County	100	0	0	0	0	0	3/24/2015	3/30/2015
Wilkes County	100	0	0	0	0	0	3/17/2015	3/23/2015
Wilkes County	100	0	0	0	0	0	3/10/2015	3/16/2015
Wilkes County	100	0	0	0	0	0	3/3/2015	3/9/2015

Wilkes County	100	0	0	0	0	0	2/24/2015	3/2/2015
Wilkes County	100	0	0	0	0	0	2/17/2015	2/23/2015
Wilkes County	100	0	0	0	0	0	2/10/2015	2/16/2015
Wilkes County	100	0	0	0	0	0	2/3/2015	2/9/2015
Wilkes County	100	0	0	0	0	0	1/27/2015	2/2/2015
Wilkes County	100	0	0	0	0	0	1/20/2015	1/26/2015
Wilkes County	100	0	0	0	0	0	1/13/2015	1/19/2015
Wilkes County	100	0	0	0	0	0	1/6/2015	1/12/2015
Wilkes County	100	0	0	0	0	0	12/30/2014	1/5/2015
Wilkes County	0	100	0	0	0	0	12/23/2014	12/29/2014
Wilkes County	0	100	0	0	0	0	12/16/2014	12/22/2014
Wilkes County	2.63	97.37	0	0	0	0	12/9/2014	12/15/2014
Wilkes County	3.08	96.92	0	0	0	0	12/2/2014	12/8/2014
Wilkes County	3.08	96.92	0	0	0	0	11/25/2014	12/1/2014
Wilkes County	0	100	0	0	0	0	11/18/2014	11/24/2014
Wilkes County	0.09	99.91	0	0	0	0	11/11/2014	11/17/2014
Wilkes County	0.09	99.91	0	0	0	0	11/4/2014	11/10/2014
Wilkes County	0.09	99.91	0	0	0	0	10/28/2014	11/3/2014
Wilkes County	4.28	95.72	0	0	0	0	10/21/2014	10/27/2014
Wilkes County	4.38	95.62	0	0	0	0	10/14/2014	10/20/2014
Wilkes County	4.38	95.62	0	0	0	0	10/7/2014	10/13/2014
Wilkes County	5.9	94.1	0	0	0	0	9/30/2014	10/6/2014
Wilkes County	5.9	94.1	0	0	0	0	9/23/2014	9/29/2014
Wilkes County	5.9	94.1	0	0	0	0	9/16/2014	9/22/2014
Wilkes County	5.9	94.1	0	0	0	0	9/9/2014	9/15/2014
Wilkes County	4.53	95.47	0	0	0	0	9/2/2014	9/8/2014
Wilkes County	7.75	92.25	0	0	0	0	8/26/2014	9/1/2014
Wilkes County	15.78	84.22	0	0	0	0	8/19/2014	8/25/2014
Wilkes County	15.78	84.22	0	0	0	0	8/12/2014	8/18/2014
Wilkes County	0	100	0	0	0	0	8/5/2014	8/11/2014
Wilkes County	0	100	0	0	0	0	7/29/2014	8/4/2014
Wilkes County	0	100	0	0	0	0	7/22/2014	7/28/2014
Wilkes County	0	100	0	0	0	0	7/15/2014	7/21/2014
Wilkes County	0	100	0	0	0	0	7/8/2014	7/14/2014
Wilkes County	22.26	77.74	0	0	0	0	7/1/2014	7/7/2014
Wilkes County	85.43	14.57	0	0	0	0	6/24/2014	6/30/2014
Wilkes County	100	0	0	0	0	0	6/17/2014	6/23/2014
Wilkes County	100	0	0	0	0	0	6/10/2014	6/16/2014
Wilkes County	100	0	0	0	0	0	6/3/2014	6/9/2014
Wilkes County	100	0	0	0	0	0	5/27/2014	6/2/2014
Wilkes County	100	0	0	0	0	0	5/20/2014	5/26/2014
Wilkes County	100	0	0	0	0	0	5/13/2014	5/19/2014
Wilkes County	100	0	0	0	0	0	5/6/2014	5/12/2014
Wilkes County	100	0	0	0	0	0	4/29/2014	5/5/2014
Wilkes County	100	0	0	0	0	0	4/22/2014	4/28/2014
Wilkes County	100	0	0	0	0	0	4/15/2014	4/21/2014
Wilkes County	100	0	0	0	0	0	4/8/2014	4/14/2014
Wilkes County	100	0	0	0	0	0	4/1/2014	4/7/2014

Wilkes County	100	0	0	0	0	0	3/25/2014	3/31/2014
Wilkes County	100	0	0	0	0	0	3/18/2014	3/24/2014
Wilkes County	100	0	0	0	0	0	3/11/2014	3/17/2014
Wilkes County	100	0	0	0	0	0	3/4/2014	3/10/2014
Wilkes County	100	0	0	0	0	0	2/25/2014	3/3/2014
Wilkes County	100	0	0	0	0	0	2/18/2014	2/24/2014
Wilkes County	100	0	0	0	0	0	2/11/2014	2/17/2014
Wilkes County	100	0	0	0	0	0	2/4/2014	2/10/2014
Wilkes County	100	0	0	0	0	0	1/28/2014	2/3/2014
Wilkes County	100	0	0	0	0	0	1/21/2014	1/27/2014
Wilkes County	100	0	0	0	0	0	1/14/2014	1/20/2014
Wilkes County	100	0	0	0	0	0	1/7/2014	1/13/2014
Wilkes County	100	0	0	0	0	0	12/31/2013	1/6/2014
Wilkes County	100	0	0	0	0	0	12/24/2013	12/30/2013
Wilkes County	0	100	0	0	0	0	12/17/2013	12/23/2013
Wilkes County	0	100	0	0	0	0	12/10/2013	12/16/2013
Wilkes County	0	100	0	0	0	0	12/3/2013	12/9/2013
Wilkes County	0	100	0	0	0	0	11/26/2013	12/2/2013
Wilkes County	0	100	0	0	0	0	11/19/2013	11/25/2013
Wilkes County	0	100	0	0	0	0	11/12/2013	11/18/2013
Wilkes County	0	100	0	0	0	0	11/5/2013	11/11/2013
Wilkes County	0	100	0	0	0	0	10/29/2013	11/4/2013
Wilkes County	0	100	0	0	0	0	10/22/2013	10/28/2013
Wilkes County	100	0	0	0	0	0	10/15/2013	10/21/2013
Wilkes County	100	0	0	0	0	0	10/8/2013	10/14/2013
Wilkes County	100	0	0	0	0	0	10/1/2013	10/7/2013
Wilkes County	100	0	0	0	0	0	9/24/2013	9/30/2013
Wilkes County	100	0	0	0	0	0	9/17/2013	9/23/2013
Wilkes County	100	0	0	0	0	0	9/10/2013	9/16/2013
Wilkes County	100	0	0	0	0	0	9/3/2013	9/9/2013
Wilkes County	100	0	0	0	0	0	8/27/2013	9/2/2013
Wilkes County	100	0	0	0	0	0	8/20/2013	8/26/2013
Wilkes County	100	0	0	0	0	0	8/13/2013	8/19/2013
Wilkes County	100	0	0	0	0	0	8/6/2013	8/12/2013
Wilkes County	100	0	0	0	0	0	7/30/2013	8/5/2013
Wilkes County	100	0	0	0	0	0	7/23/2013	7/29/2013
Wilkes County	100	0	0	0	0	0	7/16/2013	7/22/2013
Wilkes County	100	0	0	0	0	0	7/9/2013	7/15/2013
Wilkes County	100	0	0	0	0	0	7/2/2013	7/8/2013
Wilkes County	100	0	0	0	0	0	6/25/2013	7/1/2013
Wilkes County	100	0	0	0	0	0	6/18/2013	6/24/2013
Wilkes County	100	0	0	0	0	0	6/11/2013	6/17/2013
Wilkes County	100	0	0	0	0	0	6/4/2013	6/10/2013
Wilkes County	100	0	0	0	0	0	5/28/2013	6/3/2013
Wilkes County	100	0	0	0	0	0	5/21/2013	5/27/2013
Wilkes County	100	0	0	0	0	0	5/14/2013	5/20/2013
Wilkes County	100	0	0	0	0	0	5/7/2013	5/13/2013
Wilkes County	100	0	0	0	0	0	4/30/2013	5/6/2013

Wilkes County	7.53	92.47	0	0	0	0	4/23/2013	4/29/2013
Wilkes County	7.53	92.47	0	0	0	0	4/16/2013	4/22/2013
Wilkes County	7.53	92.47	0.67	0	0	0	4/9/2013	4/15/2013
Wilkes County	0	100	92.47	0	0	0	4/2/2013	4/8/2013
Wilkes County	0	100	92.47	0	0	0	3/26/2013	4/1/2013
Wilkes County	0	100	100	90.47	0	0	3/19/2013	3/25/2013
Wilkes County	0	100	100	90.47	0	0	3/12/2013	3/18/2013
Wilkes County	0	100	100	90.47	0	0	3/5/2013	3/11/2013
Wilkes County	0	100	100	90.47	0	0	2/26/2013	3/4/2013
Wilkes County	0	100	100	100	90.58	0	2/19/2013	2/25/2013
Wilkes County	0	100	100	100	90.58	0	2/12/2013	2/18/2013
Wilkes County	0	100	100	100	90.58	3.52	2/5/2013	2/11/2013
Wilkes County	0	100	100	100	100	3.52	1/29/2013	2/4/2013
Wilkes County	0	100	100	100	100	3.52	1/22/2013	1/28/2013
Wilkes County	0	100	100	100	100	3.52	1/15/2013	1/21/2013
Wilkes County	0	100	100	100	100	3.52	1/8/2013	1/14/2013
Wilkes County	0	100	100	100	100	3.52	1/1/2013	1/7/2013
Wilkes County	0	100	100	100	100	5.65	12/25/2012	12/31/2012
Wilkes County	0	100	100	100	100	5.65	12/18/2012	12/24/2012
Wilkes County	0	100	100	100	100	5.65	12/11/2012	12/17/2012
Wilkes County	0	100	100	100	100	5.65	12/4/2012	12/10/2012
Wilkes County	0	100	100	100	98.96	5.65	11/27/2012	12/3/2012
Wilkes County	0	100	100	100	85.58	5.65	11/20/2012	11/26/2012
Wilkes County	0	100	100	100	85.56	5.65	11/13/2012	11/19/2012
Wilkes County	0	100	100	99.29	85.56	5.65	11/6/2012	11/12/2012
Wilkes County	0	100	100	99.29	17.55	1.63	10/30/2012	11/5/2012
Wilkes County	0	100	100	96.01	17.55	1.63	10/23/2012	10/29/2012
Wilkes County	0	100	100	96.01	17.55	1.63	10/16/2012	10/22/2012
Wilkes County	0	100	100	96.01	17.55	1.63	10/9/2012	10/15/2012
Wilkes County	0	100	100	96.81	17.55	1.63	10/2/2012	10/8/2012
Wilkes County	0	100	100	100	19.53	1.64	9/25/2012	10/1/2012
Wilkes County	0	100	100	100	18.24	1.64	9/18/2012	9/24/2012
Wilkes County	0	100	100	100	18.24	1.64	9/11/2012	9/17/2012
Wilkes County	0	100	100	100	18.24	1.64	9/4/2012	9/10/2012
Wilkes County	0	100	100	100	36.23	1.64	8/28/2012	9/3/2012
Wilkes County	0	100	100	100	100	24.51	8/21/2012	8/27/2012
Wilkes County	0	100	100	100	100	24.51	8/14/2012	8/20/2012
Wilkes County	0	100	100	100	100	99.83	8/7/2012	8/13/2012
Wilkes County	0	100	100	100	100	99.83	7/31/2012	8/6/2012
Wilkes County	0	100	100	100	100	99.83	7/24/2012	7/30/2012
Wilkes County	0	100	100	100	100	99.83	7/17/2012	7/23/2012
Wilkes County	0	100	100	100	100	99.98	7/10/2012	7/16/2012
Wilkes County	0	100	100	100	100	99.98	7/3/2012	7/9/2012
Wilkes County	0	100	100	100	100	99.98	6/26/2012	7/2/2012
Wilkes County	0	100	100	100	100	0	6/19/2012	6/25/2012
Wilkes County	0	100	100	100	100	0	6/12/2012	6/18/2012
Wilkes County	0	100	100	100	100	0	6/5/2012	6/11/2012
Wilkes County	0	100	100	100	100	0	5/29/2012	6/4/2012

Wilkes County	0	100	100	100	100	0	5/22/2012	5/28/2012
Wilkes County	0	100	100	100	100	0	5/15/2012	5/21/2012
Wilkes County	0	100	100	100	100	0	5/8/2012	5/14/2012
Wilkes County	0	100	100	100	100	0	5/1/2012	5/7/2012
Wilkes County	0	100	100	100	100	0	4/24/2012	4/30/2012
Wilkes County	0	100	100	100	100	0	4/17/2012	4/23/2012
Wilkes County	0	100	100	100	38.34	0	4/10/2012	4/16/2012
Wilkes County	0	100	100	100	42.3	0	4/3/2012	4/9/2012
Wilkes County	0	100	100	100	42.3	0	3/27/2012	4/2/2012
Wilkes County	0	100	100	100	42.3	0	3/20/2012	3/26/2012
Wilkes County	0	100	100	100	42.3	0	3/13/2012	3/19/2012
Wilkes County	0	100	100	100	42.3	0	3/6/2012	3/12/2012
Wilkes County	0	100	100	100	42.3	0	2/28/2012	3/5/2012
Wilkes County	0	100	100	100	42.3	0	2/21/2012	2/27/2012
Wilkes County	0	100	100	100	42.3	0	2/14/2012	2/20/2012
Wilkes County	0	100	100	100	42.3	0	2/7/2012	2/13/2012
Wilkes County	0	100	100	100	42.3	0	1/31/2012	2/6/2012
Wilkes County	0	100	100	100	42.3	0	1/24/2012	1/30/2012
Wilkes County	0	100	100	100	100	0	1/17/2012	1/23/2012
Wilkes County	0	100	100	100	100	0	1/10/2012	1/16/2012
Wilkes County	0	100	100	100	100	0	1/3/2012	1/9/2012
Wilkes County	0	100	100	100	100	0	12/27/2011	1/2/2012
Wilkes County	0	100	100	100	100	0	12/20/2011	12/26/2011
Wilkes County	0	100	100	100	100	0	12/13/2011	12/19/2011
Wilkes County	0	100	100	100	100	0	12/6/2011	12/12/2011
Wilkes County	0	100	100	100	100	0	11/29/2011	12/5/2011
Wilkes County	0	100	100	100	100	0	11/22/2011	11/28/2011
Wilkes County	0	100	100	100	100	0	11/15/2011	11/21/2011
Wilkes County	0	100	100	100	100	0	11/8/2011	11/14/2011
Wilkes County	0	100	100	100	100	0	11/1/2011	11/7/2011
Wilkes County	0	100	100	100	100	0	10/25/2011	10/31/2011
Wilkes County	0	100	100	100	100	0	10/18/2011	10/24/2011
Wilkes County	0	100	100	100	100	0	10/11/2011	10/17/2011
Wilkes County	0	100	100	100	100	0	10/4/2011	10/10/2011
Wilkes County	0	100	100	100	100	0	9/27/2011	10/3/2011
Wilkes County	0	100	100	100	100	0	9/20/2011	9/26/2011
Wilkes County	0	100	100	100	100	0	9/13/2011	9/19/2011
Wilkes County	0	100	100	100	100	0	9/6/2011	9/12/2011
Wilkes County	0	100	100	100	100	0	8/30/2011	9/5/2011
Wilkes County	0	100	100	100	0	0	8/23/2011	8/29/2011
Wilkes County	0	100	100	100	0	0	8/16/2011	8/22/2011
Wilkes County	0	100	100	100	0	0	8/9/2011	8/15/2011
Wilkes County	0	100	100	100	6.07	0	8/2/2011	8/8/2011
Wilkes County	0	100	100	100	6.07	0	7/26/2011	8/1/2011
Wilkes County	0	100	100	94.85	6.07	0	7/19/2011	7/25/2011
Wilkes County	0	100	100	94.85	6.07	0	7/12/2011	7/18/2011
Wilkes County	0	100	100	94.85	6.07	0	7/5/2011	7/11/2011
Wilkes County	0	100	100	94.85	6.07	0	6/28/2011	7/4/2011

Wilkes County	0	100	100	94.85	6.07	0	6/21/2011	6/27/2011
Wilkes County	0	100	100	5.55	0	0	6/14/2011	6/20/2011
Wilkes County	0	100	100	5.55	0	0	6/7/2011	6/13/2011
Wilkes County	0	100	100	5.55	0	0	5/31/2011	6/6/2011
Wilkes County	0	100	66.32	0	0	0	5/24/2011	5/30/2011
Wilkes County	0	100	67.97	0	0	0	5/17/2011	5/23/2011
Wilkes County	0	100	0	0	0	0	5/10/2011	5/16/2011
Wilkes County	88.04	11.96	0	0	0	0	5/3/2011	5/9/2011
Wilkes County	88.04	11.96	0	0	0	0	4/26/2011	5/2/2011
Wilkes County	88.04	11.96	0	0	0	0	4/19/2011	4/25/2011
Wilkes County	88.04	11.96	0	0	0	0	4/12/2011	4/18/2011
Wilkes County	90.8	9.2	0	0	0	0	4/5/2011	4/11/2011
Wilkes County	57.25	42.75	0	0	0	0	3/29/2011	4/4/2011
Wilkes County	0	100	38.37	0	0	0	3/22/2011	3/28/2011
Wilkes County	0	100	38.37	0	0	0	3/15/2011	3/21/2011
Wilkes County	0	100	38.37	0	0	0	3/8/2011	3/14/2011
Wilkes County	0	100	38.37	0	0	0	3/1/2011	3/7/2011
Wilkes County	0	100	38.15	0	0	0	2/22/2011	2/28/2011
Wilkes County	0	100	38.15	0	0	0	2/15/2011	2/21/2011
Wilkes County	0	100	38.15	0	0	0	2/8/2011	2/14/2011
Wilkes County	0	100	38.87	0	0	0	2/1/2011	2/7/2011
Wilkes County	0	100	38.87	0	0	0	1/25/2011	1/31/2011
Wilkes County	0	100	38.87	0	0	0	1/18/2011	1/24/2011
Wilkes County	0	100	35.42	0	0	0	1/11/2011	1/17/2011
Wilkes County	0	100	35.42	0	0	0	1/4/2011	1/10/2011
Wilkes County	0	100	37.47	0	0	0	12/28/2010	1/3/2011
Wilkes County	0	100	37.47	0	0	0	12/21/2010	12/27/2010
Wilkes County	0	100	37.47	0	0	0	12/14/2010	12/20/2010
Wilkes County	0	100	37.47	0	0	0	12/7/2010	12/13/2010
Wilkes County	0	100	31.94	0	0	0	11/30/2010	12/6/2010
Wilkes County	0	100	31.94	0	0	0	11/23/2010	11/29/2010
Wilkes County	0	100	0	0	0	0	11/16/2010	11/22/2010
Wilkes County	0	100	0	0	0	0	11/9/2010	11/15/2010
Wilkes County	0	100	0	0	0	0	11/2/2010	11/8/2010
Wilkes County	0	100	0.06	0	0	0	10/26/2010	11/1/2010
Wilkes County	0	100	0.06	0	0	0	10/19/2010	10/25/2010
Wilkes County	0	100	0	0	0	0	10/12/2010	10/18/2010
Wilkes County	0	100	0	0	0	0	10/5/2010	10/11/2010
Wilkes County	0	100	0	0	0	0	9/28/2010	10/4/2010
Wilkes County	0	100	62.53	0	0	0	9/21/2010	9/27/2010
Wilkes County	0	100	48.53	0	0	0	9/14/2010	9/20/2010
Wilkes County	7.45	92.55	0	0	0	0	9/7/2010	9/13/2010
Wilkes County	99.82	0.18	0	0	0	0	8/31/2010	9/6/2010
Wilkes County	99.82	0.18	0	0	0	0	8/24/2010	8/30/2010
Wilkes County	0	100	0	0	0	0	8/17/2010	8/23/2010
Wilkes County	0	100	0	0	0	0	8/10/2010	8/16/2010
Wilkes County	0	100	0	0	0	0	8/3/2010	8/9/2010
Wilkes County	0	100	0	0	0	0	7/27/2010	8/2/2010

Wilkes County	0	100	0	0	0	0	7/20/2010	7/26/2010
Wilkes County	89.89	10.11	0	0	0	0	7/13/2010	7/19/2010
Wilkes County	100	0	0	0	0	0	7/6/2010	7/12/2010
Wilkes County	100	0	0	0	0	0	6/29/2010	7/5/2010
Wilkes County	100	0	0	0	0	0	6/22/2010	6/28/2010
Wilkes County	100	0	0	0	0	0	6/15/2010	6/21/2010
Wilkes County	100	0	0	0	0	0	6/8/2010	6/14/2010
Wilkes County	100	0	0	0	0	0	6/1/2010	6/7/2010
Wilkes County	100	0	0	0	0	0	5/25/2010	5/31/2010
Wilkes County	100	0	0	0	0	0	5/18/2010	5/24/2010
Wilkes County	100	0	0	0	0	0	5/11/2010	5/17/2010
Wilkes County	100	0	0	0	0	0	5/4/2010	5/10/2010
Wilkes County	100	0	0	0	0	0	4/27/2010	5/3/2010
Wilkes County	100	0	0	0	0	0	4/20/2010	4/26/2010
Wilkes County	100	0	0	0	0	0	4/13/2010	4/19/2010
Wilkes County	100	0	0	0	0	0	4/6/2010	4/12/2010
Wilkes County	100	0	0	0	0	0	3/30/2010	4/5/2010
Wilkes County	100	0	0	0	0	0	3/23/2010	3/29/2010
Wilkes County	100	0	0	0	0	0	3/16/2010	3/22/2010
Wilkes County	100	0	0	0	0	0	3/9/2010	3/15/2010
Wilkes County	100	0	0	0	0	0	3/2/2010	3/8/2010
Wilkes County	100	0	0	0	0	0	2/23/2010	3/1/2010
Wilkes County	100	0	0	0	0	0	2/16/2010	2/22/2010
Wilkes County	100	0	0	0	0	0	2/9/2010	2/15/2010
Wilkes County	100	0	0	0	0	0	2/2/2010	2/8/2010
Wilkes County	100	0	0	0	0	0	1/26/2010	2/1/2010
Wilkes County	100	0	0	0	0	0	1/19/2010	1/25/2010
Wilkes County	100	0	0	0	0	0	1/12/2010	1/18/2010
Wilkes County	100	0	0	0	0	0	1/5/2010	1/11/2010
Wilkes County	100	0	0	0	0	0	12/29/2009	1/4/2010
Wilkes County	100	0	0	0	0	0	12/22/2009	12/28/2009
Wilkes County	100	0	0	0	0	0	12/15/2009	12/21/2009
Wilkes County	100	0	0	0	0	0	12/8/2009	12/14/2009
Wilkes County	100	0	0	0	0	0	12/1/2009	12/7/2009
Wilkes County	100	0	0	0	0	0	11/24/2009	11/30/2009
Wilkes County	100	0	0	0	0	0	11/17/2009	11/23/2009
Wilkes County	100	0	0	0	0	0	11/10/2009	11/16/2009
Wilkes County	100	0	0	0	0	0	11/3/2009	11/9/2009
Wilkes County	100	0	0	0	0	0	10/27/2009	11/2/2009
Wilkes County	100	0	0	0	0	0	10/20/2009	10/26/2009
Wilkes County	100	0	0	0	0	0	10/13/2009	10/19/2009
Wilkes County	100	0	0	0	0	0	10/6/2009	10/12/2009
Wilkes County	100	0	0	0	0	0	9/29/2009	10/5/2009
Wilkes County	100	0	0	0	0	0	9/22/2009	9/28/2009
Wilkes County	0	100	0	0	0	0	9/15/2009	9/21/2009
Wilkes County	0	100	0	0	0	0	9/8/2009	9/14/2009
Wilkes County	0	100	0	0	0	0	9/1/2009	9/7/2009
Wilkes County	0	100	0	0	0	0	8/25/2009	8/31/2009

Wilkes County	0	100	0	0	0	0	8/18/2009	8/24/2009
Wilkes County	0	100	0	0	0	0	8/11/2009	8/17/2009
Wilkes County	0	100	0	0	0	0	8/4/2009	8/10/2009
Wilkes County	0	100	0	0	0	0	7/28/2009	8/3/2009
Wilkes County	0	100	0	0	0	0	7/21/2009	7/27/2009
Wilkes County	0	100	0	0	0	0	7/14/2009	7/20/2009
Wilkes County	0	100	0	0	0	0	7/7/2009	7/13/2009
Wilkes County	100	0	0	0	0	0	6/30/2009	7/6/2009
Wilkes County	100	0	0	0	0	0	6/23/2009	6/29/2009
Wilkes County	100	0	0	0	0	0	6/16/2009	6/22/2009
Wilkes County	100	0	0	0	0	0	6/9/2009	6/15/2009
Wilkes County	100	0	0	0	0	0	6/2/2009	6/8/2009
Wilkes County	100	0	0	0	0	0	5/26/2009	6/1/2009
Wilkes County	100	0	0	0	0	0	5/19/2009	5/25/2009
Wilkes County	100	0	0	0	0	0	5/12/2009	5/18/2009
Wilkes County	99.01	0.99	0	0	0	0	5/5/2009	5/11/2009
Wilkes County	99.01	0.99	0	0	0	0	4/28/2009	5/4/2009
Wilkes County	99.01	0.99	0	0	0	0	4/21/2009	4/27/2009
Wilkes County	99.01	0.99	0	0	0	0	4/14/2009	4/20/2009
Wilkes County	72.46	27.54	0	0	0	0	4/7/2009	4/13/2009
Wilkes County	0	100	0	0	0	0	3/31/2009	4/6/2009
Wilkes County	0	100	57.98	21.3	0	0	3/24/2009	3/30/2009
Wilkes County	0	100	57.98	21.3	0	0	3/17/2009	3/23/2009
Wilkes County	0	100	57.98	21.3	0	0	3/10/2009	3/16/2009
Wilkes County	0	100	57.98	21.3	0	0	3/3/2009	3/9/2009
Wilkes County	0	100	100	52.23	0	0	2/24/2009	3/2/2009
Wilkes County	0	100	100	52.23	0	0	2/17/2009	2/23/2009
Wilkes County	0	100	83.1	37.75	0	0	2/10/2009	2/16/2009
Wilkes County	0	100	67.96	37.75	0	0	2/3/2009	2/9/2009
Wilkes County	0	100	67.96	37.75	0	0	1/27/2009	2/2/2009
Wilkes County	0	100	67.96	37.75	0	0	1/20/2009	1/26/2009
Wilkes County	0	100	67.96	36.65	0	0	1/13/2009	1/19/2009
Wilkes County	0	100	100	65.13	35.46	0	1/6/2009	1/12/2009
Wilkes County	0	100	100	65.13	35.46	0	12/30/2008	1/5/2009
Wilkes County	0	100	100	65.13	35.46	0	12/23/2008	12/29/2008
Wilkes County	0	100	100	65.13	35.46	0	12/16/2008	12/22/2008
Wilkes County	0	100	100	100	100	36.58	12/9/2008	12/15/2008
Wilkes County	0	100	100	100	100	82.71	12/2/2008	12/8/2008
Wilkes County	0	100	100	100	100	82.71	11/25/2008	12/1/2008
Wilkes County	0	100	100	100	100	82.71	11/18/2008	11/24/2008
Wilkes County	0	100	100	100	100	82.71	11/11/2008	11/17/2008
Wilkes County	0	100	100	100	100	0	11/4/2008	11/10/2008
Wilkes County	0	100	100	100	100	0	10/28/2008	11/3/2008
Wilkes County	0	100	100	100	100	0	10/21/2008	10/27/2008
Wilkes County	0	100	100	100	100	0	10/14/2008	10/20/2008
Wilkes County	0	100	100	100	100	0	10/7/2008	10/13/2008
Wilkes County	0	100	100	100	100	0	9/30/2008	10/6/2008
Wilkes County	0	100	100	100	92.96	0	9/23/2008	9/29/2008

Wilkes County	0	100	100	100	92.96	0	9/16/2008	9/22/2008
Wilkes County	0	100	100	100	92.96	0	9/9/2008	9/15/2008
Wilkes County	0	100	100	100	92.96	0	9/2/2008	9/8/2008
Wilkes County	0	100	100	100	92.96	0	8/26/2008	9/1/2008
Wilkes County	0	100	100	100	100	17.2	8/19/2008	8/25/2008
Wilkes County	0	100	100	100	100	17.2	8/12/2008	8/18/2008
Wilkes County	0	100	100	100	100	17.2	8/5/2008	8/11/2008
Wilkes County	0	100	100	100	100	17.2	7/29/2008	8/4/2008
Wilkes County	0	100	100	100	100	17.2	7/22/2008	7/28/2008
Wilkes County	0	100	100	100	100	0	7/15/2008	7/21/2008
Wilkes County	0	100	100	100	100	0	7/8/2008	7/14/2008
Wilkes County	0	100	100	100	100	0	7/1/2008	7/7/2008
Wilkes County	0	100	100	100	69.44	0	6/24/2008	6/30/2008
Wilkes County	0	100	100	100	45.06	0	6/17/2008	6/23/2008
Wilkes County	0	100	100	98.08	32.25	0	6/10/2008	6/16/2008
Wilkes County	0	100	100	63.51	0.28	0	6/3/2008	6/9/2008
Wilkes County	0	100	100	63.51	0.28	0	5/27/2008	6/2/2008
Wilkes County	0	100	100	99.92	0.05	0	5/20/2008	5/26/2008
Wilkes County	0	100	100	99.92	0.06	0	5/13/2008	5/19/2008
Wilkes County	0	100	100	99.92	0.06	0	5/6/2008	5/12/2008
Wilkes County	0	100	100	99.92	0.06	0	4/29/2008	5/5/2008
Wilkes County	0	100	100	99.92	0.06	0	4/22/2008	4/28/2008
Wilkes County	0	100	100	99.92	0.06	0	4/15/2008	4/21/2008
Wilkes County	0	100	100	99.92	0.06	0	4/8/2008	4/14/2008
Wilkes County	0	100	100	99.92	0.56	0	4/1/2008	4/7/2008
Wilkes County	0	100	100	99.92	0.56	0	3/25/2008	3/31/2008
Wilkes County	0	100	100	99.92	0.56	0	3/18/2008	3/24/2008
Wilkes County	0	100	100	99.92	0.56	0	3/11/2008	3/17/2008
Wilkes County	0	100	100	100	9.61	0	3/4/2008	3/10/2008
Wilkes County	0	100	100	100	9.61	0	2/26/2008	3/3/2008
Wilkes County	0	100	100	100	100	0	2/19/2008	2/25/2008
Wilkes County	0	100	100	100	100	0	2/12/2008	2/18/2008
Wilkes County	0	100	100	100	100	0	2/5/2008	2/11/2008
Wilkes County	0	100	100	100	100	0	1/29/2008	2/4/2008
Wilkes County	0	100	100	100	100	0	1/22/2008	1/28/2008
Wilkes County	0	100	100	100	100	0	1/15/2008	1/21/2008
Wilkes County	0	100	100	100	100	0	1/8/2008	1/14/2008
Wilkes County	0	100	100	100	100	0	1/1/2008	1/7/2008
Wilkes County	0	100	100	100	100	100	12/25/2007	12/31/2007
Wilkes County	0	100	100	100	100	100	12/18/2007	12/24/2007
Wilkes County	0	100	100	100	100	100	12/11/2007	12/17/2007
Wilkes County	0	100	100	100	100	100	12/4/2007	12/10/2007
Wilkes County	0	100	100	100	100	100	11/27/2007	12/3/2007
Wilkes County	0	100	100	100	100	100	11/20/2007	11/26/2007
Wilkes County	0	100	100	100	100	100	11/13/2007	11/19/2007
Wilkes County	0	100	100	100	100	85.99	11/6/2007	11/12/2007
Wilkes County	0	100	100	100	100	85.99	10/30/2007	11/5/2007
Wilkes County	0	100	100	100	100	85.99	10/23/2007	10/29/2007

Wilkes County	0	100	100	100	100	85.99	10/16/2007	10/22/2007
Wilkes County	0	100	100	100	100	16.23	10/9/2007	10/15/2007
Wilkes County	0	100	100	100	74.01	16.23	10/2/2007	10/8/2007
Wilkes County	0	100	100	100	74.01	16.23	9/25/2007	10/1/2007
Wilkes County	0	100	100	100	74.01	16.23	9/18/2007	9/24/2007
Wilkes County	0	100	100	100	89.42	0	9/11/2007	9/17/2007
Wilkes County	0	100	100	100	0	0	9/4/2007	9/10/2007
Wilkes County	0	100	100	100	100	0	8/28/2007	9/3/2007
Wilkes County	0	100	100	100	100	0	8/21/2007	8/27/2007
Wilkes County	0	100	100	100	0	0	8/14/2007	8/20/2007
Wilkes County	0	100	100	100	0	0	8/7/2007	8/13/2007
Wilkes County	0	100	99.92	1.3	0	0	7/31/2007	8/6/2007
Wilkes County	0	100	99.92	1.3	0	0	7/24/2007	7/30/2007
Wilkes County	0	100	99.92	1.3	0	0	7/17/2007	7/23/2007
Wilkes County	0	100	99.92	1.3	0	0	7/10/2007	7/16/2007
Wilkes County	0	100	99.92	1.3	0	0	7/3/2007	7/9/2007
Wilkes County	0	100	99.96	10.02	0	0	6/26/2007	7/2/2007
Wilkes County	0	100	99.96	10.02	0	0	6/19/2007	6/25/2007
Wilkes County	0	100	99.96	10.02	0	0	6/12/2007	6/18/2007
Wilkes County	0	100	99.96	1.38	0	0	6/5/2007	6/11/2007
Wilkes County	0	100	100	20.27	0	0	5/29/2007	6/4/2007
Wilkes County	0	100	100	20.26	0	0	5/22/2007	5/28/2007
Wilkes County	0	100	100	0	0	0	5/15/2007	5/21/2007
Wilkes County	0	100	100	0	0	0	5/8/2007	5/14/2007
Wilkes County	0	100	100	0	0	0	5/1/2007	5/7/2007
Wilkes County	0	100	100	0	0	0	4/24/2007	4/30/2007
Wilkes County	0	100	0	0	0	0	4/17/2007	4/23/2007
Wilkes County	0	100	0	0	0	0	4/10/2007	4/16/2007
Wilkes County	0	100	0	0	0	0	4/3/2007	4/9/2007
Wilkes County	0	100	0	0	0	0	3/27/2007	4/2/2007
Wilkes County	0.01	99.99	0	0	0	0	3/20/2007	3/26/2007
Wilkes County	1.19	98.81	0	0	0	0	3/13/2007	3/19/2007
Wilkes County	100	0	0	0	0	0	3/6/2007	3/12/2007
Wilkes County	0	100	0	0	0	0	2/27/2007	3/5/2007
Wilkes County	0	100	0	0	0	0	2/20/2007	2/26/2007
Wilkes County	100	0	0	0	0	0	2/13/2007	2/19/2007
Wilkes County	100	0	0	0	0	0	2/6/2007	2/12/2007
Wilkes County	100	0	0	0	0	0	1/30/2007	2/5/2007
Wilkes County	100	0	0	0	0	0	1/23/2007	1/29/2007
Wilkes County	100	0	0	0	0	0	1/16/2007	1/22/2007
Wilkes County	37.38	62.62	0	0	0	0	1/9/2007	1/15/2007
Wilkes County	37.38	62.62	0	0	0	0	1/2/2007	1/8/2007
Wilkes County	37.38	62.62	0	0	0	0	12/26/2006	1/1/2007
Wilkes County	37.38	62.62	0	0	0	0	12/19/2006	12/25/2006
Wilkes County	62.54	37.46	0	0	0	0	12/12/2006	12/18/2006
Wilkes County	100	0	0	0	0	0	12/5/2006	12/11/2006
Wilkes County	100	0	0	0	0	0	11/28/2006	12/4/2006
Wilkes County	81.05	18.95	0	0	0	0	11/21/2006	11/27/2006

Wilkes County	0	100	4.65	0	0	0	11/14/2006	11/20/2006
Wilkes County	0	100	0	0	0	0	11/7/2006	11/13/2006
Wilkes County	0	100	0	0	0	0	10/31/2006	11/6/2006
Wilkes County	0	100	100	0	0	0	10/24/2006	10/30/2006
Wilkes County	0	100	100	0	0	0	10/17/2006	10/23/2006
Wilkes County	0	100	100	0	0	0	10/10/2006	10/16/2006
Wilkes County	0	100	100	0	0	0	10/3/2006	10/9/2006
Wilkes County	0	100	0	0	0	0	9/26/2006	10/2/2006
Wilkes County	0	100	0	0	0	0	9/19/2006	9/25/2006
Wilkes County	0	100	100	0	0	0	9/12/2006	9/18/2006
Wilkes County	0	100	100	0	0	0	9/5/2006	9/11/2006
Wilkes County	0	100	100	0	0	0	8/29/2006	9/4/2006
Wilkes County	0	100	100	0	0	0	8/22/2006	8/28/2006
Wilkes County	0	100	100	0	0	0	8/15/2006	8/21/2006
Wilkes County	0	100	100	0	0	0	8/8/2006	8/14/2006
Wilkes County	0	100	100	0	0	0	8/1/2006	8/7/2006
Wilkes County	0	100	100	0	0	0	7/25/2006	7/31/2006
Wilkes County	0	100	99.42	0	0	0	7/18/2006	7/24/2006
Wilkes County	0	100	92.8	0	0	0	7/11/2006	7/17/2006
Wilkes County	0	100	98.09	0	0	0	7/4/2006	7/10/2006
Wilkes County	0	100	98.07	0	0	0	6/27/2006	7/3/2006
Wilkes County	0	100	98.84	0	0	0	6/20/2006	6/26/2006
Wilkes County	0	100	100	0	0	0	6/13/2006	6/19/2006
Wilkes County	0	100	100	0	0	0	6/6/2006	6/12/2006
Wilkes County	0	100	51.89	0	0	0	5/30/2006	6/5/2006
Wilkes County	0	100	51.89	0	0	0	5/23/2006	5/29/2006
Wilkes County	0	100	51.89	0	0	0	5/16/2006	5/22/2006
Wilkes County	0	100	0	0	0	0	5/9/2006	5/15/2006
Wilkes County	0	100	0	0	0	0	5/2/2006	5/8/2006
Wilkes County	0	100	0	0	0	0	4/25/2006	5/1/2006
Wilkes County	0	100	0	0	0	0	4/18/2006	4/24/2006
Wilkes County	0	100	0	0	0	0	4/11/2006	4/17/2006
Wilkes County	0	100	0	0	0	0	4/4/2006	4/10/2006
Wilkes County	100	0	0	0	0	0	3/28/2006	4/3/2006
Wilkes County	100	0	0	0	0	0	3/21/2006	3/27/2006
Wilkes County	100	0	0	0	0	0	3/14/2006	3/20/2006
Wilkes County	100	0	0	0	0	0	3/7/2006	3/13/2006
Wilkes County	100	0	0	0	0	0	2/28/2006	3/6/2006
Wilkes County	100	0	0	0	0	0	2/21/2006	2/27/2006
Wilkes County	100	0	0	0	0	0	2/14/2006	2/20/2006
Wilkes County	100	0	0	0	0	0	2/7/2006	2/13/2006
Wilkes County	100	0	0	0	0	0	1/31/2006	2/6/2006
Wilkes County	100	0	0	0	0	0	1/24/2006	1/30/2006
Wilkes County	100	0	0	0	0	0	1/17/2006	1/23/2006
Wilkes County	100	0	0	0	0	0	1/10/2006	1/16/2006
Wilkes County	100	0	0	0	0	0	1/3/2006	1/9/2006
Wilkes County	100	0	0	0	0	0	12/27/2005	1/2/2006
Wilkes County	100	0	0	0	0	0	12/20/2005	12/26/2005

Wilkes County	100	0	0	0	0	0	12/13/2005	12/19/2005
Wilkes County	100	0	0	0	0	0	12/6/2005	12/12/2005
Wilkes County	100	0	0	0	0	0	11/29/2005	12/5/2005
Wilkes County	0	100	0	0	0	0	11/22/2005	11/28/2005
Wilkes County	0	100	0	0	0	0	11/15/2005	11/21/2005
Wilkes County	100	0	0	0	0	0	11/8/2005	11/14/2005
Wilkes County	100	0	0	0	0	0	11/1/2005	11/7/2005
Wilkes County	100	0	0	0	0	0	10/25/2005	10/31/2005
Wilkes County	100	0	0	0	0	0	10/18/2005	10/24/2005
Wilkes County	100	0	0	0	0	0	10/11/2005	10/17/2005
Wilkes County	100	0	0	0	0	0	10/4/2005	10/10/2005
Wilkes County	0.64	99.36	0	0	0	0	9/27/2005	10/3/2005
Wilkes County	100	0	0	0	0	0	9/20/2005	9/26/2005
Wilkes County	100	0	0	0	0	0	9/13/2005	9/19/2005
Wilkes County	100	0	0	0	0	0	9/6/2005	9/12/2005
Wilkes County	100	0	0	0	0	0	8/30/2005	9/5/2005
Wilkes County	100	0	0	0	0	0	8/23/2005	8/29/2005
Wilkes County	100	0	0	0	0	0	8/16/2005	8/22/2005
Wilkes County	100	0	0	0	0	0	8/9/2005	8/15/2005
Wilkes County	100	0	0	0	0	0	8/2/2005	8/8/2005
Wilkes County	100	0	0	0	0	0	7/26/2005	8/1/2005
Wilkes County	100	0	0	0	0	0	7/19/2005	7/25/2005
Wilkes County	100	0	0	0	0	0	7/12/2005	7/18/2005
Wilkes County	100	0	0	0	0	0	7/5/2005	7/11/2005
Wilkes County	100	0	0	0	0	0	6/28/2005	7/4/2005
Wilkes County	100	0	0	0	0	0	6/21/2005	6/27/2005
Wilkes County	100	0	0	0	0	0	6/14/2005	6/20/2005
Wilkes County	100	0	0	0	0	0	6/7/2005	6/13/2005
Wilkes County	100	0	0	0	0	0	5/31/2005	6/6/2005
Wilkes County	100	0	0	0	0	0	5/24/2005	5/30/2005
Wilkes County	100	0	0	0	0	0	5/17/2005	5/23/2005
Wilkes County	100	0	0	0	0	0	5/10/2005	5/16/2005
Wilkes County	100	0	0	0	0	0	5/3/2005	5/9/2005
Wilkes County	100	0	0	0	0	0	4/26/2005	5/2/2005
Wilkes County	100	0	0	0	0	0	4/19/2005	4/25/2005
Wilkes County	100	0	0	0	0	0	4/12/2005	4/18/2005
Wilkes County	100	0	0	0	0	0	4/5/2005	4/11/2005
Wilkes County	100	0	0	0	0	0	3/29/2005	4/4/2005
Wilkes County	100	0	0	0	0	0	3/22/2005	3/28/2005
Wilkes County	100	0	0	0	0	0	3/15/2005	3/21/2005
Wilkes County	100	0	0	0	0	0	3/8/2005	3/14/2005
Wilkes County	100	0	0	0	0	0	3/1/2005	3/7/2005
Wilkes County	100	0	0	0	0	0	2/22/2005	2/28/2005
Wilkes County	100	0	0	0	0	0	2/15/2005	2/21/2005
Wilkes County	100	0	0	0	0	0	2/8/2005	2/14/2005
Wilkes County	100	0	0	0	0	0	2/1/2005	2/7/2005
Wilkes County	100	0	0	0	0	0	1/25/2005	1/31/2005
Wilkes County	100	0	0	0	0	0	1/18/2005	1/24/2005

Wilkes County	100	0	0	0	0	0	1/11/2005	1/17/2005
Wilkes County	100	0	0	0	0	0	1/4/2005	1/10/2005
Wilkes County	100	0	0	0	0	0	12/28/2004	1/3/2005
Wilkes County	100	0	0	0	0	0	12/21/2004	12/27/2004
Wilkes County	100	0	0	0	0	0	12/14/2004	12/20/2004
Wilkes County	100	0	0	0	0	0	12/7/2004	12/13/2004
Wilkes County	100	0	0	0	0	0	11/30/2004	12/6/2004
Wilkes County	100	0	0	0	0	0	11/23/2004	11/29/2004
Wilkes County	100	0	0	0	0	0	11/16/2004	11/22/2004
Wilkes County	100	0	0	0	0	0	11/9/2004	11/15/2004
Wilkes County	100	0	0	0	0	0	11/2/2004	11/8/2004
Wilkes County	100	0	0	0	0	0	10/26/2004	11/1/2004
Wilkes County	100	0	0	0	0	0	10/19/2004	10/25/2004
Wilkes County	100	0	0	0	0	0	10/12/2004	10/18/2004
Wilkes County	100	0	0	0	0	0	10/5/2004	10/11/2004
Wilkes County	100	0	0	0	0	0	9/28/2004	10/4/2004
Wilkes County	100	0	0	0	0	0	9/21/2004	9/27/2004
Wilkes County	100	0	0	0	0	0	9/14/2004	9/20/2004
Wilkes County	100	0	0	0	0	0	9/7/2004	9/13/2004
Wilkes County	100	0	0	0	0	0	8/31/2004	9/6/2004
Wilkes County	64.06	35.94	0	0	0	0	8/24/2004	8/30/2004
Wilkes County	100	0	0	0	0	0	8/17/2004	8/23/2004
Wilkes County	0	100	0	0	0	0	8/10/2004	8/16/2004
Wilkes County	0	100	0	0	0	0	8/3/2004	8/9/2004
Wilkes County	0	100	0	0	0	0	7/27/2004	8/2/2004
Wilkes County	0	100	0	0	0	0	7/20/2004	7/26/2004
Wilkes County	0	100	0	0	0	0	7/13/2004	7/19/2004
Wilkes County	0	100	0	0	0	0	7/6/2004	7/12/2004
Wilkes County	0	100	100	0	0	0	6/29/2004	7/5/2004
Wilkes County	0	100	100	100	0	0	6/22/2004	6/28/2004
Wilkes County	0	100	100	100	0	0	6/15/2004	6/21/2004
Wilkes County	0	100	100	100	0	0	6/8/2004	6/14/2004
Wilkes County	0	100	100	100	0	0	6/1/2004	6/7/2004
Wilkes County	0	100	100	100	0	0	5/25/2004	5/31/2004
Wilkes County	0	100	100	0	0	0	5/18/2004	5/24/2004
Wilkes County	0	100	100	0	0	0	5/11/2004	5/17/2004
Wilkes County	0	100	100	0	0	0	5/4/2004	5/10/2004
Wilkes County	0	100	100	0	0	0	4/27/2004	5/3/2004
Wilkes County	0	100	100	0	0	0	4/20/2004	4/26/2004
Wilkes County	0	100	0	0	0	0	4/13/2004	4/19/2004
Wilkes County	0	100	0	0	0	0	4/6/2004	4/12/2004
Wilkes County	0	100	0	0	0	0	3/30/2004	4/5/2004
Wilkes County	0	100	0	0	0	0	3/23/2004	3/29/2004
Wilkes County	100	0	0	0	0	0	3/16/2004	3/22/2004
Wilkes County	100	0	0	0	0	0	3/9/2004	3/15/2004
Wilkes County	100	0	0	0	0	0	3/2/2004	3/8/2004
Wilkes County	100	0	0	0	0	0	2/24/2004	3/1/2004
Wilkes County	100	0	0	0	0	0	2/17/2004	2/23/2004

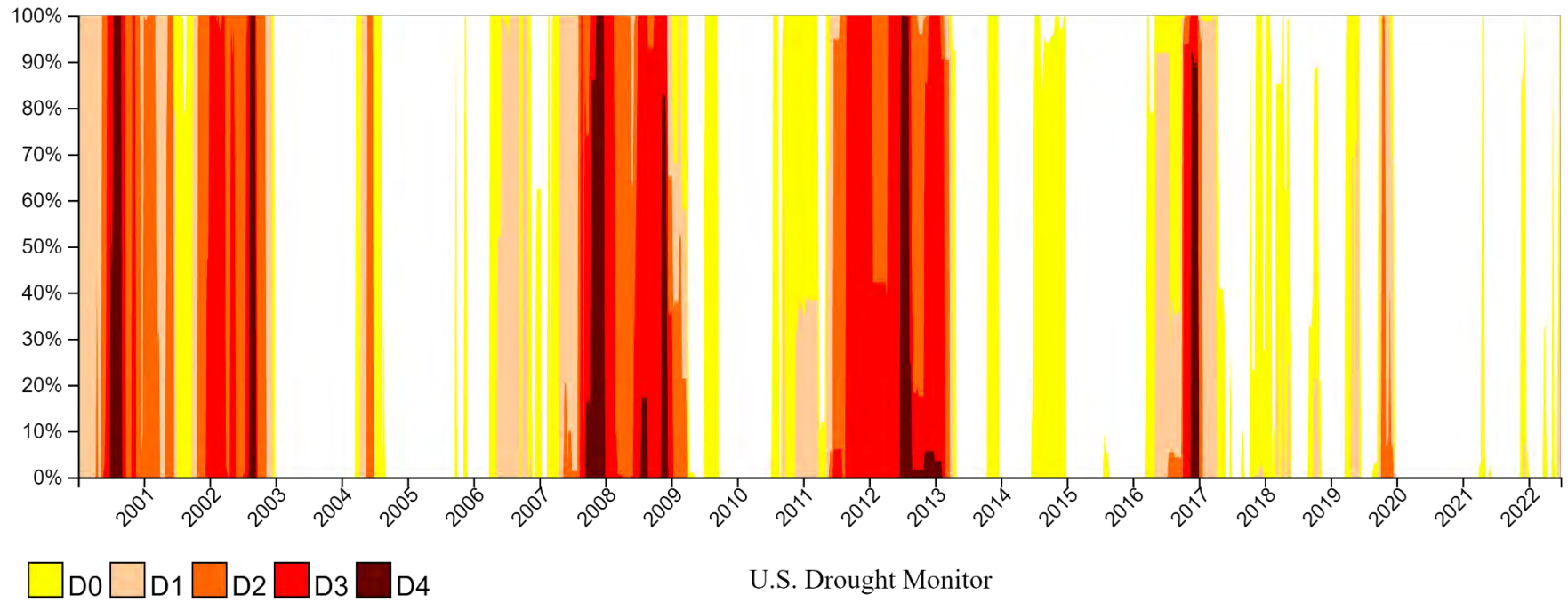
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Wilkes County	100	0	0	0	0	0	1/20/2004	1/26/2004
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Wilkes County	100	0	0	0	0	0	1/6/2004	1/12/2004
Wilkes County	100	0	0	0	0	0	12/30/2003	1/5/2004
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Wilkes County	100	0	0	0	0	0	10/7/2003	10/13/2003
Wilkes County	100	0	0	0	0	0	9/30/2003	10/6/2003
Wilkes County	100	0	0	0	0	0	9/23/2003	9/29/2003
Wilkes County	100	0	0	0	0	0	9/16/2003	9/22/2003
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Wilkes County	100	0	0	0	0	0	3/11/2003	3/17/2003
Wilkes County	100	0	0	0	0	0	3/4/2003	3/10/2003
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Wilkes County	100	0	0	0	0	0	2/18/2003	2/24/2003
Wilkes County	100	0	0	0	0	0	2/11/2003	2/17/2003
Wilkes County	100	0	0	0	0	0	2/4/2003	2/10/2003
Wilkes County	100	0	0	0	0	0	1/28/2003	2/3/2003
Wilkes County	100	0	0	0	0	0	1/21/2003	1/27/2003
Wilkes County	100	0	0	0	0	0	1/14/2003	1/20/2003
Wilkes County	100	0	0	0	0	0	1/7/2003	1/13/2003
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Wilkes County	0	100	100	100	0	0	10/22/2002	10/28/2002
Wilkes County	0	100	100	100	0	0	10/15/2002	10/21/2002
Wilkes County	0	100	100	100	0	0	10/8/2002	10/14/2002
Wilkes County	0	100	100	100	0	0	10/1/2002	10/7/2002
Wilkes County	0	100	100	100	0	0	9/24/2002	9/30/2002
Wilkes County	0	100	100	100	100	0	9/17/2002	9/23/2002
Wilkes County	0	100	100	100	100	100	9/10/2002	9/16/2002
Wilkes County	0	100	100	100	100	100	9/3/2002	9/9/2002
Wilkes County	0	100	100	100	100	100	8/27/2002	9/2/2002
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Wilkes County	0	100	100	100	0	0	7/2/2002	7/8/2002
Wilkes County	0	100	100	100	0	0	6/25/2002	7/1/2002
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Wilkes County	0	100	100	100	0	0	6/4/2002	6/10/2002
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Wilkes County	0	100	100	100	0	0	4/23/2002	4/29/2002
Wilkes County	0	100	100	100	0	0	4/16/2002	4/22/2002

Wilkes County	0	100	100	100	0.58	0	4/9/2002	4/15/2002
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Wilkes County	0	100	100	100	100	0	1/22/2002	1/28/2002
Wilkes County	0	100	100	100	100	0	1/15/2002	1/21/2002
Wilkes County	0	100	100	100	100	0	1/8/2002	1/14/2002
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Wilkes County	0	100	100	100	0	0	11/27/2001	12/3/2001
Wilkes County	0	100	100	100	0	0	11/20/2001	11/26/2001
Wilkes County	0	100	100	100	0	0	11/13/2001	11/19/2001
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Wilkes County	0	100	100	100	0	0	10/30/2001	11/5/2001
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Wilkes County	0	100	0	0	0	0	9/4/2001	9/10/2001
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Wilkes County	0	100	0	0	0	0	7/24/2001	7/30/2001
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Wilkes County	0	100	79.27	0	0	0	6/19/2001	6/25/2001
Wilkes County	0	100	100	100	0	0	6/12/2001	6/18/2001
Wilkes County	0	100	100	100	0	0	6/5/2001	6/11/2001
Wilkes County	0	100	100	100	0	0	5/29/2001	6/4/2001
Wilkes County	0	100	100	100	0	0	5/22/2001	5/28/2001
Wilkes County	0	100	100	100	0	0	5/15/2001	5/21/2001

Wilkes County	0	100	100	75.99	0	0	5/8/2001	5/14/2001
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Wilkes County	0	100	100	0	0	0	4/24/2001	4/30/2001
Wilkes County	0	100	100	0	0	0	4/17/2001	4/23/2001
Wilkes County	0	100	100	0	0	0	4/10/2001	4/16/2001
Wilkes County	0	100	100	0	0	0	4/3/2001	4/9/2001
Wilkes County	0	100	100	31.2	0	0	3/27/2001	4/2/2001
Wilkes County	0	100	100	31.2	0	0	3/20/2001	3/26/2001
Wilkes County	0	100	100	47.49	0	0	3/13/2001	3/19/2001
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Wilkes County	0	100	100	100	100	0	11/7/2000	11/13/2000
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Wilkes County	0	100	100	100	0	0	10/24/2000	10/30/2000
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Wilkes County	0	100	100	100	100	0	9/19/2000	9/25/2000
Wilkes County	0	100	100	100	100	0	9/12/2000	9/18/2000
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Wilkes County	0	100	100	100	100	100	8/29/2000	9/4/2000
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Wilkes County	0	100	100	100	100	100	8/8/2000	8/14/2000
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Wilkes County	0	100	100	100	100	0	6/27/2000	7/3/2000
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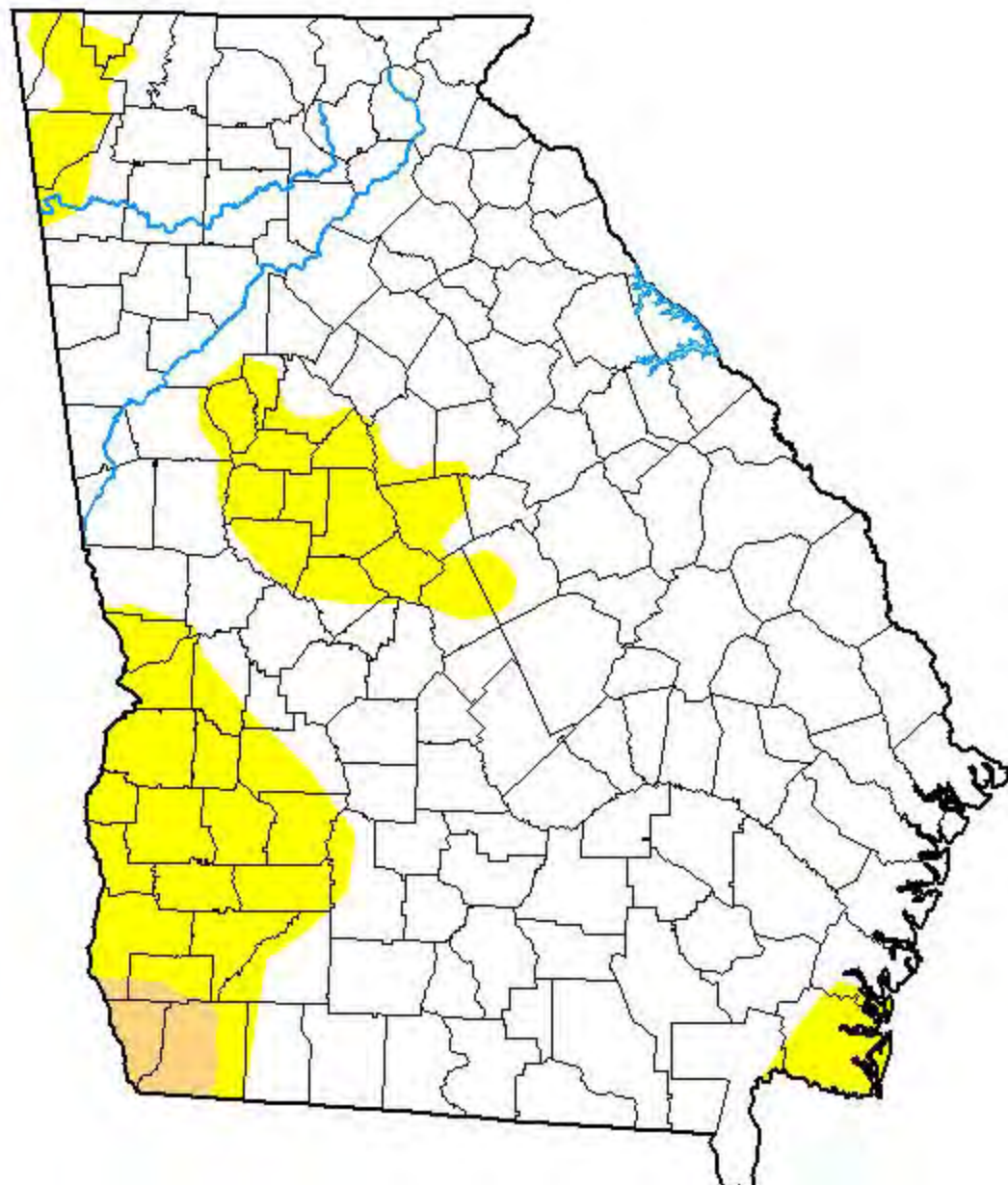
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Wilkes County	0	100	100	0	0	0	1/18/2000	1/24/2000
Wilkes County	0	100	100	0	0	0	1/11/2000	1/17/2000
Wilkes County	0	100	100	0	0	0	1/4/2000	1/10/2000



U.S. Drought Monitor
Wilkes County, GA

U.S. Drought Monitor Georgia

September 12, 2023
(Released Thursday, Sep. 14, 2023)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	80.88	19.12	1.34	0.00	0.00	0.00
Last Week <i>09-05-2023</i>	90.01	9.99	0.00	0.00	0.00	0.00
3 Months Ago <i>06-13-2023</i>	76.32	23.68	0.00	0.00	0.00	0.00
Start of Calendar Year <i>01-03-2023</i>	46.36	53.64	28.04	4.81	0.00	0.00
Start of Water Year <i>09-27-2022</i>	76.20	23.80	0.00	0.00	0.00	0.00
One Year Ago <i>09-13-2022</i>	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- None
- D2 Severe Drought
- D0 Abnormally Dry
- D3 Extreme Drought
- D1 Moderate Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Brad Pugh
CPC/NOAA

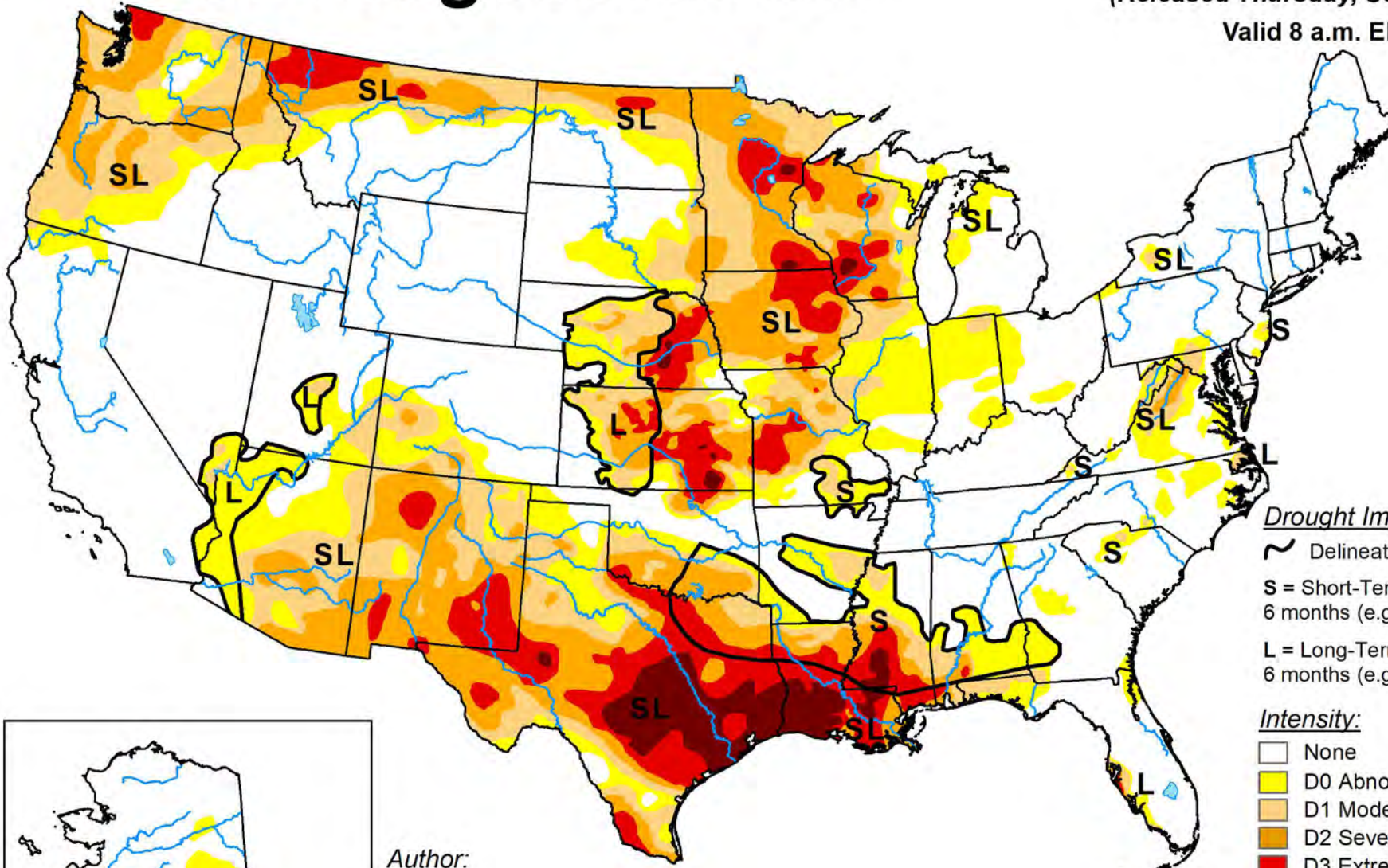


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U.S. Drought Monitor

September 12, 2023
(Released Thursday, Sep. 14, 2023)

Valid 8 a.m. EDT

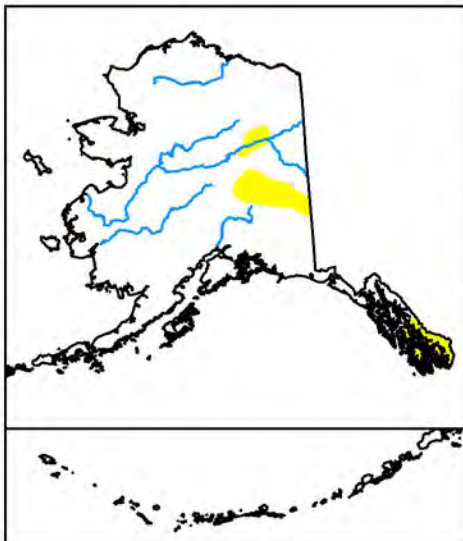


Drought Impact Types:

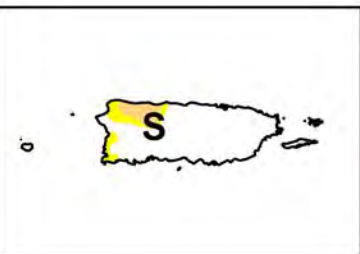
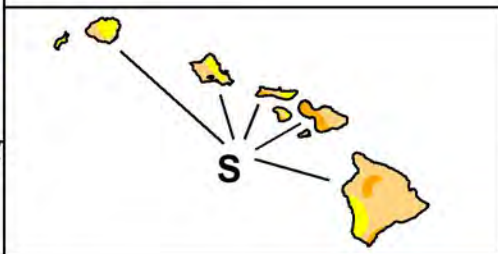
- Delineates dominant impacts
- S** = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L** = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought



Author:
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CPC/NOAA



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WILDFIRE

A wildfire is any uncontrolled fire occurring on undeveloped land that needs fire suppression. The potential for wildfire is influenced by three factors: the presence of fuel, the area's topography and air mass. There are three different classes of wild land fires. A surface fire is the most common type and burns along the floor of a forest moving slowly and killing or damaging trees. A ground fire is usually started by lightning and burns on or below the forest floor. Crown fires spread rapidly by wind and move quickly by jumping along the tops of trees. Wildfires are usually signaled by dense smoke that fills the area for miles around. Wildfires by lightning have a very strong probability of occurring during drought conditions. Drought conditions make natural fuels (grass, brush, trees, dead vegetation) more fire-prone.

Wilkes County consist of 474 square miles with 4.6 of the square miles being water. Of the approximate 303,360 acres in the county, 96% are dedicated to agricultural and forestry uses. Given the right weather conditions and variables, wildfire due to natural causes creates a potential threat to the lives and property of residents in the planning area. According to Georgia Forestry data, from 1957 to 2022, there have been 1,876 fire events burning a total of 9,041 acres for an average extent of 4.8 acres. Of these 1,876 fire events, only 103 were a result of a natural hazard event that burned 855 acres. Based on a 20-year hazard cycle there is a 145 percent chance of an annual wildfire due to a natural hazard event .

