RESOLUTION 14-01

WHEREAS, The City of Sky Valley has participated in the development of the Rabun County Hazard Mitigation Plan (2013); and

WHEREAS, This plan has been developed in accordance with the rules and standards established by the State of Georgia, and has been reviewed and approved by the Hazard Mitigation Division of the Georgia Emergency Management Agency.

NOW THEREFORE BE IT RESOLVED that the City Council of Sky Valley, Georgia hereby officially adopts the Rabun County Mitigation Plan (2013).

Adopted this 27th day of May, 2014.

Hughel Goodgame, Mayor
City of Sky Valley

Mandi Cantrell, City Clerk
City of Sky Valley

(Seal)

Rabun County, Georgia

Hazard Mitigation Plan (2013)

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INTRODUCTION 1

PURPOSE

The Disaster Mitigation Act of 2000 has helped to bring attention to the need for successful hazard mitigation planning throughout the United States. Section 322 of the Act emphasizes the importance of comprehensive multi-hazard planning at the local level, both natural and technological, and the necessity of effective coordination between State and local entities to promote an integrated, comprehensive approach to mitigation planning. The Hazard Mitigation Planning and Hazard Mitigation Grant Program (HMGP) interim final rule published on February 26, 2002, identifies these new local mitigation planning requirements. According to this rule, state and local governments are required to develop, submit, and obtain FEMA approval of a hazard mitigation plan (HMP). Completion of an HMP that meets the new Federal requirements will increase access to funds for local governments and allow them to remain eligible for Stafford Act assistance.

The HMP becomes part of the foundation for emergency management planning, exercises, training, preparedness and mitigation within the County. Such a plan sets the stage for long-term disaster resistance through identification of actions that will, over time, reduce the exposure of people and property to identifiable hazards. This plan provides an overview of the hazards that threaten the County, and what safeguards have been implemented, or may need to considered for implementation in the future.

Hazards, for purposes of this plan, have been divided into two basic categories: natural and technological. Natural hazards include all hazards that are not caused either directly or indirectly by man and are frequently related to weather events, such as tornados and winter storms. Technological hazards include hazards that are directly or indirectly caused by man, including hazardous materials spills and weapons of mass destruction (WMD) events, although terrorism is not the particular focus of this Plan. This Plan also makes some recommendations that transcend this classification of natural and technological hazards. In other words, some of the recommendations contained within this Plan apply to many or all hazards. This is commonly referred to as an “all-hazards approach”. Most hazards throughout the United States could happen anytime and anywhere. However, the main focus of this plan is on those hazards that are most likely to affect Rabun County and it’s cities in the future.

ORGANIZATION OF THE PLAN

The Hazard Mitigation Plan (HMP) consists of four main components: the narrative plan, the Critical Facilities Database, the Hazard History Database, and the Hazard Frequency Table. The narrative plan itself is the main component of the HMP. This part of the Plan includes an overview of the planning process, a summary of the County’s hazard history, hazard frequency projections, and a detailed discussion of proposed mitigation measures. The interactive Critical Facilities Database (Appendix A)

is an online tool developed for GEMA that contains detailed information on critical facilities within the County. Using the critical facilities information, including GPS coordinates and replacement values, along with different hazard maps from GEMA, this database becomes a valuable planning tool which can be used by Counties to help estimate losses and assess vulnerabilities. This Critical Facilities Database will also help to integrate mitigation planning into their other planning processes. The Hazard History Database, which includes relevant information on recent hazards within the county, and the Hazard Frequency Table providing frequency-related statistics for each hazard are included in Appendix E. A risk assessment, described below, which is composed of elements from each of the four main HMP components, provides the factual basis for all mitigation activities proposed within this Plan

Inventory of Critical Facilities: Critical facilities are defined as facilities that provide essential products and services to the public. Many of these facilities are government buildings that provide a multitude of services to the public, including most public safety disciplines such as emergency management, fire, police, and EMS. Other government buildings/facilities commonly classified as critical facilities are water distribution systems, wastewater treatment facilities, public works, public schools, administrative services, and post offices. For the purposes of this Plan, critical facilities have been identified by the HMPC and important information gathered for each one. This information is located in the Critical Facilities Database (Appendix A).

Hazard Identification: During the planning process, a hazard history was created based on available records from the past fifty years. This hazard history includes the natural and technological hazards that are most likely to affect the County. Unfortunately, record keeping was not as accurate or detailed decades ago as it is now. Therefore, the most useful information relating to these hazard events is found within the last ten years. This fact is obvious upon review of the Hazard History Database (Appendix B), and the Hazard Frequency Table (Appendix C).

Profile of Hazard Events: Each hazard identified was analyzed to determine likely causes and characteristics, and what portions of the County's population and infrastructure were most affected. However, each of the hazards discussed in this Plan has the potential to negatively impact any given point within the County. A profile of each hazard discussed in this plan is provided in Chapter 2.

Vulnerability Assessment: This step is accomplished with the Critical Facilities Database by comparing GEMA hazard maps with the inventory of affected critical facilities and population exposed to each hazard.

Estimating Losses: Using the best available data, this step involved estimating structural and other financial losses resulting from a specific hazard. This is also accomplished using the Critical Facilities Database. Describing vulnerability in terms of dollar amounts provides the County with a rough framework in which to estimate the potential effects of hazards on critical facilities.

Based on the HRV assessment, the Plan identifies some specific mitigation goals. These goals are only recommendations of the HMPC. Any specific recommendation must also be individually approved by the appropriate government officials. A framework for Plan implementation and maintenance is also presented within this document.

Planning grant funds from the Federal Emergency Management Agency, administered by GEMA, funded the HMP. The HMP was developed by the HMPC, with technical assistance from the Georgia Mountains Regional Commission (GMRC).

PARTICIPATION

The process for updating Rabun County's Hazard Mitigation Plan can be found in the Federal Emergency Management Association's (FEMA) Hazard Mitigation Planning's "How To" Guides. According to "Getting Started: Building Support for Mitigation Planning;" the suggested process for preparing a Hazard Mitigation Plan is to 1) Organize resources and identify stakeholders and those holding technical expertise; 2) Access risks to the community; 3) Develop a Mitigation Plan and lastly; 4) Implement and Monitor that plan once it is adopted. (FEMA 386-1)

Jurisdiction	Participation in 2005	Participation in 2012/2013	Review of 2005 Plan	Review of 2013Plan	Adoption of 2005 Plan	Adoption of 2013 Plan
Rabun County	Yes	Yes	Yes	Yes	Yes	Pending
Clayton	Yes	Yes	Yes	Yes	Yes	Pending
Dillard	Yes	Yes	Yes	Yes	Yes	Pending
Mountain City	Yes	Yes	Yes	Yes	Yes	Pending
Tallulah Falls	Yes	Yes	Yes	Yes	Yes	Pending
Tiger	Yes	Yes	Yes	Yes	Yes	Pending
Sky Valley	Yes	Yes	Yes	Yes	Yes	Pending

This Hazard Mitigation Plan ("the Plan") is designed to protect both the unincorporated areas of the County as well as municipalities. Though the County facilitated this planning process, each City was consulted and provided input into the process. Without this mutual cooperation, the Plan would not exist in its present comprehensive form. (*Note: Please keep in mind that throughout this Plan, the term "county" refers to all of Rabun County, including municipalities.)*

An advisory committee was appointed to assist in the update process, beginning with County and City staff with knowledge and insight into hazard mitigation efforts at each government. Staff from fire protections services, police and emergency management services, as well as planning and information services were nominated for involvement and guided the discussion of previous County and City efforts as well as potential mitigation measures going forward. These stakeholders would be charged with

reviewing the material, recommending changes and updates and confirming the final version of the document.

Original Advisory Committee Members

Name	Agency/Organization
Timothy Mitchem	RC BOC
Brian Turner	Mountain Lakes Medical Ctr.
Roy Lovell	Rabun County EMA
Bill Robinson	Dillard (City)
Linda Smith	City of Sky Valley
Marty Dixon	Rabun Fire/EMA
Scott Dills	Sky Valley Police
Mike Carnes	Rabun EMS/911
Gregg Dover	Rabun 911
Tom Ramey	Town of Tiger
Cissy Henry	City of Clayton
Lindsey Owens	City of Clayton
Richard Morris	City of Clayton

Preliminary material and hazard information was made available to the committee at the outset of the update process, with the express purposes of commenting on how each community is impacted by the various hazards and identifying new mitigation measures. Throughout the process GMRC would also directly contact personnel from each community for additional comments and guidance. Paid personnel, elected and appointed officials were all provided opportunity to comment on the Plan.

During the course of 2012 GMRC would compile comments and information from each community to develop the draft text. A preliminary version was completed in the middle of 2012 and submitted to GEMA for review. Additional revisions were made and a new draft completed in early 2013. Upon completion in June, 2013 the full draft document was made available for full public review and comment. The draft AND FINAL materials were also made available to the public via the GMRC website, www.gmrc.ga.gov. Comments and questions could be submitted electronically to the GMRC staff during this time, and the public forum to review and comment on the final version was scheduled for July 5th, from 11:30 to 1 PM at the County Courthouse. After the public comment period the County Commission is scheduled to adopt the plan on July 22, 2013. Comments received during or after FEMA review will be evaluated to potential inclusion as an amendment during the annual reviews of plan implementation.

Throughout the process, staff from the Georgia Mountains Regional Commission assisted with meeting facilitation and development of the updated text and maps.

MULTI-JURISDICTIONAL CONSIDERATIONS

This Hazard Mitigation Plan will be officially adopted by Rabun County, and the Cities of Clayton, Dillard, Mountain City, Sky Valley, Tallulah Falls and Tiger will be responsible for making their own input into the plan as it regards the mitigation needs of the municipality. The Cities of Clayton, Dillard, Mountain City, Sky Valley, Tallulah Falls and Tiger will adopt the HMP and be fiscally responsible for any project costs incurred.

As stated in the minimum planning standards, the Intergovernmental Coordination Element provides Rabun County and the Cities of Clayton, Dillard, Mountain City, Sky Valley, Tallulah Falls and Tiger an opportunity to inventory existing intergovernmental coordination mechanisms and processes with other local governments and governmental entities that can have profound impacts on the success of implementing the comprehensive plan. This purpose of this element is to assess the adequacy and suitability of existing coordination mechanisms to serve the current and future needs of each community and articulate goals and formulate a strategy for effective implementation of community policies and objectives that, in many cases involve multiple governmental entities.

During the drafting of the plan, each local government will be given a copy of the draft so that they may identify and give comment and suggestions of ways to adopt goals that apply to the municipalities that they serve.

ADOPTION AND MONITORING

Contingent on the final draft being approved by GEMA, the Rabun County Board of Commissioners will be responsible for formally adopting the final Hazard Mitigation Plan. Once the county formally adopts the HMP, it will be forwarded to the Cities of Clayton, Dillard, Mountain City, Sky Valley, Tallulah Falls and Tiger for adoption. The HMP will then again will be forwarded to GEMA, who will then forward the Plan to FEMA for final review and approval. Once final FEMA approval has been received, Rabun County and the local municipalities may initiate any courses of action related to this HMP that they deem appropriate. The HMP maintenance section of this document details the formal process that will ensure that the Rabun County HMP remains an active and relevant document. The HMP maintenance process includes monitoring and evaluating the HMP annually, and producing a complete HMP revision every five years. Additionally, Rabun Co. will develop steps to ensure public participation throughout the HMP maintenance process. All or portions of this HMP may be integrated into the Rabun County and the Cities of Clayton, Dillard, Mountain City, Sky Valley, and Tiger Comprehensive Plan, or other plans, sometime in the future. Municipalities within the county will also look into incorporating the plan into local planning documents.

Copies of the approved HMP will be made available to the applicable departments that are responsible for the documents identified in fulfilling the *Documentation of the Planning Process* requirement.

GOALS AND IMPLEMENTATION

Rabun County has experienced a number of hazard events throughout its history, most resulting in fairly localized damage. Tornadoes are clearly the greatest potential natural hazard within the county. Hazardous materials spills are the greatest potential technological threat to the area at this time. Flooding, thunderstorms, wildfires, drought, and winter storms represent additional problems for Rabun Co.

The Rabun Co. HMPC used the results of the HRV assessment to identify mitigation goals and objectives as well as some recommended mitigation measures. Each potential mitigation measure attempts to identify an organization or agency responsible for initiating the necessary action steps, as well as potential resources, which may include grant programs and human resources. An estimated timeline, when possible, is also provided for each potential mitigation measure.

Community Goals

There are three main mitigation goals for mitigation of all hazards within Rabun County:

- To minimize the loss of life and property.
- To prevent disruption of services to the public to the greatest extent possible.
- To have all the equipment, facilities and resources needed to accomplish the goals above.

As the nature of all hazards is an extraordinary event capable of large scale harm and damage, these goals apply to all hazards and for all of Rabun County. These goals define the desire of all stakeholders for Rabun County to be fully prepared for hazardous events and poised to respond as needed, preferably in an ideal capacity. If the County, the Cities and their partners pursue the objectives outlined in this plan then it is assumed the communities will be positioned to achieve these goals and better serve their residents in times of crisis.

Prioritization

Members of the HMPC and representatives from local governments familiar with each jurisdiction's annual budget, multiyear work programs, and comprehensive plans to determine existing mitigation actions that met the goals and objectives of this Plan. The committee then developed a list of tentative mitigation actions based on this knowledge and the perceived level of needs and abilities for each community.

All of the objectives and action items from the original 2005 Rabun County Hazard Mitigation Plan have been retained and are considered ongoing or current. While some items did see some attention, limitations in funding and additional priorities prohibited the County and Cities from seeing any of these items through to completion.

All of the mitigation actions and strategies proposed within this plan are considered possible and necessary in order for the communities within Rabun County to achieve the overarching goals cited above. While every measure may not be realized within the next planning timeframe, it is recognized that every measure fulfills a need for Rabun County and should be pursued as best as possible. A measure of prioritization of proposed mitigation measures, however, is done utilizing the GEMA recommended STAPLEE methodology, with special emphasis on the following:

- Cost effectiveness (and when potential federal projects are anticipated, cost-benefit reviews will be conducted prior to application);
- Comprehensiveness, i.e. addresses a specific goal and objective;
- Addresses reducing effects of hazards on new / existing buildings and infrastructure;
- Addresses reducing effects of hazards on critical facilities where necessary; and,
- Identification of future public buildings and infrastructure (Note: recognizing that the Plan may be modified and evaluated during the monitoring and evaluation period, and will be completely updated within the federally mandated five year approval cycle, future development including future buildings will only include the five year period from Plan completion).

A list of mitigation goals, objectives and related action items was compiled from the inputs of the HMPC, as well as from others within the community. Through this prioritization process, several projects have been identified with a greater priority than others. Some of the projects involved expending considerable amounts of funds to initiate the required actions, while others allowed the community to pursue completion of the project using potential grant funding. Still others required no significant financial commitment by the community, like policy changes. All proposed mitigation actions were evaluated to determine how the County would benefit in relation to the costs.

Further, all of the actions and strategies are subject to the funds and manpower available to the respective parties responsible. To this end, the local government staff cited for each measure will oversee the implementation as resources permit, with the intention to pursue all measures as possible.

Funding

Funding for each and every mitigation measure will come from a variety of sources based on availability and applicability. Where possible local funds from the governments themselves (either general funds or SPLOST funds) will be used, otherwise a variety of outside sources will be pursued through grant or loan programs.

Among the funding sources available for hazard mitigation related measures are federal programs through FEMA (HMGP; PDM; FMA; SRL; RFC; Public Assistance 406 Mitigation), HUD (Community Development Block Program), USACE Mitigation funds or Appalachian Regional Commission funds. Under coordination from the Rabun County EMA, the local governments will identify those mitigation actions and strategies that are eligible for these programs and pursue funding assistance when eligible.

COMMUNITY PROFILE

County Formed: December, 1819

County Seat: City of Clayton

Total Area: 224,751 acrs

Total Population

	1980	1990	2000	2010		Δ '80-'10
Rabun County	***10,466***	***11,648***	***15,050***	***16,276***		*55.5%*
Unincorporated	7,163	8,417	11,303	11,954		*66.9%*
Clayton	1,838	1,613	2,019	2,047		*11.4%*
Dillard	238	199	198	339		*42.4%*
Mountain City	701	784	829	1,088		*55.2%*
Sky Valley	65	187	221	272		*318.5%*
Tallulah Falls	162	147	164	168		*3.7%*
Tiger	299	301	316	408		*36.5%*

Source: US Bureau of the Census

History and Culture

- Rabun County was created by an act of Legislature in December 1819 and named for William Rabun, governor of Georgia from 1817 to 1819. Rabun County is located at the most extreme northeast corner of the state and is bordered on the north by North Carolina, and east by South Carolina. The most mountainous county in Georgia, it is part of the Appalachian Mountain Range. The highest point it the county is Rabun Bald at 4,711 feet above sea level. The Eastern Continental Divide runs through the county, and regional watersheds drain into both the Atlantic Ocean and the Ohio River Basin.

- Due to the location and scenic beauty of the Appalachian Mountains and State Parks, Rabun County is a popular tourist destination for the region. Much of the local economy is oriented around tourists and day visitors as people come to the area for hiking, camping, fishing and other outdoor recreational opportunities. Clayton and Dillard feature the strongest commercial sectors in the county, including a burgeoning downtown in Clayton that hosts County offices and Dillard's popular shops for travelers along the highway.

- With the establishment of the United States Forest Service early in the 20th century, the USFS purchased extensive tracts of land and today owns slightly more than 60 percent of the land in Rabun County.

- Early in the 20th century the Georgia Power Company purchased the entire Tallulah River basin in order to build an electrical power generator using the river water. Several dams were built creating Lake Rabun, Burton, and Seed. The new lakes covered some of the richest farmland in the county and forced the relocation of the entire community of Burton, the second largest in the County. The lakes fostered the establishment of many resorts, children's summer camps, fishing camps and summer homes along their shores, but also started a decline for the Town of Tallulah Falls. Today, the Georgia Power Company owns and controls 20 percent of the land in Rabun County.

- The municipalities within Rabun County lie predominantly in a line along the north/south arterial roadways through the mountains, defined by US 441. This road is largely a four lane highway with median that harbors most of the local and through traffic, linking the County with metro Gainesville and Atlanta to the south, and Franklin, NC, to the north.

Mileage and Direction from Clayton

City	Miles	Dir.	Route	
Atlanta, GA	110	SW	I-985	
Athens, GA	75	S	23/ 441	
Blairsville, GA	45	W	76	
Chattanooga, TN	145	WNW	64	
Gainesville, GA	55	SW	441/ 129	
Greenville, SC	70	E	441/ 76/ 123	

Service Delivery Strategy

In accordance with the Service Delivery Act (HB 489), the Rabun County the Cities of Clayton, Dillard, Mountain City, Sky Valley, and Tiger Service Delivery Strategy (SDS) was developed, submitted and approved in 1999. This state law requires that local government and related entities cooperate with the delivery of various community services as agreed upon by the local governments. The SDS identifies local community services, assigns service areas and responsibilities (including funding), and provides a

methodology for the delivery of community services that include a variety of implementation tools such as ordinances and contracts.

In accordance with the SDS law, a local government's existing strategy must be updates concurrent with the local government's comprehensive plan. To ensure consistency between the comprehensive plan and service delivery strategy, the services to be provided by the local governments, as identified in the comprehensive plan, cannot exceed those identified in the SDS. Also, there must be consistency between the comprehensive plan and the SDS.

Rabun County is bordered by Towns County to the west, Habersham County to the south, North Carolina to the north, and South Carolina to the east. Located within the County is the municipal government of Clayton. Coordination between the county and city is essential to the successful implementation of the Comprehensive Plan. Under the state requirements of HB 489 (Service Delivery Strategy), Rabun County and cities within are required to coordinate actions and decisions relative to annexation and land use. Although not required, coordination with the surrounding counties does play an important role in comprehensive plan implementation.