WILKES COUNTY WILDFIRES BY ACREAGE

Date	Total	Light	Machine	Camp	Smoke	Debris	Arson	Rail	Child	Misc
1957	104.4	0	73.5	10	0	8.9	0	0	0	12
1958	57.7	0	7.2	10.45	0	0.25	5	0	0	34.8
1959	54.54	0	1.5	0	1	21.16	18	0	0	12.88
1960	53.17	0	14.65	5.5	1.81	26.11	0	0	0	5.1
1961	118.36	0	0	18.52	16.15	73.05	0	0	0	10.64
1962	168.46	31.49	23.42	0	4.17	99.98	9.4	0	0	0
1963	79.65	0	16.5	0	18.8	34.85	6	3.5	0	0
1964	38.26	0	3.5	0	24.76	7	2.5	0.5	0	0
1965	77.34	0.3	0.18	0	45.46	9	0	22.4	0	0
1966	6.65	0	0	1.13	1.8	3.62	0	0.1	0	0
1967	47.59	0.42	0.36	4.69	34.4	6.66	0	1.06	0	0
1968	128.55	0	10.12	0	22.41	61.77	0.97	33.28	0	0
1969	70.53	0.57	1.27	23.75	4.25	23.43	16.77	0.49	0	0
1970	111.67	0.01	8.69	1.16	7.03	78.21	8.84	7.73	0	0
1971	58.22	0	1.71	0	14.07	19.22	14.75	8.47	0	0
1972	45.51	0	0.16	0	17.87	18.63	4.85	4	0	0
1973	46.6	0	7.33	0	10.02	8.49	1.17	19.59	0	0
1974	72.03	0	10.33	0	7.41	48.57	5.71	0.01	0	0
1975	46.16	15.07	8.73	0	0.05	5.97	0.07	0	12.28	3.99
1976	136.31	0	6.05	0	2.16	106.68	13.39	0	0	8.03
1977	418.41	51.78	28.46	246.41	6.93	22.54	41.15	0	15.74	5.4
1978	290.56	102	6.96	7.51	20.47	135.6	16.14	0	0	1.88
1979	76.8	1.8	7.13	0	10.4	28.27	1.96	0	1.44	25.8
1980	278.29	1.4	6.18	0.15	10.66	90.74	158.46	0	1.12	9.58
1981	197.86	0.1	3.69	0	0.99	43.19	89.13	0	1.99	58.77
1982	67.53	6.67	29.14	0	0	13.34	17.22	0	1.06	0.1
1983	168.19	131.66	16.18	0.09	0	10.07	0	0	0	10.19
1984	172.76	0.05	5.03	1.17	26.74	119.96	1.7	0	0	18.11
1985	129.04	0	0.56	0	0.56	73.56	44.88	0	0	9.48
1986	79.49	37.73	0.59	0	6.22	11.6	17.69	0	0.38	5.28
1987	94.64	18.28	7.54	0	0	57.93	9.27	0	0	1.62
1988	111.48	36.95	40.01	0	0.05	31.66	0	0	0	2.81
1989	53.19	16.56	3.37	0	15.81	11.25	2.87	0	1.08	2.25
1990	140.07	0.14	3.01	0	1.38	44.03	81.96	0	0.18	9.37
1991	106.56	0	1.46	0	6.74	91.08	2.06	0	0	5.22
1992	21.8	0	3.77	1.03	0	10.84	4.32	0	0	1.84
1993	241.85	40.95	53.22	0	2.99	39.76	84.46	0	0	20.47
1994	65.74	0	38.24	0.04	0.16	16.29	10.68	0	0.11	0.22
1995	123.91	0	5.72	0.44	7.85	62.89	46.11	0	0	0.9
1996	74.94	0.02	0.65	4.58	0.01	50.16	6.76	0	0	12.76
1997	15.27	1.71	1.7	0.01	0.01	11.55	0.01	0	0	0.28
1998	33.39	0	0.03	1.53	0.66	14.94	0.18	0	0	16.05
1999	147.1	0	0.9	75	14.23	56.75	0	0	0	0.22
1987	283.69	42.81	92.12	23.32	2.18	93.11	9.45	0	0	20.7
1988	382.96	86.56	51.09	0.08	0.05	127	112.93	0.35	0	4.9
1989	53.19	14.53	3.37	0	15.81	11.25	4.9	0	1.08	2.25
1990	140.07	0.14	3.01	0	0.67	44.03	82.67	0	0.18	9.37
1991	106.56	0	1.46	0	6.73	91.08	2.07	0	0	5.22
1992	21.8	0	3.77	1.03	0	10.84	4.32	0	0	1.84
1993	241.85	40.95	53.22	0	2.99	39.76	84.46	0	0	20.47
1994	65.74	0	38.24	0.04	0.16	16.29	10.68	0	0.11	0.22

1995	123.91	0	5.72	0.44	7.85	62.26	46.74	0	0	0.9
1996	74.94	0.02	0.65	4.58	0.01	50.16	6.77	0	0	12.75
1997	15.27	1.71	1.7	0.01	0.01	11.55	0.01	0	0	0.28
1998	33.39	0	0.03	1.53	0.66	14.94	0.18	0	0	16.05
1999	242.45	4.74	38.68	75	14.43	101.36	0	0	0	8.24
2000	63.41	47.61	3.72	4.84	0	0.95	0.33	0	0.29	5.67
2001	100.51	0	5.25	6	0.95	82.24	0	0	0	6.07
2002	98.97	12.95	0.38	0	0	35.14	0	0	0	50.5
2003	34.1	0	0.76	0	0	22.41	0	0	0	10.93
2004	314.19	45.81	2.8	2.13	0.54	175.29	69	7.34	1.67	9.61
2005	120.85	0	6.5	43	0.39	20.4	0.24	0	0	50.32
2006	62.15	3.04	4.6	1.23	2.14	49.43	0	0	0	1.71
2007	146.45	15.1	10.49	0	0	89.34	28	0.11	0.39	3.02
2008	68.52	17.46	3.27	0.5	0	45.58	0	0	0	1.71
2009	212.83	0	1.57	0	0	210.35	0	0	0	0.91
2010	56.8	0	4.13	0	0	46.41	0	1.7	4.5	0.06
2011	103.1	0.5	16.37	0	5.2	58.95	0	4.28	1.6	16.2
2012	29.32	2.3	0.6	0	0	11.3	0	0	0	15.12
2013	36.48	0	8.4	0.01	0	15.6	0.87	0	0	11.6
2014	91.32	0.4	7.6	0	0	27.57	1	0	0	54.75
2015	43.01	11.1	0	27.6	0	1	0	0	0	3.31
2016	46.04	7.3	6.5	0	0	18.25	0	7.78	0	6.21
2017	408.86	5.03	0.01	0	0.07	403.7	0	0	0	0.05
2018	26.09	0	4.5	0	0	7.49	1.1	0	0	13
2019	32.37	0	16.2	0	0	14.27	0	0	0	1.9
2020	2	0	0	0	0	2	0	0	0	0
2021	527.79	0	1.75	0	0	526.02	0	0	0	0.02
2022	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
	9041.55	855.72								

WILKES COUNTY WILDFIRES BY NUMBER

DATE	TOTAL	LIGHT
1957	10	0
1958	20	0
1959	14	0
1960	16	0
1961	16	0
1962	19	6
1963	16	0
1964	13	0
1965	10	1
1966	12	0
1967	21	1
1968	29	0
1969	26	2
1970	47	1
1971	42	0
1972	26	1
1973	32	1
1974	38	0
1975	17	1
1976	43	0
1977	41	6
1978	58	1
1979	45	2
1980	48	2
1981	65	2
1982	21	1
1983	17	1
1984	48	1
1985	55	1
1986	48	7
1987	82	7
1988	96	13
1989	42	2
1990	45	1
1991	59	0
1992	32	0
1993	86	3
1994	30	0
1995	30	0
1996	42	3
1997	18	1
1998	16	0
1999	24	1
2000	19	5
2001	16	0
2002	14	2

2003	10	0
2004	29	2
2005	25	0
2006	35	5
2007	30	2
2008	20	8
2009	9	0
2010	16	1
2011	26	1
2012	15	2
2013	11	0
2014	21	1
2015	6	1
2016	13	3
2017	19	1
2018	6	0
2019	14	0
2020	1	0
2021	6	0
2022	0	0
2023	0	0
2024	0	0
2025	0	0
2026	0	0
2027	0	0
2028	0	0
2029	0	0
	1876	103

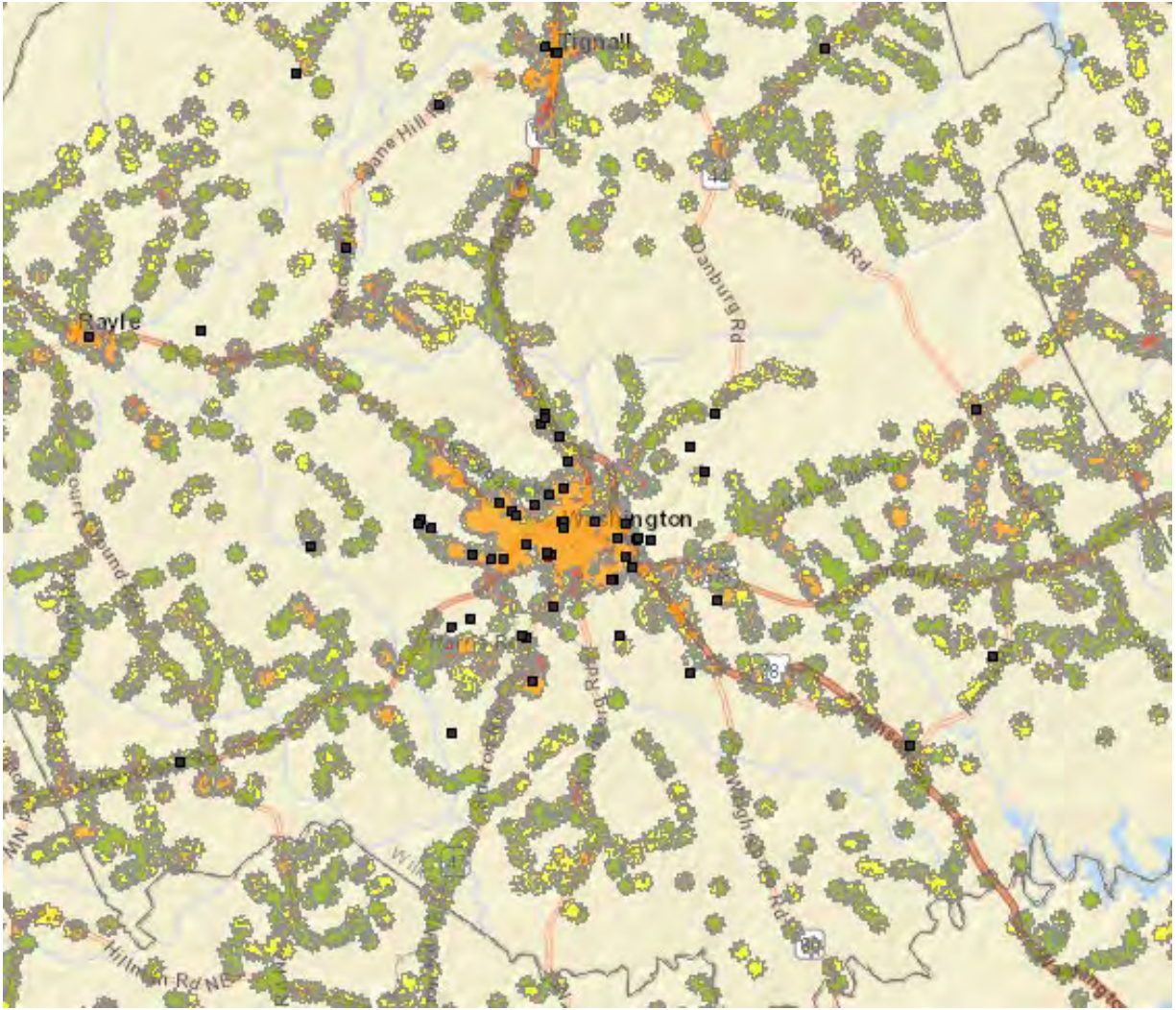
WILKES COUNTY WILDFIRE HAZARD SCORE

Jurisdiction	Name	Hazard Scd	Value	Year	Size	Content va	Year	Functional	Facility type	Risk	Day Occ	Night Occ
Rayle town	Rayle City Hall	3	141982	2023	4112	125000	2023	0	Government, Government, City Hall, City Hall	Essential, Historic Consideration		
Rayle town	Rayle Fire Department	3	147000	2023	4112	250000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Rayle town	Rayle Water Tank/System	3	950000	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Important, Lifeline		
Tignall town	Tignall City Hall	3	172200	2023	1346	40000	2023	0	Government, Government, City Hall, City Hall	Essential		
Tignall town	Tignall Fire Department	3	149600	2023	1875	622500	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Tignall town	Tignall WPCP	1	119100	2023	540	20000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Lifeline		
Tignall town	Tignall Gymnasium	3	1351000	2023	10506	32500	2023	0	Government, Government, Water/Sewer, Water/Sewer	Essential		
Tignall town	Tignall Water Tank #1	3	330300	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Lifeline	25	2
Tignall town	Tignall Water Tank #2	3	516000	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Lifeline	10	3
Washington city	Washington Fire Department	3	472403	2023	2240	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Washington city	Electrical Substation-Dixie Wood	2	1500000	2023	150			0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Lifeline		
Washington city	Electrical Substation - Gordon	3	1500000	2023	100			0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Lifeline	0	
Washington city	City of Washington Water Treatment Plant #1	1	6000000	2023	100	50000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Essential, Lifeline		
Washington city	City of Washington Water Treatment Plant #2	1	6000000	2023	100	50000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Lifeline		
Washington city	City of Washington Waste Treatment Plant	0	18500000	2023	100	45000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Essential, Lifeline		
Washington city	South bypass lift Station #1	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential	30	26
Washington city	washington crossing Lift Station #2	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential	67	55
Washington city	Harpers Personal Care Home Lift Station #3	3	750000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Elijah Clark Drive Lift Station #4	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Seven Oaks Dr. Lift Station #5	0	150000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Berkshire Drive Lift Station #6	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential, Hazardous Materials		
Washington city	Hills Street Lift Station #7	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	High School Lift Station #8	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Stockyard Lift Station #9	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Concord Lift Station #10	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential, Hazardous Materials		
Washington city	Old Skull Shoals Lift Station#11	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential	2	
Washington city	Highway 44 Lift Station#12	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Paper Pak Lift Station #14	4	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Anthony Wood Products Lift Station #13	2	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Skulls Shoal Rd Lift Station #15	3	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Washington City Hall	3	850000	2023	6198	300000	2023	0	Government, Government, Private, Private	Important		
Washington city	Pope Center	3	2500000	2023	10017	500000	2023	0	Government, Water/Sewer	Essential, Important	85	85
Washington city	Chamber of Commerce	3	750000	2023	6725		2023	0	Government, Water/Sewer	Important, Historic Consideration	10	3
Washington city	911 call Center	3	400000	2023	19702			0	Emergency Services, Emergency Services, EMA, EMA			
Washington city	EMA/EMS	3	105000	2023	2300			0	Emergency Services, Emergency Services, EMS, EMS			
Washington city	EMS substaion	2	30000	2023	2500			0	Emergency Services, Emergency Services, EMS, EMS			
Washington city	Wilkes County Communications Center	3	400000	2023				0	Emergency Services, Communications	Essential		
Washington city	EMS Substation	2	30000	2023				0	Emergency Services, EMS	Essential	145	65

Wilkes County	Washington-Wilkes Middle School	1	1500000	2023	0	1500000	2023	0	Education, Education, K - 12, K - 12	Essential, Lifeline, Vulnerable Population		
Wilkes County	Washington-Wilkes Primary School	3	10453500	2023	0	1500000		0	Education, Education, K - 12, K - 12	Essential, Vulnerable Population		
Wilkes County	Washington-Wilkes Comprehensive High	2	15000000	2023	0	1500000	2023	0	Education, Education, K - 12, K - 12	Essential, Vulnerable Population		
Wilkes County	Wilkes County Sheriff's Office	3	1935264	2023	19702	250000	2023	0	Law Enforcement, Law Enforcement, Sheriff, Sheriff	Essential		
Wilkes County	Wilkes County Courthouse	3	5600000	2023	22082	350000	2023	0	Law Enforcement, Law Enforcement, Court House, Court House	Essential, Historic Consideration, Important		
Wilkes County	Wilkes County Jail	3	1500000	2023	0	250000	2023	0	Law Enforcement, Law Enforcement, Jails, Jails	Essential, Vulnerable Population		
Wilkes County	Washington-Wilkes Communications Center	3	800000	2023	1500	400000	2023	0	Law Enforcement, Law Enforcement, Communications, Communications, Government Offices, Government Offices	Essential, Lifeline		
Wilkes County	Wilkes County EMS	3	740000	2023	2300	350000	2023	0	Law Enforcement, Law Enforcement, Police, Police	Essential	10	
Wilkes County	Wilkes Fire Station-Danburg	1	100000	2023	1100	250000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Wilkes Fire Station-Metaville	3	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Wilkes Fire Station-Newton	4	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential	0	
Wilkes County	Wilkes Fire Station-Tyrone	1	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Washington-Wilkes Elementary School	0	8661600	2023	0	1500000	2023	0	Education, Education, Government, Government, K - 12, K - 12	Essential, Vulnerable Population		
Wilkes County	Willis Memorial Hospital	3	31000000	2023	51863	10000000	2023	0	Medical, Medical, EMS, EMS	Essential, Important, Vulnerable Population		
Wilkes County	Heritage Health Care	2	1200000	2023	19384	150000	2023	0	Medical, Medical, EMS, EMS	Vulnerable Population		
Wilkes County	Harpers Personal Care Home	3	497848	2023	7036			0	Medical, EMS	Vulnerable Population	0	
Wilkes County	3 SISTERS LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	BURDETTE LAKE DAM #2	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	1	
Wilkes County	BURDETTE LAKE DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	WASHINGTON-WILKES ORCHARD DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	GARRARD DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	Hale Lake Dam	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	GRIMAUDE LAKE DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	0	
Wilkes County	Booths Lake Dam	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	20	
Wilkes County	WASHINGTON COUNTRY CLUB LAKE DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	Palmer Lake dam	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	WASHINGTON LITTLE BEAVERDAM CREEK RESERVIOR	0	150000	2023	100			0	Law Enforcement, Medical, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	CITY OF WASHINGTON BEVERDAM CREEK DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	CITY OF WASHINGTON SETTLING POND DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	5	3
Wilkes County	REVILLE LAKE DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	536	3

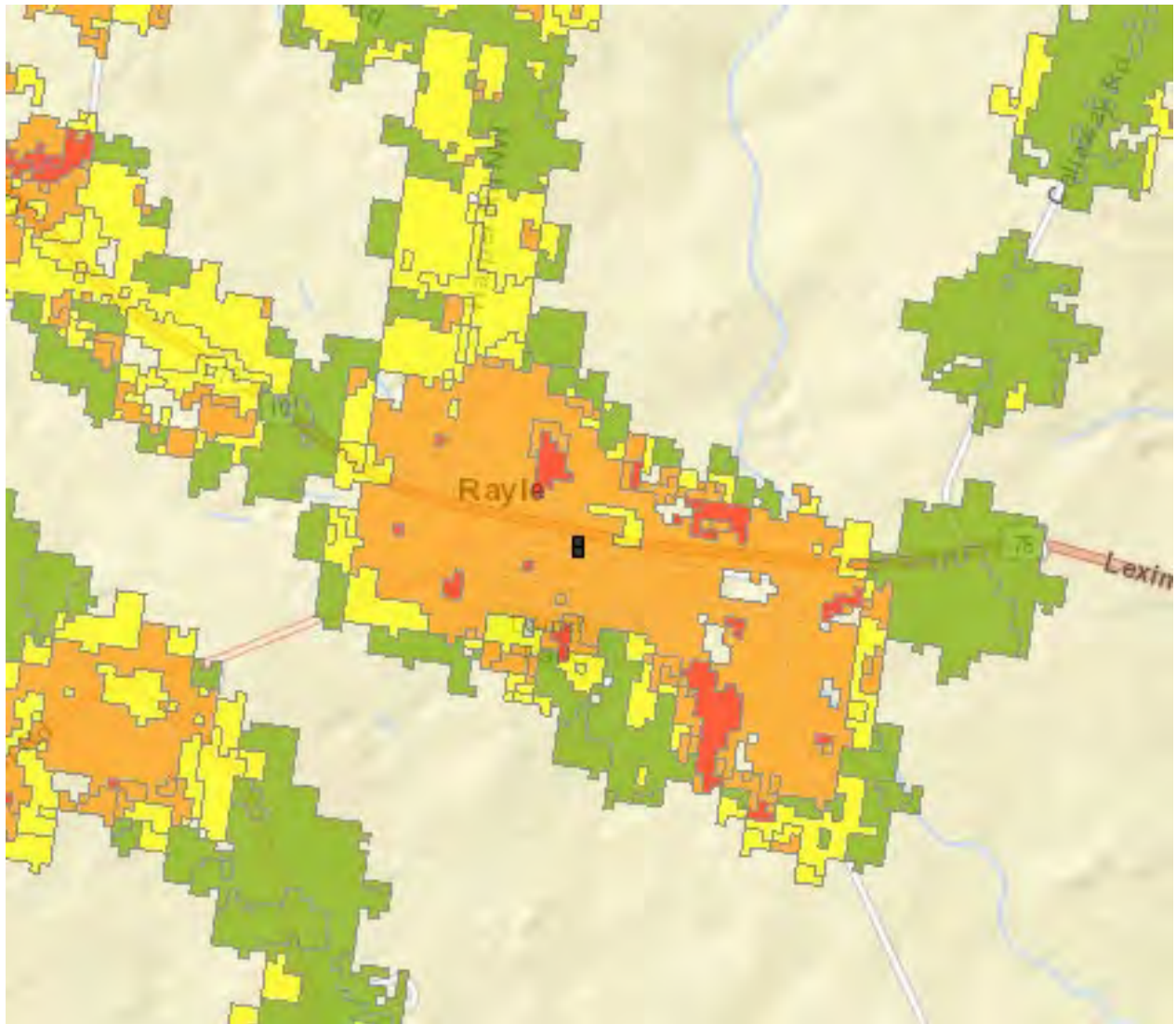
Wilkes County	LOWE IRRIGATION LAKE DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	435	3
Wilkes County	BOOTH S LOWER LAKE DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	421	4
Wilkes County	BARNWELL LAKE DAM	0	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	626	4
			147,752,797					21435000				

Wilkes County Wildfire Map from GMIS



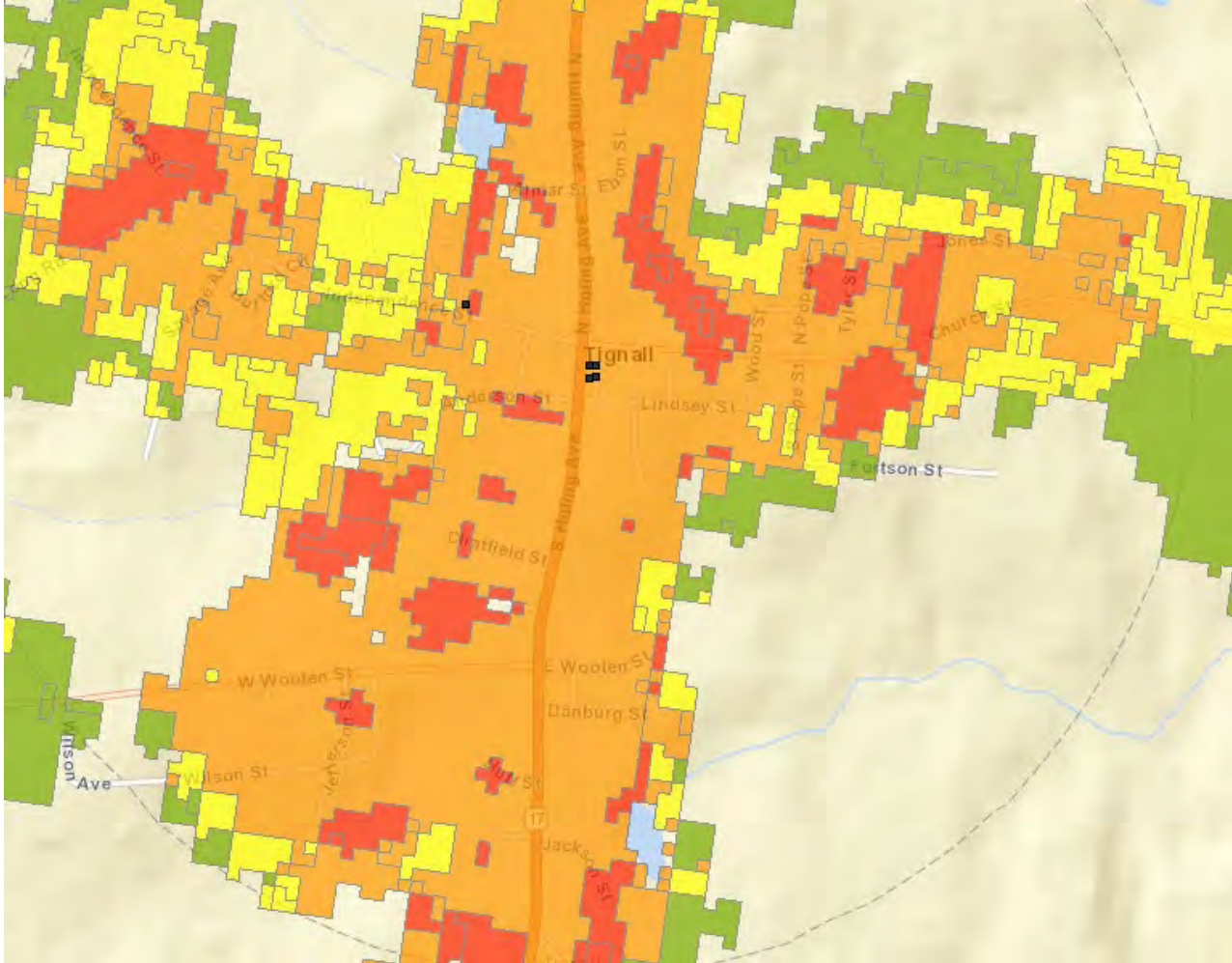
Score	Description
4	High
3	Moderate
2	Low
1	Very Low
0	No Houses
	Agriculture
	Water
	City

Rayle Wildfire Map from GMIS



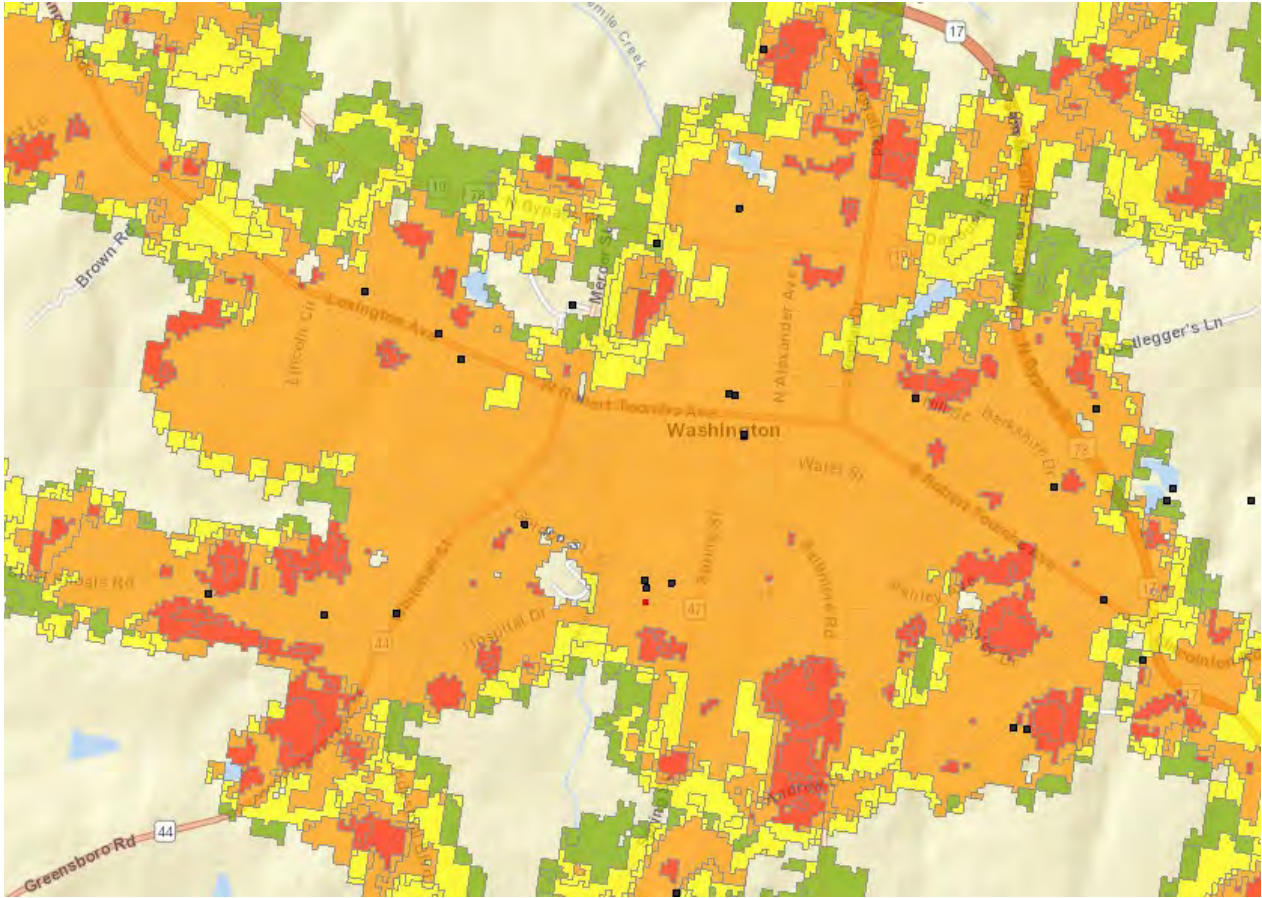
Score	Description
4	High
3	Moderate
2	Low
1	Very Low
0	No Houses
	Agriculture
	Water
	City

Tignall Wildfire Map GMIS



Score	Description
4	High
3	Moderate
2	Low
1	Very Low
0	No Houses
	Agriculture
	Water
	City

Washington Wildfire Map GMIS



Score	Description
4	High
3	Moderate
2	Low
1	Very Low
0	No Houses
	Agriculture
	Water
	City

SEVERE WEATHER, INCLUDING TORNADOES, TROPICAL STORMS THUNDER STORMS, AND LIGHTNING

Hazard Identification – The committee reviewed historical data from the NCDC, newspapers and citizen interviews in researching the past effects of severe weather. The month of February marks the beginning of the severe weather season in the South, which can last until the month of August. Three types of severe weather were identified by the mitigation team: (1) tornadoes, (2) tropical storms, (3) thunderstorm winds and (4) lightning.

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud. It is spawned by a thunderstorm or the result of a hurricane and is produced when cool air overrides a layer of warm air, forcing the warm air to rise rapidly. The damage from a tornado is a result of the high wind velocity and wind-blown debris. Tornadoes are among the most unpredictable and destructive of weather phenomena and can strike at any time of the year if the essential conditions are present. The positions of the subtropical and polar jet streams often are conducive to the formation of storms in the Gulf region. The Fujita Scale (table below) is used to rate the intensity of a tornado by examining the damage caused by the tornado after it has passed over a man-made structure.

Tropical Storms are an organized system of strong thunderstorms with a defined surface circulation and maximum sustained winds of 39–73 MPH (34–63 knots). In this area they generally occur as a result of a hurricane or tropical system that has come inland.

Thunderstorm winds can cause death and injury, power outages, disrupt telephone service, property damage, severely affect radio communications and surface/air transportation, which may seriously impair the emergency management capabilities of the affected jurisdictions. Thunderstorm winds arise from convection (with or without lightning), with speeds of at least 50 knots (58 mph), or winds of any speed producing a fatality, injury, or damage. Severe thunderstorms develop powerful updrafts and downdrafts. An updraft of warm, moist air helps to fuel a towering cumulonimbus cloud reaching tens of thousands of feet into the atmosphere. A downdraft of relatively cool, dense air develops as precipitation begins to fall through the cloud. Winds in the downdraft can reach in excess of 100 miles per hour. When the downdraft reaches the ground it spreads out forming a gust front: the strong wind that kicks up just before the storm hits. As the thunderstorm moves through the area, the full force of the downdraft in a severe thunderstorm can be felt as horizontal, straight-line winds with speeds well over 50 miles per hour. Straight-line winds are often responsible for most of the damage associated with a severe thunderstorm. Damaging straight-line winds occur over a range of scales. At one extreme, a severe single-cell thunderstorm may cause localized damage from a microburst, a severe downdraft extending not more than about two miles across. In contrast, a powerful thunderstorm complex that develops as a squall line can produce damaging winds that carve a path as much as 100 miles wide and 500 miles long.

Lightning results from the buildup and discharge of electrical energy between positively and negatively charged areas. Rising and descending air within a thunderstorm separates these positive and negative charges. Water and ice particles also affect charge distribution. A cloud-to-ground lightning strike begins as an invisible channel of electrically charged air moving from the

cloud toward the ground. When one channel nears an object on the ground, a powerful surge of electricity from the ground moves upward to the clouds and produces the visible lightning strike. Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.

Weather Event	#	Fatalities	Injuries	Approximate Property/Crop Damage
Tornados	7	0	2	\$855,000
Tropical Storms	17	0	0	\$200,000
Thunderstorm Winds	70	0	0	\$687,000
Lightning	103	0	0	NR
Hail	27	0	0	\$107,000

Based on historic data and a on a 20-year hazard cycle, frequency tables calculates countywide, there is a

- 30% chance of an annual tornado event;
- 70% chance of a tropical storm event;
- 220% chance of an annual thunderstorm event;
- 145% chance of an annual lightning strike; and
- 135% chance of an annual hail event.

To summarize, there are approximately 25,688 structures/properties in the county totaling nearly \$1 billion with a population of 9,797.

Wilkes County Tornado Event History

Date	Location	Deaths	Inj	MAG	PD	CrD	Event Narrative
06/03/1954	Wilkesand Tignall	0	2	F1	3K	0	Injured two people
11/22/1992	Wilkes	0	0	F1	3K	0	None Reported
05/07/1998	Wilkes	0	0	FI	0	0	A tornado touched down 12.53 miles from the center of Wilkes County, Georgia. There were 0 injuries and 0 fatalities.
11/11/2002	Wilkes	0	0	F0	0K	0K	A tornado touched down 13.28 miles from the center of Wilkes County, Georgia. There were 0 injuries and 0 fatalities.
09/16/2004	Tignall and Wilkes	0	0	F1	0K	0K	A damage assessment conducted by the Wilkes County Emergency Management Director indicated that an F1 tornado, briefly at the high end of the F1 scale, touched down just south of Tignall near Georgia Highway 17 and continued north from six to seven miles
08/26/2008	Wilkes	0	0	F0			A damage survey conducted by the National Weather Service in Peachtree City, Georgia and the Wilkes County Emergency Management Director confirmed that an EF0 tornado touched down in northeast Wilkes county about three miles northwest of Tignall near the intersection of Bunch Road and Mallorysville Road. The tornado path length was determined to be around five miles with the tornado lifting at a point approximately three miles northeast of Norman, or near Henry Hill Road. A swath of trees was downed all along the entire track of the tornado. An anchored mobile home along Georgia Highway 17 at Boyd Road was blown six feet of its foundation. Another home along Georgia Highway 17 lost several shingles from its roof.
02/18/2009	Wilkes			F3			A damage survey conducted by the National Weather Service Forecast office in Columbia, South Carolina, confirmed that an EF3 tornado had tracked across far southern Wilkes county causing considerable damage along its path. The total tornado path length was 18.6 miles. The tornado initially touched down in the Tyrone community in southwest Washington county. Here a cinder block home was completely destroyed with the cinder block debris blown

WILKES COUNTY THUNDERSTORM EVENT HISTORY

Jurisdiction	Date	Event	Deaths	Injuries	Property D	Crop Dama
COUNTYWIDE	7/20/1966	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	6/22/1970	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	7/16/1970	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	7/22/1970	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	6/26/1971	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	3/21/1974	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	4/13/1979	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	5/6/1979	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	5/21/1979	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	8/12/1980	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	11/15/1989	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	2/10/1990	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	2/10/1990	Thunderstorm Wind	0	0	0	0
COUNTYWIDE	4/20/1992	Thunderstorm Wind	0	0	0	0
ARMSTRONG	5/29/2017	Thunderstorm Wind	0	0	10000	0
BESSIE	8/6/2015	Thunderstorm Wind	0	0	6000	0
BESSIE	7/21/2020	Thunderstorm Wind	0	0	3000	0
CHATFIELD	7/3/2018	Thunderstorm Wind	0	0	1000	0
COUNTYWIDE	6/16/1998	Thunderstorm Wind	0	0	25000	0
COUNTYWIDE	7/10/2003	Thunderstorm Wind	0	0	7500	0
DANBURG	8/24/1996	Thunderstorm Wind	0	0	1500	0
DANBURG	7/6/2017	Thunderstorm Wind	0	0	1000	0
DANIEL	7/7/2017	Thunderstorm Wind	0	0	5000	0
DELHI	6/28/2010	Thunderstorm Wind	0	0	5000	0
LOGAN	11/17/2014	Thunderstorm Wind	0	0	1000	0
LOGAN	6/18/2015	Thunderstorm Wind	0	0	30000	0
LOGAN	7/3/2018	Thunderstorm Wind	0	0	10000	0
METASVILLE	5/7/1998	Thunderstorm Wind	0	0	50000	0
NEW TOWN	8/23/2019	Thunderstorm Wind	0	0	8000	0
PRATHER	6/1/2018	Thunderstorm Wind	0	0	7000	0
PRATHER	6/24/2018	Thunderstorm Wind	0	0	4000	0
PRATHER	5/28/2020	Thunderstorm Wind	0	0	5000	0

RAYLE	3/25/1997	Thunderstorm Wind	0	0	5000	0
RAYLE	8/17/1997	Thunderstorm Wind	0	0	100	0
RAYLE	8/24/2000	Thunderstorm Wind	0	0	2000	0
RAYLE	11/11/2002	Thunderstorm Wind	0	0	10000	0
RAYLE	2/21/2005	Thunderstorm Wind	0	0	1000	0
RAYLE	3/4/2008	Thunderstorm Wind	0	0	3000	0
RAYLE	12/2/2009	Thunderstorm Wind	0	0	5000	0
RAYLE	4/5/2011	Thunderstorm Wind	0	0	150000	0
RAYLE	3/21/2017	Thunderstorm Wind	0	0	10000	0
Tignall	6/29/1994	Thunderstorm Wind	0	0	500	0
TIGNALL	5/6/2003	Thunderstorm Wind	0	0	3000	0
TIGNALL	6/13/2003	Thunderstorm Wind	0	0	3000	0
TIGNALL	8/20/2006	Thunderstorm Wind	0	0	1000	0
TIGNALL	5/25/2014	Thunderstorm Wind	0	0	3000	0
Tyrone	6/27/1994	Thunderstorm Wind	0	0	50000	0
TYRONE	5/26/1996	Thunderstorm Wind	0	0	5000	0
TYRONE	4/3/2017	Thunderstorm Wind	0	0	10000	0
TYRONE	4/5/2017	Thunderstorm Wind	0	0	10000	0
WASH WILKES CO ARPT	6/18/2013	Thunderstorm Wind	0	0	120000	0
WASH WILKES CO ARPT	8/3/2020	Thunderstorm Wind	0	0	10000	0
Washington	2/12/1993	Thunderstorm Wind	0	0	5000	0
WASHINGTON	5/8/1998	Thunderstorm Wind	0	0	25000	0
WASHINGTON	5/13/2002	Thunderstorm Wind	0	0	2000	0
WASHINGTON	7/2/2002	Thunderstorm Wind	0	0	500	0
WASHINGTON	11/11/2002	Thunderstorm Wind	0	0	115000	0
WASHINGTON	5/2/2003	Thunderstorm Wind	0	0	5000	0
WASHINGTON	7/18/2003	Thunderstorm Wind	0	0	75000	0
WASHINGTON	1/13/2005	Thunderstorm Wind	0	0	250	0
WASHINGTON	6/11/2007	Thunderstorm Wind	0	0	0	0
WASHINGTON	8/24/2007	Thunderstorm Wind	0	0	3000	0
WASHINGTON	3/15/2008	Thunderstorm Wind	0	0	1000	0
WASHINGTON	4/28/2013	Thunderstorm Wind	0	0	3000	0
WASHINGTON	5/29/2014	Thunderstorm Wind	0	0	5000	0
WASHINGTON	7/21/2016	Thunderstorm Wind	0	0	50000	0

WASHINGTON	5/29/2017	Thunderstorm Wind	0	0	2000	0
WASHINGTON	5/4/2019	Thunderstorm Wind	0	0	8000	0
WASHINGTON	1/11/2020	Thunderstorm Wind	0	0	1000	0
WASHINGTON	6/27/2020	Thunderstorm Wind	0	0	500	0

Wind Hazard Score

Jurisdiction	Name	Hazard Score	Value	Replacement	Size	Content value	Year	Functional	Facility type	Risk	Day Occ	Night Occ
Rayle town	Rayle City Hall	1	141982	2023	4112	125000	2023	0	Government, Government, City Hall, City Hall	Essential, Historic Consideration	2	
Rayle town	Rayle Fire Department	1	147000	2023	4112	250000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Rayle town	Rayle Water Tank/System	1	950000	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Important, Lifeline		
Tignall town	Tignall City Hall	1	172200	2023	1346	40000	2023	0	Government, Government, City Hall, City Hall	Essential	1	
Tignall town	Tignall Fire Department	1	149600	2023	1875	622500	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Tignall town	Tignall Gymnasium	1	1351000	2023	10506	32500	2023	0	Government, Government, Water/Sewer, Water/Sewer	Essential		
Tignall town	Tignall Water Tank #1	1	330300	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Lifeline		

Tignall town	Tignall Water Tank #2	1	516000	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Lifeline		
Tignall town	Tignall WPCP	1	119100	2023	540	20000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Lifeline	0	
Washington city	911 call Center	1	400000	2023	19702			0	Emergency Services, Emergency Services, EMA, EMA			
Washington city	Anthony Wood Products Lift Station #13	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Berkshire Drive Lift Station #6	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential, Hazardous Materials		
Washington city	Chamber of Commerce	1	750000	2023	6725		2023	0	Government, Water/Sewer	Important , Historic Considera tion	10	
Washington city	City of Washington Waste Treatment Plant	1	18500000	2023	100	45000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Essential, Lifeline		

Washington city	City of Washington Water Treatment Plant #1	1	6000000	2023	100	50000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Essential, Lifeline		
Washington city	City of Washington Water Treatment Plant #2	1	6000000	2023	100	50000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Lifeline		
Washington city	Concord Lift Station #10	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential, Hazardous Materials	0	
Washington city	Electrical Substation - Gordon	1	1500000	2023	100			0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Lifeline		
Washington city	Electrical Substation- Dixie Wood	1	1500000	2023	150			0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Lifeline		
Washington city	Elijah Clark Drive Lift Station #4	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential	0	
Washington city	EMA/EMS	1	105000	2023	2300			0	Emergency Services, Emergency Services, EMS, EMS			

Washington city	EMS substaion	1	30000	2023	2500			0	Emergency Services, Emergency Services, EMS, EMS			
Washington city	EMS Substation	1	30000	2023				0	Emergency Services, EMS	Essential		
Washington city	Harpers Personal Care Home Lift Station #3	1	750000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential	0	
Washington city	High School Lift Station #8	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Highway 44 Lift Station#12	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Hills Street Lift Station #7	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Old Skull Shoals Lift Station#11	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Paper Pak Lift Station #14	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		

Washington city	Pope Center	1	2500000	2023	10017	500000	2023	0	Government, Water/Sewer	Essential, Important		
Washington city	Seven Oaks Dr. Lift Station #5	1	150000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Skulls Shoal Rd Lift Station #15	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	South bypass lift Station #1	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Stockyard Lift Station #9	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Washington City Hall	1	850000	2023	6198	300000	2023	0	Government, Government, Private, Private	Important	20	
Washington city	washington crossing Lift Station #2	1	650000	2023	100			0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Washington Fire Department	1	472403	2023	2240	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		

Washington city	Wilkes County Communications Center	1	400000	2023				0	Emergency Services, Communications	Essential		
Wilkes County	3 SISTERS LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	BARNWELL LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	BOOTH S LOWER LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	Booths Lake Dam	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	BURDETTE LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		

Wilkes County	BURDETTE LAKE DAM #2	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	CITY OF WASHINGTON BEVERDAM CREEK DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	CITY OF WASHINGTON SETTLING POND DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	GARRARD DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	GRIMAUDE LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	Hale Lake Dam	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		

Wilkes County	Harpers Personal Care Home	1	497848	2023	7036			0	Medical, EMS	Vulnerable Population	30	26
Wilkes County	Heritage Health Care	1	1200000	2023	19384	150000	2023	0	Medical, Medical, EMS, EMS	Vulnerable Population	67	55
Wilkes County	LOWE IRRIGATION LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	Palmer Lake dam	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	REVILLE LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	WASHINGTON COUNTRY CLUB LAKE DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	WASHINGTON LITTLE BEAVERDAM CREEK RESERVIOR	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		

Wilkes County	Washington-Wilkes Communications Center	1	800000	2023	1500	400000	2023	0	Law Enforcement, Law Enforcement, Communications, Communications, Government Offices, Government Offices	Essential, Lifeline	5	3
Wilkes County	Washington-Wilkes Comprehensive High	1	15000000	2023	0	1500000	2023	0	Education, Education, K - 12, K - 12	Essential, Vulnerable Population	536	3
Wilkes County	Washington-Wilkes Elementary School	1	8661600	2023	0	1500000	2023	0	Education, Education, Government, Government, K - 12, K - 12	Essential, Vulnerable Population	435	3
Wilkes County	Washington-Wilkes Middle School	1	15000000	2023	0	1500000	2023	0	Education, Education, K - 12, K - 12	Essential, Lifeline, Vulnerable Population	421	4
Wilkes County	Washington-Wilkes Primary School	1	10453500	2023	0	1500000	2023	0	Education, Education, K - 12, K - 12	Essential, Vulnerable Population	623	4

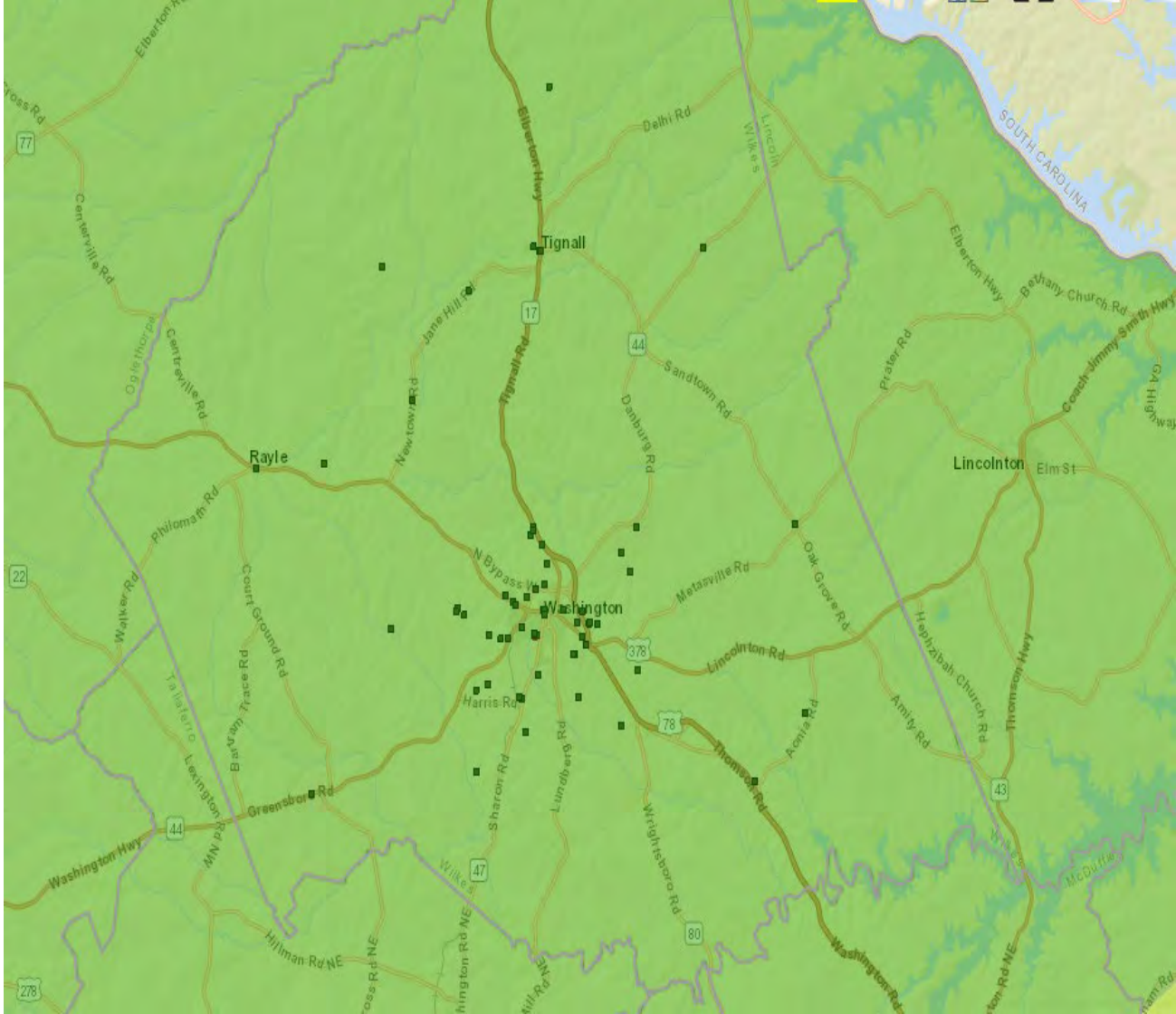
Wilkes County	WASHINTON-WILKES ORCHARD DAM	1	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	Wilkes County Courthouse	1	5600000	2023	22082	350000	2023	0	Law Enforcement, Law Enforcement, Court House, Court House	Essential, Historic Consideration, Important	25	2
Wilkes County	Wilkes County EMS	1	740000	2023	2300	350000	2023	0	Law Enforcement, Law Enforcement, Police, Police	Essential	10	3
Wilkes County	Wilkes County Jail	1	1500000	2023	0	250000	2023	0	Law Enforcement, Law Enforcement, Jails, Jails	Essential, Vulnerable Population	85	85
Wilkes County	Wilkes County Sheriff's Office	1	1935264	2023	19702	250000	2023	0	Law Enforcement, Law Enforcement, Sheriff, Sheriff	Essential	10	3
Wilkes County	Wilkes Fire Station-Danburg	1	100000	2023	1100	250000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		

Wilkes County	Wilkes Fire Station- Metasville	1	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Wilkes Fire Station- Newton	1	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Wilkes Fire Station- Tyrone	1	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Willis Memorial Hospital	1	31000000	2023	51863	10000000	2023	0	Medical, Medical, EMS, EMS	Essential, Important, Vulnerable Population	145	65
			147752797			21435000						

WILKES COUNTY HAIL EVENT HISTORY

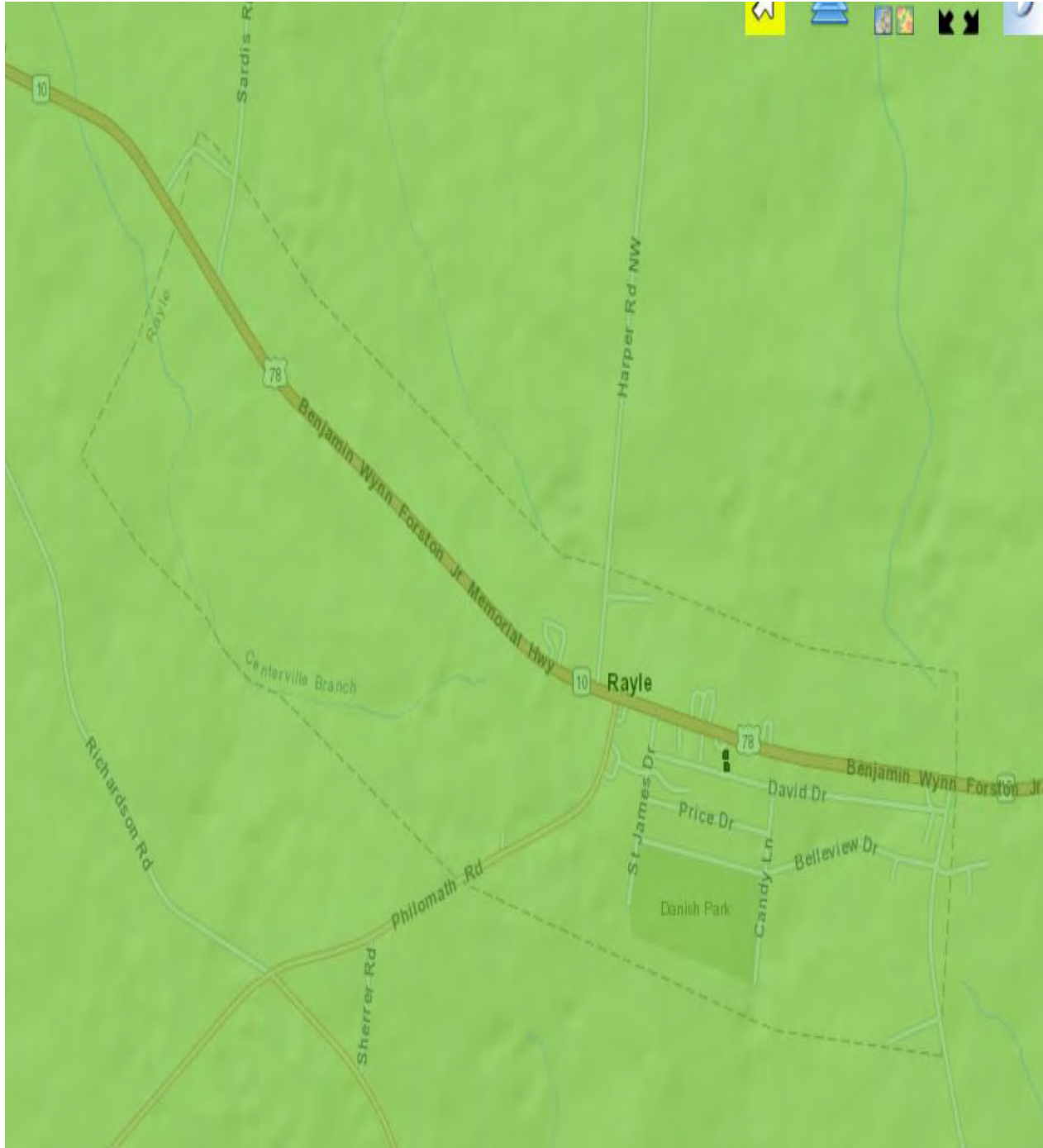
Jurisdiction	Date	Event	Deaths	Injuries	Property D
WILKES CO	5/17/1968	Hail	0	0	0
WILKES CO	4/29/1991	Hail	0	0	0
Monticello	6/29/1994	Hail	0	0	0
WASHINGTON	3/15/1996	Hail	0	0	0
WASHINGTON	5/6/1996	Hail	0	0	0
TIGNALL	5/7/1996	Hail	0	0	0
RAYLE	3/25/1997	Hail	0	0	0
TIGNALL	5/7/1998	Hail	0	0	2000
WASHINGTON	5/6/1999	Hail	0	0	0
TIGNALL	5/23/1999	Hail	0	0	0
WASHINGTON	7/5/2001	Hail	0	0	0
WASHINGTON	2/22/2003	Hail	0	0	0
WASHINGTON	5/2/2003	Hail	0	0	0
FICKLIN	5/6/2003	Hail	0	0	0
NORMAN	5/6/2003	Hail	0	0	0
RAYLE	2/21/2005	Hail	0	0	25000
WASHINGTON	6/12/2006	Hail	0	0	0
PRATHER	3/4/2008	Hail	0	0	0
WASHINGTON	3/15/2008	Hail	0	0	0
RAYLE	8/7/2008	Hail	0	0	30000
WASHINGTON	2/18/2009	Hail	0	0	0
TYRONE	3/28/2010	Hail	0	0	6000
DELHI	6/28/2010	Hail	0	0	0
BRICKHOUSE	4/28/2013	Hail	0	0	0
LINESVILLE	4/5/2017	Hail	0	0	44000
TIGNALL	4/5/2017	Hail	0	0	0
WASHINGTON	5/4/2019	Hail	0	0	0

Wilkes County Wind Zone Map from GMIS



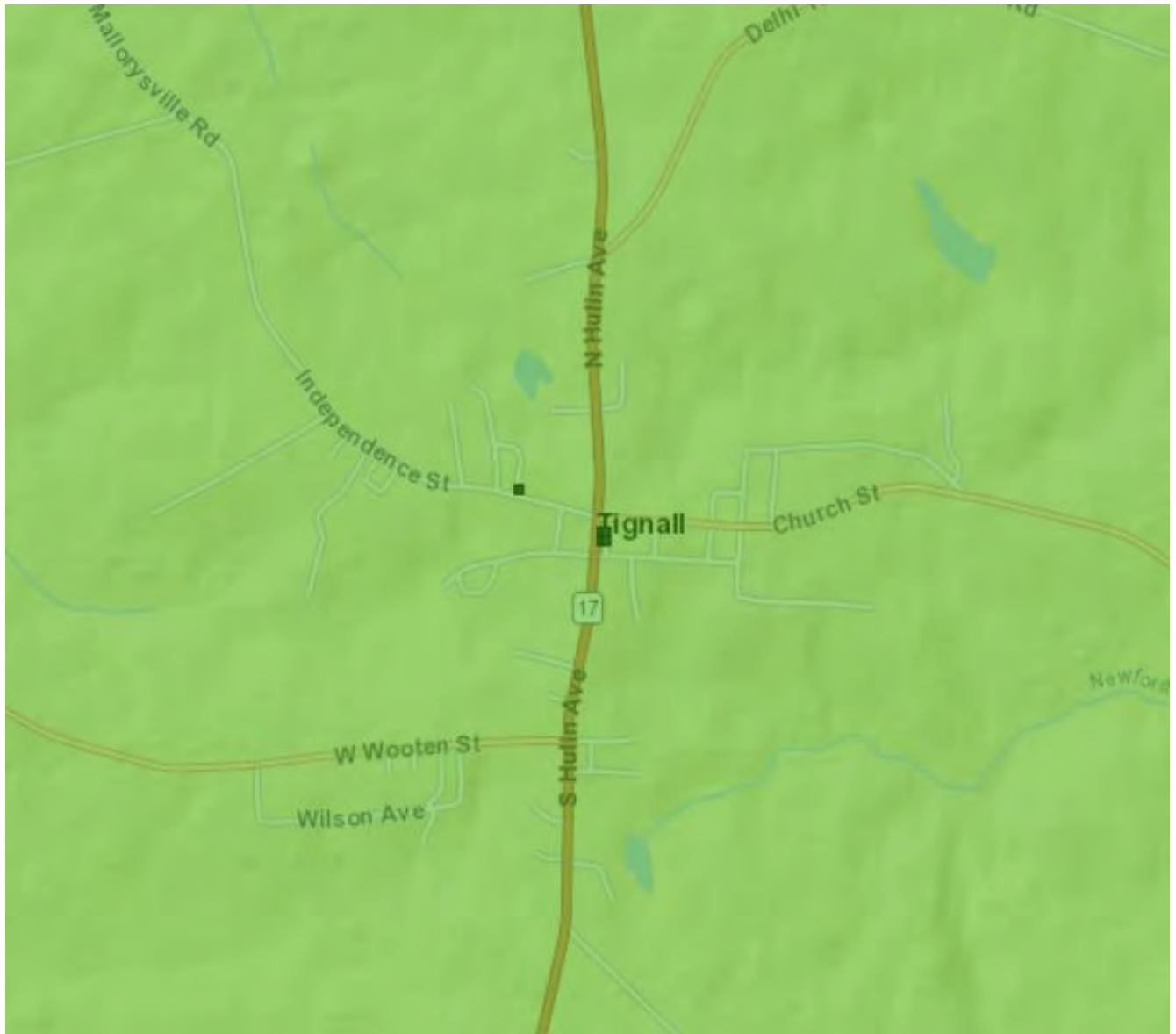
Score	Original Value	Description
5	> 120 mph	3 second gust greater than 120 mph
4	110 to 119 mph	
3	100 to 109 mph	
2	90 to 99 mph (or ZONE IV)	This score is also given to an area with Zone IV of the "Design Wind Speed Map for Community Shelters," representing an area exposed to 250 mph winds. This area is the Northwestern corner of the state.
1	< 90 mph	

Rayle Wind Zone Map from GMIS



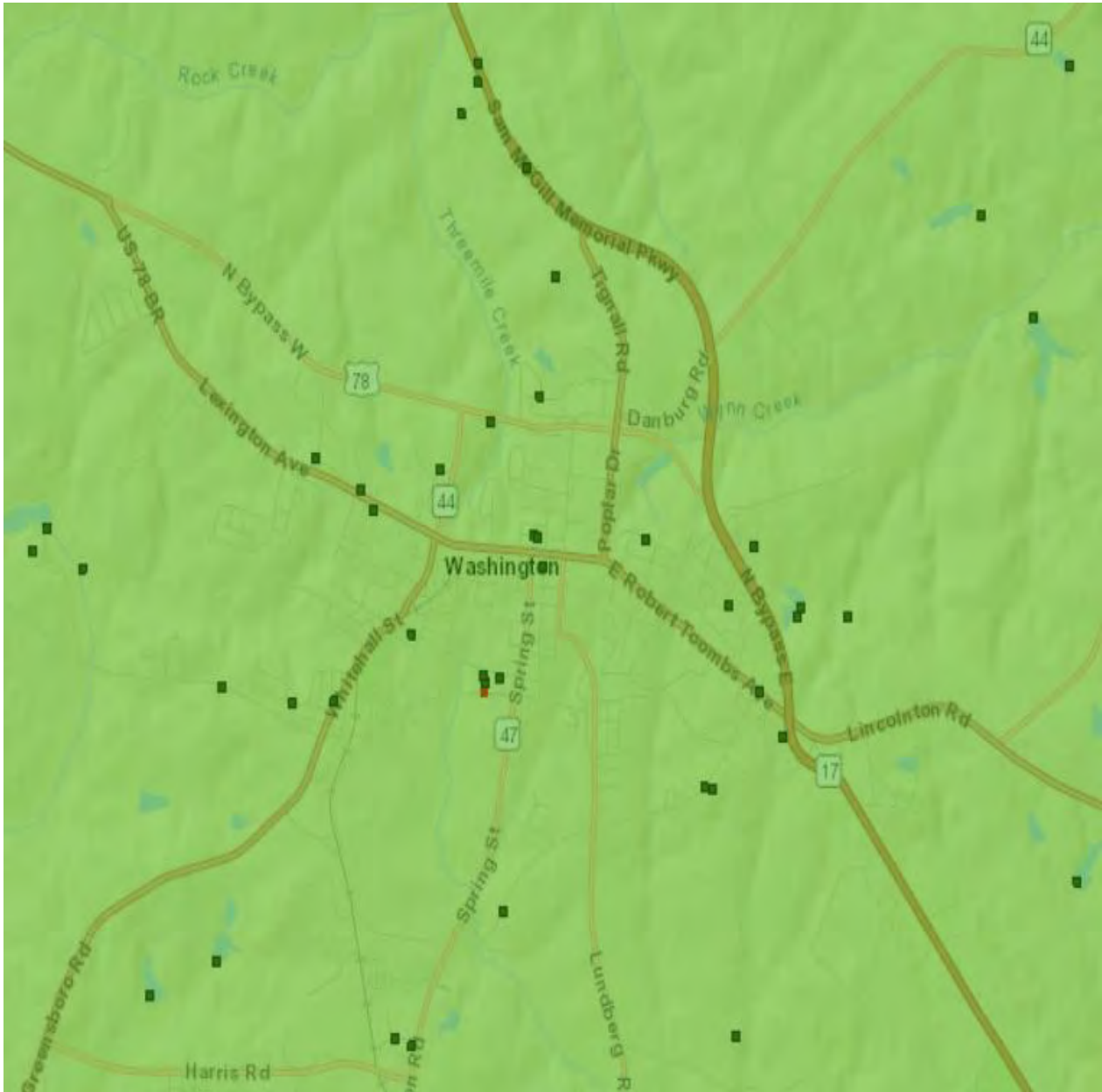
Score	Original Value	Description
5	> 120 mph	3 second gust greater than 120 mph
4	110 to 119 mph	
3	100 to 109 mph	
2	90 to 99 mph (or ZONE IV)	This score is also given to an area with Zone IV of the "Design Wind Speed Map for Community Shelters," representing an area exposed to 250 mph winds. This area is the Northwestern corner of the state.
1	< 90 mph	

Tignall Wind Zone Map GMIS



Score	Original Value	Description
5	> 120 mph	3 second gust greater than 120 mph
4	110 to 119 mph	
3	100 to 109 mph	
2	90 to 99 mph (or ZONE IV)	This score is also given to an area with Zone IV of the "Design Wind Speed Map for Community Shelters," representing an area exposed to 250 mph winds. This area is the Northwestern corner of the state.
1	< 90 mph	

Washington Wind Zone Map GMIS



Score	Original Value	Description
5	> 120 mph	3 second gust greater than 120 mph
4	110 to 119 mph	
3	100 to 109 mph	
2	90 to 99 mph (or ZONE IV)	This score is also given to an area with Zone IV of the "Design Wind Speed Map for Community Shelters," representing an area exposed to 250 mph winds. This area is the Northwestern corner of the state.
1	< 90 mph	

WINTER STORMS

Southeastern snow or ice storms often form when an area of low pressure moves eastward across the northern Gulf of Mexico. To produce a significant winter storm in the south, not only must temperatures be cold enough, but there must also be enough moisture in the atmosphere to produce adequate precipitation. A major winter storm can last for several days and be accompanied by high winds, ice and freezing rain, heavy snowfall, and cold temperatures. These conditions can make driving conditions very dangerous, as well as bring down trees and power lines.

There have been 29 winter storm events recorded in the county over the last 72 years with no property damaged reported. There is a 95 percent chance of an annual winter storm event. Winter storms can be more accurately predicted than most other natural hazards, making it possible to give advance warning to communities. The National Weather Service issues winter storm warnings and advisories as these storms make their way south. Given the infrequency of these types of storms, southern communities are still not properly equipped to sustain the damage and destruction caused by severe winter storms. 25,688 structures in the county totaling just under \$1 billion with a population of 9,797.

Location	Details	Date	Type
Wilkes	.50 inches	Dec 1958	snow
Wilkes	1.5 inches	Feb 1967	snow
Wilkes	16.00 inches	Feb 1973	snow
Wilkes	2.50 inches	Feb 1978	snow
Wilkes	2.00 inches	Feb 1980	snow
Wilkes	.30 inches	Feb 1981	snow
Wilkes	.30 inches	Jan 1982	snow
Wilkes	.30 inches	Jan 1983	snow
Wilkes	3 inches	Feb 1989	snow
Wilkes	1.30 inches	Feb 1996	snow
Wilkes	3-5 inches	01/22/2000	snow
Wilkes	Produced ¼ to ¾ inch of ice. Many trees and power lines were down causing scattered power outages.	01/28/2000	Ice storm
Wilkes	Four to 6 inches of snow fell over Wilkes county taking down trees and power lines	01/02/2002	snow
Wilkes	Produced ¼ to ¾ inch of ice.	12/04/2002	Ice Storm
Wilkes	Mix of snow and ice	02/16/2003	Snow ice
Wilkes	Produced ¼ to ¾ inch of ice. Many trees and power lines were down causing scattered power outages.	01/25/2004	Ice Storm
Wilkes	Produced ¼ to ¾ inch of ice and sleet taking down trees and power lines. Several power outages were reported along with numerous traffic accidents.	2/26/2004	Ice Storm
Wilkes	A ¼ - ½ of ice on trees and other structures. These areas had some power outages which were of short duration. Overpasses and bridges iced up but ground temperatures of roadways kept the rain from freezing on them. Still, there were many accidents from people losing control when driving over the bridges and overpasses.	01/28/2005	Ice Storm
Wilkes	The maximum snowfall observed was 2.0 inches. The heaviest snow remained to the west of Wilkes county. However, the weight of the heavy, wet snow was enough to bring down a few trees and power lines.	03/01/2009	Snow
Wilkes	The Wilkes County 911 Center reported 4.0 inches of snow.	02/12/2010	snow
Wilkes	Snowfall of 3.0 inches across the county, with a range of 1.5 to 4.0 inches.	12/25/2010	snow
Wilkes	Snowfall ranging from 2.0 inches in the south part of the county to 5.0 inches in the far north part of the county.	1/10/2011	snow
Wilkes	Wilkes County 911 Center reported snowfall of 0.5 inch across most of the county.	02/10/2011	snow
Wilkes	Snow and sleet began Tuesday evening, accumulating to widespread amounts of 1 to 3 inches of snow.	01/28/2014	snow
Wilkes	A significant winter storm impacted north and portions of central Georgia on Tuesday the 11th and Wednesday the 12th. Rain mixed with and changed over to freezing rain through the morning hours, resulting in catastrophic ice accretions of a half to one inch of ice, with localized higher amounts, especially	02/12/2014	Ice Storm

	along the Interstate 20 corridor. trees were downed and widespread power outages were reported, with some customers without power for days.		
Wilkes	A COOP observer reported .7 inches of snow east southeast of Washington.	1/22/2016	snow
Wilkes	A COOP observer southeast of Washington reported a tenth of an inch of snow.	2/9/2016	snow
Wilkes	A COOP observer near Washington reported a dusting, around a quarter on an inch, of snow.	1/7/2017	snow

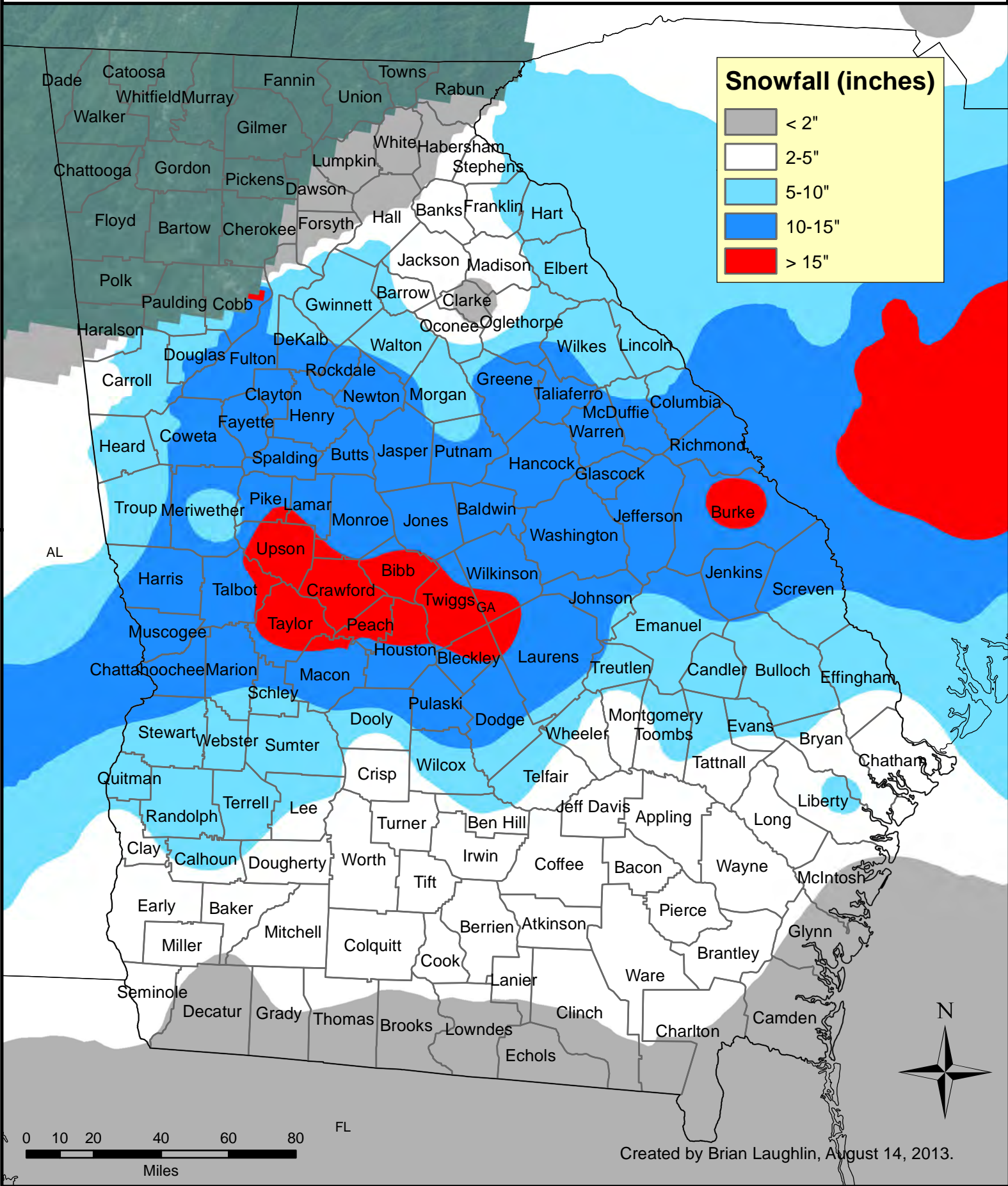
Source: NCDC, Newspaper articles, interviews



February 9-11, 1973 Winter Storm

RSI = 12.52, Category 4

NOAA

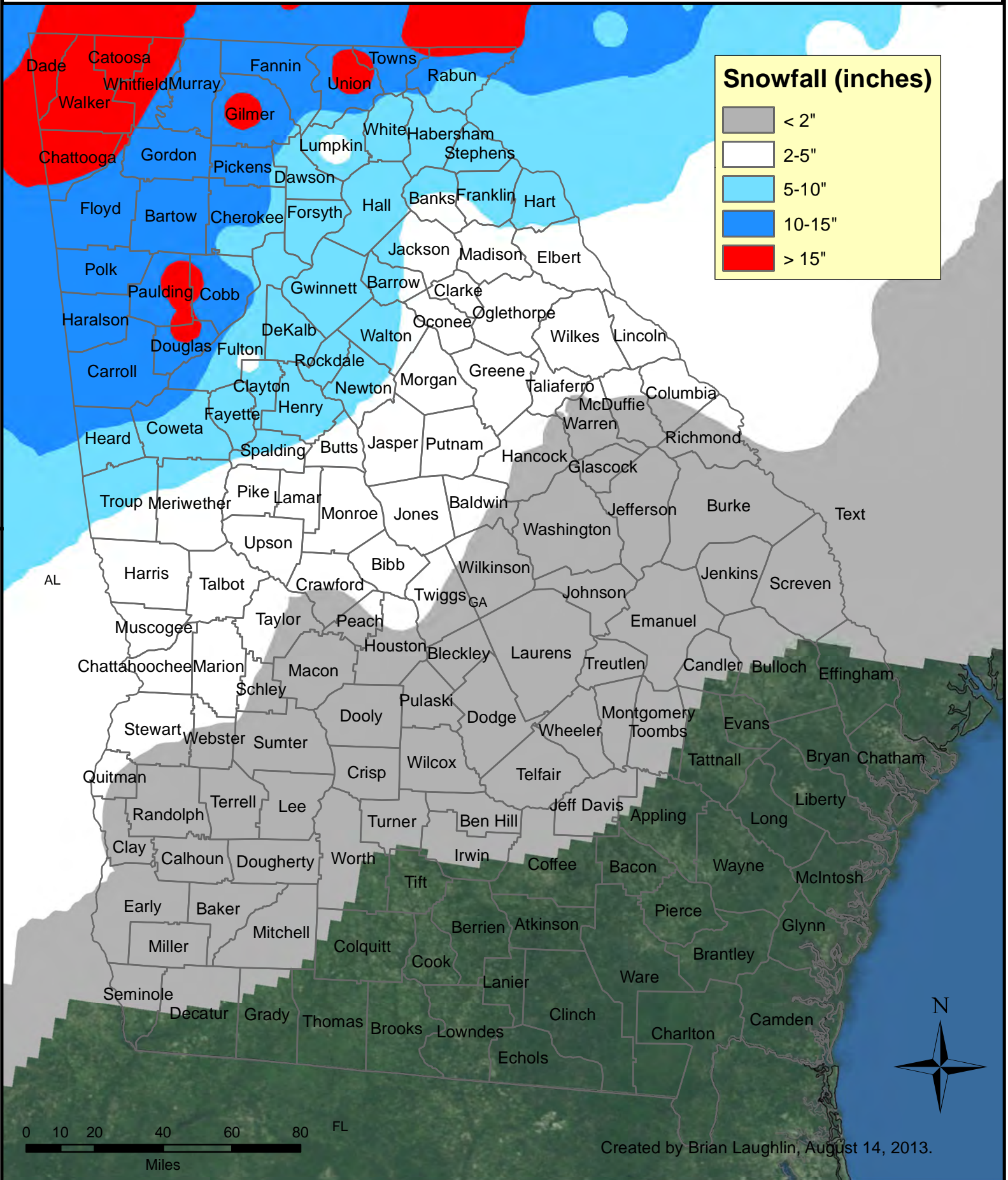




March 12-15, 1993 Winter Storm

RSI = 20.572, Category 5

NOAA

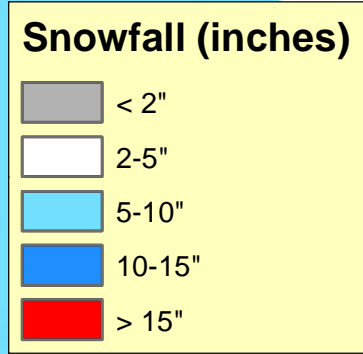
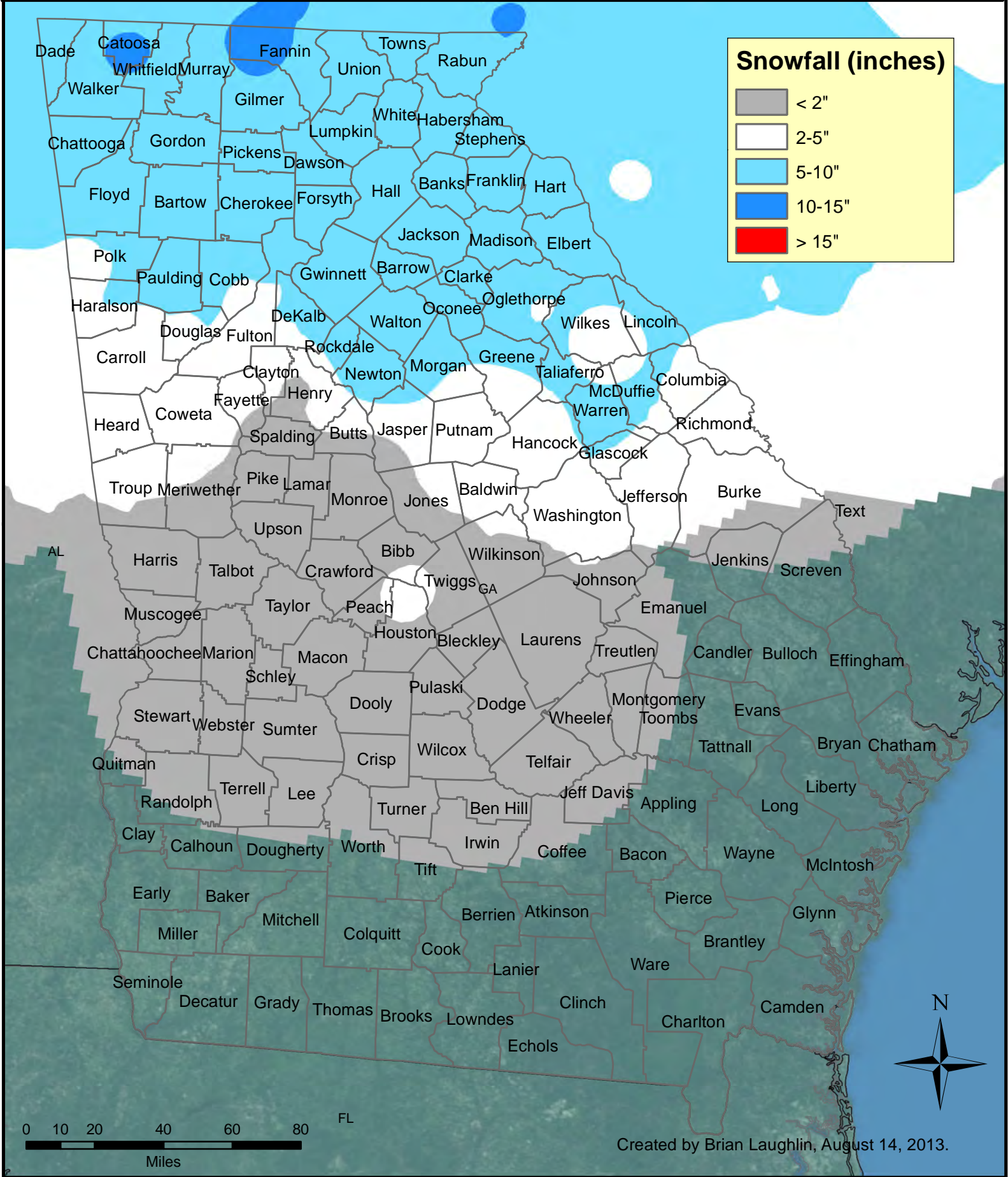




January 9-11, 2011 Winter Storm

RSI = 4.158, Category 2

NOAA



Created by Brian Laughlin, August 14, 2013.

DAM FAILURE

Dam failures and incidents involve unintended release or surges of impounded water. They can destroy property and cause injury and death downstream. While they may involve the total collapse of a dam, that is not always the case. Damaged spillways, overtopping of a dam or other problems may result in a hazardous situation. Dam failures may be caused by structural deficiencies in the dam itself. Dam failures may also come from other factors including but not limited to debris blocking spillways, flooding, earthquakes, improper operation and vandalism. Dam failures are potentially the worst flood events. When a dam fails, a large quantity of water is suddenly released downstream, destroying anything in its path and posing a threat to life and property

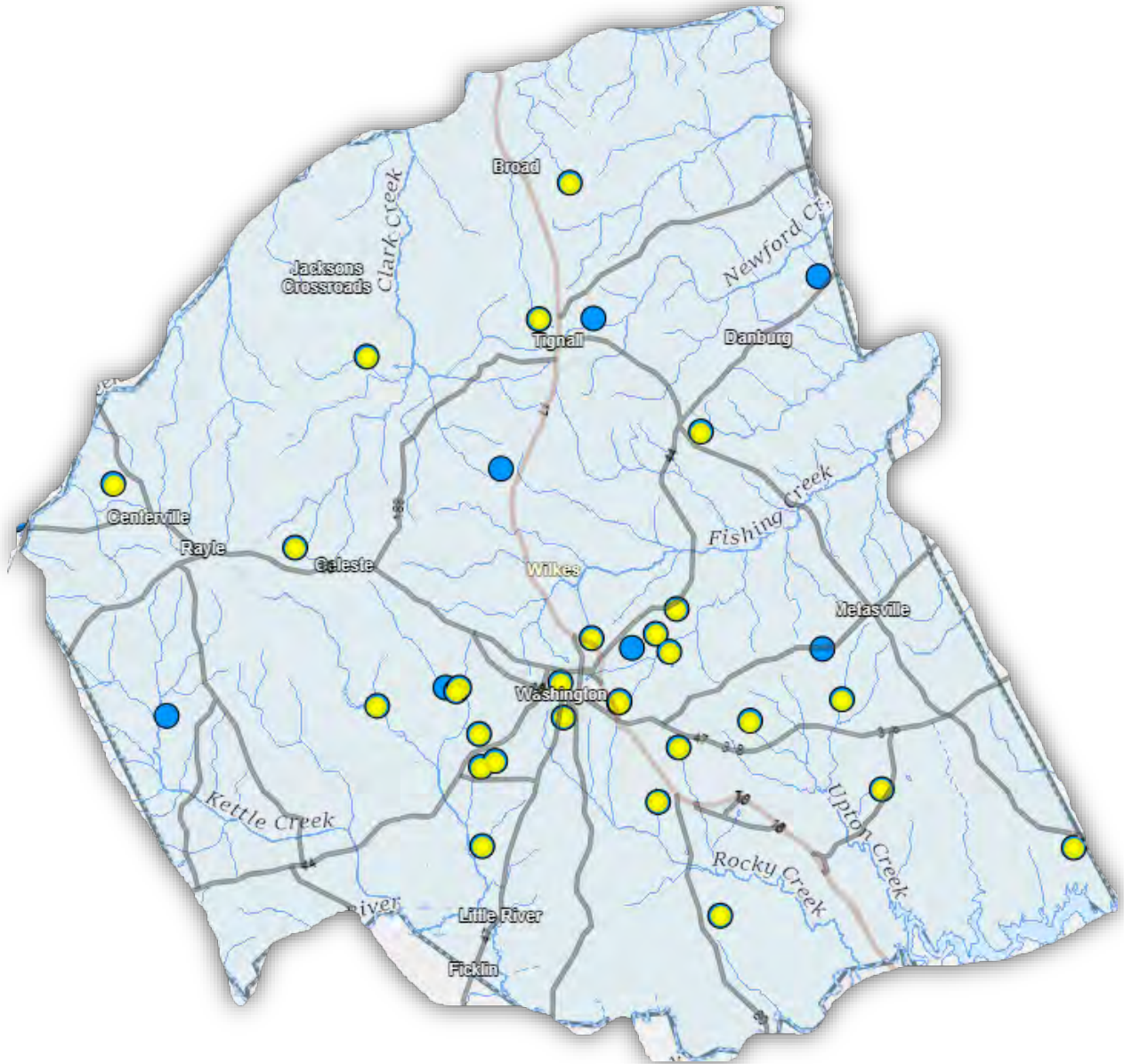
Dam failures and incidents involve unintended release or surges of impounded water. They can destroy property and cause injury and death downstream. While they may involve total collapse of a dam, that is not always the case. Wilkes County has 28 dams all classified as low hazard where minimal property loss is expected. The committee recognized the potential for losses caused by dam failure and identified it as a hazard requiring mitigation measures. To summarize, there are approximately 25,688 structures in the county totaling just under \$1 billion with a population of 9,797.

LOW & HIGH HAZARD DAMS IN WILKES COUNTY

Dam Name	Hazard Potential	City
Washinton-Wilkes Orchard Dam	Low	CELESTE COMMUNITY
Washington Country Club Lake Dam	Low	ZION CHURCH (ENVIRONS)
Lowe Irrigation Lake Dam	Low	
3 Sisters Lake Dam	Low	
Dodson Lake Dam	Low	
Parsons Lake Dam	Low	
Cotcher Lake Dam	Low	
City of Washington Little Beaverdam Creek Reservoir Dam	Low	
Barnwell Lake Dam	Low	
Jones Pond Dam	Low	
City of Washington Beverdam Creek Dam	Low	
City of Washington Settling Pond Dam	Low	
Garrard Irrigation Lake Dam	Low	
King Lake Dam	Low	
Bentley Lake Dam	Low	
Burdette Lake Dam #3	Low	LITTLE RIVER COMMUNITY
Burdette Lake Dam #2	Low	LITTLE RIVER COMMUNITY
Grimaude Lake Dam	Low	CLARK CREEK (ENVIRONS)
Reville Lake Dam	Low	
Hale Lake Dam	Low	AONIA (ENVIRONS)
Booth's Lower Lake Dam	Low	
Booth's Lake Dam	Low	LOGAN (ENVIRONS)
Burdette Lake Dam #5	Low	
Palmer Lake Dam	Low	LITTLE RIVER (ENVIRONS)
Wellman Lake Dam	Low	
Boyd Lake Dam	Low	

Fort Washington Lake Dam	Low	
Garrard Dam	Low	Sandtown Community

Low & High Hazard Dams in Wilkes County



Source: National Inventory of Dams, <https://nid.sec.usace.army.mil>, Accessed Sept 26, 2023

EARTHQUAKE

Earthquakes are one of nature's most damaging hazards. An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of Earth's tectonic plates. The severity of these effects is dependent on the amount of energy released from the fault or epicenter. The effects of an earthquake can be felt far beyond the site of its occurrence. They usually occur without warning and after just a few seconds can cause massive damage and extensive casualties. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure. If the earthquake occurs in a populated area, it may cause many deaths, injuries and extensive property damage.