HAZARD ASSESSMENTS 2

This chapter represents the summation of chapters 2-5 of the previous plan. To improve efficiency of the discussion the document has been reoriented based on each particular hazard. As such, the merging of chapters permits the reader to go directly from the risk and vulnerability assessment of each hazard to the respective identification of mitigation goals and objectives. Despite these moves, each and every component from the previous document remains intact and has been incorporated into this plan in accordance with GEMA and FEMA requirements.

The first part of each hazard assessment is the analysis of Risk and Vulnerability. The HMPC identified hazards that have affected Rabun County in the past and are likely to do so in the future. As a result of the planning process, the HMPC determined that seven natural hazards and two categories of man-made hazards pose a direct, measurable threat to Rabun County. Of the natural hazards severe thunderstorms, winter storms, tornados, drought, and earthquakes (added for this plan update) are all serious potential threats to the entire County. Flooding, on the other hand, is usually isolated to select areas of the County that are within the flood plain or other flood-prone areas. In addition, wildfires pose a threat to the entire County, but some hazard models show the southeastern portions of the County as more vulnerable. Each of these potential hazards is addressed individually with relevant supporting data.

In addition to natural hazards, the HMPC identified technological hazards that have affected Rabun County in the past, and are likely to do so in the future. The term, “technological hazard” refers to incidents resulting from human activities such as the manufacture, transportation, storage, and use of hazardous materials. This plan assumes that hazards resulting from technological sources are accidental, and that their consequences are unintended. Unfortunately, the information relating to technological hazards is much more limited due largely to the very limited historical data available, causing a greater level of uncertainty with regard to statistics and mitigation measures. However, enough information has been gathered to provide a basic look at technological hazards within Rabun County. Each of the technological hazards determined by the HPMC to pose a threat to Rabun County is addressed here.

The second element of each hazard assessment is the discussion of Mitigation Goals and Objectives. As each hazard is discussed for the possibility of occurrence and potential severity of threat, the HMPC evaluated past and potential mitigation measures to ensure that Rabun County and its Cities are doing what they can to protect and serve area residents and properties. This element analyses those measures and presents the framework of what each stakeholder will do going forward to implement the plan and support the achievement of goals stated herein.

The format of each hazard assessment follows the linear presentation of elements included in the previous plan, which is in accordance with the elements required of federally approved hazard mitigation plans:

Risk and Vulnerability Analysis
- **Hazard Identification**
- **Hazard Profile**
- **Assets Exposed to Hazard**
- **Estimate of Potential Losses***
- **Land Use & Development Trends**
- **Multi-Jurisdictional Concerns**

Mitigation Goals and Objectives
- **Mitigation Goals**
- **Range of Mitigation Options**
- **Mitigation Recommendations**
- **Multi-Jurisdictional Considerations**
- **Public Information and Awareness**

*= *Information about estimation of asset values and potential losses is included within the appendix. Only discussion of hazard related specifics is included within the general text.*

Lastly, the end of the chapter includes a catch-all element designed to represent those issues and objectives germane to most, if not all, potential hazards that may threaten Rabun County.

Estimate Potential Losses

In evaluating assets that may potentially be impacted by the effects of winter storms, the HMPC determined that all critical facilities, public and private property, are susceptible. *Note: Please see Appendix A for detailed information on critical facilities within Rabun County.*

The HMPC used a straight-line method for estimating losses. However, in most of the documented cased of wildfire within Rabun Co., relatively little information on damages, in terms of dollars, was available. The potential commercial value of the land lost to wildfire cannot be accurately calculated, other than replacement costs of structures and infrastructure. With regard to the land itself, aside from the loss of timber and recreation, the damage is inestimable in terms of land rendered useless by ensuing soil erosion, elimination of wildlife cover and forage, and the loss of water reserves collected by a healthy forest. *Note: Please see Appendix A for specific loss estimates.*

Table 2.1a - Overview of Natural Hazards in Rabun County and Cities

Hazard	Ga. Hazard Mitigation Strategy Standard Plan	Rabun County HMP Update	Comments
Tropical Cyclonic Events (Hurricanes & Tropical Storms)	Included	Included w/ severe storms, tornados, & flooding events	Contributes to downed trees, power lines, flooding
Coastal Flooding	Included	Not Included	Not a coastal county
Wind	Included	Included w/ severe & winter storms	Contributes to downed trees & power lines
Severe Weather (Includes Lightning & Hailstorms)	Included	Included	Contributes to downed trees, power lines, structure damage, flooding, & fires
Tornadoes	Included	Included	None
Inland Flooding	Included	Included	None
Severe Winter Storms	Included	Included	None
Drought	Included	Included	None
Wildfire	Included	Included	High degree of woodlands in county, even around urbanized areas
Earthquake	Included	Included	Rare occurrence; very low in magnitude

Key for Table 2.1b – Frequency and Probability

	NA	VL (Very Low)	Low	Mod (Moderate)	High	Ext (Extensive)
Frequency - *Volume of occurrences per year*	0	< 1	1	2-4	5-8	9+
Frequency - *# of days impacted per year (drought & winter storms)*	0	1-5	6-10	10-25	26-50	50+
Probability - *Likelihood of occurring in any year*	0	< 10%	25%	50%	75%	100%

Key for Table 2.1b – Severity

Event - Extent	Low	Mod	High	Ext.
Tropical Cyclonic Events		*(See Wind & Inland Flooding)*		
Coastal Flooding	NA	NA	NA	NA
Wind – Wind Speed	≤ 36 MPH	37–50 MPH	51-70 MPH	71–91 MPH
Severe Weather		*(See Wind & Inland Flooding)*		
Tornado - Magnitude	F0- F1	F2-F3	F4	F5
Inland Flooding - Water depth	3" or less	3 – 8"	8-12"	12"+
Severe Winter Storms – Ice/ Sleet	¼ " or less	1/3" – ½ "	¾ -1"	1"+
Severe Winter Storms - Snow	¼ " – 1"	1 -5"	5-12"	12"+
Drought – Duration	1 year	1 – 2 years	2-5 years	5+ years
Wildfire - # of Acres	<50	50-200	200-500	500+
Earthquake - Magnitude	NA	NA	NA	NA

Table 2.1b *(Key shown above)*

HAZARD	RABUN COUNTY	CLAYTON	DILLARD	TIGER	TALLULAH FALLS	SKY VALLEY	MTN. CITY
Tornado							
Frequency	Low	Low	Low	Low	Low	Low	Low
Severity	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Probability	Low	Low	Low	Low	Low	Low	Low
Winter Storm							
Frequency	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Severity	High	High	High	High	High	High	High
Probability	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Flooding							
Frequency	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Severity	High	High	High	High	High	High	High
Probability	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Severe Thunderstorm							
Frequency	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Severity	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Probability	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Wildfire							
Frequency	Low	Low	Low	Low	Low	Low	Low
Severity	High	High	High	High	High	High	High
Probability	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Drought							
Frequency	Low	Low	Low	Low	Low	Low	Low
Severity	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Probability	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Earthquake							
Frequency	Low	Low	Low	Low	Low	Low	Low
Severity	Mod	Mod	Mod	Mod	Mod	Mod	Mod
Probability	Low	Low	Low	Low	Low	Low	Low
Hazardous Materials Release							
Frequency	Low	Low	Low	Low	Low	Low	Low
Severity	Mod	High	Mod	Mod	Mod	Low	Mod
Probability	Low	Low	Low	Low	Low	Low	Low
Dam Failure							
Frequency	Low	Low	Low	Low	Low	Low	Low
Severity	Mod	Mod	Mod	High	High	Mod	Mod
Probability	Low	Low	Low	Low	Low	Low	Low
Nuclear Fallout							
Frequency	Low	Low	Low	Low	Low	Low	Low
Severity	High	High	High	High	High	High	High
Probability	Low	Low	Low	Low	Low	Low	Low

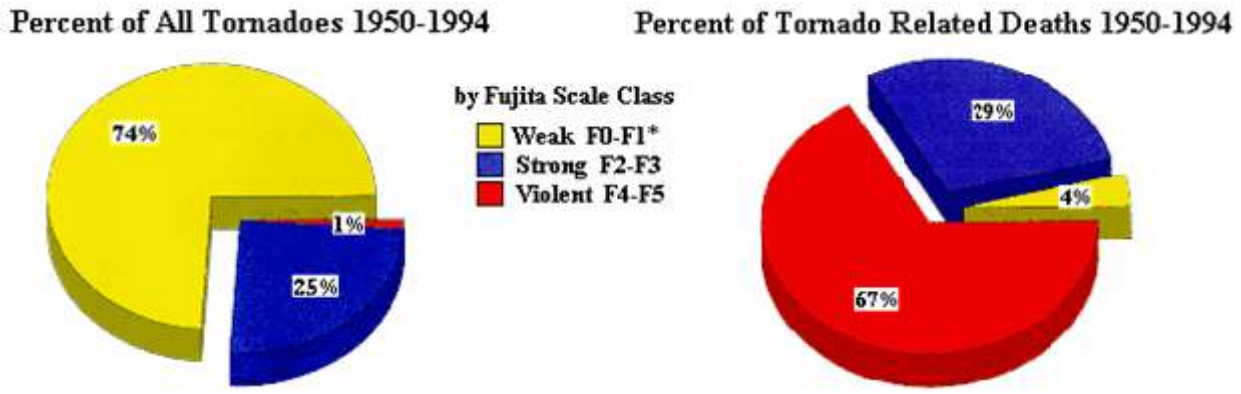
I. Tornado

Hazard Identification – A tornado is a dark, funnel-shaped cloud containing violently rotating air that develops below a heavy cumulonimbus cloud mass and extends toward the earth. The funnel twists about, rises and falls, and where it reaches the earth causes great destruction. The diameter of a tornado varies from a few feet to a mile; the rotating winds attain velocities of 200 to 300 mph, and the updraft at the center may reach 200 mph. A tornado is usually accompanied by thunder, lightning, heavy rain, and a loud "freight train" noise.

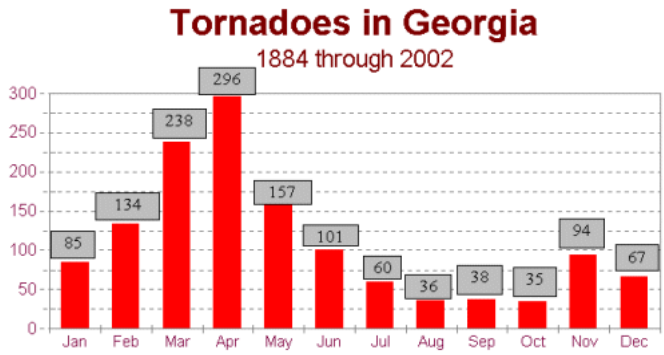
In comparison with a hurricane, a tornado covers a much smaller area but can be violent and destructive. The atmospheric conditions required for the formation of a tornado include great thermal instability, high humidity, and the convergence of warm, moist air at low levels with cooler, drier air aloft. A tornado travels in a generally northeasterly direction with a speed of 20 to 40 mph. The length of a tornado's path along the ground varies from less than one mile to several hundred. The Enhanced Fujita Scale, adopted in 2007, is the current standard scale for rating the severity of a tornado as measured by the damage it causes (see table below).

Enhanced Fujita Scale		
EF-Scale	**Wind Speed**	**Damage Classification**
EF0	65-85 mph	Weak
EF1	86-109 mph	Weak
EF2	110-137 mph	Strong
EF3	138-167 mph	Strong
EF4	168-199 mph	Violent
EF5	200-234 mph	Violent

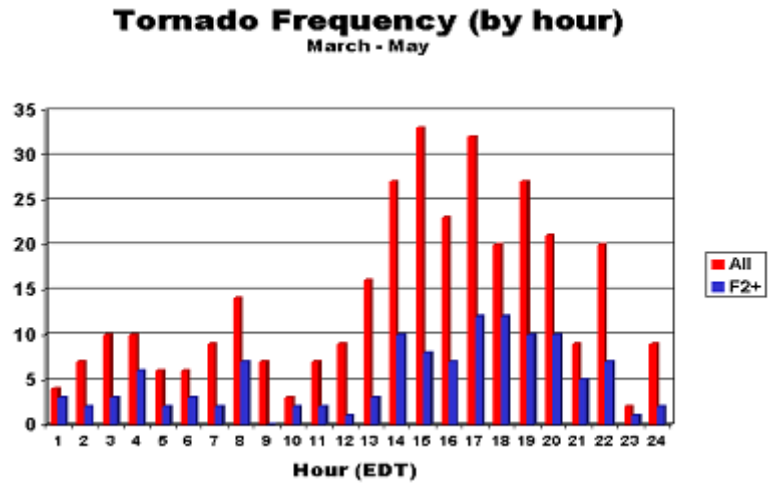
Although 74% of all tornados nationwide are classified as either F0 or F1, it isn't surprising that the more violent F4 and F5 tornados cause 67% of tornado deaths nationwide. See the related charts below.

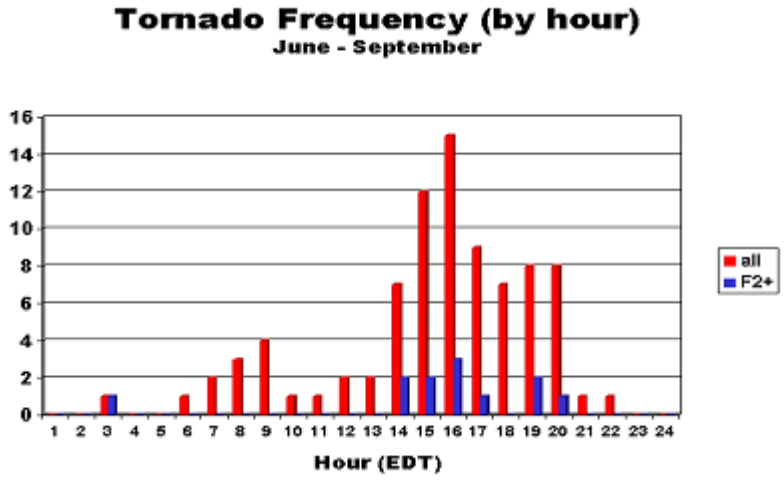


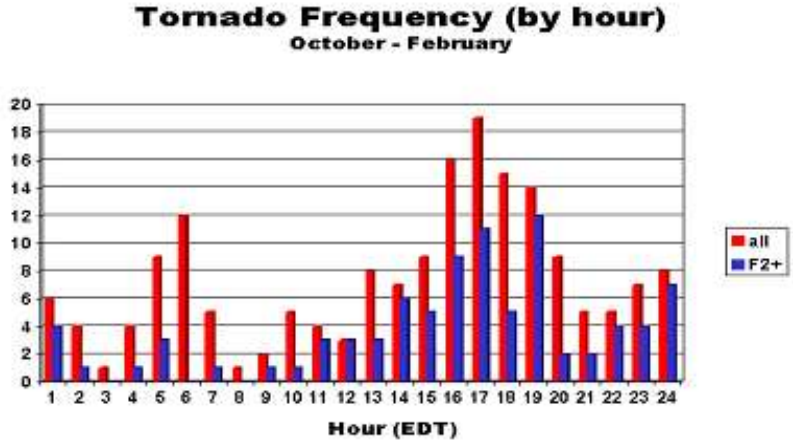
Tornados are considered to be the most unpredictable and destructive of weather events, even though they are not the most frequently occurring natural hazard within Rabun County. Tornado season in Georgia ordinarily runs from March through August, with the peak activity being in March and April. However, tornados can strike at any time of the year when certain atmospheric conditions are met.



Perhaps more critically, though tornados can strike at any hour they are most common in Georgia throughout the afternoon and into the evening hours. This is suspected for various meteorological and geographic reasons, but what's important is what this means in terms of community preparedness and susceptibility; Occurrences during day time/working hours denotes a decidedly different set of population and traffic densities than conventional evening hours, and also enables residents and business owners to see the effects of the storm rather than being in the dark. This does not excuse planning for tornado events in night-time conditions, but it does allow the residents and emergency personnel of Rabun County a better idea of when best to prepare for possible tornadoes.


Tornado Frequency (by hour)
March - May
35
30
25
20
15
10
5
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour (EDT)
All
F2+


Tornado Frequency (by hour)
June - September
16
14
12
10
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour (EDT)
all
F2+


Tornado Frequency (by hour)
October - February
20
18
16
14
12
10
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Hour (EDT)
all
F2+

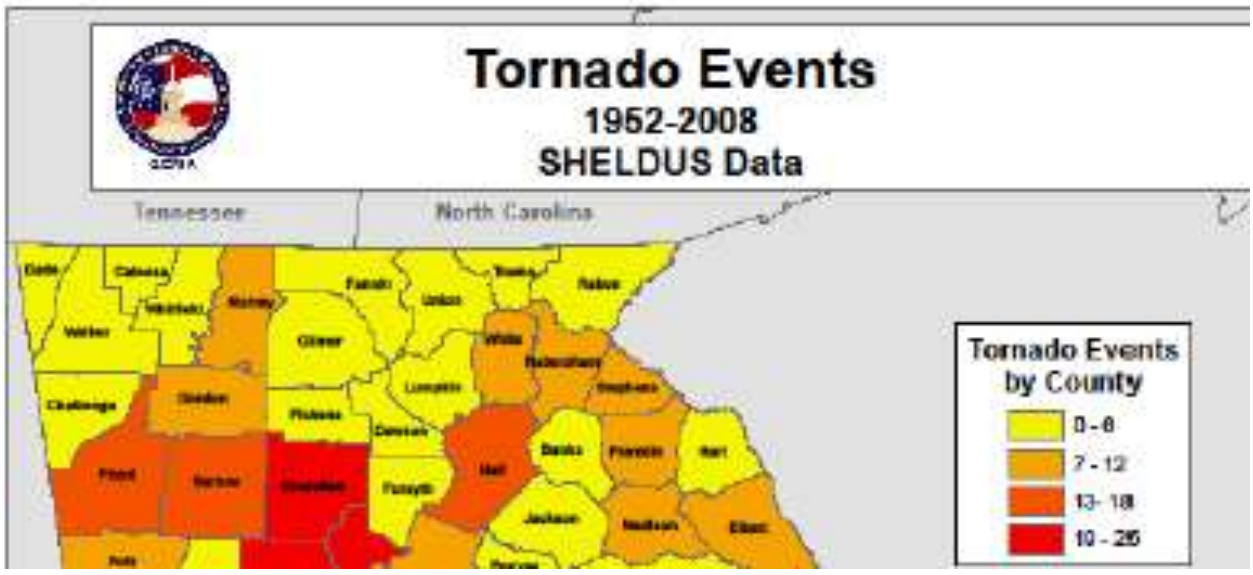
Hazard Profile

All areas within Rabun Co. are vulnerable to the threat of a tornado. There is simply no method to determine exactly when or where a tornado will occur. Rabun Co. has experienced two confirmed tornadoes within the last ten years, and four confirmed tornadoes within the past fifty years. Below are brief descriptions of tornado damage from some of the most serious tornadoes in Rabun Co. history.

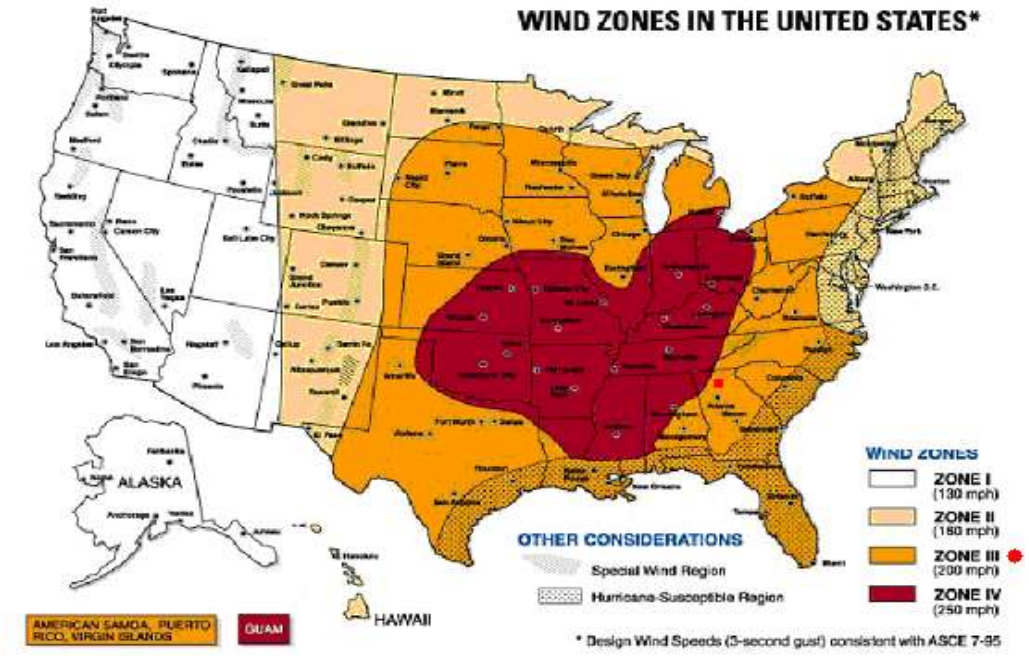
Local stakeholders reviewed historical data from the Georgia Tornado Database, the National Climatic Data Center, newspaper articles, and internet sites in researching the past effects of tornados within the County. With most of the County's recorded tornado events, only basic information was available. However, dozens of tornado watches have been recorded during this period, and certainly some tornados go undetected or unreported. Therefore, any conclusions reached based on available information on tornados within Rabun County should be treated as the minimal possible threat.

According to National Climatic Data Center records there have been only 7 tornadoes in Rabun County since 1950. Since 2004 there has been 1 tornado in the county: On 4/27/11 a tornado descended in the Persimmon area, resulting in 1 death and approximately $5M worth of damage. The severity of impacts from any event, however, is increasing now that the county has grown more heavily populated and with more and more visitors.

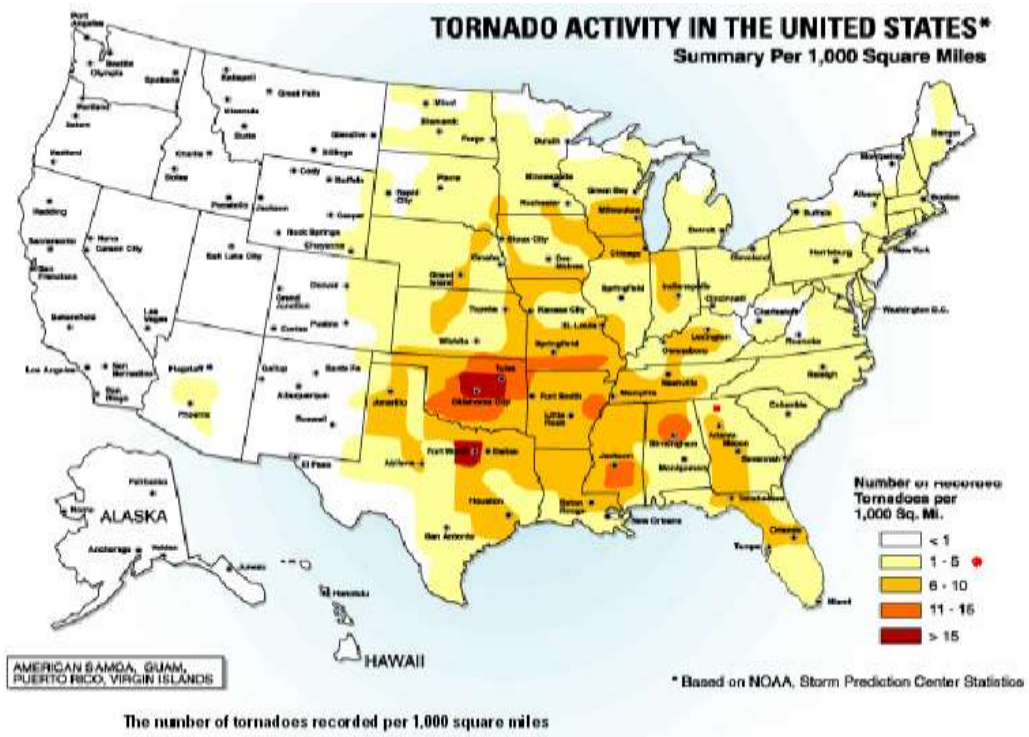
Also of note is the common occurrence of tornadoes in adjoining communities. The portion of the Georgia map below shows tornados on record between 1950 and 2006. While Rabun County registers a modest number compared to most other counties, it also lies amidst the five counties with the highest number of tornadoes during this time frame. This suggests Rabun County sits within a veritable tornado alley, and that the potential for more frequent events is very plausible.



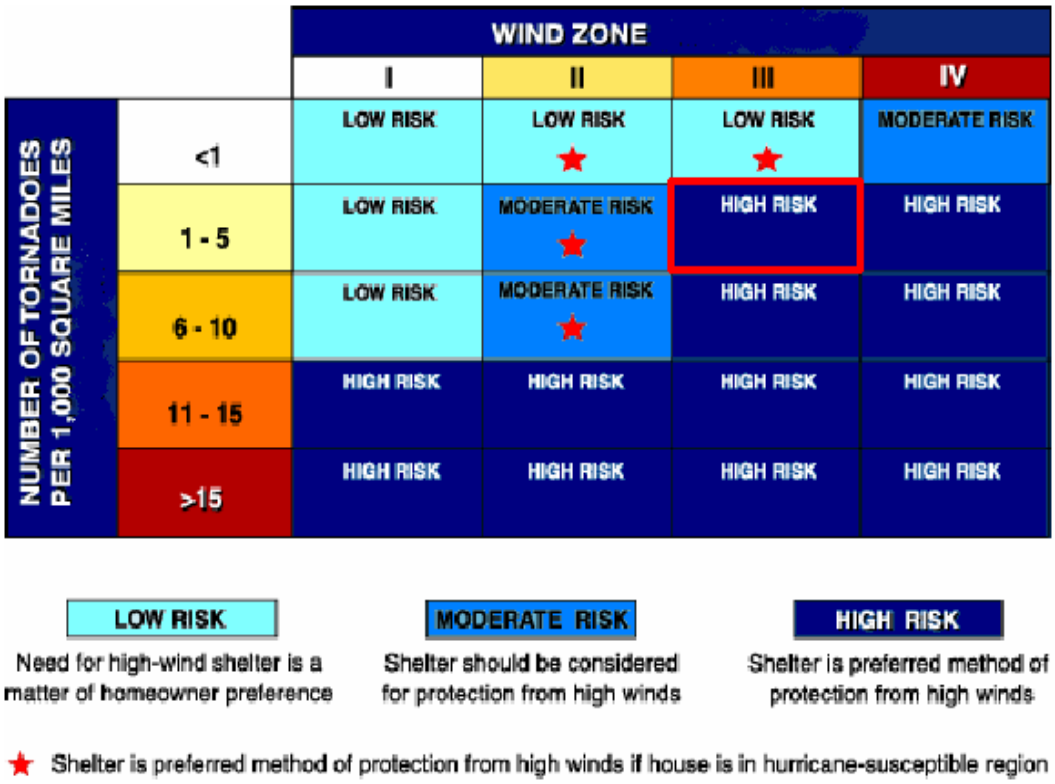
Rabun County is located in wind zone III, which is associated with 200-mph design wind speeds as determined by the American Society of Civil Engineers (ASCE). Construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The minimum standards established by these codes provide reasonable protection from most natural hazards. (See following ASCE maps and table)



Wind zones in the United States



The number of tornadoes recorded per 1,000 square miles



Inventory Assets

All structures and facilities within Rabun County are susceptible to tornado damage since tornadoes are unpredictable and are indiscriminate as to when or where they strike. *Note: Please see Appendix A for detailed information on critical facilities within Rabun County.*

Estimate of Potential Losses

For loss estimate information please refer to the Critical Facilities Database in the Appendix.

Land Use and Development Trends

Rabun County is located in Wind Zone III, which is associated with 200-mph design wind speeds as determined by the American Society of Civil Engineers (ASCE). The county currently has no land use or development trends related specifically to tornadoes. Existing building codes do not require structures to meet or exceed design wind speeds of 200 mph, however, construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The minimum standards established by these codes provide reasonable protection to persons and property within structures that comply with the regulations for most natural hazards.

According to the Wind Hazard Reduction Coalition, Rabun Co. has tornado activity between one and five recorded tornadoes per 1,000 square miles. Because of this classification and the wind zone classification, Rabun Co. is considered to be in a High Risk area. Shelter is the preferred method of protection from high winds in a High Risk area. [i]

Multi-Jurisdictional Concerns

All of Rabun County has the same design wind speed of 200 mph as determined by the American Society of Civil Engineers (ASCE). Since no part of the county is immune from tornadoes, any mitigation steps taken related to tornadoes should be undertaken on a countywide basis.

Community Mitigation Goals

Predicting exactly what parts of Rabun County or its municipalities have a greater chance of being struck by a tornado is difficult. The best predictor of future tornadoes is the occurrence of previous tornadoes. According to records found via the Internet, there have been at least five recorded tornado events in Rabun County since 1955, with four of them occurring over twenty years ago. Although Rabun County has not been hit with many tornadoes recently, just one event, like that of Palm Sunday 1994, can be devastating.

Rabun County has identified several courses of action that both local officials and citizens may use to mitigate the deadly effects of a tornado. There are two main mitigation goals for tornadoes within Rabun County:

1. Minimize the loss of life and property
2. Educate the public on what to do before, during, and after a tornado

With any mitigation implemented, special attention needs to be paid to the vulnerable populations within Rabun County.

Identification & Analysis of Range of Mitigation Options

Rabun County has recommended certain measures that can be implemented to protect the county as a whole, since the nature of a tornado prevents the prediction of the location of a strike. The committee has recommended more specific steps to protect specific vulnerable populations within the county. These vulnerable populations include senior citizens, children, dense groups of citizens, and citizens who live in manufactured homes or unsafe homes. Mitigation strategies include both structural and non-structural mitigation measures. The structural mitigation recommendations presented emphasize both new construction as well as modifications to older structures. Specific strategies could result in alterations to current policies and building codes if approved.

Tornado—Mitigation Strategy and Recommendation

The Rabun County HMPC recommends consideration of the following strategies:

WORK ELEMENT	STATUS/ PRIORITY	FUNDING	COST	RESPONSIBILITY
Install warning sirens in each municipality throughout the county	On-going/ High	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Encourage the purchase of a weather radio for each household, school, business, and government office in the county	On-going/ High	General Fund/ CDBG/ FEMA	$10,000	EMA
Improved communication system for first responders	On-going/ High	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Providing or promote safe structures and more shelters	On-going/ Med	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Tighten construction codes/standards	On-going/ High	General Fund/ CDBG/ FEMA	$200,000 per year	County / Municipalities
Inspect manufactured and older homes for sound structure and appropriate anchoring	On-going/ Med	General Fund/ CDBG/ FEMA	$100,000 per year	County /Municipalities
Develop a plan to make sure individuals with special needs are evacuated to proper shelter	On-going/ Low	General Fund/ CDBG/ FEMA	$50,000	EMA / County / Municipalities
Equipment for excavation of trapped individuals	2015/ Med	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Equipment for debris removal	2014/ High	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Public and EMS Education. Conduct emergency exercises with various county agencies, city agencies, utility companies	On-going Low	General Fund/ CDBG	$1,000,000	EMA / County / Municipalities

Encourage specialized training for public safety personnel	On-going / Low	General Fund/ CDBG	$1,000,000	EMA / County / Municipalities
City of Clayton Coordinate with Rabun County EMA/911 and Red Cross in setting up emergency shelters.	On-going/ Med	General Fund/ CDBG/ Red Cross	$5,000	EMA / County / Red Cross
City of Dillard Equipment for clearing debris.	2 Years/ High	General Fund/ CDBG	$700,000	Public Works Department
City of Tallulah Falls Siren west side of town	2 Years/ High	General Fund/ CDBG/ FEMA	$5,000	Police & Fire Departments
City of Tallulah Falls Equipment for debris removal	2 Years/ Med	General Fund/ CDBG/ FEMA	$27,000	Police & Fire Departments
City of Tallulah Falls Maintain services and communication Equipment for 4 Generators	2 Years/ High	General Fund/ CDBG/ FEMA	$30,000	Police & Fire Departments
City of Sky Valley Improved Communication Mobile command vehicle Repeater system Two-way mobile radios Two-way portable radios Laptop computers (4)	2 Years/ High	General Fund/ CDBG/ FEMA	$50,000	Police & Fire Departments
City of Sky Valley Equipment for excavation of trapped individuals	1-2 Years/ Med	General Fund/ CDBG/ FEMA	$50,000	Police & Fire Departments
City of Sky Valley Equipment for Debris Removal	1-2 Years/ High	General Fund/ CDBG/ FEMA	$50,000	Public Works Department
City of Sky Valley Evacuation Plans and Shelter of Citizens and supplies.	1-2 Years/ Low	General Fund/ CDBG/ FEMA	TBD	Police & Fire Departments

City of Tiger Evacuation Plans and Shelter of Citizens and supplies.	2 Years/ Med	General Fund/ CDBG/ FEMA	TBD	Mayor/Council
Rabun County Board of Education Emergency Procedure Plans Portable classroom units; Satellite telephones; Portable kitchen w/Generator	2 Years/ High	General Fund/ CDBG/ FEMA	$237,500 + $70,000 each year	Rabun County BOE
Rabun County Board of Ed. Improved communication during weather events Weather radios; Satellite telephones	2 Years/ High	General Fund/ CDBG/ FEMA	$8,000 + $70,000 per year	Rabun County BOE
Rabun County Health Department Acquire and maintain emergency medical supplies (Reference Dept. Inventory)	On-going/ Med	Individuals/General Fund of the County and Municipalities/CDBG/FEMA	$250,000	Rabun County Health Dept.
Mountain City Promote and distribute weather radio.	1 Year/ Med	General Fund of Municipality/CDBG/FEMA	$10,000	Mayor/Council

Public Information and Awareness

As with all potential hazards identified within this Plan, it is recommended that steps be taken to increase public awareness of potential dangers and suggested mitigation. These steps may include local newspaper articles detailing specific hazard mitigation techniques, distribution of informational materials, and county-wide workshops. The public will also continue to be involved in the hazard mitigation planning process as updates to the Hazard Mitigation Plan are required. The County and its partners should also advance the internet application of all hazard mitigation measures, both to promulgate the Plan and implement those measures identified herein to increase citizen awareness and preparation. The County should also advance the use of Swift Reach 911 service throughout the community for any significant disaster.

II. Winter Storm

Hazard Identification

A *winter storm* is a catchall phrase for many forms of extreme weather, such as the combination of heavy snow, freezing rain, and high winds. The definition varies depending on which region of the country you are describing. Winter storms draw their energy from the collision of a cold air mass with a warm air mass. In North America, these two air masses are usually a cold, dry one from Canada, and a warm, moist one from the Gulf of Mexico. The joining of these two masses is called a *front*. If one of the air mass advances, either a cold front or a warm front is formed, depending on which one advances into the other. If neither front advances, a *stationary front* is formed. Winter storms usually develop along a stationary front.

Winter storms bring the threat of freezing rain, ice, sleet, snow and the associated dangers. A heavy accumulation of ice, especially when accompanied by high winds, devastates trees and power lines and may force the closure of airports and other transportation facilities. Such storms make highway travel or any outdoor activity extremely hazardous due to falling trees, ice, and other debris.

Profile Hazard Events

The Rabun County HMPC researched historical data from the National Climatic Data Center, The National Weather Service, as well as information from past newspaper articles relating to winter storms in Rabun Co. Winter storms have the potential to wreak havoc on the community when they strike. Rabun Co. averages almost five winter storms per year for the past ten years. Winter storms within Rabun Co. typically cause damage to power lines, trees, buildings, structures, and bridges, to varying degrees. Trees and branches weighed down by snow and ice become very dangerous to person and property.

Since 2004 there have been 5 winter storms bringing some combination of snow and ice to Rabun County, most recently in February and March of 2010. There are occasional incidents of snow flurries without snowy build up, or days of over-night frost, but only five incidents recorded significant snow or ice accumulation. None of these periods has lasted more than two days within this period.

During the past sixty years, documentation of 50 winter storms in Rabun County was found. Based on the entire period, there is a 95% chance of a winter storm occurring in a given year within Rabun Co. The County's geography and elevation is conducive to an occasional winter storm and the prospect of something lasting more than a few days is not unheard of. Most cold spells last for 4+ days within the valley, and EMS personnel are trained to assume wintery weather can sustain itself for several days.

Land Use and Development Trends

Rabun County currently has no land use or development trends related to winter storms.

Multi-Jurisdictional Concerns

According to the National Climatic Data Center, Rabun Co. has a moderate risk level of experiencing a winter storm. All areas of the county have the potential of being negatively impacted by winter storms. As a result, any mitigation steps taken related to winter storms should be undertaken on a countywide basis.

Community Mitigation Goals

Though certain portions of the county in the higher elevations typically receive more winter weather, any part of Rabun County may be affected by winter storms. Therefore, many of the mitigations, unless otherwise noted, apply to the entire county. According to records found via the Internet, there have been an average of 4.8 winter storms in Rabun County in the past ten years.

The Rabun Co. HMPC has identified several courses of action that both local officials and citizens may use to mitigate the effects of a winter storm. There are three main mitigation goals for tornadoes within Rabun County:

1. Minimize the loss of life and property
2. Maintain delivery of services
3. Educate the public on what to do before, during, and after a winter storm

With any mitigation implemented, special attention needs to be paid to the vulnerable populations within Rabun County.

Identification & Analysis of Range of Mitigation Options

The Rabun County HMPC has recommended certain measures that can be implemented to protect the county as a whole, since the entire county is prone to experiencing winter weather. The committee has recommended more specific steps to protect specific vulnerable populations within the county. These vulnerable populations include senior citizens, children, dense groups of citizens, and citizens who live in manufactured homes or unsafe homes. Mitigation strategies include both structural and non-structural mitigation measures. The non-structural mitigations include improved communications and public education.