Magnitude and intensity measure different characteristics of earthquakes. Magnitude measures the energy released at the source of the earthquake and is determined from measurements on seismographs. Intensity measures the strength of shaking produced by the earthquake at a certain location and is determined from effects on people, human structures, and the natural environment.

There have been eight earthquake events reported in the last 72 years. Based on a 20-year cycle hazard history there is a 25% chance of an annual earthquake event. The committee recognized the potential for losses caused by an earthquake and identified it as a hazard requiring mitigation measures. To summarize, there are approximately 25,688 structures in the county totaling just under \$1 billion with a population of 9,797.

WILKES COUNTY EARTHQUAKE EVENT HISTORY

County	Details	Date	Time	Mag
Wilkes	A magnitude 4.9 (4.3 MB, 4.9 LG, Class: Light, Intensity: IV - V) earthquake occurred 16.1 miles away from the county center	08/02/1974	8:52	4.9
Wilkes	A magnitude 3.2 (3.2 MD, Depth: 3.1 mi) earthquake occurred 19.9 miles away from Wilkes County center	01/03/1992	4:21	3.2
Wilkes	A magnitude 3.2 (3.2 LG, Depth: 3.1 mi) earthquake occurred 66.4 miles away from the county center	08/08/1993	9:24	3.2
Wilkes	A magnitude 3.5 (3.5 LG, Depth: 3.1 mi) earthquake occurred 60.2 miles away from the county center	01/18/2000	22:19	3.5
Wilkes	A magnitude 3.5 (3.5 LG, Depth: 3.1 mi, Class: Light, Intensity: II - III) earthquake occurred 10.2 miles away from the county center.	03/18/2003	6:04	3.5
Greene	11 km ENE of Woodville, Georgia	09/05/2006	4:32	2.5
Wilkes	2.1 magnitude earthquake	07/09/2017	4:47	2.1
Taliferro	Crawfordville, Georgia	05/18/2015	9:13	2..51
Wilkes	Near Adasburg, Georgia	12/27/2020	5:17	2.38
Wilkes	8 km E of Washington, Georgia	04/18/2021	3:20	2.27

WILKES COUNTY EARTHQUAKE HAZARD SCORE

Jurisdiction	Name	Hazard Score	Value	Year	Building size	Content value	Year	Functional	Facility type	Risk	Day Occ	Night Occ
Rayle town	Rayle City Hall	3	141982	2023	4112	125000	2023	0	Government, Government, City Hall, City Hall	Essential, Historic Consideration	2	
Rayle town	Rayle Fire Department	3	147000	2023	4112	250000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Rayle town	Rayle Water Tank/System	3	950000	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Important, Lifeline		
Tignall town	Tignall City Hall	3	172200	2023	1346	40000	2023	0	Government, Government, City Hall, City Hall	Essential	1	
Tignall town	Tignall Fire Department	3	149600	2023	1875	622500	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Tignall town	Tignall WPCP	3	119100	2023	540	20000	2023	0	Government, Government, Water/Sewer, Water/Sewer	Lifeline		

Tignall town	Tignall Gymnasium	3	1351000	2023	10506	32500	2023	0	Government, Government, Water/Sewer, Water/Sewer	Essential		
Tignall town	Tignall Water Tank #1	3	330300	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Lifeline		
Tignall town	Tignall Water Tank #2	3	516000	2023	100			0	Government, Government, Water/Sewer, Water/Sewer	Lifeline	0	
Washington city	Washington Fire Department	3	472403	2023	2240	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Washington city	Electrical Substation-Dixie Wood	3	1500000	2023	150			0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Lifeline		

Washington city	Electrical Substation - Gordon	3	1500000	2023	100				0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Lifeline		
Washington city	City of Washington Water Treatment Plant #1	3	6000000	2023	100	50000	2023		0	Government, Government, Water/Sewer, Water/Sewer	Essential, Lifeline	10	
Washington city	City of Washington Water Treatment Plant #2	3	6000000	2023	100	50000	2023		0	Government, Government, Water/Sewer, Water/Sewer	Lifeline		
Washington city	City of Washington Waste Treatment Plant	3	18500000	2023	100	45000	2023		0	Government, Government, Water/Sewer, Water/Sewer	Essential, Lifeline		
Washington city	South bypass lift Station #1	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	washington crossing Lift Station #2	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential	0	

Washington city	Harpers Personal Care Home Lift Station #3	3	750000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Elijah Clark Drive Lift Station #4	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Seven Oaks Dr. Lift Station #5	3	150000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential	0	
Washington city	Berkshire Drive Lift Station #6	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential, Hazardous Materials		
Washington city	Hills Street Lift Station #7	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	High School Lift Station #8	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Stockyard Lift Station #9	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential	0	
Washington city	Concord Lift Station #10	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential, Hazardous Materials		

Washington city	Old Skull Shoals Lift Station#11	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Highway 44 Lift Station#12	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Paper Pak Lift Station #14	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Anthony Wood Products Lift Station #13	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Skulls Shoal Rd Lift Station #15	3	650000	2023	100				0	NGO, NGO, Transportation, Transportation	Essential		
Washington city	Washington City Hall	3	850000	2023	6198	300000	2023		0	Government, Government, Private, Private	Important		
Washington city	Pope Center	3	2500000	2023	10017	500000	2023		0	Government, Water/Sewer	Essential, Important		
Washington city	Chamber of Commerce	3	750000	2023	6725		2023		0	Government, Water/Sewer	Important, Historic Consideration		

Washington city	911 call Center	3	400000	2023	19702			0	Emergency Services, Emergency Services, EMA, EMA			
Washington city	EMA/EMS	3	105000	2023	2300			0	Emergency Services, Emergency Services, EMS, EMS		20	
Washington city	EMS substaion	3	30000	2023	2500			0	Emergency Services, Emergency Services, EMS, EMS			
Washington city	Wilkes County Communications Center	3	400000	2023				0	Emergency Services, Communications	Essential		
Washington city	EMS Substation	3	30000	2023				0	Emergency Services, EMS	Essential		
Wilkes County	Washington-Wilkes Middle School	3	15000000	2023	0	1500000	2023	0	Education, Education, K - 12, K - 12	Essential, Lifeline, Vulnerable Population		
Wilkes County	Washington-Wilkes Primary School	3	10453500	2023	0	1500000		0	Education, Education, K - 12, K - 12	Essential, Vulnerable Population		
Wilkes County	Washington-Wilkes Comprehensive High	3	15000000	2023	0	1500000	2023	0	Education, Education, K - 12, K - 12	Essential, Vulnerable Population		

Wilkes County	Wilkes County Sheriff's Office	3	1935264	2023	19702	250000	2023	0	Law Enforcement, Law Enforcement, Sheriff, Sheriff	Essential		
Wilkes County	Wilkes County Courthouse	3	5600000	2023	22082	350000	2023	0	Law Enforcement, Law Enforcement, Court House, Court House	Essential, Historic Consideration, Important		
Wilkes County	Wilkes County Jail	3	1500000	2023	0	250000	2023	0	Law Enforcement, Law Enforcement, Jails, Jails	Essential, Vulnerable Population		
Wilkes County	Washington-Wilkes Communications Center	3	800000	2023	1500	400000	2023	0	Law Enforcement, Law Enforcement, Communications, Communications, Government Offices, Government Offices	Essential, Lifeline		
Wilkes County	Wilkes County EMS	3	740000	2023	2300	350000	2023	0	Law Enforcement, Law Enforcement, Police, Police	Essential		

Wilkes County	Wilkes Fire Station-Danburg	3	100000	2023	1100	250000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Wilkes Fire Station-Metasville	3	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Wilkes Fire Station-Newton	3	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential		
Wilkes County	Wilkes Fire Station-Tyrone	3	150000	2023	1000	350000	2023	0	Emergency Services, Emergency Services, Fire Fighters, Fire Fighters	Essential	30	26
Wilkes County	Washington-Wilkes Elementary School	3	8661600	2023	0	1500000	2023	0	Education, Education, Government, Government, K-12, K - 12	Essential, Vulnerable Population	67	55

Wilkes County	Willis Memorial Hospital	3	31000000	2023	51863	10000000	2023	0	Medical, Medical, EMS, EMS	Essential, Important, Vulnerable Population		
Wilkes County	Heritage Health Care	3	1200000	2023	19384	150000	2023	0	Medical, Medical, EMS, EMS	Vulnerable Population		
Wilkes County	Harpers Personal Care Home	3	497848	2023	7036			0	Medical, EMS	Vulnerable Population		
Wilkes County	3 SISTERS LAKE DAM	3	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	BURDETTE LAKE DAM #2	3	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	BURDETTE LAKE DAM	3	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	5	3
Wilkes County	WASHINTON-WILKES ORCHARD DAM	3	150000	2023	100			0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	536	3

Wilkes County	GARRARD DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	435	3
Wilkes County	Hale Lake Dam	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	421	4
Wilkes County	GRIMAUDE LAKE DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	623	4
Wilkes County	Booths Lake Dam	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	WASHINGTON COUNTRY CLUB LAKE DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	25	2
Wilkes County	Palmer Lake dam	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	10	3
Wilkes County	WASHINGTON LITTLE BEAVERDAM CREEK RESERVIOR	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	85	85

Wilkes County	CITY OF WASHINGTON BEVERDAM CREEK DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	10	3
Wilkes County	CITY OF WASHINGTON SETTLING POND DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	REVILLE LAKE DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	LOWE IRRIGATION LAKE DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	BOOTH S LOWER LAKE DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation		
Wilkes County	BARNWELL LAKE DAM	3	150000	2023	100				0	Law Enforcement, Law Enforcement, Prisons, Prisons	Transportation	145	65
			147752797									21435000	0.00

APPENDIX B

**GROWTH
AND
DEVELOPMENT TRENDS
COMMUNITY INFORMATION**

Joint Comprehensive Plan 2020 - 2024



Rayle

Tignall

Washington

**WILKES
COUNTY**

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This document was prepared jointly with the cooperation
of the following local governments:

Wilkes County

23 Court Street, Room 222
Washington, GA 30673
Adopted: June 19, 2019

The Town of Rayle

PO Box 67
Rayle, GA 30660
Adopted: June 14, 2019

The Town of Tignall

PO Box 218
Tignall, GA 30668-0218
Adopted: July 10, 2019

The City of Washington

PO Box 9
Washington, GA 30673-0009
Adopted: June 26, 2019

Prepared By:



3626 Walton Way Extension
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Augusta, Georgia 30909

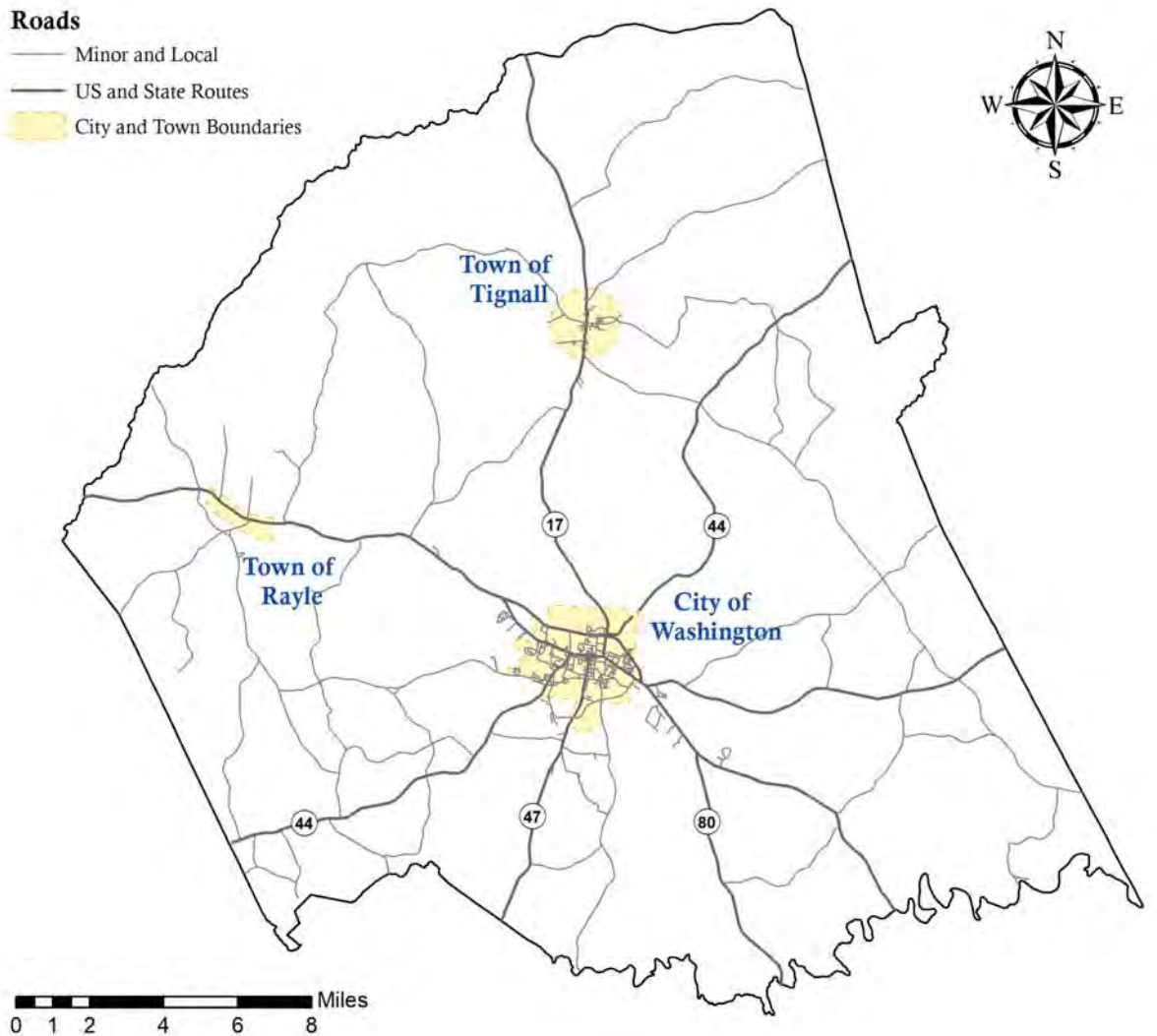
The Central Savannah River Area Region



Wilkes County

Roads

- Minor and Local
- US and State Routes
- City and Town Boundaries





Rayle



Tignall



Washington



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Purpose of the Comprehensive Plan

The 2020-2024 Wilkes County Joint Comprehensive Plan provides residents, local officials and other stakeholders with a roadmap toward achieving their vision of a county where residents and visitors alike experience a better place to live, work, and play.

Quality community growth, however, can only begin with a locally generated vision and well-structured plan of implementation that has the ability to unite varied segments of society with, often, competing interests.

This comprehensive plan is intended to serve the following functions:

- lay out a desired future;
- guide how that future is to be realized;
- formulate a coordinated, short to medium-term planning program.

The plan document also addresses issues regarding housing, economic development, land use, community facilities, and cultural resources in a coordinated manner, and serves as a guide for how:

- land should be developed;
- local housing conditions will be improved;
- existing businesses should be supported and new economic growth achieved.

In conjunction with the county's Service Delivery Strategy, the comprehensive plan document becomes a powerful resource for elected and appointed officials as they deliberate development issues and appropriate policy responses.

Washington - Wilkes is...

Describe your community in one to three words!

Indecisive

Need better meetings times!

Small

Flower baskets on the

Pray

lamp posts!

Noruan Rockwell
Maet's
Mayberry

Community
Dialogues

life is Better

Blessed
and Highly Favored



Planning Process & Community Involvement

As the objective of the Comprehensive Plan is the realization of the shared vision and goals of a community, public participation in the planning process is of vital importance. This section details the structure of the plan and discusses the ways in which stakeholder input was considered as the plan was created. It also provides a brief overview of the opinions and concerns expressed in the SWOT analysis, needs and opportunities assessment and surveys.



The Comprehensive Plan and Planning Process

Many government agencies make plans for their own programs or facilities, but the Comprehensive Plan (Plan) is one of the few documents that considers the programs and priorities of many agencies with varied objectives, and accounts for the activities on all land in a given area, both public and private. As the Department of Community Affairs’ (DCA) minimum standards for local comprehensive planning state, “the highest and best use of comprehensive planning for local governments is to show important relationships between community issues.” Done well, the planning process serves to enhance the efficiency and productivity of coordinated government efforts on all levels.

A comprehensive plan should be developed and structured to realize the shared vision, goals and objectives for all communities involved in the process. DCA’s minimum standards for local comprehensive planning require the planning process to follow a standardized set of procedures to ensure that the public has the opportunity to provide input and review the comprehensive plan document as it is created. Consistent public input is a necessary component for the creation of this Plan.

Components of the Comprehensive Plan

DCAs minimum planning standards stipulate which plan components are required or optional for counties and municipalities depending on size, needs, goals and other factors.

Plan Component	Required or Optional
Community Goals	Required for all local governments
Needs and Opportunities	Required for all local governments; includes required community involvement component
Community Work Program	Required for all local governments
Broadband Services	Required for all local governments
Economic Development	Required; Job Tax Credit Tier 1
Land Use	Required; some Wilkes jurisdictions enforce zoning
Housing	Optional, but encouraged due to housing quality, affordability and jobs/housing imbalance
Natural and Cultural Resources	Optional; Contains required regional water plan and environmental planning criteria considerations
Community Facilities	Optional

Public Participation

This section of the Plan focuses on its development at the local level. It details the agencies responsible, the steps taken, and provides documentation of the outcomes of public participation in the process. The public participated in the planning process through the following outreach methods:

- Stakeholder meetings
- Public hearings
- Public engagement at a local event
- Survey
- Social media posts

Stakeholder Committee

A Stakeholder Committee comprised of one or more representatives from each jurisdiction was appointed to lead the planning process. The primary purpose of this committee was assuring that CSRA-RC staff reflect the aforementioned shared vision, goals, and objectives of the community. Representatives included mayors, commissioners, administrators, and other municipal staff. Following is a list of members of the Comprehensive Plan Stakeholder Committee:

Wilkes County

Sam Moore, Chairman of the Wilkes County Commission

Karen Burton, Clerk of the Wilkes County Commission

Ruthie Clements, Director of the Washington-Wilkes Payroll Development Authority (PDA)

City of Washington

Ames Barnett, Mayor of the City of Washington

Sherri Bailey, City Administrator

Debbie Danner, Clerk of the City of Washington

Janet Parker, Director of Historic Properties and Mainstreet Washington

City of Rayle

Jake Buff, Mayor of the Town of Rayle

City of Tignall

Henry Brown, Mayor of the Town of Tignall

Elaine Jackson, Clerk of the City of Tignall



Stakeholder Committee Meeting #2, April 15, 2019



Stakeholder Committee Meeting #2, April 15, 2019

Stakeholder Meetings

A joint Stakeholder Committee kickoff meeting was held on March 25, 2019 with topics covering items such as the purpose and goals of comprehensive planning, components of the plan document, the timeline for plan development and submittal, recent demographic and economic trends, and completion of a S.W.O.T (Strengths, Weaknesses, Opportunities and Threats) exercise.

The second Stakeholder Committee meeting was held on April 15, 2019. At this meeting, topics discussed included: needs and opportunities, community goals, and potential policies. Each representative was provided with The Community Work Program from the previous Comprehensive Plan and asked to provide feedback regarding the status of the projects that were identified as priorities for that five-year period. Representatives were also asked to discuss new projects for the upcoming five-year Work Program period.

Public Hearings

A joint public hearing was held April 1, 2019 to formally announce the initiation of the comprehensive planning process. A second public hearing was held on May 10, 2019 to solicit public feedback on the contents of the draft document.

Additional Public Outreach

In observance of the Georgia Municipal Association's Georgia Cities Week, the City of Washington hosted a celebration in its square on the evening of April 24, 2019. It also used this opportunity to engage the public in the comprehensive planning process. Municipal representatives and CSRA Staff were on hand to provide information about the planning process, and to solicit public feedback regarding community needs and concerns, and to capture a glimpse of the public's desires for the Wilkes County of the future. Both the event and the planning process were publicized through social media, municipal websites, and community based social organizations.

Literature about proposed policies was distributed and surveys were collected from more than 60 attendees at the celebration. A review of the surveys revealed that most respondents have confidence in the effectiveness of their local government, and believe they know who to contact when they have a need. Responses were mixed regarding the quality of services for children and the elderly, as well as health care. There was an overall negative perception of local internet access.

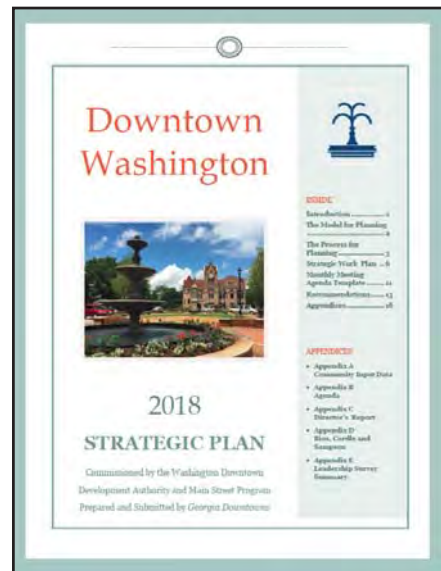
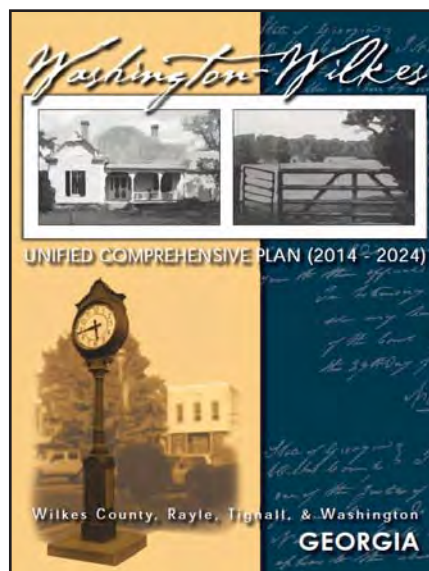
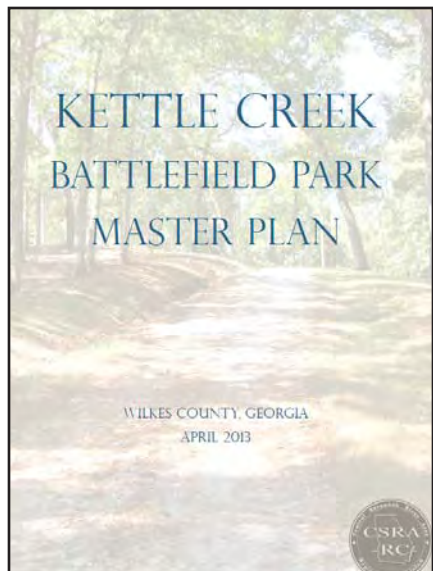
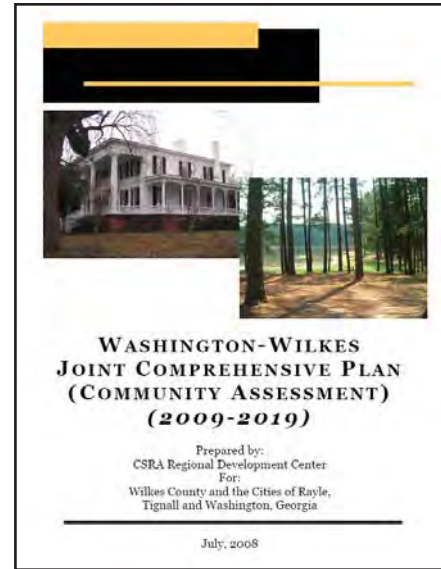
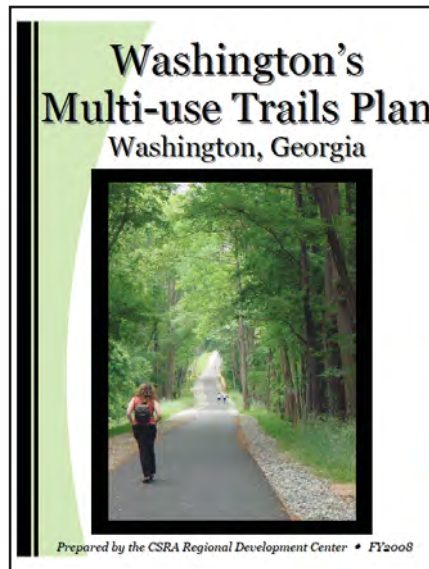
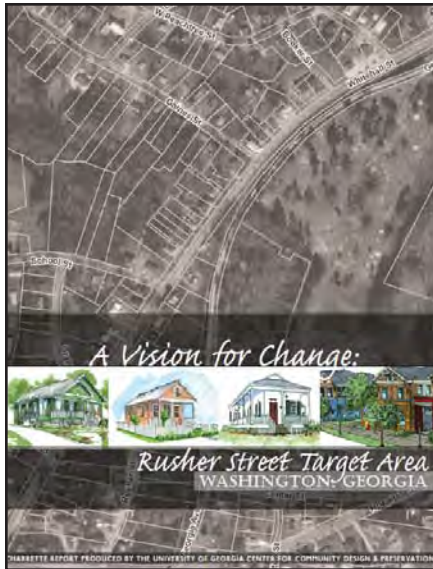
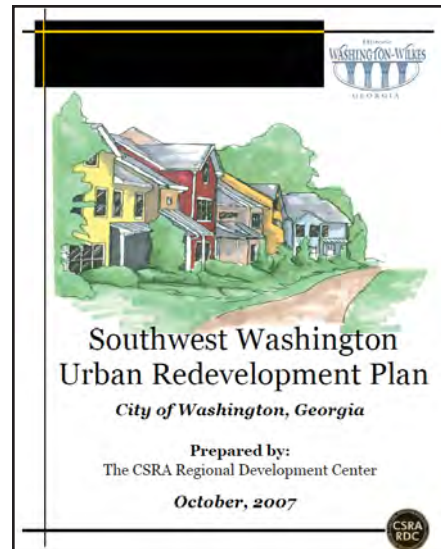


Past Planning Initiatives

Wilkes County is establishing a proud legacy of successful planning initiatives. The 2007 Southwest Washington Urban Redevelopment Plan was catalytic in inspiring a series of significant local redevelopment projects that resulted in the elimination of blight and the construction of new, affordable homes in Washington. Additionally, Kettle Creek Battlefield has risen to national prominence through the efforts of Wilkes County's local government and its partners.

The City of Washington's designation as a Plan First Community by DCA in 2018 further speaks to this community's commitment and effectiveness in strategic use of its local assets to realize the ideals of Planning for its citizens.

The images that follow are covers of recent local planning initiatives.



Wilkes County Joint Comprehensive Plan

SWOT Analysis

As part of the planning process, the Stakeholder Committee was asked to complete a 'SWOT' Analysis. SWOT stands for strengths, weaknesses, opportunities, and threats. Members of the Committee were charged with providing their view on the assets and liabilities of their respective jurisdictions, and reasonable near-term possibilities for growth with thoughtful use of available resources. The information provided the basis for subsequent assessments of needs, opportunities, and, ultimately, formulation of goals and policies.

The results of the SWOT Analysis are summarized on the next page.

Municipality Washington
Abbie Danner 3-25-19

Strengths Reliable utilities tourism location - broadband coverage	Weaknesses old infra-structure - water/sewer work force ready - (DOJ) housing - retail -
Opportunities Athens Tech - growth - Pope Ctr - Conference space	Threats w/o treatment plants -

Sample SWOT Analysis

How would you rate your satisfaction with the following services in Wilkes County?	Circle only 1 choice for each item.				
	Great	Good	Fair	Poor	Don't Know
Law Enforcement	4	3	2	1	<input checked="" type="radio"/>
Utilities (Electricity, Water, Sewer)	4	<input checked="" type="radio"/> 3	2	1	
Public Schools	4	3	<input checked="" type="radio"/> 2	1	
Libraries	4	3	2	1	<input checked="" type="radio"/>
Health Care and Medical Facilities	4	3	<input checked="" type="radio"/> 2	1	
Child and/or elder care services	4	3	2	1	<input checked="" type="radio"/>
Internet Access	4	3	<input checked="" type="radio"/> 2	1	

I live in...	Unincorporated Wilkes County	Washington City Limits
Not a Wilkes County Resident	<input checked="" type="radio"/> Rayle City Limits	Tignall City Limits

My local government is effective in meeting my needs.	Circle only 1 choice.			
	Agree	<input checked="" type="radio"/> Disagree		

I know who to call at my local government when I have an issue.	Circle only 1 choice.			
	Agree	<input checked="" type="radio"/> Disagree		

How safe do you feel in your community?	Very Safe	Safe	Unsafe	Very Unsafe
During the DAY?	<input checked="" type="radio"/> 4	3	2	1
At NIGHT?	<input checked="" type="radio"/> 4	3	2	1

I would be willing to pay user fees or a special tax for specific improvements in...	Yes	No	Maybe
Bicycle, pedestrian, or recreational facilities (sidewalks, multi-use paths, trails, playground equipment, etc.)	<input checked="" type="radio"/> 1	0	
Community centers (kitchen equipment, electronic equipment, internet access, etc.)	1	0	<input checked="" type="radio"/>

Rank the following topics in order of importance to your community from 1 (high) to 10 (low). In the bottom space, write a 10 th topic not previously listed.	Rank
Vacant Lots or Derelict Homes	9
Overall Condition of housing	1
Housing Affordability	3
Employment opportunities	5
Shopping and retail options	2
Access to fresh fruits and vegetables	10
Transportation options	7
Child or elder care services	8
Gangs, Crime or Drugs	1
Write in: <u>Maintenance of gravel roads</u>	10

Comment(s):

Sample Survey - Washington Resident

Sample Survey - Wilkes County Resident

Citizens and community leaders of Wilkes County offered their input in the planning process.

How would you rate your satisfaction with the following services in Wilkes County?	Circle only 1 choice for each item.				
	Great	Good	Fair	Poor	Don't Know
Law Enforcement	4	<input checked="" type="radio"/> 3	2	1	
Utilities (Electricity, Water, Sewer)	4	<input checked="" type="radio"/> 3	2	1	
Public Schools	4	<input checked="" type="radio"/> 3	2	1	
Libraries	<input checked="" type="radio"/> 4	3	2	1	
Health Care and Medical Facilities	4	<input checked="" type="radio"/> 3	2	1	
Child and/or elder care services	4	<input checked="" type="radio"/> 3	2	1	
Internet Access	<input checked="" type="radio"/> 4	3	2	1	

I live in...	Unincorporated Wilkes County	Washington City Limits
Not a Wilkes County Resident	<input checked="" type="radio"/> Rayle City Limits	Tignall City Limits

My local government is effective in meeting my needs.	Circle only 1 choice.			
	Agree	<input checked="" type="radio"/> Disagree		

I know who to call at my local government when I have an issue.	Circle only 1 choice.			
	Agree	<input checked="" type="radio"/> Disagree		

How safe do you feel in your community?	Very Safe	Safe	Unsafe	Very Unsafe
During the DAY?	4	<input checked="" type="radio"/> 3	2	1
At NIGHT?	4	<input checked="" type="radio"/> 3	2	1

I would be willing to pay user fees or a special tax for specific improvements in...	Yes	No	Maybe
Bicycle, pedestrian, or recreational facilities (sidewalks, multi-use paths, trails, playground equipment, etc.)	<input checked="" type="radio"/> 1	0	
Community centers (kitchen equipment, electronic equipment, internet access, etc.)	<input checked="" type="radio"/> 1	0	

Rank the following topics in order of importance to your community from 1 (high) to 10 (low). In the bottom space, write a 10 th topic not previously listed.	Rank
Vacant Lots or Derelict Homes	3
Overall Condition of housing	6
Housing Affordability	7
Employment opportunities	2
Shopping and retail options	4
Access to fresh fruits and vegetables	8
Transportation options	9
Child or elder care services	5
Gangs, Crime or Drugs	1
Write in:	

Comment(s): I've called the police before & received nothing but a attitude & no compassion. - Electric rates are so high they keep us in a hole of debt that we will never get out of. 2 people with full time jobs should be able to pay their electric bill every month but sadly not the case. - This is NOT the Washington I grew up in!!! Unless you do something for kids that don't play football, it will only get worse.

Strengths

- » Telecommunications Infrastructure/Fiber
- » Local power company
- » Vibrant Downtown Washington
- » Manufacturers
- » Rich cultural history
- » Proximity to Augusta and Athens
- » Reliable utilities
- » Rural and agricultural character
- » Cost of Living and Quality of life
- » Road infrastructure

Weaknesses

- » Aging water and sewer infrastructure
- » Wastewater treatment capacity
- » No growth in local housing market
- » Housing affordability
- » Lack of retail options
- » Workforce preparedness
- » Lack of diversity of local economic base
- » Lack of bike and pedestrian infrastructure

Threats

- » Wastewater treatment capacity
- » Aging infrastructure
- » Declining commercial and industrial base
- » Declining population - particularly young people and young families
- » Aging population

Opportunities

- » Athens Technical College
- » Kettle Creek Battlefield
- » The Pope Center
- » Gordon Street School
- » Downtown Washington
- » Telecommunications Infrastructure
- » Technical assistance from DCA, the CSRA Regional Commission, UGA and other partners

Needs and Opportunities

From the SWOT exercise and resident surveys, a list of relatively short-term needs and opportunities focused around the core planning components was developed. The community will take intentional and coordinated action to address these items in the coming five-year work program.

Sample Survey - Rayle Resident

How would you rate your satisfaction with the following services in Wilkes County?	Circle only 1 choice for each item.				
	Great	Good	Fair	Poor	Don't Know
Law Enforcement	4	3	2	1	
Utilities (Electricity, Water, Sewer)	4	3	2	1	
Public Schools	4	3	2	1	
Libraries	4	3	2	1	
Health Care and Medical Facilities	4	3	2	1	
Child and/or elder care services	4	3	2	1	
Internet Access	4	3	2	1	

Rank the following topics in order of importance to your community from 1 (high) to 10 (low). In the bottom space, write a 10 th topic not previously listed.		Rank
Vacant Lots or Derelict Homes		4
Overall Condition of housing		6
Housing Affordability		5
Employment opportunities		4
Shopping and retail options		1
Access to fresh fruits and vegetables		2
Transportation options		8
Child or elder care services		9
Gangs, Crime or Drugs		3

I live in...	Unincorporated Wilkes County	Washington City Limits
Not a Wilkes County Resident	Rayle City Limits	Tignall City Limits

My local government is effective in meeting my needs.	Circle only 1 choice.	
	Agree	Disagree
	Agree	Disagree

I know who to call at my local government when I have an issue.	Circle only 1 choice.	
	Agree	Disagree
	Agree	Disagree

How safe do you feel in your community?	Very Safe	Safe	Unsafe	Very Unsafe
	During the DAY?	4	3	2
At NIGHT?	4	3	2	1

I would be willing to pay user fees or a special tax for specific improvements in...	Yes	No	Maybe
	Bicycle, pedestrian, or recreational facilities (sidewalks, multi-use paths, trails, playground equipment, etc.)	1	0
Community centers (kitchen equipment, electronic equipment, internet access, etc.)	1	0	

Comment(s):

How would you rate your satisfaction with the following services in Wilkes County?	Circle only 1 choice for each item.				
	Great	Good	Fair	Poor	Don't Know
Law Enforcement	4	3	2	1	
Utilities (Electricity, Water, Sewer)	4	3	2	1	
Public Schools	4	3	2	1	
Libraries	4	3	2	1	
Health Care and Medical Facilities	4	3	2	1	
Child and/or elder care services	4	3	2	1	
Internet Access	4	3	2	1	

Rank the following topics in order of importance to your community from 1 (high) to 10 (low). In the bottom space, write a 10 th topic not previously listed.		Rank
Vacant Lots or Derelict Homes		7
Overall Condition of housing		5
Housing Affordability		3
Employment opportunities		1
Shopping and retail options		4
Access to fresh fruits and vegetables		8
Transportation options		7
Child or elder care services		10
Gangs, Crime or Drugs		2

I live in...	Unincorporated Wilkes County	Washington City Limits
Not a Wilkes County Resident	Rayle City Limits	Tignall City Limits

My local government is effective in meeting my needs.	Circle only 1 choice.	
	Agree	Disagree
	Agree	Disagree

I know who to call at my local government when I have an issue.	Circle only 1 choice.	
	Agree	Disagree
	Agree	Disagree

How safe do you feel in your community?	Very Safe	Safe	Unsafe	Very Unsafe
	During the DAY?	4	3	2
At NIGHT?	4	3	2	1

I would be willing to pay user fees or a special tax for specific improvements in...	Yes	No	Maybe
	Bicycle, pedestrian, or recreational facilities (sidewalks, multi-use paths, trails, playground equipment, etc.)	1	0
Community centers (kitchen equipment, electronic equipment, internet access, etc.)	1	0	

Comment(s):

Sample Survey - Tignall Resident

Broadband

Needs

- » Promote digital literacy to increase broadband adoption among segments of the population that are typically averse to the use of technology.
- » Seek opportunities to make broadband more affordable and/or more widely available to Wilkes County residents.

Opportunities

- » Actively seek opportunities to utilize available broadband infrastructure to improve primary and secondary level educational outcomes.
- » Actively seek opportunities to utilize available broadband infrastructure to support workforce development, and to promote local economic development.
- » Actively seek opportunities to utilize available broadband infrastructure to support public employee training and professional development.

Economic Development

- » Raise the quality of the Wilkes County workforce.
- » Explore transportation options for connecting Wilkes County workers with employment centers.
- » Decrease inventory of idling brownfield and greyfield sites.
- » Increase local wastewater treatment capacity to enable future industrial growth.

- » Actively seek opportunities to utilize available broadband infrastructure to support workforce development, and to promote local economic development.
- » Explore transit-related projects with the potential to offset the local jobs/housing imbalance.
- » Explore productive uses for abundance of fallow agricultural lands.
- » Capitalize on the growing heritage tourism trend through enhancement of Downtown Washington and county-wide coordinated marketing.

Opportunities

Needs

Opportunities

- » Utilize available technical assistance to seek funding for continued neighborhood revitalization.
- » Utilize available technical assistance to identify programs and partners with the mission of increasing the quantity and quality of affordable housing in Wilkes County.
- » Encourage residential use of multi-story commercial buildings in Downtown Washington.

Housing

Needs

- » Reduce instances of deferred residential maintenance.
- » Increase the quantity and quality of affordable housing in Wilkes County.
- » Seek opportunities to place affordable housing in closer proximity to major Wilkes County employers.

Land Use

- » Explore the development of design guidelines that ensure new development is complimentary to the existing historic character.
- » Protect Wilkes County's critical environmental assets and promote active lifestyles through continued implementation of the Multi-use Trails Plan.
- » Require that new development connect to the proposed bike and pedestrian system where practicable.

- » Protect local historic assets through design guidelines and other land use regulations.
- » Assess the impact of development and industrial activity on environmentally sensitive lands within the county, especially ground water recharge areas.

Opportunities

Needs



A single-story yellow house with a gabled roof and a small front porch. The house features yellow horizontal siding and yellow shutters with a diamond pattern. A large, leafy tree stands behind the house, and a satellite dish is visible on the right. The house is situated on a dirt lot with a concrete sidewalk in the foreground.

A concrete sidewalk runs along the front of the property, leading to a paved asphalt road.



Community Facilities

Needs

- » Upgrade aging water and sewer pipes.
- » Increase wastewater treatment capacity.
- » Explore transit-related projects with the potential to offset the local jobs/housing imbalance.
- » Increase public employee access to training opportunities and improved technology.
- » Maintain public safety equipment.
- » Maintain county roads and bridges.

- » Protect local historic assets through design guidelines and other land use regulations.
- » Assess the impact of development and industrial activity on environmentally sensitive lands within the county, especially ground water recharge areas.
- » Reevaluate the Wilkes County Solid Waste Management Plan.

Needs

Opportunities

- » Utilize available technical assistance to seek funding for critical infrastructure improvements.
- » Actively seek opportunities to utilize available broadband infrastructure to support public employee training and professional development.

Natural & Cultural Res.

- » Protect Wilkes County's critical environmental assets and promote active lifestyles through continued implementation of the Multi-use Trails Plan.
- » Explore policies to reduce local solid waste generation and reliance on landfills.

Opportunities

Community Goals & Policies

Goals are broad statements of understanding that are intended to provide guidance toward a desired future outcome. Goals put short-term decisions in proper context. Goals are some of the most valuable insights gleaned from the comprehensive planning process, in that they shape the ventures into which the community will invest its limited resources.

A community reaches its goals through the establishment of and adherence to supporting policies. The next section details Wilkes County's goals and policies.

Community Goals & Policies

Broadband

Goals:

- Promote digital literacy among Wilkes County residents of all ages.
- Actively support Wilkes County's integration into the innovation economy.

Policies:

- Market Wilkes County's broadband infrastructure in furtherance of economic development efforts.
- Support creation of spaces for entrepreneurial engagement and exchange.

Economic Development

Goals:

- Develop of an educated, motivated workforce, prepared for the challenges of an evolving global economy.
- Minimize the effects of jobs-housing imbalance.
- Align economic development efforts with the CSRA's Regional economic development strategy.

Policies:

- Support partnerships for the delivery of training programs and other professional development in furtherance of workforce preparedness.
- Recruit clean, responsible industry to appropriate sites in Wilkes County and its contained jurisdictions.
- Undertake a targeted industry analysis and develop an industry recruitment strategy centered on industries most appropriate for Wilkes County's workforce and assets.
- Explore opportunities to create or improve transit access to local employment centers.
- Actively market Wilkes County's cultural and architectural heritage sites and districts to promote economic development through tourism.
- Explore the creation of incentives for the adaptive reuse of existing commercial and industrial buildings.
- Strengthen the lines of communication with local employers regarding workforce and infrastructure needs through an improved business retention and expansion program.



Community Goals & Policies

Housing

Goals:

- Create safe, efficient and affordable housing for Wilkes County residents.
- Enhance the vibrancy of Downtown Washington by increasing residential use.
- Support the restoration and maintenance of Washington's historic housing stock.

Policies:

- Expand opportunities for home ownership for low-to-moderate income households in Washington-Wilkes.
- Ensure housing maintenance initiatives remain a key component of Washington's community redevelopment efforts.
- Encourage the development of contemporary market-rate housing to diversify the available housing stock.
- Discourage deferred maintenance of historically and architecturally relevant homes.
- Encourage residential use of the upper floors in downtown commercial buildings.

Land Use

Goals:

- Maintain the rural and historic character of Wilkes County.
- Ensure the county's natural resources and critical environmental assets are protected from unintended consequences of development.

Policies:

- Make land use and development decisions that are consistent with the policies of the Wilkes County Joint Comprehensive Plan.
- Review and amended land use and development ordinances to create new development that is consistent with Wilkes County's historic character.

Community Facilities

Goals:

- Maintain all community facilities and capital assets in working order and at capacity to support the needs of Wilkes County residents.
- Provide a full range of services that meet the needs of the Wilkes County's changing demographic base.

Policies:

- Maintain and improve local wastewater handling systems.
- Continually assess, maintain and replace public safety equipment as needed.
- Continually assess recreational facilities and programs to improve accessibility and use.
- Continually assess solid waste management services and facilities to ensure effective long-term service delivery.
- Continually assess aging services to determine ways in which service delivery can be enhanced.
- Fund professional development for municipal staff to keep abreast of trends and best practices.

Community Goals & Policies

Community Facilities (Transportation)

Goals:

- Maintain all community facilities and capital assets in working order and at capacity to support the needs of Wilkes County residents.
- Provide a full range of services that meet the needs of the Wilkes County's changing demographic base.

Policies:

- Designate local transportation funds for system maintenance.
- Pursue capacity improvements and improved traffic flow through access management features rather than roadway widening.
- Apply character district street standards to more City of Washington roads, where appropriate.
- Prioritize expansion of existing bicycle and pedestrian infrastructure and pursue development of new bicycle/pedestrian infrastructure when possible.
- Pursue development of identified corridors as multi-use paths in accordance with locally-adopted trails and bicycle/pedestrian plans.
- Pursue improvement and expansion of local transit options.
- Continue investing to maintain critical links to the nation's air and rail transportation systems.

Natural and Cultural Resources

Goals:

- Ensure the county's natural resources and critical environmental assets are protected from unintended consequences of development.
- Maintain the rural and historic character of Wilkes County.

Policies:

- Support ongoing development of recommendations from the Kettle Creek Battlefield Park Master Plan.
- Actively market Wilkes County's cultural and architectural heritage sites and districts to promote tourism.
- Improve local historic district regulations and guidelines to better preserve and enhance Wilkes County's historic heritage, and to encourage private investment in historic properties.
- Review and amended land use and development ordinances to promote new development that is consistent with Washington-Wilkes historic character.
- Review and amended land use and development ordinances to ensure the protection of Wilkes County and regional water resources.
- Actively participate in regional water resource planning efforts.
- Regularly reassess solid waste management facility siting parameters to ensure natural and cultural resources are protected.
- Monitor local development activity to ensure that environmentally sensitive lands and other natural resources are protected from degradation.



I'D RATHER BE
IN
TIGNALL, GA



Demographic Overview

The demographic overview aims to provide an understanding of who Wilkes County's residents are, and how the population is changing. An analysis of demographic trends can provide valuable perspective on the programs and services that the County or City's changing demographics may currently require, or that may be needed in the near future. The review relies largely on data provided by the Census Bureau, either through the decennial Census or the American Community Survey.

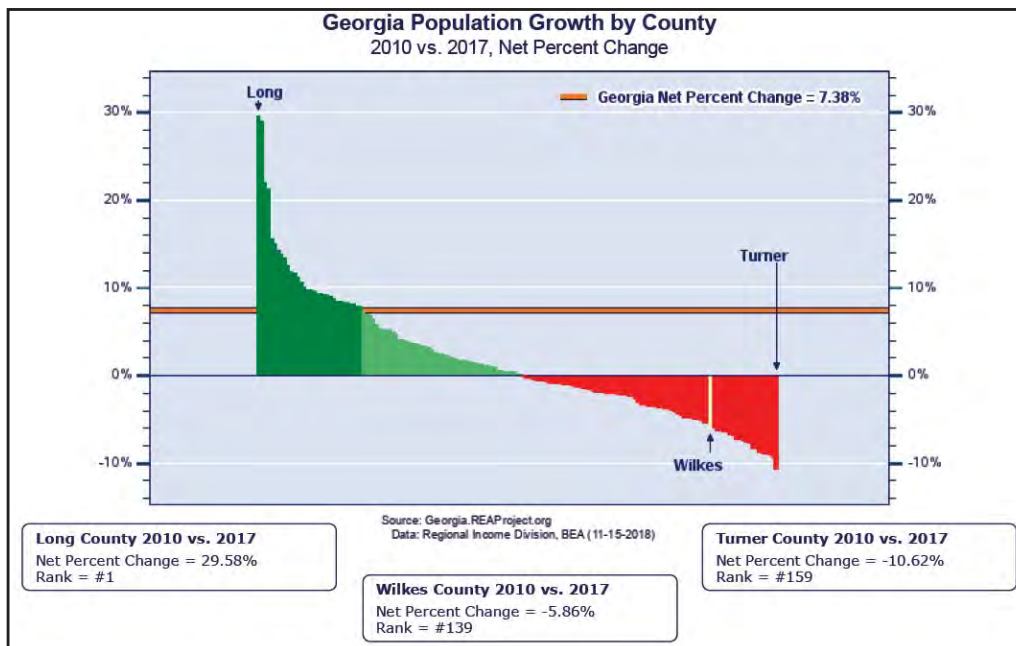


Regional Population Trends and Projections

The Governor's Office of Planning and Budget projects that Wilkes County, like many other rural CSRA counties, will experience gradual population decline heading into the year 2030. Counties with larger urbanized areas such as Richmond and Columbia are expected to increase in population due to the recent announcement of a key expansion at Fort Gordon and associated private sector growth in cyber-related employment opportunities. It is likely, however, that congestion and housing affordability will make some rural communities more attractive than is presently anticipated.

	2010	2015	2017	2020	2025	Trend
Burke	23,316	23,007	22,645	23,175	23,215	
Columbia	124,053	136,204	143,723	160,541	180,369	
Glascocock	3,082	3,087	3,027	3,239	3,349	
Hancock	9,429	8,881	8,667	8,003	7,359	
Jefferson	16,930	16,374	15,954	16,190	16,040	
Jenkins	8,340	8,922	8,929	9,346	9,382	
Lincoln	7,996	7,720	7,768	7,401	7,070	
McDuffie	21,875	21,582	21,488	22,267	22,596	
Richmond	200,549	201,291	201,568	207,182	209,457	
Taliaferro	1,717	1,721	1,844	1,632	1,572	
Warren	5,834	5,561	5,410	5,230	5,010	
Washington	21,187	20,785	20,506	20,672	20,563	
Wilkes	10,593	9,991	9,905	9,635	9,333	

Source: American FactFinder. Census 2010, American Community Survey 2015-2017, Governor's Office of Planning and Budget



This chart ranks Georgia's counties by the degree of population change in the period from 2010 to 2017. Of 159 counties, Wilkes ranked #139, indicating that 138 counties either gained more population or lost less than Wilkes for this time period. The county's net loss was 5.86%. The State's net percent change was 7.38%.

Source: Georgia Regional Economic Analysis Project; data - Bureau of Economic Analysis (BEA).

Local Population Trend

Though the accuracy of data from national sources is often disputed for rural communities, these sources do provide a valuable baseline for understanding rural population dynamics. The Census Bureau and other generators of data and analysis commonly utilize statistical methods to produce projections based on trends. These measures are typically offered with a margin of error or confidence interval, and a disclaimer acknowledging that the measures are samples or projections.

Wilkes County has continued to experience slow population decline since 2000, though the pace has quickened since 2010. The chart below indicates a clear downward population trend in much of the incorporated county since 2000. The unincorporated county, however, gained residents through 2010.

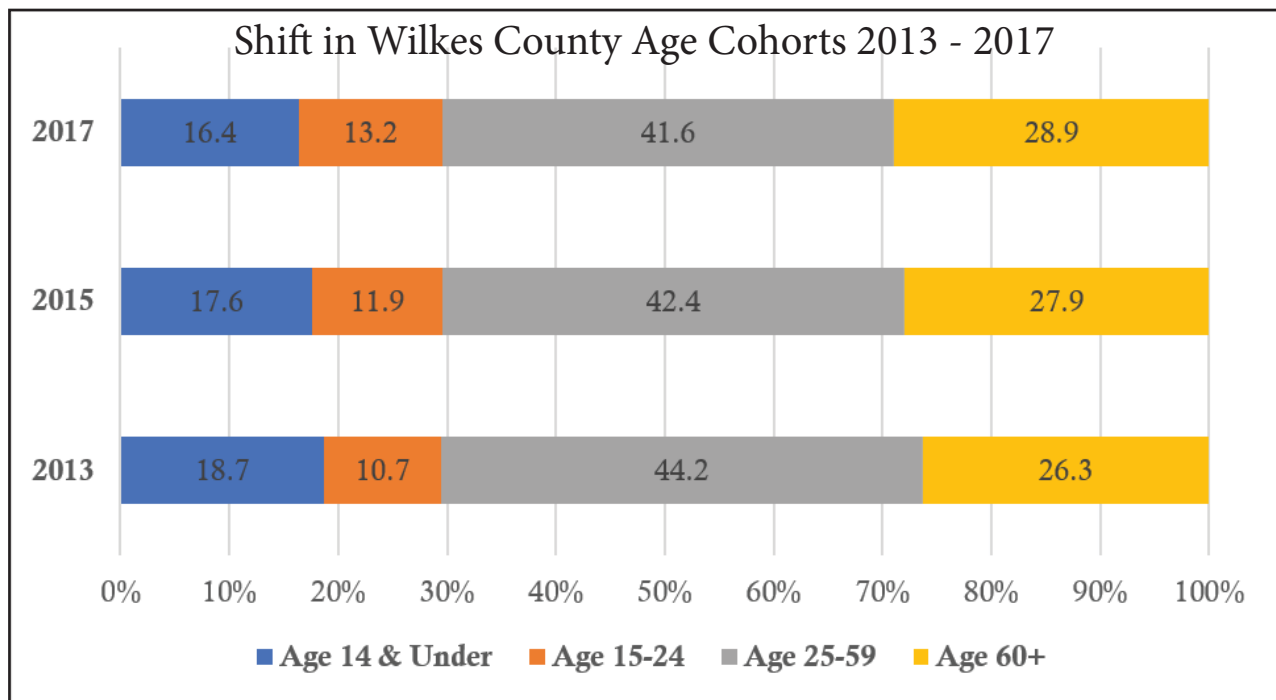
	2000	2010	2017	Trend
Wilkes County	10,687	10,593	9,905	
Unincorporated Wilkes	5,600	5,714	5,347	
Rayle	139	199	186	
Tignall	653	546	402	
Washington	4,295	4,134	3,970	

Wilkes County and Contained Municipalities Local Population Trend

Source:
American FactFinder
Census 2000,
Census 2010,
American Community Survey 2017

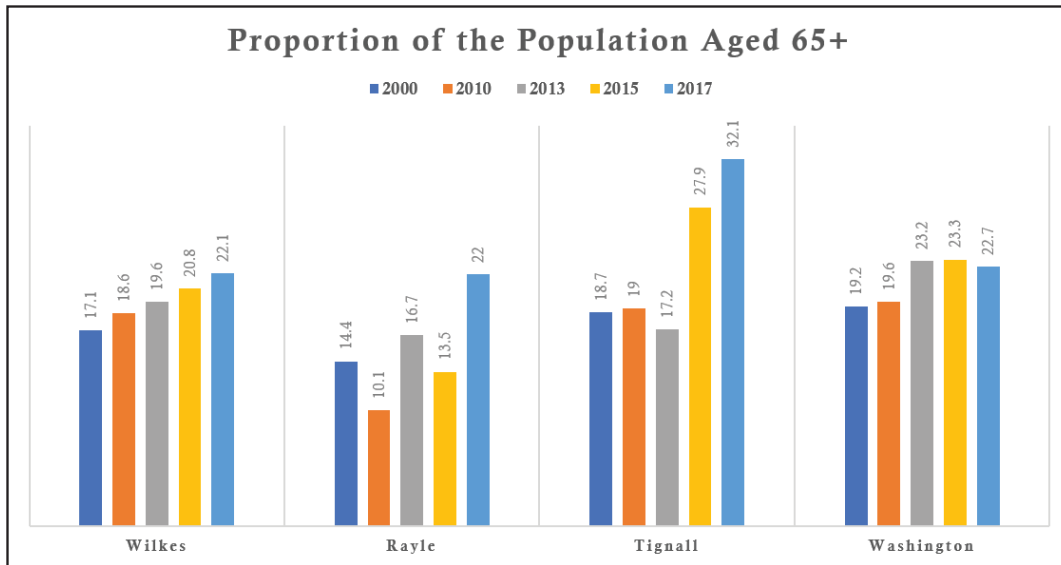
Demographics

Another noticeable trend is the loss of working-age population within the County. The chart below groups the population into four (4) categories: children under 14, adolescents and young adults aged 15 to 24, working-age population 25 to 59, and those at or nearing retirement age. Though subtle, the data reveals an increase in the proportion of those at or nearing retirement, and a decline in the working-age population 25 to 59. The simultaneous decline in the share of the population 14 and under also suggests a loss of families with young children.



Source: American FactFinder. American Community Survey 2013-2017

Aging Population

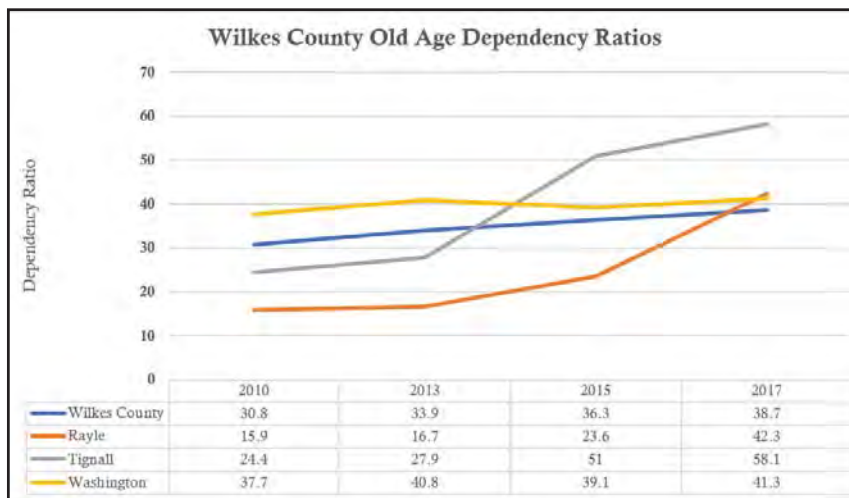


Source: American FactFinder; Census 2000, Census 2010, American Community Survey 2013 - 2017

A closer look at the proportion of population aged 65 years and older reveals that Wilkes County’s population has been aging for some time. In fact, of 13 counties in the CSRA region, only 3 have a similarly high proportion of population aged 65 and older: Taliaferro, Lincoln and Warren. These 4 counties all have approximately 20%, while the regional average is approximately 13.2%.

The aging of America’s population is a phenomenon that the Planning field has anticipated for many years as the Baby Boomers, those born between 1946 and 1964, edged toward retirement. Now, as this group enters its twilight years, many communities are faced with the task of ensuring adequate facilities and services are in place to care for the growing senior population and their unique needs. Often limited in income, limited in mobility and having a relatively high dependence on health and other social services, this population will require an increasing share of local attention and resources in the coming years.

The following chart illustrates the rate at which Wilkes County’s demographic gap is widening. The Old-Age Dependency Ratio is a measure that looks at the population aged 65 and older as a proportion of the working-age population, aged 18-64. Essentially, it is a metric reflecting the number of residents 65 and older supported by younger, working-age residents.



Personal care homes like the ‘Tignall House’ have appeared as a response to the rise in the elderly population in need of around-the-clock care.

Source: American FactFinder; Census 2010, ACS 2013 - 2017

Households

As previously alluded, Wilkes County has seen a decline in family households, particularly those with children. Alternatively, there has been a rise in nonfamily households. However, 90% of the County's nonfamily households are actually householders living alone. Further, in 2017, 48% of householders living alone were aged 65 or older.

	2000	%	2010	%	2017	%
Total Households	4,318	100	3,999	100	3,971	100
Family Households	2,978	69	2,495	62	2,456	62
<i>Family Household w/ Children</i>	810	19	828	21	755	19
<i>Married Couple</i>	2,093	48	1,496	37	1,638	41
<i>Married Couple w/ Children</i>	810	19	379	9	374	9
Nonfamily Household	1340	31	1504	38	1515	38
<i>Householder Living Alone</i>	1,214	28	1,323	33	1,404	35

Source: American FactFinder. Census 2000, Census 2010, American Community Survey 2017

Educational Attainment

That the proportion of population 18 to 24 with less than a high school diploma continues to increase is a troubling trend that must be addressed. This particular metric, which was just over 20% in 2010, has nearly doubled in just seven years. Tragically, the proportion of young college graduates in the County also fell sharply following 2010 and has yet to rebound.

Educational outcomes for the population 25 years and older have improved slightly. The share of those with less than a high school diploma has dropped, and the share of population with some college or an associates degree is on an upward trend. Programs aimed at increasing digital literacy and increasing the exposure of pupils to workforce technologies should have a positive impact on retention, graduation and workforce preparedness at all educational levels.

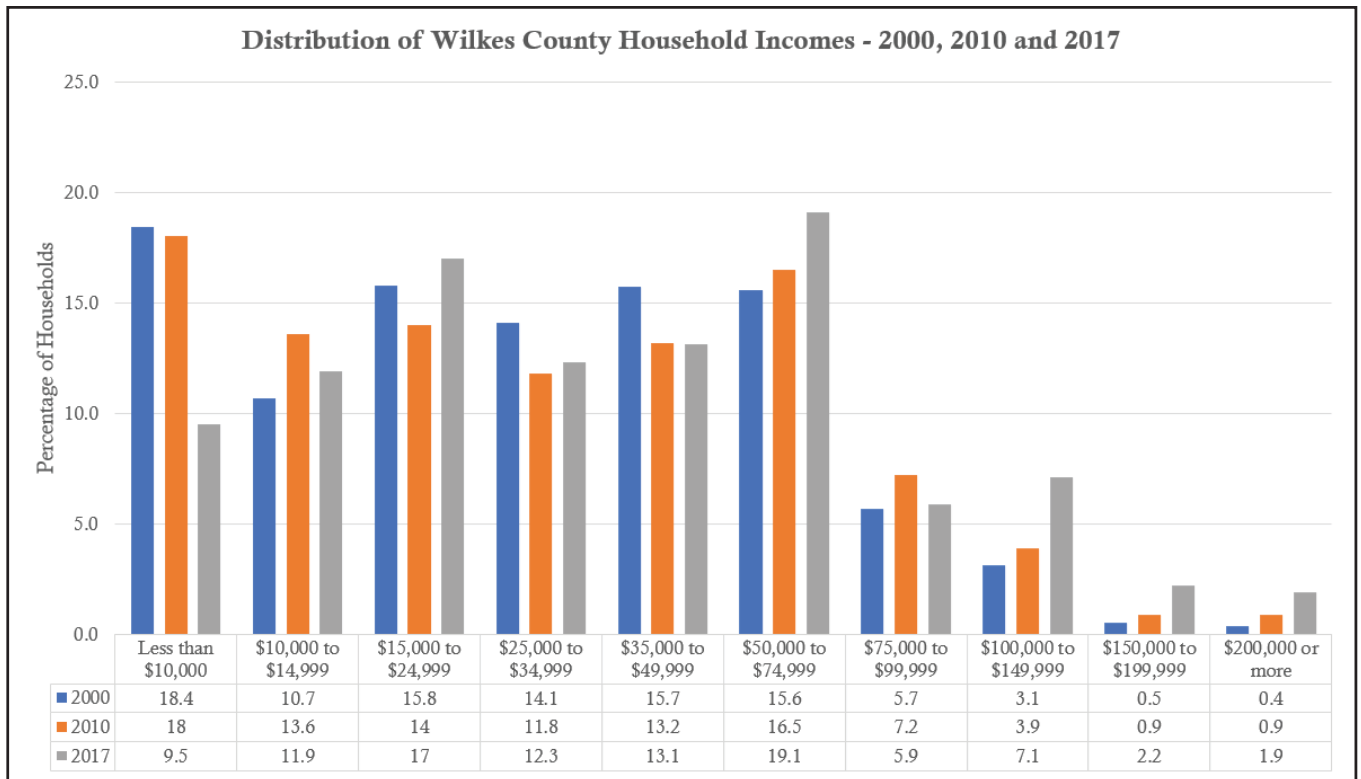
	2010	2014	2015	2016	2017	Trend
Age 18-24						
Less than a High School Diploma	20.7	26.6	35.1	34.7	37	
High School Diploma or Equivalency	45.1	46.8	35.6	40.8	38.4	
Some College or Associates	22.1	25.4	27.5	22.8	21.3	
Bachelors or Higher	12	1.2	1.8	1.7	3.3	
Age 25+						
Less than a High School Diploma	28.2	22.2	20.3	22.1	21.4	
High School Diploma or Equivalency	38.3	42.8	43.4	42	41.6	
Some College	13.8	16	16.7	17.9	17.1	
Associates Degree	4.2	3.8	3.9	4.3	5.7	
Bachelors or Higher	15.5	15.3	15.7	13.8	14.4	

Source: American FactFinder. Census 2010, American Community Survey 2014 - 2017

Household Incomes

Wilkes County household incomes have increased since 2010. The effect of the economic downturn is evident here, though. While some increase is due to rising wages, in other cases, it is likely associated with the departure of some residents in search of more hopeful economic circumstances.

There has been a sharp decline in the number of households earning less than \$10,000 annually since 2010. Similarly, the number of households earning \$10,000 to 14,999 has remained low. Alternatively, many higher income groups, those earning \$35,000 or more, have maintained their 2010 levels or grown in proportion.



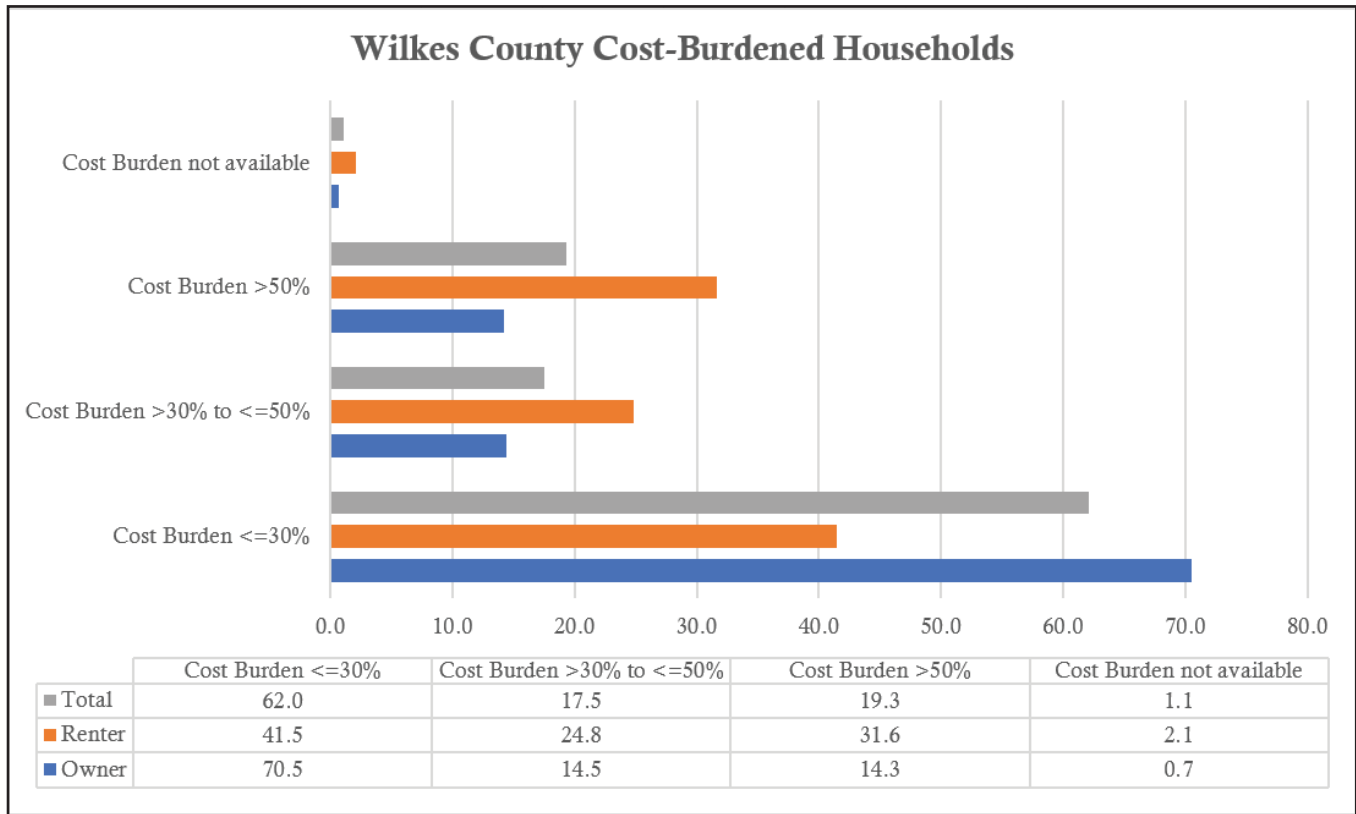
Source: American FactFinder. Census 2010, American Community Survey 2014 - 2017

Cost-burdened Households

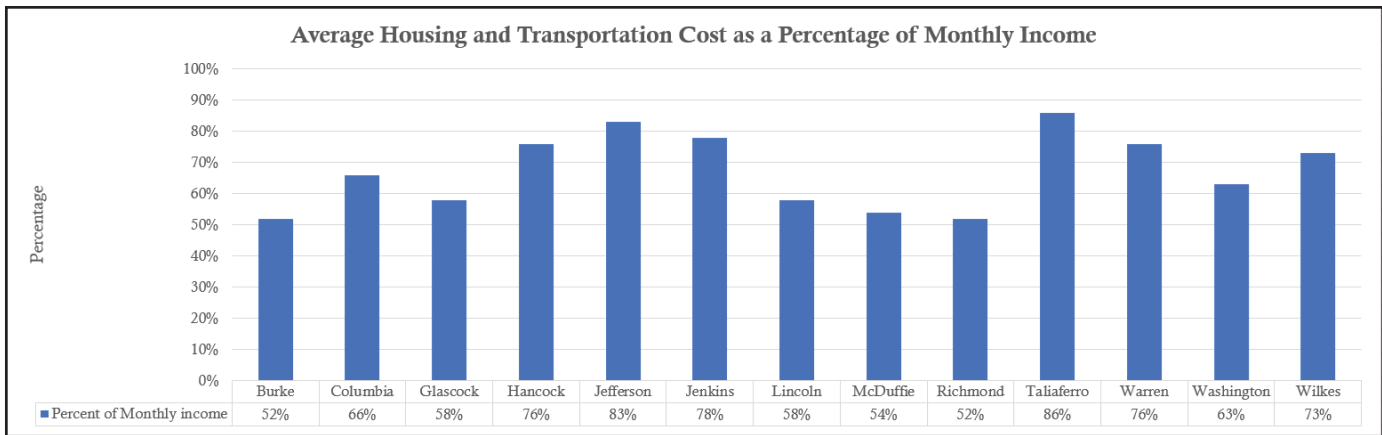
Despite rising incomes, some Wilkes County residents still find it difficult to make ends meet. According to HUD housing affordability data (CHAS), at least 17.5% of Wilkes County households spend more than 30% (but less than 50%) of their monthly income on housing costs. HUD defines this as being “housing cost burdened.” The proportion of renters struggling with this cost burden is higher than the proportion of home owners.

Additionally, 19.3% of households are considered to be severely cost burdened, spending in excess of 50% of monthly income on housing. Again, the share of renters is higher than the share of home owners in this 19%. These families or householders most certainly have difficulty affording necessities such as food, clothing, transportation or medical care.

Cost-Burdened Households



Source: American FactFinder, Census 2010, American Community Survey 2014 - 2017



Source: ACS 2015 and Center for Neighborhood Technology's Housing and Transportation and Affordability Index

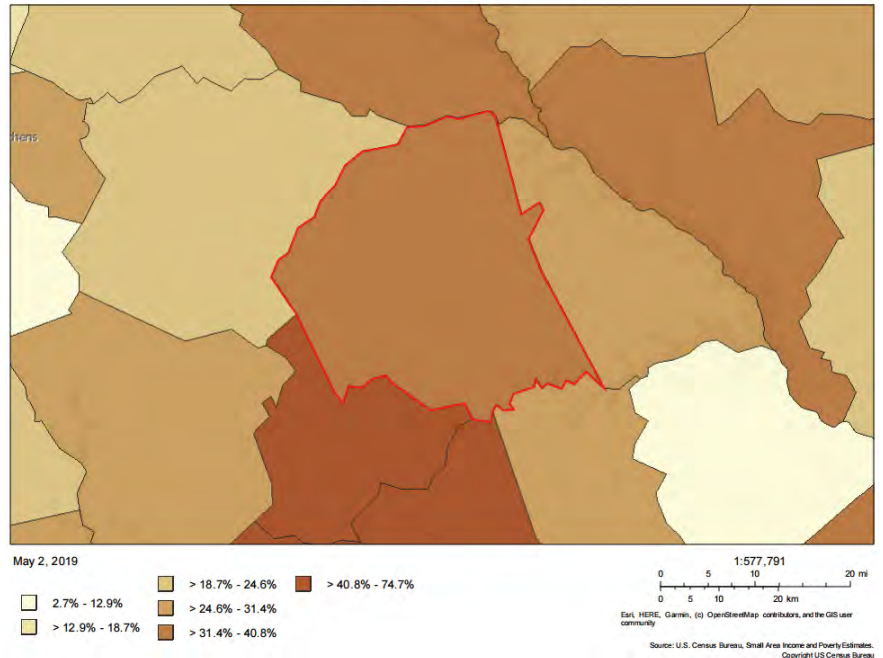
In a 2015 review of housing and transportation affordability, Wilkes County was found to have the 4th highest combined cost of housing and transportation in the CSRA. It was one of the 6 counties with a percentage in excess of 70. In 2015, Wilkes County residents spent an average of 73% of their monthly income on accommodation and transportation. Such a high proportion leaves little income for other necessities like food or clothing, and discretionary expenses like entertainment.

Cost-burdened Households

That many residents experience cost burden is further confirmed by metrics like the poverty rate and medical insurance coverage. According to 2017 Census Bureau Small Area Income and Poverty Estimates (SAIPE), 35% of Wilkes residents under the age of 18 live in a household with an income that is beneath the corresponding poverty threshold. Further, 21.4% of the Wilkes County population between the ages of 18 and 64 lacks medical insurance coverage.

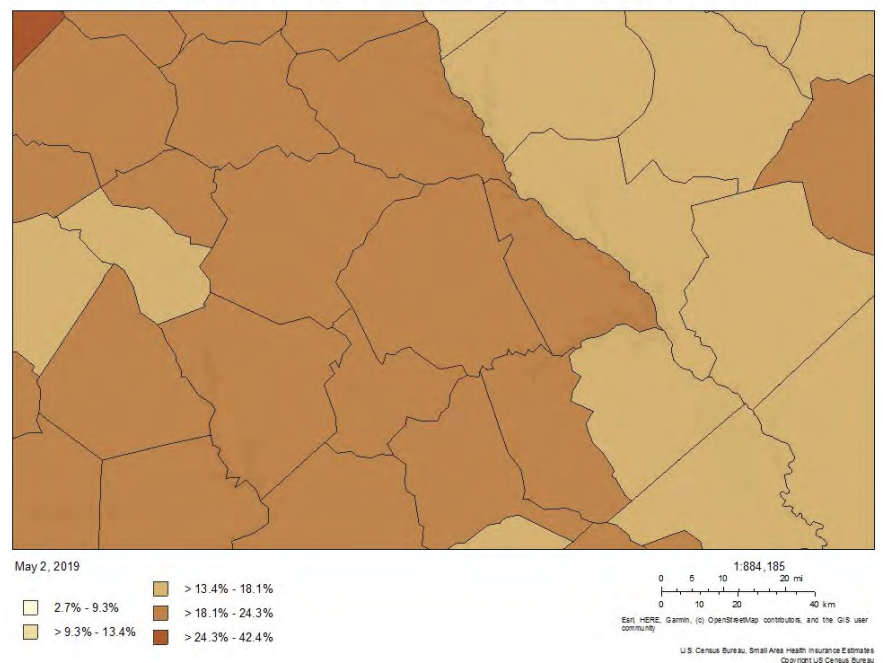
While local governments may not be best situated to alleviate all of the aforementioned issues, the comprehensive planning process is designed to offer municipalities an understanding of the needs and challenges faced by those living within their bounds. The Plan, as a fact-based resource, can situate local governments to effectively prioritize needs and identify measures through the coordinated efforts of government at all levels that will have the greatest impact on improving the lives of residents and stakeholders.

2017 Under Age 18 in Poverty



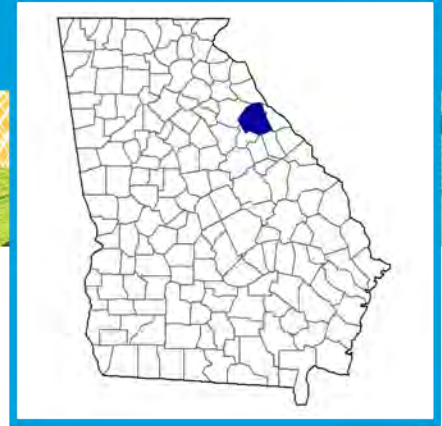
Source: U.S. Census Bureau, Small Area Insurance and Poverty Estimates

Uninsured (18 to 64 years | All Races | Both Sexes | All Incomes)



Source: U.S. Census Bureau, Small Area Health Insurance Estimates

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Wilkes County Georgia

Total and Per Farm Overview, 2017 and change since 2012

	2017	% change since 2012
Number of farms	277	-13
Land in farms (acres)	91,121	-3
Average size of farm (acres)	329	+11
Total (\$)		
Market value of products sold	154,825,000	+164
Government payments	536,000	-19
Farm-related income	1,243,000	-12
Total farm production expenses	91,472,000	+74
Net cash farm income	65,132,000	+683
Per farm average (\$)		
Market value of products sold	558,936	+202
Government payments (average per farm receiving)	7,345	+16
Farm-related income	12,184	-21
Total farm production expenses	330,224	+99
Net cash farm income	235,135	+796

2 Percent of state agriculture sales

Share of Sales by Type (%)

Crops	3
Livestock, poultry, and products	97

Land in Farms by Use (%) ^a

Cropland	21
Pastureland	18
Woodland	55
Other	7

Acres irrigated: 561

1% of land in farms

Land Use Practices (% of farms)

No till	4
Reduced till	2
Intensive till	3
Cover crop	5

Farms by Value of Sales

	Number	Percent of Total ^a
Less than \$2,500	94	34
\$2,500 to \$4,999	30	11
\$5,000 to \$9,999	22	8
\$10,000 to \$24,999	36	13
\$25,000 to \$49,999	27	10
\$50,000 to \$99,999	15	5
\$100,000 or more	53	19

Farms by Size

	Number	Percent of Total ^a
1 to 9 acres	13	5
10 to 49 acres	57	21
50 to 179 acres	116	42
180 to 499 acres	63	23
500 to 999 acres	14	5
1,000 + acres	14	5

Market Value of Agricultural Products Sold

	Sales (\$1,000)	Rank in State ^b	Counties Producing Item	Rank in U.S. ^b	Counties Producing Item
Total	154,825	17	159	735	3,077
Crops	5,406	85	159	2,333	3,073
Grains, oilseeds, dry beans, dry peas	(D)	(D)	148	(D)	2,916
Tobacco	-	-	25	-	323
Cotton and cottonseed	(D)	85	90	506	647
Vegetables, melons, potatoes, sweet potatoes	131	72	157	1,438	2,821
Fruits, tree nuts, berries	20	136	158	1,728	2,748
Nursery, greenhouse, floriculture, sod	(D)	26	138	(D)	2,601
Cultivated Christmas trees, short rotation woody crops	-	-	64	-	1,384
Other crops and hay	1,494	73	155	1,515	3,040
Livestock, poultry, and products	149,420	12	159	307	3,073
Poultry and eggs	140,804	12	158	88	3,007
Cattle and calves	4,035	32	158	1,809	3,055
Milk from cows	(D)	20	64	(D)	1,892
Hogs and pigs	(D)	8	129	(D)	2,856
Sheep, goats, wool, mohair, milk	37	53	153	1,921	2,984
Horses, ponies, mules, burros, donkeys	23	80	145	2,120	2,970
Aquaculture	(D)	46	54	(D)	1,251
Other animals and animal products	11	60	141	1,483	2,878

Total Producers ^c	464	Percent of farms that:	Top Crops in Acres ^d
Sex		Have internet access	Forage (hay/haylage), all 11,032
Male	305		Corn for silage or greenchop 367
Female	159		Sorghum for silage/greenchop (D)
Age		Farm organically	Nursery stock crops (D)
<35	22		Wheat for grain, all (D)
35 – 64	268		
65 and older	174		
Race		Sell directly to consumers	Livestock Inventory (Dec 31, 2017)
American Indian/Alaska Native	9		Broilers and other meat-type chickens 7,287,301
Asian	3		Cattle and calves 13,780
Black or African American	10		Goats 559
Native Hawaiian/Pacific Islander	-	Hire farm labor	Hogs and pigs (D)
White	441		Horses and ponies 189
More than one race	1		Layers (D)
Other characteristics		Are family farms	Pullets 58
Hispanic, Latino, Spanish origin	12		Sheep and lambs 376
With military service	82		Turkeys -
New and beginning farmers	134		

See 2017 Census of Agriculture, U.S. Summary and State Data, for complete footnotes, explanations, definitions, commodity descriptions, and methodology.

^a May not add to 100% due to rounding. ^b Among counties whose rank can be displayed. ^c Data collected for a maximum of four producers per farm.

^d Crop commodity names may be shortened; see full names at www.nass.usda.gov/go/cropnames.pdf. ^e Position below the line does not indicate rank. (D) Withheld to avoid disclosing data for individual operations. (NA) Not available. (Z) Less than half of the unit shown. (-) Represents zero.

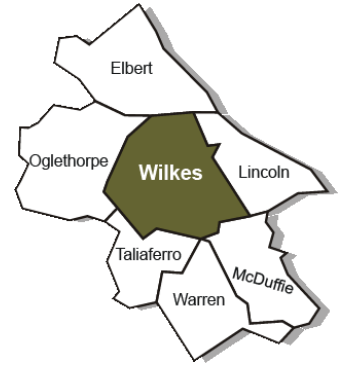


Georgia

Area Labor Profile

Wilkes

County



Updated: Jun 2023

Labor Force Activity

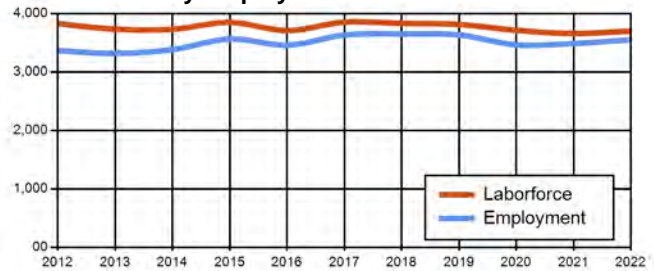
May 2023

	Labor Force	Employed	Unemployed	Rate
Wilkes	3,716	3,565	151	4.1%
Elbert	8,107	7,809	298	3.7%
Lincoln	3,540	3,398	142	4.0%
McDuffie	8,469	8,055	414	4.9%
Oglethorpe	7,072	6,854	218	3.1%
Taliaferro	543	520	23	4.2%
Warren	2,702	2,584	118	4.4%
Wilkes Area	34,149	32,785	1,364	4.9%
Georgia	5,299,480	5,117,724	181,756	3.4%
United States	166,702,000	161,002,000	5,700,000	3.4%

Note: This series reflects the latest information available. Labor Force includes residents of the county who are employed or actively seeking employment.

Source: Georgia Department of Labor; U.S. Bureau of Labor Statistics.

Wilkes County Employment Trends



Unemployment Rate Trends

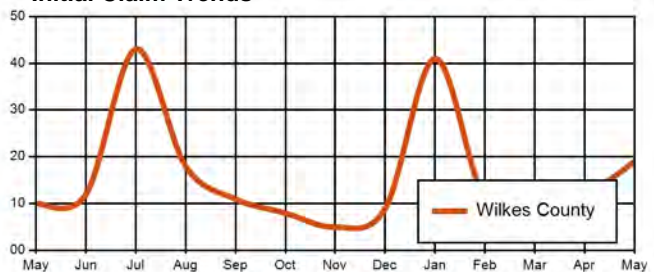


Initial Claims Activity

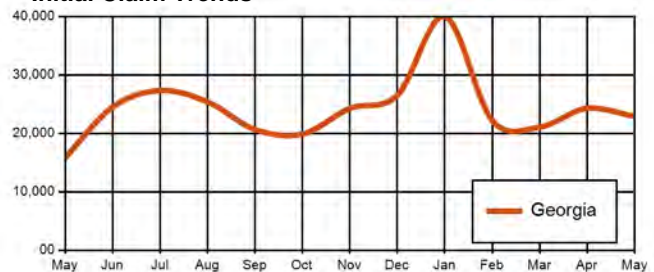
	May 2023	April 2023	March 2023	Total
Wilkes	19	12	11	42
Elbert	19	18	13	50
Lincoln	8	11	7	26
McDuffie	52	67	74	193
Oglethorpe	23	16	15	54
Taliaferro	0	4	0	4
Warren	29	16	20	65
Wilkes Area	150	144	140	434

Source: Georgia Department of Labor; U.S. Bureau of Labor Statistics.

Initial Claim Trends



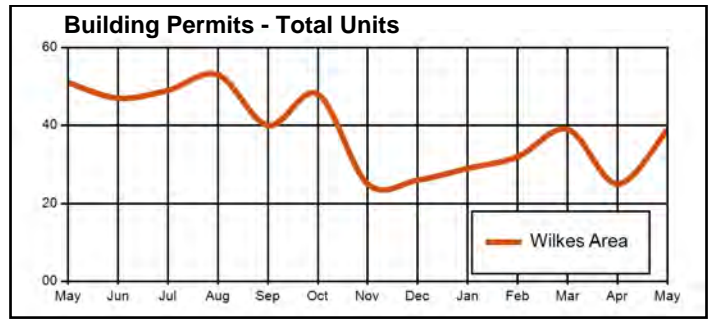
Initial Claim Trends



Building Permit Construction Activity

Wilkes Area				
	May 2023	April 2023	March 2023	Total
Totals	39	25	39	103
Family residential	34	20	28	82
Multi family resident	5	5	11	21

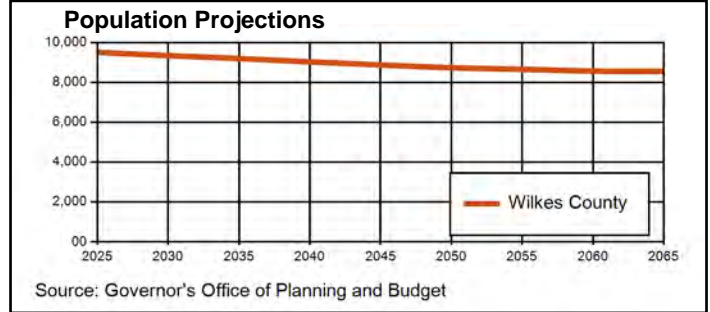
Source: U.S. Census Bureau.



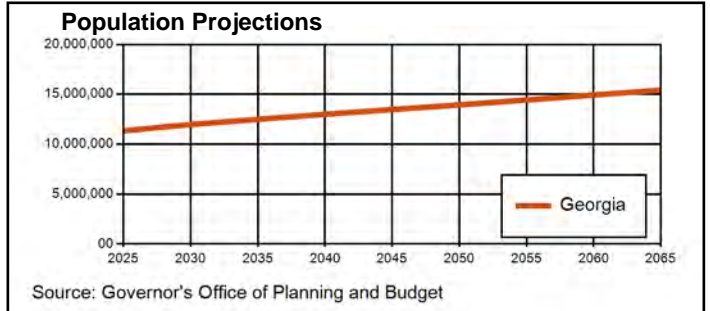
Population Activity

	Annual 2021	Annual 2020	Difference
Wilkes	9,513	9,694	-181
Elbert	19,579	19,335	244
Lincoln	7,749	8,031	-282
McDuffie	21,633	21,162	471
Oglethorpe	15,140	15,383	-243
Taliaferro	1,558	1,562	-4
Warren	5,240	5,232	8
Wilkes Area	80,412	80,399	13
Georgia	10,799,566	10,710,017	89,549
United States	331,893,745	329,484,123	2,409,622

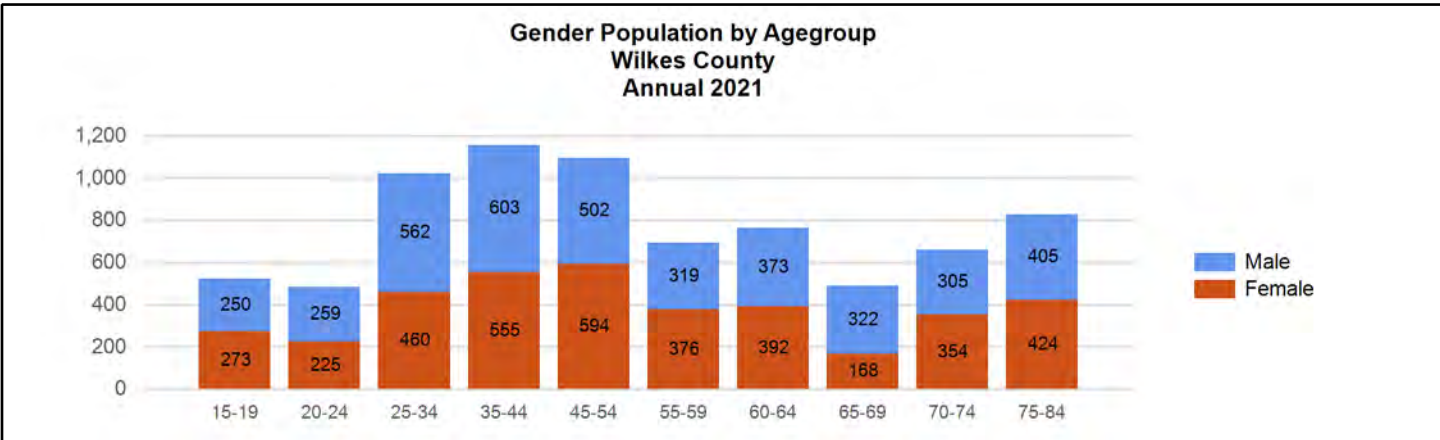
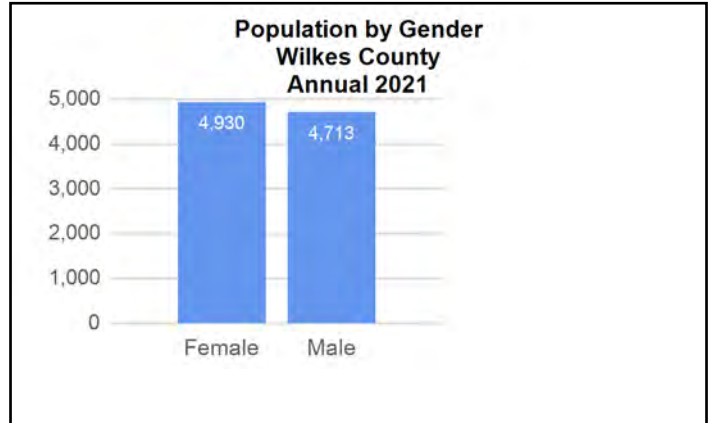
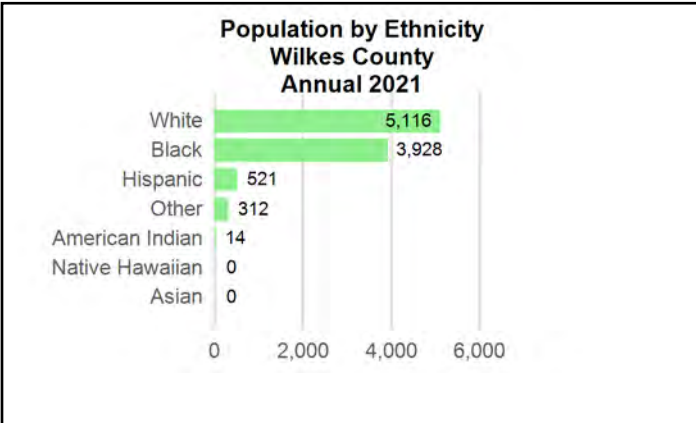
Source: Georgia Department of Labor; U.S. Census Bureau.



Source: Governor's Office of Planning and Budget



Source: Governor's Office of Planning and Budget



Industry Mix - Annual averages of 2022

INDUSTRY	Wilkes				Wilkes Area			
	NUMBER OF FIRMS	EMPLOYMENT NUMBER	PERCENT	WEEKLY WAGE	NUMBER OF FIRMS	EMPLOYMENT NUMBER	PERCENT	WEEKLY WAGE
Goods-Producing	48	763	28.6	1,198	431	7,050	34.4	1,006
Agriculture, Forestry, Fishing and Hunting	14	88	3.3	1,001	63	647	3.2	931
Mining, Quarrying, and Oil and Gas Extraction	2	*	*	*	31	391	1.9	1,351
Construction	17	324	12.2	1,351	178	1,404	6.8	1,040
Manufacturing	15	337	12.6	1,117	159	4,608	22.5	978
Food	1	*	*	*	5	*	*	*
Textile Product Mills	1	*	*	*	3	94	0.5	855
Wood Product	5	158	5.9	965	19	655	3.2	1,215
Paper	1	*	*	*	3	*	*	*
Printing and Related Support Activities	1	*	*	*	4	44	0.2	835
Chemical	1	*	*	*	3	*	*	*
Plastics and Rubber Products	2	*	*	*	5	444	2.2	1,126
Fabricated Metal Product	3	5	0.2	1,222	26	230	1.1	766
Computer and Electronic Product	0	0	0.0	0	1	*	*	*
Primary Metal	0	0	0.0	0	1	*	*	*
Apparel	0	0	0.0	0	2	*	*	*
Beverage and Tobacco Product	0	0	0.0	0	2	*	*	*
Electrical Equipment, Appliance, and Component	0	0	0.0	0	2	*	*	*
Furniture and Related Product	0	0	0.0	0	2	*	*	*
Textile Mills	0	0	0.0	0	4	*	*	*
Miscellaneous	0	0	0.0	0	4	10	0.0	1,270
Machinery	0	0	0.0	0	7	59	0.3	1,182
Transportation Equipment	0	0	0.0	0	7	601	2.9	904
Nonmetallic Mineral Product	0	0	0.0	0	59	976	4.8	903
Service-Providing	159	1,142	42.9	697	1,360	8,752	42.7	703
Utilities	1	*	*	*	5	71	0.3	1,649
Wholesale Trade	9	80	3.0	1,226	97	890	4.3	1,102
Retail Trade	47	326	12.2	542	284	2,343	11.4	569
Transportation and Warehousing	8	40	1.5	861	70	392	1.9	1,002
Information	2	*	*	*	14	68	0.3	1,343
Finance and Insurance	13	96	3.6	1,074	86	482	2.3	1,194
Real Estate and Rental and Leasing	6	25	0.9	470	42	105	0.5	744
Professional, Scientific, and Technical Services	12	40	1.5	972	109	337	1.6	852
Management of Companies and Enterprises	1	*	*	*	5	33	0.2	729
Administrative and Support and Waste Management and Remediation Services	8	53	2.0	763	78	499	2.4	630
Educational Services	0	0	0.0	0	3	86	0.4	592
Health Care and Social Assistance	22	219	8.2	459	154	1,630	7.9	711
Arts, Entertainment, and Recreation	1	*	*	*	19	82	0.4	651
Accommodation and Food Services	19	137	5.1	336	125	1,317	6.4	319
Other Services (except Public Administration)	10	43	1.6	512	98	347	1.7	647
Unclassified - industry not assigned	21	5	0.2	877	171	70	0.3	820
Total - Private Sector	228	1,910	71.7	898	1,791	15,802	77.0	838
Total - Government	32	755	28.3	759	169	4,721	23.0	782
Federal Government	6	28	1.1	1,110	35	233	1.1	1,406
State Government	11	56	2.1	646	62	386	1.9	818
Local Government	15	671	25.2	754	72	4,102	20.0	743
ALL INDUSTRIES	260	2,665	100.0	859	1,960	20,518	100.0	826
ALL INDUSTRIES - Georgia					422,306	4,705,469		1,265

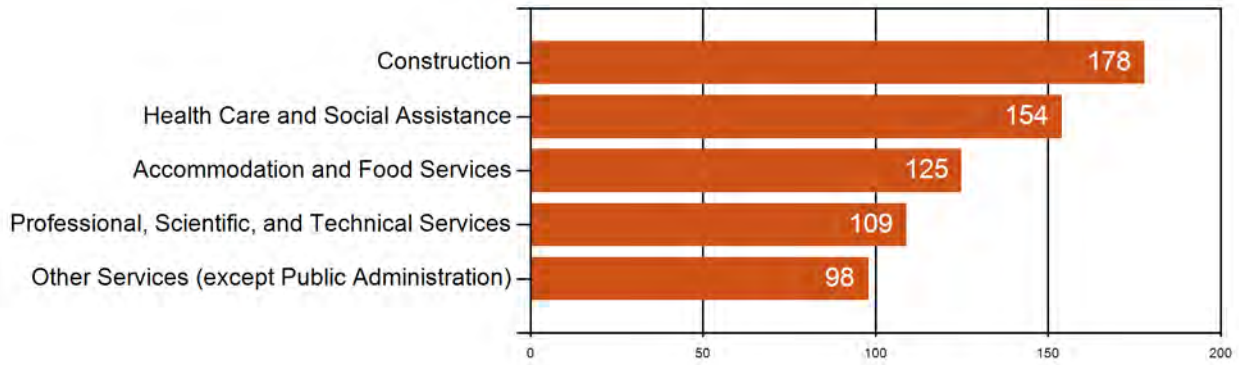
Note: *Denotes confidential data relating to individual employers and cannot be released. These data use the North American Industrial Classification System (NAICS) categories. Average weekly wage is derived by dividing gross payroll dollars paid to all employees - both hourly and salaried - by the average number of employees who had earnings; average earnings are then divided by the number of weeks in a reporting period to obtain weekly figures. Figures in other columns may not sum accurately due to rounding. All figures are annual averages of 2022.

Source: Georgia Department of Labor. These data represent jobs that are covered by unemployment insurance laws.

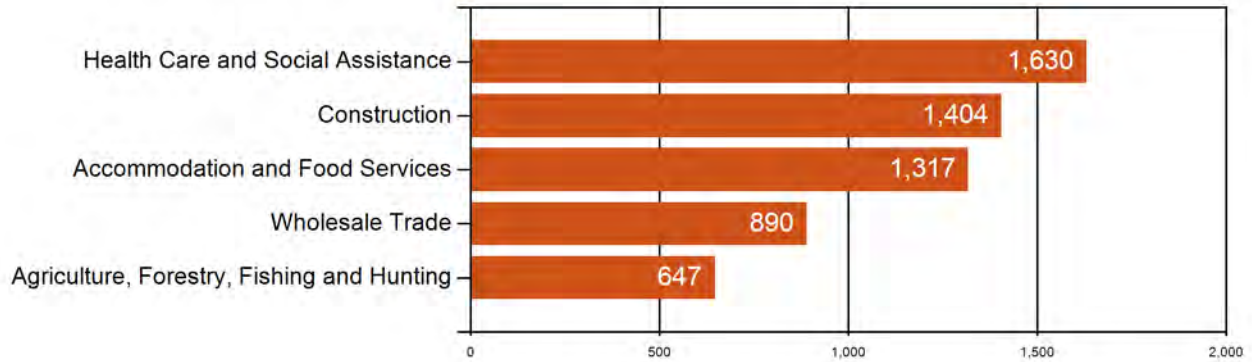
Top Industries - Annual 2022

Wilkes Area

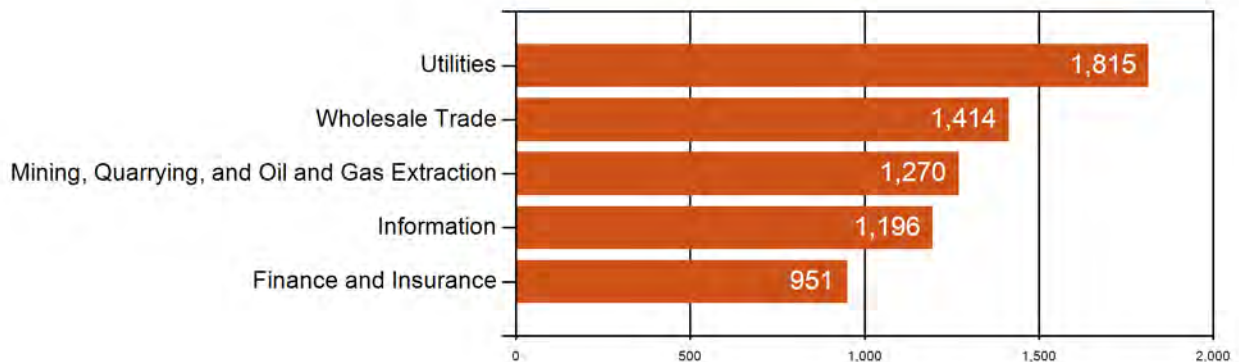
Top Industries by Firms



Top Industries by Employment



Top Industries by Weekly Wages



Source: Georgia Department of Labor. These data represent jobs that are covered by unemployment insurance laws.

Technical College Certificate Graduates - 2022

PROGRAMS	TOTAL GRADUATES			PERCENT CHANGE	
	2020	2021	2022	2020-2021	2021-2022
Welding Technology/Welder	312	436	376	39.7	-13.8
Automobile/Automotive Mechanics Technology/Technician	241	201	212	-16.6	5.5
Electrician	112	269	170	140.2	-36.8
Cosmetology/Cosmetologist, General	116	130	167	12.1	28.5
Truck and Bus Driver/Commercial Vehicle Operator and Instructor	158	156	153	-1.3	-1.9
Accounting Technology/Technician and Bookkeeping	102	146	130	43.1	-11.0
Child Care Provider/Assistant	195	147	129	-24.6	-12.2
Computer Installation and Repair Technology/Technician	98	213	126	117.3	-40.8
Computer and Information Systems Security/Information Assurance	83	146	103	75.9	-29.5
Nursing Assistant/Aide and Patient Care Assistant/Aide	98	121	85	23.5	-29.8

Source: Technical College System of Georgia

Note: Please visit TCSG website for any college configuration changes.

Technical College Diploma Graduates - 2022

PROGRAMS	TOTAL GRADUATES			PERCENT CHANGE	
	2020	2021	2022	2020-2021	2021-2022
Welding Technology/Welder	67	67	81	0.0	20.9
Cosmetology/Cosmetologist, General	72	80	80	11.1	0.0
Licensed Practical/Vocational Nurse Training	80	57	69	-28.8	21.1
Medical/Clinical Assistant	81	77	47	-4.9	-39.0
Early Childhood Education and Teaching	40	67	46	67.5	-31.3
Electrician	21	50	40	138.1	-20.0
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/	35	27	30	-22.9	11.1
Automobile/Automotive Mechanics Technology/Technician	66	56	29	-15.2	-48.2
Business Administration and Management, General	41	36	23	-12.2	-36.1
Criminal Justice/Safety Studies	21	25	21	19.0	-16.0

Source: Technical College System of Georgia

Note: Please visit TCSG website for any college configuration changes.

Technical College Degree Graduates - 2022

PROGRAMS	TOTAL GRADUATES			PERCENT CHANGE	
	2020	2021	2022	2020-2021	2021-2022
Registered Nursing/Registered Nurse	77	78	51	1.3	-34.6
Business Administration and Management, General	70	59	47	-15.7	-20.3
Early Childhood Education and Teaching	55	59	46	7.3	-22.0
Accounting Technology/Technician and Bookkeeping	44	44	37	0.0	-15.9
Criminal Justice/Safety Studies	27	28	33	3.7	17.9
Radiologic Technology/Science - Radiographer	33	37	30	12.1	-18.9
Network and System Administration/Administrator	30	32	26	6.7	-18.8
Data Processing and Data Processing Technology/Technician	29	27	20	-6.9	-25.9
Electrician	11	18	16	63.6	-11.1
Administrative Assistant and Secretarial Science, General	18	21	15	16.7	-28.6

Source: Technical College System of Georgia

Note: Please visit TCSG website for any college configuration changes.

Top Ten Largest Employers - 2022*

Wilkes

Anderson & Son, Inc.
 Anthony Forest Products Co
 Barnett Contracting, Inc.
 Barnett Southern Corporation
 Burt Lumber Co, Inc.
 CSRA Private Duty, Inc.
 F&M Bank
 Ingles Markets, Inc.
 Pliant Corporation
 Rekord Tent, LLC

Wilkes Area

	<u>COUNTY</u>
Barnett Southern Corporation	Wilkes
Family Care, Inc.	McDuffie
Georgia-Pacific Wood Products, LLC	Warren
H P Pelzer (Automotive Systems), Inc.	McDuffie
Mollertech South, LLC	Elbert
Pilgrim's Pride Corporation	Elbert
Shaw Industries Group, Inc.	McDuffie
Superior Staffing, LLC	McDuffie
The York Group	Elbert
Walmart	McDuffie

*Note: Represents employment covered by unemployment insurance excluding all government agencies except correctional institutions, state and local hospitals, state colleges and universities. Data shown for the Fourth Quarter of 2022. Employers are listed alphabetically by area, not by the number of employees.

Source: Georgia Department of Labor

Education of the Labor Force

Wilkes Area

PERCENT DISTRIBUTION BY AGE

	PERCENT					
	OF TOTAL	18-24	25-34	35-44	45-64	65+
Elementary	4.6%	2.0%	3.6%	2.3%	3.3%	9.2%
Some High School	14.1%	20.0%	15.9%	14.1%	11.8%	14.0%
High School Grad/GED	40.8%	43.2%	39.7%	40.1%	41.7%	39.9%
Some College	20.1%	23.4%	22.6%	21.2%	19.0%	18.2%
College Grad 2 Yr	6.7%	6.7%	6.6%	5.9%	8.6%	4.5%
College Grad 4 Yr	8.6%	3.8%	7.0%	10.1%	10.5%	7.7%
Post Graduate Studies	5.2%	1.0%	4.7%	6.2%	5.2%	6.5%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: Totals are based on the portion of the labor force between ages 18 - 65+. Some College category represents workers with some

Source: U.S. Census Bureau - 2021: ACS 5-Year Estimates.

Georgia Department of Labor Location(s)

Career Center(s)

674 Washington Road
 PO Box 489
 Thomson, GA 30824

Phone: (706) 595 - 3665 Fax: (706) 595 - 7209

For copies of Area Labor Profiles, please visit our website at: <http://dol.georgia.gov> or contact Workforce Statistics Division, Georgia Department of Labor, 148 Andrew Young International Blvd N.E. Atlanta, GA. 30303-1751. Phone: 404-232-3875; Fax: 404-232-3888 or Email us at workforce_info@gdol.ga.gov

BRUCE THOMPSON - COMMISSIONER, GEORGIA DEPARTMENT OF LABOR
Equal Opportunity Employer/Program
Auxillary Aids and Services Available upon Request to Individuals with Disabilities

Workforce Statistics Division; E-mail: Workforce_Info@gdol.ga.gov Phone: (404) 232-3875

Georgia Department of Transportation
Office Of Transportation Data
Mileage by Route and Road System Report 445
for 2019

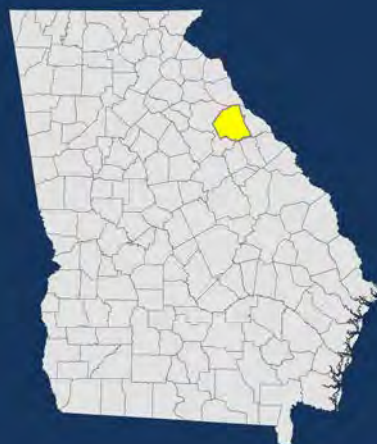
County: WILKES

Road System Type	State Route			County Road			City Streets			Totals		
	Mileage	Lane Mileage	VMT	Mileage	Lane Mileage	VMT	Mileage	Lane Mileage	VMT	Mileage	Lane Mileage	VMT
Rural Interstate	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Rural Principal Arterial	44.402	101	166,474	0.000	0	0	0.000	0	0	44.402	101	166,474
Rural Minor Arterial	30.593	67	78,309	0.000	0	0	0.000	0	0	30.593	67	78,309
Rural Major Collector	28.678	57	22,566	78.931	158	31,661	2.139	4	5,677	109.748	219	59,904
Rural Minor Collector	0.000	0	0	87.623	175	24,863	0.000	0	0	87.623	175	24,863
Rural Local	0.000	0	0	250.665	501	44,499	42.123	84	14,030	292.788	585	58,529
Rural Totals	103.673	225	267,349	417.219	834	101,022	44.262	88	19,707	565.154	1,147	388,079
Small Urban Interstate	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Small Urban Freeway	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Small Urban Principal Arterial	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Small Urban Minor Arterial	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Small Urban Collector	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Small Urban Local	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Small Totals	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Urbanized Interstate	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Urbanized Freeway	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Urbanized Principal Arterial	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Urbanized Minor Arterial	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Urbanized Collector	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Urbanized Local	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
Urbanized Totals	0.000	0	0	0.000	0	0	0.000	0	0	0.000	0	0
County Totals	103.673	225	267,349	417.219	834	101,022	44.262	88	19,707	565.154	1,147	388,079

NOTE:
Road Types include: State Routes, County Roads, and City Streets from the Roads and Highways Database.
Only Sections that are "open to traffic" are used to calculate this report.
Excludes Projected Routes (Unbuilt Roads), Ramps, Private Roads and other exclusions may apply.
Asterisk (*) denoted Consolidated Governments County/City)

APPENDIX C

OTHER PLANNING DOCUMENTS



Hazard Risk Analyses Supplement to the Wilkes County Joint Hazard Mitigation Plan



Carl Vinson
Institute of Government
UNIVERSITY OF GEORGIA

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Introduction

The Federal Disaster Mitigation Act of 2000 (DMA2K) requires state, local, and tribal governments to develop and maintain a mitigation plan to be eligible for certain federal disaster assistance and hazard mitigation funding programs.

Mitigation seeks to reduce a hazard’s impacts, which may include loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation must be based on a sound risk assessment that quantifies the potential losses of a disaster by assessing the vulnerability of buildings, infrastructure, and people.

In recognition of the importance of planning in mitigation activities, FEMA Hazus-MH, a powerful disaster risk assessment tool based on geographic information systems (GIS). This tool enables communities of all sizes to predict estimated losses from floods, hurricanes, earthquakes, and other related phenomena and to measure the impact of various mitigation practices that might help reduce those losses.

In 2023, the Georgia Department of Emergency Management partnered with the Carl Vinson Institute of Government at the University of Georgia to develop a detailed risk assessment focused on defining hurricane, riverine flood, and tornado risks in Wilkes County, Georgia. This assessment identifies the characteristics and potential consequences of the disaster, how much of the community could be affected by the disaster, and the impact on community assets.

Risk Assessment Process Overview

Hazus-MH Version 2.2 SP1 was used to perform the analyses for Wilkes County. The Hazus-MH application includes default data for every county in the US. This Hazus-MH data was derived from a variety of national sources and in some cases the data are also several years old. Whenever possible, using local provided data is preferred. Wilkes County provided building inventory information from the county’s property tax assessment system. This section describes the changes made to the default Hazus-MH inventory and the modeling parameters used for each scenario.

County Inventory Changes

The default Hazus-MH site-specific point inventory was updated using data compiled from the Georgia Emergency Management Agency (GEMA). The default Hazus-MH aggregate inventory (General Building Stock) was also updated prior to running the scenarios. Reported losses reflect the updated data sets.

General Building Stock Updates

General Building Stock (GBS) is an inventory category that consists of aggregated data (grouped by census geography — tract or block). Hazus-MH generates a combination of site-specific and aggregated loss estimates based on the given analysis and user input.

The GBS records for Wilkes County were replaced with data derived from parcel and property assessment data obtained from Wilkes County. The county provided property assessment data was current as of July 2023 and the parcel data current as of July 2023. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary; then, each parcel point was linked to an assessor record based upon matching parcel numbers. The parcel assessor match-rate for Wilkes County is 99.9%. The

generated building inventory represents the approximate locations (within a parcel) of structures. The building inventory was aggregated by census block. Both the tract and block tables were updated. Table 1 shows the results of the changes to the GBS tables by occupancy class.

Table 1: GBS Building Exposure Updates by Occupancy Class*

General Occupancy	Default Hazus-MH Count	Updated Count	Default Hazus-MH Exposure	Updated Exposure
Agricultural	15	14	\$7,834,000	\$618,000
Commercial	304	330	\$214,503,000	\$44,834,000
Education	32	32	\$106,003,000	\$50,036,000
Government	43	45	\$25,709,000	\$10,455,000
Industrial	126	118	\$221,575,000	\$30,041,000
Religious	102	102	\$58,675,000	\$10,875,000
Residential	5,321	5,330	\$702,226,000	\$600,124,000
Total	5,943	5,971	\$1,336,525,000	\$746,983,000

*The exposure values represent the total number and replacement cost for all Wilkes County Buildings

For Wilkes County, the updated GBS was used to calculate hurricane wind losses. The flood losses and tornado losses were calculated from building inventory modeled in Hazus-MH as User-Defined Facility

(UDF)¹, or site-specific points. Figure 1 shows the distribution of buildings as points based on the county provided data.

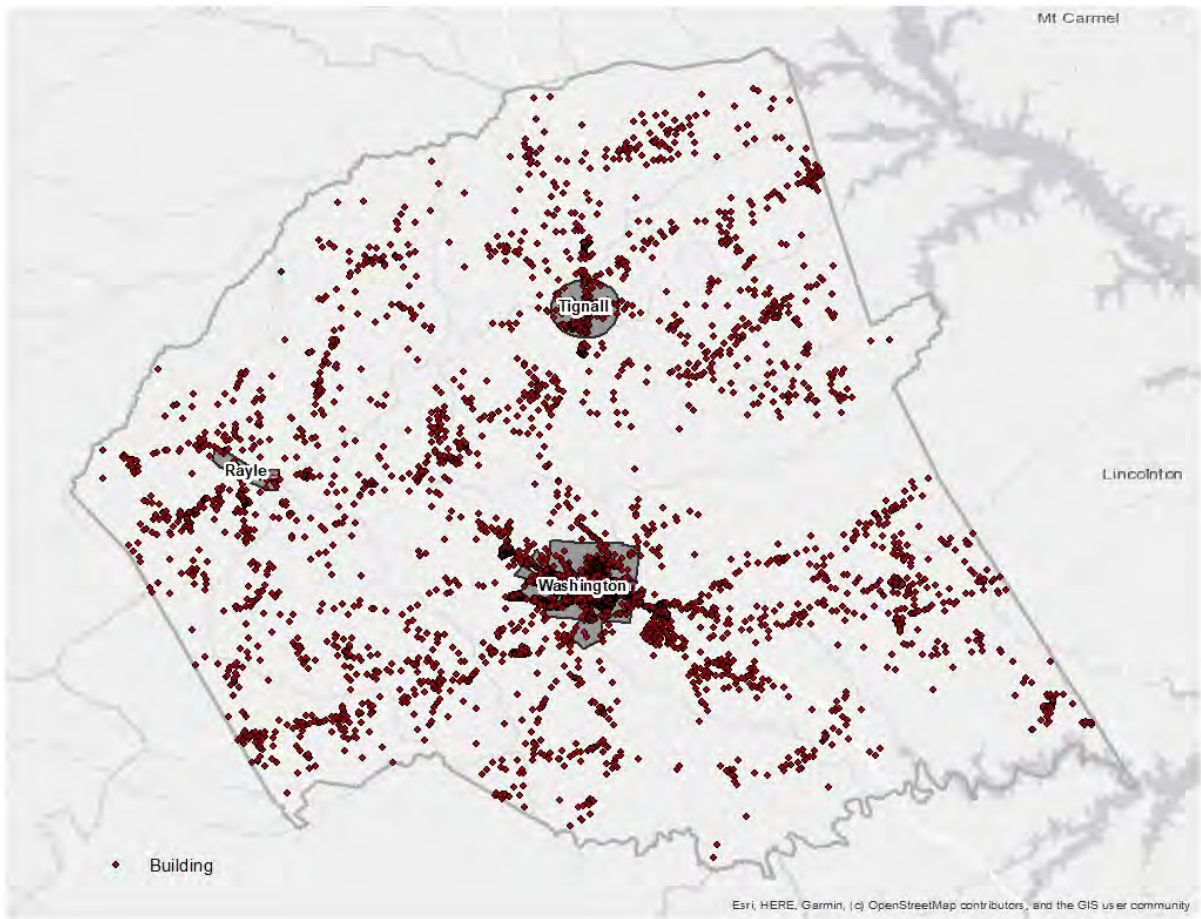


Figure 1: Wilkes County Overview

Essential Facility Updates

The default Hazus-MH essential facility data was updated to reflect improved information available in the Georgia Mitigation Information System (GMIS) as of July 2023. For these risk analyses, only GMIS data for buildings that Hazus-MH classified as Essential Facilities was integrated into Hazus-MH because the application provides specialized reports for these five facilities. Essential Facility inventory was updated for the analysis conducted for this report. The following table summarizes the counts and exposures, where available, by Essential Facility classification of the updated data.

Essential facilities include:

- Care facilities
- EOCs
- Fire stations
- Police stations
- Schools

¹ The UDF inventory category in Hazus-MH allows the user to enter site-specific data in place of GBS data.

Table 2: Updated Essential Facilities

Classification	Updated Count	Updated Exposure
Rayle		
EOC	0	\$0
Care	0	\$0
Fire	1	\$147,000
Police	0	\$0
School	0	\$0
Total	1	\$147,000
Tignall		
EOC	0	\$0
Care	0	\$0
Fire	1	\$149,000
Police	0	\$0
School	0	\$0
Total	1	\$149,000
Washington		
EOC	1	\$105,000
Care	3	\$32,697,000
Fire	2	\$1,212,000
Police	2	\$3,435,000
School	1	\$8,661,000
Total	9	\$46,110,000
Unincorporated Areas of Wilkes County		
EOC	0	\$0
Care	0	\$0
Fire	5	\$580,000
Police	0	\$0
School	3	\$40,453,000
Total	8	\$41,033,000

Assumptions and Exceptions

Hazus-MH loss estimates may be impacted by certain assumptions and process variances made in this risk assessment.

- The Wilkes County analysis used Hazus-MH Version 2.2 SP1, which was released by FEMA in May 2015.
- County provided parcel and property assessment data may not fully reflect all buildings in the county. For example, some counties do not report not-for-profit buildings such as government buildings, schools and churches in their property assessment data. This data was used to update the General Building Stock as well as the User Defined Facilities applied in this risk assessment.
- Georgia statute requires that the Assessor's Office assign a code to all of the buildings on a parcel based on the buildings primary use. If there is a residential or a commercial structure on a parcel and there are also agricultural buildings on the same parcel Hazus-MH looks at the residential and commercial "primary" structures first and then combines the value of all secondary structures on that parcel with the value of the primary structure. The values and building counts are still accurate but secondary structures are accounted for under the same classification as the primary structure. Because of this workflow, the only time that a parcel would show a value for an agricultural building is when there are no residential or commercial structures on the parcel thus making the agricultural building the primary structure. This is the reason that agricultural building counts and total values seem low or are nonexistent.
- GBS updates from assessor data will skew loss calculations. The following attributes were defaulted or calculated:
 - Foundation Type was set from Occupancy Class
 - First Floor Height was set from Foundation Type
 - Content Cost was calculated from Replacement Cost
- It is assumed that the buildings are located at the centroid of the parcel.
- The essential facilities extracted from the GMIS were only used in the portion of the analysis designated as essential facility damage. They were not used in the update of the General Building Stock or the User Defined Facility inventory.

The hazard models included in this risk assessment included:

- Hurricane assessment which was comprised of a wind only damage assessment.
- Flood assessment based on the 1% annual chance event that includes riverine assessments.
- Tornado assessment based on GIS modeling.

Hurricane Risk Assessment

Hazard Definition

The National Hurricane Center describes a hurricane as a tropical cyclone in which the maximum sustained wind is, at minimum, 74 miles per hour (mph)². The term hurricane is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term typhoon is used for Pacific tropical cyclones north of the Equator west of the International Dateline. Hurricanes in the Atlantic Ocean, Gulf of Mexico, and Caribbean form between June and November with the peak of hurricane season occurring in the middle of September. Hurricane intensities are measured using the Saffir-Simpson Hurricane Wind Scale (Table 3). This scale is a 1 to 5 categorization based on the hurricane's intensity at the indicated time.

Hurricanes bring a complex set of impacts. The winds from a hurricane produce a rise in the water level at landfall called storm surge. Storm surges produce coastal flooding effects that can be as damaging as the hurricane's winds. Hurricanes bring very intense inland riverine flooding. Hurricanes can also produce tornadoes that can add to the wind damages inland. In this risk assessment, only hurricane winds, and coastal storm surge are considered.

Table 3: Saffir-Simpson Hurricane Wind Scale

Category	Wind Speed (mph)	Damage
1	74 - 95	Very dangerous winds will produce some damage
2	96 - 110	Extremely dangerous winds will cause extensive damage
3	111 - 130	Devastating damage will occur
4	131 - 155	Catastrophic damage will occur
5	> 155	Catastrophic damage will occur

The National Oceanic and Atmospheric Administration's National Hurricane Center created the HURDAT database, which contains all of the tracks of tropical systems since the mid-1800s. This database was used to document the number of tropical systems that have affected Wilkes County by creating a 20-mile buffer around the county to include storms that didn't make direct landfall in Wilkes County but impacted the county. Note that the storms listed contain the peak sustained winds, maximum pressure and maximum attained storm strength for the entire storm duration. Since 1859, Wilkes County has had 21 tropical systems within 20 miles of its county borders (Table 4).

Table 4: Tropical Systems affecting Wilkes County³

YEAR	DATE RANGE	NAME	MAX WIND(Knots)	MAX PRESSURE	MAX CAT
1859	September 15-18	UNNAMED	81	0	H1

² National Hurricane Center (2011). "Glossary of NHC Terms." National Oceanic and Atmospheric Administration. <http://www.nhc.noaa.gov/aboutgloss.shtml#h>. Retrieved 2012-23-02.

³ Atlantic Oceanic and Meteorological Laboratory (2012). "Data Center." National Oceanic and Atmospheric Administration. http://www.aoml.noaa.gov/hrd/data_sub/re_anal.html. Retrieved 7-20-2015.

YEAR	DATE RANGE	NAME	MAX WIND(Knots)	MAX PRESSURE	MAX CAT
1882	September 02-13	UNNAMED	127	1000	H3
1886	June 17-24	UNNAMED	98	0	H2
1889	September 12-26	UNNAMED	109	0	H2
1893	September 27 - October 05	UNNAMED	132	948	H4
1896	July 04-12	UNNAMED	98	0	H2
1901	September 21 - October 02	UNNAMED	52	0	TS
1903	September 09-16	UNNAMED	92	988	H1
1912	June 07-17	UNNAMED	69	0	TS
1928	August 03-13	UNNAMED	104	977	H2
1933	August 31 - September 07	UNNAMED	138	948	H4
1947	October 05-09	UNNAMED	58	0	TS
1949	August 23 - September 01	UNNAMED	132	1002	H4
1959	May 28 - June 02	ARLENE	63	1002	TS
1965	June 13-20	UNNAMED	58	1007	TS
1968	June 01-13	ABBY	75	1005	H1
1990	October 09-13	MARCO	63	1007	TS
1995	August 22-28	JERRY	40	1010	TS
2004	September 13-29	JEANNE	121	1010	H3
2018	October 06-15	MICHAEL	161	1006	H5
2020	September 11-18	SALLY	109	1007	H2

Category Definitions:

TS – Tropical storm

TD – Tropical depression

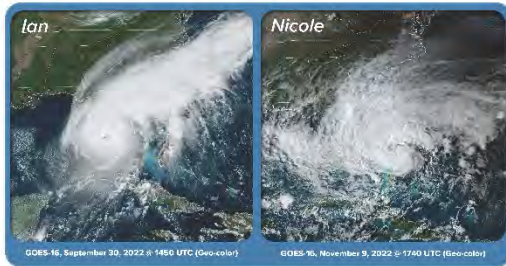
H1 – Category 1 (same format for H2, H3, and H4)

E – Extra-tropical cyclone

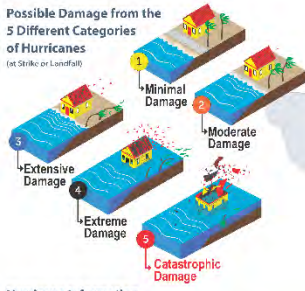
Continental United States Hurricane Strikes 1950–2022*

The GOES-16 enhanced imagery shows 2022 Hurricanes Nicole and Ian in detail.

2022 North Atlantic Hurricane activity was near the 1991-2020 average, with two hurricanes making landfall in the United States. On September 28, Hurricane Ian made landfall near Cayo Costa in southwestern Florida as a dangerous, high-end Category-4 storm after plowing a path of destruction through the Caribbean. After crossing over the Florida peninsula, where it had weakened to a tropical storm, it strengthened again over the water to a Category-1 hurricane and made a second landfall near Georgetown, South Carolina on September 30. Ian was the third costliest U.S. hurricane on record behind Katrina and Harvey. Nicole became a hurricane on November 9 as it crossed Grand Bahama Island. Landfall in Florida occurred as a Category-1 hurricane at Vero Beach early on November 10. Nicole was the first hurricane to make landfall during November since Kate in 1985.



Possible Damage from the 5 Different Categories of Hurricanes (at Strike or Landfall)



Hurricane Information

Due to coverage density of storms, actual strike locations are approximate.
 *Strikes include hurricanes that did not make direct landfall but did produce hurricane force winds over land.
 There were no hurricane strikes in the continental United States for the years 1951, 1962, 1963, 1973, 1978, 1981, 1982, 1990, 1994, 2006, 2001, 2006, 2009, 2010, 2013, and 2015. map-source: NOAA/NFS/DMS

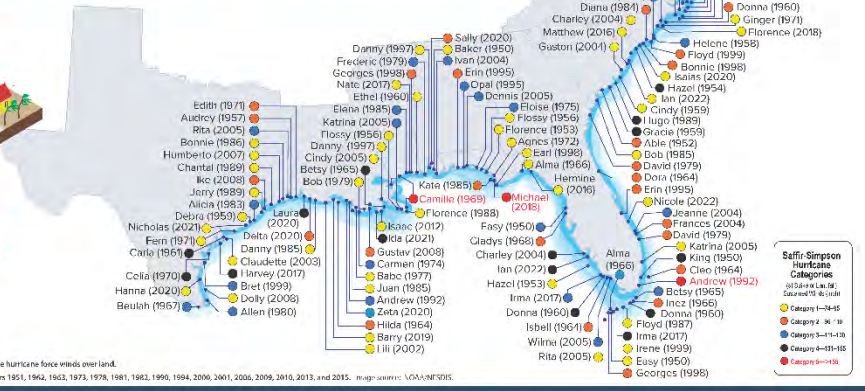


Figure 2: Continental United States Hurricane Strikes: 1950 to 2022⁴

Probabilistic Hurricane Scenario

The following probabilistic wind damage risk assessment modeled a Tropical Storm with maximum winds of 71 mph.

Wind Damage Assessment

Separate analyses were performed to determine wind and hurricane storm surge related flood losses. This section describes the wind-based losses to Wilkes County. Wind losses were determined from probabilistic models run for the Tropical Storm which equates to the 1% chance storm event. Figure 3 shows wind speeds for the modeled Tropical Storm.

⁴ Source: NOAA National Centers for Environmental Information

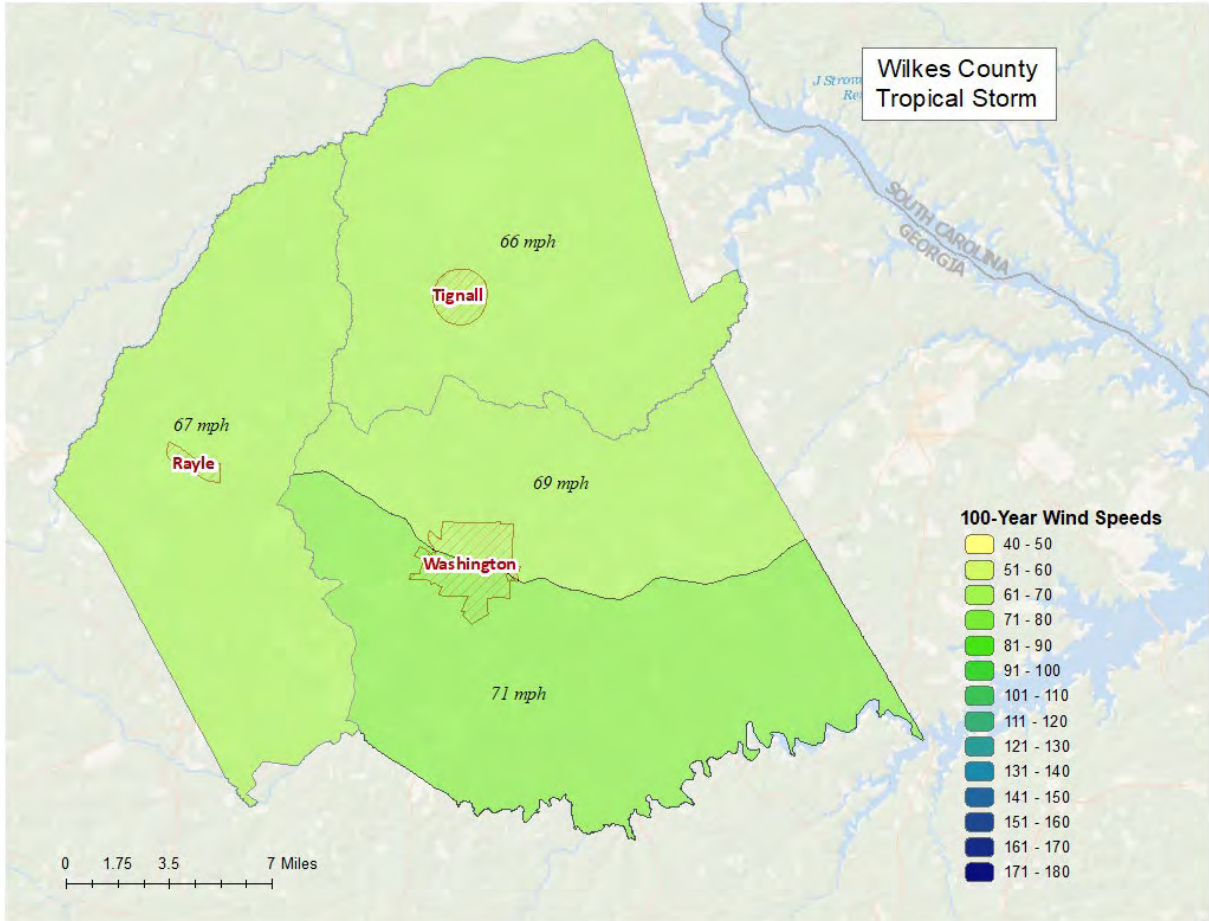


Figure 3: Wind Speeds by Storm Category

Wind-Related Building Damages

Buildings in Wilkes County are vulnerable to storm events, and the cost to rebuild may have significant consequences to the community. The following table shows a summary of the results of wind-related building damage in Wilkes County for the Tropical Storm (100 Year Event). The loss ratio expresses building losses as a percentage of total building replacement cost in the county. Figure 4 illustrates the building loss ratios of the modeled Tropical Storm.

Table 5: Hurricane Wind Building Damage

Classification	Number of Buildings Damaged	Total Building Damage	Total Economic Loss ⁵	Loss Ratio
Tropical Storm	19	\$726,150	\$1,045,830	0.10%

⁵ Includes property damage (infrastructure, contents, and inventory) as well as business interruption losses.

Note that wind damaged buildings are not reported by jurisdiction. This is due to the fact that census tract boundaries – upon which hurricane building losses are based – do not closely coincide with jurisdiction boundaries.

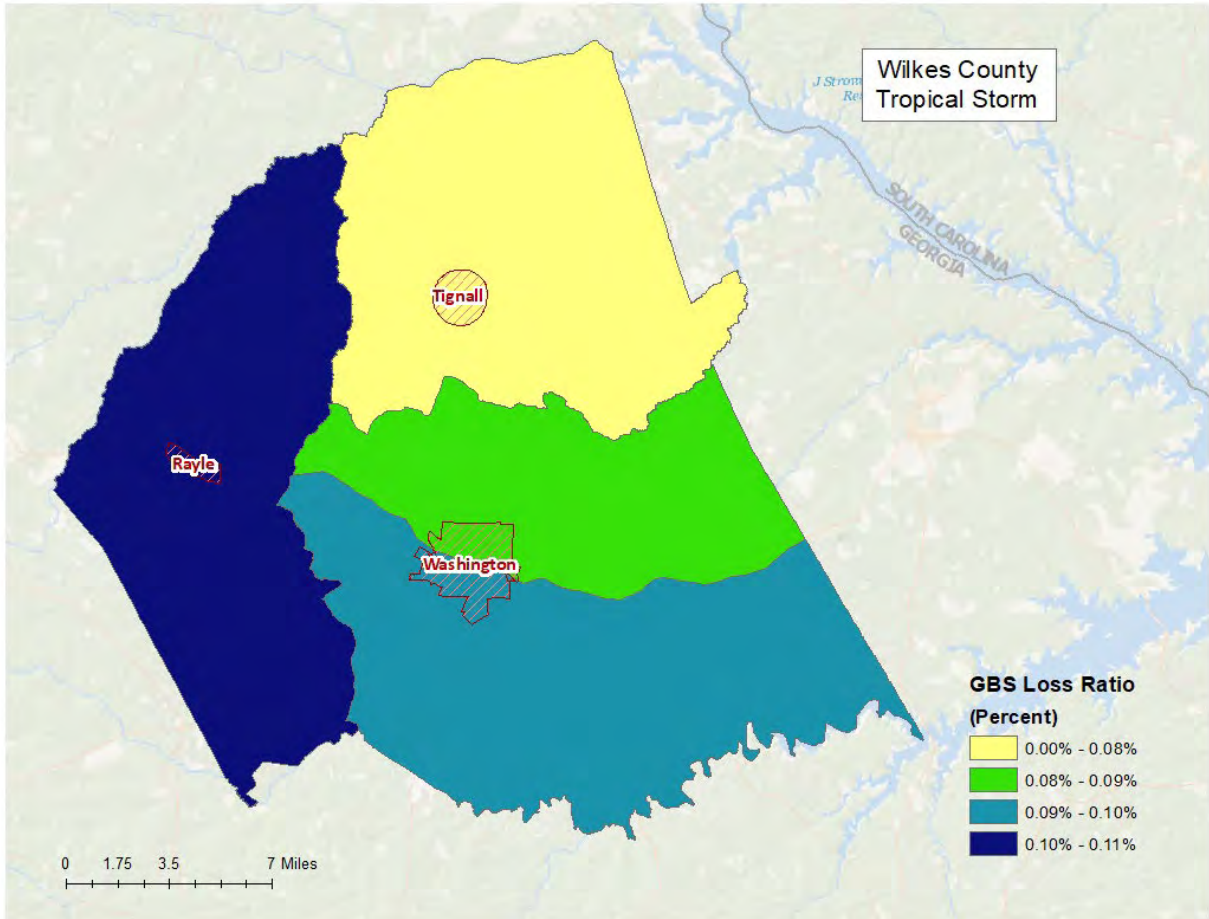


Figure 4: Hurricane Wind Building Loss Ratios

Essential Facility Losses

Essential facilities are also vulnerable to storm events, and the potential loss of functionality may have significant consequences to the community. Hazus-MH identified the essential facilities that may be moderately or severely damaged by winds. The results are compiled in Table 6.

There are 19 essential facilities in Wilkes County.

Classification	Number
EOCs	1
Fire Stations	9
Care Facilities	3
Police Stations	2
Schools	4

Table 6: Wind-Damaged Essential Facility Losses

Classification	Facilities At Least Moderately Damaged > 50%	Facilities Completely Damaged > 50%	Facilities with Expected Loss of Use (< 1 day)
Tropical Storm	0	0	19

Shelter Requirements

Hazus-MH estimates the number of households evacuated from buildings with severe damage from high velocity winds as well as the number of people who will require short-term sheltering. Since the 1% chance storm event for Wilkes County is a Tropical Storm, the resulting damage is not enough to displace Households or require temporary shelters as shown in the results listed in Table 7.

Table 7: Displaced Households and People

Classification	# of Displaced Households	# of People Needing Short-Term Shelter
Tropical Storm	0	0

Debris Generated from Hurricane Wind

Hazus-MH estimates the amount of debris that will be generated by high velocity hurricane winds and quantifies it into three broad categories to determine the material handling equipment needed:

- Reinforced Concrete and Steel Debris
- Brick and Wood and Other Building Debris
- Tree Debris

Different material handling equipment is required for each category of debris. The estimates of debris for this scenario are listed in Table 8. The amount of hurricane wind related tree debris that is estimated to require pick up at the public's expense is listed in the eligible tree debris column.

Table 8: Wind-Related Debris Weight (Tons)

Classification	Brick, Wood, and Other	Reinforced Concrete and Steel	Eligible Tree Debris	Other Tree Debris	Total
Tropical Storm	65	0	887	25,282	26,234

Figure 5 shows the distribution of all wind related debris resulting from a Tropical Storm. Each dot represents 20 tons of debris within the census tract in which it is located. The dots are randomly distributed within each census tract and therefore do not represent the specific location of debris sites.

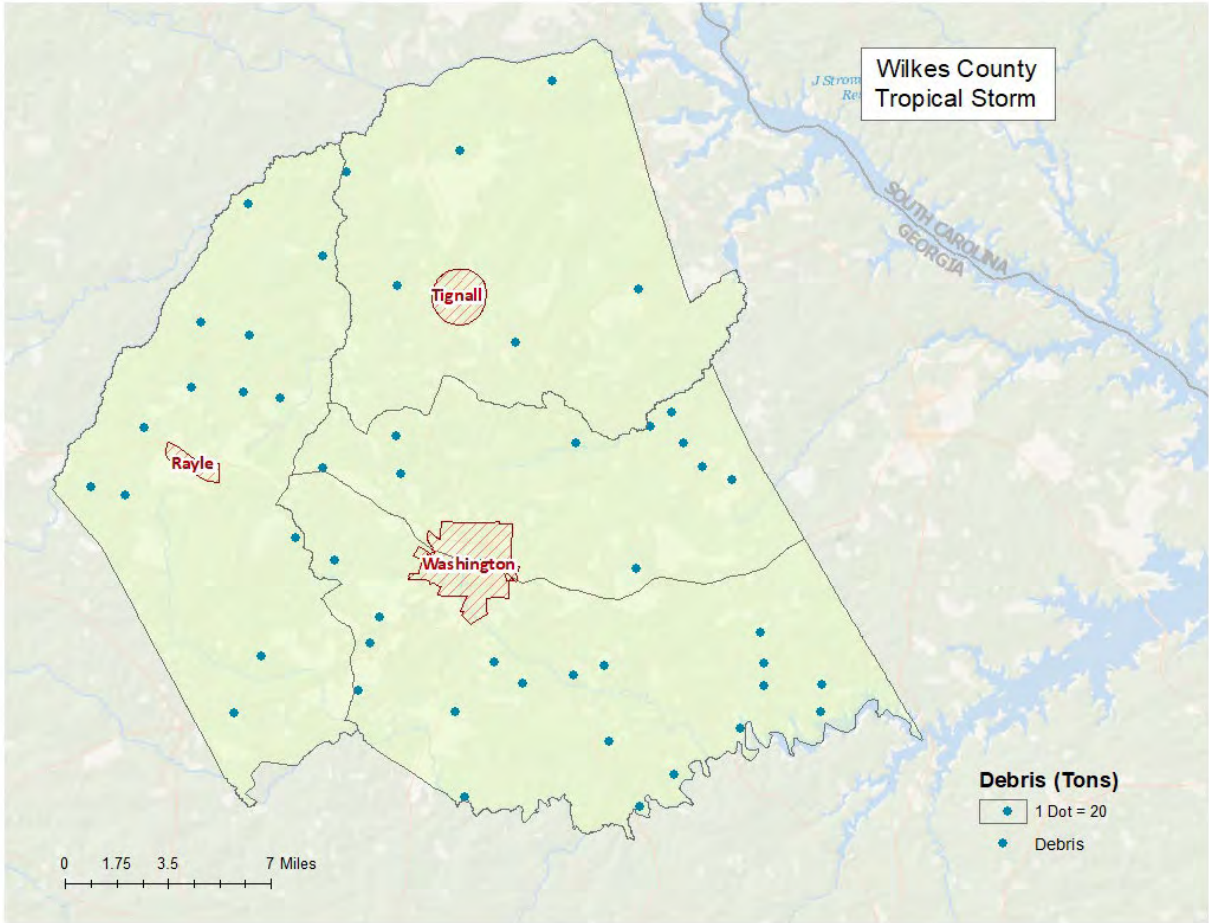


Figure 5: Wind-Related Debris Weight (Tons)

Flood Risk Assessment

Hazard Definition

Flooding is a significant natural hazard throughout the United States. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area, the rate at which precipitation infiltrates the ground, the geometry and hydrology of the catchment, and flow dynamics and conditions in and along the river channel. Floods can be classified as one of three types: upstream floods, downstream floods, or coastal floods.

Upstream floods, also called flash floods, occur in the upper parts of drainage basins and are generally characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, upstream floods cause damage over relatively localized areas, but they can be quite severe in the local areas in which they occur. Urban flooding is a type of upstream flood. Urban flooding involves the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid snowmelt. Upstream or flash floods can occur at any time of the year in Georgia, but they are most common in the spring and summer months.

Downstream floods, also called riverine floods, refer to floods on large rivers at locations with large upstream catchments. Downstream floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and time of the flood peak is much longer for downstream floods than for upstream floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage.

Coastal floods occurring on the Atlantic and Gulf coasts may be related to hurricanes or other combined offshore, nearshore, and shoreline processes. The effects of these complex interrelationships vary significantly across coastal settings, leading to challenges in the determination of the base (1-percent-annual-chance) flood for hazard mapping purposes. Land area covered by floodwaters of the base flood is identified as a Special Flood Hazard Area (SFHA).

The SFHA is the area where the National Flood Insurance Program's (NFIP) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. The owner of a structure in a high-risk area must carry flood insurance, if the owner carries a mortgage from a federally regulated or insured lender or servicer.

The Wilkes County flood risk assessment analyzed at risk structures in the SFHA.

The following probabilistic risk assessment involves an analysis of a 1% annual chance riverine flood event (100-Year Flood) and a 1% annual chance coastal flood.

Riverine 1% Flood Scenario

Riverine losses were determined from the 1% flood boundaries downloaded from the FEMA Flood Map Service Center in July 2023. The flood boundaries were overlaid with the USGS 10 meter DEM using the

Hazus-MH Enhanced Quick Look tool to generate riverine depth grids. The riverine flood depth grid was then imported into Hazus-MH to calculate the riverine flood loss estimates. Figure 6 illustrates the riverine inundation boundary associated with the 1% annual chance.

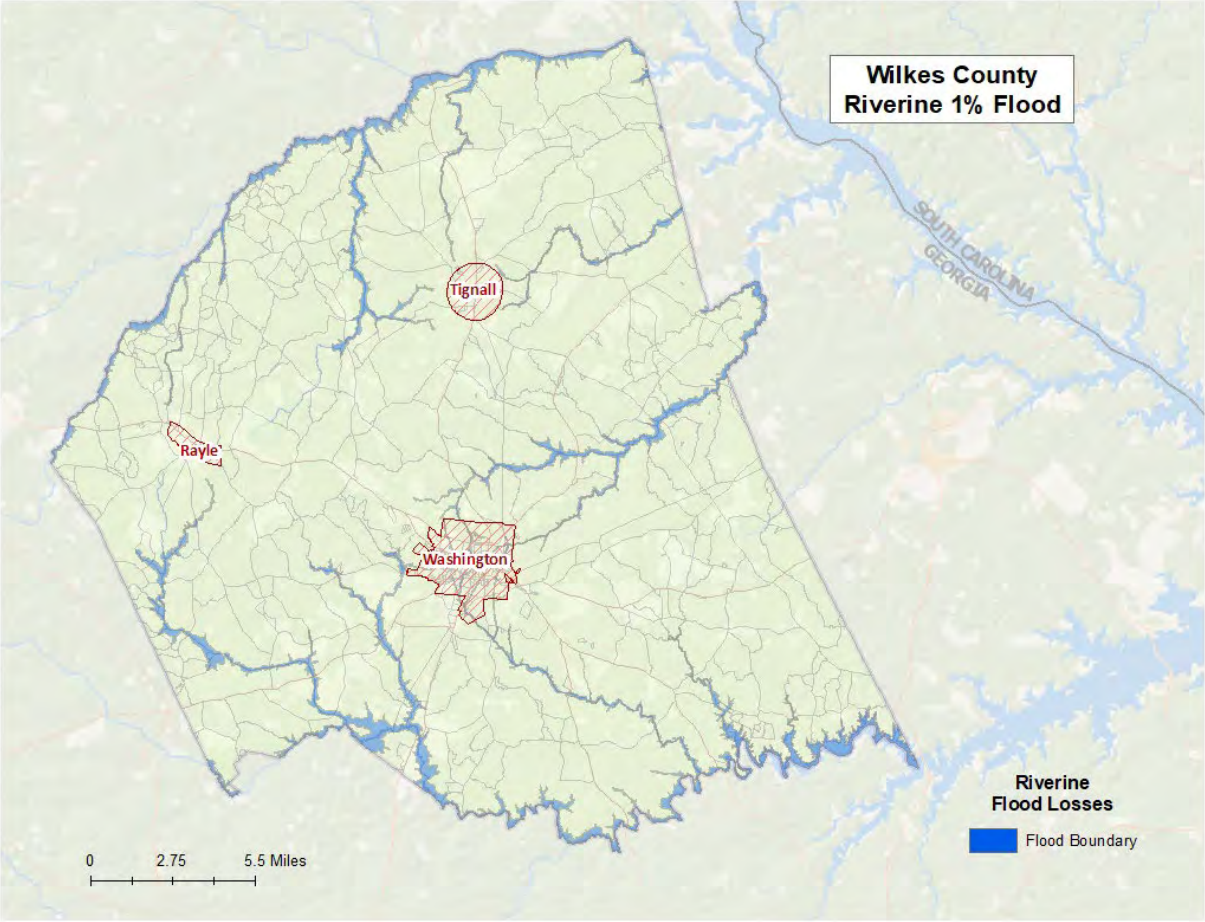


Figure 6: Riverine 1% Flood Inundation

Riverine 1% Flood Building Damages

Buildings in Wilkes County are vulnerable to flooding from events equivalent to the 1% riverine flood. The economic and social impacts from a flood of this magnitude can be significant. Table 9 provides a summary of the potential flood-related building damage in Wilkes County by jurisdiction that might be experienced from the 1% flood. Figure 7 maps the potential loss ratios of total building exposure to losses sustained to buildings from the 1% flood by 2010 census block and Figure 8 illustrates the relationship of building locations to the 1% flood inundation boundary.

Table 9: Wilkes County Riverine 1% Building Losses

Occupancy	Total Buildings in the Jurisdiction	Total Buildings Damaged in the Jurisdiction	Total Building Exposure in the Jurisdiction	Total Losses to Buildings in the Jurisdiction	Loss Ratio of Exposed Buildings to Damaged Buildings in the Jurisdiction
Unincorporated					
Residential	3,201	10	\$340,052,635	\$353,075	0.10%
Washington					
Industrial	60	1	\$11,218,940	\$3,228	0.03%
Government	18	1	\$6,139,850	\$18,080	0.29%
County Total					
	3,279	12	\$357,411,424	\$374,383	

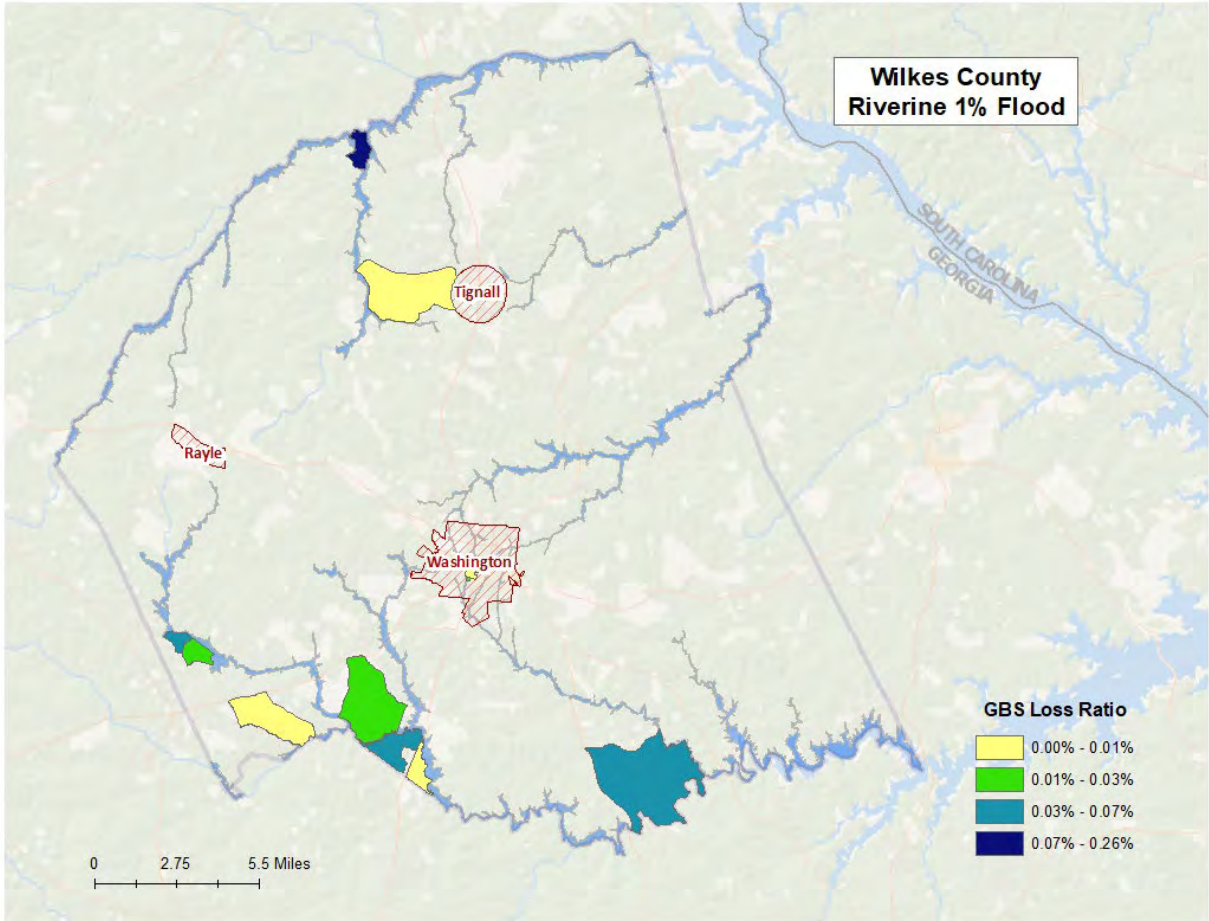


Figure 7: Wilkes County Potential Loss Ratios of Total Building Exposure to Losses Sustained to Buildings from the 1% Riverine Flood by 2010 Census Block

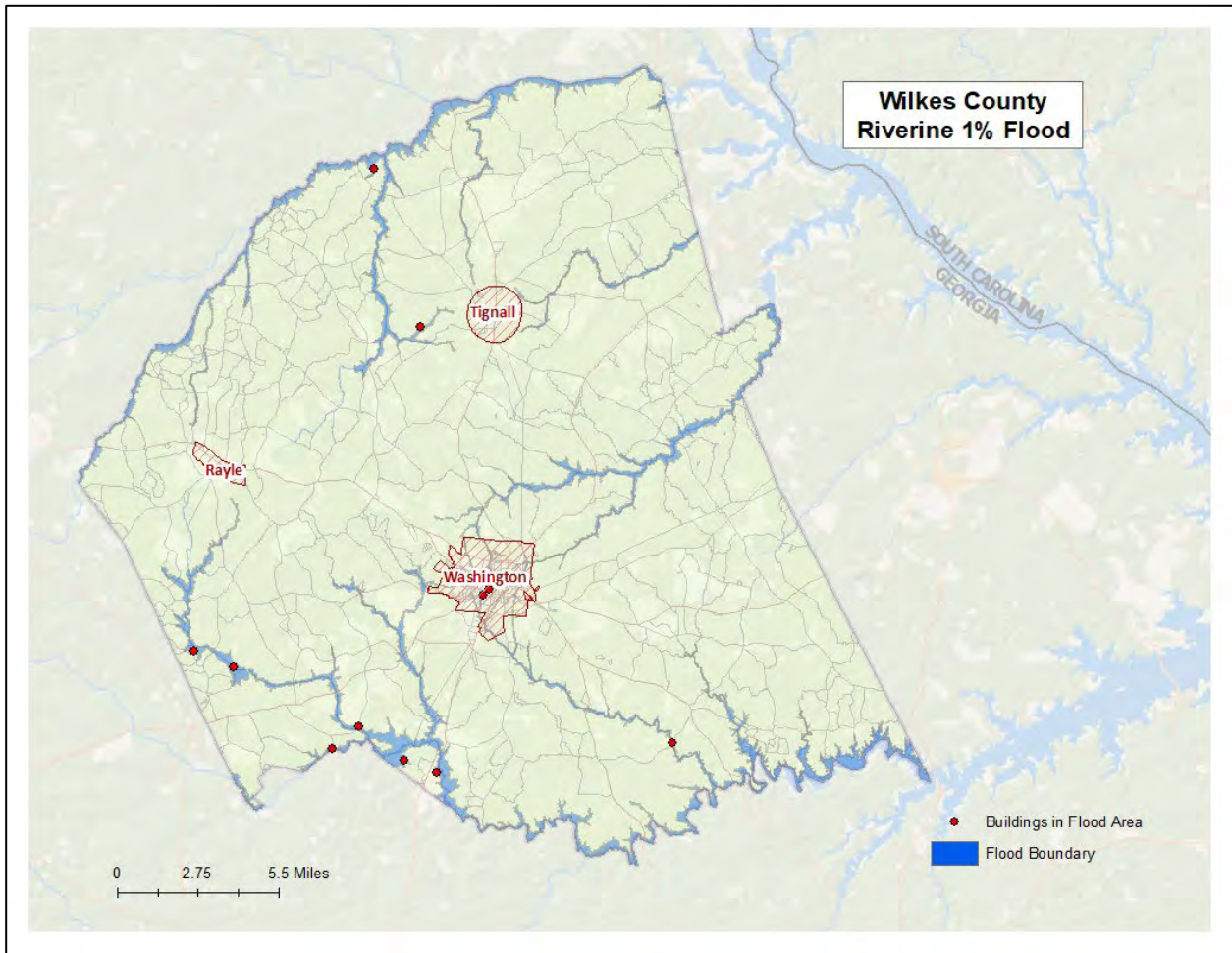


Figure 8: Wilkes County Damaged Buildings in Riverine Floodplain (1% Flood)

Riverine 1% Flood Essential Facility Losses

An essential facility may encounter many of the same impacts as other buildings within the flood boundary. These impacts can include structural failure, extensive water damage to the facility and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). The analysis identified no essential facility that were subject to damage in the Wilkes County riverine 1% probability floodplain.

Riverine 1% Flood Shelter Requirements

Hazus-MH estimates that the number of households that are expected to be displaced from their homes due to riverine flooding and the associated potential evacuation. The model estimates 72 households might be displaced due to the flood. Displacement includes households evacuated within or very near to the inundated area. Displaced households represent 217 individuals, of which 12 may require short term publicly provided shelter. The results are mapped in Figure 9.