Mitigation Strategy and Recommendation

The Rabun County HMPC recommends consideration of the following strategies:

WORK ELEMENT	STATUS/ PRIORITY	FUNDING	COST	RESPONSIBLE TO IMPLEMENT
Promote and distribute weather radios.	On-going/ Med	Individuals/General Fund of the County and Municipalities/CDBG/FEMA	$10,000	EMA / County / Municipalities
Traffic management signage for emergencies.	On-going/ Med	General Fund of the County and Municipalities/CDBG/FEMA	$10,000	Road Department
Generator for Fire Department	On-going/ High	General Fund of the County and Municipalities/CDBG/FEMA	$10,000	Fire Department
Fire Department vehicles equipped for winter weather	On-going/ Med	General Fund of the County and Municipalities/CDBG/FEMA	$500,000	Fire Department
Generator for Police Department/Sheriff's Office	On-going/ High	General Fund of the County and Municipalities/CDBG/FEMA	$10,000	Police/Sheriff's Department
Law enforcement vehicles equipped for winter weather	On-going/ Low	General Fund of the County and Municipalities/CDBG/FEMA	$100,000	Police/Sheriff's Department
Improved equipment for EMS; medical supplies for cold weather related injury	On-going/ Med	Individuals/General Fund of the County and Municipalities/CDBG/FEMA	$50,000	EMS
EMS vehicles equipped for winter weather	On-going/ Med	General Fund of the County and Municipalities/CDBG/FEMA	$100,000	EMS
Promote and sponsor emergency plans and exercises for public.	On-going/ Low	Individuals/General Fund of the County and Municipalities/CDBG/FEMA	TBD	EMA
Specialized training for public safety personnel	On-going/ Low	Individuals/General Fund of the County and Municipalities/CDBG/FEMA	TBD	EMA
City of Dillard Determine evacuation routes during ice and snow storms	On-going/ Low	General Fund of County and Municipalities/CDBG/Red Cross	TBD	Public Works

City of Tallulah Falls Tractor with scrape blade and salt spreader Storage facility for tractor with scrape blade and salt spreader	2 years/ Med	General Fund of County and Municipalities/CDBG	$150,000	Police & Fire Departments
City of Tallulah Falls Maintain emergency services and communication	1 year/ Med	General Fund of Municipality/CDBG/FEMA	$10,000	Police & Fire Departments
City of Sky Valley Mobile command vehicle Repeater system Two-way mobile radios Two-way portable radios	2 years/ Med	General Fund of County and Municipalities/CDBG	TBD	Department?
City of Sky Valley Military portable buildings, First aid supplies 40 KW mobile generators, 60 KW mobile generators	1 -2 years/ Low	General Fund of County and Municipalities/CDBG	$50,000	Department?
City of Tiger Develop and implement a pavement management program	2 years/ Low	General Fund of County and Municipalities/CDBG	TBD	Mayor/Council
Rabun County Board of Education Weather radios 10 @ $50 each=$500 Satellite telephones 10 @ $750=$7,500 for units 10 @ $7,000= $70,000 per year for usage	2 years/ Med	General Fund of County and Municipalities/CDBG	$8,000 + $70,000 per year	Rabun County BOE
Mountain City Develop and implement a pavement management program	1 year/ Low	General Fund of County and Municipalities/CDBG/Red Cross	$15,000	Mayor/Council

Local Public Information and Awareness Strategy

As with all potential hazards identified within this plan, the Rabun County HMPC recommends steps be taken to increase public awareness of winter storms in order to reduce the likelihood of death, injury, and property loss. These steps may include school weather awareness programs, local newspaper articles detailing specific hazard

mitigation techniques, distribution of informational materials, and countywide workshops. The public will also continue to be involved in the hazard mitigation planning process, including the implementation and periodic maintenance of this Hazard Mitigation Plan.

III. Flood

Hazard Identification

Floods are the most common and widespread of all natural disasters, except fire. Most communities in the United States have experienced some kind of flooding, after spring rains, heavy thunderstorms, or winter snow thaws.

A flood, as defined by the National Flood Insurance Program is: "A general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties (at least one of which is your property) from:

- Overflow of inland or tidal waters,
- Unusual and rapid accumulation or runoff of surface waters from any source, or
- A mudflow

[The] collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood."

The vulnerability of a river or stream to flooding is dependent upon numerous 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 span can result in flash flood conditions. Nationally, the total number of flash flood deaths has exceeded tornado fatalities during the last several decades. Two factors seem to be responsible for this: public apathy regarding the flash flood threat and increased urbanization. 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.

Floods can be slow, or fast rising but generally develop over a period of days. Mitigation includes any activities that prevent an emergency, reduce the chance of an emergency happening, or lessen the damaging effects of unavoidable emergencies. Investing in mitigation steps now, such as, engaging in floodplain management

activities, constructing barriers, such as levees, and purchasing flood insurance will help reduce the amount of structural damage to your home and financial loss from building and crop damage should a flood or flash flood occur.

Profile Hazard Events

The Rabun County Hazard Mitigation Committee profiled flooding incidents within Rabun County. The Committee researched records from newspapers, the Internet, government agencies and the National Climatic Data Center to profile the flooding events. There are reports of five floods in Rabun Co. in the past ten years. No record was found prior to 1995 thus limiting our understanding of the long-term effects of flooding. Rabun Co. and Clayton participate in the National Flood Insurance Program.

According to the NOAA, since the 2004 edition of this plan there have been 5 flash flood events identified within Rabun County (7/7/05; 8/26/08; 8/21/10; 11/28/11; 7/14/12) plus another episode of heavy rain for 5/27/09. There have not been any deaths recorded as a result of these events, and none of these events have triggered damages registered in the NOAA database. The foremost problem with floods within the county centers around the overflow of bridges and roadways, as this prohibits safe travel for residents and rescue workers.

A barn at the convergence of Worley Creek and Tallulah River, Rabun County

According to some of the committee members, there are some areas of Rabun County that flood when the county receives heavy rains. Some of those areas are: the area below Rabun Dam on the Tallulah River, Greenwood Lane in Dillard, Stekoa Creek, BiLo parking lot, Earl's Ford Road, South Main Street in Clayton, And Scott's Creek, among others.

During the past fifty years, documentation of fifteen flood events was found. Based on the entire fifty-year period, it can be inferred that a moderate flood event causing an undetermined amount of damage is likely to occur approximately once every 3.3 years

in Rabun County. This is the same as stating every year in Rabun Co. there is a 30% chance of a moderate flood event. However, when only the past ten-year period is taken into consideration, the likelihood of such an event in Rabun Co. increased to a 150% chance per year (or once every nine months). The HMPC believes looking at this past ten-year period, rather than the entire fifty-year period, provides the most accurate information. *Note: Please see Appendix B and Appendix C for detailed hazard history information and historical frequency calculations.*

Land Use and Development Trends

Repetitive Loss Properties

Repetitive loss properties are those for which two or more losses of at least $1,000 each have been paid under the National Flood Insurance Program (NFIP) within any 10 year period since 1978. Severe repetitive loss properties are residential properties that have at least four NFIP payments over $5,000 each and the cumulative amount of such claims exceeds $20,000 or at least two separated claims payments with the cumulative amount exceeding he market value of the building. As of Jan. 2013, Rabun County has no residential or commercial repetitive loss properties.

Flood Plains Management

The Comprehensive Planning Act also requires that flood plains be considered in the local government planning process. As administratively defined, flood plains include land with a 1% or greater chance of flooding in any given year (100-year flood plain or base flood). The City of Clayton (NFIP #130157) and Rabun County (NFIP # 130156) participate in the National Flood Insurance Program (NFIP). The purpose of this Program is to minimize the loss of human life and health as well as to minimize public and private property losses due to flood conditions. The Program requires that potential flood damage be evaluated at the time of initial construction of structures, facilities and utilities, and that certain uses be restricted or prohibited based on this county evaluation. It also requires that potential homebuyers be notified that property is located in a flood area. In addition, all construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The minimum standards established by these codes provide reasonable protection to persons and property within structures that comply with the regulations for most natural hazards. To become eligible for the NFIP, local governments must adopt a flood plain management ordinance that is meant to decrease extreme financial and personal loss during and after flooding. The floodplain management ordinances also place certain restrictions on development in flood plain areas. To remain participating in the NFIP, local governments must also adhere to flood plain management practices like providing some planning assistance to developers who wish to build in known flood plains. In return, owners of buildings and homes located in flood plains, or Special Flood Hazard Areas (Zones A, AE, A1 –A30, AH, etc), are eligible for federally subsidized flood insurance and federal disaster assistance in the event of a major flood or a flash flood.

Steep Slopes

Like most of the Northeast Georgia region, there are large areas with slopes exceeding 30% in Rabun County, particularly within the Chattahoochee National Forest. Most of these steeper areas are found in the northern portions of Rabun County. The steepest portions of Rabun County are in the northwestern section of the county. Maps show areas of Rabun County with slopes generally in excess of 30%. Because the majority of the steep areas lie within the Chattahoochee National Forest and will primarily be used for recreational purposes, existing management practices should be adequate to protect them. However, other steep slope areas may not be adequately protected. As mentioned in previous sections, the county and municipalities are aware of the amendments to the Georgia Erosion and Sedimentation Act dealing with construction and development site erosion. Steep slopes and soil erosion are of concern in the Georgia Mountains region, but currently no specific erosion-due-to-steep-slopes regulations exist for just the Georgia Mountains region.

Multi-Jurisdictional Concerns

There are no special multi-jurisdictional concerns regarding floods in Rabun County. All of the communities are at equal risk to impacts from flooding in terms of washouts and landslides along steep slopes or flash floods in the lowlands along the various rivers and streams.

Community Mitigation Goals

Rabun County experiences a flood event at a rate of 1.5 times per year, most of which are not severe. The Rabun Co. HMPC identified specific mitigation goals they deemed necessary to lessen the impact of flooding. Such mitigation requires the community to know which areas and facilities are prone to flooding and the community must be aware of the location of the county's designated shelters.

There are two main mitigation goals for flooding within Rabun County:

1. Minimize the loss of life and property
2. Educate the public on what to do before, during, and after a flood

With any mitigation implemented, special attention needs to be paid to the vulnerable populations within Rabun County.

Identification & Analysis of Range of Mitigation Options

Though only certain portions of the county are in flood-prone areas, the Rabun County HMPC has recommended certain measures that can be implemented to protect the county as a whole. The committee has recommended more specific steps to protect specific vulnerable populations within the county. These vulnerable populations include

senior citizens, children, dense groups of citizens, and citizens who live in manufactured homes or unsafe homes. Mitigation strategies include both structural and non-structural mitigation measures. The structural mitigation recommendations presented emphasize new constructions, such as those built in a floodplain. Specific strategies could result in alterations to current policies and codes, through floodplain management, if approved.

Rabun County and the cities listed below participate in the National Flood Insurance Program (NFIP) and follow federal guidelines to ensure future development is carried out in the best interests of the public. According to NFIP guidelines, these communities have executed a Flood Damage Prevention Ordinance to minimize the loss of human life and health as well as to minimize public and private property losses due to flood conditions, The ordinance requires that potential flood damage be evaluated at eh time of initial construction of structures, facilities and utilities, and that certain uses be restricted or prohibited based on evaluation. The ordinance also requires that potential homebuyers be notified that property is located in a flood area. In addition, all construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition). The minimum standards established by these codes will provide reasonable protection to persons and property within structures that comply with the regulation for most natural hazards.

NFIP Participation (as of June, 2013)

Rabun Co.	130156	Dillard	130446	Tallulah Falls	130380
Clayton	130157	Mtn. City	130252	Sky Valley	130634

The City of Tiger is currently exploring measures necessary to bring themselves into compliance with the NFIP program, with assistance from the County and the GMRC.

As coordinated by the EMA Director and as part of their routine monitoring of the implementation efforts, Rabun County and the local governments will regularly speak with code enforcement and planning personnel to ensure the County and Cities are maintaining their NFIP compliance and participation. This includes maintenance of flood datasets and development regulations, communication with NFIP directors about program updates, and working with local landowners as flood hazard issues come about. In order to continue to comply with NFIP, flood-prone areas within the County will be re-mapped as necessary and allowed by funding, allowing communities to obtain more accurate information with regard to flooding than would be otherwise available.

Flood—Mitigation Strategy and Recommendation

The Rabun County HMPC recommends consideration of the following strategies:

WORK ELEMENT	STATUS/ PRIORITY	FUNDING	COST	RESPONSIBLE TO IMPLEMENT
Promote and distribute weather radios.	2 Years/ Med	General Fund of the County/CDBG/FEMA	$100,000	Public Works Department

Continue to enforce the county's Flood Damage Prevention Ordinance	Ongoing/ High	General Fund of the County/CDBG/FEMA	$25,000	County Marshal
Evacuation plans and shelter of citizens and supplies	2 years/ Med	General Fund of Municipalities/CDBG/FEMA	$1,000,000	EMA / County /Municipalities
Promote and sponsor emergency plans and exercises for public	On-going/ Med	General Fund of County and Municipalities/CDBG	$100,000	EMA / County / Municipalities
Encourage specialized training for public safety personnel	On-going/ Low	General Fund of County and Municipalities/CDBG	$1,000,000	EMA / County / Municipalities
City of Dillard Enforce Flood Plain Mgmt Ordinance that was adopted by the city	On-going/ High	General Fund of city/CDBG	TBD	Public Works Department
City of Dillard Maintain Sewer Plant services; 50 KW generator needed to maintain pumps and blowers in the event of a power outage	1 Year/ Low	General Fund of Municipality/ CDBG	$25,000	Public Works Department
City of Tallulah Falls Clear culverts and drainage ditches to help prevent flooding	1 Year/ Med	General Fund of County and Municipalities/CDBG	$10,000	Public Works Department
City of Tallulah Falls Inflatable rescue boat with motor. Life jackets (20) for emergency personnel Water rescue rope bags (5)	2 Years/ Med	General Fund of County and Municipalities/CDBG	$20,000 (for 1-3)	Police & Fire Departments
City of Sky Valley Install and maintain culverts in flood-prone areas	2 years/ Med	General Fund of Municipality/CDBG/FEMA	TBD	Public Works Department
City of Sky Valley Rescue plan for individuals stranded or otherwise in danger due to flood	2 years/ High	General Fund of Municipality/CDBG/FEMA	TBD	Police and Fire Departments
City of Tiger Install and maintain culverts in flood-prone areas	2 years/ Med	General Fund of Municipality/CDBG/FEMA	TBD	Mayor/Council
Mountain City Work with county to keep culverts and drainage ditches clear of debris to help prevent flooding	1 year/ Med	General Fund of County and Municipalities/CDBG	$15,000	Public Works Department

Local Public Information and Awareness Strategy

As with all potential hazards identified within this plan, the Rabun County HMPC recommends steps be taken to increase public awareness of flooding in order to reduce the likelihood of death, injury, and property loss. These steps may include school weather awareness programs, local newspaper articles detailing specific hazard mitigation techniques, distribution of informational materials, and countywide workshops. The public will also continue to be involved in the hazard mitigation planning process, including the implementation and periodic maintenance of this Hazard Mitigation Plan.

IV. Severe Thunderstorm

Hazard Identification

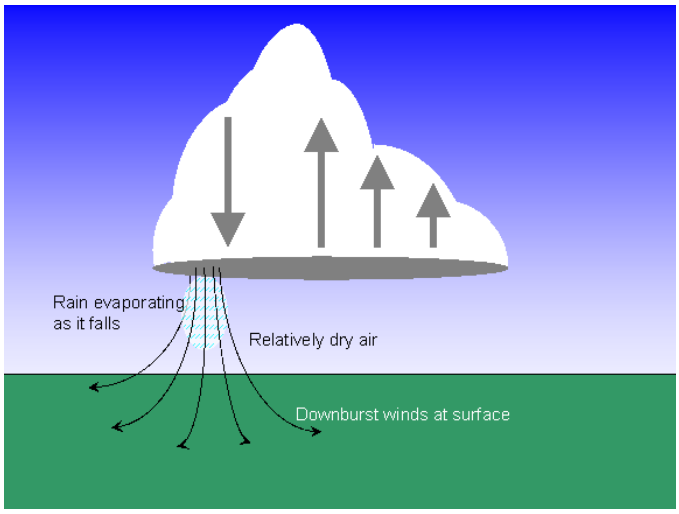
According to The National Weather Service, a severe thunderstorm is defined as a thunderstorm producing wind at or above 50 knots (58 mph) and/or hail ¾ of an inch in diameter or larger. These storms may produce high winds and lightning. The heavy rain of thunderstorms may cause flash flooding. The threshold of *severe* is met by approximately 10% of all thunderstorms. These storms can strike any time of year; but similar to tornadoes, they are most frequent in the spring and summer months.

Tornadoes and downbursts are two types of wind produced by thunderstorms. A downburst, the more predominant wind from a thunderstorm, is a localized area of damaging winds caused by air rapidly flowing down and out of a thunderstorm.[ii] Every thunderstorm produces a downburst. The typical downburst consists of only a 25 mph gusty breeze, accompanied by a temperature drop of as much as 20 degrees within a few minutes. Severe downburst winds have been measured in excess of 120 miles per hour, or the equivalent of an F2 tornado, on the Fujita Scale. Such winds have the potential to produce both a loud “roaring” sound and the widespread damage typical of a tornado. This is why downbursts are often mistaken for tornadoes.

Hail causes more monetary loss than any other type of thunderstorm-spawned severe weather. Annually, the United States suffers about one billion dollars in crop damage from hail.[iii] In addition, people have, on rare occasion, lost their lives from hail. 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. Unfortunately hail is often much larger than a dime and can fall at speeds in excess of 100 mph.

All thunderstorms contain lightning, which, on average, kills ninety-three people every year in the United States and injures hundreds of others.[iv] A possible contributing

reason for this is that lightning victims frequently are struck before or just after the occurrence of precipitation at their location, because most people associate lightning with rain. Lightning tends to travel the path of least resistance and often seeks out tall or metal objects.[v] With lightning, however, a "tall" object can be a building, a home, or a person standing in an open area. Lightning can and does strike just about any object in its path. Some of the most dangerous and intense lightning may occur with severe thunderstorms during the summer months, when outdoor activities are at their peak.



Profile Hazard Events

The Rabun County HMPC collected data from the National Climatic Data Center, the National Weather Service, numerous weather-related news articles, and other information in researching severe thunderstorms and their impact on the county. With most of the county's recorded severe thunderstorm events, only basic information was available. Therefore, any conclusions reached based on available information on severe thunderstorms within Rabun Co. should be treated as the minimal possible threat.

According to NCDC data, since 2004 there has been one significant lightning storm within Rabun County (5/15/10). However there have been 37 major thunderstorms with high winds and 31 hail events related to major storms in the area, including a major rainfall event around Lake Burton in May of 2009 that triggered flash flood concerns. Only 1 injury was recorded as a result of these storms, with the wind damage representing the source of most repair expenses. Despite the frequency of these events thunderstorms are not the most severe threat to the county unless coupled with torrential rains and flash flooding.

Severe thunderstorms occur more frequently than any other natural hazard event within Rabun County. Severe thunderstorms are a serious threat to the residents of Rabun County. During the past sixty years, documentation of 98 severe thunderstorm events

was found. Based on the entire fifty-year period, it can be inferred that a moderate severe thunderstorm event causing an undetermined amount of damage is likely to occur about once every seven months in Rabun County. This is the same as stating every year in Rabun Co. there is a 174% chance of a severe thunderstorm event.

Inventory Assets

In evaluating assets that are susceptible to severe thunderstorms, the committee determined that all public and private property is susceptible to severe thunderstorms, including all critical facilities. *Note: Please see Appendix A for detailed information on critical facilities within Rabun County.*

Land Use and Development Trends

Rabun County currently has no land use or development trends related to severe thunderstorms.

Multi-Jurisdictional Concerns

As with tornadoes, all of Rabun County can potentially be affected by severe thunderstorms. As a result, any mitigation steps taken to mitigate the effects of severe thunderstorms should be undertaken on a countywide basis.

Community Mitigation Goals

A severe thunderstorm presents a serious threat to the citizens of Rabun County. Thunderstorms may produce high winds, hail, lightning, and flash floods. All of these can be quite dangerous. Within the past ten years, Rabun County has averaged about seven severe thunderstorm events each year. The entire county could be affected by a severe thunderstorm at any given time; therefore any mitigation actions should be applied on a countywide basis.

The Rabun Co. HMPC has identified several courses of action that both local officials and citizens may use to mitigate the effects of a severe thunderstorm. There are three main mitigation goals for severe thunderstorms within Rabun County:

1. Minimize the loss of life and property
2. Maintain delivery of services
3. Educate the public on what to do before, during, and after a thunderstorm

With any mitigation implemented, special attention needs to be paid to the vulnerable populations within Rabun County.

Identification & Analysis of Range of Mitigation Options

All areas of Rabun County are at risk of experiencing severe thunderstorms. The committee has recommended more specific steps to protect specific vulnerable populations within the county. These vulnerable populations include senior citizens, children, dense groups of citizens, and citizens who live in manufactured homes or unsafe homes. Mitigation strategies include both structural and non-structural mitigation measures. The structural mitigation recommendations presented emphasize both new construction as well as modifications to older structures. Specific strategies could result in alterations to current policies and building codes if approved.

Severe Thunderstorm—Mitigation Strategy and Recommendation

The Rabun County HMPC recommends consideration of the following strategies:

WORK ELEMENT	STATUS/ PRIORITY	FUNDING	COST	RESPONSIBLE TO IMPLEMENT
Promote and distribute weather radios.	On-going/ Med	Individuals/General Fund of the County and Municipalities/CDBG/FEMA	$10,000	EMA / County / Municipalities
Improved communication system: 911 dispatch radios and equipment	2 to 3 years/ High	Individuals/General Fund of the County and Municipalities/CDBG/ FEMA	$1,000,000	EMA
Provision of safe shelters	On-going/ Low	General Fund of the County and Municipalities/ EMS/Red Cross/CDBG/ FEMA	$1,000,000	EMA / County / Municipalities / Red Cross
Tighten construction codes/standards	On-going/ High	General Fund of the County and Municipalities/CDBG/FEMA	$200,000 per year	County /Municipalities
Inspect manufactured and older homes for sound structure and appropriate anchoring	On-going/ Med	General Fund of the County and Municipalities/CDBG/FEMA	$100,000 per year	County / Municipalities / Planning Departments
Vulnerable population: develop a plan to make sure individuals with special needs are evacuated to proper shelter	On-going/ Med	General Fund of the County and Municipalities/CDBG/FEMA	$50,000	EMA / County / Municipalities

Maintain delivery of services Debris removal, Dump trucks, Chain saws, Tub grinder, Brush chipper, Bulldozer, Power saws, Bucket trucks, Traffic safety equipment Traffic directional devices: cones, barricades, etc	On-going/ High	General Fund of the County and Municipalities/CDBG/FEMA	$1,000,000	EMA / County / Municipalities
Emergency procedure plans	On-going / Med	General Fund of County and Municipalities/CDBG	$100,000	EMA / County / Municipalities
Encourage specialized training for public safety personnel	On-going/ Low	General Fund of County and Municipalities/CDBG	$1,000,000	EMA / County / Municipalities
City of Dillard Use city property as available for securing debris after storms	On-going / Low	General Fund of County and Municipalities/CDBG	TBD	Public Works Department
Purchase equipment for clearing debris after a severe thunderstorm	2 years/ Med	General Fund of County and Municipalities/CDBG	$20,000	Public Works Department
City of Tallulah Falls Upgrade warning system Additional siren needed for west side of town	2 years/ High	General Fund of County and Municipalities/CDBG	$5,000	Police & Fire Departments
Equipment for debris removal	2 years/ Med	General Fund of County and Municipalities/CDBG	$27,000	Police & Fire Departments
Maintain services and communication Generator for Fire Department Generator for Police Department Generator for Radio Communications Tower Generator for town well Portable radios (6) for fire and police Four-wheel ATV to access storm areas	2 years/ High	General Fund of Municipality/CDBG/FEMA	$50,000	Police & Fire Departments

City of Sky Valley Improved communication, Mobile command vehicle, Repeater system, Two-way mobile radios, Two-way portable radios, Laptop computers (4)	2 years/ High	General Fund of Municipality/CDBG/FEMA	$xxx	Police & Fire Departments
Debris removal, Bulldozer, Chain saws, Chipper truck with dump bed, Chipper, Protective barriers, Track hoe, 2.5 ton trucks Excavator, Tow-truck/wrecker, Tree-shearing arm	2 years/ Med	General Fund of Municipality/CDBG/FEMA	$xxx	Public Works Department
City of Tiger Adopt a post-development storm water ordinance, Reduce run-off velocities Improve water quality, Lessen chances of soil erosion	2 years / Med	General Fund of Municipality/CDBG/FEMA	$xxx	Public Works Department
Mountain City Will work with the county to encourage the purchase of a weather radio for each household, school, business, and government office in the county	1 year/ Med	General Fund of Municipality/CDBG/FEMA	$10,000	Mayor Council

Local Public Information and Awareness Strategy

As with all potential hazards identified within this plan, the Rabun County HMPC recommends steps be taken to increase public awareness of severe thunderstorms in order to reduce the likelihood of death, injury, and property loss. These steps may include school weather awareness programs, local newspaper articles detailing specific hazard mitigation techniques, distribution of informational materials, and countywide workshops. The public will also continue to be involved in the hazard mitigation planning process, including the implementation and periodic maintenance of this Hazard Mitigation Plan.

V. Wildfire

Hazard Identification

Note that there has been no significant change to this element from the 2004 edition of the plan due to the absence of incidents meeting the threshold regarded for wildfires.

Wildfire is any free burning and out of control forest fire, grassland fire, or urban-interface fire, which consumes the natural fuels and spreads in response to its environment. As with any other fire, for a wildfire to occur, there must be available oxygen, a supply of fuel, and enough heat to kindle the fuel. A large wildfire may crown, which means it may spread rapidly through the topmost branches of the trees before involving undergrowth or the forest floor. As a result, violent blowups are common in forest fires, and on rare occasion they may assume the characteristics of a firestorm.

A firestorm is a violent convection caused by a continuous area of intense fire and characterized by destructively violent surface in-drafts. Sometimes it is accompanied by tornado-like whirls that develop as hot air from the burning fuel rises. Such a fire is beyond human intervention and subsides only upon the consumption of everything combustible in the locality. No records were found of such an event ever occurring within Rabun Co., but this potential danger should be considered when planning mitigation efforts.

The threat of wildfire varies with weather conditions: drought, heat, and wind participate in drying out the timber or other fuel, making it easier to ignite. Once a fire is burning, drought, heat, and wind all increase its intensity. Topography also affects wildfire, which spreads quickly uphill and slowly downhill. Dried grass, leaves, and light branches are considered flash fuels; they ignite readily, and fire spreads quickly in them, often generating enough heat to ignite heavier fuels such as tree trunks, heavy limbs, and the matted duff of the forest floor. Such fuels, ordinarily slow to kindle, are difficult to extinguish. Green fuels (growing vegetation) are not considered flammable, but an intense fire can dry out leaves and needles quickly enough to allow ready ignition. Green fuels sometimes carry a special danger: evergreens, such as pine, cedar, fir, and spruce, contain flammable oils that burst into flames when heated sufficiently by the searing drafts of a wildfire.

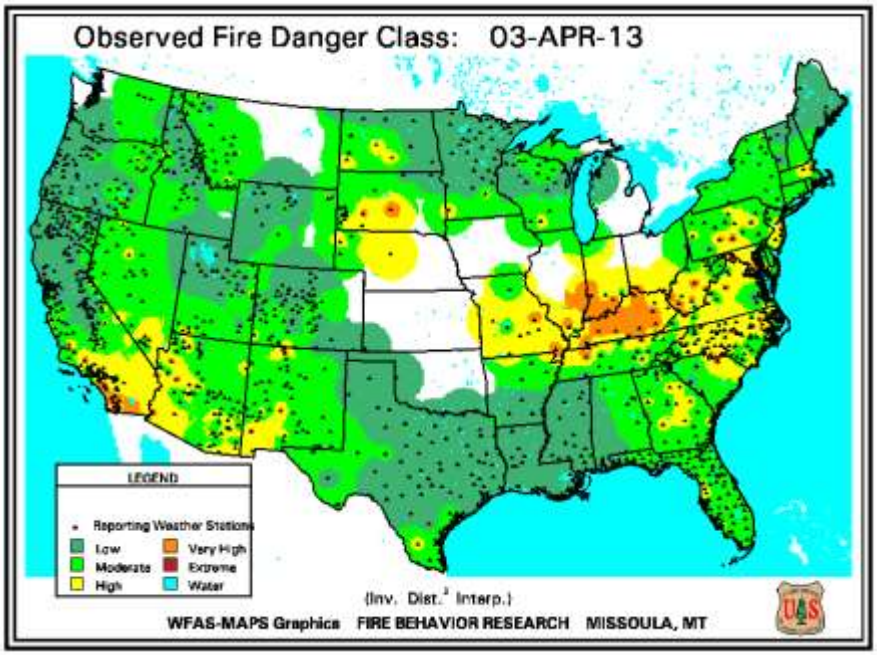
The control of wildfires has developed into an independent and complex science costing approximately $100 million annually in the United States. Because of the extremely rapid spreading and customary inaccessibility of fires once started, the chief aim of this work is prevention. However, despite the use of modern techniques (e.g., radio

communications, rapid helicopter transport, and new types of chemical firefighting apparatus) more than 10 million acres of forest are still burned annually. Of these fires, about two thirds are started accidentally by people, almost one quarter are of incendiary origin, and more than 10% are due to lightning.

Profile Hazard Events

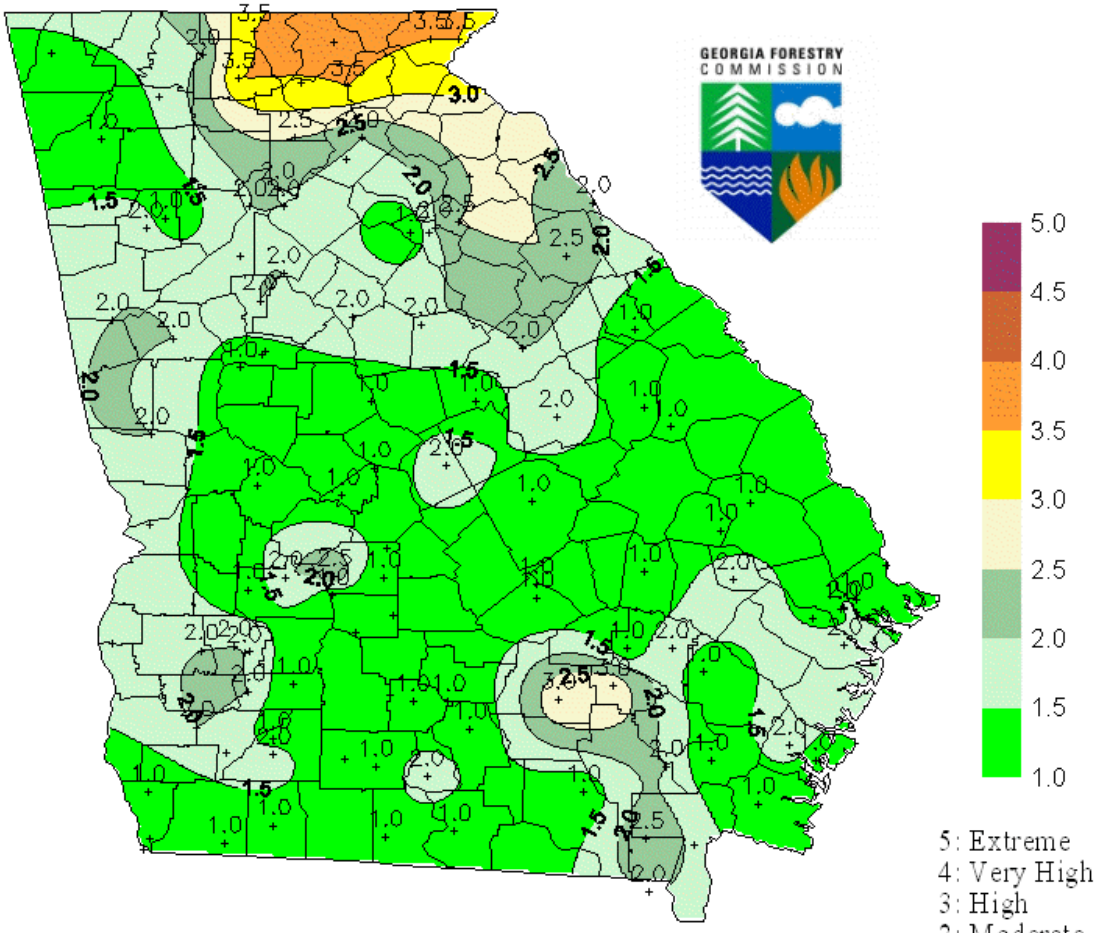
Wildfires are a serious threat to Rabun County due to the volume of woodland in the area. However, the frequency of these events is rated very low. Since 2004 there hasn't been a regional level occurrence classified as a major wildfire, only small fires on private property.

The potential has been there, however, for smaller fires to expand and grow very rapidly, particularly during times of drought. In 2007 and 2008 there were prominent drought conditions within Rabun County, leaving much of the area subject to the threat of wildfire. 2010 also saw low rain counts coming close to drought conditions.



Based on the entire fifty-year period, it is likely that a wildfire event will occur approximately 4.46 times per year within the County. This means that every year in Rabun Co. there is a 460% chance of a wildfire event. However, when only the past ten-year period is taken into consideration, the likelihood of such an even in Rabun Co. increases dramatically to a stunning 1480% chance per year (or about 14.8 wildfires per year). During the last ten-year period, an average of 6.17 acres burned during each wildfire event. This dramatic increase is primarily due to improved record keeping in recent decades. For these reasons, the HMPC believes looking at the past ten years, rather than the entire fifty-year period, provides the most accurate information. *Note: Please see Appendix B and Appendix C for detailed hazard history information and historical frequency calculations.*

Fire Danger Rating
as of April 5, 2013 230pm



Georgia Automated Environmental Mornitoring Network provided 75% of the stations in the map.

The Georgia Forestry Commission meteorologist produces the above map each afternoon at 230pm by utilizing National Fire Danger Rating System output from weather station locations across Georgia. Values are interpolated between the stations to produce the map.
The system is designed to cover large geographical areas. Localized conditions may differ from the above map based on local rainfall, windspeeds, and relative humidity.

For more detailed information select 'weather' on our web site.

If you have questions contact Daniel Chan at 1-800-GATREES.

Inventory Assets

In evaluating assets that are susceptible to wildfire, the committee determined that all public and private property is susceptible to wildfire, including all critical facilities. *Note: Please see Appendix A for detailed information on critical facilities within Rabun County.*

At the time this planning effort took place Rabun County's general threat of wildfire was classified as "low". However, this status can change from week to week based on conditions and local emergency personnel must be vigilant for times of drought and high wind. During the peak summer months when rainfall is less common and visitors to the woods is greater, the opportunities for wildfires increases dramatically.

Land Use and Development Trends

Rabun County currently has no land use or development trends related to wildfire. The volume of building activity in and adjacent to the woodlands is stable and well defined by government ownership of forest lands in the county.

Multi-Jurisdictional Concerns

Virtually all of Rabun County can potentially be affected by wildfire. The western and southern sections of Rabun County have the highest potential for wildfire due to the rural and underdeveloped nature of the areas. While there are small pockets within the Clayton, Dillard, and Sky Valley Rabun County that have a potential for wildfire, a more urbanized setting with fewer underdeveloped areas greatly limits the threat. There are few exceptions because of the common interface between urban developments and the forest. Any steps taken to mitigate the effects of wildfire should be undertaken on a countywide basis.

Community Mitigation Goals

A wildfire is an uncontrolled fire occurring in any natural vegetation. The threat of wildfire varies with weather conditions. Drought, heat, and wind participate in drying out the timber or other fuel, not only making it easier to ignite, but also intensifying a wildfire after it starts. Undeveloped, rural areas are more prone to experiencing a wildfire. However, grassy areas on the sides of roads may ignite if the grass is extremely dry due to drought conditions if a heat source, such as a vehicle pulling onto the side of the road, is introduced.

The Rabun Co. HMPC has identified several courses of action that both local officials and citizens may use to mitigate the occurrence and the effects of a wildfire. There are two main mitigation goals for tornadoes within Rabun County:

1. Minimize the loss of life and property
2. Educate the public on what to do to prevent wildfires and what to do during a wildfire

With any mitigation implemented, special attention needs to be paid to the vulnerable populations within Rabun County.

Identification & Analysis of Range of Mitigation Options

All areas of Rabun County are at risk of wildfires. The committee has recommended more specific steps to protect specific vulnerable populations within the county. These vulnerable populations include senior citizens, children, dense groups of citizens, and citizens who live in manufactured homes or unsafe homes. Mitigation strategies include both structural and non-structural mitigation measures. The non-structural mitigations include keeping right-of-ways mowed and public education about wildfires.

Wildfire—Mitigation Strategy and Recommendation

The Rabun County HMPC recommends consideration of the following strategies:

WORK ELEMENT	STATUS/ PRIORITY	FUNDING	COST	RESPONSIBILITY
County will minimize fuel sources in an effort to prevent wildfires. County will keep areas by streets mowed and clear of debris	On going/ Low	General Fund of County and Municipalities/CDBG	$50,000	Public Works Department
Educate the public on wildfires. Encourage specialized training for public safety personnel	1 year/ Low	General Fund of County and Municipalities/CDBG	$1,000,000	EMA / County / Municipalities
City of Dillard Keep the city street right-of-ways and vacant public lots trimmed, mowed, and cleared of excessive vegetation that would act as fuel should a wildfire occur.	On going/ Med	General Fund of County and Municipalities/CDBG	$25,000	Public Works Department
City of Tallulah Falls Prevent loss of life and property through firefighting efforts, Wildfire firefighting gear (15 sets), Portable water tank, 500 feet of one-inch forestry hose	On going/ High	General Fund of County and Municipalities/CDBG	TBD	Department
City of Sky Valley Keep city streets and property mowed and free of debris to reduce fuel for wildfires	On going/ Med	General Fund of County and Municipalities/CDBG	$25,000	Public Works Department

City of Tiger Keep the right-of-ways and vacant public lots mowed and cleared of excessive vegetation that would act as fuel should a wildfire occur.	On going/ Low	General Fund of County and Municipalities/CDBG	$25,000	Public Works Department
Mountain City Will keep the city street right-of-ways and vacant public lots trimmed, mowed, and cleared of excessive vegetation that would act as fuel should a wildfire occur.	On going/ Low	General Fund of County and Municipalities/CDBG	$15,000	Public Works Department

Local Public Information and Awareness Strategy

As with all potential hazards identified within this plan, the Rabun County HMPC recommends steps be taken to increase public awareness of wildfires in order to reduce the likelihood of death, injury, and property loss. These steps may include school fire awareness programs, local newspaper articles detailing specific hazard mitigation techniques, distribution of informational materials, and countywide workshops. The public will also continue to be involved in the hazard mitigation planning process, including the implementation and periodic maintenance of this Hazard Mitigation Plan.

VI. Drought

Hazard Identification

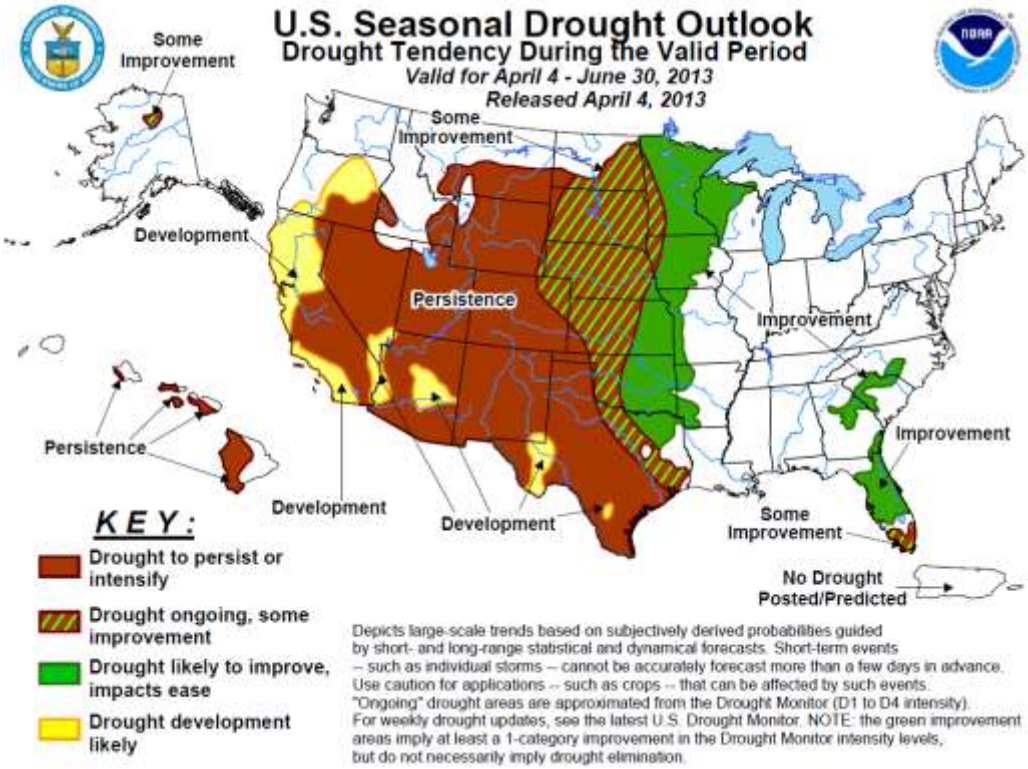
The definition of drought is a prolonged period of moisture deficiency. Drought is a normal, recurrent feature of climate. It occurs almost everywhere, although its features vary from region to region. These conditions originate from a deficiency of precipitation over an extended period of time, resulting in a water shortage. Drought conditions affect the development of crops and livestock as well as a water availability and water quality. Drought is also a key factor in wildfire development by making natural fuels (grass, brush, trees, dead vegetation) more fire prone.