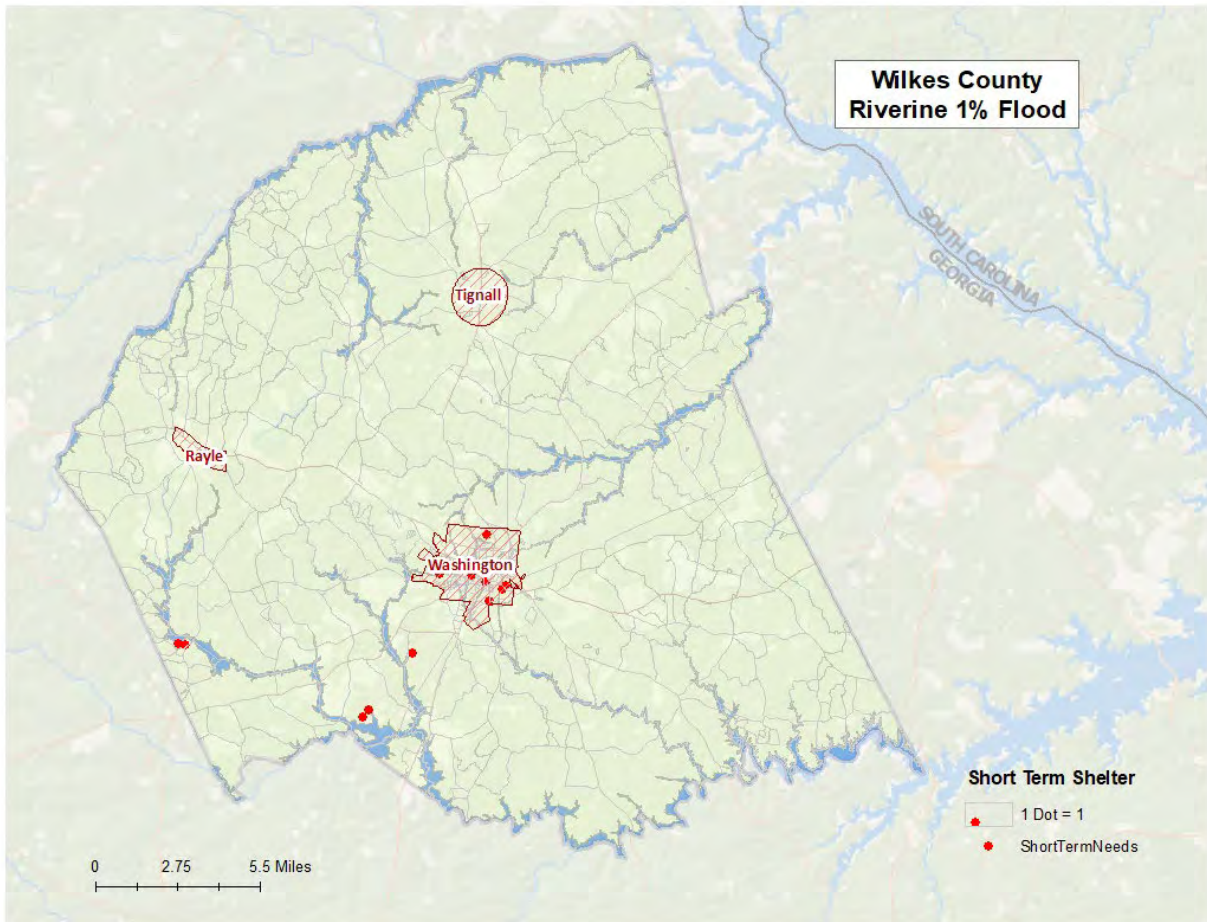


Figure 9: Riverine 1% Estimated Flood Shelter Requirements

Riverine 1% Flood Debris

Hazus-MH estimates the amount of debris that will be generated by the flood. The model breaks debris into three general categories:

- Finishes (dry wall, insulation, etc.)
- Structural (wood, brick, etc.)
- Foundations (concrete slab, concrete block, rebar, etc.)

Different types of material handling equipment will be required for each category. Debris definitions applied in Hazus-MH are unique to the Hazus-MH model and so do not necessarily conform to other definitions that may be employed in other models or guidelines.

The analysis estimates that an approximate total of 1,900 tons of debris might be generated: 1) Finishes- 766 tons; 2) Structural – 458 tons; and 3) Foundations- 676 tons. The results are mapped in Figure 10.

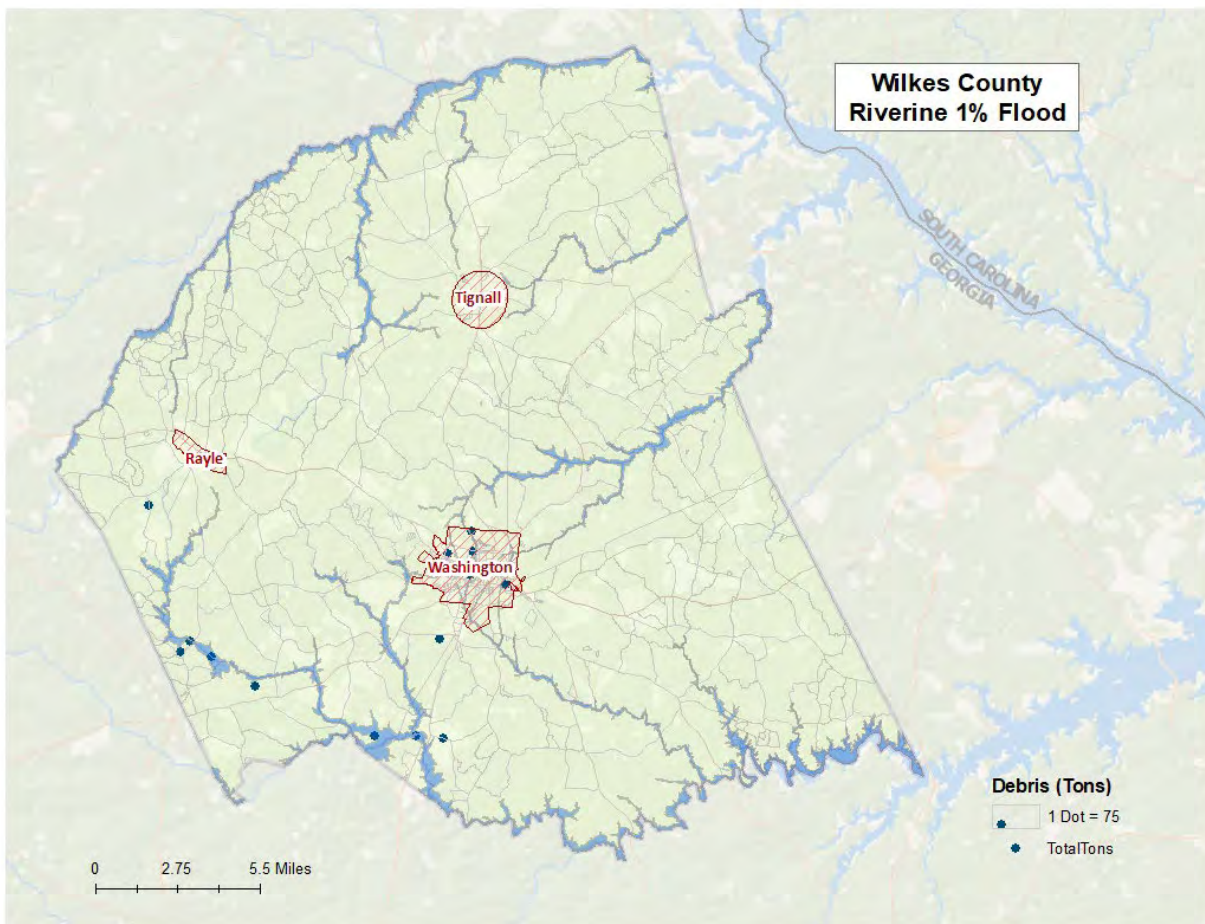


Figure 10: Riverine 1% Flood Debris Weight (Tons)

Tornado Risk Assessment

Hazard Definition

Tornadoes pose a great risk to the state of Georgia and its citizens. Tornadoes can occur at any time during the day or night. They can also happen during any month of the year. The unpredictability of tornadoes makes them one of Georgia’s most dangerous hazards. Their extreme winds are violently destructive when they touch down in the region’s developed and populated areas. Current estimates place the maximum velocity at about 300 miles per hour, but higher and lower values can occur. A wind velocity of 200 miles per hour will result in a wind pressure of 102.4 pounds per square foot of surface area—a load that exceeds the tolerance limits of most buildings. Considering these factors, it is easy to understand why tornadoes can be so devastating for the communities they hit.

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms and cyclonic events. Funnel clouds are rotating columns of air not in contact with the ground; however, the violently-rotating column of air can reach the ground very quickly and become a tornado. If the funnel cloud picks up and blows debris, it has reached the ground and is a tornado.

Tornadoes are classified according to the Fujita tornado intensity scale. Originally introduced in 1971, the scale was modified in 2006 to better define the damage and estimated wind scale. The Enhanced Fujita Scale ranges from low intensity EF0 with effective wind speeds of 65 to 85 miles per hour, to EF5 tornadoes with effective wind speeds of over 200 miles per hour. The Enhanced Fujita intensity scale is included in Table 10.

Table 10: Enhanced Fujita Tornado Rating

Fujita Number	Estimated Wind Speed	Path Width	Path Length	Description of Destruction
EF0 Gale	65-85 mph	6-17 yards	0.3-0.9 miles	Light damage, some damage to chimneys, branches broken, sign boards damaged, shallow-rooted trees blown over.
EF1 Moderate	86-110 mph	18-55 yards	1.0-3.1 miles	Moderate damage, roof surfaces peeled off, mobile homes pushed off foundations, attached garages damaged.
EF2 Significant	111-135 mph	56-175 yards	3.2-9.9 miles	Considerable damage, entire roofs torn from frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted.
EF3 Severe	136-165 mph	176-566 yards	10-31 miles	Severe damage, walls torn from well-constructed houses, trains overturned, most trees in forests uprooted, heavy cars thrown about.
EF4 Devastating	166-200 mph	0.3-0.9 miles	32-99 miles	Complete damage, well-constructed houses leveled, structures with weak foundations blown off for some distance, large missiles generated.
EF5 Incredible	> 200 mph	1.0-3.1 miles	100-315 miles	Foundations swept clean, automobiles become missiles and thrown for 100 yards or more, steel-reinforced concrete structures badly damaged.

Source: <http://www.srh.noaa.gov>

Hypothetical Tornado Scenario

For this report, an EF3 tornado was modeled to illustrate the potential impacts of tornadoes of this magnitude in the county. The analysis used a hypothetical path based upon an EF3 tornado event running along the predominant direction of historical tornados (southeast to northwest). The tornado path was placed to travel through Washington. The selected widths were modeled after a re-creation of the Fujita-Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these categories. Table 11 depicts tornado path widths and expected damage.

Table 11: Tornado Path Widths and Damage Curves

Fujita Scale	Path Width (feet)	Maximum Expected Damage
EF-5	2,400	100%
EF-4	1,800	100%
EF-3	1,200	80%
EF-2	600	50%
EF-1	300	10%
EF-0	300	0%

Within any given tornado path there are degrees of damage. The most intense damage occurs within the center of the damage path, with decreasing amounts of damage away from the center. After the hypothetical path is digitized on a map, the process is modeled in GIS by adding buffers (damage zones) around the tornado path. Figure 11 describes the zone analysis.

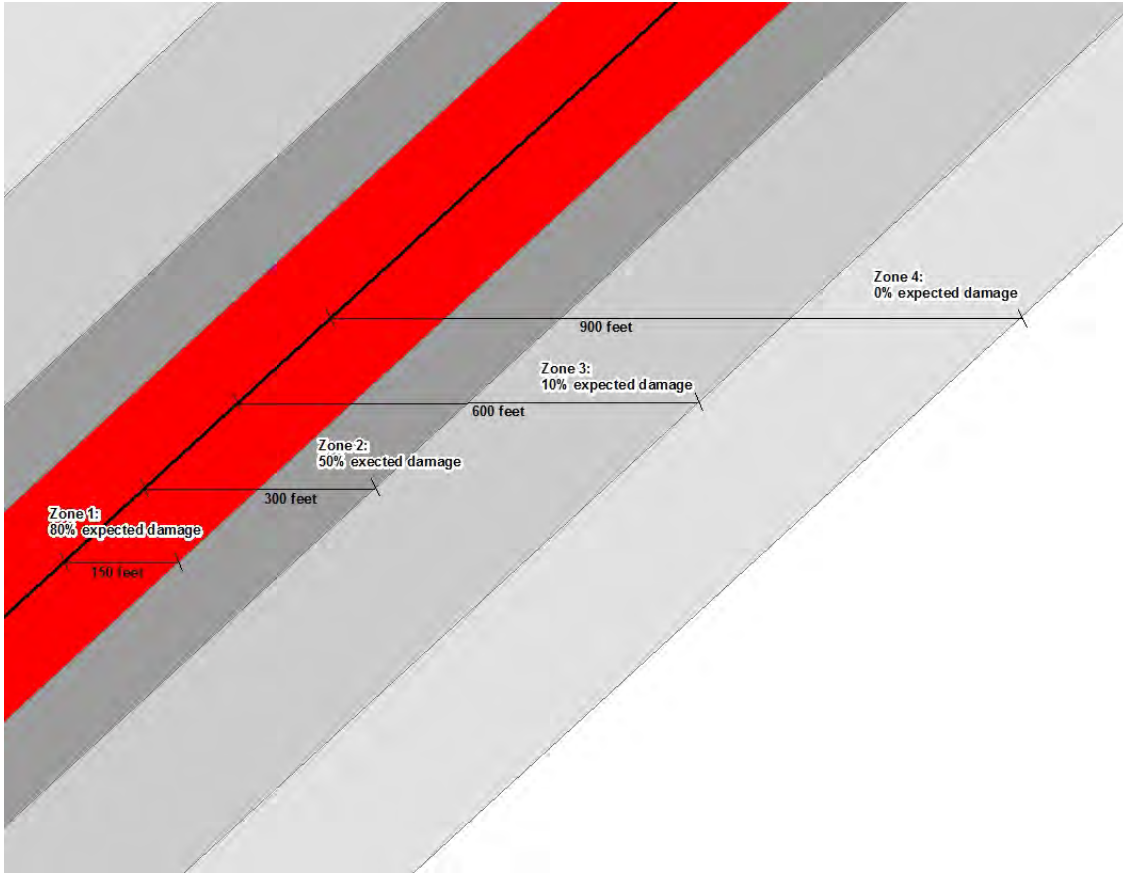


Figure 11: EF Scale Tornado Zones

An EF3 tornado has four damage zones, depicted in Table 12. Major damage is estimated within 150 feet of the tornado path. The outer buffer is 900 feet from the tornado path, within which buildings will not experience any damage. The selected hypothetical tornado path is depicted in Figure 12 and the damage curve buffer zones are shown in Figure 13.

Table 12: EF3 Tornado Zones and Damage Curves

Zone	Buffer (feet)	Damage Curve
1	0-150	80%
2	150-300	50%
3	300-600	10%
4	600-900	0%

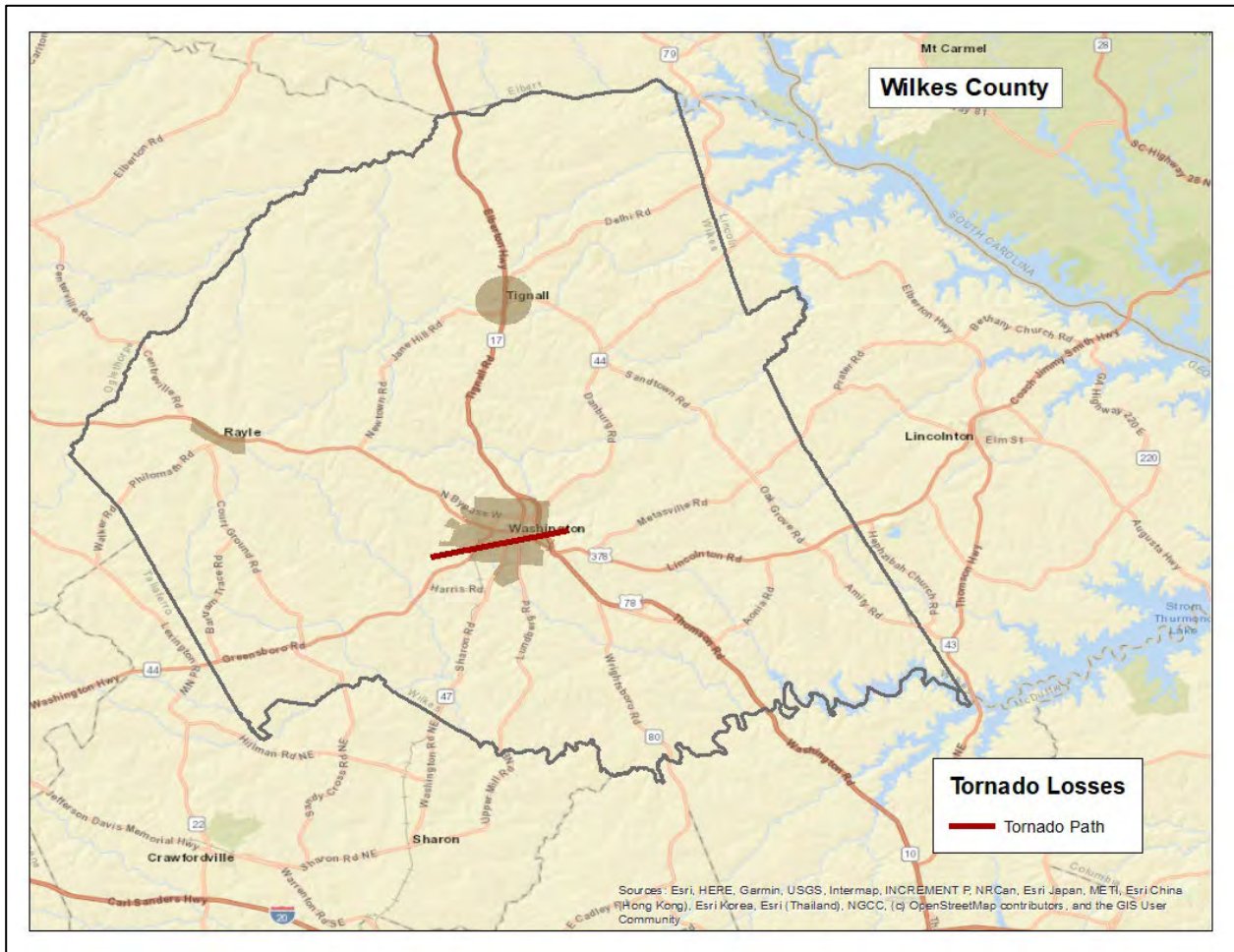


Figure 12: Hypothetical EF3 Tornado Path in Wilkes County

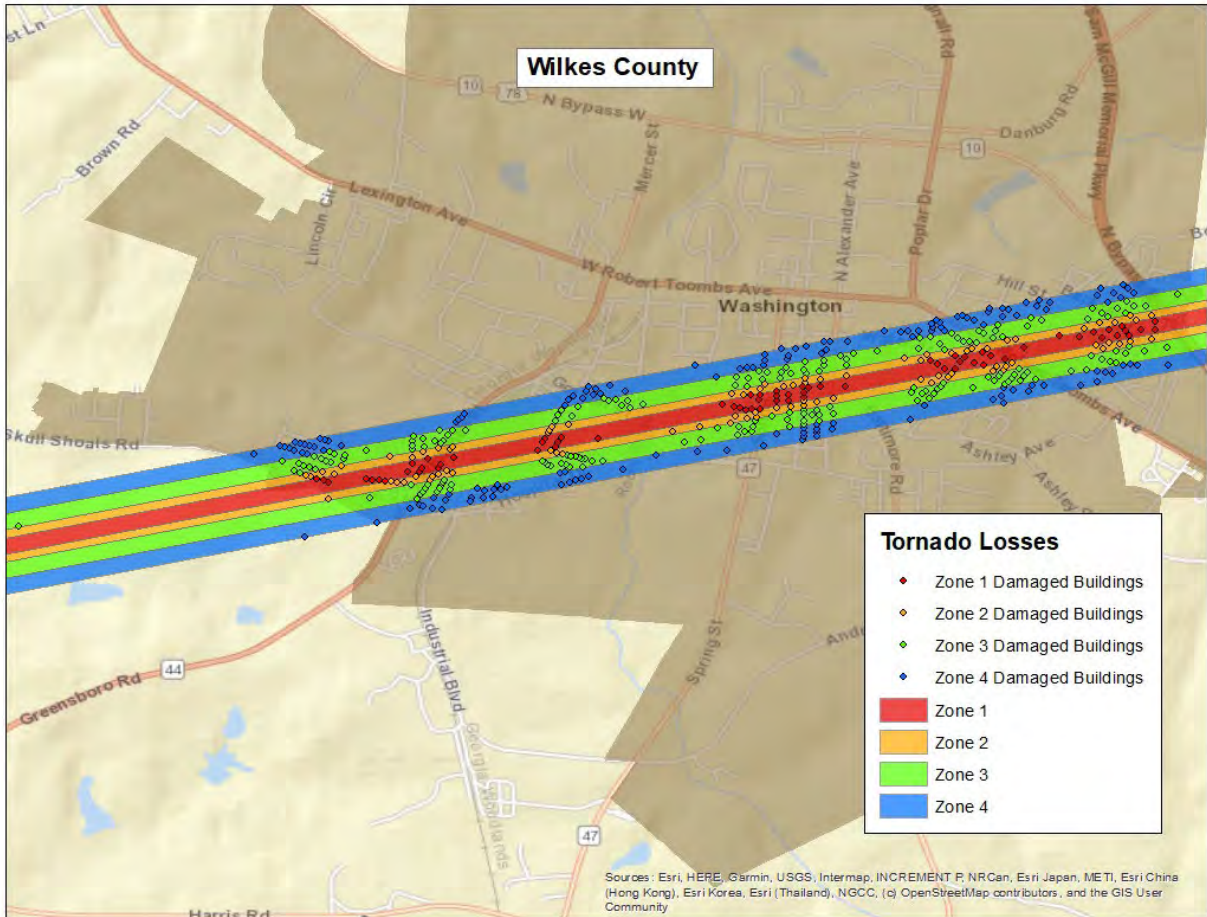


Figure 13: Modeled EF3 Tornado Damage Buffers in Wilkes County

EF3 Tornado Building Damages

The analysis estimated that approximately 559 buildings could be damaged, with estimated building losses of \$25 million. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Wilkes County that were joined with Assessor records showing estimated property replacement costs. The Assessor records often do not distinguish parcels by occupancy class if the parcels are not taxable and thus the number of buildings and replacement costs may be underestimated. The results of the analysis are depicted in Table 13.

Table 13: Estimated Building Losses by Occupancy Type

Occupancy	Buildings Damaged	Building Losses
Residential	516	\$15,462,483
Commercial	20	\$339,392
Industrial	5	\$342,572
Religious	1	\$19,135
Education	12	\$9,123,822
Government	5	\$83,056
Total	559	\$25,370,460

EF3 Tornado Essential Facility Damage

There were five essential facilities located in the tornado path – one school, two medical care facilities, one fire station and one emergency operations center. Table 14 outlines the specific facility and the amount of damage under the scenario.

Table 14: Estimated Essential Facilities Damaged

Facility	Amount of Damage
Washington-Wilkes Elementary School	Major Damage
Harper’s Personal Care Home	Minor Damage
Wilkes County EMA	Minor Damage
Wilkes County EMS	Minor Damage
Willis Memorial Hospital	Minor Damage

According to the Georgia Department of Education, Washington-Wilkes County Elementary School’s enrollment was approximately 271 students as of March 2023. Depending on the time of day, a tornado strike as depicted in this scenario could result in significant injury and loss of life. In addition, arrangements would have to be made for the continued education of the students in another location.

The location of the damaged Essential Facility is mapped in Figure 14.

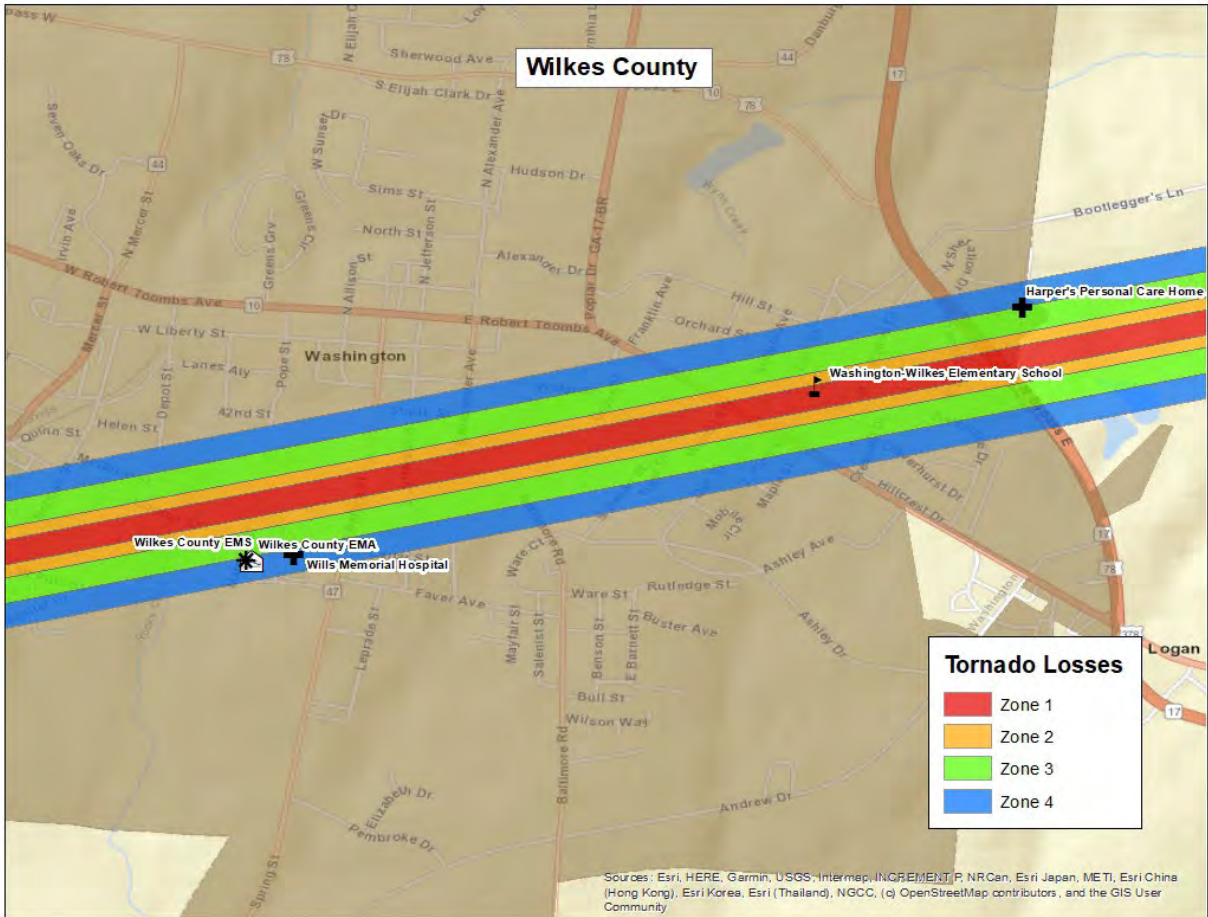


Figure 14: Modeled Essential Facility Damage in Wilkes County

Exceptions Report

Hazus Version 2.2 SP1 was used to perform the loss estimates for Wilkes County, Georgia. Changes made to the default Hazus-MH inventory and the modeling parameters used to setup the hazard scenarios are described within this document.

Reported losses reflect the updated data sets. Steps, algorithms and assumptions used during the data update process are documented in the project workflow named PDM_GA_Workflow.doc.

Statewide Inventory Changes

The default Hazus-MH Essential Facility inventory was updated for the entire state prior to running the hazard scenarios for Wilkes County.

Updates to the Critical Facility data used in GMIS were provided by Wilkes County in July 2023. These updates were applied by The Carl Vinson Institute of Government at the University of Georgia. Table 15 summarizes the difference between the original Hazus-MH default data and the updated data for Wilkes County.

Table 15: Essential Facility Updates

Site Class	Feature Class	Default Replacement Cost	Default Count	Updated Replacement Cost	Updated Count
EF	Care	\$32,802,000	4	\$32,697,000	3
EF	EOC	\$880,000	1	\$105,000	1
EF	Fire	\$1,304,000	7	\$2,088,000	9
EF	Police	\$1,935,000	1	\$3,435,000	2
EF	School	\$49,114,000	4	\$49,114,000	4

County Inventory Changes

The GBS records for Wilkes County were replaced with data derived from parcel and property assessment data obtained from Wilkes County. The county provided property assessment data was current as July 2023 and the parcel data current as of July 2023.

General Building Stock Updates

The parcel boundaries and assessor records were obtained from Wilkes County. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary. Each parcel point was linked to an assessor record based upon matching parcel numbers. The generated Building Inventory represents the approximate locations (within a parcel) of building exposure. The Building Inventory was aggregated by Census Block and imported into Hazus-MH using the Hazus-MH Comprehensive Data Management System (CDMS). Both the 2010 Census Tract and Census Block tables were updated.

The match between parcel records and assessor records was based upon a common Parcel ID. For this type of project, unless the hit rate is better than 85%, the records are not used to update the default aggregate inventory in Hazus-MH. The Parcel-Assessor hit rate for Wilkes County was 99.9%.

Adjustments were made to records when primary fields did not have a value. In these cases, default values were applied to the fields. Table 16 outlines the adjustments made to Wilkes County records.

Table 16: Building Inventory Default Adjustment Rates

Type of Adjustment	Building Count	Percentage
Area Unknown	331	6%
Construction Unknown	430	7%
Condition Unknown	223	4%
Foundation Unknown	436	7%
Year Built Unknown	295	5%
Total Buildings	5,972	6%

Approximately 6% of the CAMA values were either missing (<Null> or '0'), did not match CAMA domains or were unusable ('Unknown', 'Other', 'Pending'). These were replaced with 'best available' values. Missing YearBuilt values were populated from average values per Census Block. Missing Condition, Construction and Foundation values were populated with the highest-frequency CAMA values per Occupancy Class. Missing Area values were populated with the average CAMA values per Occupancy Class.

The resulting Building Inventory was used to populate the Hazus-MH General Building Stock and User Defined Facility tables. The updated General Building Stock was used to calculate flood and tornado losses. Changes to the building counts and exposure that were modeled in Wilkes County are sorted by General Occupancy in Table 1 at the beginning of this report. If replacements cost or building value were not present for a given record in the Assessor data, replacement costs were calculated from the Building Area (sqft) multiplied by the Hazus-MH RS Means (\$/sqft) values for each Occupancy Class.

Differences between the default and updated data are due to various factors. The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

User Defined Facilities

Building Inventory was used to create Hazus-MH User Defined Facility (UDF) inventory for flood modeling. Hazus-MH flood loss estimates are based upon the UDF point data. Buildings within the flood boundary were imported into Hazus-MH as User Defined Facilities and modeled as points.

Table 17: User Defined Facility Exposure

Class	Hazus-MH Feature	Counts	Exposure
BI	Building Exposure	5,971	\$747,020,706
Riverine UDF	Structures Inside 1% Annual Chance Riverine Flood Area	12	\$1,426,301

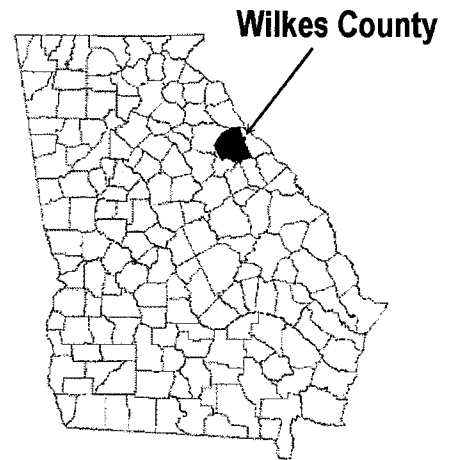
Assumptions

- Flood analysis was performed on Building Inventory. Building Inventory within the flood boundary was imported as User Defined Facilities. The point locations are parcel centroid accuracy.
- The analysis is restricted to the county boundary. Events that occur near the county boundary do not contain loss estimates from adjacent counties.
- The following attributes were defaulted or calculated:
 - First Floor Height was set from Foundation Type
 - Content Cost was calculated from Building Cost

FLOOD INSURANCE STUDY



WILKES COUNTY, GEORGIA AND INCORPORATED AREAS



COMMUNITY NAME	COMMUNITY NUMBER
RAYLE, CITY OF*	135172
TIGNALL, CITY OF*	135173
WASHINGTON, CITY OF	130233
WILKES COUNTY (UNINCORPORATED AREAS)	135263

*Non-floodprone community

EFFECTIVE:

JULY 22, 2010



Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
13317CV000A

**NOTICE TO
FLOOD INSURANCE STUDY USERS**

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) report may not contain all data available within the Community Map Repository. Please contact the Community Map Repository for any additional data.

The Federal Emergency Management Agency (FEMA) may revise and republish part or all of this FIS report at any time. In addition, FEMA may revise part of this FIS report by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS report. Therefore, users should consult with community officials and check the Community Map Repository to obtain the most current FIS report components.

Initial Countywide FIS Effective Date: July 22, 2010

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FLOOD INSURANCE STUDY
WILKES COUNTY, GEORGIA AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This FIS revises and updates information on the existence and severity of flood hazards in the geographic area of Wilkes County, including the Cities of Rayle, Tignall and Washington and the unincorporated areas of Wilkes County (referred to collectively herein as Wilkes County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood-risk data for various areas of the community that will be used to establish actuarial flood insurance rates and to assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

Please note that the Cities of Rayle and Tignall have no mapped flood hazard areas.

In some States or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

The Digital Flood Insurance Rate Map (DFIRM) and FIS report for this countywide study have been produced in digital format. Flood hazard information was converted to meet the Federal Emergency Management Agency (FEMA) DFIRM database specifications and Geographic Information System (GIS) format requirements. The flood hazard information was created and is provided in a digital format so that it can be incorporated into a local GIS and be accessed more easily by the community.

1.2 Authority and Acknowledgments

The sources of authority for this FIS are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

No previous FIS reports were prepared for the Cities of Rayle, Tignall and Washington and the unincorporated areas of Wilkes County.

The hydrologic and hydraulic analyses for this study were performed by Dewberry & Davis LLC, for FEMA, under Contract No. EMA-2008-CA-5870. This work was completed in June 2009.

Base map information shown on the Flood Insurance Rate Map (FIRM) was derived from digital orthoimagery produced at a scale of 1:20,000, from National Agriculture Imagery Program dated 2007. The projection used in the preparation of this map is Georgia State Plane East FIPS Zone 1001 (feet), and the horizontal datum used is North American Datum 1983, GRS80 spheroid.

1.3 Coordination

An initial meeting is held with representatives from FEMA, the community, and the study contractor to explain the nature and purpose of a FIS, and to identify the streams to be studied or restudied. A final meeting is held with representatives from FEMA, the community, and the study contractor to review the results of the study.

The initial meeting was held on July 9, 2008, and attended by representatives of the Georgia Department of Natural Resources – Environmental Protection Division, Wilkes County, FEMA, and the study contractor.

The results of the study were reviewed at the final meeting held on September 17, 2009, and attended by representatives of the Georgia Department of Natural Resources – Environmental Protection Division, Wilkes County, the City of Washington, FEMA, and the study contractor. All problems raised at that meeting have been addressed.

2.0 AREA STUDIED

2.1 Scope of Study

This FIS covers the geographic area of Wilkes County, Georgia, including the incorporated communities listed in Section 1.1.

For this countywide FIS, the FIRM was converted to countywide format, and the flooding information for the entire county, including both incorporated and unincorporated areas, is shown. Also, the vertical datum was converted from the National Geodetic Vertical Datum of 1929 (NGVD 29) to the North American Vertical Datum of 1988 (NAVD 88). In addition, the Transverse Mercator projection, State Plane coordinates, previously referenced to the North American Datum of 1927, are now referenced to the North American Datum of 1983.

All or portions of numerous flooding sources in the county were studied by approximate methods. Approximate analyses were used to study those areas having low development potential or minimal flood hazards. No detailed analyses were performed. The scope and methods of study were proposed to and agreed upon by FEMA and Wilkes County.

No Letters of Map Change (LOMCs) were recorded for this countywide study.

2.2 Community Description

Wilkes County, encompassing approximately 681 square miles, is located in northeastern Georgia, approximately 95 miles east of the City of Atlanta. The county is bordered on the north by Elbert County; on the south by McDuffie, Warren, and Taliaferro Counties; on the east by Lincoln County; and on the west by Oglethorpe County. Major transportation routes that serve Wilkes County include U.S. Highways 78 and 378 and State Highways 10, 17, 44, 47, and 80.

According to the U.S. Census Bureau, in 2008 the population estimate for Wilkes County was 10,282 (U.S. Census Bureau, 2009).

Wilkes County's moderate climate consists of mild winters and warm summers. The average annual rainfall is 50 inches. The wettest month is March while the driest months are September and October (National Weather Service, 2009).

2.3 Principal Flood Problems

The low-lying areas of Wilkes County adjacent to the major streams are subject to the periodic flooding that accompanies major storms.

2.4 Flood Protection Measures

No major structural flood protection measures exist or are planned for Wilkes County.

3.0 ENGINEERING METHODS

For the flooding sources studied in the county, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 1-percent-annual-chance (100-year) flood in any 50-year period is approximately 40 percent (4 in 10); for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish peak discharge-frequency relationships for each flooding source studied affecting the community.

Discharges for approximate study streams were developed using regression equations for rural areas in Georgia contained in the U.S. Geological Survey (USGS) report and available USGS gage record data (where applicable) (Stamey and Hess, 1993). Drainage areas were developed from USGS 10-meter Digital Elevation Models (DEMs) (USGS, 2009).

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

For the streams studied by approximate methods, cross-section data was obtained from the USGS 10-meter DEMs (USGS, 2009). Hydraulically significant roads were modeled as bridges, with opening data approximated from available inventory data or approximated from the imagery. Top of road elevations were estimated from the best available topography. The approximate studied streams were modeled using HEC-RAS version 4.0 (Hydrologic Engineering Center, 2008).

Floodplains were delineated using the computer 1-percent-annual-chance water-surface elevations and the USGS 10-meter DEMs (USGS, 2009).

The hydraulic analyses for this study were based on unobstructed flow. The flood delineations are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

Qualifying bench marks within a given jurisdiction that are cataloged by the National Geodetic Survey (NGS) and entered into the National Spatial Reference System (NSRS) as First or Second Order Vertical and have a vertical stability classification of A, B, or C are shown and labeled on the FIRM with their 6-character NSRS Permanent Identifier.

Bench marks cataloged by the NGS and entered into the NSRS vary widely in vertical stability classification. NSRS vertical stability classifications are as follows:

- Stability A: Monuments of the most reliable nature, expected to hold position/elevation well (e.g., mounted in bedrock)
- Stability B: Monuments which generally hold their position/elevation well (e.g., concrete bridge abutment)

- Stability C: Monuments which may be affected by surface ground movements (e.g., concrete monument below frost line)
- Stability D: Mark of questionable or unknown vertical stability (e.g., concrete monument above frost line, or steel witness post)

In addition to NSRS bench marks, the FIRM may also show vertical control monuments established by a local jurisdiction; these monuments will be shown on the FIRM with the appropriate designations. Local monuments will only be placed on the FIRM if the community has requested that they be included, and if the monuments meet the aforementioned NSRS inclusion criteria.

To obtain current elevation, description, and/or location information for bench marks shown on the FIRM for this jurisdiction, please contact the Information Services Branch of the NGS at (301) 713-3242, or visit their Web site at <http://www.ngs.noaa.gov>.

It is important to note that temporary vertical monuments are often established during the preparation of a flood hazard analysis for the purpose of establishing local vertical control. Although these monuments are not shown on the FIRM, they may be found in the Technical Support Data Notebook associated with this FIS and FIRM. Interested individuals may contact FEMA to access this data.

3.3 Vertical Datum

All FIS reports and FIRMs are referenced to a specific vertical datum. The vertical datum provides a starting point against which flood, ground, and structure elevations can be referenced and compared. Until recently, the standard vertical datum in use for newly created or revised FIS reports and FIRMs was NGVD 29. With the finalization of NAVD 88, many FIS reports and FIRMs are being prepared using NAVD 88 as the referenced vertical datum.

All models created for this FIS report are referenced to NAVD 88. Structure and ground elevations in the community must, therefore, be referenced to NAVD 88. It is important to note that adjacent communities may be referenced to NGVD 29.

For additional information regarding conversion between NGVD 29 and NAVD 88, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov>, or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. To assist in this endeavor, each FIS provides 1-percent-annual-chance floodplain data, which may include a combination of the following: 10-, 2-, 1-, and 0.2-percent-annual-chance flood elevations; delineations of the 1- and 0.2-percent-annual-chance floodplains; and 1-percent-annual-chance floodway. This information is presented on the FIRM and in many components of the FIS, including Flood Profiles, Floodway Data tables, and Summary of Stillwater Elevation tables. Users should reference the data presented in the FIS as well as additional information that may be available at the local community map repository before making flood elevation and/or floodplain boundary determinations.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent-annual-chance flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent-annual-chance flood is employed to indicate additional areas of flood risk in the community, although none were mapped for this study.

For the streams studied by approximate methods the boundaries were delineated using the USGS 10-meter DEMs (USGS, 2009).

For the streams studied by approximate methods, only the 1-percent-annual-chance floodplain boundary is shown on the FIRM (Exhibit 1).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 1-percent-annual-chance floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 1-percent-annual-chance flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1 foot, provided that hazardous velocities are not produced.

No floodways have been computed for Wilkes County.

5.0 INSURANCE APPLICATIONS

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance risk zone that corresponds to the 1-percent-annual-chance floodplains that are determined in the FIS by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no BFEs or base flood depths are shown within this zone.

Zone X

Zone X is the flood insurance risk zone that corresponds to areas outside the 0.2-percent-annual-chance floodplain, 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 levees. No BFEs or base flood depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The FIRM is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance risk zones as described in Section 5.0. Insurance agents use the zones in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 1-percent-annual-chance floodplain.

The countywide FIRM presents flooding information for the entire geographic area of Wilkes County. Previously, FIRMs were prepared for the City of Washington identified as flood-prone. Historical data relating to the maps prepared for each community are presented in Table 1, "Community Map History".

7.0 OTHER STUDIES

Information pertaining to flood hazards for each jurisdiction within Wilkes County has been compiled into this FIS. Therefore, this FIS supersedes all previously printed FHBMs and FIRMs for the City of Washington and should be considered authoritative for purposes of the NFIP.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
Rayle, City of*				
Tignall, City of*				
Washington, City of	June 27, 1975	None	May 1, 1987	None
Wilkes County (Unincorporated Areas)	July 22, 2010	N/A	July 22, 2010	None

* Non-floodprone community

TABLE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

**WILKES COUNTY, GA
AND INCORPORATED AREAS**

COMMUNITY MAP HISTORY

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting FEMA, Federal Insurance and Mitigation Division, Koger Center – Rutgers Building, 3003 Chamblee Tucker Road, Atlanta, Georgia 30341.

9.0 BIBLIOGRAPHY AND REFERENCES

Hydrologic Engineering Center. (March 2008). HEC-RAS River Analysis System, Version 4.0.0. U.S. Army Corps of Engineers. Davis, California.

National Weather Service. (Accessed March 19, 2009). 2005 Georgia's Climatology – <http://www.srh.noaa.gov/>.

Stamey, T.C. and G. W. Hess. (1993). Techniques for Estimating Magnitude and Frequency of Floods in Rural Basins of Georgia, Water Resources Investigation Report 93-4016. U.S. Geological Survey.

U.S. Census Bureau. (Accessed June 16, 2009). 2008 Population Estimate – <http://www.census.gov/>.

U.S. Geological Survey. (Downloaded March 2009). Seamless Data Distribution System – 10 meter Digital Elevation Model, <http://seamless.usgs.gov/>.

SOUTHERN WILDFIRE RISK ASSESSMENT SUMMARY REPORT



***Wilkes Co HMP
2023***



Report was generated using
www.southernwildfirerisk.com

Report version: 4.0

Report generated: 8/9/2023

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Disclaimer

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Users should also note that property boundaries included in any product do not represent an on-the-ground survey suitable for legal, engineering, or surveying purposes. They represent only the approximate relative locations.

Introduction

Welcome to the Southern Wildfire Risk Assessment Summary Report.

This tool allows users of the Professional Viewer application of the Southern Wildfire Risk Assessment (SWRA) web Portal (SouthWRAP) to define a specific project area and summarize wildfire related information for this area. A detailed risk summary report is generated using a set of predefined map products developed by the Southern Wildfire Risk Assessment project which have been summarized explicitly for the user defined project area. The report is generated in MS WORD format.

The report has been designed so that information from the report can easily be copied and pasted into other specific plans, reports, or documents depending on user needs. Examples include, but are not limited to, Community Wildfire Protection Plans, Local Fire Plans, Fuels Mitigation Plans, Hazard Mitigation Plans, Homeowner Association Risk Assessments, and Forest Management or Stewardship Plans. Formats and standards for these types of reports vary from state to state across the South, and accordingly SouthWRAP provides the SWRA information in a generic risk report format to facilitate use in any type of external document. The SouthWRAP Risk Summary Report also stands alone as a viable depiction of current wildfire risk conditions for the user defined project area.

SouthWRAP provides a consistent, comparable set of scientific results to be used as a foundation for wildfire mitigation and prevention planning in the South.

Results of the assessment can be used to help prioritize areas in the state where mitigation treatments, community interaction and education, or tactical analyses might be necessary to reduce risk from wildfires.



The SouthWRAP products included in this report are designed to provide the information needed to support the following key priorities:

- Identify areas that are most prone to wildfire
- Identify areas that may require additional tactical planning, specifically related to mitigation projects and Community Wildfire Protection Planning
- Provide the information necessary to justify resource, budget and funding requests
- Allow agencies to work together to better define priorities and improve emergency response, particularly across jurisdictional boundaries
- Define wildland communities and identify the risk to those communities
- Increase communication and outreach with local residents and the public to create awareness and address community priorities and needs
- Plan for response and suppression resource needs
- Plan and prioritize hazardous fuel treatment programs

To learn more about the SWRA project or to create a custom summary report, go to www.southernwildfirerisk.com.

Products

Each product in this report is accompanied by a general description, table, chart and/or map. A list of available SouthWRAP products in this report is provided in the following table.

SouthWRAP Product	Description
Wildland Urban Interface (WUI)	Depicts where humans and their structures meet or intermix with wildland fuel
WUI Risk Index	Represents a rating of the potential impact of a wildfire on people and their homes
Community Protection Zones	Represents those areas designated as primary and secondary priorities for community protection planning
Burn Probability	Probability of an area burning given current landscape conditions, percentile weather, historical ignition patterns and historical fire prevention and suppression efforts
Characteristic Rate of Spread	Represents the speed with which a fire moves in a horizontal direction across the landscape
Characteristic Flame Length	Represents the distance between the tip and base of the flame
Characteristic Fire Intensity Scale	Quantifies the potential fire intensity for an area by orders of magnitude
Fire Type - Extreme	Represents the potential fire type (surface or canopy) under extreme percentile weather conditions
Surface Fuels	Contains the parameters needed to compute surface fire behavior characteristics
Dozer Operability Rating	Level of difficulty to operate a dozer in an area based on limitations associated with slope and vegetation type

Wildland Urban Interface

Description

The South is one of the fastest growing regions in the nation, with an estimated population growth of 1.5 million people per year. The South also consistently has the highest number of wildfires per year. Population growth is pushing housing developments further into natural and forested areas where most of these wildfires occur. This situation puts many lives and communities at risk each year.



In particular, 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. This increase in population across the region will impact counties and communities that are located within the 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. Population growth within the WUI substantially increases the risk from wildfire.

For the **Wilkes Co HMP 2023** project area, it is estimated that **10,553** people or **99.7 % percent** of the total project area population (**10,584**) live within the WUI.



The Wildland Urban Interface (WUI) layer reflects housing density depicting where humans and their structures meet or intermingle with wildland fuels.

WUI housing density is categorized based on the standard Federal Register and U.S. Forest Service SILVIS data set categories, long considered a de facto standard for depicting WUI. However, in the SWRA WUI data the number of housing density categories is extended to provide a better gradation of housing distribution to meet specific requirements for fire protection planning activities. While units of the actual data set are in *houses per sq. km.*, the data is presented as the *number of houses per acre* to aid with interpretation and use by fire planners in the South.

In the past, conventional wildland urban interface data sets, such as USFS SILVIS, have been used to reflect these concerns. However, USFS SILVIS and other existing data sources do not provide the level of detail for defining population living in the wildland as needed by Southern state WUI specialists and local fire protection agencies.

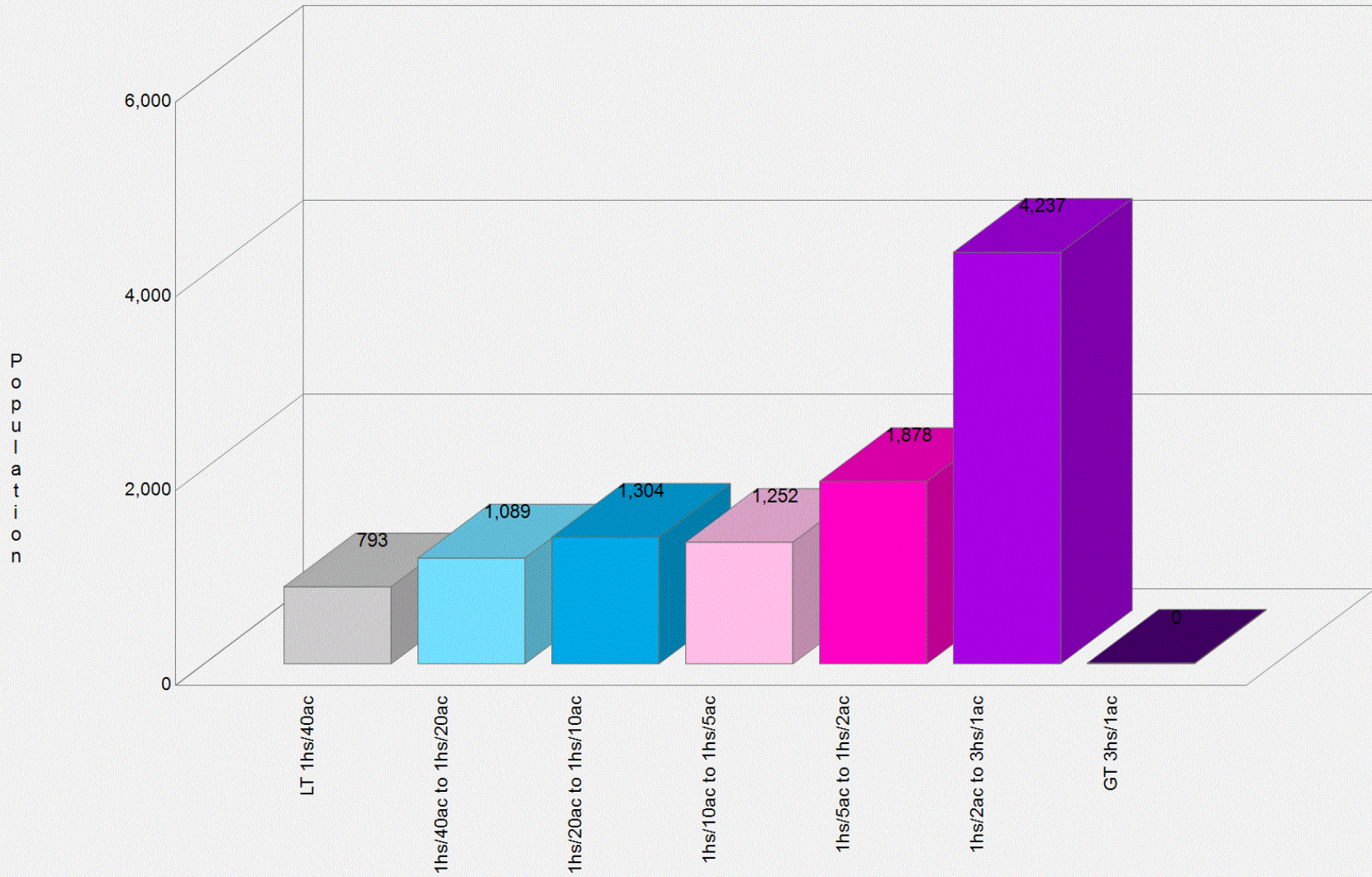
The new SWRA WUI 2012 dataset is derived using advanced modeling techniques based on the SWRA Where People Live (housing density) dataset and 2012 LandScan population count data available from the Department of Homeland Security, HSIP Freedom Data Set. WUI is simply a subset of the Where People Live dataset. The primary difference between the WPL and WUI is that populated areas surrounded by sufficient non-burnable areas (i.e. interior urban areas) are removed from the Where People Live data set, as these areas are not expected to be directly impacted by a wildfire. Simply put, the SWRA WUI is the SWRA WPL data with the urban core areas removed.

Data is modeled at a 30-meter cell resolution, which is consistent with other SWRA layers. The following table shows the total population for each WUI area within the project area.

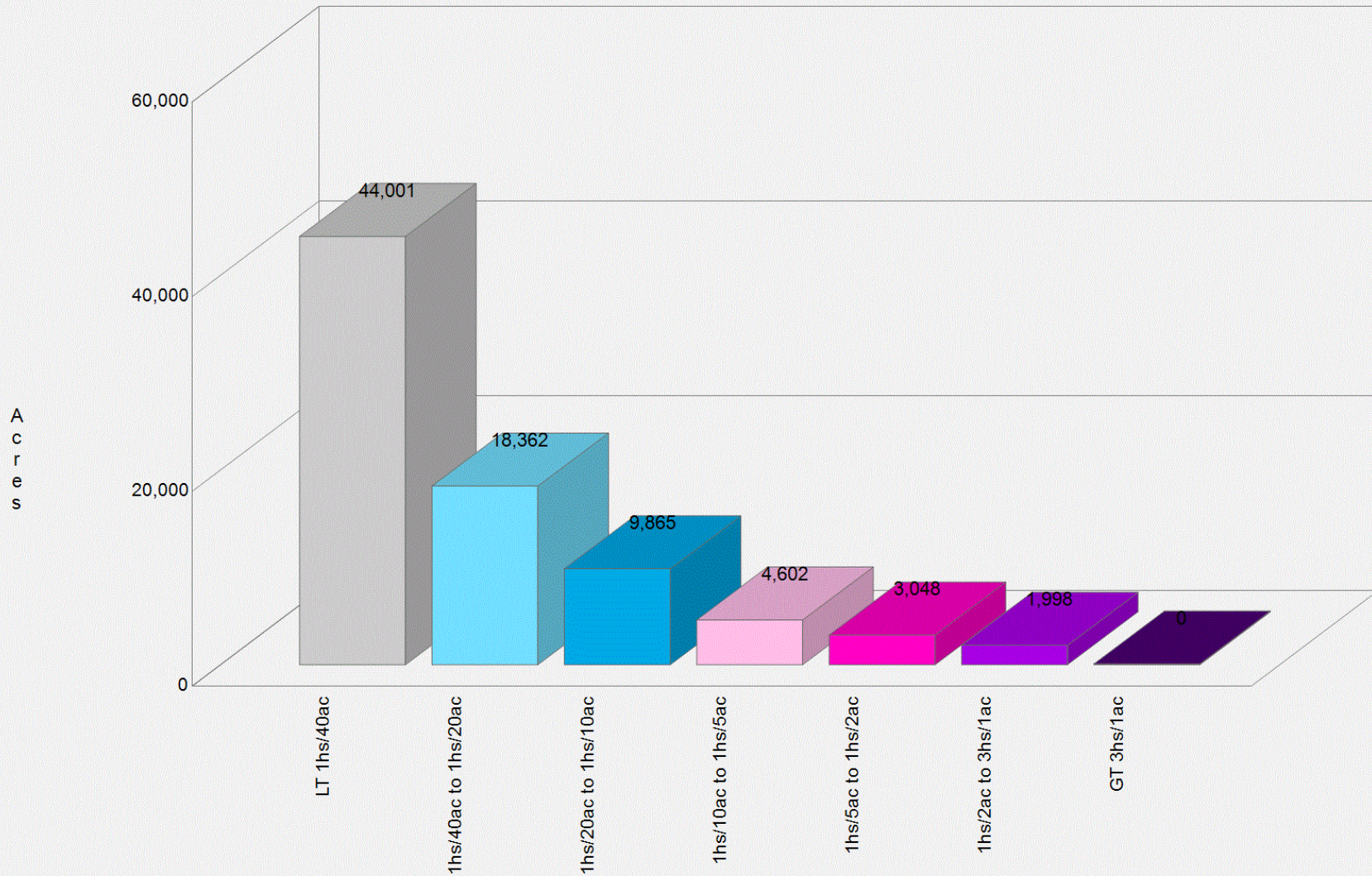
WUI – Population and Acres

Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
LT 1hs/40ac	793	7.5 %	44,001	53.7 %
1hs/40ac to 1hs/20ac	1,089	10.3 %	18,362	22.4 %
1hs/20ac to 1hs/10ac	1,304	12.4 %	9,865	12.0 %
1hs/10ac to 1hs/5ac	1,252	11.9 %	4,602	5.6 %
1hs/5ac to 1hs/2ac	1,878	17.8 %	3,048	3.7 %
1hs/2ac to 3hs/1ac	4,237	40.1 %	1,998	2.4 %
GT 3hs/1ac	0	0.0 %	0	0.0 %
Total	10,553	100.0 %	81,876	100.0 %

Wilkes Co HMP 2023
Wildland Urban Interface



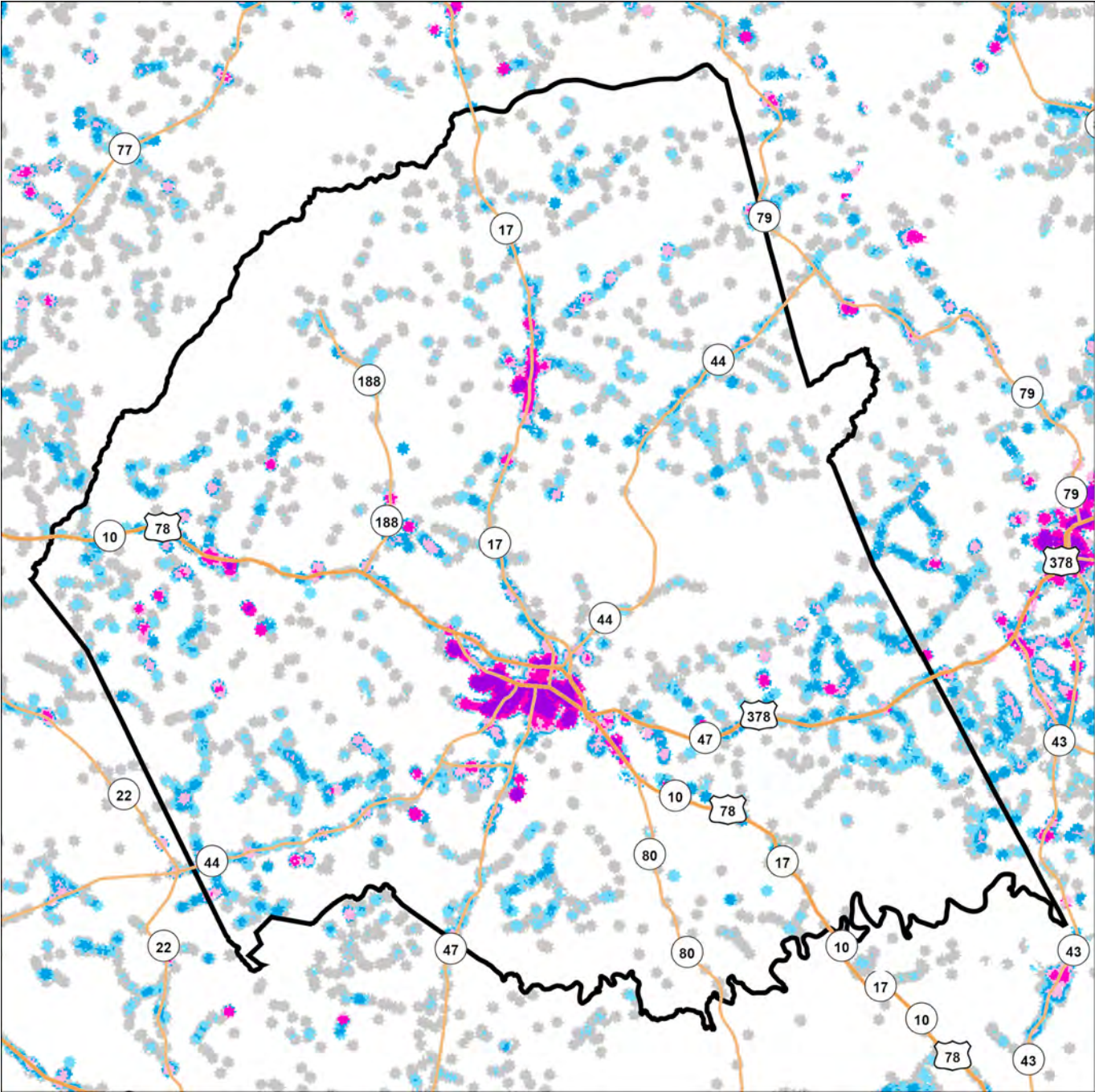
Wilkes Co HMP 2023
Wildland Urban Interface



Wilkes Co HMP 2023

Wildland Urban Interface

- 1 - LT 1 hs/40 ac
- 2 - 1 hs/40 to 1 hs/20 ac
- 3 - 1 hs/20 to 1 hs/10 ac
- 4 - 1 hs/10 to 1 hs/5 ac
- 5 - 1 hs/5 to 1 hs/2 ac
- 6 - 1 hs/2 to 3 hs/ac
- 7 - GT 3 hs/ac



Southern Wildfire Risk Assessment
<https://southernwildfirerisk.com/>

WUI Risk Index

Description

The **Wildland Urban Interface (WUI) Risk Index layer is a rating of the potential impact of a wildfire on people and their homes.** The key input, WUI, reflects housing density (houses per acre) consistent with Federal Register National standards. The location of people living in the Wildland Urban Interface and rural areas is key information for defining potential wildfire impacts to people and homes.

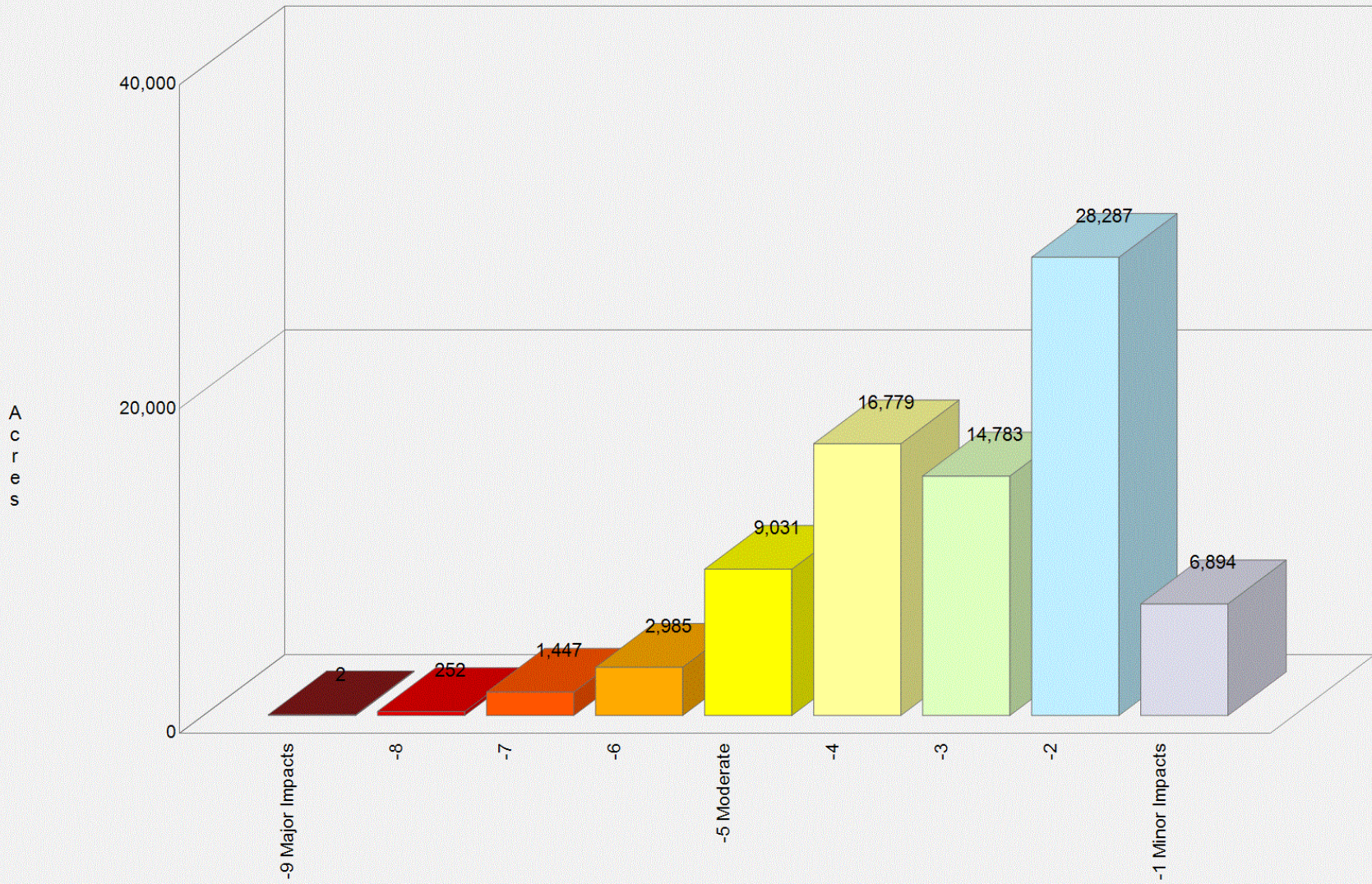
The WUI Risk Rating is derived using a Response Function modeling approach. Response functions are a method of assigning a net change in the value to a *resource* or *asset* based on susceptibility to fire at different intensity levels, such as flame length. The range of values is from -1 to -9, with -1 representing the least negative impact and -9 representing the most negative impact. For example, areas with high housing density and high flame lengths are rated -9 while areas with low housing density and low flame lengths are rated -1.

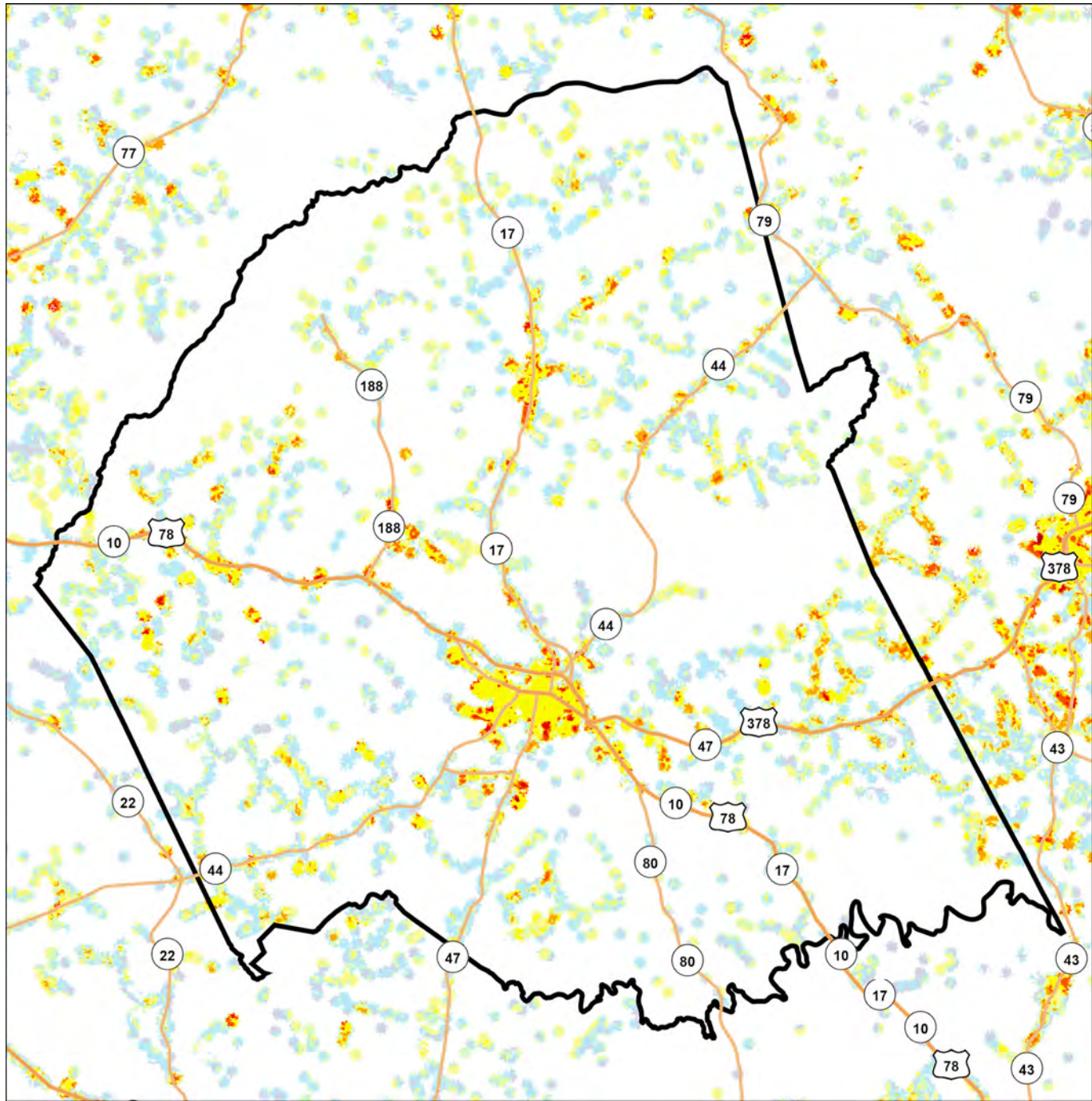
To calculate the WUI Risk Rating, the WUI housing density data was combined with Flame Length data and response functions were defined to represent potential impacts. The response functions were defined by a team of experts based on values defined by the SWRA Update Project technical team. By combining flame length with the WUI housing density data, you can determine where the greatest potential impact to homes and people is likely to occur.

Fire intensity data is modeled to incorporate penetration into urban fringe areas so that outputs better reflect real world conditions for fire spread and impact in fringe urban interface areas. With this enhancement, houses in urban areas adjacent to wildland fuels are incorporated into the WUI risk modeling. All areas in the South have the WUI Risk Index calculated consistently, which allows for comparison and ordination of areas across the entire region. Data is modeled at a 30-meter cell resolution, which is consistent with other SWRA layers.

	Class	Acres	Percent
	-9 Major Impacts	2	0.0 %
	-8	252	0.3 %
	-7	1,447	1.8 %
	-6	2,985	3.7 %
	-5 Moderate	9,031	11.2 %
	-4	16,779	20.9 %
	-3	14,783	18.4 %
	-2	28,287	35.2 %
	-1 Minor Impacts	6,894	8.6 %
	Total	80,460	100.0 %

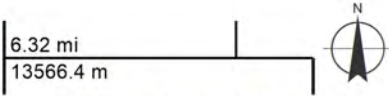
Wilkes Co HMP 2023
WUI Response Index





Wilkes Co HMP 2023

- WUI Risk**
- 9 Major Impacts
 - 8
 - 7
 - 6
 - 5 Moderate
 - 4
 - 3
 - 2
 - 1 Minor Impacts



Southern Wildfire Risk Assessment
<https://southernwildfirerisk.com/>

Community Protection Zones

Description

Community Protection Zones (CPZ) represent those areas considered highest priority for mitigation planning activities. CPZs are based on an analysis of the Where People Live housing density data and surrounding fire behavior potential. Rate of Spread data is used to determine the areas of concern around populated areas that are within a 2-hour fire spread distance. This is referred to as the Secondary CPZ.

General consensus among fire planners is that for fuel mitigation treatments to be effective in reducing wildfire hazard, they must be conducted within a close distance of a community. In the South, the WUI housing density has been used to reflect populated areas in place of community boundaries (Primary CPZ). This ensures that CPZs reflect where people are living in the wildland, not jurisdictional boundaries.

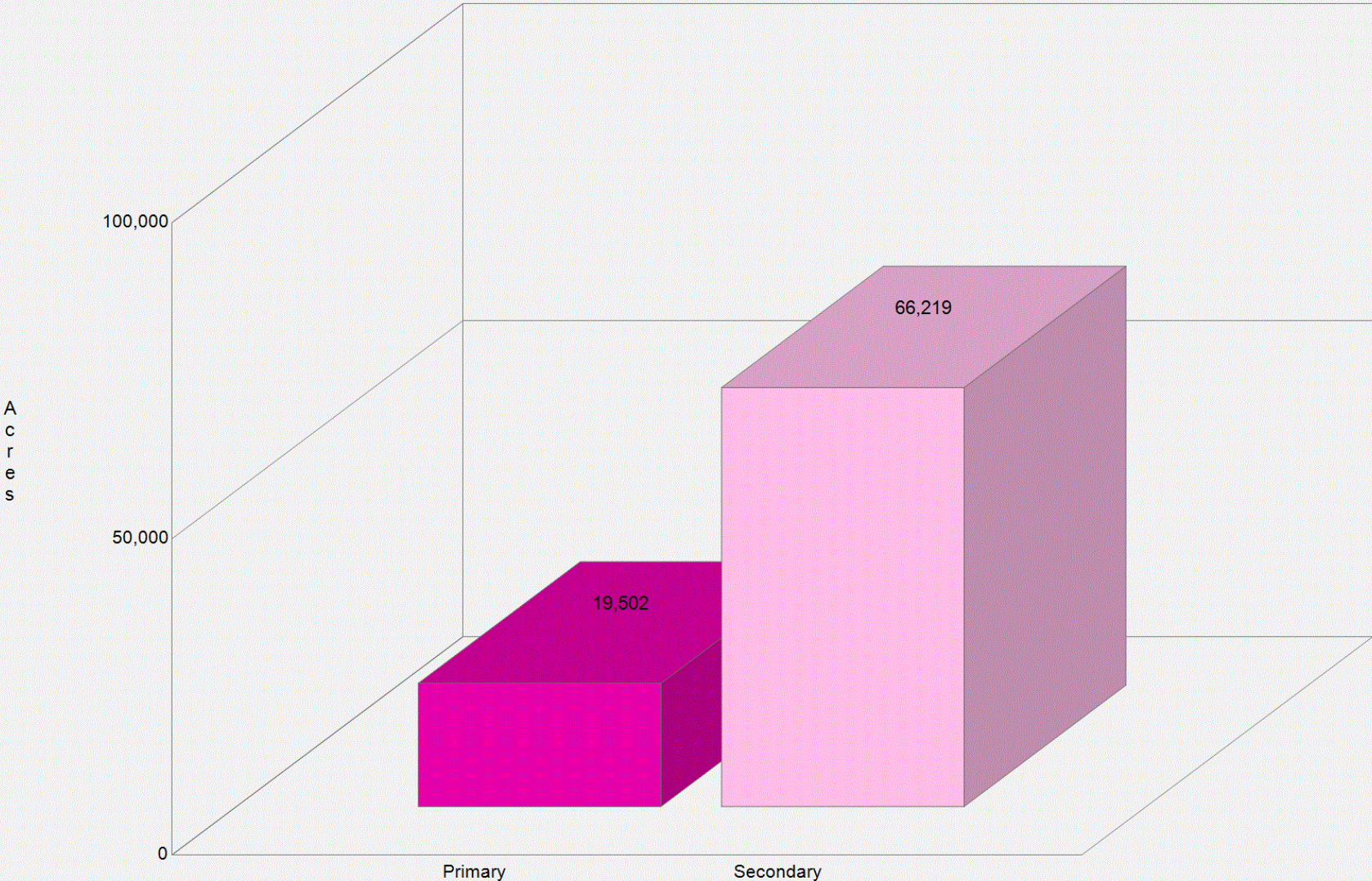
Secondary CPZs represent a variable width buffer around populated areas that are within a 2-hour fire spread distance. Accordingly, CPZs will extend farther in areas where rates of spread are greater and less in areas where minimal rate of spread potential exists. Secondary CPZ boundaries inherently incorporate fire behavior conditions.