Profile Hazard Events

The Rabun County HMPC reviewed historical data from the National Climatic Data Center, the Georgia Department of Natural Resources and the Georgia Forestry Commission in researching drought events of the county.

Rabun County most recently experienced drought conditions during the years from 1997 through 2004. Agricultural crop damage throughout the state during this period was reported to be in excess of $326 million. To date, agricultural losses have been the primary losses associated with drought. Because of the extremely unpredictable nature of drought (to include duration), reliably calculating a recurrence interval is difficult. The Hazard Frequency Table in Appendix C analyzes historical data from the past fifty years to provide a rough idea of the frequency of drought within the county.

Drought conditions have also been experienced in 2005, 2007 and 2009, suggesting either a growing trend toward more droughts or a lean time in terms of cyclical droughts. The 2007 and 2009 events were considered critical and endangered basic water supplies. Further, as a region north Georgia has grown more and more weary of drought conditions based on increased demands and compounding dry weather. Thus, though Rabun County may not be experiencing sharp conditions, the surrounding area has been under pressure and this could easily carry over into Rabun County.



Inventory Assets

Drought conditions typically pose little threat to structures. However, wildfire can be a direct result of drought and does present a significant threat to a majority of public and private property within the county, including critical facilities.

Land Use and Development Trends

Rabun County currently has no land use or development trends related to drought conditions.

Multi-Jurisdictional Concerns

Agricultural losses associated with drought are more likely to occur in the rural, less concentrated areas of the County. Although the City of Clayton is less likely to experience drought-related losses, it should still be included in any mitigation considerations.

Community Mitigation Goals

Drought occurs due to a deficiency of precipitation over an extended period of time, resulting in a water shortage. Drought can be extremely damaging to crops, but poses no threat to structures. The danger associated with a drought is because it is a key factor in the development of a wildfire.

The Rabun Co. HMPC has identified several courses of action that both local officials and citizens may use to mitigate the occurrence and the effects of a drought. There are two main mitigation goals for drought within Rabun County:

1. Minimize the effects of drought
2. Educate the public on what to do to prevent drought

With any mitigation implemented, special attention needs to be paid to the vulnerable populations within Rabun County.

Identification & Analysis of Range of Mitigation Options

All areas of Rabun County are at risk of drought. The committee has recommended more specific steps to protect specific vulnerable populations within the county. These vulnerable populations include senior citizens, children, dense groups of citizens, and citizens who live in manufactured homes or unsafe homes. Mitigation strategies include non-structural mitigation measures.

Drought—Mitigation Strategy and Recommendation

The Rabun County HMPC recommends consideration of the following strategies:

WORK ELEMENT	STATUS/ PRIORITY	FUNDING	COST	RESPONSIBLE TO IMPLEMENT
Minimize the effects of drought. Examine current water conservation ordinances.	On going/ Low	General Fund of County and Municipalities/CDBG	$25,000	Mayor/Council
Educate the public on how prevent drought. Distribute literature.	On going/ Med	General Fund of County and Municipalities/CDBG	$25,000	Public Works Department
City of Dillard Encourage water conservation through city ordinances and public education	On going/ Low	General Fund of County and Municipalities/CDBG	$25,000	Mayor/Council
City of Tallulah Falls Explore funding sources for back up water well, Explore funding sources for additional water tank storage	On-going/ Med	General Fund of County and Municipalities/CDBG	$200,000	Mayor / Council / Public Works
City of Sky Valley Encourage water conservation through city ordinances and public education	On going/ Med	General Fund of County and Municipalities/CDBG	$25,000	Mayor/Council
City of Tiger Coordinate with Rabun County and the Georgia Department of Natural Resources to implement the State of Georgia Drought Management Plan, including any necessary outdoor watering bans.	On going/ Med	General Fund of County and Municipalities/CDBG	$50,000	Mayor / Council / Public Works
Mountain City Will work with the county to enforce water use ordinances	On going/ Low	General Fund of County and Municipalities/CDBG	$15,000	Mayor / Council / Public Works

Local Public Information and Awareness Strategy

As with all potential hazards identified within this plan, the Rabun County HMPC recommends steps be taken to increase public awareness of drought in order to reduce the likelihood of death, injury, and property loss. These steps may include school drought awareness programs, local newspaper articles detailing specific hazard

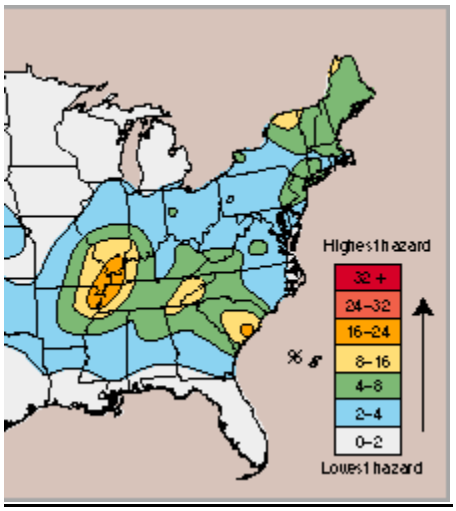
mitigation techniques, distribution of informational materials, and countywide workshops. The public will also continue to be involved in the hazard mitigation planning process, including the implementation and periodic maintenance of this Hazard Mitigation Plan

VII. Earthquakes

This element is new for the 2013 edition of the Rabun County Hazard Mitigation Plan due to interest from stakeholders.

Hazard Identification

One of the most frightening and destructive natural hazards is a severe earthquake. An earthquake is a sudden movement of the Earth, caused by the abrupt release of strain that has accumulated over a long time. The forces of plate tectonics shape the Earth as the huge plates that form the Earth's surface slowly move over, under, and past each other. Sometimes the movement is gradual. At other times, the plates are locked together, unable to release the accumulating energy. When the accumulated energy grows strong enough, the plates break free. If the earthquake occurs in a populated area, it may cause many deaths, injuries and extensive property damage.



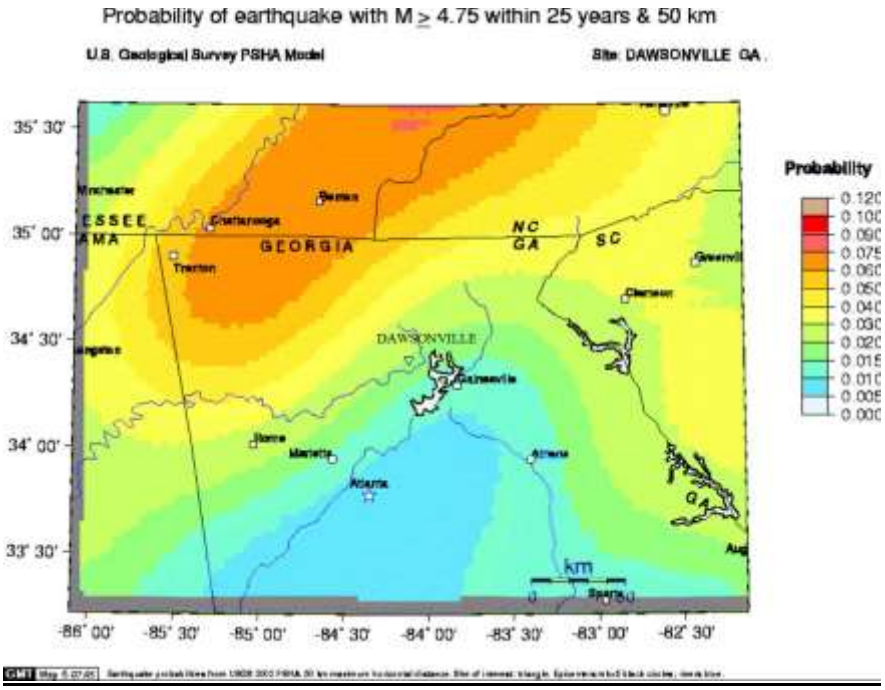
The goal of earthquake prediction is to give warning of potentially damaging earthquakes early enough to allow appropriate response to the disaster, enabling people to minimize loss of life and property. The U.S. Geological Survey conducts and supports research on the likelihood of future earthquakes. Ultimately, scientists would like to be able to specify a high probability for a specific earthquake on a particular fault within a particular year. Scientists estimate earthquake probabilities in two ways: by studying the history of large earthquakes in a specific area and the rate at which strain accumulates in the rock.

Scientists study the past frequency of large earthquakes in order to determine the future likelihood of similar large shocks. For example, if a region has experienced four magnitude 7 or larger earthquakes during 200 years of recorded history, and if these shocks occurred randomly in time, then scientists would assign a 50 percent probability to the occurrence of another magnitude 7 or larger quake in the region during the next 50 years. But in many places, the assumption of random occurrence with time may not be true, because when strain is released along one part of the fault system, it may actually increase on another part.

Another way to estimate the likelihood of future earthquakes is to study how fast strain accumulates. When plate movements build the strain in rocks to a critical level, like pulling a rubber band too tight, the rocks will suddenly break and slip to a new position. Scientists measure how much strain accumulates along a fault segment each year, how much time has passed since the last earthquake along the segment, and how much strain was released in the last earthquake. This information is then used to calculate the time required for the accumulating strain to build to the level that results in an earthquake. This simple model is complicated by the fact that such detailed information about faults is rare. In the United States, only the San Andreas Fault system has adequate records for using this prediction method.

Based on U.S. Geological Survey estimations using the first method described above, the probability of an earthquake of Magnitude 4.75 or more occurring within Rabun Co. over the next 25 years is between 1.5% and 2% (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 Rabun County.



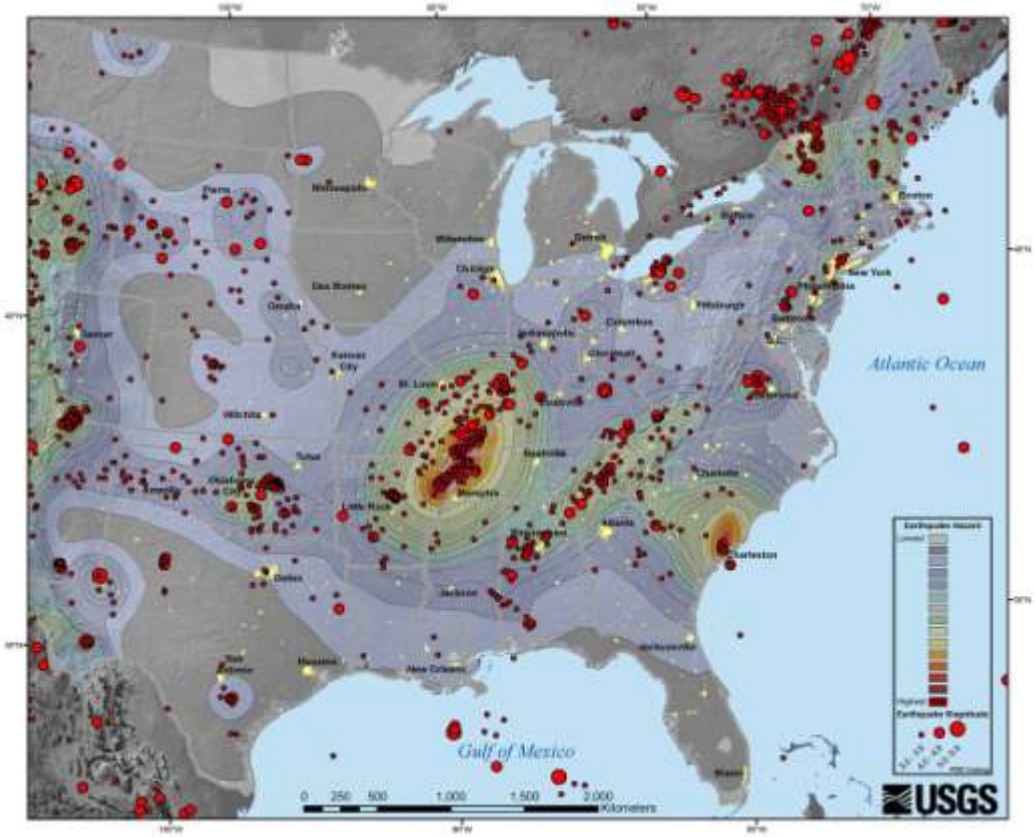
Magnitude and intensity measure different characteristics of earthquakes. Magnitude measures the energy released at the source of the earthquake and is determined from measurements on seismographs. Intensity measures the strength of shaking produced by the earthquake at a certain location and is determined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

Abbreviated Modified Mercalli Intensity Scale	Magnitude
I. Not felt except by a very few under especially favorable conditions.	**1.0 - 3.0**
II. Felt only by few persons at rest, especially on upper floors of buildings.	**3.0 - 3.9**
III. 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. 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.	**4.0 - 4.9**
V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.	
VI. Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.	**5.0 - 5.9**
VII. 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.	**6.0 - 6.9**
VIII. 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.	**7.0+**
IX. 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. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.	
XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.	
XII. Damage total. Lines of sight and level are distorted. Objects thrown into the air.	

Hazard Profile

The HMPC reviewed historical data from the National Oceanic and Atmospheric Administration, the National Climatic Data Center, and the U.S. Geological Survey in researching earthquake events of the County. Evidence of one earthquake is all that was found within the past fifty years. However, the State of Georgia has experienced seven earthquakes from 1974 to 2003 (see map below), according to USGS information. The HMPC was unable to determine which of these additional earthquakes affected Rabun Co. and, if so, to what degree. Nevertheless, the HMPC believes that these earthquakes would have occurred close enough to Rabun Co. (even if they occurred in south Georgia) to merit consideration. The threat of earthquakes in Rabun Co. may be more significant that the one documented earthquake incident would seem to indicate. There have been no local earthquakes since 2005.

Earthquakes, Magnitude 3.5 and greater 1974 to 2008



Assets Exposed to Hazard

All structures and facilities within Rabun County are susceptible to earthquake damage since they can occur in any portion of the County or City. Although the likelihood of a severe earthquake is slim, it is least likely to occur in the southern and southeastern sections of the County.

Land Use & Development Trends

Rabun County currently has no land use or development trends related to earthquakes.

Multi-Jurisdictional Concerns

Virtually all of Rabun County can potentially be affected by earthquakes. The threat is no greater within the City than it is within the County. Any steps taken to mitigate the effects of earthquake should be undertaken on a county-wide basis.

Mitigation Goals

Earthquakes have a great potential to cause injury, loss of life, and serious damage to public and private property, utilities, infrastructure, historical sites, crops, and livestock. Such events are uncommon within Rabun Co. As a matter of fact, no records of serious earthquake damage have been found for Rabun Co. Nevertheless, the tremendous destructive capacity of an earthquake requires the HMPC to consider mitigation strategies. The HMPC developed two main mitigation goals for drought within Rabun County. The first is to minimize the loss of life and property. The second is to prevent disruption of services to the public to the greatest extent possible.

Identification & Analysis of Range of Mitigation Options

The HMPC has recommended certain measures that can be implemented to protect the County as a whole, and more targeted steps to protect specific vulnerable populations within the County. With regard to earthquakes, these vulnerable populations include senior citizens and children. Specific strategies could result in alterations to current policies if approved.

Earthquake—Mitigation Strategy and Recommendation

The Rabun County HMPC recommends consideration of the following strategies:

WORK ELEMENT	STATUS/ PRIORITY	FUNDING	COST	RESPONSIBILITY
Loss Estimation Studies	Cancelled/ NA			cancelled due to low cost-benefit and other priorities
Overlay Study identifying slopes and most susceptible slopes	Proposed/ Med	General Fund/ CDBG/ FEMA	TBD	County GIS
Install warning sirens in each municipality throughout the county	On-going/ High	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities

Encourage the purchase of a weather radio for each household, school, business, and government office in the county	On-going/ High	General Fund/ CDBG/ FEMA	$10,000	EMA
Improved communication system for first responders	On-going/ High	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Providing or promote safe structures and more shelters	On-going/ Med	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Tighten construction codes/standards	On-going/ High	General Fund/ CDBG/ FEMA	$200,000 per year	County / Municipalities
Inspect manufactured and older homes for sound structure and appropriate anchoring	On-going/ Med	General Fund/ CDBG/ FEMA	$100,000 per year	County /Municipalities
Develop a plan to make sure individuals with special needs are evacuated to proper shelter	On-going/ Low	General Fund/ CDBG/ FEMA	$50,000	EMA / County / Municipalities
Equipment for excavation of trapped individuals	2015/ Med	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Equipment for debris removal	2014/ High	General Fund/ CDBG/ FEMA	$1,000,000	EMA / County / Municipalities
Public and EMS Education. Conduct emergency exercises with various county agencies, city agencies, utility companies	On-going Low	General Fund/ CDBG	$1,000,000	EMA / County / Municipalities
Encourage specialized training for public safety personnel	On-going / Low	General Fund/ CDBG	$1,000,000	EMA / County / Municipalities
City of Clayton Coordinate with Rabun County EMA/911 and Red Cross in setting up emergency shelters.	On-going/ Med	General Fund/ CDBG/ Red Cross	$5,000	EMA / County / Red Cross
City of Dillard Equipment for clearing debris.	2 Years/ High	General Fund/ CDBG	$700,000	Public Works Department
City of Tallulah Falls Siren west side of town	2 Years/ High	General Fund/ CDBG/ FEMA	$5,000	Police & Fire Departments
City of Tallulah Falls Equipment for debris removal	2 Years/ Med	General Fund/ CDBG/ FEMA	$27,000	Police & Fire Departments

City of Tallulah Falls Maintain services and communication Equipment for 4 Generators	2 Years/ High	General Fund/ CDBG/ FEMA	$30,000	Police & Fire Departments
City of Sky Valley Improved Communication Mobile command vehicle Repeater system Two-way mobile radios Two-way portable radios Laptop computers (4)	2 Years/ High	General Fund/ CDBG/ FEMA	$50,000	Police & Fire Departments
City of Sky Valley Equipment for excavation of trapped individuals	1-2 Years/ Med	General Fund/ CDBG/ FEMA	$50,000	Police & Fire Departments
City of Sky Valley Equipment for Debris Removal	1-2 Years/ High	General Fund/ CDBG/ FEMA	$50,000	Public Works Department
City of Sky Valley Evacuation Plans and Shelter of Citizens and supplies.	1-2 Years/ Low	General Fund/ CDBG/ FEMA	TBD	Police & Fire Departments
City of Tiger Evacuation Plans and Shelter of Citizens and supplies.	2 Years/ Med	General Fund/ CDBG/ FEMA	TBD	Mayor/Council
Rabun County Board of Education Emergency Procedure Plans Portable classroom units; Satellite telephones; Portable kitchen w/Generator	2 Years/ High	General Fund/ CDBG/ FEMA	$237,500 + $70,000 each year	Rabun County BOE
Rabun County Board of Ed. Improved communication during events Weather radios; Satellite telephones	2 Years/ High	General Fund/ CDBG/ FEMA	$8,000 + $70,000 per year	Rabun County BOE
Rabun County Health Department Acquire and maintain emergency medical supplies (Reference Dept. Inventory)	On-going/ Med	Individuals/General Fund of the County and Municipalities/CDBG/FEMA	$250,000 ??	Rabun County Health Dept
Mountain City Promote and distribute weather radio.	1 Year/ Med	General Fund of Municipality/CDBG/FEMA	$10,000	Mayor/Council

Local Public Information and Awareness Strategy – As with all potential hazards identified within this plan, the HMPC recommends steps be taken to increase public awareness of earthquakes in order to reduce the likelihood of injury, death, and property loss. These steps may include local newspaper articles detailing specific hazard mitigation techniques, distribution of informational materials, and county-wide workshops. The public will also continue to be involved in the hazard mitigation planning process, including the implementation and periodic maintenance of this Hazard Mitigation Plan. The County and its partners should also advance the internet application of all hazard mitigation measures, both to promulgate the Plan and implement those measures identified herein to increase citizen awareness and preparation. The County should also advance the use of Swift Reach 911 service throughout the community for any significant disaster.

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In accordance with FEMA guidelines, the Rabun County Hazard Mitigation Planning Committee (HMPC) also included information relating to technological or "human-caused" hazards into this plan. The term, "technological hazard" refers to incidents resulting from human activities such as the manufacture, transportation, storage, and use of hazardous materials. This plan assumes that hazards resulting from technological sources are accidental, and that their consequences are unintended. Unfortunately, the information relating to technological hazards is much more limited, due largely to the very limited historical data available. This causes a greater level of uncertainty with regard to mitigation measures. However, enough information has been gathered to provide a basic look at technological hazards within Rabun County.

VIII. Hazardous Materials Release

Hazard Identification

"Hazardous materials" (hazmat) refers to any material that, because of its quantity, concentration, or physical or chemical characteristics, may pose a real hazard to human health or the environment if it is released. Hazmat includes flammable and combustible materials, toxic materials, corrosive materials, oxidizers, aerosols, and compressed gases. Specific examples of hazmat are: gasoline, bulk fuels, propane, propellants, mercury, asbestos, ammunition, medical waste, sewage, and chemical, biological, radiological, nuclear, and explosive (CBRNE) threat agents. Specific federal and state guidelines exist on transport and shipping hazardous materials.

Profile Hazard Events

The Rabun Co. HMPC reviewed historical data from the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (DNR) and County records in their research involving hazardous material releases within Rabun Co. Hazmat releases are classified as either fixed releases, which occur when hazmat is released on the site of a facility or industry that works with hazmat, or transportation-related releases, which occur when hazmat is released during transport from one place to another. Fixed hazmat releases in Rabun Co. have outnumbered transportation-related hazmat releases by almost a three to one margin over the past half-century. However, this ratio has shrunk significantly to only two to one in the past decade. Today, it appears transportation-related hazmat releases pose a larger threat to Rabun Co. than fixed hazmat releases. This is due to the existence of heavily traveled U.S. and State Routes within the County that see the transport of hazmat on a daily basis.

Both fixed and transportation-related hazardous materials releases represent tremendous threats to Rabun County. During the past fifty-year period, documentation of 32 fixed hazmat release incidents was found. Based on this entire fifty-year period, there is a 64% chance per year that such an event will occur in Rabun County. During this same fifty-year period, there have also been 22 documented transportation-related hazmat releases. This equates to a 44% chance per year, or one such release about every 1.8 years.

The higher concentration of hazardous materials releases in the past decade is largely due to improved record keeping. Increases in demand for and production and transportation of hazardous materials in more recent years are also contributing factors

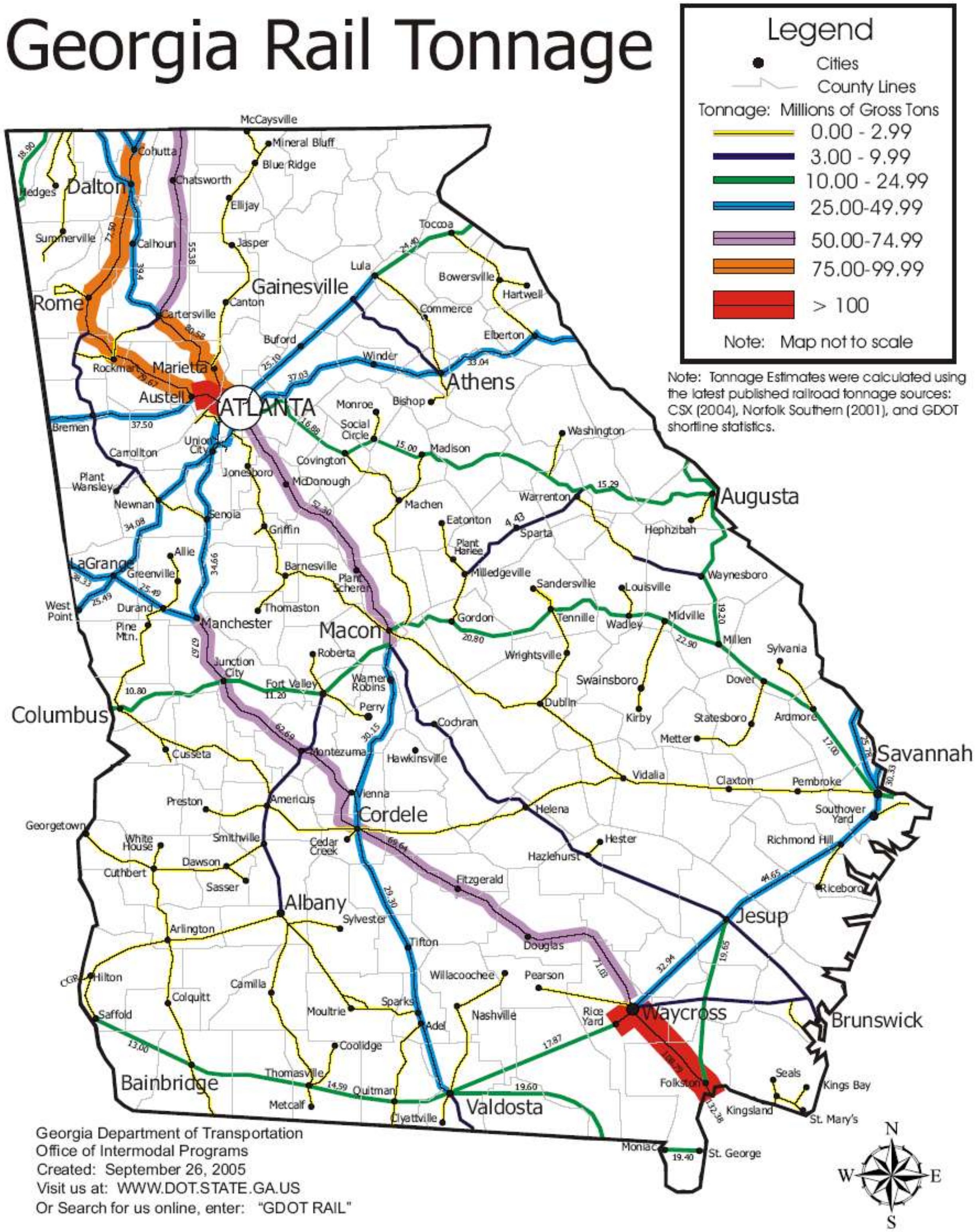
to this phenomenon. For these reasons, the HMPC believes consideration of the past ten years, rather than the entire fifty-year period, provides the most accurate information.

Assets Exposed to Hazard

The environment is especially vulnerable to hazardous materials releases. Waterways are at greatest risk of contamination. Research indicates that the waterways most often impacted by hazardous material spills in the County are the Little Tennessee River, Lake Burton, Patterson Creek, and Lake Rabun. Transportation-related hazmat releases contribute to most of the waterway contaminations. Such releases are also a potential threat to all property and persons within the major highway corridors of Rabun Co. due to the fact that certain hazmat releases can create several square miles of contamination. The same holds true of property and persons located in the vicinity of facilities or industries that produce or handle large amounts of hazardous materials. Historical data indicates that, for the most part, hazmat releases within the County have been relatively minor in nature. The most common hazmat releases include sewage, diesel, gasoline, oil, and silt.

Within Rabun Co. there are three listings on the current Environmental Protection Division's Hazardous Site Inventory (HSI). According to the EPD, the HSI is "*a list of sites in Georgia where there has been a known or suspected release of a regulated substance above a reportable quantity and which have yet to show they meet state clean-up standards found in the Rules for Hazardous Site Response. When a release of a regulated substance is discovered in soil or groundwater, the property owner must determine if the Rules for Hazardous Site Response require him to notify EPD about the release. If so, the property owner must submit a notification, and EPD determines if a release above a reportable quantity has occurred. EPD does this by using the Reportable Quantities Screening Method (RQSM). RQSM assigns numerical values to such factors as the toxicity, quantity, and physical state of the regulated substance released, how close the site is to nearby residents and drinking water wells, the degree to which the release is contained, the accessibility of the site, whether or not the release has resulted in exposure to nearby residents, and the presence of on-site sensitive environments. RQSM uses a mathematical equation to combine the numerical values for these factors into a single score for soil or groundwater. If this score is above a certain number for either soil or groundwater, a release exceeding a reportable quantity has occurred and the site is placed on the HSI.*"

The sites are divided into five classes based on *corrective action* required, whether a notice needs to be placed on the property deed, and what clean up standards need to be met. Two of the three listings from Rabun County are Class IV, Aid Corp spill (#10172) and Rabun Co.-Eastman Mountain Road Landfill (#10484), and one listing is Class I, Rabun Apparel (formerly Rabun Mills) spill (#10281). Class I sites are of the highest priority to the EPD. They are sites that: *have resulted in known human exposure to regulated substances, that have sources of continuing releases, or that are causing serious environmental problems.* [vi]


Georgia Rail Tonnage
Legend
Cities
County Lines
Tonnage: Millions of Gross Tons
0.00 - 2.99
3.00 - 9.99
10.00 - 24.99
25.00-49.99
50.00-74.99
75.00-99.99
> 100
Note: Map not to scale
Note: Tonnage Estimates were calculated using the latest published railroad tonnage sources: CSX (2004), Norfolk Southern (2001), and GDOT shortline statistics.
ATLANTA
Dalton
Rome
Gainesville
Athens
Augusta
Macon
Columbus
Savannah
Cordele
Albany
Jesup
Waycross
Brunswick
Bainbridge
Valdosta
Georgia Department of Transportation
Office of Intermodal Programs
Created: September 26, 2005
Visit us at: WWW.DOT.STATE.GA.US
Or Search for us online, enter: "GDOT RAIL"
N
W
E
S

Land Use & Development Trends

Rabun County currently has no land use or development trends related to hazardous materials releases.

Multi-Jurisdictional Concerns

All of Rabun County, including the City of Clayton, is vulnerable to both fixed and transportation-related hazardous materials releases.

Community Mitigation Goals

The transportation of hazardous materials on the roads of Rabun County occurs on a daily basis. Additionally, the storage and use of fuels and other chemicals at industrial and retail distribution facilities throughout the county also present a certain amount of danger. The Rabun County HMPC attempted to identify measures to address training and awareness concerns with a focus toward prevention of hazardous spills and protection of the environment if such spills do occur.

Identification and Analysis of Range of Mitigation Options

1. Structural and Non-structural Mitigation
   - A.) Public education of potential hazardous materials releases in Rabun County
   - B.) Training to ensure timely and effective warnings, efficient actions, and effective communications regarding hazardous materials releases and the associated dangers

2. Existing Policies, Regulations, Ordinances, and Land Use
   - A.) Continue to enforce local, state, and federal regulations regarding the transportation and storage of hazardous materials

3. Community Values, Historic, and Special Considerations
   - A.) Areas to be used for storage of hazardous materials should be inspected to ensure facilities are structurally sound and to determine which sites are more vulnerable to leaks or spills
   - B.) Populations in Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger identified as to contain vulnerable populations, such as nursing homes, hospitals, schools, or daycares, should be evaluated for vulnerability to hazardous spills

4. New Buildings and Infrastructure
   - A.) County officials will research, as funds become available, the possibility of creating new codes and ordinances regarding construction of hazardous materials storage facilities and infrastructures

5. Existing Buildings and Infrastructure
   A.) County officials will research, as funds become available, the possibility of creating new codes and ordinances regarding existing hazardous materials storage facilities and infrastructures

Hazardous Materials Spills-Mitigation Strategy and Recommendation

Goal #1: Mitigate the potential impacts of hazardous materials releases on the lives, property, and environment of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger

Objective #1: Reduce the level of vulnerability to the dangers of hazardous materials release in Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger through pre-planning efforts and training

Task A: Develop a public awareness campaign to provide the public with information regarding the threat of hazardous materials release in Rabun County and its municipalities through partnerships with emergency services, local media outlets, and industrial/corporate partners

- *Action Step:* Utilize local media outlets to produce and air Public Service Announcements regarding recognition of possible hazardous materials releases, information and resources available to the community, and measures that the public can utilize for self protection in the event of a hazardous materials release
  Responsible Organization: EMA with the support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
  Coordinating Organization: EMA, emergency response organizations, and local media, with support of commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
  Time Line: 1 year upon receipt of funding
  Approximate Cost: $50,000
  Funding Source: County (staff time/labor), grants

- *Action Step:* Offer the public, local businesses, and organizations support in planning for hazardous materials releases
  Responsible Organization: EMA, with support of commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger

Coordinating Organization: EMA, with support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
Time Line: 2 years upon receipt of funding
Approximate Cost: $50,000
Funding Source: County (staff time/labor), grants

Objective #2: To protect lives, property, and the environment by seeking training to adequately prepare local response services for initial response hazardous materials

Task A: Training for all emergency response personnel within Rabun County and its municipalities regarding initial response to hazardous materials releases

- *Action Step:* Utilize the OHS/GEMA Field Delivered Training program the Hazardous Materials (Initial Response to Hazardous Materials) course for all safety and emergency response personnel
  Responsible Organization: EMA, Fire Services, EMS, Law Enforcement, Communications personnel, with the support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
  Coordinating Organization: EMA, Fire Services, EMS, Law Enforcement, Communications personnel, with the support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
  Time Line: 2 years upon receipt of funding
  Approximate Cost: $50,000
  Funding Source: County (staff time/labor), grants
  Note: OHS/GEMA provides instructors and materials for this course free of charge

Task B: Training and equipment for hospital staff

- *Action Step:* EMA and Mountain Lakes Medial Center staff will explore funding options to establish a decontamination unit, which would be used in the event of a hazardous materials release in which individuals were injured
  Responsible Organization: Mountain Lakes Medial Center
  Coordinating Organization: Mountain Lakes Medial Center
  Time Line: 3 years upon receipt of funding
  Approximate Cost: $250,000
  Funding Source: Mountain Lakes Medical Center, grants

Goal #2: To reduce the risk of harm to responders and the public associated with hazardous materials releases in Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger

Objective #1: Protect responders and persons in the community through effective communications planning pertaining to hazardous materials response in Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger

Task A: Identify facilities known to house and utilize hazardous materials

- *Action Step:* Consider including in E-911 Communications planning the identification of facilities known to house and utilize hazardous materials and a procedure by which responders dispatched to those facilities would receive information pertinent to the hazards housed therein when appropriate. This information can be gathered through the SARA reporting process, which is required of facilities storing and using certain substances at or above specific amounts.
  Responsible Organization: E-911 Communications, with support of commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
  Coordinating Organization: E-911 Communications, emergency response organizations and agencies, with the support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
  Time Line: 3 years upon receipt of funding
  Approximate Cost: $100,000
  Funding Source: E-911 Communications Center, grants

Objective #2: Train and equip first response personnel to respond to hazardous materials releases in Rabun County

Task A: Find a suitable hazardous materials release training program for First Responders

- *Action Step:* Institute a hazardous materials release training program for First Responders
  Responsible Organization: Fire services, EMS, other first response organizations and/or agencies, with the support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
  Coordinating Organization: Fire services, EMS, other first response organizations and/or agencies, with the support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
  Time Line: 3 years upon receipt of funding
  Approximate Cost: $75,000
  Funding Source: County, Grants

Special Multi-jurisdictional Strategy and Considerations

Transportation concerns associated with roads and highways are major contributors to the number of hazardous materials releases in a community. The Rabun County HMPC recommends that any measure considered for implementation to address mitigation of hazardous materials spills be considered for implementation countywide.

Local Public Information and Awareness Strategy

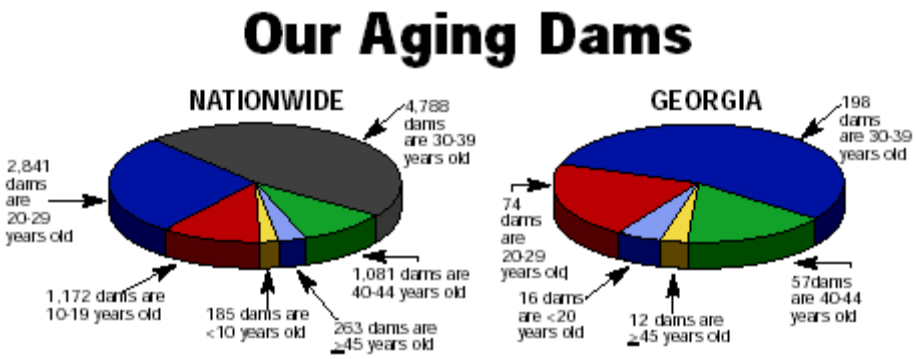
The Rabun Co. HMPC recommends utilizing the local media and emergency response agencies in a coordinated effort to educate the public through the use of Public Service Announcements. These announcements should address the issues of what hazardous materials are, the proper handlings of hazardous materials, and what steps should be taken in the event of a spill.

IX. Dam Failure

Hazard Identification

Georgia law defines a dam as any artificial barrier which impounds or diverts water, is 25 feet or more in height from the natural bed of the stream, or has an impounding capacity at maximum water storage evaluation of 100 acre-feet (equivalent to 100 acres one foot deep) or more. Dams are usually constructed to provide a ready supply of water for drinking, irrigation, recreation and other purposes. They can be made of rock, earth, masonry, or concrete or of combinations of these materials.

Dam failure is a term used to describe the major breach of a dam and subsequent loss of contained water. Dam failure can result in loss of life and damage to structures, roads, utilities, crops, and livestock. Economic losses can also result from a lowered tax base, lack of utility profits, disruption of commerce and governmental services, and extraordinary public expenditures for food relief and protection. National statistics show that overtopping due to inadequate spillway design, debris blockage of spillways, or settlement of the dam crest account for one third of all U.S. dam failures. Foundation defects, including settlement and slope instability, account for another third of all failures. Piping and seepage, and other problems cause the remaining third of national dam failures. This includes internal erosion caused by seepage, seepage and erosion along hydraulic structures, leakage through animal burrows, and cracks in the dam.



Profile Hazard Events

The Rabun County HMPC reviewed historical data from the Environmental Protection Division (EPD) within the Georgia Department of Natural Resources (DNR) as well as County records in their research involving dam failure within Rabun Co. Fortunately, Rabun Co. has never experienced a major dam failure. It is possible that some small private dams have been breached at some point in the past, but no records have been found to indicate any type of emergency response related to such a failure, or even that such a failure has taken place. However, the potential for such a disaster does exist, and the appropriate steps must be taken to minimize such risks. The Safe Dams Program helps do just that.

The Georgia Safe Dams Act of 1978 established Georgia's Safe Dams Program following the November 6, 1977 failure of the Kelly Barnes Dam in Toccoa, GA. Thirty-nine people lost their lives when the dam, which held back a 45-acre lake, breached and sent a 30-foot-high wall of water sweeping through Toccoa Falls College. The Environmental Protection Division (EPD) within the Georgia Department of Natural Resources (DNR) is responsible for administering the Program. The purpose of the Program is to *provide for the inspection and permitting of certain dams in order to protect the health, safety, and welfare of all citizens of the state by reducing the risk of failure of such dams.* The Program has two main functions: (1) to inventory and classify dams and (2) to regulate and permit high hazard dams.