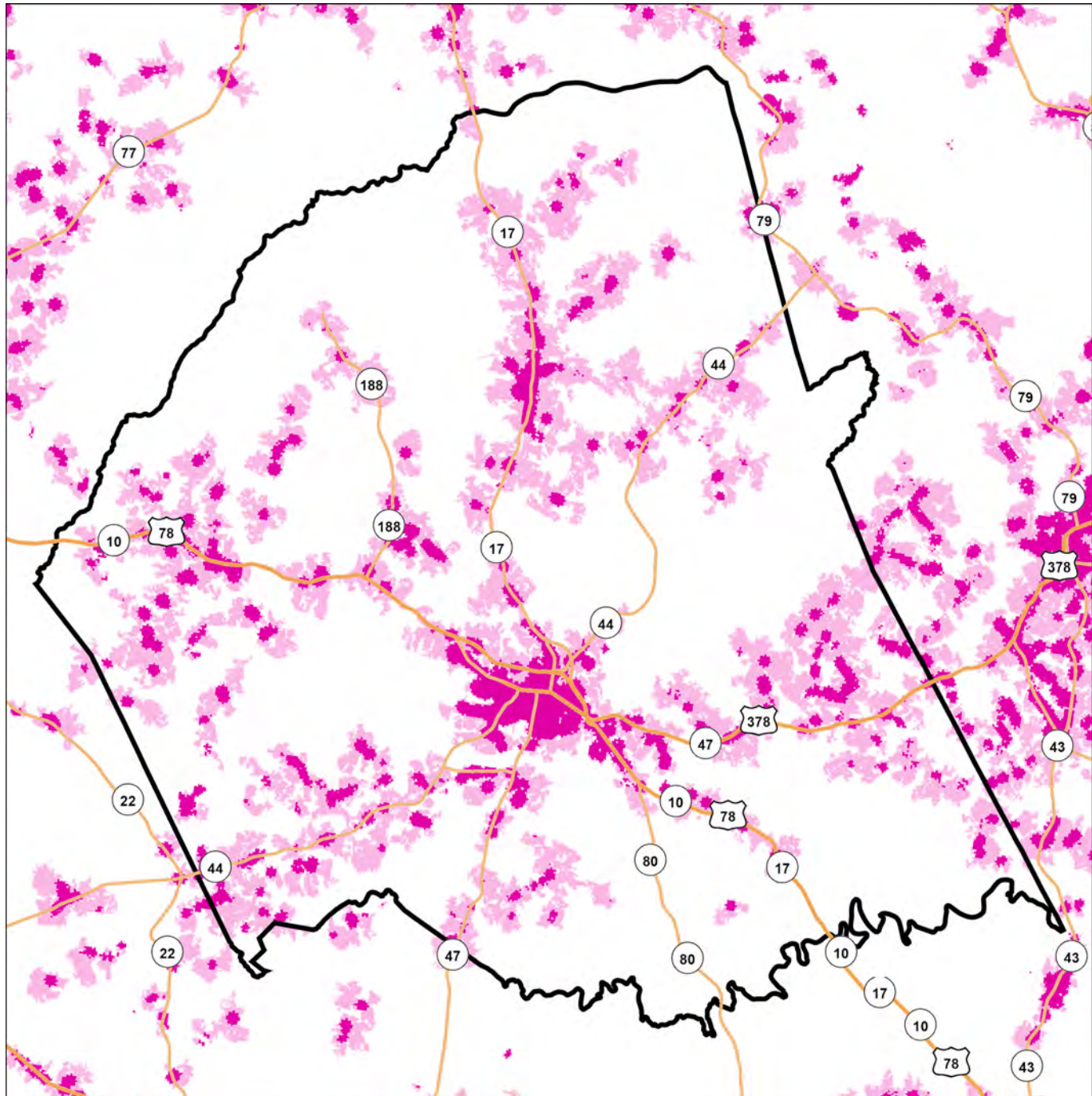
Primary CPZs reflect areas with a predefined housing density, such as greater than 1 house per 20 acres. Secondary CPZs are the areas around Primary CPZs within a 2 hour fire spread distance.

All areas in the South have the CPZs calculated consistently, which allows for comparison and ordination of areas across the entire region. Data is modeled at a 30-meter cell resolution, which is consistent with other SWRA layers.

	Class	Acres	Percent
	Primary	19,502	22.8 %
	Secondary	66,219	77.2 %
	Total	85,721	100.0 %

Wilkes Co HMP 2023
Community Protection Zones





Wilkes Co HMP 2023

Community Protection Zones

- Primary
- Secondary

6.32 mi
13566.4 m



Southern Wildfire Risk Assessment
<https://southernwildfirerisk.com/>

Burn Probability

Description

The Burn Probability (BP) layer depicts the probability of an area burning given current landscape conditions, percentile weather, historical ignition patterns and historical fire prevention and suppression efforts.

Describe in more detail, it is the tendency of any given pixel to burn, given the static landscape conditions depicted by the LANDFIRE Refresh 2008 dataset (as resampled by FPA), contemporary weather and ignition patterns, as well as contemporary fire management policies (entailing considerable fire prevention and suppression efforts).

The BP data does not, and is not intended to, depict fire-return intervals of any vintage, nor do they indicate likely fire footprints or routes of travel. Nothing about the expected shape or size of any actual fire incident can be interpreted from the burn probabilities. Instead, the BP data, in conjunction with the Fire Program Analysts FIL layers, are intended to support an actuarial approach to quantitative wildfire risk analysis (e.g., see Thompson et al. 2011).











Values in the Burn Probability (BP) data layer indicate, for each pixel, the number of times that cell was burned by an FSim-modeled fire, divided by the total number of annual weather scenarios simulated. Burn probability raster data was generated using the large fire simulator - FSim - developed for use in the Fire Program Analysis (FPA) project. FSim uses historical weather data and current landcover data for discrete geographical areas (Fire Planning Units - FPU) and simulates fires in these FPU. Using these simulated fires, an overall burn probability and marginal burn probabilities at four fire intensities (flame lengths) are returned by FSim for each 270m pixel in the FPU.

The fire growth simulations, when run repeatedly with different ignition locations and weather streams, generate burn probabilities and fire behavior distributions at each landscape location (i.e., cell or pixel). Results are objectively evaluated through comparison with historical fire patterns and statistics, including the mean annual burn probability and fire size distribution, for each FPU. This evaluation is part of the FSim calibration process for each FPU, whereby simulation inputs are adjusted until the slopes of the historical and modeled fire size distributions are similar and the modeled average burn probability falls within an acceptable range of the historical reference value (i.e., the 95% confidence interval for the mean).

Please refer to the metadata available for this dataset for a detailed description of the data processing methods, assumptions and references that pertain to the development of this data. This information is available from the USFS Missoula Fire Sciences Laboratory.

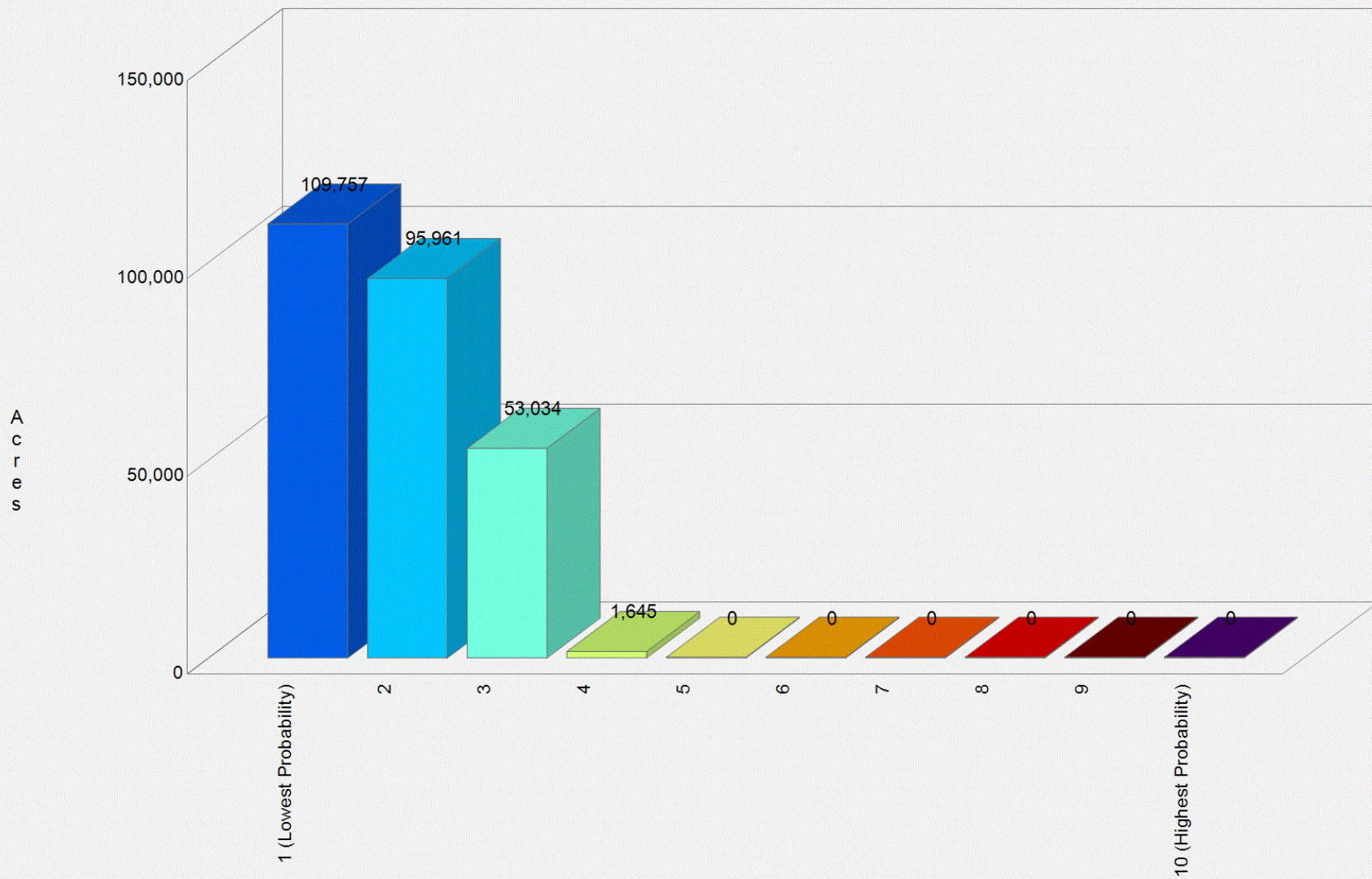
Please refer to the web site link in the report References to obtain more detailed descriptions of FPA and the related data products such as Burn Probability.

Burn Probability replaces the Wildland Fire Susceptibility Index (WFSI) layer developed in the original SWRA project completed in 2005.

	Class	Acres	Percent
	1	109,757	42.1 %
	2	95,961	36.9 %
	3	53,034	20.4 %
	4	1,645	0.6 %
	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		260,397	100.0 %

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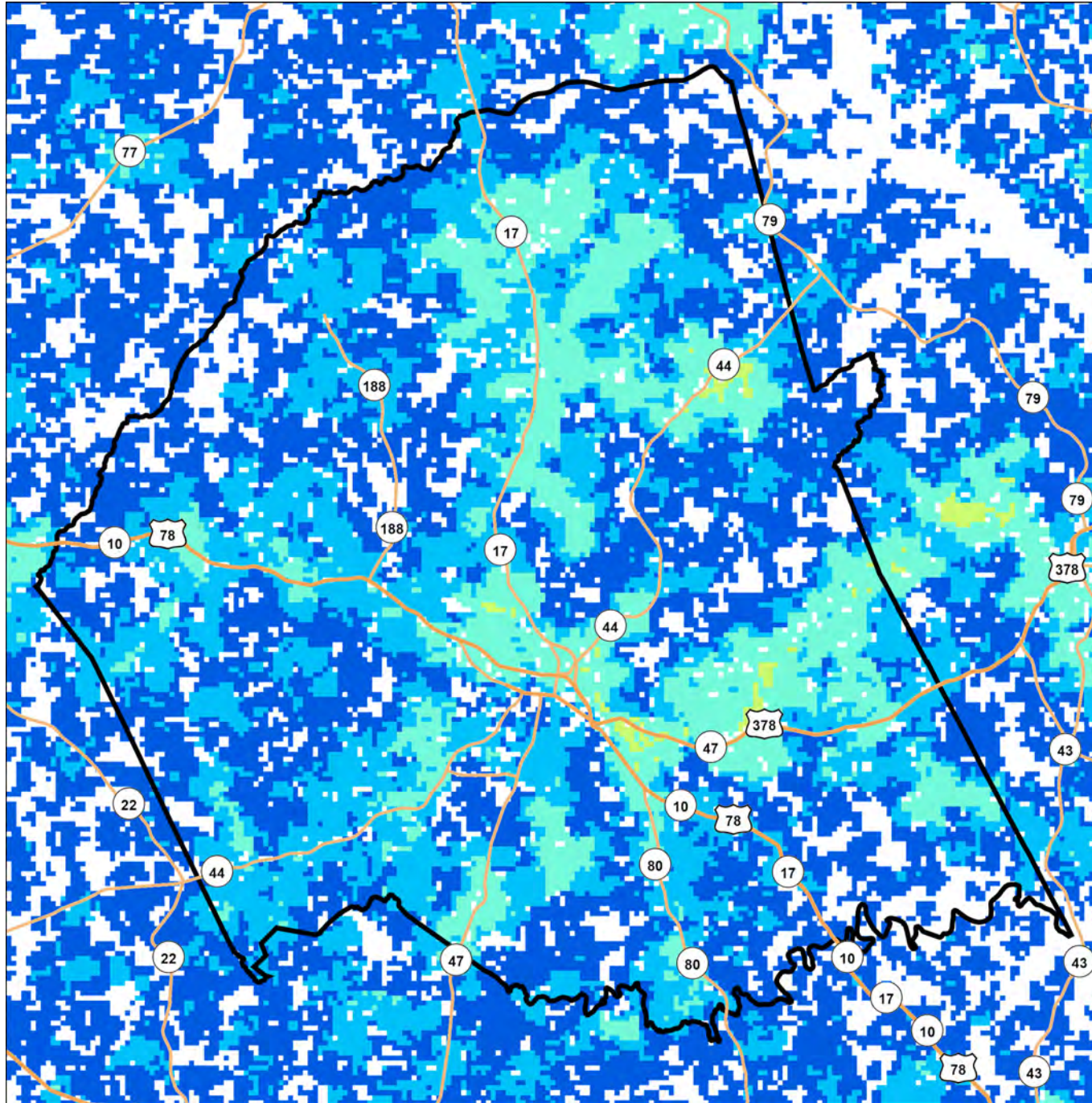
Burn Probability



Wilkes Co HMP 2023

Burn Probability

- 1 (Lowest Probability)
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 (Highest Probability)



6.32 mi
13566.4 m



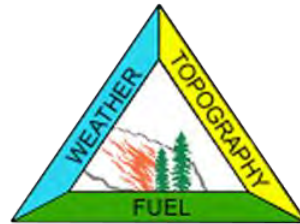
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Fire Behavior

Description

Fire behavior is the manner in which a fire reacts to the following environmental influences:

1. **Fuels**
2. **Weather**
3. **Topography**



Fire behavior characteristics are attributes of wildland fire that pertain to its spread, intensity, and growth. Fire behavior characteristics utilized in the Southern Wildfire Risk Assessment (SWRA) include fire type, rate of spread, flame length and fire intensity scale. These metrics are used to determine the potential fire behavior under different weather scenarios. Areas that exhibit moderate to high fire behavior potential can be identified for mitigation treatments, especially if these areas are in close proximity to homes, business, or other assets.

Fuels

The SWRA includes composition and characteristics for both surface fuels and canopy fuels. Significant increases in fire behavior will be captured if the fire has the potential to transition from a surface fire to a canopy fire.

Fuel datasets required to compute both surface and canopy fire potential include:

- **Surface Fuels**, generally referred to as fire behavior fuel models, provide the input parameters needed to compute surface fire behavior.
- **Canopy Cover** is the horizontal percentage of the ground surface that is covered by tree crowns. It is used to compute wind reduction factors and shading.
- **Canopy Ceiling Height/Stand Height** is the height above the ground of the highest canopy layer where the density of the crown mass within the layer is high enough to support vertical movement of a fire. A good estimate of canopy ceiling height would be the average height of the dominant and co-dominant trees in a stand. It is used for computing wind reduction to midflame height and spotting distances from torching trees (Fire Program Solutions, L.L.C, 2005).
- **Canopy Base Height** is the lowest height above the ground above which there is sufficient canopy fuel to propagate fire vertically (Scott & Reinhardt, 2001). Canopy base height is a property of a plot, stand, or group of trees, not of an individual tree. For fire modeling, canopy base height is an effective value that incorporates ladder fuel, such as tall shrubs and small trees. Canopy base height is used to determine if a surface fire will transition to a canopy fire.
- **Canopy Bulk Density** is the mass of available canopy fuel per unit canopy volume (Scott & Reinhardt, 2001). Canopy bulk density is a bulk property of a stand, plot, or group of trees, not of an individual tree. Canopy bulk density is used to predict whether an active crown fire is possible.

Weather

Environmental weather parameters needed to compute fire behavior characteristics include 1-hour, 10-hour, and 100-hour timelag fuel moistures, herbaceous fuel moisture, woody fuel moisture, and the 20-foot 10 minute average wind speed. To collect this information, weather influence zones were established across the region. A weather influence zone is an area where for analysis purposes the weather on any given day is considered uniform. Within each weather influence zone, historical daily weather is gathered to compile a weather dataset from which four percentile weather categories are created. The percentile weather categories are intended to represent low, moderate, high, and extreme fire weather days. Fire behavior outputs are computed for each percentile weather category to determine fire potential under different weather scenarios.

The four percentile weather categories include:

- Low Weather Percentile (0 – 15%)
- Moderate Weather Percentile (16 – 90%)
- High Weather Percentile (91 – 97%)
- Extreme Weather Percentile (98 – 100%)

Topography

Topography datasets required to compute fire behavior characteristics are elevation, slope and aspect.

FIRE BEHAVIOR CHARACTERISTICS

Fire behavior characteristics provided in this report include:

- **Characteristic Rate of Spread**
- **Characteristic Flame Length**
- **Characteristic Fire Intensity Scale**
- **Fire Type - Extreme**

Characteristic Rate of Spread

Description

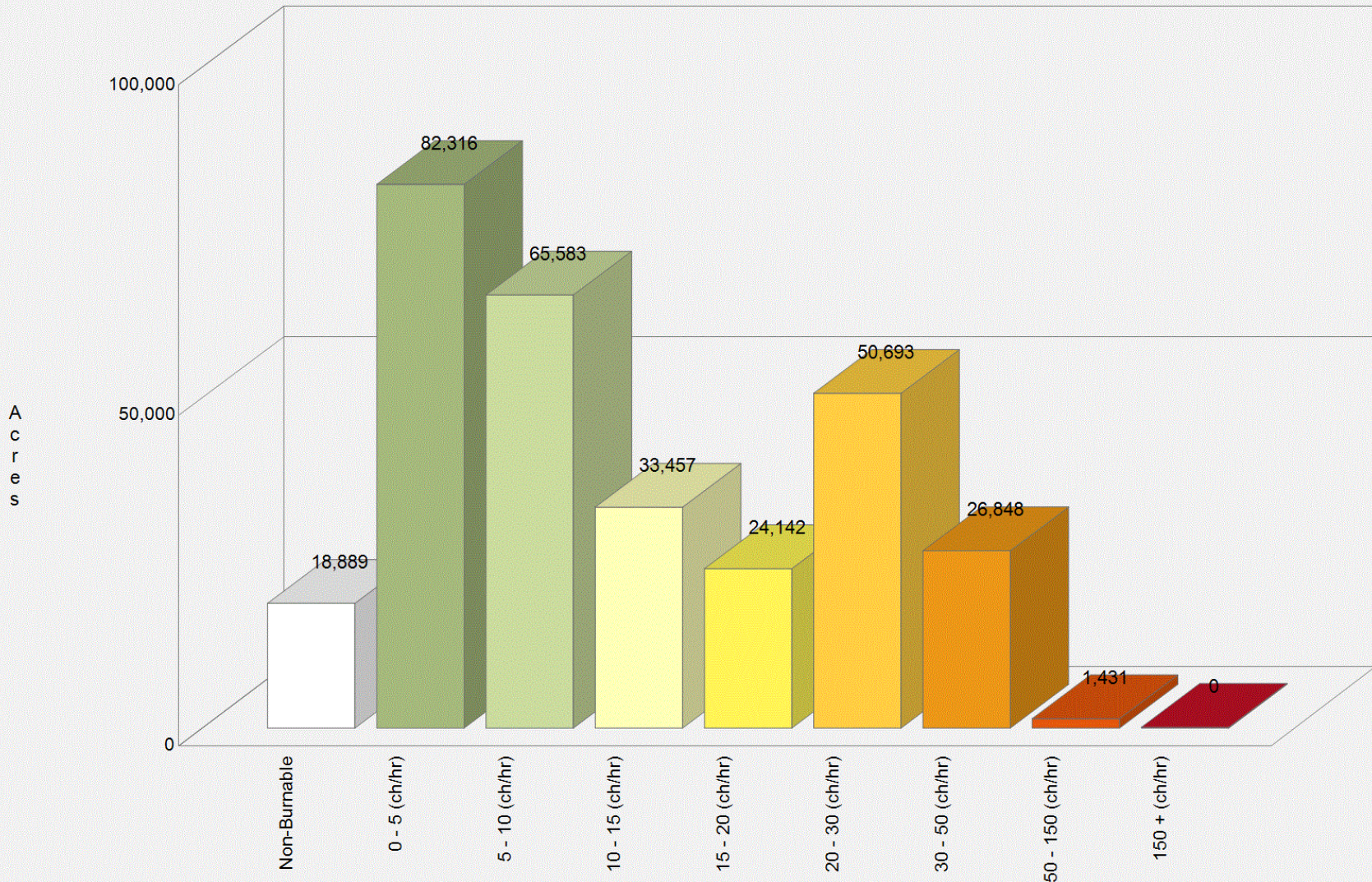
Characteristic Rate of Spread is the typical or representative rate of spread of a potential fire based on a weighted average of four percentile weather categories. Rate of spread is the speed with which a fire moves in a horizontal direction across the landscape, usually expressed in chains per hour (ch/hr) or feet per minute (ft/min). For purposes of the Southern Wildfire Risk Assessment, this measurement represents the maximum rate of spread of the fire front. Rate of Spread is the metric used to derive the Community Protection Zones.

Rate of spread is a fire behavior output, which is influenced by three environmental factors - fuels, weather, and topography. Weather is by far the most dynamic variable as it changes frequently. To account for this variability, four percentile weather categories were created from historical weather observations to represent low, moderate, high, and extreme weather days for each weather influence zone in the South. A weather influence zone is an area where, for analysis purposes, the weather on any given day is considered uniform.

For all Southern states, except Florida and Texas, this dataset was derived from updated fuels and canopy data as part of the 2010 SWRA Update Project recently completed in May 2014. For Texas, the 2010 Texas risk update data is portrayed. For Florida, the 2010 Florida risk assessment update data is shown.

	Rate of Spread	Acres	Percent
	Non-Burnable	18,889	6.2 %
	0 - 5 (ch/hr)	82,316	27.1 %
	5 - 10 (ch/hr)	65,583	21.6 %
	10 - 15 (ch/hr)	33,457	11.0 %
	15 - 20 (ch/hr)	24,142	8.0 %
	20 - 30 (ch/hr)	50,693	16.7 %
	30 - 50 (ch/hr)	26,848	8.9 %
	50 - 150 (ch/hr)	1,431	0.5 %
	150 + (ch/hr)	0	0.0 %
	Total	303,359	100.0 %

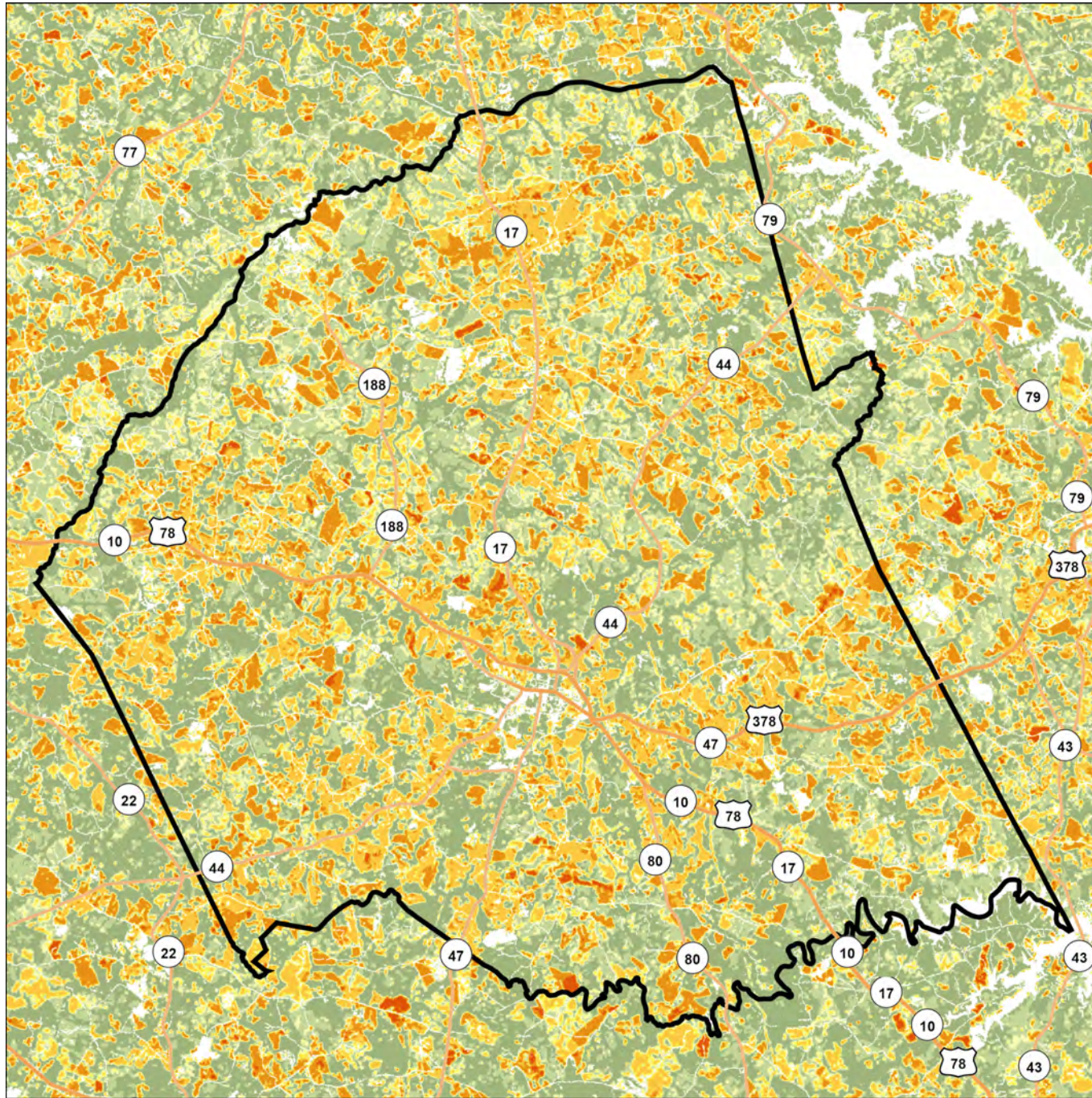
Wilkes Co HMP 2023
Characteristic Rate of Spread



Wilkes Co HMP 2023

Rate Of Spread

- 0 - 5 ch/hr
- 5 - 10 ch/hr
- 10 - 15 ch/hr
- 15 - 20 ch/hr
- 20 - 30 ch/hr
- 30 - 50 ch/hr
- 50 - 150 ch/hr
- 150+ ch/hr



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Characteristic Flame Length

Description

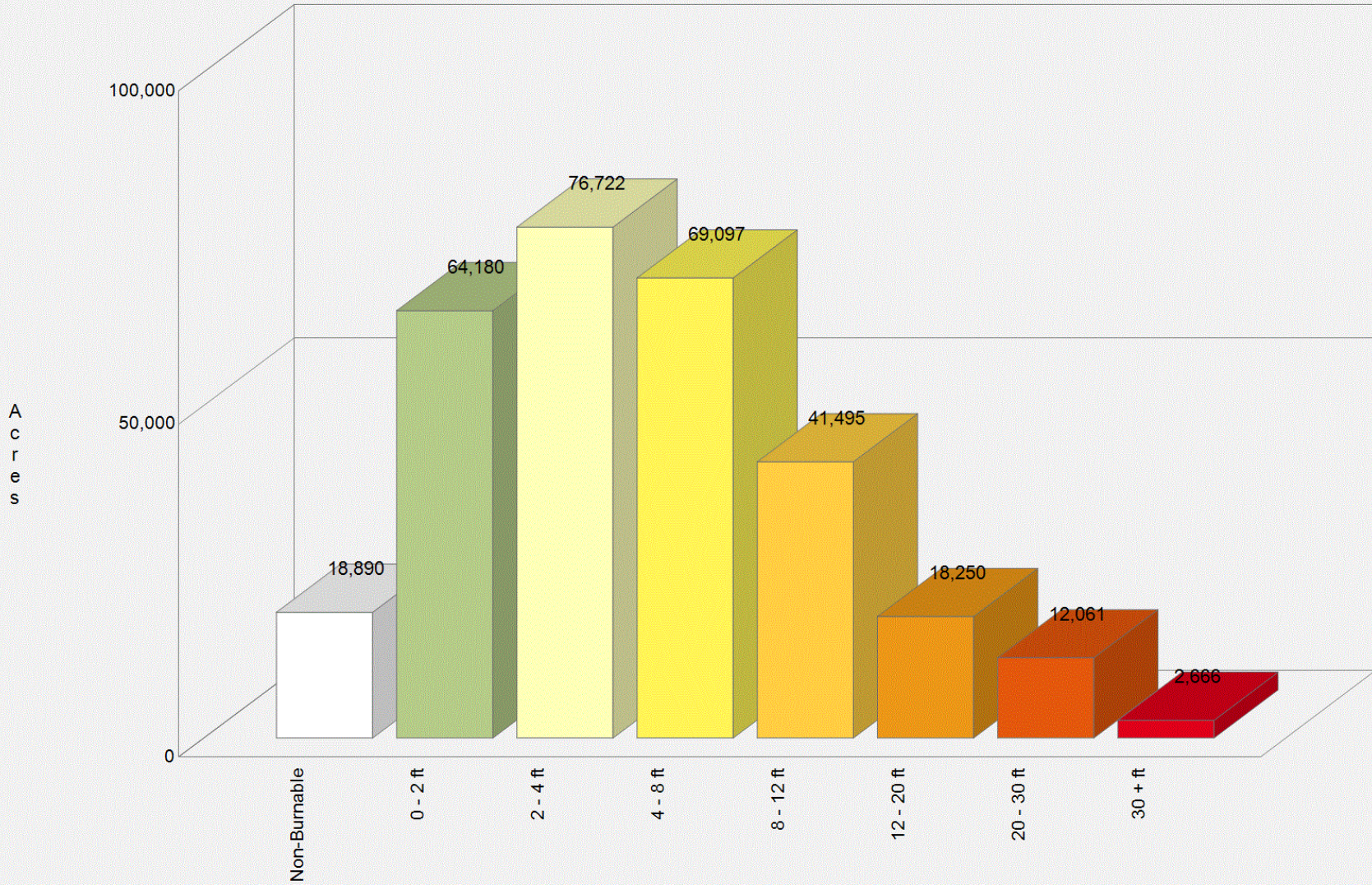
Characteristic Flame Length is the typical or representative flame length of a potential fire based on a weighted average of four percentile weather categories. Flame Length is defined as the distance between the flame tip and the midpoint of the flame depth at the base of the flame, which is generally the ground surface. It is an indicator of fire intensity and is often used to estimate how much heat the fire is generating. Flame length is typically measured in feet (ft). Flame length is the measure of fire intensity used to generate the response index outputs for the SWRA.

Flame length is a fire behavior output, which is influenced by three environmental factors - fuels, weather, and topography. Weather is by far the most dynamic variable as it changes frequently. To account for this variability, four percentile weather categories were created from historical weather observations to represent low, moderate, high, and extreme weather days for each weather influence zone in the South. A weather influence zone is an area where, for analysis purposes, the weather on any given day is considered uniform.

For all Southern states, except Florida and Texas, this dataset was derived from updated fuels and canopy data as part of the 2010 SWRA Update Project recently completed in May 2014. For Texas, the 2010 Texas risk update data is portrayed. For Florida, the 2010 Florida risk assessment update data is shown.

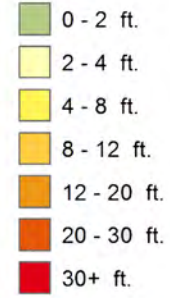
Flame Length	Acres	Percent
Non-Burnable	18,890	6.2 %
0 - 2 ft	64,180	21.2 %
2 - 4 ft	76,722	25.3 %
4 - 8 ft	69,097	22.8 %
8 - 12 ft	41,495	13.7 %
12 - 20 ft	18,250	6.0 %
20 - 30 ft	12,061	4.0 %
30 + ft	2,666	0.9 %
Total	303,361	100.0 %

Wilkes Co HMP 2023
Characteristic Flame Length



Wilkes Co HMP 2023

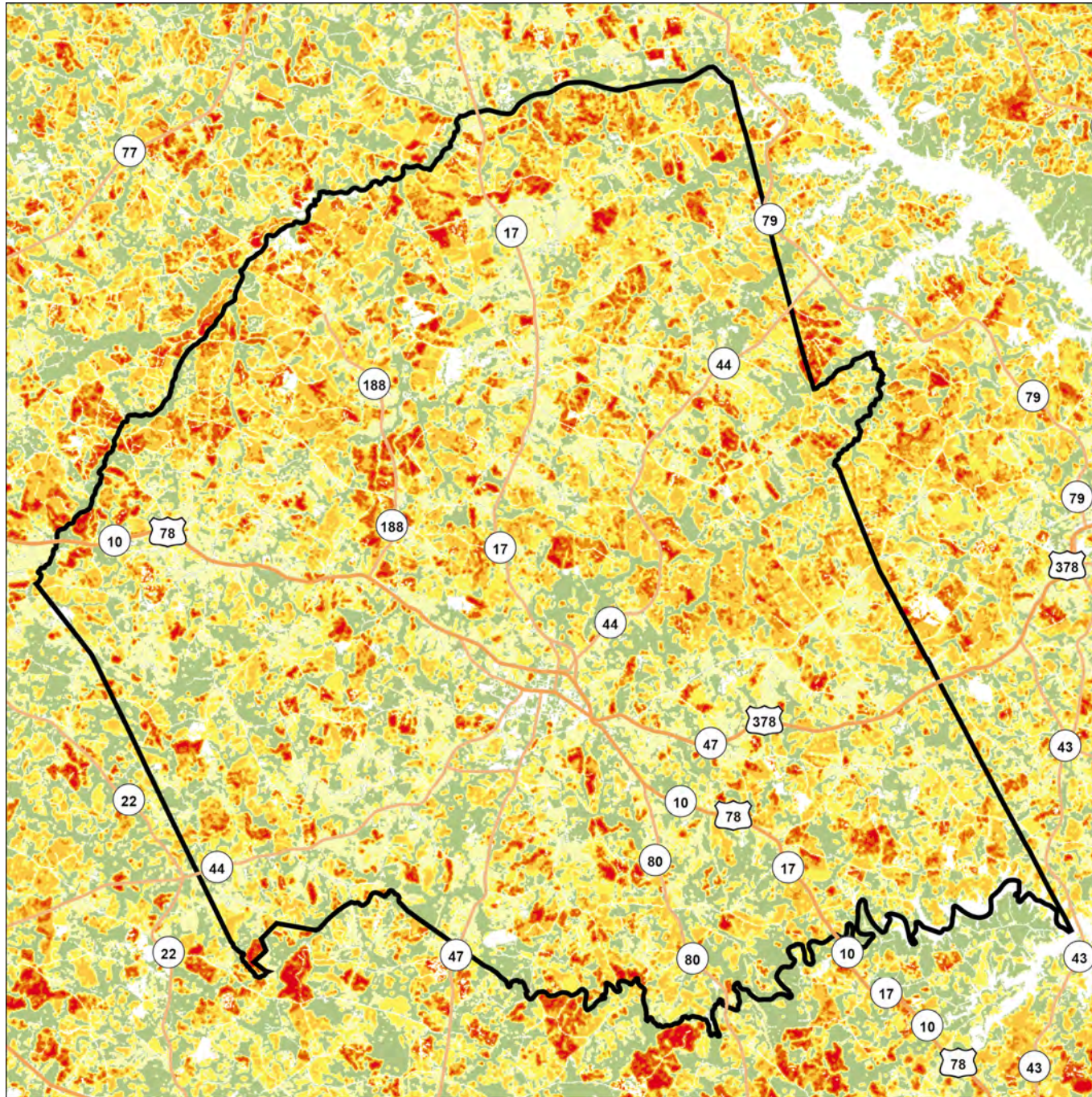
Flame Length



6.32 mi
13566.4 m



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Characteristic Fire Intensity Scale

Description

Characteristic Fire Intensity Scale (FIS) specifically identifies areas where significant fuel hazards and associated dangerous fire behavior potential exist based on a weighted average of four percentile weather categories. Similar to the Richter scale for earthquakes, FIS provides a standard scale to measure potential wildfire intensity. FIS consist of 5 classes where the order of magnitude between classes is ten-fold. The minimum class, Class 1, represents very low wildfire intensities and the maximum class, Class 5, represents very high wildfire intensities. Refer to descriptions below.

- **Class 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.
- **Class 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.
- **Class 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.

- **Class 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.
- **Class 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.

For all Southern states, except Texas, this dataset was derived from updated fuels and canopy data as part of the 2010 SWRA Update Project recently completed in May 2014. For Texas, the 2010 Texas risk update data is portrayed.

To aid in viewing on the map, FIS is presented in 1/2 class increments. Please consult the SouthWRAP User Manual for a more detailed description of the FIS class descriptions.

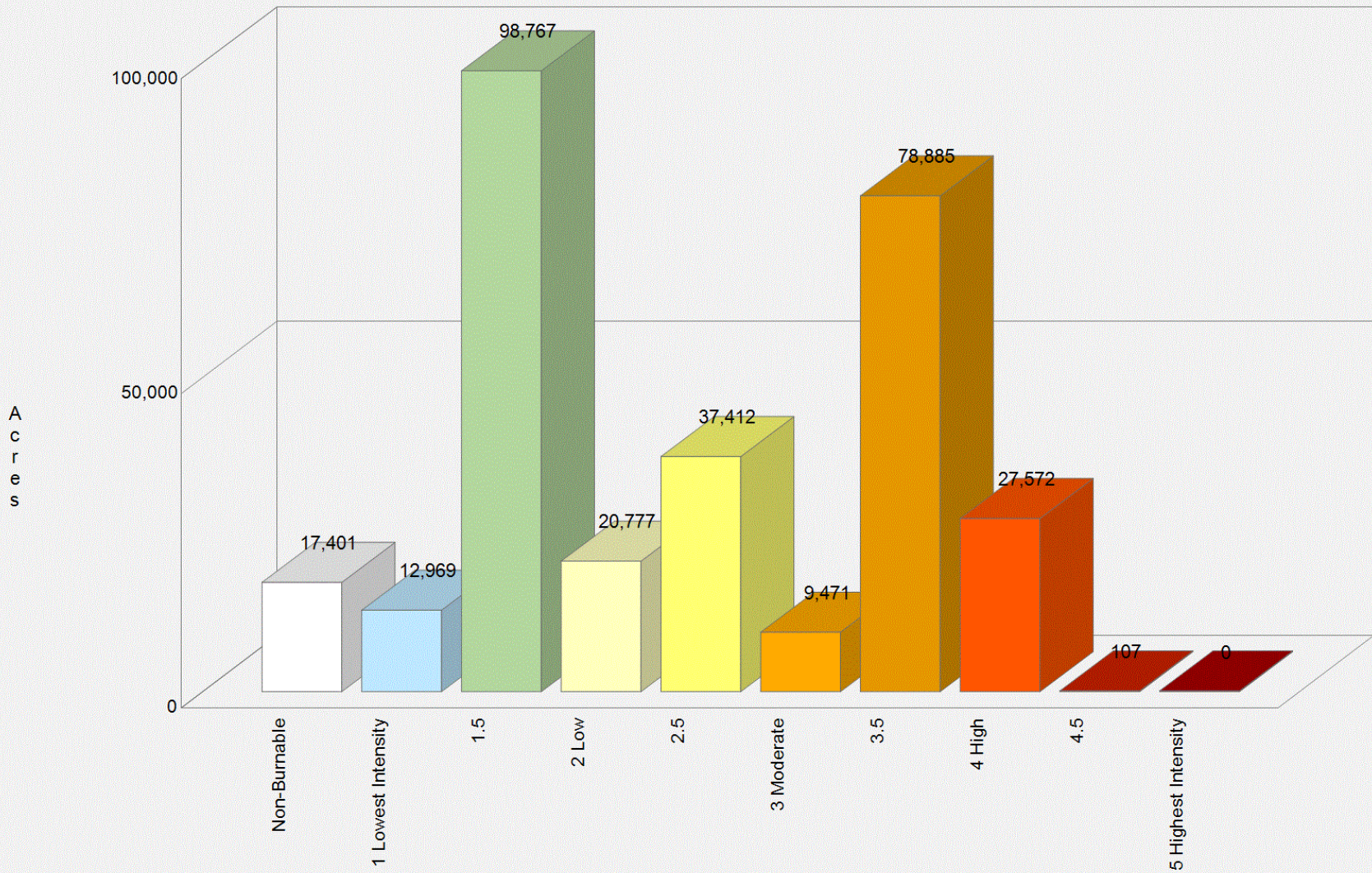
Since all areas in the South have fire intensity scale calculated consistently, it allows for comparison and ordination of areas across the entire region.

Fire intensity scale is a fire behavior output, which is influenced by three environmental factors - fuels, weather, and topography. Weather is by far the most dynamic variable as it changes frequently. To account for this variability, four percentile weather categories were created from historical weather observations to represent low, moderate, high, and extreme weather days for each weather influence zone in the South. A weather influence zone is an area where, for analysis purposes, the weather on any given day is considered uniform.

The fire intensity scale map is derived at a 30-meter resolution. This scale of data was chosen to be consistent with the accuracy of the primary surface fuels dataset used in the assessment. While not appropriate for site specific analysis, it is appropriate for regional, county or local planning efforts.










Class		Acres	Percent
	Non-Burnable	17,401	5.7 %
1	Lowest Intensity	12,969	4.3 %
1.5		98,767	32.6 %
2	Low	20,777	6.8 %
2.5		37,412	12.3 %
3	Moderate	9,471	3.1 %
3.5		78,885	26.0 %
4	High	27,572	9.1 %
4.5		107	0.0 %
5	Highest Intensity	0	0.0 %
Total		303,361	100.0 %

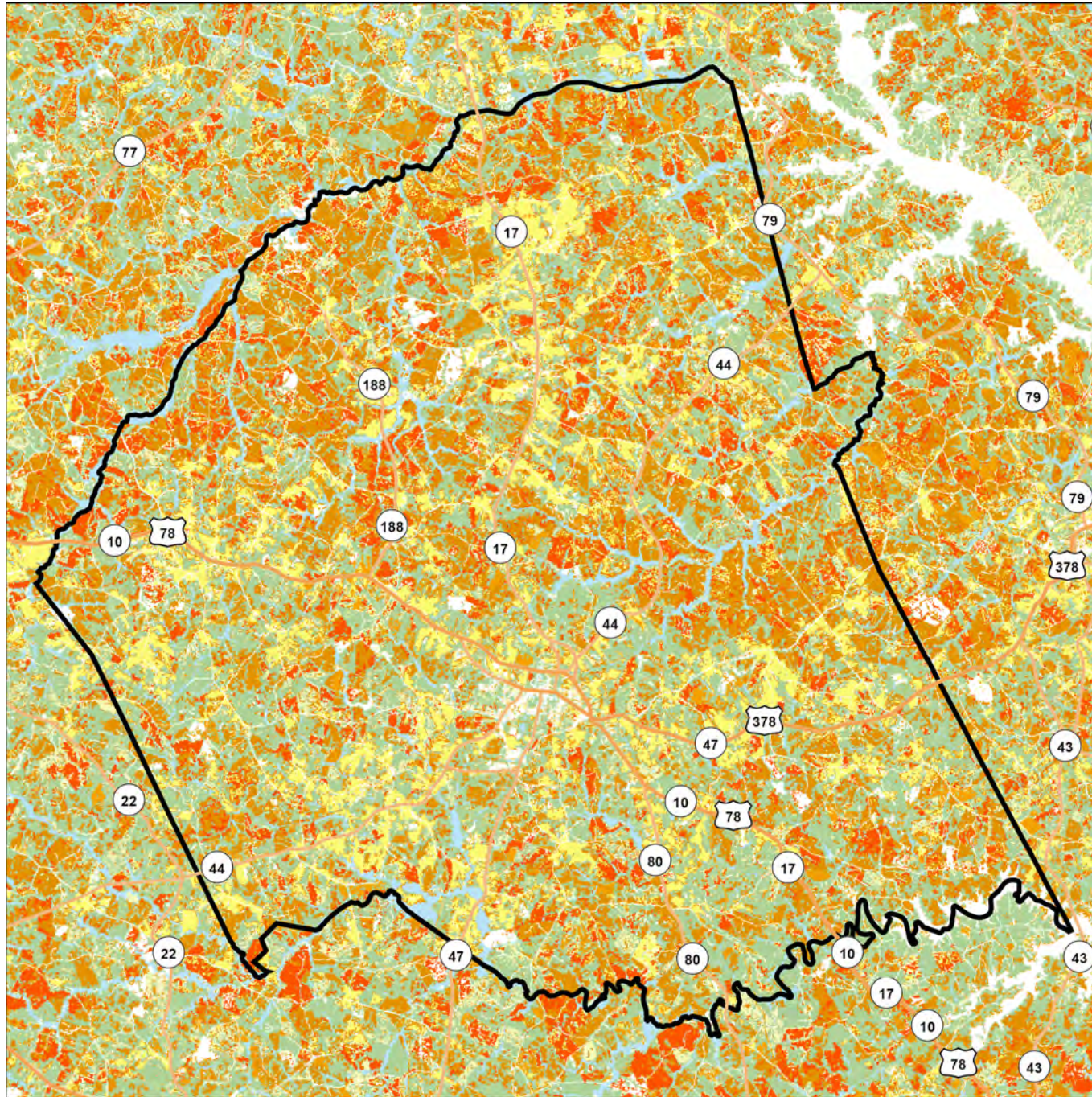
Wilkes Co HMP 2023
Characteristic Fire Intensity Scale



Wilkes Co HMP 2023

Fire Intensity Scale

-  1 - Lowest Intensity
-  1.5
-  2 - Low
-  2.5
-  3 - Moderate
-  3.5
-  4 - High
-  4.5
-  5 - Highest Intensity



6.32 mi
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Fire Type – Extreme

Description

There are two primary fire types – surface fire and canopy fire. Canopy fire can be further subdivided into passive canopy fire and active canopy fire. A short description of each of these is provided below.

Surface Fire

A fire that spreads through surface fuel without consuming any overlying canopy fuel. Surface fuels include grass, timber litter, shrub/brush, slash and other dead or live vegetation within about 6 feet of the ground.



Passive Canopy Fire

A type of crown fire in which the crowns of individual trees or small groups of trees burn, but solid flaming in the canopy cannot be maintained except for short periods (Scott & Reinhardt, 2001).



Active Canopy Fire

A crown fire in which the entire fuel complex (canopy) is involved in flame, but the crowning phase remains dependent on heat released from surface fuel for continued spread (Scott & Reinhardt, 2001).



Fire Type – Extreme represents the potential fire type under the extreme percentile weather category. The extreme percentile weather category represents the average weather based on the top three percent fire weather days in the analysis period. It is not intended to represent a worst case scenario weather event. Accordingly, the potential fire type is based on fuel conditions, extreme percentile weather, and topography.

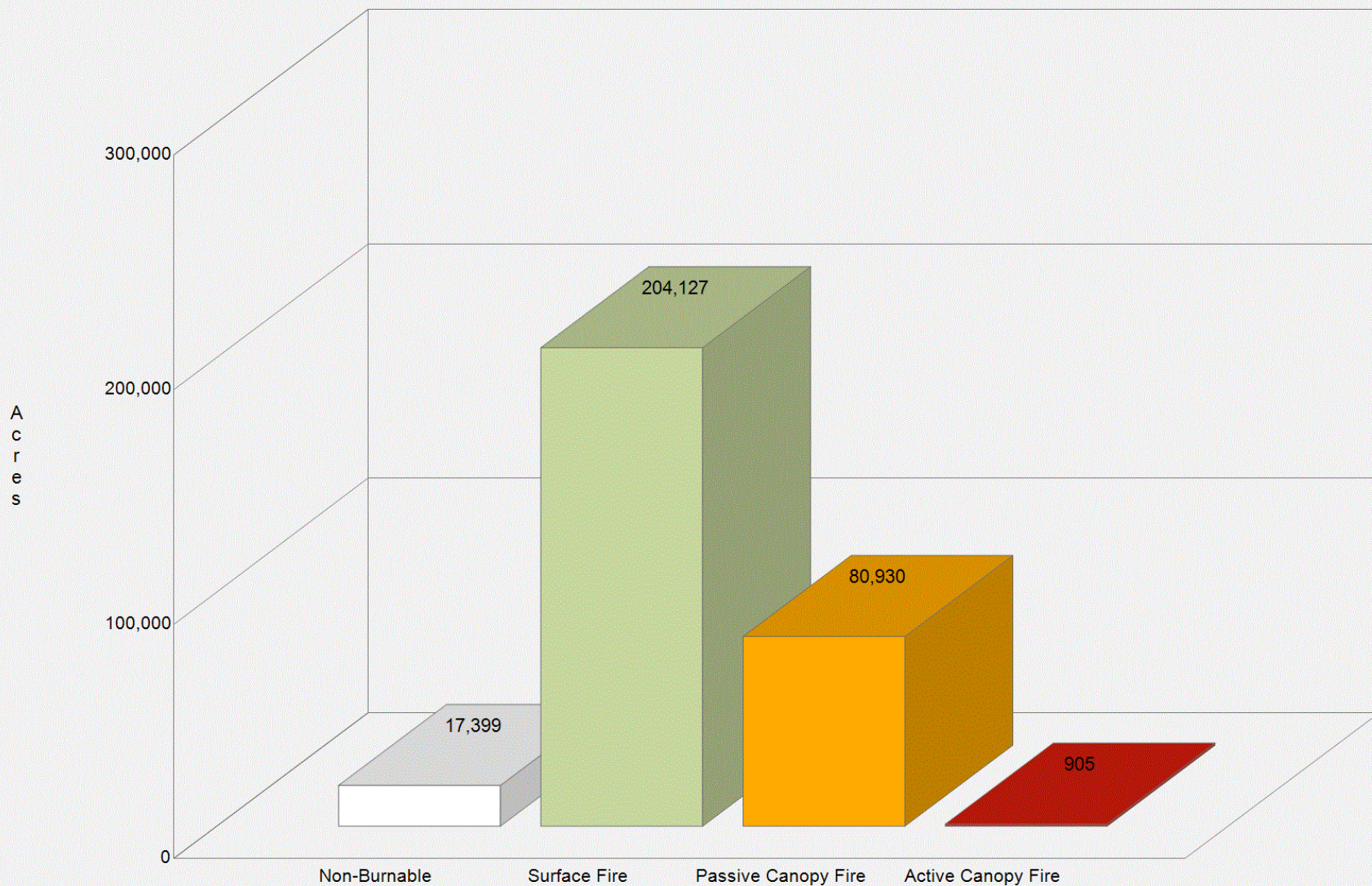
Canopy fires are very dangerous, destructive and difficult to control due to their increased fire intensity. From a planning perspective, it is important to identify where these conditions are likely to occur on the landscape so that special preparedness measure can be taken if necessary. The Fire Type – Extreme layer shows the footprint of where these areas are most likely to occur. However, it is important to note that canopy fires are not restricted to these areas. Under the right conditions, it can occur in other canopied areas.

For all Southern states, except Florida and Texas, this dataset was derived from updated fuels and canopy data as part of the 2010 SWRA Update Project recently completed in May 2014. For Texas, the 2010 Texas risk update data is portrayed. For Florida, the 2010 Florida risk assessment update data is shown.

The fire type - extreme map is derived at a 30-meter resolution. This scale of data was chosen to be consistent with the accuracy of the primary surface fuels dataset used in the assessment. While not appropriate for site specific analysis, it is appropriate for regional, county or local planning efforts.

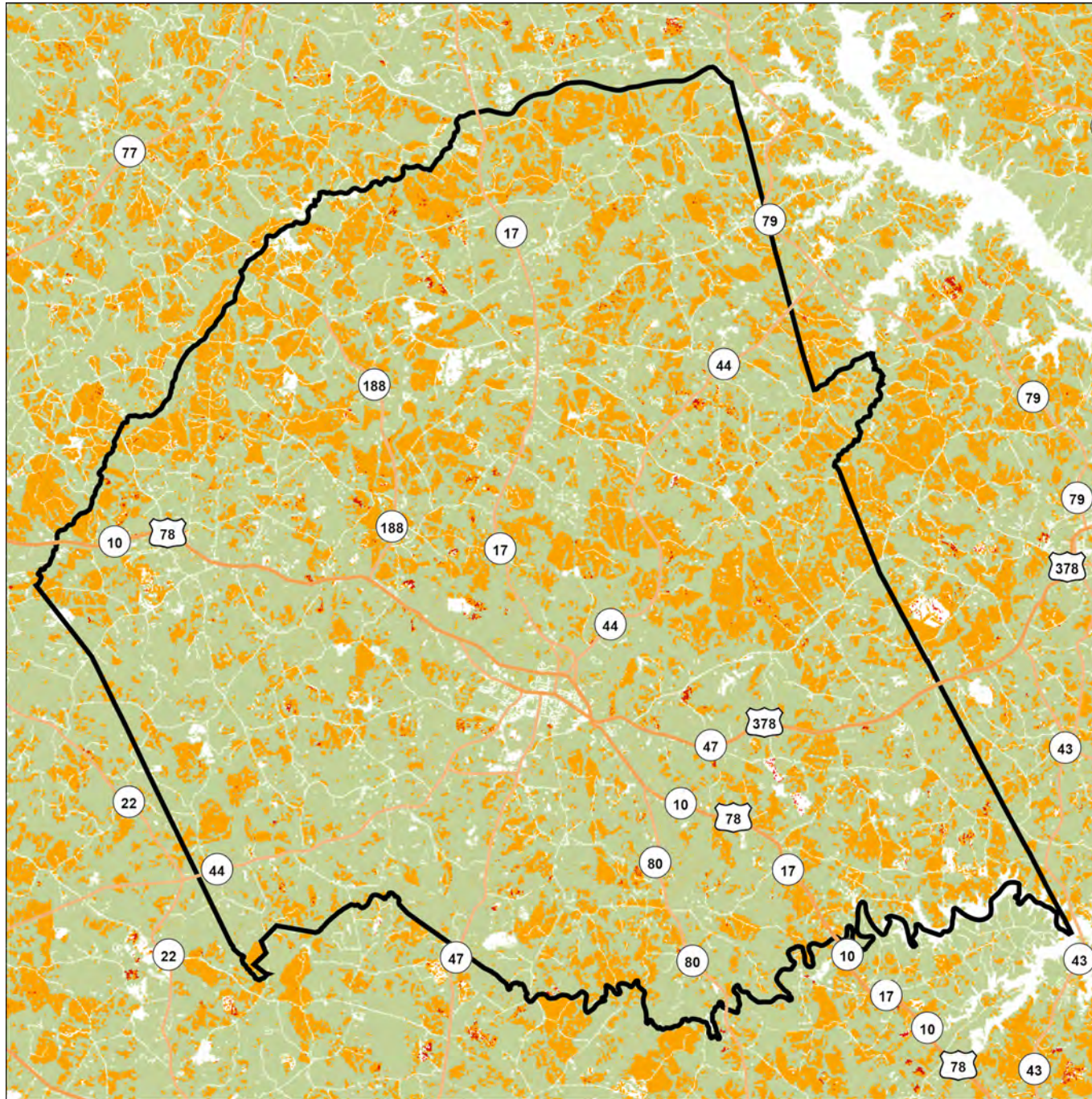
	Fire Type	Acres	Percent
	Non-Burnable	17,399	5.7 %
	Surface Fire	204,127	67.3 %
	Passive Canopy	80,930	26.7 %
	Active Canopy	905	0.3 %
	Total	303,361	100.0 %

Wilkes Co HMP 2023
Fire Type - Extreme



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- Fire Type**
Extreme Weather Percentile
- Surface Fire
 - Passive Canopy Fire
 - Active Canopy Fire



6.32 mi
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Surface Fuels

Description

Surface fuels, or fire behavior fuel models as they are technically referred to, contain the parameters needed by the Rothermel (1972) surface fire spread model to compute surface fire behavior characteristics, such as rate of spread, flame length, fireline intensity, and other fire behavior metrics. As the name might suggest, surface fuels only account for the surface fire potential. Canopy fire potential is computed through a separate but linked process. The Southern Wildfire Risk Assessment accounts for both surface and canopy fire potential in the fire behavior outputs.

Surface fuels are typically categorized into one of four primary fuel types based on the primary carrier of the surface fire: 1) grass, 2) shrub/brush, 3) timber litter and 4) slash. There are two standard fire behavior fuel model sets published for use. The Fire Behavior Prediction System 1982 Fuel Model Set (Anderson, 1982) contains 13 fuel models and the Fire Behavior Prediction System 2005 Fuel Model Set (Scott & Burgan 2005) contains 40 fuel models.

The SWRA Surface Fuels have been updated to use the FBPS 2005 40 fuel model set from the LANDFIRE 2010 products, supplemented with additional enhancements obtained through calibration workshops with the Southern states. Florida uses FBPS 1982 fuel models derived based on spectral classification of Landsat Thematic Mapper (TM) satellite imagery derived as part of the Florida Forest Service fuels mapping and risk assessment projects. Texas fuels represent 2010 updates conducted as part of a statewide fuels and canopy mapping effort.

For the remaining 11 Southern states, the recently completed SWRA Update project produced a new surface fuels dataset based on 2010 LANDFIRE products. A detailed fuels calibration process was undertaken that involved collaboration with Southern state fuels and fire behavior specialists supported by federal partner involvement. Workshops were held to review the LANDFIRE fuels product and calibrate the data by modifying specific fuels classes to better reflect local knowledge and input. A key component of this calibration task involved using image processing techniques to better delineate conifer areas, and in particular pine areas (plantations and natural stands). The fuels layer represents 2010 conditions.

Surface Fuel	FBPS Fuel Model Set	Description	Acres	Percent
Grass Fuels Type Models (nearly pure grass and/or forb type)				
GR01	2005	Grass is short, patchy, and possibly heavily grazed. Spread rate moderate; flame length low.	1,819	0.6 %
GR02	2005	Moderately coarse continuous grass, average depth about 1 foot. Spread rate high; flame length moderate.	3,861	1.3 %
GR03	2005	Very coarse grass, average depth about 2 feet. Spread rate high; flame length moderate.	9,848	3.2 %
GR04	2005	Moderately coarse continuous grass, average depth about 2 feet. Spread rate very high; flame length high.	0	0.0 %
GR05	2005	Dense, coarse grass, average depth about 1 to 2 feet. Spread rate very high; flame length high.	6,840	2.3 %
GR06	2005	Dryland grass about 1 to 2 feet tall. Spread rate very high; flame length very high.	0	0.0 %
GR08	2005	Heavy, coarse, continuous grass 3 to 5 feet tall. Spread rate very high; flame length very high.	0	0.0 %
GR09	2005	Very heavy, coarse, continuous grass 5 to 8 feet tall. Spread rate extreme; flame length extreme.	0	0.0 %
Grass-Shrub Fuels Type Models (mixture of grass and shrub, up to 50 percent shrub coverage)				
GS01	2005	Shrubs are about 1 foot high, low grass load. Spread rate moderate; flame length low.	458	0.2 %
GS02	2005	Shrubs are 1 to 3 feet high, moderate grass load. Spread rate high; flame length moderate.	4,883	1.6 %
GS03	2005	Moderate grass/shrub load, average grass/shrub depth less than 2 feet. Spread rate high; flame length moderate.	16,214	5.3 %
GS04	2005	Heavy grass/shrub load, depth greater than 2 feet. Spread rate high; flame length very high.	0	0.0 %
Shrub Fuel Type Models (Shrubs cover at least 50 percent of the site, grass sparse to nonexistent)				
SH01	2005	Low shrub fuel load, fuelbed depth about 1 foot; some grass may be present. Spread rate very low; flame length very low.	0	0.0 %
SH02	2005	Moderate fuel load (higher than SH01), depth about 1 foot, no grass fuel present. Spread rate low; flame length low.	0	0.0 %
SH03	2005	Moderate shrub load, possibly with pine overstory or herbaceous fuel, fuel bed depth 2 to 3 feet. Spread rate low; flame length low.	122	0.0 %
SH04	2005	Low to moderate shrub and litter load, possibly with pine overstory, fuel bed depth about 3 feet. Spread rate high; flame length moderate.	0	0.0 %

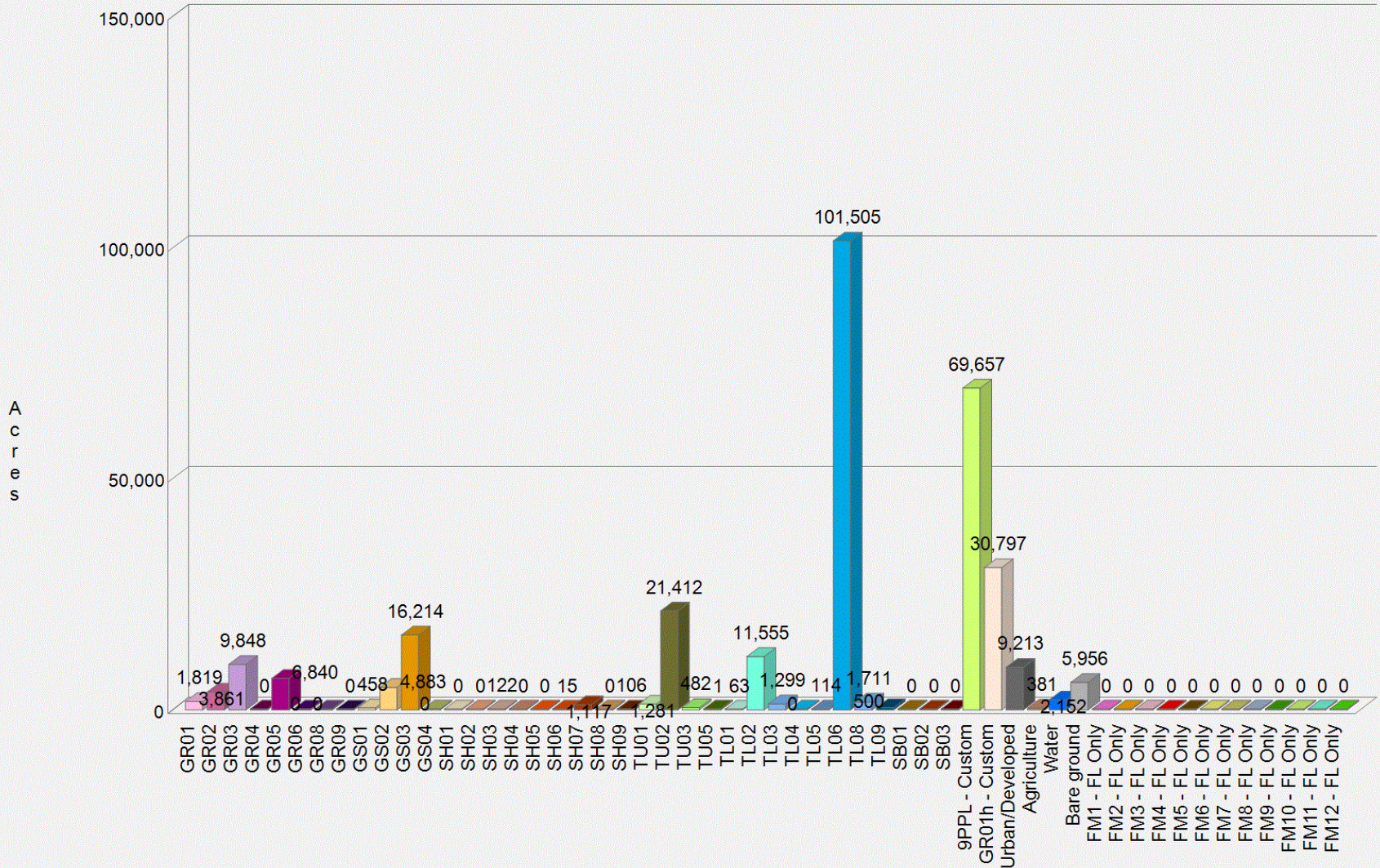
Surface Fuel	FBPS Fuel Model Set	Description	Acres	Percent
SH05	2005	Heavy shrub load, depth 4 to 6 feet. Spread rate very high; flame length very high.	0	0.0 %
SH06	2005	Dense shrubs, little or no herb fuel, depth about 2 feet. Spread rate high; flame length high.	15	0.0 %
SH07	2005	Very heavy shrub load, depth 4 to 6 feet. Spread rate lower than SH05, but flame length similar. Spread rate high; flame length very high.	1,117	0.4 %
SH08	2005	Dense shrubs, little or no herb fuel, depth about 3 feet. Spread rates high; flame length high.	0	0.0 %
SH09	2005	Dense, finely branched shrubs with significant fine dead fuel, about 4 to 6 feet tall; some herbaceous fuel may be present. Spread rate high, flame length very high.	106	0.0 %
Timber-Understory Fuel Type Models (Grass or shrubs mixed with litter from forest canopy)				
TU01	2005	Fuelbed is low load of grass and/or shrub with litter. Spread rate low; flame length low.	1,281	0.4 %
TU02	2005	Fuelbed is moderate litter load with shrub component. Spread rate moderate; flame length low.	21,412	7.1 %
TU03	2005	Fuelbed is moderate litter load with grass and shrub components. Spread rate high; flame length moderate.	482	0.2 %
TU05	2005	Fuelbed is high load conifer litter with shrub understory. Spread rate moderate; flame length moderate.	1	0.0 %
Timber Litter Fuel Type Models (dead and down woody fuel litter beneath a forest canopy)				
TL01	2005	Light to moderate load, fuels 1 to 2 inches deep. Spread rate very low; flame length very low.	63	0.0 %
TL02	2005	Low load, compact. Spread rate very low; flame length very low.	11,555	3.8 %
TL03	2005	Moderate load conifer litter. Spread rate very low; flame length low.	1,299	0.4 %
TL04	2005	Moderate load, includes small diameter downed logs. Spread rate low; flame length low.	0	0.0 %
TL05	2005	High load conifer litter; light slash or mortality fuel. Spread rate low; flame length low.	114	0.0 %
TL06	2005	Moderate load, less compact. Spread rate moderate; flame length low.	101,505	33.5 %
TL08	2005	Moderate load and compactness may include small amount of herbaceous load. Spread rate moderate; flame length low.	1,711	0.6 %

Surface Fuel	FBPS Fuel Model Set	Description	Acres	Percent
TL09	2005	Very high load broadleaf litter; heavy needle-drape in otherwise sparse shrub layer. Spread rate moderate; flame length moderate.	500	0.2 %
Slash-Blowdown Fuel Type Models (activity fuel/slash or debris from wind damage)				
SB01	2005	Low load activity fuel. Spread rate moderate; flame length low.	0	0.0 %
SB02	2005	Moderate load activity or low load blowdown. Spread rate moderate; flame length moderate.	0	0.0 %
SB03	2005	High load activity fuel or moderate load blowdown. Spread rate high; flame length high.	0	0.0 %
Custom Fuel Type Models (all states except Florida)				
9PPL	Custom	Long-needle (pine litter, plantations) with a high load	69,657	23.0 %
GR01h	Custom	Pasture and hayland	30,797	10.2 %
Non-burnable Fuel Type Models (insufficient wildland fuel to carry a wildland fire under any condition)				
NB01	2005	Urban or suburban development; insufficient wildland fuel to carry wildland fire. Includes roads.	9,213	3.0 %
NB03	2005	Agricultural field, maintained in nonburnable condition.	381	0.1 %
NB08	2005	Open water	2,152	0.7 %
NB09	2005	Bare ground	5,956	2.0 %
1982 Fire Behavior Prediction System – ONLY USED FOR FLORIDA ASSESSMENT				
FM 1	1982	Short grass	0	0.0 %
FM 2	1982	Timber grass and understory	0	0.0 %
FM 3	1982	Tall grass	0	0.0 %
FM 4	1982	Chaparral	0	0.0 %

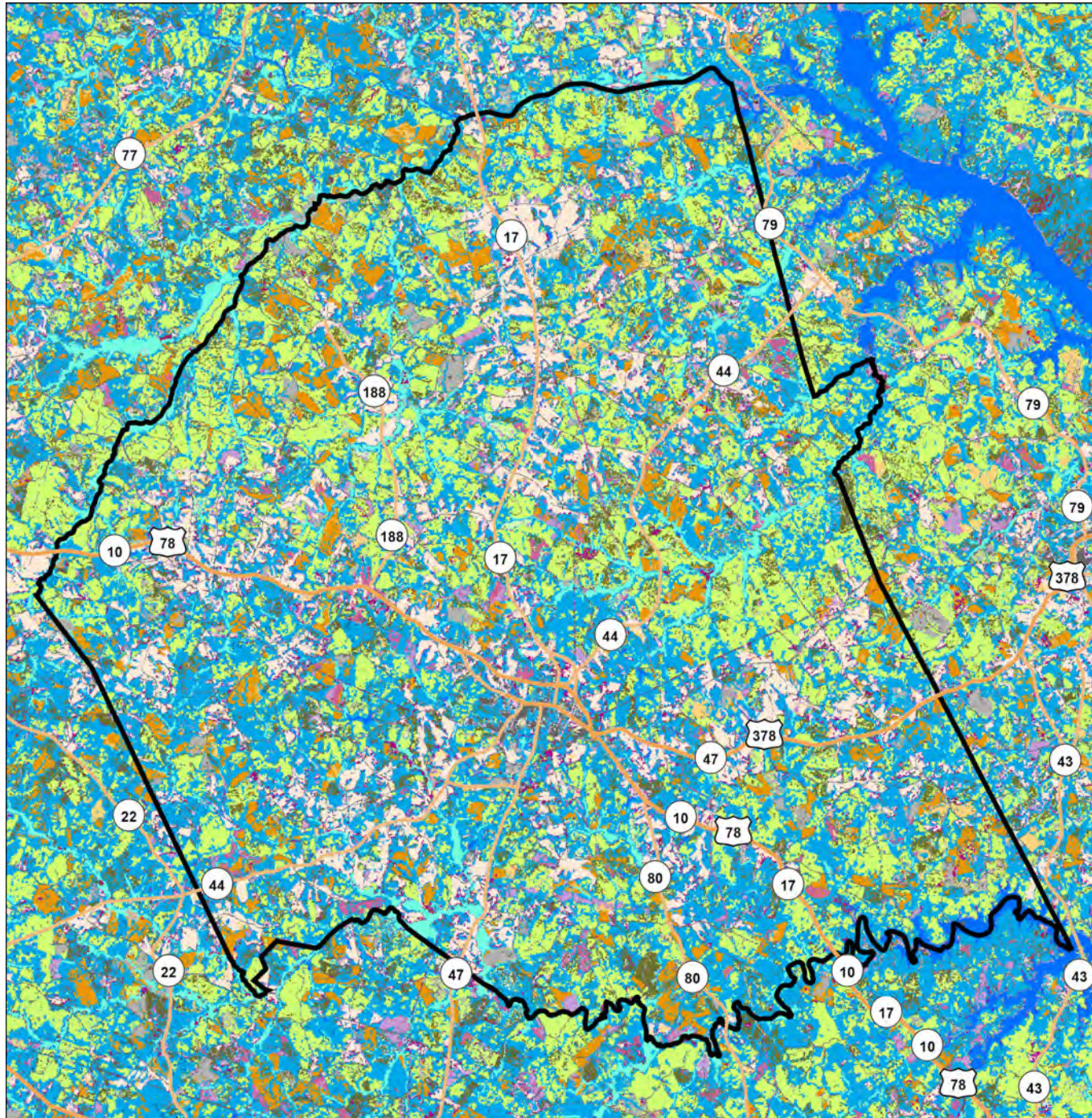
Surface Fuel	FBPS Fuel Model Set	Description	Acres	Percent
FM 5	1982	Brush	0	0.0 %
FM 6	1982	Dormant brush	0	0.0 %
FM 7	1982	Southern rough	0	0.0 %
FM 8	1982	Compact timber litter	0	0.0 %
FM 9	1982	Hardwood litter	0	0.0 %
FM 10	1982	Timber (understory)	0	0.0 %
FM 11	1982	Light logging slash	0	0.0 %
FM 12	1982	Medium logging slash	0	0.0 %
			303,362	100.0 %

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Surface Fuels



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Surface Fuels

GR01	TU01	FM1
GR02	TU02	FM2
GR03	TU03	FM3
GR04	TU05	FM4
GR05	TL01	FM5
GR06	TL02	FM6
GR08	TL03	FM7
GR09	TL04	FM 8
GS01	TL05	FM9
GS02	TL06	FM10
GS03	TL08	FM11
GS04	TL09	FM 12
SH01	SB01	GR1h
SH02	SB02	9PPL
SH03	SB03	9HWD
SH04	Urban/Developed	
SH05	Agriculture	
SH06	Water	
SH07	Bare ground	
SH08		
SH09		

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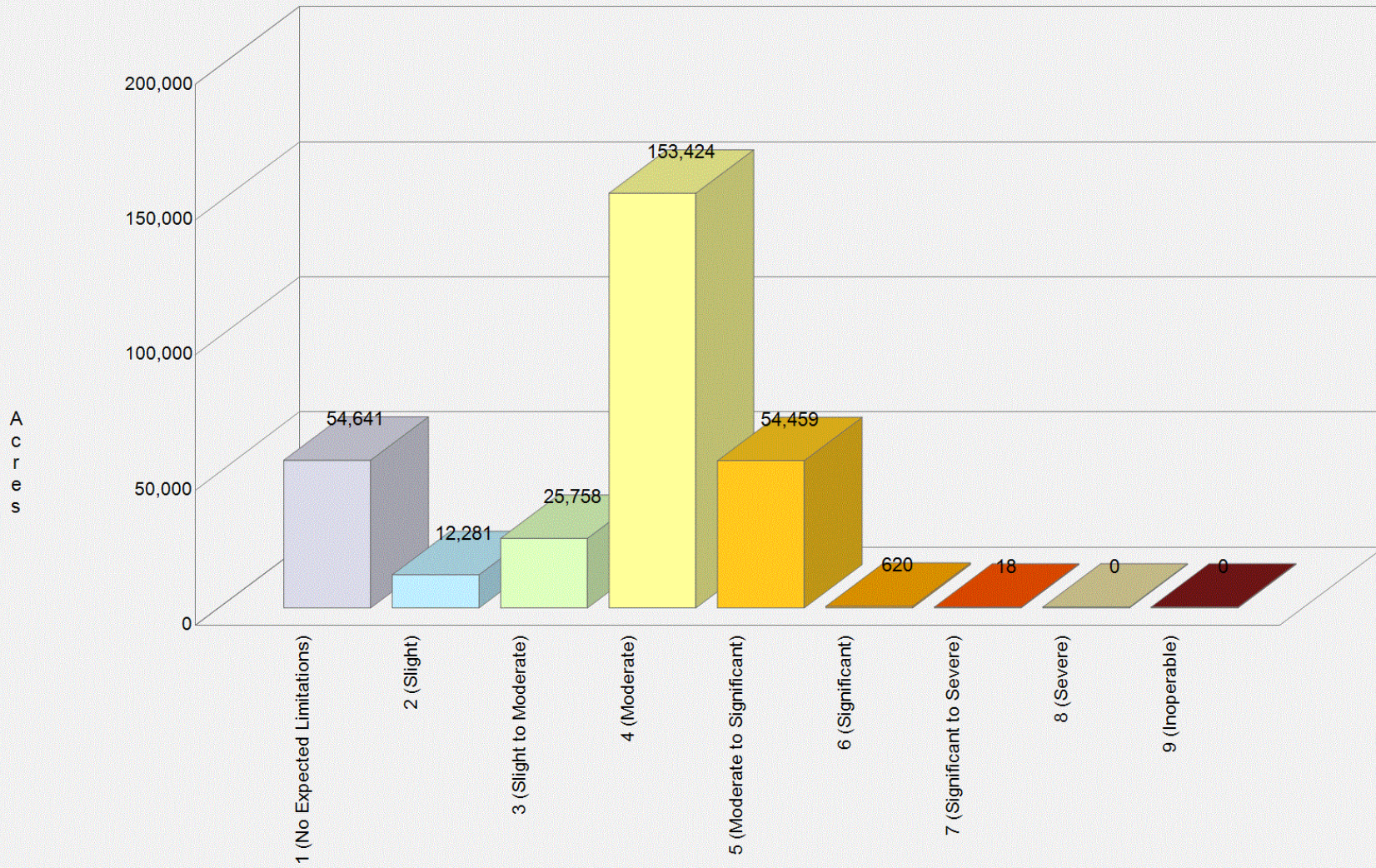
Dozer Operability Rating

Description

The Dozer Operability Rating (DOR) expresses how difficult it is to operate a dozer in an area based on limitations associated with slope and vegetation/fuel type. Using the fireline production rates published in the NWCG Fireline Handbook 3 (PMS 410-1) as a guide, operability values were assigned to a matrix based on 6 slope classes and 10 vegetation/fuels classes. The possible values range from 1 to 9, with 1 representing no limitations and 9 being inoperable.

Class	Acres	Percent
1 (No Expected Limitations)	54,641	18.1 %
2 (Slight)	12,281	4.1 %
3 (Slight to Moderate)	25,758	8.6 %
4 (Moderate)	153,424	50.9 %
5 (Moderate to Significant)	54,459	18.1 %
6 (Significant)	620	0.2 %
7 (Significant to Severe)	18	0.0 %
8 (Severe)	0	0.0 %
9 (Inoperable)	0	0.0 %
Total	301,201	100.0 %

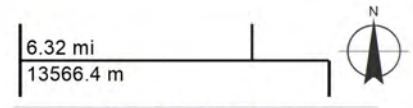
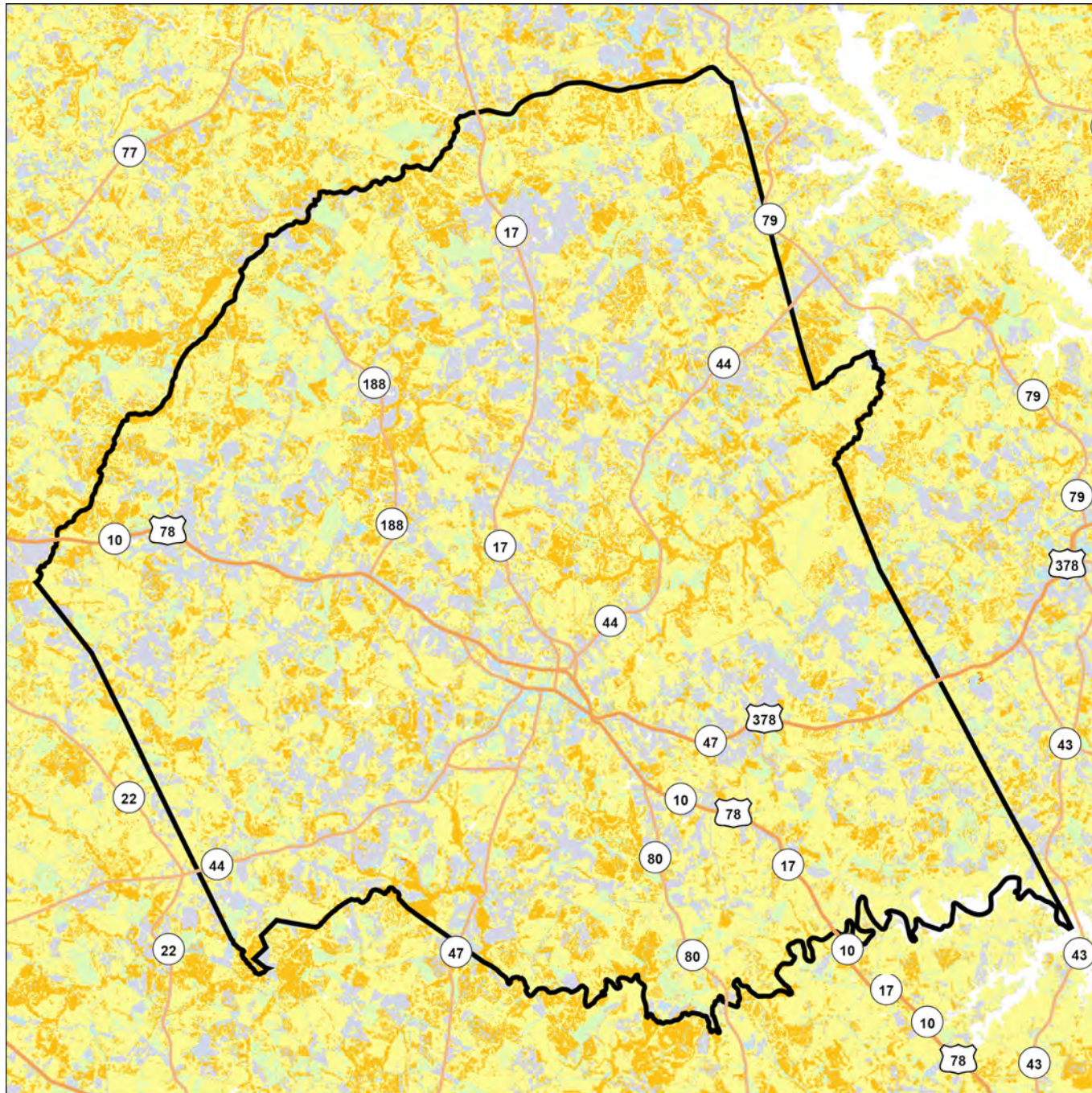
Wilkes Co HMP 2023 Dozer Operability Rating



Wilkes Co HMP 2023

Dozer Operability Rating

- 1 (No Expected Limitations)
- 2 (Slight)
- 3 (Slight to Moderate)
- 4 (Moderate)
- 5 (Moderate to Significant)
- 6 (Significant)
- 7 (Significant to Severe)
- 8 (Severe)
- 9 (Inoperable)



Southern Wildfire Risk Assessment
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References

Anderson, H. E. (1982). Aids to determining fuel models for estimating fire behavior. USDA For. Serv. Gen. Tech. Rep. INT-122.

Dobson, J. E., E. A. Bright, P. R. Coleman, and B.L. Bhaduri. "LandScan: a global population database for estimating populations at risk." Remotely Sensed Cities Ed. V. Mesev, London: Taylor & Francis. 2003. 267-281.

Fire Program Analysis (FPA) System and US Forest Service Missoula Fire Sciences Laboratory, 20140307, Burn Probabilities for the Conterminous US (270-m GRID) from Calibrated FSim Runs for the 2014 FPA Submissions [bp_20140307];, Fire Program Analysis (FPA) System, National Interagency Fire Center, Boise, ID.

National Wildfire Coordinating Group (NWCG). (2008). Glossary of Wildland Fire Terminology. Publication Management System document PMS-205.

Radeloff, V.C., R.B. Hammer, S.I Stewart, J.S. Fried, S.S. Holcomb, and J.F. McKeefry. 2005. The Wildland Urban Interface in the United States. *Ecological Applications* 15: 799-805

Scott, J. H., & Burgan, R. E. (2005). Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model. Ft. Collins, CO, Rocky Mountain Research Station: USDA Forest Service, Gen. Tech. Rpt. RMRS-GTR-153.

Scott, J. H., & Reinhardt, E. D. (2001). Assessing the Crown Fire Potential by Linking Models of Surface and Crown Fire Behavior. Ft. Collins, CO, Rocky Mountain Research Station: USDA Forest Service, Research Paper RMRS-RP-29.

Scott, Joe. November 2006. Off the Richter: Magnitude and Intensity Scales for Wildland Fire. A non-published white paper prepared for the AFE Fire Congress, November 2006, San Diego, CA.

Thompson, M. P., D. E. Calkin, M. A. Finney, A. A. Ager, and J. W. Gilbertson-Day. 2011. Integrated National-Scale Assessment of Wildfire Risk to Human and Ecological Values. *Stochastic Environmental Research and Risk Assessment* 25:761-780.

More information about the Fire Program Analysis project is available from <http://www.forestsandrangelands.gov/WFIT/applications/FPA/index.shtml>

More information about the Oak Ridge National Laboratory LandScan data is available from http://web.ornl.gov/sci/landscan/landscan_documentation.shtml

More information about the U.S. Forest Service SILVIS data is available from http://silvis.forest.wisc.edu/maps/wui_main



SOUTHERN GROUP OF STATE FORESTERS
WILDFIRE RISK ASSESSMENT PORTAL



TIMBER IMPACT ASSESSMENT

Hurricane Idalia - August 30, 2023

By: GFC Forest Management Group, Georgia Forestry Commission
(tclymer@gfc.state.ga.us)

BACKGROUND

On August 30, 2023, Hurricane Idalia impacted multiple southern states from Florida to North Carolina. The southeastern part of Georgia was struck by high winds and large amounts of rain and a large portion of forested, agricultural, and urban landscapes was impacted by the storm. Hurricane Idalia entered Georgia as a category 1 near Valdosta and progressed northeast towards Statesboro and Savannah, becoming a tropical storm as it entered South Carolina (Figure 1). During the event, Georgia experienced winds ranging from 20-70 miles per hour in the storm's path (Figure 2) and rain totals ranging from two to eight inches (Figure 3).

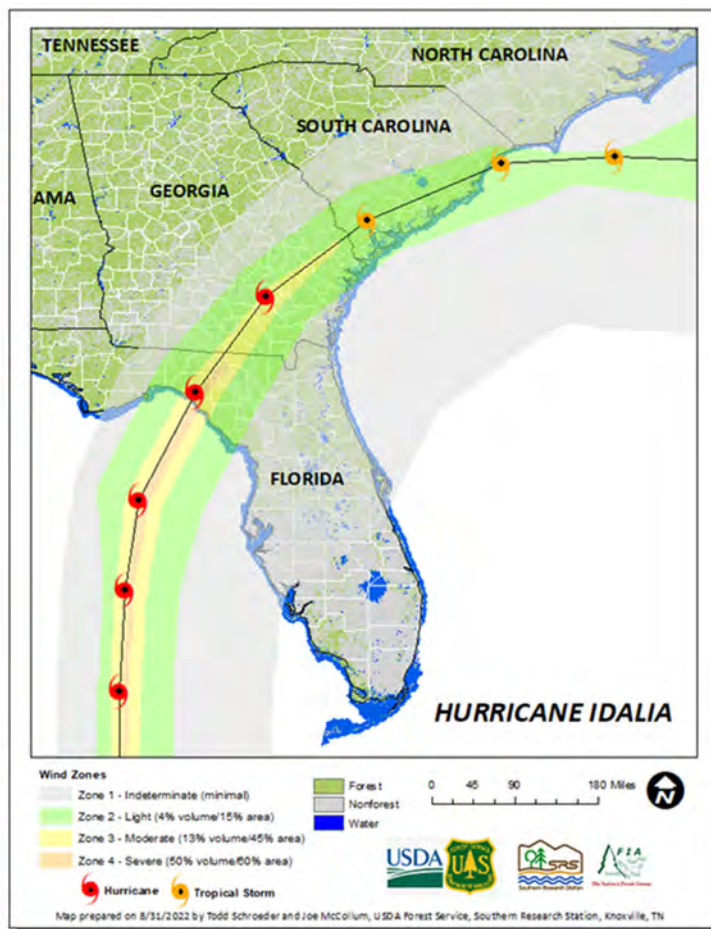


Figure 1: Hurricane Idalia's path with wind zone boundaries obtained from NOAA NHC.
Credit: Todd Schroeder and Joe McCollum USDA FS Southern Research Station Knoxville, TN.

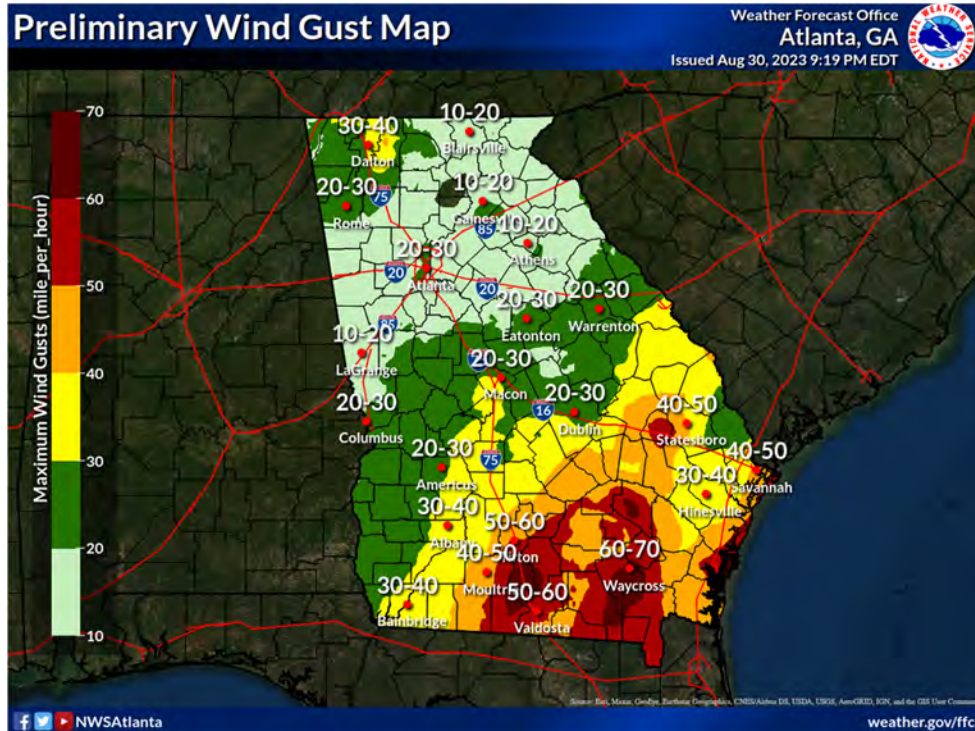


Figure 2: Hurricane Idalia wind gust map with winds ranging from 20-70 mph in the hurricane’s path.

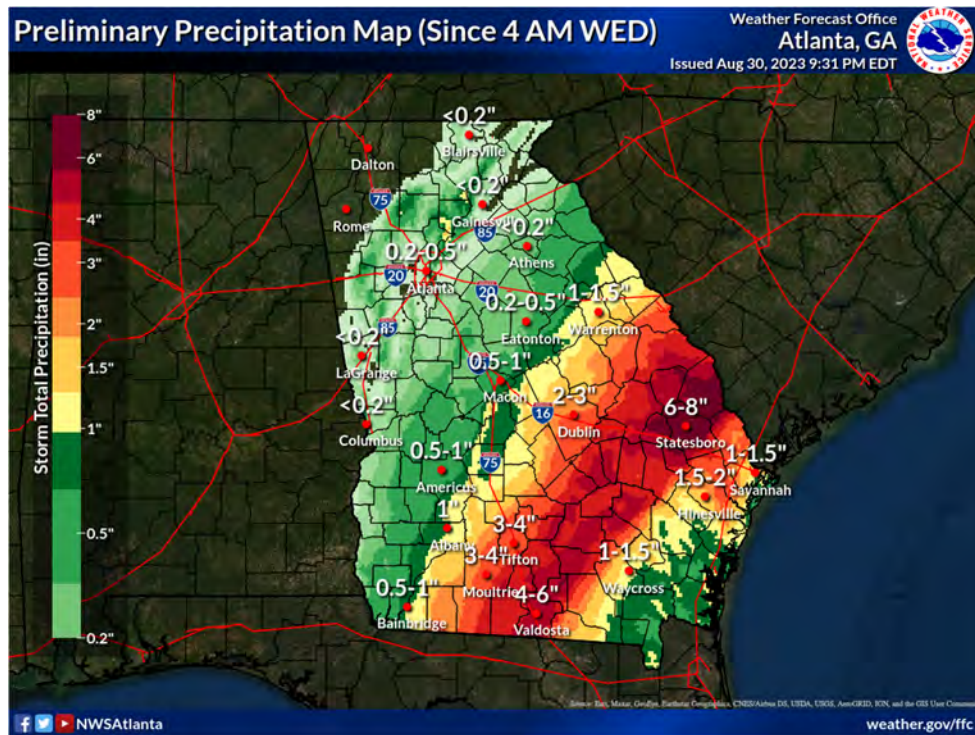


Figure 3: Hurricane Idalia rainfall amounts ranging from 2-8 inches in the path of the hurricane.

Emergency Declarations issued in the State of Georgia:

Governor Brian Kemp declared a state of emergency on Tuesday, August 29, 2023, as Hurricane Idalia was poised to make landfall in Florida the next day. On September 7, 2023, President Biden approved a major disaster declaration for Georgia. Twenty-eight counties fall under the declaration: Cook, Glynn, Lowndes, Appling, Atkinson, Bacon, Berrien, Brantley, Brooks, Bulloch, Camden, Candler, Charlton, Clinch, Coffee, Colquitt, Echols, Emanuel, Jeff Davis, Jenkins, Lanier, Pierce, Screven, Tattнал, Thomas, Tift, Ware, and Wayne.

On September 9, 2023, the Federal Emergency Management Agency (FEMA) posted the Georgia Disaster Declaration emergency map. <https://www.fema.gov/disaster/4738/designated-areas>

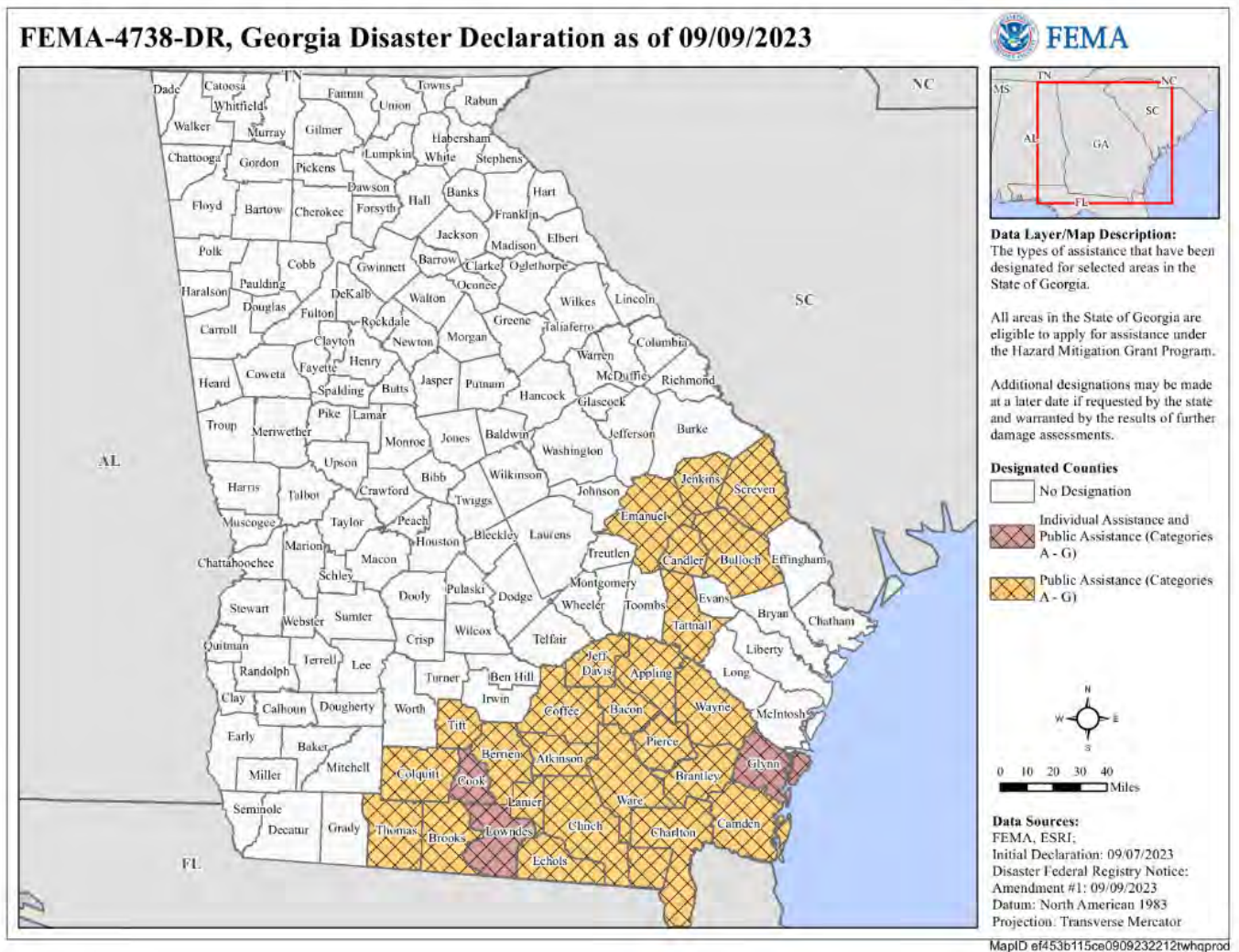


Figure 4: FEMA declaration map showing 28 counties declared and type of assistance designated for the counties.

OBSERVATIONS

The goal of the Timber Impact Assessment survey is to determine the current overall damage to the forest in Georgia and to document widespread impacts to the region affected by hurricane conditions. This is not to say that damage was not or could not be found further outside the declared state of emergency area, but the damage outside the disaster area was isolated and confined to localized impact.

The National Weather Service (NWS) provided continuous predictions and updates to identify areas of risk and potential impact. The US Forest Service utilized a computer program called TreeS-DIP (ForestGALES) which contains modeled tree damage prediction data once the storm has passed through. The NWS updates and TreeS-DIP information narrowed the survey areas for the Timber Impact Assessment. The Forest Management group began ground and aerial surveys on Thursday, August 31, 2023, utilizing GIS spatial data to collect information and locate storm damaged areas. Areas throughout the storm's path from Valdosta to Statesboro were visited and assessed. Initial reports revealed light to moderate damage in forested settings from Valdosta to Waycross. The urban interface suffered the greatest damage, which impacted local infrastructure from rights-of-way to buildings.

ForestGALES damage estimate for Hurricane Idalia

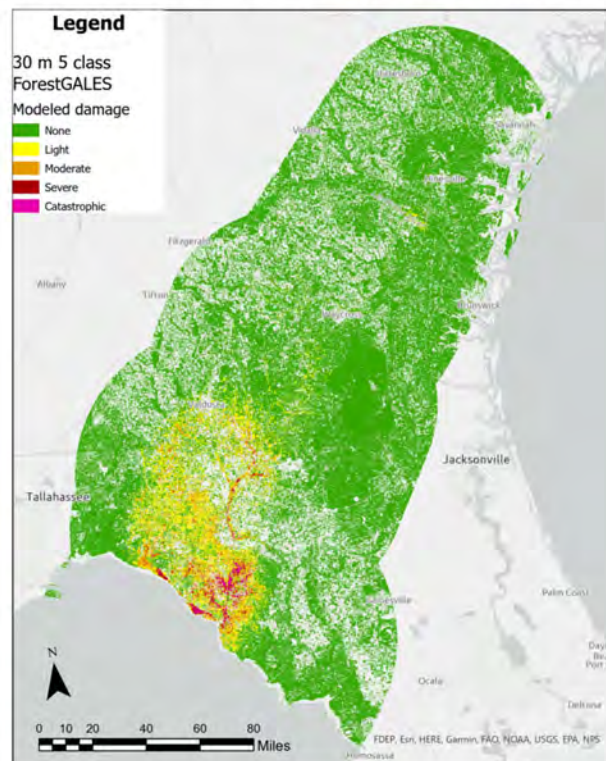


Figure 5: TreeS-DIP (ForestGALES) map produced by US Forest Service Geospatial Technology and Applications Center. Credit: Robert Chastain PhD.

Storm damage was detected in multiple timber types across the counties and damage was seen in all classes of pine stands as well as in hardwood riparian areas. Most timber damage throughout the hurricane's path occurred along field and road edges, causing significant damage on the edges of stands and light damage within the stand. Pine stands with higher densities typically fared better than thinned stands with lower densities. Hardwood riparian areas suffered damage due to saturated soils and hardwood crowns that contained all their foliage which caught the heavy winds and either snapped trees or uprooted them.



Figure 6: Photos of forest impacts seen throughout the storm's path. Stands had trees uprooted and blown over, crowns bent over, leaning trees, and trees with snapped off trunks. Damage is scattered throughout the storm's path and seen more commonly in areas surrounding Valdosta.

Managers and landowners are encouraged to monitor their stands for insect damage during the next year. The stress placed on these trees from the storm could attract pine bark beetles or increase the likelihood of disease as these trees recover. Wind and flooding damage may not become apparent until the following growing season. The areas with substantial damage may see issues with stem defects and sluggish growth rates.

A collector application was utilized on phones and tablets to gather field observations from the Valdosta area to the Waycross area. Spots marked were assigned a damage intensity level and data was collected on species, product class, percent damage, and county. This tool was utilized to track damages throughout the area and help determine the scale of the storm's damage. The TreeS-DIP (ForestGALES) program map was also overlaid on the collector application to help determine if the program matched what was witnessed on the ground. Data from the TreeS-DIP program, as well as Forest Inventory and Analysis from the US Forest Service, has been evaluated and utilized for this report.

Damage levels:

Minimal damage – Scattered branches and limbs broken from trees, with little to no damage to the overall stand and scattered trees bent less than 45 degrees. No salvage operation will be necessary, and the stand should recover with no additional management requirements.

Light damage – Only branches and limbs broken from the tree, with minor damage to the overall stand and trees bent less than 45 degrees. No salvage operation will be necessary, and the stand should recover with no additional management requirements, though long-term yields will likely be impacted.

Moderate damage – Branches and limbs broken from the trees with damage to the overall stand. More than 25 percent of stems broken and a salvage operation should be considered to minimize losses and remove trees that likely will not survive.

Severe damage – More than 30 percent of stems broken, tops broken out across the stand, limbs stripped, and trees bent more than 45 degrees. A salvage operation must be considered, and a clear-cut may be the prudent management decision.

Catastrophic damage – More than 50 percent of stems broken, multiple trees blown down across the stand, tops broken out across the stand, limbs stripped, and trees bent more than 45 degrees. A salvage operation is considered unlikely and the stand may be considered a total loss.

DAMAGE ESTIMATES

The TreeS-DIP map showed that 6,591,776 acres of forestland was located in Hurricane Idalia's path with 116,526 acres impacted by the storm. Of the 116,526 acres impacted, 11,069.97 acres were damaged, causing \$9,260,171.71 in timber losses. Also, 153,312.615 tons of pine valued at \$2,893,009.05 and 313,190.49 tons of hardwood valued at \$6,367,162.66. Forest Inventory Analysis (FIA) data from the Trees-Dip map class along with collector application point data was used to determine volumes and the percentage breakdown of pine and hardwood tonnage across the impacted area. The percentage breakdown was applied to the TimberMart-South Stumpage Price Report (*GA second quarter 2023*) to determine a stumpage price of \$18.87 per ton for pine (averaged pulpwood, chip-n-saw, and sawtimber) and \$20.33 per ton for hardwood (averaged pulpwood and sawtimber).

The timber damage assessment estimates that a total of 11,069.97 acres of timber was damaged valued at \$9,260,171.71.

RECOMMENDATIONS

Landowners are encouraged to utilize professional foresters and arborists to help with decisions about timber management or potentially hazardous trees around homes and urban environments. Seeking independent advice is a sound way to reduce hasty judgments and insure all available options are considered.

With the damage inflicted by this hurricane, there will likely be three distinct categories by which landowners make their evaluations:

- 1) Light damage or losses that may not warrant a salvage operation. This could include merchantable stands (trees are large enough to sell), which don't have enough timber damage to warrant a commercial harvest, or pre-merchantable stands where there is a good chance it will recover over time.
- 2) Stands with severe or catastrophic damage mandating a salvage operation to recoup whatever value can be recovered from the stand. In most cases, this could include a complete harvest for widespread damage.
- 3) Stands with moderate damage in which landowners may need to decide between a partial or complete harvest based on damage levels and landowner objectives.

Landowners can contact their local GFC forester to come visit and provide general advice for their property. GFC foresters can also provide contact lists for consultant foresters, timber buyers, contractors, etc., who will help the landowner accomplish work on their property.

Landowners facing a complete harvest to salvage their damaged timber due to the hurricane should consider reforesting the area. The Farm Service Agency (FSA) has a cost share program called the Emergency Forest Restoration Program (EFRP) that can assist with site preparation and planting costs. Apply at your local FSA office.

Special thanks to our GFC foresters who helped assess and develop this Timber Damage Assessment: Chris Barnes, Mark Madray, Michael Torbett, David Dickinson, Bill Harvey, Amanda Hambrick, Gabe Outlaw, Charles Baker, Jonathan Bamford, Matthew O'Connor, Doug Marshall, Aurora Geoghagan, Jason Stango, Ben Hammond, and Troy Clymer.

Stasia Kelly, Media Relations Specialist, worked to assist with the production of this report.

These resources can help forest landowners learn more about options and considerations for situations in which trees have been damaged by severe weather:

TIMBERLAND SEVERE WEATHER DAMAGE

Assessing Hurricane and Tornado Storm Damaged Forest Stands:

https://bugwoodcloud.org/bugwood/productivity/pdfs/assessing_hurricane_and_tornado_damaged_forest_stands_Dec-2016_final.pdf.

How to Evaluate and Manage Storm Damaged Forest Areas:

<http://www.forestpests.org/storm/>.

Evaluation and Management of Storm Damage to Southern Yellow Pine:

http://www.ncforests-service.gov/Managing_your_forest/pdf/EvaluationMngt-StormDamageSYellowPines.pdf.

TIMBER SALES

Selling Your Timber:

<https://gatrees.org/wp-content/uploads/2020/01/SellingYourTimber.pdf>.

<https://gatrees.org/wp-content/uploads/2020/01/Selling-Storm-Damaged-Timber-Final.pdf>.

TAXES

Tax Tips for Forest Landowners for the 2022 Tax Year:

https://www.fs.usda.gov/sites/default/files/fs_media/fs_document/2022-Tax-Tips-for-Forest-Landowners.pdf.

National Timber Tax website (Master Index has good list of subject areas):

<http://www.timbertax.org/>.

USDA United States
Department of
Agriculture



Natural
Resources
Conservation
Service

In cooperation with
University of Georgia,
College of Agricultural and
Environmental Sciences,
Agricultural Experiment
Stations

Soil Survey of Lincoln and Wilkes Counties, Georgia



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83°30' 00"

83°30' 00"

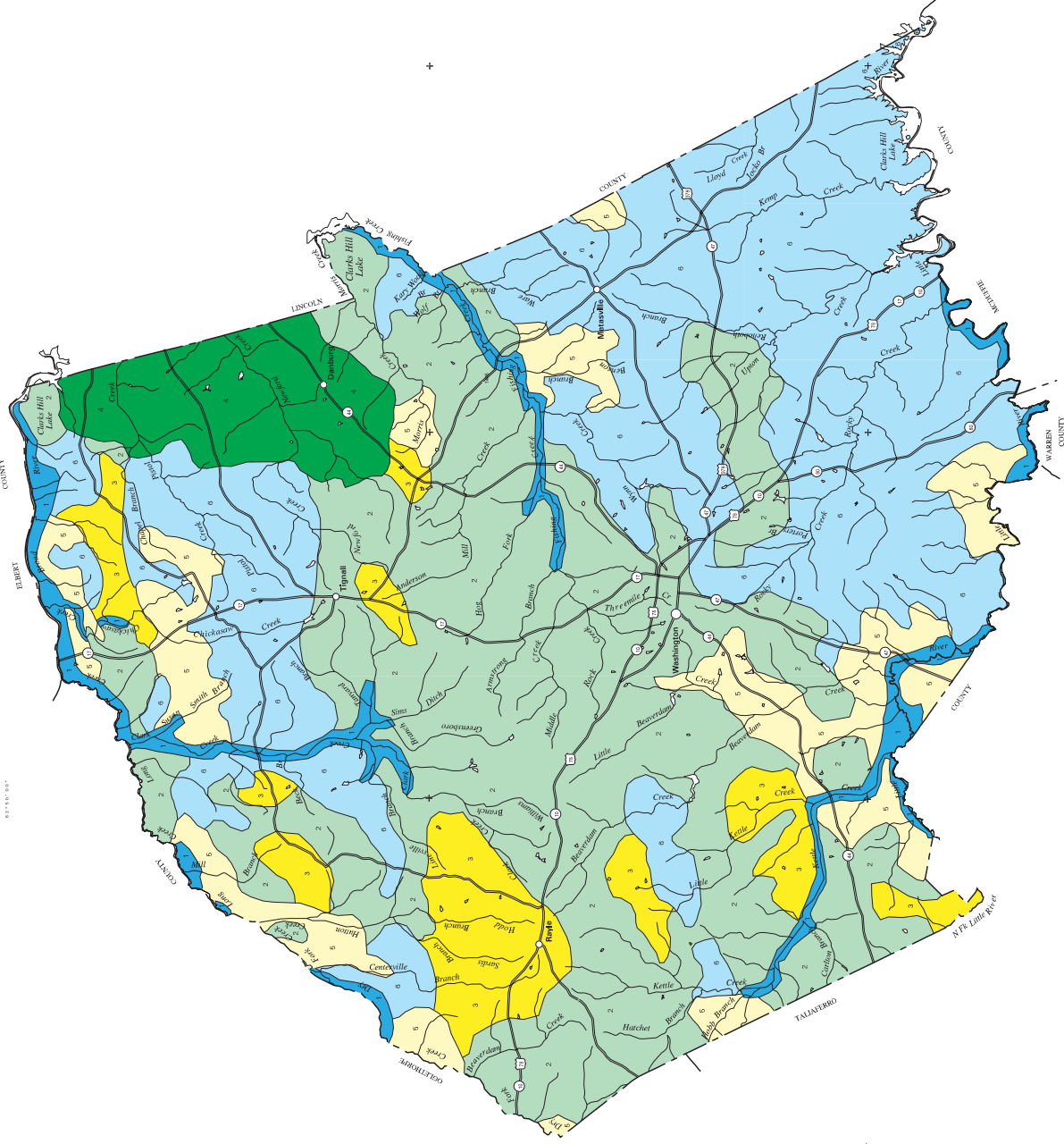
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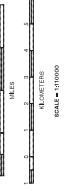
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LEGEND

- 1. Toccoa-Carrollville-Shiloh
- 2. Cecil-Piedmont-Mauleton
- 3. Vidonville-Appling-Melrose
- 4. Peachtree-River-Ashlar
- 5. Macaulayburg-Zion-Evon
- 6. Gosperville-Henrietta-Bathin

UNITED STATES DEPARTMENT OF AGRICULTURE
 NATIONAL AGRICULTURAL EXPERIMENT STATION
 COLLEGE OF AGRICULTURE
 ARMY CENTER FOR AGRICULTURAL FORECASTING SERVICES
GENERAL SOIL MAP
WILKES COUNTY, GEORGIA



Soil map prepared by the National Agricultural Experiment Station, United States Department of Agriculture, in cooperation with the Georgia Department of Agriculture. The map is based on soil survey data collected by the National Agricultural Experiment Station, United States Department of Agriculture, and the Georgia Department of Agriculture. The map is not to be used for any purpose other than that for which it was prepared.

How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

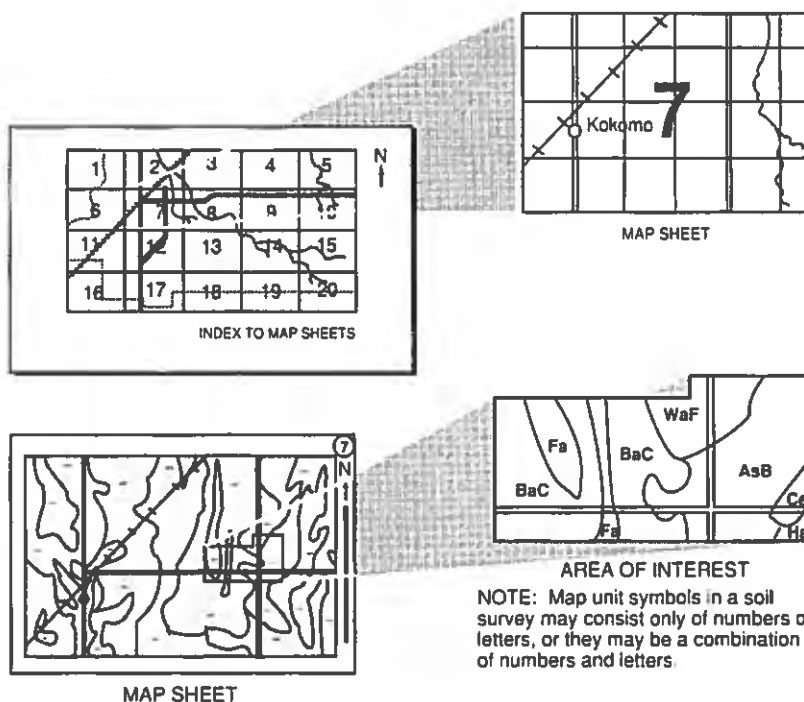
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the agricultural research services, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1995. Soil names and descriptions were approved in 1994. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1995. This soil survey was made cooperatively by the Natural Resources Conservation Service and the University of Georgia, College of Agricultural and Environmental Sciences, Agricultural Experiment Stations. It is part of the technical assistance furnished to the Broad River and Lincoln County Soil and Water Conservation Districts.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover: Livestock production in an area of Pacolet fine gravelly loamy coarse sand, 2 to 6 percent slopes.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at <http://www.nrcs.usda.gov>.

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Issued 2006

Foreword

This soil survey contains information that affects land use planning in Lincoln and Wilkes Counties. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various decisions for land use or land treatment. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

James E. Tillman, Sr.
State Conservationist
Natural Resources Conservation Service

Table 7.—Woodland Management and Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available)

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Plant competition	Common trees	Site index	Productivity class*	
AkA----- Altavista	9A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine-----	91	9	Loblolly pine, yellow-poplar, sweetgum.
							Sweetgum-----	84	6	
							Yellow-poplar-----	---	---	
AmB, AmC----- Appling	8A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine-----	84	8	Loblolly pine, yellow-poplar.
							White oak-----	64	3	
							Yellow-poplar-----	88	6	
BaC----- Badin	8D	Slight	Slight	Slight	Moderate	Moderate	Loblolly pine-----	80	8	Loblolly pine.
							Shortleaf pine-----	68	7	
							White oak-----	63	3	
							Scarlet oak-----	65	3	
							Chestnut oak-----	66	3	
BaE----- Badin	8R	Moderate	Moderate	Slight	Moderate	Moderate	Loblolly pine-----	80	8	Loblolly pine.
							Shortleaf pine-----	68	7	
							White oak-----	63	3	
							Scarlet oak-----	65	3	
							Chestnut oak-----	66	3	
Ca----- Cartecay	10W	Slight	Moderate	Slight	Slight	Moderate	Loblolly pine-----	95	10	Loblolly pine, sweetgum, yellow-poplar.
							Sweetgum-----	95	8	
							Yellow-poplar-----	105	8	
							Water oak-----	85	6	
CeB, CeC----- Cecil	8A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine-----	83	8	Loblolly pine.
							White oak-----	79	4	
							Southern red oak----	79	4	
							Scarlet oak-----	81	4	
							Sweetgum-----	76	5	
							Yellow-poplar-----	92	6	
CfC2----- Cecil	7C	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine-----	72	7	Loblolly pine.
							White oak-----	64	3	
CgC**: Cecil-----	8A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine-----	83	8	Loblolly pine.
							White oak-----	79	4	
							Southern red oak----	79	4	
							Scarlet oak-----	81	4	
							Sweetgum-----	76	5	
							Yellow-poplar-----	92	6	

See footnotes at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Plant competition	Common trees	Site index	Productivity class*	
CgC**: Urban land.										
Ch----- Chewacla	7W	Slight	Moderate	Slight	Moderate	Severe	Yellow-poplar----- Loblolly pine----- Sweetgum----- Water oak-----	95 95 97 80	7 10 9 5	Sweetgum, yellow-poplar, loblolly pine.
EnB, EnC----- Enon	7A	Slight	Moderate	Slight	Slight	Slight	Loblolly pine----- Sweetgum----- White oak----- Yellow-poplar----- Hickory-----	73 87 --- 88 ---	7 7 --- 6 ---	Loblolly pine.
FrA----- Fork	9W	Slight	Moderate	Slight	Slight	Severe	Loblolly pine----- Sweetgum----- Yellow-poplar-----	90 90 90	9 7 6	Loblolly pine, yellow- poplar.
GeB, GeC----- Georgeville	8A	Slight	Slight	Slight	Slight	Slight	Loblolly pine----- White oak----- Scarlet oak----- Southern red oak----	81 69 70 67	8 4 4 3	Loblolly pine, black walnut, yellow- poplar.
GeE----- Georgeville	8R	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine----- White oak----- Scarlet oak----- Southern red oak----	81 69 70 67	8 4 4 3	Loblolly pine, black walnut, yellow- poplar.
GeC2----- Georgeville	6C	Slight	Moderate	Moderate	Slight	Slight	Loblolly pine-----	70	6	Loblolly pine.
GeE2----- Georgeville	6C	Moderate	Severe	Moderate	Slight	Slight	Loblolly pine-----	70	6	Loblolly pine.
GuC**: Georgeville-----	8A	Slight	Slight	Slight	Slight	Slight	Loblolly pine----- White oak----- Scarlet oak----- Southern red oak----	81 69 70 67	8 4 4 3	Loblolly pine, black walnut, yellow- poplar.
Urban land.										

See footnotes at end of table.

Table 7.—Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	
HeB, HeC, HeD----- Helena	8A	Slight	Slight	Slight	Slight	Severe	Loblolly pine-----	84	8	Loblolly pine, yellow-poplar.
							Yellow-poplar-----	---	---	
							Sweetgum-----	---	---	
							Black oak-----	---	---	
							Willow oak-----	---	---	
American elm-----	---	---								
HnB, HnC----- Herndon	8A	Slight	Slight	Slight	Slight	Slight	Loblolly pine-----	80	8	Loblolly pine, yellow-poplar.
							White oak-----	65	3	
							Southern red oak---	72	4	
							Yellow-poplar-----	91	6	
LdB, LdC----- Lloyd	8A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine-----	85	8	Loblolly pine.
							Southern red oak---	80	4	
							White oak-----	80	4	
							Yellow-poplar-----	85	6	
LeC2----- Lloyd	7C	Slight	Moderate	Moderate	Slight	Slight	Loblolly pine-----	71	7	Loblolly pine.
							Shortleaf pine-----	68	7	
							White oak-----	70	4	
							Southern red oak---	75	4	
LeE2----- Lloyd	7R	Moderate	Moderate	Moderate	Slight	Slight	Loblolly pine-----	71	7	Loblolly pine.
							White oak-----	70	4	
							Southern red oak---	75	4	
LxC**: Lloyd-----	8A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine-----	85	8	Loblolly pine.
							Southern red oak---	80	4	
							White oak-----	80	4	
							Yellow-poplar-----	85	6	
Urban land.										
MaB, MaC----- Madison	8A	Slight	Slight	Slight	Slight	Severe	Loblolly pine-----	80	8	Loblolly pine.
							Southern red oak---	75	4	
							Yellow-poplar-----	96	7	
							White oak-----	75	4	
MaE----- Madison	8R	Moderate	Moderate	Slight	Slight	Severe	Loblolly pine-----	80	8	Loblolly pine.
							Southern red oak---	75	4	
							Yellow-poplar-----	96	7	
							White oak-----	75	4	

See footnotes at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordi-nation symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equip-ment limita-tion	Seedling mortal-ity	Wind-throw hazard	Plant competi-tion	Common trees	Site index	Produc-tivity class*	
MdC2----- Madison	7C	Slight	Moderate	Moderate	Slight	Severe	Loblolly pine----- White oak-----	72 ---	7 ---	Loblolly pine.
MdE2----- Madison	7R	Moderate	Moderate	Moderate	Slight	Severe	Loblolly pine----- White oak-----	72 ---	7 ---	Loblolly pine.
MkB, MxC----- Mecklenburg	7A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine----- Yellow-poplar----- White oak----- Hickory-----	79 97 --- ---	8 7 --- ---	Loblolly pine.
MkE----- Mecklenburg	7R	Moderate	Moderate	Slight	Slight	Moderate	Loblolly pine----- Yellow-poplar----- White oak----- Hickory-----	79 97 --- ---	8 7 --- ---	Loblolly pine.
MnC2, MnE2----- Mecklenburg	6R	Slight	Moderate	Moderate	Slight	Moderate	Loblolly pine----- White oak----- Hickory-----	66 --- ---	6 --- ---	Loblolly pine.
PaB, PaC----- Pacolet	8A	Slight	Slight	Slight	Slight	Slight	Loblolly pine----- Yellow-poplar----- Hickory----- White oak-----	78 90 --- ---	8 6 --- ---	Loblolly pine.
PaE----- Pacolet	8R	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine----- Yellow-poplar----- Hickory----- White oak-----	78 90 --- ---	8 6 --- ---	Yellow-poplar, loblolly pine.
PcB, PcC----- Pacolet	8A	Slight	Slight	Slight	Slight	Slight	Loblolly pine----- Yellow-poplar----- Hickory----- White oak-----	78 90 --- ---	8 6 --- ---	Loblolly pine.
PcE----- Pacolet	8R	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine----- Yellow-poplar----- Hickory----- White oak-----	78 90 --- ---	8 6 --- ---	Loblolly pine.
Pc2----- Pacolet	6C	Slight	Moderate	Moderate	Slight	Slight	Loblolly pine----- Hickory----- White oak-----	70 --- ---	6 --- ---	Loblolly pine.

See footnotes at end of table.

Table 7.—Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	
PeE2----- Pacolet	6R	Moderate	Moderate	Moderate	Slight	Slight	Loblolly pine----- Hickory----- White oak-----	70 --- ---	6 --- ---	Loblolly pine.
PfE**: Pacolet-----	8R	Moderate	Moderate	Slight	Slight	Slight	Loblolly pine----- Hickory----- White oak-----	78 --- ---	8 --- ---	Loblolly pine.
Udorthents.										
PgB----- Pageland	6W	Slight	Slight	Slight	Slight	Moderate	Loblolly pine----- Southern red oak--- White oak----- Red maple----- Blackgum----- Yellow-poplar-----	67 --- --- --- --- ---	6 --- --- --- --- ---	Loblolly pine.
RaE**: Rion-----	8R	Moderate	Moderate	Moderate	Slight	Slight	Loblolly pine----- Post oak----- Southern red oak--- White oak----- Hickory-----	80 65 80 70 ---	8 3 4 4 ---	Loblolly pine.
Ashlar-----	8R	Moderate	Moderate	Slight	Moderate	Slight	Loblolly pine----- Red oak-----	85 ---	8 ---	Loblolly pine.
Wake-----	5D	Moderate	Moderate	Moderate	Severe	Slight	Loblolly pine----- Hickory----- White oak-----	60 --- ---	5 --- ---	Loblolly pine.
ReC**: Rion-----	8A	Slight	Slight	Slight	Slight	Slight	Loblolly pine----- Southern red oak--- White oak----- Yellow-poplar----- Hickory-----	80 80 70 90 ---	8 4 4 6 ---	Yellow-poplar, loblolly pine.
Wateres-----	7A	Slight	Slight	Slight	Moderate	Slight	Loblolly pine----- Southern red oak--- Yellow-poplar----- White oak-----	77 72 84 68	7 4 6 4	Loblolly pine.

See footnotes at end of table.

Table 7.-Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Windthrow hazard	Plant competition	Common trees	Site index	Productivity class*	
ReC**: Wake-----	5D	Slight	Slight	Moderate	Severe	Slight	Loblolly pine----- Hickory----- White oak-----	60 --- ---	5 --- ---	Loblolly pine.
Ro----- Roanoke	7W	Slight	Severe	Severe	Slight	Severe	Sweetgum----- Willow oak----- White oak-----	90 76 75	7 4 4	Sweetgum.
Sh----- Shellbluff	10A	Slight	Slight	Slight	Slight	Moderate	Sweetgum----- Yellow-poplar----- Scarlet oak-----	100 105 100	10 8 6	Loblolly pine.
To----- Toccoa	9A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine----- Yellow-poplar----- Sweetgum----- Southern red oak---	90 107 100 ---	9 8 10 ---	Loblolly pine, yellow-poplar.
WeC----- Wedowee	8A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine----- Southern red oak--- White oak-----	80 70 65	8 4 3	Loblolly pine.
WeE----- Wedowee	8R	Moderate	Moderate	Slight	Slight	Moderate	Loblolly pine----- Southern red oak--- White oak-----	80 70 65	8 4 3	Loblolly pine.
Wf----- Wehadkee	8W	Slight	Severe	Moderate	Moderate	Severe	Yellow-poplar----- Sweetgum----- Willow oak----- Water oak----- Green ash----- American sycamore--- River birch-----	100 94 110 91 --- --- ---	8 8 8 6 --- --- ---	Yellow-poplar, green ash, sweetgum.
WhB----- Wickham	9A	Slight	Slight	Slight	Slight	Moderate	Loblolly pine----- Yellow-poplar----- White oak----- Southern red oak--- Sweetgum----- Red maple----- Water oak----- Hickory-----	90 89 84 82 --- --- --- ---	9 6 5 4 --- --- --- ---	Loblolly pine.

See footnotes at end of table.

Table 7.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns					Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Plant competition	Common trees	Site index	Productivity class*	
WkF----- Wilkes	7R	Moderate	Moderate	Moderate	Moderate	Moderate	Loblolly pine-----	79	4	Loblolly pine.
							Sweetgum-----	82	6	
							Southern red oak----	76	4	
							Blackjack oak-----	---	---	
							White oak-----	---	---	
Shagbark hickory----	---	---								
ZnC----- Zion	6D	Slight	Slight	Slight	Moderate	Moderate	Loblolly pine-----	70	6	Loblolly pine.
							Red oak-----	---	---	
ZnE----- Zion	6R	Moderate	Moderate	Slight	Moderate	Moderate	Loblolly pine-----	70	6	Loblolly pine.
							Red oak-----	---	---	

* Productivity class is the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

** See description of the map unit for composition and behavior characteristics of the map unit.

CSRA

Regional Plan 2040



OUR COUNTIES

BURKE
COLUMBIA
GLASCOCK
HANCOCK
JEFFERSON
JENKINS
LINCOLN
MCDUFFIE
AUGUSTA-RICHMOND
TALIAFERRO
WARREN
WASHINGTON
WILKES

Prepared in 2018



Regional Plan

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Regional Plan

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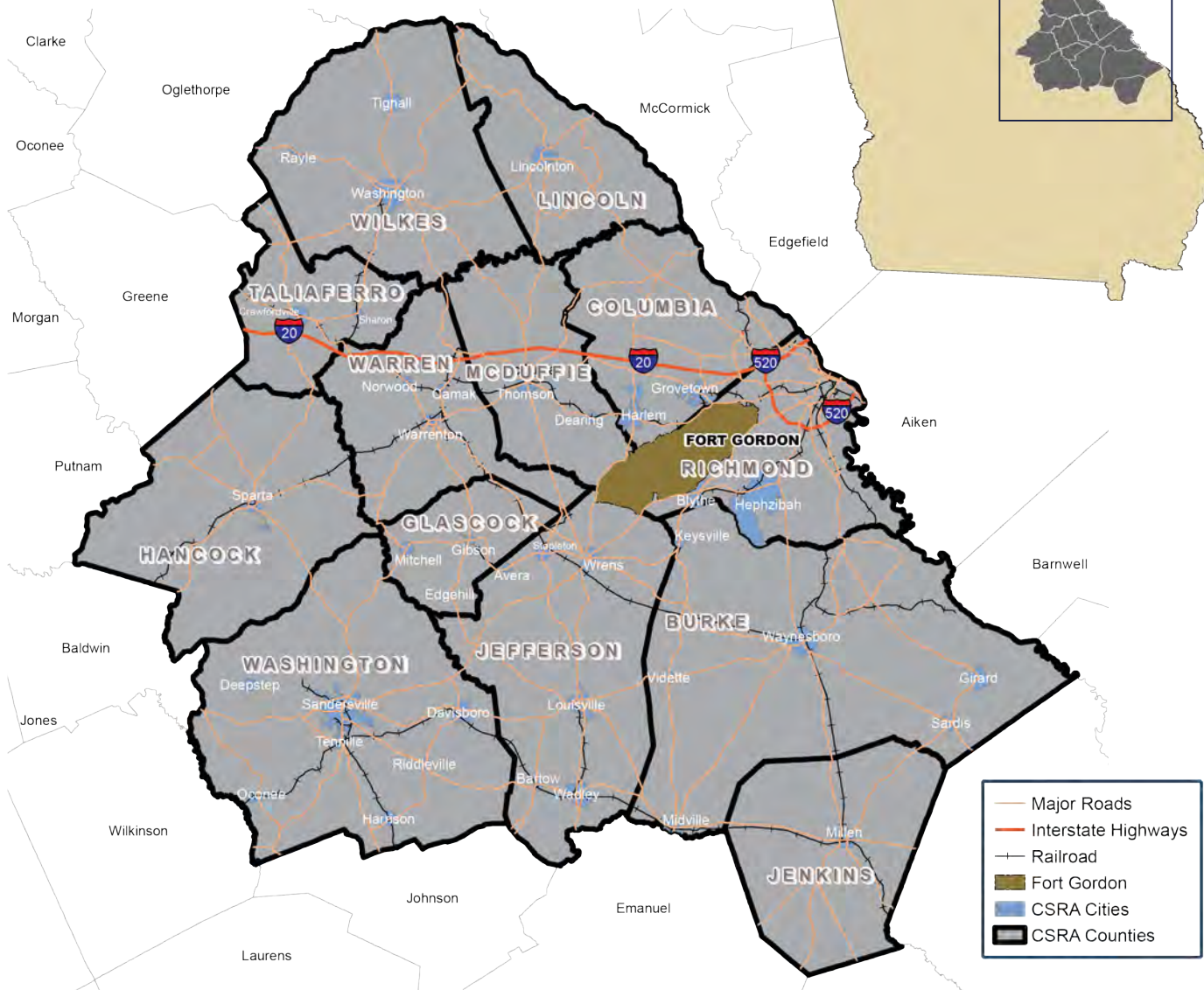
EXECUTIVE SUMMARY

CSRA

Regional Plan

Regional Overview

The Central Savannah River Area (CSRA) is bordered on the eastern side by the Savannah River and anchored by the city of Augusta at the heart of east-central Georgia. The Savannah River provides recreation and tourism for the CSRA border counties. Five counties in Georgia and two in South Carolina form a metropolitan cluster and regional core that leads out to the surrounding rural areas of the region. To the north, west, and south of the urban core, the rural CSRA is occupied by a lush agricultural belt where food and service crops are produced in the rich soil and livestock are nurtured for sale at market. The fall line of the ancient seashore helps define the geography of the CSRA as it crosses the region, transforming scenic landscapes of relatively flat terrain into gently rolling hills. This diverse surrounding promotes a high quality of life for the livelihood and growth of CSRA communities and citizens.



CSRA

Regional Plan

The CSRA region encompasses an area of nearly 6,500 square miles, with 465,126 residents according to the U.S. Census Bureau's 2015 American Community Survey. Located in east-central Georgia along the Savannah River, the CSRA region includes 13 counties: Burke, Columbia, Glascock, Hancock, Jefferson, Jenkins, Lincoln, McDuffie, Richmond, Taliaferro, Warren, Washington, and Wilkes. The largest city in the CSRA is Augusta – a major component of the economic core of the region. The Augusta-Richmond County, GA-SC Metropolitan Statistical Area (MSA) includes Richmond, Columbia, Burke, Lincoln and McDuffie counties in Georgia and Aiken and Edgefield counties in South Carolina.

This region represents both urban and rural interests - with two urban counties holding over 300,000 residents combined, and the balance of the region's counties containing anywhere from just over 1,700 residents to about 24,000. Augusta-Richmond and Columbia counties were the nexus of over 90 percent of regional population growth (81,745 residents) between 1990 and 2015. As urban areas have grown, some rural areas have experienced decline. These shifts in population affect the overall resident quality of life, including availability of basic services like high-speed internet and health care, affordable housing, and daily work commutes. The state of Georgia's recently updated Achieving Connectivity Everywhere (ACE) Act will require all communities to think outside the box and plan for broadband (aka highspeed internet) deployment throughout their jurisdictions. Improving broadband access for the region will help our healthcare, public safety and educational institutions provide better service, enable individual connectivity, and greatly improve the accessibility of commerce to other parts of the state and nation.

One emerging regional development factor is the planned growth at Fort Gordon, slated to bring several thousand soldiers and associated contractors to the region over the next several years through the U.S. Army Cyber Center of Excellence. This growth will directly affect the counties adjacent to Fort Gordon and will likely have extended effects across the region as these new residents search for housing, recreation, and retail opportunities and require local public services. To address impacts of land use and encroachment on Fort missions, McDuffie, Augusta-Richmond, Columbia, Burke and Jefferson Counties are participating in a Joint Land Use Study (JLUS). Some recommendations from the forthcoming final JLUS report are included in this document as implementation activities.

While Fort Gordon has a measurable impact on the regional economy, it is not the only player. Another major growth industry for this region is energy. This includes is Plant Vogtle, a nuclear power plant that is expanding with the construction of two core reactors. This multi-billion dollar construction project has affected favorably the economy of several neighboring counties and created a need for housing, community facilities, land use controls, transportation improvements, and intergovernmental cooperation.

Another major sector in the region is healthcare. Indeed, this region boasts 10 hospitals and an expanding network of prompt care centers. The Medical College of Georgia at Augusta University is also located in this region; health professionals are trained here to be care providers at all levels, from doctors to certified nursing and occupational health assistants. In this region, some larger, urban hospitals have increased capacity; while some rural hospitals have closed or are struggling.

CSRA

Regional Plan

The CSRA contains a wealth of natural, cultural and environmental resources that provide the region with numerous social, economic, and environmental benefits. The rural portions of the region have some of the most beautiful and interesting natural and cultural resources. These less densely populated small towns, counties, and agricultural areas can both promote and protect critical resources and sectors like farming through agritourism and heritage tourism. This may enable them to achieve a higher quality of life through an expanded economy and increased public access to resources. With that said, whether urban or rural, our natural and cultural resources are in need of protection if we want to continue reaping their benefits. For example, the region's watersheds will need to be monitored to ensure future development does not render them vulnerable. Additionally, many of the nearly 200 federal and state designated historic districts and sites lack preservation plans or protection ordinances, and this can be remedied.

Although the urban and rural areas sometimes choose to address challenges differently, many basic community needs are the same, and cities and counties must work together to find common solutions. One of the biggest successes for the region's transportation planning and intergovernmental coordination was the passage of the Transportation Investment Act (TIA) in 2012. This approved a 10-year, one percent (1%) sales tax to fund regional and local transportation improvements such as replacing bridges, widening roads and adding sidewalks. This funding greatly enhances the CSRA region's transportation network and creates jobs for contractors, surveyors, and an ever expanding workforce.

CSRA Regional Commission Responsibilities

The CSRA Regional Commission (CSRA RC) is based in Augusta, GA and serves the previously mentioned thirteen counties along with 41 municipalities, providing services in the areas of planning and land-use development, grant writing and administration, economic development, historic preservation, and geographic information systems development and implementation to member jurisdictions.

Additionally, the CSRA RC is the home of the Area Agency on Aging (AAA) for the region and serves the 13 counties in the region as well as Screven County. In this capacity, the CSRA RC works with local providers to ensure that services for seniors are provided and monitored. By utilizing pass-through funds from state and federal sources, the Commission's AAA serves as a gateway for programs and resources aimed at helping aging residents improve the quality of their lives before and during their retirement years.

The CSRA RC is also the parent company of CSRA Business Lending. CSRA Business Lending makes loans to small and start-up businesses for the purposes of creating jobs and economic development opportunities within its service area.

CSRA

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CSRA Regional Vision

The vision of the Central Savannah River Area is to remain a place that reflects the best of what the United States has to offer – a place where residents innovate and create and where commerce thrives; a place where residents are healthy and active because their surroundings encourage physical fitness; and, fundamentally, a place full of natural and man-made beauty, where residents take pride in and draw sustenance from their everyday surroundings.

What's the Regional Plan?

The CSRA Regional Plan (the Plan) is the long-range plan for the management of the region's projected growth by local governments and the CSRA Regional Commission. The Plan's horizon is twenty years but will be updated as needed to address changing regional conditions. The CSRA Regional Commission Council, supported by CSRA RC staff, undertook the process of a full update of its regional plan. The regional vision statement included herein encompasses the best of the committee's and the public's input for the present and future development of the CSRA region. A regional Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis, resident comments, and online survey results were utilized in defining regional goals, priority needs and opportunities, and an implementation plan. Feedback mechanisms for the Plan included public hearings and listening sessions. Goals and needs were developed and categorized by the following subject areas: economic development, natural and cultural resources, community facilities and services, housing, land Use and transportation, and Intergovernmental coordination. The CSRA's vision and goals, together with an appraisal of socioeconomic, land use, and environmental opportunities and threats, set the strategic direction for the regional work program. The regional work program then defines priorities and timing for implementation.

The Plan document is divided into four (4) sections:

Regional Goals - This section looks at the future of the region and lays out a road map for it. The goals section includes supporting policies that operate as guidance for decision-makers. It is supported by SWOT analysis, community survey, and other data gathered to inform the plan creation (included in the appendices). The "Regional Goals" section includes maps that depict future development and descriptions of desired development patterns.

Regional Needs and Opportunities - This section examines areas in which needs exist, as well as strengths that can be built on for the future. Every item designated as a priority in this section is tied to an implementation strategy and action items in the implementation program.

Implementation Program - This section includes concrete strategies and actions aimed at realizing the vision and addressing the priority regional needs and opportunities.

Appendices - This section contains data tables, acronym explanations and other information and analysis used in the formulation of the three plan components mentioned above.

CSRA

Regional Plan

Stakeholder Involvement Summary

Public involvement was the key to learning what regional needs were to be addressed. During the process, the RC gathered information and comments from stakeholders and the public through multiple events such as public hearings, steering committee input, listening sessions, an online survey, and social media. CSRA RC staff created a dedicated space on the CSRA RC website to serve as a portal for information about the plan. Stakeholder feedback was used directly in plan development, from the SWOT analysis to the specific implementation measures that form our regional work program.

Our involvement process included the following engagement activities:

- Identified key stakeholders in addition to the general public, designating CSRA RC's Council as the plan's Steering Committee and RC staff as a Technical Advisory Group
- Held two public hearings and three community listening sessions
- Partnered with the Augusta Food Oasis for two (of the three previously mentioned) listening sessions to inform residents about both the Regional Plan overall and more specifically regional food access, which had emerged as a topic of importance.
- Published an online survey to gather additional resident input, with links provided on the RC website, social media, and emails
- Provided a dedicated space on the CSRA RC website to serve as a portal for information about the plan
- Distributed information at RC partner events
- Utilized social media to post information on agency Facebook and Twitter pages
- Created an informational lobby display for the RC office entrance area, along with handouts for citizens with general plan information

CSRA

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Regional Goals and Priorities



Economic Development Goal – to cultivate and maintain a vibrant, diversified economy that expands job opportunities in the region, develops a qualified workforce, supports downtowns as multi-use destinations, and improves the quality of life for all residents

- Create and promote agricultural, natural, and heritage tourism opportunities and assets
- Increase job opportunities through business expansion, attraction and retention



Natural and Cultural Resources Goal – to protect and preserve natural, environmental and cultural resources in the region from development pressure, build a network of connected communities, and highlight our historic resources and natural assets

- Protect natural resources and historic properties



Community Facilities and Services Goal – to provide community facilities and services throughout the region that encourage appropriate development and more walkable, mixed use communities that enhance the overall quality of life for all residents

- Improve and expand infrastructure across region, including water and sewer expansion, flood and drainage improvements, sidewalk construction, and increased broadband access
- Increase access to healthy, affordable food
- Provide resources for residents that allow them to choose whether to age in place or move into housing developments or care facilities for older adults



Housing Goal – to provide a range of housing types and choices, available in urban and rural areas, that is safe and physically and economically accessible to all residents

- Rehabilitation, redevelopment, or removal of vacant and/or dilapidated structures
- Additional housing supply and variety



Land Use and Transportation Goal - to effectively utilize existing infrastructure to ensure the coordination of land use and transportation planning in support of improved resident quality of life, including provisions for pedestrians, trails and bicycles, housing, access to recreation and green space, and protected natural and historic areas

- Improvement and repair of roads and bridges, including increased street connectivity
- Reduce, eliminate, or prevent encroachment on Fort Gordon military installation



Intergovernmental Coordination Goal – to create a culture of collaborative planning and government decision-making, wherein communities join together to define commonalities and development strategies that benefit multiple jurisdictions to further effective growth, increase access to resources, generate cost savings, and promote healthy, active residents

- Examine the possibility of regional code enforcement through the RC



Actions to be Pursued

The following are some key strategies and actions the Regional Commission, in partnership with local governments and other agencies, will be undertaking over the next five (5) years. Additional strategies and actions are located in the "Implementation Program" portion of this document. These strategies and implementation items are considered the CSRA region's important steps towards growing and developing this area with cooperation and inclusiveness for a better quality of life for citizens, business and industry in the region's cities and counties.

STRATEGY: Provide support to local organizations/agencies currently engaged in agritourism and/or heritage tourism and coordinate with local governments to choose target areas for promotion

ACTION: Utilize GIS to create thematic or location-based story maps in different counties or groups of counties that highlight unique assets

STRATEGY: Review and update important city/county documents

ACTION: Survey HPCs to pinpoint weaknesses in existing historic preservation ordinances

STRATEGY: Maintain existing infrastructure and secure funding for new infrastructure as needed

ACTION: Create service area maps to support current SDS documents

STRATEGY: Examine and update local land use polices as they relate to community food systems

ACTION: Create and distribute resident fact sheets/guides for doing specific things like having raised beds, composting, or keeping chickens in counties with zoning

STRATEGY: Educate the public and local government officials on what is currently available and what's missing in our regional food system

ACTION: Create a regional map of farmer's markets, community/school gardens, etc

STRATEGY: Increase the number of GICH communities

ACTION: Assist communities with the creation or update of housing inventories and action plans

STRATEGY: Increase the capacity of the CSRA Aging Network to meet the needs of caregivers

ACTION: Increase senior caregiver training through seminars, webinars, social, print and broadcast media and care consultation

STRATEGY: Implement the 2018 Joint Land Use Study recommendations

ACTION: Host the inaugural meeting between Fort personnel and local governments to review development projects and activities and assess challenges

APPENDIX D

WORKSHEETS
USED IN
PLANNING PROCESS

Date:

What kinds of natural hazards can affect you?

Task A. List the hazards that may occur.

1. Research newspapers and other historical records
2. Review existing plans and reports.
3. Talk to the experts in your community, state, or region.
4. Gather information on Internet Websites.
5. Next to the hazard list below, put a check mark in the Task A boxes beside all hazards that may occur in your community or state.

Task B. Focus on the most prevalent hazard in your community or state.

1. Go to hazard Websites.
2. Locate your community or state on the Website map.
3. Determine whether you are in a high-risk area. Get more localized information if necessary.
4. Next to the hazard list below, put a check mark in the Task B boxes beside all hazards that post a significant threat.

Use this space to record information you find for each of the hazards you will be **researching**. Attach additional pages as necessary. Note: **Bolded** hazards are addressed in this How-to Guide.

	Task A	Task B
Avalanche		
Coastal Erosion		
Coastal Storm	X	
Dam Failure	X	
Drought	X	X
Earthquake	X	
Expansive Soils		
Extreme Heat	X	
Flood	X	X
Hailstorm	X	
Hurricane	X	
Land Subsidence		
Landslide		
Severe Winter Storm	X	X
Tornado	X	X
Tsunami		
Volcano		
Wildfire	X	X
Windstorm		
Lightning	X	X
Tropical Storms	X	X
Thunderstorm Winds	X	X

Hazard or Event Description (Type of hazard, date of event, number of injuries, cost and types of damage, etc.)	Source of Information	Map Available for this Hazard?	Scale of Map
Drought See Appendix A for complete information	USDA, NCDC, SHELDUS, Local media information, Palmer Index	Maps area available for the state as a whole from the Palmer Index See Appendix A	
Flood See Appendix A for this complete information	USGS, NCDC, SHELDUS	Flood Plain Maps are available See Appendix A	
Severe Winter Weather See Appendix A for this complete information	SERRC, NCDC, SHELDUS	Maps are available in Appendix A	
Hail See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Tornado See Appendix A for this complete information	Tornado History Project, MRCC, NCDC, & SHELDUS,	Map is available See Chapter II. Section IV.	
Lightning See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Tropical Storms See Appendix A for this complete information	NCDC, SHELDUS,	No map is available	
Thunderstorm Winds See Appendix A for this complete information	NCDC, SHELDUS,	No map is available Map is available for wind zone	
Wildfire See Appendix A for this complete information	GFC	Map is available for fire danger	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Unincorporated Wilkes County

Hazard: Drought, Severe Weather, Winter Storm, Wildfire, Earthquake, Dam Failure

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Unincorporated Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	8,646	8,646	100%	\$171,753,168	171753167.5	100%	5,167	5,167	100%
Commercial	564	564	100%	\$89,720,190	\$89,720,190	100%	5,167	5,167	100%
Industrial	171	171	100%	\$52,818,925	\$52,818,925	100%	337	337	100%
Agricultural	7,378	7,378	100%	\$468,422,758	\$468,422,758	100%	409	409	100%
Religious/ Non-profit	264	264	100%	\$21,636,145	\$21,636,145	100%	5,167	5,167	100%
Government	173	173	100%	\$13,721,060	\$13,721,060	100%	655	655	100%
Education	11	11	100%	\$12,706,480	\$12,706,480	100%	0	0	#DIV/0!
Utilities	9	9	100%	\$75,182,653	\$75,182,653	100%	10	10	100%
Total	17,216	17,216	100%	\$905,961,378	\$905,961,378	100%	5,167	5,167	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?	X	
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Town of Rayle

Hazard: Drought, Severe Weather, Winter Storm, Wildfire, Earthquake, Dam Failure

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Rayle Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	248	248	100%	3,006,823	3006822.5	100%	198	198	100%
Commercial	63	63	100%	1,430,120	\$1,430,120	100%	198	198	100%
Industrial	17	17	100%	186,440	\$186,440	100%	25	25	100%
Agricultural	35	35	100%	926,845	\$926,845	100%	4	4	100%
Religious/ Non-profit	2	2	100%	59,618	\$59,618	100%	198	198	100%
Government	10	10	100%	247,375	\$247,375	100%	6	6	100%
Education	0	0	#DIV/0!	0	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!
Utilities	1	1	100%	144,978	\$144,978	100%	0	0	#DIV/0!
Total	376	376	100%	\$6,002,198	#DIV/0!	#DIV/0!	198	198	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?		
2. Do you know whether your critical facilities will be operational after a hazard event?		
3. Is there enough data to determine which assets are subject to the greatest potential damages?		
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?		
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?		
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?		

GEMA Worksheet #3a
Jurisdiction: Town of Rayle
Hazard: Flood

Inventory of Assets

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Rayle	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	248	0	0.00%	3,112,980	\$0	0%	198	0	100%
Commercial	63	0	0.00%	1,854,758	\$0	0%	198	0	0%
Industrial	17	0	0.00%	3,413,460	\$0	0%	25	0	0%
Agricultural	35	0	0.00%	2,149,825	\$0	0%	4	0	0%
Religious/ Non-profit	2	0	0.00%	2,500,888	\$0	0%	198	0	0%
Government	10	0	0.00%	5,545	\$0	0%	6	0	0%
Education	0	0	#DIV/0!	1,273,935	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!
Utilities	1	0	0.00%	27,318,500	\$0	0%	0	0	#DIV/0!
Total	376	0	0.00%	\$41,629,890	#DIV/0!	#DIV/0!	198	#DIV/0!	#DIV/0!

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?		X
2. Do you know whether your critical facilities will be operational after a hazard event?		X
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?		X
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?		X
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Unincorporated Wilkes County

Hazard: Flood

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Flood Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	8,646	24	0.28%	\$171,753,168	\$476,761	0%	5,167	14	100%
Commercial	564	0	0.00%	\$89,720,190	\$0	0%	5,167	0	0%
Industrial	171	0	0.00%	\$52,818,925	\$0	0%	337	0	0%
Agricultural	7,378	176	2.39%	\$468,422,758	\$11,174,086	2%	409	10	2%
Religious/ Non-profit	264	0	0.00%	\$21,636,145	\$0	0%	5,167	0	0%
Government	173	0	0.00%	\$13,721,060	\$0	0%	655	0	0%
Education	11	0	0.00%	\$12,706,480	\$0	0%	0	0	#DIV/0!
Utilities	9	0	0.00%	\$75,182,653	\$0	0%	10	0	0%
Total	17,216	200	1.16%	\$905,961,378	\$11,650,847	1%	5,167	24	0%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?	X	
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a
Jurisdiction: City of Washington
Hazard: Flood

Inventory of Assets

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Washington	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	5,310	51	0.96%	\$124,161,438	\$1,192,511	1%	3,947	38	100%
Commercial	1,137	0	0.00%	\$83,582,355	\$0	0%	3,947	0	0%
Industrial	35	0	0.00%	\$3,615,538	\$0	0%	1,250	0	0%
Agricultural	110	12	10.91%	\$5,655,155	\$616,926	11%	38	4	11%
Religious/ Non-profit	147	0	0.00%	\$16,254,365	\$0	0%	3,947	0	0%
Government	293	0	0.00%	\$27,028,175	\$0	0%	88	0	0%
Education	39	0	0.00%	\$11,290,213	\$0	0%	472	0	0%
Utilities	8	0	0.00%	\$9,939,308	\$0	0%	2	0	0%
Total	7,079	63	0.89%	\$281,526,545	\$1,809,437	1%	3,947	42	1%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?	X	
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Town of Tignall

Hazard: Drought, Severe Weather, Winter Storm, Wildfire, Earthquake, Dam Failure

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Tignall	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	898	898	100%	\$13,007,110	13007110	100%	485	485	100%
Commercial	97	97	100%	\$3,112,980	\$3,112,980	100%	485	485	100%
Industrial	9	9	100%	\$1,854,758	\$1,854,758	100%	12	12	100%
Agricultural	121	121	100%	\$3,413,460	\$3,413,460	100%	9	9	100%
Religious/ Non-profit	40	40	100%	\$2,149,825	\$2,149,825	100%	485	485	100%
Government	82	82	100%	\$2,500,888	\$2,500,888	100%	6	6	100%
Education	6	6	100%	\$5,545	\$5,545	100%	0	0	#DIV/0!
Utilities	5	5	100%	\$1,273,935	\$1,273,935	100%	0	0	#DIV/0!
Total	1,258	1,258	100%	\$27,318,500	\$27,318,500	100%	485	485	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	x	
2. Do you know whether your critical facilities will be operational after a hazard event?		x
3. Is there enough data to determine which assets are subject to the greatest potential damages?		x
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	x	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	x	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	x	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	x	

GEMA Worksheet #3a
Jurisdiction: Town of Tignall
Hazard: FLOOD

Inventory of Assets

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Tignall	Number of Structures			Value of Structures			Number of People		
Type of Structure (Occupancy Class)	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	898	0	0.00%	\$13,007,110	\$0	0%	485	0	100%
Commercial	97	0	0.00%	\$3,112,980	\$0	0%	485	0	0%
Industrial	9	0	0.00%	\$1,854,758	\$0	0%	12	0	0%
Agricultural	121	0	0.00%	\$3,413,460	\$0	0%	9	0	0%
Religious/ Non-profit	40	0	0.00%	\$2,149,825	\$0	0%	485	0	0%
Government	82	0	0.00%	\$2,500,888	\$0	0%	6	0	0%
Education	6	0	0.00%	\$5,545	\$0	0%	0	0	#DIV/0!
Utilities	5	0	0.00%	\$1,273,935	\$0	0%	0	0	#DIV/0!
Total	1,258	0	0.00%	\$27,318,500	\$0	0%	485	0	0%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	x	
2. Do you know whether your critical facilities will be operational after a hazard event?		x
3. Is there enough data to determine which assets are subject to the greatest potential damages?		x
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	x	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	x	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	x	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	x	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: City of Washington

Hazard: Drought, Severe Weather, Winter Storm, Wildfire, Earthquake, Dam Failure

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Washington Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	5,310	5,310	100%	124,161,438	124,161,437.5	100%	3,947	3,947	100%
Commercial	1,137	1,137	100%	83,582,355	\$83,582,355	100%	3,947	3,947	100%
Industrial	35	35	100%	3,615,538	\$3,615,538	100%	1,250	1,250	100%
Agricultural	110	110	100%	5,655,155	\$5,655,155	100%	38	38	100%
Religious/ Non-profit	147	147	100%	16,254,365	\$16,254,365	100%	3,947	3,947	100%
Government	293	293	100%	27,028,175	\$27,028,175	100%	88	88	100%
Education	39	39	100%	11,290,213	\$11,290,213	100%	472	472	100%
Utilities	8	8	100%	9,939,308	\$9,939,308	100%	2	2	100%
Total	7,079	7,079	100%	\$281,526,545	\$281,526,545	100%	3,947	3,947	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?	X	
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Wilkes County All Jurisdictions

Hazard: Drought, Severe Weather, Winter Storm, Wildfire, Earthquake, Dam Failure

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Countywide Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	15,102	15,102	100%	311,599,928	311,599,927.5	100%	9,797	9,797	100%
Commercial	1,861	1,861	100%	177,845,645	\$177,845,645	100%	9,797	9,797	100%
Industrial	232	232	100%	58,475,660	\$58,475,660	100%	1,624	1,624	100%
Agricultural	7,404	7,404	100%	256,384,475	\$256,384,475	100%	464	464	100%
Religious/ Non-profit	444	444	100%	36,523,328	\$36,523,328	100%	9,797	9,797	100%
Government	566	566	100%	43,495,598	\$43,495,598	100%	755	755	100%
Education	56	56	100%	24,002,238	\$24,002,238	100%	472	472	100%
Utilities	23	23	100%	86,540,873	\$86,540,873	100%	12	12	100%
Total	25,688	25,688	100%	\$994,867,743	\$994,867,743	100%	9,797	9,797	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?	X	
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Wilkes County All Jurisdictions

Hazard: Flood

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Countywide Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	15,102	75	0.50%	311,599,928	\$1,547,477	0%	9,797	49	100%
Commercial	1,861	0	0.00%	177,845,645	\$0	0%	9,797	0	0%
Industrial	232	0	0.00%	58,475,660	\$0	0%	1,624	0	0%
Agricultural	7,404	188	2.54%	256,384,475	\$6,510,033	3%	464	12	3%
Religious/ Non-profit	444	0	0.00%	36,523,328	\$0	0%	9,797	0	0%
Government	566	0	0.00%	43,495,598	\$0	0%	755	0	0%
Education	56	0	0.00%	24,002,238	\$0	0%	472	0	0%
Utilities	23	0	0.00%	86,540,873	\$0	0%	12	0	0%
Total	25,688	263	1.02%	\$994,867,743	\$8,057,509	1%	9,797	60	1%

Task B. Determine whether (and where) you want to collect additional inventory data.

	Y	N
1. Do you know where the greatest damages may occur in your area?	X	
2. Do you know whether your critical facilities will be operational after a hazard event?	X	
3. Is there enough data to determine which assets are subject to the greatest potential damages?		X
4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards?	X	
5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards?	X	
6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence?	X	
7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives?	X	

STAPLEE Criteria	S	T	A	P	L	E	E
	(Social)	(Technical)	Administrative	(Political)	(Legal)	(Economic)	(Environmental)
Considerations → for Alternative Actions ↓	Community Acceptance Effect on Segment of Population	Technical Feasibility Long-term Solution	Secondary Impacts Staffing Funding Allocated Maintenance / Operations	Political Support Local Champion Public Support State Authority	Existing Local Authority Potential Legal Challenge	Benefit of Action Cost of Action Contributes to Economic Goals Outside Funding Required	Effect on Land / Water Effect on Endangered Species Effect on HAZMAT / Waste Sites Consistent with Community Environmental Goals Consistent With Federal Laws
Investigate greater participation Level in the CRS	+		-	-		-	
Update the FEMA Flood Hazard Base Maps.	+	+	+	+		+	+
Continue to assess stormwater runoff.	+	+	+	+		+	+
Construct as needed, more storm water retention facilities, storm drain improvements and channel improvements to protect existing and new developments.	+	+	+	+		+	+
Increase the size of retention basins and run off canals where appropriate.	+	+	+	+		-	
Clear run-off and water retention ditches.	+	+	+	+		+	+
The City of Washington identified a stormwater projects on all or parts of Jackson St, Alabama St, Old Skull Shoals Rd, Booker St, Pecan St, Benson St, Williams St, Hill St, Mobile Circle, Ware St, Norman St, South Butler St, and Lincoln Drive to reduce or eliminate storm water flooding.	+	+	+	-	+	+	+
Washington identified a stormwater project at Reese Booker Street to install catch basins and stormwater pipe can divert flooding problem away from three homes.	+	+	+	-	+	-	+
Wilkes County identified a stormwater projects at Peeler Road Bridge needs to be rebuilt and the road elevated	+	+	+	-	+	-	+
Wilkes County identified a stormwater project at Herbert Calloway Road to increase existing 24 inch culvert needs to be replaced with a 36 inch culvert and elevate road.	+	+	+	-	+	-	+
Wilkes identified a stormwater project at Boyd Road to increase existing 24 inch culvert needs to be replaced with a 36 inch culvert and elevate road.	+	+	+	-	+	-	+

STAPLEE Criteria	S	T			A			P			L			E			E					
	(Social)	(Technical)			Administrative			(Political)			(Legal)			(Economic)			(Environmental)					
Considerations → for Alternative Actions ↓	Community Acceptance Effect on Segment of Population	Technical Feasibility	Long-term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance / Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenge	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent With Federal Laws
Wilkes County identified a stormwater project the EMS building to divert stormwater away from the building.	+	+	+	+		-	+	+						+	-		-	+				+
Wilkes County will relocate the EMS building to the South Bypass (Andrew Drive) and combine EMS and 911 Dispatch.	+	+	+	+		-	+	+						+	-		-	+				+
Identify flood prone properties and seek funding to acquire and convert to low impact uses.	+	+	+	+		-	+	+						+	-		-	+				+
Identify and move property owners who are in areas continually subject to flooding.	+	+	+	+		-	+	+						+	-		-	+				+
Review set back requirements from top of banks of creeks and from top of banks of major rivers.																						
Seek funding for communication towers and voice repeater systems.	+	+		+				+									-					
Adopt ordinances to limit and control building and development in known flood prone areas.		+	+	+				+						+	+			+				+
Promote the preservation of areas in and around watercourses.		+	-	+		-	+							+	+		-					+
Add greenspace to known flood prone areas.			+	+		+	-	+						+			-	+				+
Evaluate existing water system upgrade as needed	+	+	+	+		+	-	+	+		+			+	-		-					+
Investigate methods to reduce non-point source pollution.	+	+	-	-		-	-				+			+	-		-					+
Promote increased surface water usage and surface artesian flow for irrigation.			+	+		+	-	+			+			+	-		-	+				+
Enact a program to educate the residents about water conservation issues	+		+	+		-	-	+						+	+		-	+				+
Increase public awareness of watering restrictions and bans.	+		+	+		-	+	+						+	+		+	+				+

STAPLEE Criteria	S	T	A	P	L	E	E
	(Social)	(Technical)	Administrative	(Political)	(Legal)	(Economic)	(Environmental)
Considerations → for Alternative Actions ↓	Community Acceptance Effect on Segment of Population	Technical Feasibility Long-term Solution	Secondary Impacts Staffing Funding Allocated Maintenance / Operations	Political Support Local Champion Public Support State Authority	Existing Local Authority Potential Legal Challenge Benefit of Action Cost of Action	Contributes to Economic Goals Outside Funding Required Effect on Land / Water	Effect on Endangered Species Effect on HAZMAT / Waste Sites Consistent with Community Environmental Goals Consistent With Federal Laws
Develop a public awareness campaign to promote water-saving campaigns (i.e. low-flow water saving devices)	+	+	+	+	+	+	+
Continue training of all firefighters to include wildland fire training.	+	+	+	+	+	-	+
Seek funding for needed firefighting equipment		+	+	+	+	-	+
Seek funding for more paid firefighters.	+	+	+	+	+	-	+
Inventory and replace or install more fire hydrants as needed.	+	+	+	+	+	-	+
Seek funding fire engines and tankers for local fire departments.		+	+	-	+	-	+
Enforce defensible space (30-ft minimum setbacks) between buildings and flammable brush and forestland where possible.		+	+	-	+	-	+
Continue following GFC service of construction and maintenance of firebreaks around forests and structures, along abandoned roadbeds.		+	+	-	+	-	+
Strictly follow GFC's guidelines for control burns and permits.		+	+	-	+	-	+
Implement the Firewise Community Initiative where appropriate		+	+	-	+	-	+
Improve public awareness of wildfire techniques and awareness of wildfire dangers.		+	+	-	+	-	+
To the greatest extent possible, identify all owners of inadequately installed manufactured homes offer a financial incentive to retrofit them with an appropriate level of anchoring and support.		+	+	-	+	-	+
Equip all county and city recreation parks with adequate early severe weather warning and lightning detection devices.	+	+	+	+	+	-	+

STAPLEE Criteria	S	T	A	P	L	E	E
	(Social)	(Technical)	Administrative	(Political)	(Legal)	(Economic)	(Environmental)
Considerations → for Alternative Actions ↓	Community Acceptance Effect on Segment of Population	Technical Feasibility Long-term Solution	Secondary Impacts Staffing Funding Allocated Maintenance / Operations	Political Support Local Champion Public Support State Authority	Existing Local Authority Potential Legal Challenge Benefit of Action	Cost of Action Contributes to Economic Goals Outside Funding Required	Effect on Land / Water Effect on Endangered Species Effect on HAZMAT / Waste Sites Consistent with Community Environmental Goals Consistent With Federal Laws
Equip school buses with Automated Vehicle Location	+	+	+	+		+	+
Inspects public buildings and critical facilities and retrofit to reinforce windows, doors, and roofs as needed		+	+	+		+	+
Enforce building codes for all new buildings and critical facilities.		+	+	+		-	+
Inspect all county and municipal critical facilities for proper grounding.		+	+	+		-	+
Install lightning rods in high value critical facilities.		+	+	+		+	+
Install surge protectors on critical facilities' electronic equipment in essential county and city facilities.		+	+	+		+	+
Review current Emergency Response Plan and update when needed.		+	+	+		+	+
Review current evacuation plans paying particular attention to vulnerable populations and update as needed.	+	+	+	+		+	+
Provide boat owners with safety tie down procedures with boat registration.		+	-	+		+	+
Develop a public awareness program about the installation of lightning grounding systems on critical infrastructure, residential and business properties.	+	+	+	+		+	+
Inventory all critical facilities and assess generator needs. Install generators where needed.	+	+	-	+		+	+
Seek funding to ensure all current and future emergency shelters have back-up generators.	+	+	+	+		+	+
Educate the public on shelter locations and evacuation routes	+	+	-	+		+	+

STAPLEE Criteria	S	T	A	P	L	E	E
	(Social)	(Technical)	Administrative	(Political)	(Legal)	(Economic)	(Environmental)
Considerations → for Alternative Actions ↓	Community Acceptance Effect on Segment of Population	Technical Feasibility Long-term Solution	Secondary Impacts Staffing Funding Allocated Maintenance / Operations	Political Support Local Champion Public Support	State Authority Existing Local Authority Potential Legal Challenge	Benefit of Action Cost of Action Contributes to Economic Goals Outside Funding Required	Effect on Land / Water Effect on Endangered Species Effect on HAZMAT / Waste Sites Consistent with Community Environmental Goals Consistent With Federal Laws
Develop public education and awareness programs regarding severe weather events to include home safety measures, purchase of weather radio and personal safety measures before, during and after an event.	+	+	+	+		+	+
Implement a winter storm education program to include winterization of home and/or business and what to do before, during and after. Winterization includes: underground utility lines, installation of stronger windows and doors, installation of shutters to protect windows.	+	+	-	+	+	+	+
Inventory existing road equipment and purchase needed equipment to maintain roads before, during and after a winter storm event.	+	+	+	+		+	+
Encourage harvesting of trees along utility and road corridors, preventing potential winter storm damage.							
Develop a public awareness program about the installation of lightning grounding systems on critical infrastructure, residential and business properties.							
Review current codes to comply with and enforce the State building code with criteria for design snow load for buildings and structures.	+	+	+	+		+	+
Place all utility lines underground in new subdivisions.							
Create a data base to record hazard event information.	+	+	-	+	+	+	-
Conduct dam breach analysis to identify assets and population at risk in the event of a failure.	+	+	-	+	+	+	+
Draft ordinance prohibiting development in dam breach zone.	+	+	-	+	+	+	+

STAPLEE Criteria	S	T	A	P	L	E	E
	(Social)	(Technical)	Administrative	(Political)	(Legal)	(Economic)	(Environmental)
Considerations → for Alternative Actions ↓	Community Acceptance Effect on Segment of Population	Technical Feasibility Long-term Solution	Secondary Impacts Staffing Funding Allocated Maintenance / Operations	Political Support Local Champion Public Support	State Authority Existing Local Authority Potential Legal Challenge	Benefit of Action Cost of Action Contributes to Economic Goals Outside Funding Required	Effect on Land / Water Effect on Endangered Species Effect on HAZMAT / Waste Sites Consistent with Community Environmental Goals Consistent With Federal Laws
Install water level monitoring devices on dams and on all major tributaries in Wilkes County	+	+	+	+		+	
Install dam failure alert systems.							
Perform field survey including dams, spillways, downstream cross section, and downstream structures within dam breach zone.							
Inventory existing road equipment and purchase needed equipment to maintain roads before, during and after a hazard event.	+	+	+	+		+	
Develop coordinated management strategies for deicing, snow plowing, and clearing roads of fallen trees and debris	+	+	+	+		+	
Promote the construction of safe rooms in shelter areas and in public buildings.	+	+	-	+		+	
Update 911 equipment as needed.	+	+	+	+		+	
Request that all new education facilities be designed to serve as public shelters for emergency purposes.	+	+	+	+		+	
Promote and participate in the following American Red Cross Programs• Disaster Resistant Neighborhoods Program • Business and Industry Preparedness Seminar • Community Disaster Education Preparedness presentations	+	+	+	+		+	
Create an EMA website and Facebook Page with information pertaining to Emergency Preparedness.	+	+	+	+		+	
Work with local cable and radio providers to enhance and broadcast public education on Emergency Preparedness.	+	+	-	+		+	

STAPLEE Criteria	S	T	A	P	L	E	E
	(Social)	(Technical)	Administrative	(Political)	(Legal)	(Economic)	(Environmental)
Considerations → for Alternative Actions ↓	Community Acceptance Effect on Segment of Population	Technical Feasibility Long-term Solution	Secondary Impacts Staffing Funding Allocated Maintenance / Operations	Political Support Local Champion Public Support	State Authority Existing Local Authority Potential Legal Challenge	Benefit of Action Cost of Action Contributes to Economic Goals Outside Funding Required	Effect on Land / Water Effect on Endangered Species Effect on HAZMAT / Waste Sites Consistent with Community Environmental Goals Consistent With Federal Laws
Implement GIS mitigation information, maps and technology on fire and emergency management vehicles so that data can be readily available in the field and so that more accurate, timely assessments and future mitigation planning activities and documentation can be performed.	+	+	+	+		+	
Purchase a portable sewer transfer pumping unit	+	+		+		+	+
Install eight outdoor emergency warning sirens throughout Wilkes County to obtain broader coverage.	+	+		-		+	+
Install two outdoor emergency warning sirens in Tignall.	+	+		-		+	+
Install one outdoor emergency warning siren in Rayle.	+	+		-		+	+
Seek funding to build a Fire Station on Hwy 47	+	+		-		+	+
Purchase a Brush Fire Truck	+	+		-	+	+	+
Purchase a Bucket Truck to Remove Limbs along county road right-of-ways	+	+	+	+		+	+
Pave Roads in county that are unpassable due to flooding	+	+	+	+		+	+
Provide NOAA weather radios to elderly and handicap populations (moved to all hazards).	+	+	+	+		+	+
Review existing comprehensive, development and land use plans to address flood prone areas.	+	+	+	+		+	+
Preform procurement to contract with debris removal firm to have contract in place before hazards to ensure firm can move in immediately.	+	+	+	+		+	+
Run HAZUS scenarios once the software is updated and compatible to RC ArcGIS 10.2 update estimated losses.	+	+	+	+		+	+

STAPLEE Criteria	S	T	A	P	L	E	E
	(Social)	(Technical)	Administrative	(Political)	(Legal)	(Economic)	(Environmental)
Considerations → for Alternative Actions ↓	Community Acceptance Effect on Segment of Population	Technical Feasibility Long-term Solution	Secondary Impacts Staffing Funding Allocated Maintenance / Operations	Political Support Local Champion Public Support	State Authority Existing Local Authority Potential Legal Challenge	Benefit of Action Cost of Action Contributes to Economic Goals Outside Funding Required	Effect on Land / Water Effect on Endangered Species Effect on HAZMAT / Waste Sites Consistent with Community Environmental Goals Consistent With Federal Laws
Seek funding for code-red	+	+	+	+		+	
Conduct a survey to determine structural capability of critical facilities to function after a seismic event. Retrofit as needed.	+	+	+	+		+	+
Distribute flyers and pamphlets to citizens and businesses on earthquake preparedness.	+	+	+	+		+	+
Conducts earthquake scenarios to estimate potential loss of life and injuries, the types of potential damage, and existing vulnerabilities.	+	+	+	+		+	+

WILKES COUNTY HAZARD MITIGATION PLAN UPDATE

Documentation of Labor Match

*** REQUIRED: Form is not valid without the following fields:**

* NAME (Please Print): _____

* ORGANIZATION: _____

* DATE(S): _____

EVENT: Hazard Mitigation Plan Update

* HOURLY SALARY: _____

BENEFITS PER HOUR: _____

* HOURS CONTRIBUTED (Include travel time): _____

TOTAL LABOR MATCH: _____

(Hourly Salary + Benefits Per Hour) X Hours Contributed = Total Labor Match

*SIGNATURE:

(FORM IS NOT VALID WITHOUT SIGNATURE)

"I authorize GEMA/HS to use the value identified for federal costs-sharing matching purposes and do not otherwise believe that I am currently paid with federal funds or that my salary is being used to satisfy any other federal costs-sharing obligation."

For use by Committee Members (e.g. EMA Director, County Engineer ...)

Building Type Code:

- C1 = Concrete Moment Frame
- C2 = Concrete Shear Walls
- C3 = Concrete Frame with Unreinforced Masonry Infill Walls
- MH = Manufactured Housings
- O = Other Building Type
- P1 = Precast Concrete Tilt-Up Walls
- P2 = Precast Concrete Frames with Cast-in-Place Concrete Shear Walls
- RM1 = Reinforced Masonry Bearing Walls with Wood or Metal Deck Diaphragms
- RM2 = Reinforced Masonry Bearing Walls with Precast Concrete Diaphragms
- S1 = Steel Moment Frame
- S2 = Steel Braced Frame
- S3 = Steel Light Frame
- S4 = Steel Frame with Cast-in-Place Concrete Shear Walls
- S5 = Steel Frame with Unreinforced Masonry Infill Walls
- URM = Unreinforced Masonry Bearing Walls
- UNK = Unknown Building Type

Occupancy Code:

- AGR1 = Agriculture Facilities and Offices
- COM1 = Retail Trade
- COM2 = Wholesale Trade
- COM3 = Personal and Repair Services
- COM4 = Professional/Technical Services
- COM5 = Banks
- COM6 = Hospital
- COM7 = Medical Office and Clinic
- COM8 = Entertainment Recreation
- COM9 = Theaters
- COM10 = Parking Garages
- EDU1 = Grade Schools and Admin. Offices
- EDU2 = Colleges and Universities
- GOV1 = Government - General Services
- GOV2 = Government - Emergency Response
- UNK = Unknown
- IND1 = Heavy Industrial
- IND2 = Light Industrial
- IND3 = Food/Drugs/Chemicals
- IND4 = Metals/Minerals Processing
- IND5 = High Technology
- IND6 = Construction Facilities and Offices
- REL1 = Churches and Non-Profit Organizations
- RES1 = Single Family Dwellings
- RES2 = Manufactured Housing
- RES3A = Duplex
- RES3B = 3 to 4 Units
- RES3C = 5 to 9 Units
- RES3D = 10 to 19 Units
- RES3E = 20 to 49 Units
- RES3F = > 50 Units
- RES4 = Temporary Lodging
- RES5 = Institutional Dormitories
- RES6 = Nursing Homes

Definitions:

Essential Facility

An essential facility is a critical facility that is essential to the health and welfare of the population. The potential consequences of losing functions or services from this type of facility are higher than any other type of structures. Interruption or loss of function from these types of facilities would jeopardize human life and public safety. Essential facilities include: hospitals and other medical facilities, police and fire stations, emergency operations centers, evacuation shelters and schools, and other structures that house first responder equipment or personnel.

Transportation Systems

Transportation infrastructure or facilities. Examples include: Airways: airports, heliports, Highways: bridges, tunnels, roadbeds, overpasses, transfer stations. Railways: tracks, tunnels, bridges, rail yards, depots, switching stations. Waterways: canals, locks, ports, ferries, dry-docks, piers.

Lifeline System

Corridors of flow for equipment, supplies and services. Transportation systems can also be Lifeline Systems. The best physical example of a lifeline would be a bridge and right-of-way that could include utilities and communication. Examples include: potable water, wastewater, oil, natural gas, electric power, and communication.

High Potential Loss Facility

Facilities that would have a high human loss associated with their damage or failure. Examples include: nuclear power plants, dams and military installations.

Hazardous Materials Facility

Facilities that produce or house industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins. Check to see if your county has a Local Emergency Planning Committee (LEPC) and an existing Hazardous Material listing.

Important Facility

These types of facilities are vital for overall day to day community functions, and ensure full recovery in the wake of a hazard or disaster event. Examples include: government buildings and functions, major employers in the area, bank and financial institutions, non-nuclear power generators, certain commercial establishments such as grocery stores, hardware stores and gas stations, technical schools, colleges, and universities.

Vulnerable Population

Is there a vulnerable human population that occupies the structure that would need special assistance, medical care or other actions before, during or after a hazard event or disaster? Examples include: elderly people, jail populations, people with mental, physical or mobility problems, and non-English speaking populations.

Economic Assets

Larger economic assets that are vital to the prosperity of the community. Examples include major employers and financial centers in your community or area that impact the local or regional economy if significantly disrupted.

Special Considerations

High-density areas (residential or commercial development), if damaged or impacted in a hazard event or disaster, could result in high death tolls or injury rates. Examples include: larger factories or industries, large vertical apartment or housing complexes.

Historic Considerations

Historic, cultural or natural resources, including structures and areas that are identified and protected under state or federal law. Examples include: state parks, federal parks, museums and historic districts.

Other Facilities

Any other significant locally identified facility that does not fit into another category of those listed above.

Comments:

APPENDIX E

**COPIES OF REQUIRED PLANNING
DOCUMENTATIONS**

The News-Reporter

Serving Wilkes County since 1896



Award recipients and presentors were (l-r) Chapter Regent Peggy Jones, Washington-Wilkes Comprehensive High School student Trey Johnston, Oglethorpe High School student Harley Hayes, and DAR Good Citizens Committee Chair Laura Toburen.

Johnston, Hayes recognized by DAR as Good Citizens Award winners

Kettle Creek NSDAR met at the Women's Club in Washington, GA to honor two young students that participated in the Good Citizens and Essay contest, Harley Grace Hayes

from Oglethorpe County High School and Lester (Trey) Thomas Johnston III from Washington-Wilkes Comprehensive High School on March 11.

Each student must exhibit the qualities of dependability, service, leadership and citizenship in order to be considered. Also, each student must obtain letters of recommendation from instructors as well high school staff in order to participate. Also, the students must show academic excellence as well as preparing themselves for the next step in their lives - to pursue higher learning to achieve their goals that will last them through their lives.

Participating students must submit an essay answering a question that is determined by the National DAR. This year's question was "How will the essential actions of a good citizen (dependability, service, leadership, and patriotism) meet the challenges that America faces in this decade?"

These two young people met the challenges of this exercise and were proud examples of Good Citizens from each of their schools.



Fundraiser for Tour of Homes

The Iris Garden Club is selling its specially painted bricks during the Washington Spring Tour of Homes and Artist Market, on April 1. Painted by local artists they can add a whimsical charm to your home or garden. Available at the Robert Toombs House, bricks are priced at \$20-\$25. Proceeds support the Garden Club activities: including, the Outdoor Classroom at Washington Elementary School, Keep Washington Clean, Arbor Day, and many other community events.

Public Meeting Wilkes County Pre-Disaster Hazard Mitigation Plan Update

Wilkes County has received a grant from FEMA to update its Approved Pre-Disaster Mitigation Plan (PDM). The plan is required to be updated every five years. One of the plan requirements is to invite neighboring communities to provide input into the planning process. The Wilkes County PDM Committee would like to extend an invitation to your agency to participate. As part of the planning process, Wilkes County is holding a planning meeting on March 28, 2023, at 10:00 a.m. in Room 219 of the Wilkes County Court House at 23 E Court St, Washington, GA 30673. Please contact EMA Deputy Director Amy B. Howard at 706-678-1655 if you have any questions.

Wilkes County is committed to providing all persons with equal access to its services, programs, activities, education, and employment regardless of race, color, national origin, religion, sex, familial status, disability, or age. Persons with special needs relating to handicapped accessibility or foreign language shall contact County Clerk, Karen Burton at (706) 678-2511 prior to March 28, 2023. This person can be located at 23 Court Street, Washington, GA between the hours of 9:00 am - 4:00 pm, Monday through Friday, except holidays. Persons with hearing disabilities should contact the Georgia Relay Service at (TDD) 1-800-255-0056 or

Wilkes Co. Sheriff's office reports on recent arrests

The listed arrests are taken from the limited information in arrest reports provided by Wilkes County Sheriff's Office, and no arrests are left out. An arrest does not imply guilt; criminal charges are merely accusations and a defendant is presumed innocent unless proven guilty and convicted.

Those arrested were:
Aaliyah Lashawn Be Campbell was charged with child restraint law child seat, safety belt, driving while tag is suspended (first), driving while license withdrawn, minor restraint law (age 5-17) two counts, reckless driving, and speeding (26-30 miles over).

Keirsten Posey Wilson was charged with failure to drive within single lane and driving while license withdrawn.

Lecedric Washington was charged with habitual violator and speeding (26-30 miles over).

Bryant Oneal Gardner was charged with driving without headlights when required and driving while license withdrawn.

Shemeca Marquitta Ray was charged with driving while license withdrawn and speeding (26-30 miles over).

Christian Alexander Rodri-

guez was charged with DUI, speeding (26-30 miles over), open container in vehicle, failure to register vehicle, and driving while license withdrawn.

Sabber Salwan Mohamed Mohamed was charged with speeding (26-30 miles over), DUI, and reckless driving.

Victor Eugene Smith was charged with forgery in the third degree.

Jermaine Davis was charged with disorderly conduct.

Jonathan Robertson Edwards was charged with violation of window tint law, driving while license withdrawn, and driving while tag is suspended (first).

Chiquita Johnson was charged with DUI and failure to drive within single lane.

Ronya Berrian was charged with reckless driving, speeding (26-30 miles over), driving while license withdrawn, failure to register vehicle, and following too closely.

Patrick Tamaris Willis was charged with possession of arms by convicted felons and first offenders probation, theft by taking, and aggravated assault.

Kyasia Camdii Brown was charged with possession, manufacture, distribution, etc. VGCS.

Baron to speak on Stone Mountain at Civil War Round Table March 27

Mrs. Donna Faulkner Baron of Snellville, Georgia, will present "The Confederate Carving on Stone Mountain" to the Washington Civil War Round Table on Monday evening, March 27 at 6:00 p.m. at the Washington Wilkes Country Club located at 300 Country Club Drive in Washington, Georgia.

Mrs. Baron is the daughter of Roy Faulkner, the sculptor who actually made the gigantic carving of President Jefferson Davis, General Robert E. Lee, and General Stonewall Jackson on the side of Stone Mountain. Mrs. Baron will give us the whole history from the recruitment of her father, who lived in Conyers, Georgia, to the planning, problems and execution in making this tremendous carving on the side of Stone Mountain. Mrs. Baron has written a book on the history of the Stone Mountain carving, and will

have them available for those who would like a personalized copy.

Mrs. Baron puts on a splendid program that you will be sure to enjoy - don't miss it!

Claibourne Darden, Round Table President, says that the public is invited and welcomed. The cost of the meeting is \$15 per person and includes a very nice buffet dinner. Please make reservations, as soon as possible, by email at cdarden43@gmail.com or by calling (404)210-5811 and leaving a message.

The 2023 annual dues for the Washington Civil War Round Table are now due.

The Washington Civil War Round Table no longer meets in the Washington Women's Club. Meetings are held at the Washington WilkesCountry Club located at 300 Country Club Drive in Washington.

Community News

CIVIC CLUBS

Lions - First Mondays, Lions Club building, 6 p.m.

Kiwanis - Tuesdays, Woman's Club, 1 p.m.

Rotary - Thursdays, Woman's Club, noon

OTHER CLUBS AND GROUPS

Iris Garden Club - First Tuesdays, litter pickup, various locations

Fishing Creek Wildlife Action - Second Wednesdays., Harris Rd., 6:30 p.m.

Litter Pickup - 2nd Saturdays, meet at Chamber of Commerce, 8 a.m.

The National Ladies Home

Better service. Less wait. Save money.

**WILKES COUNTY PDM PLANNING TEAM MEETING- KICK OFF
TUESDAY, APRIL 28, 2023, at 10:00 AM**

NAME	TITLE and AGENCY	EMAIL
1. Amy Howard	Deputy Director Wilkes Co. EMA	ahoward6890@gmail.com
2. Jennifer W Jackson, RN	Wilkes County Health Dept	jennifer.w.jackson@dph.ga.gov
3. Jay M. Hackney Jr	Deputy Sheriff / 9-1-1 Director Wilkes Co. S.O.	jhackney@wilkescountyga.org
4. Dean W. Frey	Facilities Director Wills Memorial Hospital	dws@willsmemorialhospital.com
5. Emma Caddell	Superintendent Wilkes Co Schools	caddellr@wilkes.k12.ga.us
6. Mattie Carson	Concern Citizen	gm3636@aol.com
7. Dan Wright	Dan Wright Director EMS (Wilkes)	dwright@wilkescountyems.com
8. Bryce Thompson	Wilkes Co. EMA	bthompson@wilkescountyga.org
9.		
10.		
11.		
12.		
13.		

From: [Amy Thorne](#)
To: ["thomascharping@wilkescountyga.org"](#); ["deborahgreen@wilkescountyga.org"](#); ["Genna.grimaud@gsccca.org"](#); ["aposey@wilkescountyga.org"](#); ["jhackney@wilkescountyga.org"](#); ["Genna.grimaud@gsccca.org"](#); ["aposey@wilkescountyga.org"](#); ["taxcommissioner@wilkescountyga.org"](#); ["jhackney@wilkescountyga.org"](#); ["gturner@wilkescountyga.org"](#); ["wcseniorcenter@yahoo.com"](#)
Cc: [Michael Kimball](#)
Subject: FW: Wilkes County Pre-Disaster Mitigation Kick Off Meeting
Date: Tuesday, March 21, 2023 3:58:00 PM
Attachments: [Wilkes County Pre-Disaster Mitigation Kick Off Meeting.ics](#)
[Local Labor Expense Form.doc](#)

Hello,

Wilkes County is holding a pre-disaster mitigation committee public meeting on **March 28, 2023 at 10:00 a.m.** in Room 219 of the Wilkes County Court House at 23 E Court St, Washington, GA 30673. Civic organizations, local businesses, and citizens of Wilkes County, as well as the cities of Washington, Rayle and Tignall are encouraged to attend. Please contact EMA Deputy Director Amy B. Howard at 706-678-1655 if you have any questions.

Someone from every jurisdiction and agency must attend. We need to have more in-kind matches, or the County will have pay the \$5,000 out of their General Fund. **Be sure to fill out the labor match form attached to this email and return it to receive that credit.**

You can save the attached calendar file or respond to the upcoming invitation. Please forward this message to anyone you think needs to attend.

Thank,

Amy Thorne
Community Development Intern
CSRA Regional Commission
3626 Walton Way Extension, Suite 300
Augusta, GA 30909
Mobile: 706-993-8601
athorne@csrarc.ga.gov

Confidentiality Notice: The information contained in this email message and all attachments are the property of the CSRA Regional Commission and contains information that may be confidential, proprietary, copyrighted and/or legally privileged and protected by state and federal laws. It is intended solely for the use of the individual or entity named in the e-mail. If you are not the intended recipient, you are hereby notified that any reading, dissemination, copying, distribution or other use of this message or its attachments is STRICTLY PROHIBITED. The sender has not waived any applicable privilege by sending the accompanying transmission. If you have received this transmission in error, please notify the sender by return email or by telephone at (706) 650-5694 and delete the message and all attachment(s), copies and backups from your system.

From: [Amy Thorne](#)
To: [Michael Kimball](#); [Amy Howard](#)
Cc: [calmond@elberton.net](#); [jlewis@oglethorpecountyga.gov](#); [Bseymour@elberton.net](#); [wilkescountyems@lycos.com](#); [cbroom@lincolncountyga.com](#); [Divenskil@yahoo.com](#); [mariochapple@yahoo.com](#); [mike.lyons@gapac.com](#); [ptucker@columbiacountyga.gov](#); [jfields@jchs.com](#); [ssewell@thomson-mcduffie.net](#); [taliaferro@nu-z.net](#); [warrenoes@classicsouth.net](#); [jccomm@bellsouth.net](#); [athrift@cityofwrens.com](#); [averacityof@bellsouth.net](#); [townbartow@hotmail.com](#); [blythesmayor@gmail.com](#); [bcook@harlemga.org](#); [cityofcamak@bellsouth.net](#); [chutchings@jeffersoncountyga.gov](#); [cityhall3063@nu-z.net](#); [cityofedqehill@gmail.com](#); [clerk@grovetownga.us](#); [cityofhephzibah@bellsouth.net](#); [mccord32659@bellsouth.net](#); [jchols72@aol.com](#); [cityofsardis@att.net](#); [cityofvidette@gmail.com](#); [dwthomasj12@aol.com](#); [tennilecityclerk@gmail.com](#); [dakotachico@nu-z.net](#); [dcrawley@thomson-mcduffie.net](#); [townofdearing@bellsouth.net](#); [dmoore@harlemga.org](#); [Don.Powers@thomson-mcduffie.net](#); [deepstep@outlook.com](#); [dspeebles@washingtoncountyga.gov](#); [cityofgibson3900@bellsouth.net](#); [glascockboc@classicsouth.net](#); [gsaxon01@yahoo.com](#); [countyclerk@hancockcountyga.gov](#); [haroldmoore75@gmail.com](#); [townofharrison@bellsouth.net](#); [city.administrator@augustaga.gov](#); [jerome.alex1964@gmail.com](#); [jcoalson@waynesboroga.com](#); [jhen5@att.net](#); [warrencoboc@classicsouth.net](#); [jwaller@cityofgrovetown.com](#); [jmccorkle@sandersville.net](#); [westbrookken@yahoo.com](#); [citylinc@nu-z.net](#); [lboyen@glascockcountyga.com](#); [cityofblythe@comcast.net](#); [merv.waldrop@burkecounty-ga.gov](#); [ckeysville@aol.com](#); [cityofmidville@pineland.net](#); [cityofoconee@NLAmerica.com](#); [reneeeparzenbrown@yahoo.com](#); [rhcitywadley@att.net](#); [richard-sapp@att.net](#); [dhbdhb3610@gmail.com](#); [rbashmore@lincolncountyga.com](#); [sjohnson@columbiacountyga.gov](#); [kbprintinc@gmail.com](#); [sbailey@washingtonwilkes.org](#); [sistiehudson@aol.com](#); [spartacity@bellsouth.net](#); [dboroclerk@pineland.net](#); [kreddick.townofqirard@gmail.com](#); [mitchelltownof@bellsouth.net](#); [cityoftignal@nu-z.net](#); [cityofw1@bellsouth.net](#)
Subject: Wilkes County Pre-Disaster Mitigation Kick Off Meeting
Start: Tuesday, March 28, 2023 10:00:00 AM
End: Tuesday, March 28, 2023 11:00:00 AM
Location: Clerk of Superior Court (23 E Court St, Washington, GA 30673, United States)

Wilkes County has received a grant from the FEMA to update their Approved Pre-Disaster Mitigation Plan (PDM). The plan is required to be updated every five years. One of the plan requirements is to invite neighboring communities to provide input into the planning process. The Wilkes County PDM Committee would like to extend an invitation to your agency to participate. As part of the planning process, Wilkes County is holding a planning meeting on March 28, 2023 at 10:00 a.m. in Room 219 of the Wilkes County Court House at 23 E Court St, Washington, GA 30673. Please contact EMA Deputy Director Amy B. Howard at 706-678-1655 if you have any questions.

Please forward this event to anyone who may be interested in attending.

Thank you,

Amy Thorne

Community Development Intern

CSRA Regional Commission

3626 Walton Way Extension, Suite 300

Augusta, GA 30909

Mobile: 706-993-8601

athorne@csrarc.ga.gov <<mailto:athorne@csrarc.ga.gov>>

Wilkes County Hazard Mitigation Plan Meeting #2 - Committee Members

Amy Thorne <athorne@csrarc.ga.gov>

Thu 8/17/2023 2:05 PM

To:lsbuff@nu-z.net <lsbuff@nu-z.net>;dnanderson721@yahoo.com
<dnanderson721@yahoo.com>;parksandrec@washingtonwilkes.org
<parksandrec@washingtonwilkes.org>;City of Rayle <jechols72@aol.com>;countyclerk@wilkescountyga.org
<countyclerk@wilkescountyga.org>;caddellr@wilkes.k12.ga.us
<caddellr@wilkes.k12.ga.us>;jbgarrett@live.com <jbgarrett@live.com>;jhackney@washingtonwilkes.org
<jhackney@washingtonwilkes.org>;kmurphy@gfc.state.ga.us
<kmurphy@gfc.state.ga.us>;sheriffmoore@washingtonwilkes.org
<sheriffmoore@washingtonwilkes.org>;mgoldman@willsmemorialhospital.com
<mgoldman@willsmemorialhospital.com>;sbailey@washingtonwilkes.org
<sbailey@washingtonwilkes.org>;cityoftignal@nu-z.net <cityoftignal@nu-z.net>;jdebin@wga.gov
<jdebin@wga.gov>;gturner@wilkescountyga.org <gturner@wilkescountyga.org>;Blake Thompson
<wilkescountyems@lycos.com>;thaughy@willsmemorialhospital.com
<thaughy@willsmemorialhospital.com>;Jackson, Jennifer.W
<Jennifer.W.Jackson@dph.ga.gov>;wcanup@wga.gov <wcanup@wga.gov>;Rmcavoy53@gmail.com
<Rmcavoy53@gmail.com>;jbarnett@wga.gov <jbarnett@wga.gov>;jtorres@wga.gov
<jtorres@wga.gov>;gfanning@wga.gov <gfanning@wga.gov>;crouds@wga.gov
<crouds@wga.gov>;cityoftignall@nu-z.net <cityoftignall@nu-z.net>
Cc:Michael Kimball <mkimball@csrarc.ga.gov>;Linda Grijalva <lgrijalva@csrarc.ga.gov>;Dan Wright
<dwright@wilkescountyems.com>

 1 attachments (46 KB)

Wilkes Labor Expense Form.doc;

Hello,

Wilkes County is holding a pre-disaster mitigation committee public meeting on Thursday, August 24, 2023, at 6:30 p.m. at the Washington Fire Station at 212 E Court Street, Washington Georgia, 30673. Civic organizations, local businesses, and citizens of Wilkes County, as well as the cities of Washington, Rayle, and Tignall are encouraged to attend. *Someone from every jurisdiction and agency must attend.*

We need to have more in-kind matches or the County will have to pay the \$5,000 out of their General Fund. **Be sure to fill out the labor match form attached to this email and return it to receive credit for any time you read the plan material or attend a meeting.**

Please forward this message to anyone you think needs to attend.

Thanks,

Amy Thorne, MPA

Regional Planner

CSRA Regional Commission

3626 Walton Way Extension, Suite 1

Augusta, GA 30909

Main: 706-210-2000 (ext: 236)

Mobile: 706-993-8601

csrarc.ga.gov

Wilkes County Hazard Mitigation Plan Meeting #2

Amy Thorne <athorne@csrarc.ga.gov>

Thu 8/17/2023 2:06 PM

To: calmond@elberton.net <calmond@elberton.net>; jlewis@oglethorpecountyga.gov <jlewis@oglethorpecountyga.gov>; Bseymour@elberton.net <Bseymour@elberton.net>; Blake Thompson <wilkescountyems@lycos.com>; Casey Broom <cbroom@lincolncountyga.com>; Divenskil@yahoo.com <Divenskil@yahoo.com>; Mario Chapple <mariochapple@yahoo.com>; mike.lyons@gapac.com <mike.lyons@gapac.com>; ptucker@columbiacountyga.gov <ptucker@columbiacountyga.gov>; Robert "Bob" Fields, III <jfields@jchs.com>; ssewell@thomson-mcduffie.net <ssewell@thomson-mcduffie.net>; taliaferro@nu-z.net <taliaferro@nu-z.net>; warrenoes@classicsouth.net <warrenoes@classicsouth.net>; jccomm@bellsouth.net <jccomm@bellsouth.net>; Avera <averacityof@bellsouth.net>; Bartow <townbartow@hotmail.com>; Brent Weir <blythesmayor@gmail.com>; C. Brett Cook <bcook@harlemga.org>; City of Camak <cityofcamak@bellsouth.net>; Chris Hutchings <chutchings@jeffersoncountyga.gov>

Cc: Michael Kimball <mkimball@csrarc.ga.gov>; Dan Wright <dwright@wilkescountyems.com>; Linda Grijalva <lgrijalva@csrarc.ga.gov>

Hello,

Wilkes County has received a grant from FEMA to update its Pre-Disaster Mitigation Plan (PDM). The plan is required to be updated every five years. One of the plan requirements is to invite neighboring communities to provide input into the planning process. The Wilkes County PDM Committee would like to invite your agency to participate. As part of the planning process, Wilkes County is holding a planning meeting on Thursday, August 24, 2023, at 6:30 p.m. at the Washington Fire Station at 212 E Court Street, Washington Georgia, 30673. Please contact EMA Director Dan Wright at 706-678-7387 if you have any questions.

Please forward this event to anyone who may be interested in attending.

Amy Thorne

Community Development Specialist

CSRA Regional Commission

3626 Walton Way Extension, Suite 1

Augusta, GA 30909

Main: 706-210-2000 (ext: 236)

Mobile: 706-993-8601

csrarc.ga.gov

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**WILKES COUNTY PDM UPDATE MEETING
THURSDAY, AUGUST 23, 2023 6:30 PM**

NAME	ORGANIZATION	TITLE	EMAIL
Amy Thorne	CSRA RC	Regional Planner	athorne@csra.rc.ga.gov
Kevin Tucker	WFD	Asst Chief	fyrdawgt24@yahoo.com
Billy Godwin	Tyrone Fire	Chief	bgodwin99@gmail.com
Ricky Hunnicutt	Danbury	Chief	HUNNICUTT@NU-2.NET
Bruce Rogers	WFD	Capt.	LTFFBROGS@yahoo.com
Dan Wright	EWS/CEM/A	Deputy Director	dwright@wilkescountyems.com
Chris Rounds	City of Washington	Secretary	Crounds@wga.gov

**WILKES COUNTY PDM UPDATE MEETING
THURSDAY, AUGUST 23, 2023 6:30 PM**

NAME	ORGANIZATION	TITLE	EMAIL
Jody Hunter	Tyrone	FF	
Jack Davis	WFD	FF	davis1339@hotmail.com
John Barnett	City of Washington	DIRECTOR of Public WORKS	jbarnett@wga.gov
Richard McAvoy	tyrone	FF	
Carol Jackson	Wilkes Co Bd of Commissioners	Administrative Specialist	
William Cahay	CITY OF WASHINGTON Electric	Supervisor	WCAhup@wga.gov
Greg Scott	Washington Fire Dept	Asst Chief	gscott@wga.gov

**WILKES COUNTY PDM UPDATE MEETING
THURSDAY, AUGUST 23, 2023 6:30 PM**

NAME	ORGANIZATION	TITLE	EMAIL
Wright Gante ✓	RFD	Lieutenant	gunterfarms07@hotmail.com
Betty K. Standen	TFD		standanfarm68@gmail.com
Jay M. Hackney	Wilkes Co. S.O.	Deputy Sheriff 9-1-1 Director	jhackney@wilkescountyga.org
Randall Danner	WCFS	Chief	wdanner2003@yahoo.com

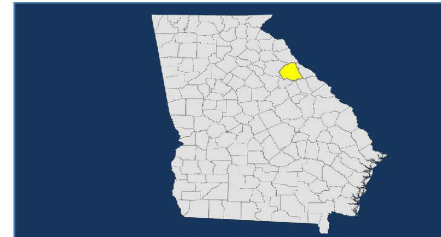
HAZARD MITIGATION PLAN MEETING 2

AMY THORNE - REGIONAL PLANNER - CSRA REGIONAL COMMISSION

INTRODUCTION

- HAZUS REPORT
- CHAPTER 1
- HAZARD EVENT REVIEW / QUESTIONS

HAZUS REPORT



Hazard Risk Analyses
Supplement to the Wilkes County
Joint Hazard Mitigation Plan

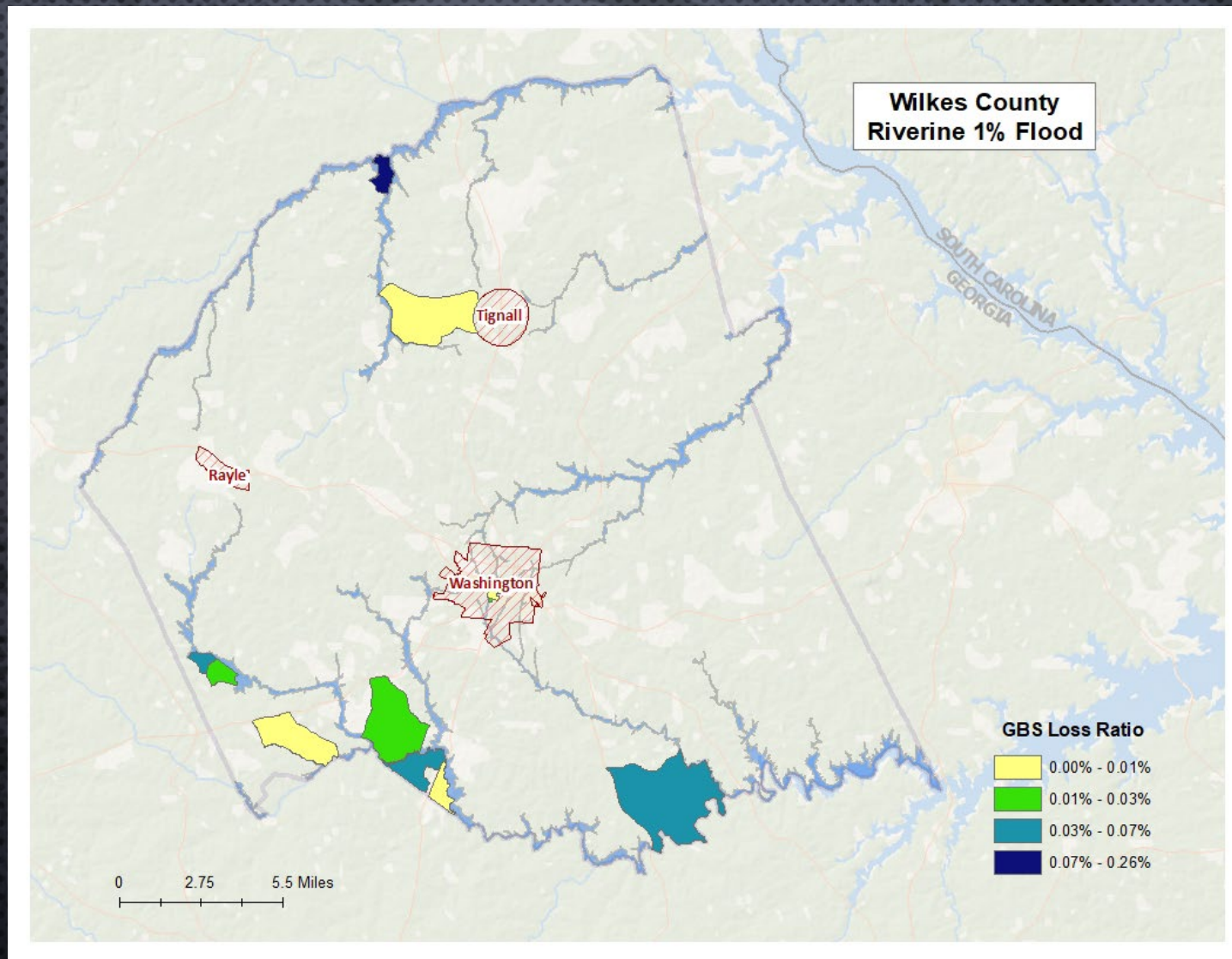


Carl Vinson
Institute of Government
UNIVERSITY OF GEORGIA



HAZUS REPORT: FLOODS

HAZUS REPORT: FLOODS



HAZUS REPORT: FLOODS

Table 9: Wilkes County Riverine 1% Building Losses

Occupancy	Total Buildings in the Jurisdiction	Total Buildings Damaged in the Jurisdiction	Total Building Exposure in the Jurisdiction	Total Losses to Buildings in the Jurisdiction	Loss Ratio of Exposed Buildings to Damaged Buildings in the Jurisdiction
Unincorporated					
Residential	3,201	10	\$340,052,635	\$353,075	0.10%
Washington					
Industrial	60	1	\$11,218,940	\$3,228	0.03%
Government	18	1	\$6,139,850	\$18,080	0.29%
County Total					
	3,279	12	\$357,411,424	\$374,383	

HAZUS REPORT: FLOODS

- **DISPLACEMENT RISK**
- **72** HOUSEHOLDS
- **217** PEOPLE
- **12** MAY REQUIRE SHORT-TERM SHELTER

HAZUS REPORT: TORNADOES

HAZUS REPORT: TORNADOES

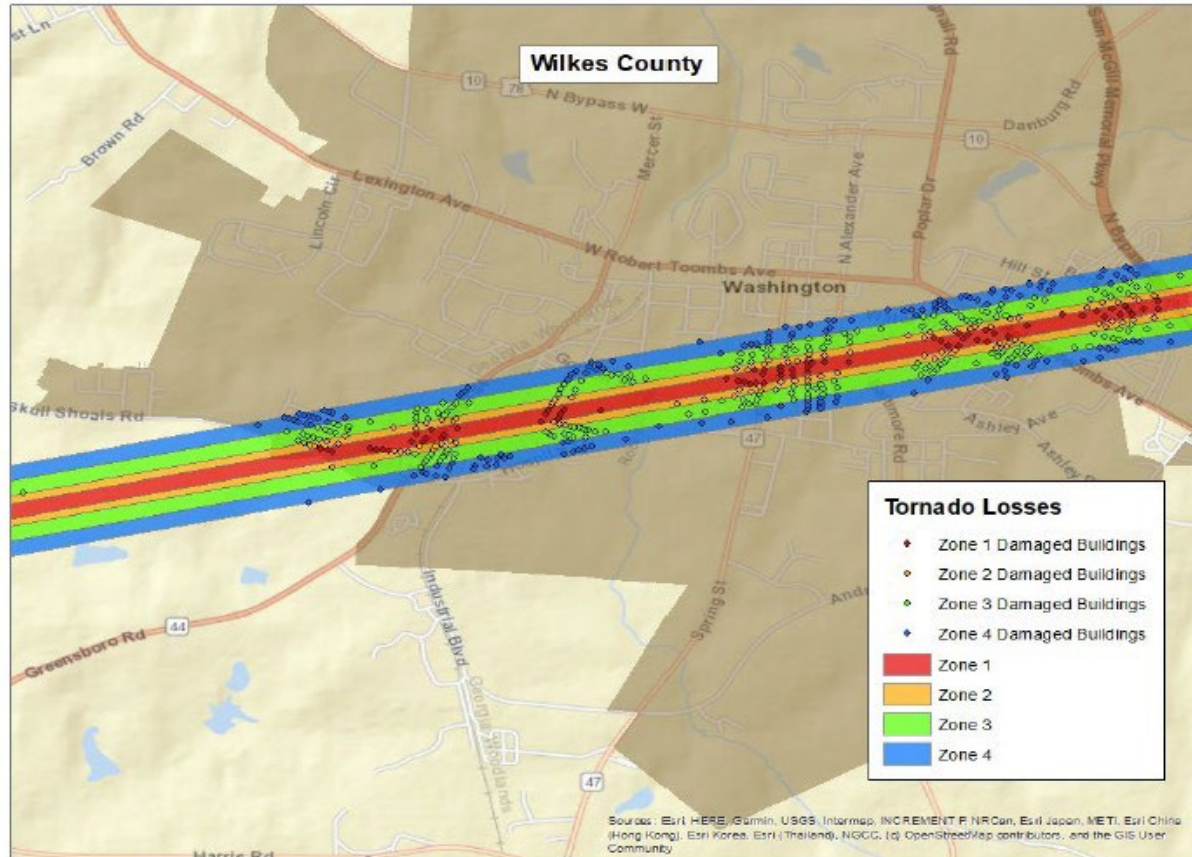


Figure 13: Modeled EF3 Tornado Damage Buffers in Wilkes County

HAZUS REPORT: TORNADOES

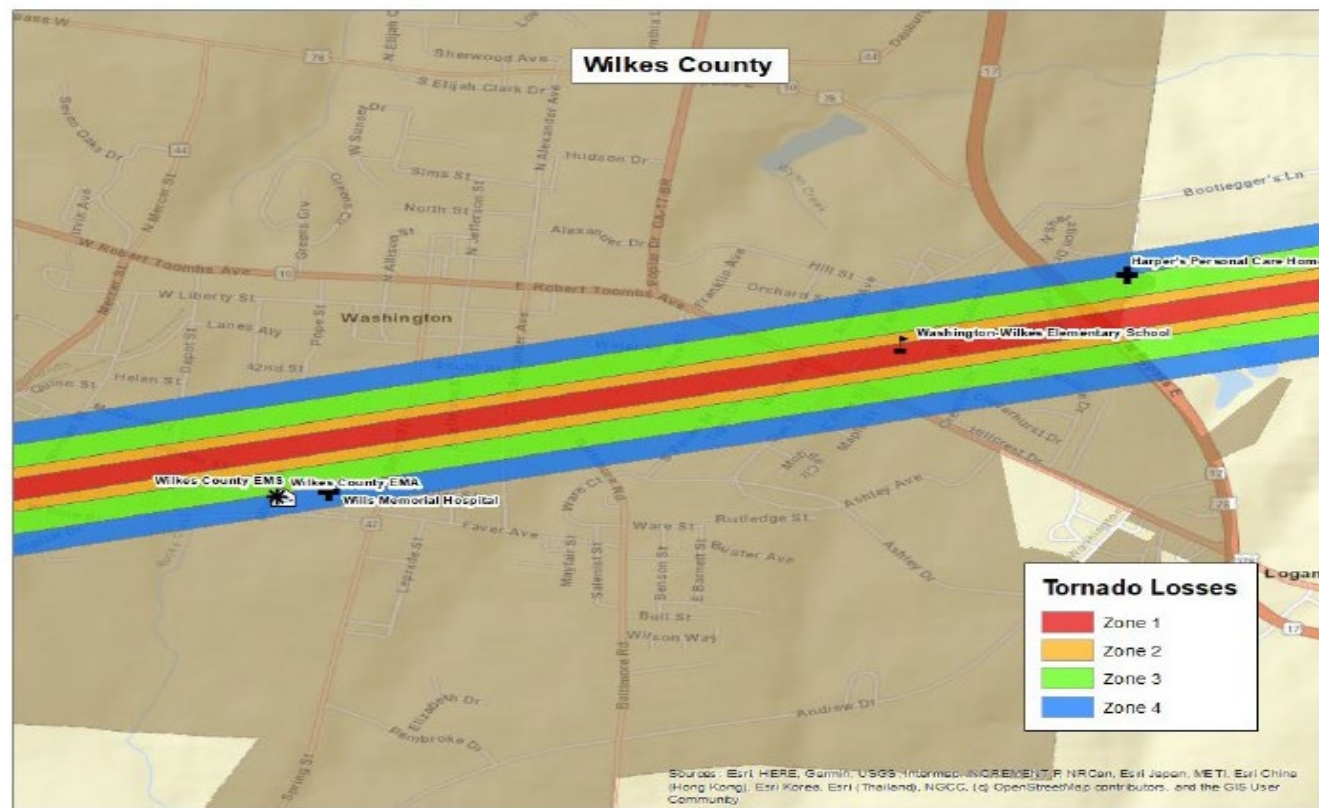


Figure 14: Modeled Essential Facility Damage in Wilkes County

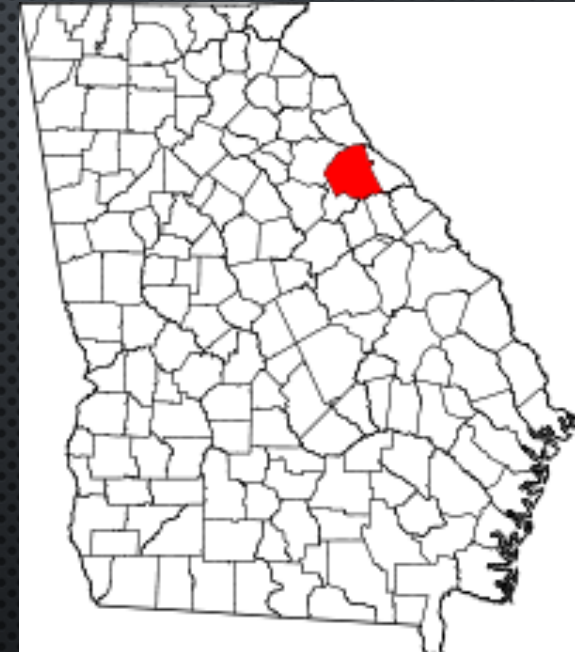
HAZUS REPORT: TORNADOES

Table 13: Estimated Building Losses by Occupancy Type

Occupancy	Buildings Damaged	Building Losses
Residential	516	\$15,462,483
Commercial	20	\$339,392
Industrial	5	\$342,572
Religious	1	\$19,135
Education	12	\$9,123,822
Government	5	\$83,056
Total	559	\$25,370,460

CHAPTER 1

- INTRODUCTION TO PROCESS
- COMMUNITY DATA
 - POPULATION
 - ECONOMY
 - FACILITIES /RESOURCES



FEATURED HAZARDS

- FLOOD
- DROUGHT
- WILDFIRE
- SEVERE WEATHER
 - TORNADOES
 - TROPICAL STORMS
 - THUNDERSTORM WINDS
 - LIGHTENING
 - HAIL
- WINTER STORM
- DAM FAILURE
- EARTHQUAKES

AMY THORNE

REGIONAL PLANNER, CSRA REGIONAL COMMISSION

706 993 8601

ATHORNE@CSRARC.GA.GOV

Wilkes County Hazard Mitigation Plan Meeting #3

Amy Thorne <athorne@csrarc.ga.gov>

Tue 10/3/2023 3:53 PM

To: City of Rayle (lsbuff@nu-z.net) <lsbuff@nu-z.net>; dnanderson721@yahoo.com <dnanderson721@yahoo.com>; parksandrec@washingtonwilkes.org <parksandrec@washingtonwilkes.org>; parksandrec@washingtonwilkes.org <parksandrec@washingtonwilkes.org>; City of Rayle <jechols72@aol.com>; Karen Burton <countyclerk@wilkescountyga.org>; caddellr@wilkes.k12.ga.us <caddellr@wilkes.k12.ga.us>; jbgarrett@live.com <jbgarrett@live.com>; jhackney@washingtonwilkes.org <jhackney@washingtonwilkes.org>; kmurphy@gfc.state.ga.us <kmurphy@gfc.state.ga.us>; sheriffmoore@washingtonwilkes.org <sheriffmoore@washingtonwilkes.org>; mgoldman@willsmemorialhospital.com <mgoldman@willsmemorialhospital.com>; sbailey@washingtonwilkes.org <sbailey@washingtonwilkes.org>; cityoftignal@nu-z.net <cityoftignal@nu-z.net>; City of Washington (jdebin@wga.gov) <jdebin@wga.gov>; gturner@wilkescountyga.org <gturner@wilkescountyga.org>; Blake Thompson <wilkescountyems@lycos.com>; thaughy@willsmemorialhospital.com <thaughy@willsmemorialhospital.com>; Jackson, Jennifer.W <Jennifer.W.Jackson@dph.ga.gov>; wcanup@wga.gov <wcanup@wga.gov>
Cc: Dan Wright <dwright@wilkescountyems.com>

 1 attachments (46 KB)

Wilkes Labor Expense Form.doc;

Hello,

Please make plans to attend the pre-disaster mitigation meeting on Monday, **October 23, 2023** at **10:00 a.m.** in Room 219 of the Wilkes County Court House at 23 E Court St, Washington, GA 30673. Upon completion of the update, the county along with the cities of Rayle, Tignall, and Washington will adopt the plan by resolution. Please ensure someone attends this meeting from your agency.

Remember that your time counts as a match for this grant, so be sure to fill out the attached labor form and send it back to me as soon as possible.

Please feel free to send this email to anyone you feel should participate in this meeting. Contact EMS Director Dan Wright at 706-678-7837 if you have any questions.

Thank you,

Amy Thorne, MPA
Regional Planner
CSRA Regional Commission
3626 Walton Way Extension, Suite 1
Augusta, GA 30909
Office: 706-210-2065
Mobile: 706-993-8601
csrarc.ga.gov

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Wilkes County Pre-Disaster Mitigation Plan Meeting #3

Amy Thorne <athorne@csrarc.ga.gov>

Tue 10/3/2023 3:54 PM

To: calmond@elberton.net <calmond@elberton.net>; jlewis@oglethorpecountyga.gov <jlewis@oglethorpecountyga.gov>; Bseymour@elberton.net <Bseymour@elberton.net>; Blake Thompson <wilkescountyems@lycos.com>; Casey Broom <cbroom@lincolncountyga.com>; Divenskil@yahoo.com <Divenskil@yahoo.com>; Mario Chapple <mariochapple@yahoo.com>; Mike Lyons <mike.lyons@gapac.com>; ptucker@columbiacountyga.gov <ptucker@columbiacountyga.gov>; Robert "Bob" Fields, III <jfields@jchs.com>; ssewell@thomson-mcduffie.net <ssewell@thomson-mcduffie.net>; Ruby Randolph <taliaferro@nu-z.net>; warrenoes@classicsouth.net <warrenoes@classicsouth.net>; jccomm@bellsouth.net <jccomm@bellsouth.net>; Arty Thrift <athrift@cityofwrens.com>; Avera <averacityof@bellsouth.net>; Bartow <townbartow@hotmail.com>; Brent Weir <blythesmayor@gmail.com>; C. Brett Cook <bcook@harlemga.org>; City of Camak <cityofcamak@bellsouth.net>
Cc: Dan Wright <dwright@wilkescountyems.com>

Hello,

Wilkes County has received a grant from FEMA to update its Approved Pre-Disaster Mitigation Plan (PDM). One of the plan requirements is to invite neighboring communities to provide input into the planning process. The Wilkes County PDM Committee would like to extend an invitation to your agency to participate. As part of the planning process, Wilkes County is holding a planning meeting on Monday, **October 23, 2023 at 10:00 a.m. in** Room 219 of the Wilkes County Court House at 23 E Court St, Washington, GA 30673. Please contact EMS Director Dan Wright at 706-678-7837 if you have any questions.

Please forward this event to anyone who may be interested in attending.

Amy Thorne, MPA

Regional Planner

CSRA Regional Commission

3626 Walton Way Extension, Suite 1

Augusta, GA 30909

Office: 706-210-2065

Mobile: 706-993-8601

csrarc.ga.gov

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Public Meeting

Wilkes County Pre-Disaster Plan Review

October 23 @ 10:00 A.M.

Wilkes County Court House, Room 219

Wilkes County has completed work on the five-year update of their FEMA-approved Pre-Disaster Hazard Mitigation Plan of 2023. You're invited to review the plan before it is submitted to the Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA) for approval.

Call Wilkes Co. EMS @ 706 678 7837 for more info.

Persons with special needs relating to handicapped accessibility or foreign language shall contact County Administrator, Karen Burton at (706) 678-2511.

**WILKES COUNTY PDM UPDATE MEETING
MONDAY, OCTOBER 23, 2023 10:00 AM**

NAME	ORGANIZATION	TITLE	EMAIL
Amy Thorne	CSRA RC	Regional Planner	athorne@csravc.ga.gov
John Barnett	City of Washington	Director of Public Works	jbarnett@wga.gov
Sam Moore	Wilkes Co.	Chairman	wilkescoboc@yahoo.com
Karen Burton	Wilkes Co.	Co. Clerk/Adm	countyclerk@wilkescountyga.org
Ed Geddings	Wilkes Co.	Commissioner	egedding@nu-2.net
Pan Wright	Wilkes	EMS/EMS	dwright@wilkescountyems.com
Jaret Parker	Wilkes Co.	Economic Development	wwpda@wilkescountyga.org

**WILKES COUNTY PDM UPDATE MEETING
MONDAY, OCTOBER 23, 2023 10:00 AM**

NAME	ORGANIZATION	TITLE	EMAIL
Billy Godwin	Tyrono Fire	chief	bgodwin90@gmail.com

The image shows three white Wilkes County EMS ambulances with orange and yellow accents parked on a grassy field. The ambulances have "Wilkes County EMS" and "Washington, Ga" written on them. The license plates are 04385, 04398, and 157-M7. The ambulance in the foreground has "Dial 911" written on its side. The background features trees and a cloudy sky.

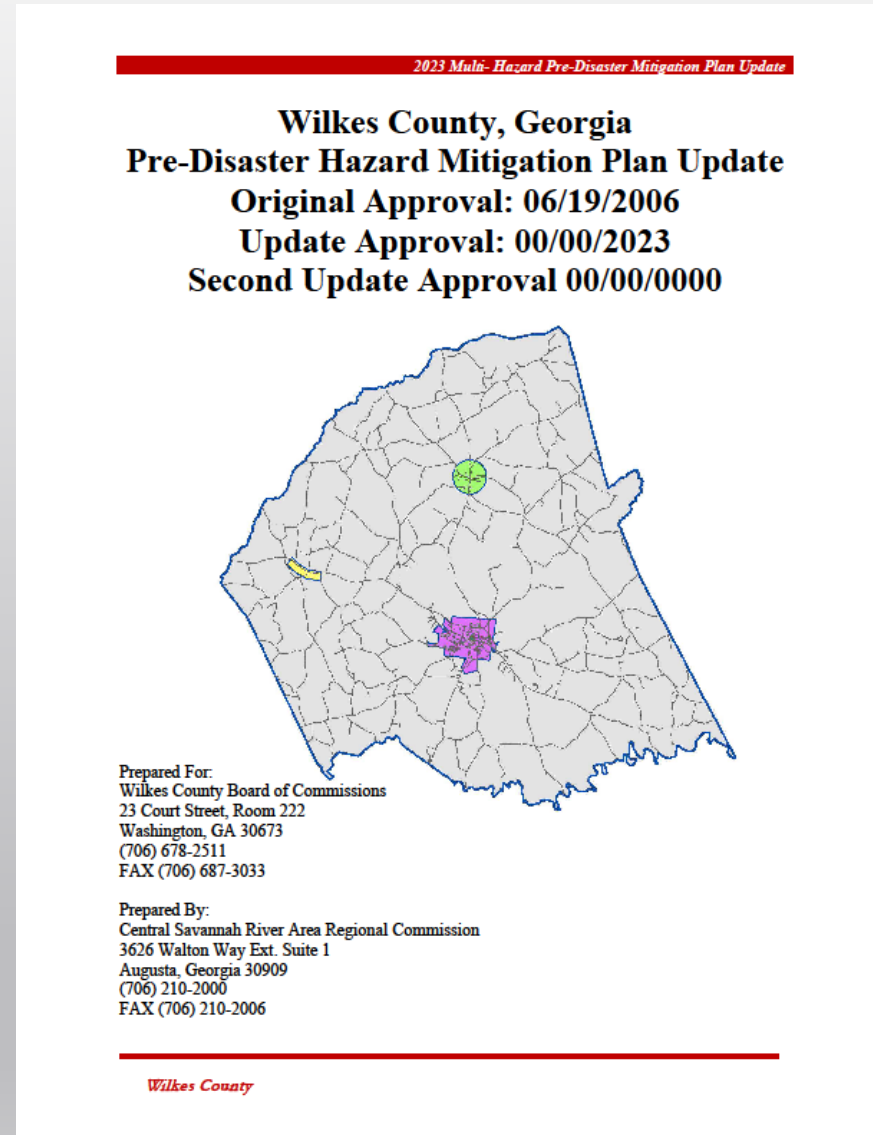
Wilkes County Pre-Disaster Mitigation Plan Meeting #3

October 23, 2023 | 10:00 a.m.

Overview

□ What's in the plan?

□ What's next?



Chapters 1 – 5



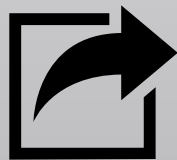
Chapter 1



Chapter 2



Chapter 3



Chapter 4



Chapter 5

What's Next?

- ❑ Submit to GEMA
 - ❑ Receive Comments
 - ❑ Approved – Adoption
 - ❑ Not approved -Fix and resubmit
- ❑ Final Adoption Meeting
 - ❑ [CSRARC.GA.GOV/PLANNING-DOCUMENTS](https://www.csrarc.ga.gov/planning-documents)
- ❑ Towns / Jurisdictions Adopt Plan
- ❑ Send to FEMA

Questions?

GEORGIA EMERGENCY MANAGEMENT AND HOMELAND SECURITY AGENCY

BRIAN P. KEMP
GOVERNOR



JAMES C. STALLINGS
DIRECTOR

April 5, 2024

Honorable Sam Moore
Chairman
Wilkes County Board of Commissioners
23 Court Street
Washington, Georgia 30673

Dear Commissioner Moore,

I am pleased to inform you that the Wilkes County Hazard Mitigation Plan has been federally approved for a period of five (5) years, to March 21, 2029. With this approval, Wilkes County is an eligible applicant for the Hazard Mitigation Assistance (HMA) grant programs made available through the Georgia Emergency Management and Homeland Security Agency (GEMA/HS).

We commend Wilkes County for the development of a solid and workable mitigation plan that will guide hazard mitigation activities over the coming years. The Wilkes County Hazard Mitigation Plan established a firm foundation to pursue many valuable and needed mitigation projects that have been identified by Wilkes County. Implementation of these projects will ultimately make your community a safer, more sustainable place to live, even through times of disaster.

I strongly encourage the Wilkes County Hazard Mitigation planning team to perform an annual review and assessment of the effectiveness of the mitigation plan and provide a report on any updates or changes made to the plan. This report should be coordinated through your Wilkes County Emergency Management Agency (EMA) Director who will take care of the updates to be submitted to GEMA/HS.

If you would like more information on the HMA grant application process, please contact Valery Lancaster, Risk Reduction Specialist, at 470-225-3820.

Sincerely,

A handwritten signature in blue ink that reads "R. Alan Sloan".

R. Alan Sloan
Hazard Mitigation Deputy Manager

kc/kfa
Enclosure
cc: Daniel Wright, Director
Wilkes County Emergency Management Agency
Jonathan Jones, Area Coordinator
Georgia Emergency Management and Homeland Security Agency



FEMA

March 25, 2024

Mr. Stephen Clark
Hazard Mitigation Manager
Georgia Emergency Management and Homeland Security Agency
P.O. Box 18055
Atlanta, GA 30316-0055

Reference: Wilkes County Hazard Mitigation Plan

Dear Mr. Clark:

We are pleased to inform you the Wilkes County Hazard Mitigation Plan update complies with the Federal hazard mitigation planning requirements resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR §201.6. Effective March 22, 2024, the plan is approved for a period of five (5) years to March 21, 2029.

Enclosed is the status of all participating jurisdictions. Approved jurisdictions are eligible applicants through the State for the following mitigation grant programs administered by the Federal Emergency Management Agency (FEMA):

- Hazard Mitigation Grant Program (HMGP)
- Flood Mitigation Assistance (FMA)
- Building Resilient Infrastructure and Communities (BRIC)

Please note that all funding requests will be evaluated individually according to the program's specific eligibility requirements.

The State and all plan participants should be commended for their close coordination and communications with our office in the review and subsequent approval of the plan. If you or any plan participant need assistance, please do not hesitate to contact Lillian Huffman, of my staff, at (202) 765-8968.

Sincerely,

A handwritten signature in blue ink that reads "Kristen M. Martinenza".

Kristen M. Martinenza, P.E., CFM
Branch Chief, Risk Analysis Branch
FEMA Region 4

Enclosure

Enclosure: Plan Participant Status List

Attached is the list of participating jurisdictions in the referenced hazard mitigation plan.

Community Name	Jurisdiction Status	Date Approved by FEMA
1) Rayle town	Approved	3/22/24
2) Tignall town	Approved	3/22/24
3) Washington city	Approved	3/22/24
4) Wilkes County	Approved	3/22/24

GEORGIA EMERGENCY MANAGEMENT AND HOMELAND SECURITY AGENCY

BRIAN P. KEMP
GOVERNOR



JAMES C. STALLINGS
DIRECTOR

April 5, 2024

Honorable Jake Buff
Mayor
City of Rayle
Post Office Box 67
Rayle, Georgia 30660

Dear Mayor Buff,

I am pleased to inform you that the Wilkes County Hazard Mitigation Plan has been federally approved through March 21, 2029. With this approval, the City of Rayle is an eligible applicant for the Hazard Mitigation Assistance (HMA) grant programs made available through the Georgia Emergency Management and Homeland Security Agency (GEMA/HS) because of its active participation and adoption of the Wilkes County plan.

We commend the City of Rayle for the development of a solid and workable mitigation plan that will guide hazard mitigation activities over the coming years. The Wilkes County Hazard Mitigation Plan established a firm foundation to pursue many valuable and needed mitigation projects that have been identified by the City of Rayle. Implementation of these projects will ultimately make your community safer, more sustainable place to live, even through times of disaster.

I strongly encourage the City of Rayle Hazard Mitigation planning team to join with Wilkes County to perform an annual review and assessment of the effectiveness of the mitigation plan and provide a report on any updates or changes made to the plan. This report should be coordinated through your Wilkes County Emergency Management Agency (EMA) Director who will take care of the updates to be submitted to GEMA/HS.

If you would like more information on the HMA grant application process, please contact Valery Lancaster, Risk Reduction Specialist, at 470-225-3820.

Sincerely,

A handwritten signature in blue ink that reads "R. Alan Sloan".

R. Alan Sloan
Hazard Mitigation Deputy Manager

kc/kfa

Enclosure

cc: Daniel Wright, Director

Wilkes County Emergency Management Agency
Jonathan Jones, Area Coordinator

Georgia Emergency Management and Homeland Security Agency



FEMA

March 25, 2024

Mr. Stephen Clark
Hazard Mitigation Manager
Georgia Emergency Management and Homeland Security Agency
P.O. Box 18055
Atlanta, GA 30316-0055

Reference: Wilkes County Hazard Mitigation Plan

Dear Mr. Clark:

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The State and all plan participants should be commended for their close coordination and communications with our office in the review and subsequent approval of the plan. If you or any plan participant need assistance, please do not hesitate to contact Lillian Huffman, of my staff, at (202) 765-8968.

Sincerely,

A handwritten signature in blue ink that reads "Kristen M. Martinenza".

Kristen M. Martinenza, P.E., CFM
Branch Chief, Risk Analysis Branch
FEMA Region 4

Enclosure

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4) Wilkes County	Approved	3/22/24

GEORGIA EMERGENCY MANAGEMENT AND HOMELAND SECURITY AGENCY

BRIAN P. KEMP
GOVERNOR



JAMES C. STALLINGS
DIRECTOR

April 5, 2024

Honorable Scott Ware
Mayor
City of Tignall
124 South Huling Avenue
Tignall, Georgia 30668

Dear Mayor Ware,

I am pleased to inform you that the Wilkes County Hazard Mitigation Plan has been federally approved through March 21, 2029. With this approval, the City of Tignall is an eligible applicant for the Hazard Mitigation Assistance (HMA) grant programs made available through the Georgia Emergency Management and Homeland Security Agency (GEMA/HS) because of its active participation and adoption of the Wilkes County plan.

We commend the City of Tignall for the development of a solid and workable mitigation plan that will guide hazard mitigation activities over the coming years. The Wilkes County Hazard Mitigation Plan established a firm foundation to pursue many valuable and needed mitigation projects that have been identified by the City of Tignall. Implementation of these projects will ultimately make your community safer, more sustainable place to live, even through times of disaster.

I strongly encourage the City of Tignall Hazard Mitigation planning team to join with Wilkes County to perform an annual review and assessment of the effectiveness of the mitigation plan and provide a report on any updates or changes made to the plan. This report should be coordinated through your Wilkes County Emergency Management Agency (EMA) Director who will take care of the updates to be submitted to GEMA/HS.

If you would like more information on the HMA grant application process, please contact Valery Lancaster, Risk Reduction Specialist, at 470-225-3820.

Sincerely,

A handwritten signature in blue ink that reads "R. Alan Sloan".

R. Alan Sloan
Hazard Mitigation Deputy Manager

kc/kfa

Enclosure

cc: Daniel Wright, Director

Wilkes County Emergency Management Agency
Jonathan Jones, Area Coordinator

Georgia Emergency Management and Homeland Security Agency



FEMA

March 25, 2024

Mr. Stephen Clark
Hazard Mitigation Manager
Georgia Emergency Management and Homeland Security Agency
P.O. Box 18055
Atlanta, GA 30316-0055

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Sincerely,

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Kristen M. Martinenza, P.E., CFM
Branch Chief, Risk Analysis Branch
FEMA Region 4

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3) Washington city	Approved	3/22/24
4) Wilkes County	Approved	3/22/24

GEORGIA EMERGENCY MANAGEMENT AND HOMELAND SECURITY AGENCY

BRIAN P. KEMP
GOVERNOR



JAMES C. STALLINGS
DIRECTOR

April 5, 2024

Honorable Bruce Bailey
Mayor
City of Washington
102 East Liberty Street
Washington, Georgia 30673

Dear Mayor Bailey,

I am pleased to inform you that the Wilkes County Hazard Mitigation Plan has been federally approved through March 21, 2029. With this approval, the City of Washington is an eligible applicant for the Hazard Mitigation Assistance (HMA) grant programs made available through the Georgia Emergency Management and Homeland Security Agency (GEMA/HS) because of its active participation and adoption of the Wilkes County plan.

We commend the City of Washington for the development of a solid and workable mitigation plan that will guide hazard mitigation activities over the coming years. The Wilkes County Hazard Mitigation Plan established a firm foundation to pursue many valuable and needed mitigation projects that have been identified by the City of Washington. Implementation of these projects will ultimately make your community safer, more sustainable place to live, even through times of disaster.

I strongly encourage the City of Washington Hazard Mitigation planning team to join with Wilkes County to perform an annual review and assessment of the effectiveness of the mitigation plan and provide a report on any updates or changes made to the plan. This report should be coordinated through your Wilkes County Emergency Management Agency (EMA) Director who will take care of the updates to be submitted to GEMA/HS.

If you would like more information on the HMA grant application process, please contact Valery Lancaster, Risk Reduction Specialist, at 470-225-3820.

Sincerely,

A handwritten signature in blue ink that reads "R. Alan Sloan".

R. Alan Sloan
Hazard Mitigation Deputy Manager

kc/kfa

Enclosure

cc: Daniel Wright, Director

Wilkes County Emergency Management Agency
Jonathan Jones, Area Coordinator

Georgia Emergency Management and Homeland Security Agency



FEMA

March 25, 2024

Mr. Stephen Clark
Hazard Mitigation Manager
Georgia Emergency Management and Homeland Security Agency
P.O. Box 18055
Atlanta, GA 30316-0055

Reference: Wilkes County Hazard Mitigation Plan

Dear Mr. Clark:

We are pleased to inform you the Wilkes County Hazard Mitigation Plan update complies with the Federal hazard mitigation planning requirements resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR §201.6. Effective March 22, 2024, the plan is approved for a period of five (5) years to March 21, 2029.

Enclosed is the status of all participating jurisdictions. Approved jurisdictions are eligible applicants through the State for the following mitigation grant programs administered by the Federal Emergency Management Agency (FEMA):

- Hazard Mitigation Grant Program (HMGP)
- Flood Mitigation Assistance (FMA)
- Building Resilient Infrastructure and Communities (BRIC)

Please note that all funding requests will be evaluated individually according to the program's specific eligibility requirements.

The State and all plan participants should be commended for their close coordination and communications with our office in the review and subsequent approval of the plan. If you or any plan participant need assistance, please do not hesitate to contact Lillian Huffman, of my staff, at (202) 765-8968.

Sincerely,

A handwritten signature in blue ink that reads "Kristen M. Martinenza".

Kristen M. Martinenza, P.E., CFM
Branch Chief, Risk Analysis Branch
FEMA Region 4

Enclosure

Enclosure: Plan Participant Status List

Attached is the list of participating jurisdictions in the referenced hazard mitigation plan.

Community Name	Jurisdiction Status	Date Approved by FEMA
1) Rayle town	Approved	3/22/24
2) Tignall town	Approved	3/22/24
3) Washington city	Approved	3/22/24
4) Wilkes County	Approved	3/22/24