Structures below the State minimum height and impoundment requirements (25 feet or more in height or an impounding capacity of 100 acre-feet or more) are exempt from regulation by the Georgia Safe Dams Program. The Program checks the flood plain of the dam to determine its hazard classification. The Program uses specialized software to build a computer model to simulate a dam breach and establish the height of the flood wave in the downstream plain. If the results of the dam breach analysis, also called a flood routing, indicate that a breach of the dam would result in a probable loss of human life, the dam is classified as Category I (high-hazard). Two dams have been classified as Category I dams within Rabun Co.: Little Tennessee River Watershed Structure #12 and Lake Toccoa Dam. Category II (low-hazard) dams are structures where dam failure would not be expected to result in loss of human life. Five dams have been classified as Category II dams within Rabun Co.: Rabun Gap-Nacoochee

School Lake Dam, Sky Valley Lake Dam, Posey Lake Dam, Irvin Lake Dam, and Blacks Creek Reservoir. There are six dams that are exempt from categorization.

As of July 2002, the Program's statewide inventory of dams consisted of 390 Category I dams, 3,268 Category II dams and 1,182 exempt dams. The Program noted that an additional 382 Category II dams needed to be studied for possible reclassification to Category I dams. The Safe Dams Program is responsible for the approval of plans and specifications for construction and repair of all Category I dams. In addition, Category I dams are continuously monitored for safety by Georgia EPD. The Program also offers assistance to local governments in understanding, implementing and maintaining compliance with the National Flood Insurance Program (NFIP).

Assets Exposed to Hazard

Areas most vulnerable to the physical damages associated with dam failure within Rabun County are the low-lying and downstream areas closer to Tiger and Tallulah Falls. Several other structures may also represent a similar threat; however, full knowledge of the threat these structures represent won't be known until a Safe Dams Program study is fully completed. Although physical damages associated with dam failure would be limited to certain areas, the damage to the local economy and problems associated with delivery of water and other utilities could be felt countywide.

Land Use & Development Trends

There are no land use or development trends relevant to the hazard of dam failure. Rabun County and the City of Clayton participate in the National Flood Insurance Program (NFIP). According to NFIP guidelines, the county executed Resolution No. 60215 on June 13, 1985 establishing the Rabun County Flood Damage Prevention Ordinance. The purpose of this program is to minimize the loss of human life and health as well as to minimize public and private property losses due to flood conditions. The program requires that potential flood damage be evaluated at the time of initial construction of structures, facilities and utilities, and that certain uses be restricted or prohibited based on this county evaluation. The program also requires that potential homebuyers be notified that property is located in a flood area. In addition, all construction must adhere to the Georgia State Minimum Standard Codes (Uniform Codes Act) and the International Building Code (2000 edition).

Multi-Jurisdictional Concerns

The southern portions of the county, including Tiger and Tallulah Falls, are most at risk from dam failures.

Community Mitigation Goals

The Environmental Protection Division's Safe Dams Program provides guidance on the maintenance of and repair alternatives to dams within Georgia. Of the dams in Rabun

County, two dams have been classified as Category I dams within Rabun County: Little Tennessee River Watershed Structure #12 and Lake Toccoa Dam. Category II (low-hazard) dams are structures where dam failure would not be expected to result in loss of human life. Five dams have been classified as Category II dams within Rabun Co.: Rabun Gap-Nacoochee School Lake Dam, Sky Valley Lake Dam, Posey Lake Dam, Irvin Lake Dam, and Blacks Creek Reservoir. There are six dams that are exempt from categorization.

Identification and Analysis of Range of Mitigation Options

The Rabun County Hazard Mitigation Plan Committee makes the following recommendations in regard to dam failure or dam release:

1) Structural and Non-Structural Mitigation
   - A.) Public education of the danger of dam failure in Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
   - B.) Provide the public and response community with information regarding prevention and protective measures

2) Existing Policies, Regulations, Ordinances, and Land Use
   - A.) Rabun County, Clayton, Dillard, And Mountain City participate in the NFIP and comply with the criteria for membership required by the NFIP. Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger have no other ordinance, code, or regulation specifically addressing dam failure at this time.

3) Community Values, Historic, and Special Consideration
   - A.) Facilities and areas known to be vulnerable to the hazard of dam failure should be evaluated for specific

4) New Buildings and Infrastructure
   - A.) There are no known local ordinances or codes addressing new construction and infrastructure specifically pertinent to the threat of dam failure in Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger aside from the construction codes adopted by the county already addressed within this document and membership requirements of the NFIP.

5) Existing Buildings and Infrastructure
   - A.) There are no local ordinances or codes addressing existing construction and infrastructure specifically pertinent to the threat of dam failure in effect in Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger aside from the construction codes adopted by the county already addressed within this document and membership requirements of the NFIP.

Dam Failure – Mitigation Strategy and Recommendation

1.) *Goal #1:* Mitigate the potential impact of dam failure on Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
   a. *Objective #1:* Decrease the level of vulnerability to the negative impacts of dam failure on Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger through pre-planning efforts
      i. *Task A:* Develop a public awareness campaign in partnership with the local media to educate the public about the dangers of a dam break through the use of Public Service Announcements
      Responsible Organization: EMA with the support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
      Coordinating Organization: EMA, Fire services, EMS, other first response organizations and/or agencies, with the support of the commissions of Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger
      Time Line: 2 years upon receipt of funding
      Approximate Cost: $50,000
      Funding Source: County (staff time/labor), grants

Special Multi-jurisdictional Strategy and Considerations

Though some specific areas of the county may be less physically vulnerable to the negative impacts of a dam failure in Rabun County, the potential long-term effects on the community as a whole are significant. Environmental and economic impacts could threaten the community for extended periods of time, depending on the individual circumstances associated with a dam failure. Also, water quality and availability could be compromised in all areas of the county. Taking this into consideration, the HMPC recommends that any measure considered for implementation in order to mitigate the potential effects of dam failure be implemented countywide.

Local Public Information and Awareness Strategy

The Rabun Co. HMPC recommends utilizing the local media and emergency response agencies in a coordinated effort to provide Public Service Announcements. They also recommend making available persons to publicly address the dangers associated with dam failures in Rabun County, Clayton, Dillard, Mountain City, Sky Valley, and Tiger, and to provide contact information to facilitate more communication with the public.

PLAN EXECUTION 3

COMMUNICATION AND OUTREACH

The Rabun County Hazard Mitigation Plan will ultimately be adopted by each jurisdiction by act of public resolution in 2013. This will ensure the citizens of each jurisdiction will have had opportunity to provide direct comments to their own elected officials and that the document will be formally recognized by the governing bodies.

Rabun County and the Cities of Clayton, Dillard, Mountain City, Sky Valley, and Tiger are in the process of updating their Comprehensive Plan in. The goals and objectives identified within the Rabun County Hazard Mitigation Plan will be incorporated into the Comprehensive Plan, as well, to ensure consistency across documents. Local officials and various departments will use the entire Comprehensive Plan as a planning document to reduce the occurrence and effects of natural and technological hazards as deemed necessary. Rabun County and the municipalities will also, as necessary, incorporate elements of the plan into their respective *Building Codes and Subdivision Regulations*. The Rabun County Commission, Cities of Clayton, Dillard, Mountain City, Sky Valley and Tiger will act accordingly to bring mitigations to fruition as adequate funding becomes available.

The Rabun County Hazard Mitigation Plan will be distributed to the following departments:

- The Georgia Office of Homeland Security/ Georgia Emergency Management Agency

- County and Municipal Governments
  - Rabun County
  - City of Clayton
  - City of Dillard
  - City of Mountain City
  - City of Sky Valley
  - City of Tiger

- Emergency Service Departments and Agencies
  - Rabun County EMA
  - Rabun County EMS
  - Rabun County Sheriff's Office
  - Rabun County Volunteer Fire Services
  - Mountain Lakes Hospital
  - Clayton Police Department
  - Sky Valley Police Department
  - Mountain City Police Department

- Public Service Departments and Agencies:
  - Rabun County Road Department
  - Rabun County Public Health Department
  - Rabun County DFACS
  - Clayton Public Works Department
  - Sky Valley Public Works Department
  - Dillard Public Works Department

- Planning and Development Authorities:
  - Rabun County Development Authorities

- Public Information Outlets
  - Rabun County Public Library
  - Copies of the plan will be made available upon request to other persons or entities desiring a copy

MAINTENANCE AND IMPLEMENTATION

The Rabun County Emergency Management Agency is responsible for maintaining and updating the Rabun County Hazard Mitigation Plan. The RCEMA will review the plan on an annual basis and make necessary changes as needed, and will maintain the advisory committee of representatives from agencies, municipalities, and private citizens within the county. The committee is required to meet annually. The county may call special meetings to address issues deemed necessary. All meetings will be advertised in a timely manner prior to each meeting to 9insure public involvement. Copies of any and all changes will be forwarded to all members of the committee and the recipient departments of the plan. Any and all changes made to the Rabun County Hazard Mitigation Plan will be forwarded to the Georgia Emergency Management Authority for review.

Local resources to assist with Plan implementation include a variety of local government regulations, measures and policies. The table below represents a basic overview of these resources employed in/for each community in Rabun County.

In addition to these resources, the stakeholders in Rabun County, as coordinated by the EMA Director and as part of their routine monitoring of the implementation efforts, will regularly speak with code enforcement and planning personnel to ensure the County and Cities are maintaining their NFIP compliance and participation. This includes maintenance of flood datasets and development regulations, communication with NFIP directors about program updates, and working with local landowners as flood hazard issues come about. In order to continue to comply with NFIP, flood-prone areas within the County will be re-mapped as necessary, allowing communities to obtain more accurate information with regard to flooding than would be otherwise available.

	Rabun County	Clayton	Tallulah Falls	Tiger	Mountain City	Dillard	Sky Valley
Policies							
Building Codes	X	X	X	X	X	X	X
Zoning	X	X	X		X	X	X
Subdivision Regulations	X	X				X	X
Fire Prevention Codes	X	X	X	X	X	X	X
Floodplain Mgmt.	X	X	X	X	X	X	X
Programs/ Plans							
Comprehensive Plan	X	X	X	X	X	X	X
Local Emergency Response Plan	X	X	X	X	X	X	X
Local Hazard Mitigation Plan	X	X	X	X	X	X	X
Resources							
Local Emergency Mgmt.	X	Provided through the County					
Local Fire Station	X	X	X			X	
Regional Commission (Planning and Econ. Dev.)	X	X	X	X	X	X	X

As with the previous Hazard Mitigation Plan, Rabun County will incorporate the Rabun County Hazard Mitigation Plan 2013 as an addendum to the Rabun County Comprehensive Plan. The Hazard Mitigation Plan 2013 will also be referenced in future capital improvement plans as well as reviews of zoning and land use plans.

SUMMARY 4

Rabun County recognizes that it is at risk to several types of natural and man-made disasters, and that to better prepare for these events the County and its partners must go through this hazard mitigation planning exercise. The findings within this document represent the latest in this regard, and identifies herein the critical issues, objectives and strategies outlined for Rabun County so as to mitigate the impacts of hazardous events in the future.

This plan was developed in compliance with the standards and ideals of hazard mitigation planning as defined by the Federal Emergency management Authority, and will serve as the official Hazard Mitigation Plan for Rabun County, Georgia, from 2013 forward, until it has been duly and fully updated and replaced.

References

Publications/Documents:
The Disaster Mitigation Act of 2000
Robert T. Stafford Disaster Relief and Emergency Assistance Act
FEMA Pre-Disaster Mitigation *How-to Guides #1, 2, 3, 7*
GEMA Supplements to FEMA Pre-Disaster Mitigation How-to Guides
Georgia Tornado Database 1808 – 2002 (Westbrook)

Web Sites:
www.fema.gov (FEMA)
www.usfa.fema.gov (USFA)
www.fs.fed.us (USFS Fire Danger Class)
www.cpc.ncep-noaa.gov (Drought Severity Index)
www.ncdc.noaa.gov (National Climatic Data Center)
http://eqint.cr.usgs.gov (USGS Earthquake Probability Maps)
www.tornadoproject.com (Tornado Project Online)
www.disastercenter.com (The Disaster Center)
www.gema.state.ga.us (GEMA)
www.gfc.state.ga.us (GFC)
www.georgiadrought.org (Drought in Georgia)

Other Sources:
American Red Cross
American Society of Civil Engineers
Federal Emergency Management Agency
Georgia Department of Natural Resources
Georgia Emergency Management Agency
Georgia Forestry Commission
Georgia Safe Dams Program
National Climatic Data Center
National Oceanic & Atmospheric Administration

National Weather Service
U.S. Army Corps of Engineers
U.S. Fire Administration
U.S. Forest Service
U.S. Geological Survey

APPENDICES

APPENDIX A – CRITICAL FACILITIES DATABASE AND MAPS

APPENDIX B - RELATED RABUN COUNTY PLANNING RESOURCES

APPENDIX C – PUBLIC PARTICIPATION DOCUMENTATION

APPENDIX D – GLOSSARY

APPENDIX A – CRITICAL FACILITIES DATABASE

An inventory of the critical facilities for Rabun County and the City of Rabunville has been compiled in an Excel workbook (see attached) in compliance with the requirements outlined by GEMA. These facilities were identified for their significance in maintaining/ restoring necessary operations within the community in the event of a major disaster. This includes fire stations, medical facilities and other structures vital to providing life saving and protective services to Rabun County.

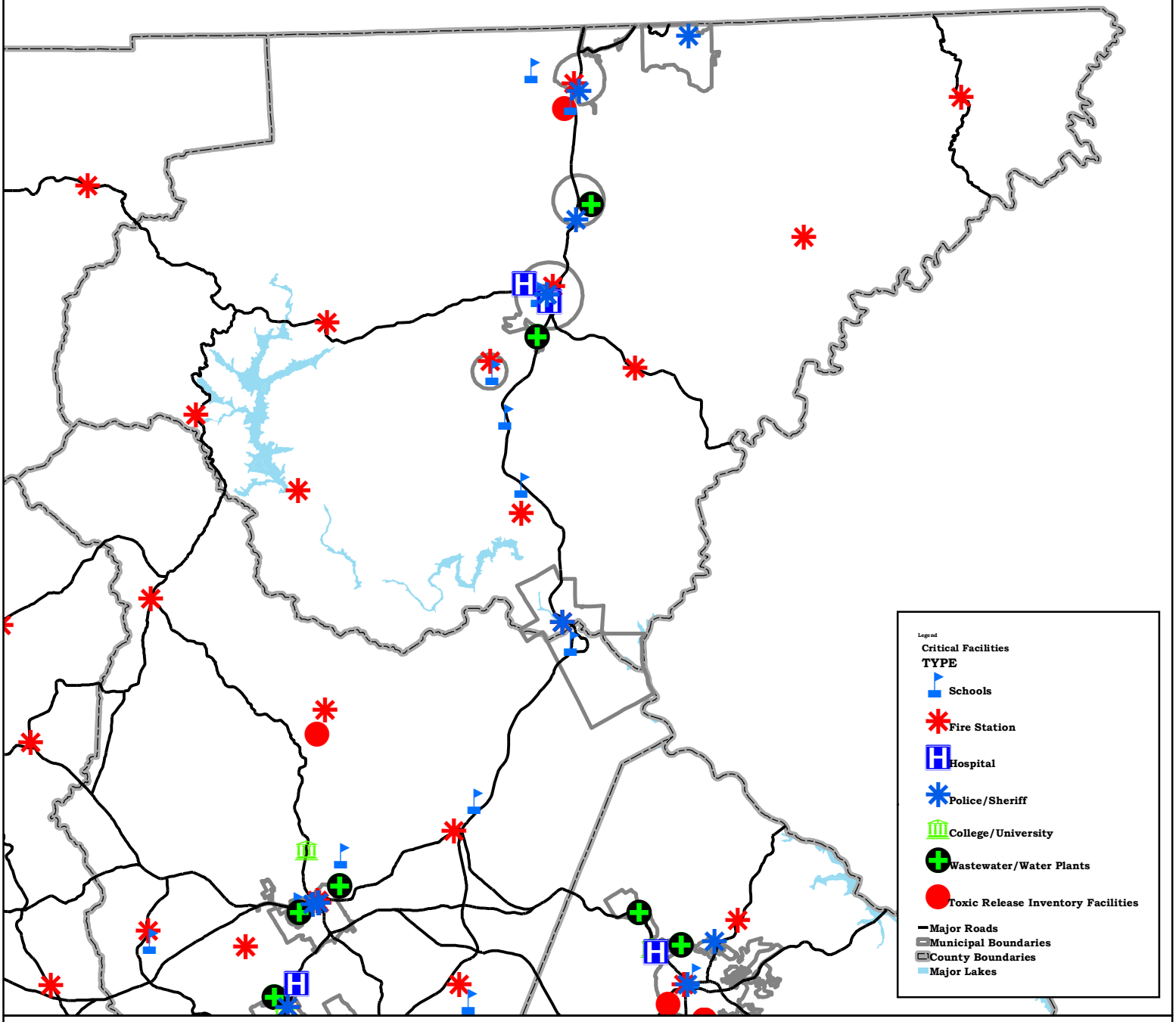
Where applicable, secondary critical facilities have been identified and listed, as well. These facilities may not be directly related to the provision of life saving operations but their function does impact the performance of Rabun County Emergency Services. These include bridges, culverts and public enterprises considered of high importance to Rabun County residents.

Maps illustrating the location of critical facilities, including their relationship to potential hazardous areas, are included within this appendix.

Sorting for Flood Hazard Countywide -- Grouped by Hazard Score

Record ID	Government Jurisdiction	Type	Name or Structure Description	essential	transport ation	lifeline	hipotential	hazmat	important	vulnerable pop.	economi c assets	special consider ation	historic consider ation	other	Size of Bldg (sq. ft.)	Replace ment value ($)	Replace- ment value year	Daytime Occupants	Hazard score
2120	Rabun County	Fire Station	Wildcat Fire Dept	false	false	false	false	false	true	false	false	false	false	false	1800	175000.0	1994	12	3
2181	Clayton city	Wastewater Treatment Plant	Clayton WPCP	false	false	false	false	false	false	false	false	false	false	false	2000	1000000.0	1997		3
13350	Rabun County	Recycling Center	Rabun Gap Recycling Center	false	false	false	false	true	false	false	false	true	false	false	400	32000.0	1997	1	3
13351	Rabun County	Center	Chechero Recycling Center	false	false	false	false	true	false	false	false	false	false	false	400	32000.0	1997	1	3
13369	Rabun County	County Jail	Rabun County Detention Center	false	false	false	false	false	false	false	false	false	false	false	6000000	6000000.0	2005	120	3
13352	Tiger town	Recycling Center	Charlie Mtn Recycle	false	false	false	false	true	false	false	false	false	false	false	100	25000.0	2004	1	0
13353	Tiger town	Transfer Station	Transfer Station	false	false	false	false	false	false	false	false	false	false	false	5000	219190.0	1996	8	0
13356	Clayton city	Other	County Shop	false	true	false	false	false	true	false	false	false	false	false	7100	270532.0	1994	36	0
13357	Clayton city	Other Emergency	Clayton Baptist Church	true	false	false	false	false	true	true	false	true	false	false	24000	1462850.0	1994	300	0
13358	Dillard town	Services Emergency	EMS North	false	false	false	false	false	true	false	false	true	false	false	6970	243980.0	1994	5	0
13359	Clayton city	Services	Rabun County 911	false	false	true	false	false	true	false	false	true	false	false	10230	389100.0	1994	10	0
13361	Rabun County	Other	Rabun Business Park	true	false	false	false	false	true	true	TRUE	false	false	false	978000	7933770.0	1994	450	0
13362	Clayton city	Pre-kindergarten Emergency	Rabun County Head Start	false	false	false	true	false	true	true	false	true	false	false	15372	701840.0	1994	175	0
13365	Tiger town	Services Emergency	Rabun County EMA	false	false	false	true	false	false	false	false	true	false	false	6000	227030.0	2001		0
13366	Clayton city	Services	Rabun County EMS Central	false	false	false	false	false	true	false	false	true	false	false	10230	389100.0	1996	9	0
13367	Rabun County	Other Elementary	Georgia Power Operation	false	false	false	true	true	true	false	false	false	false	false	60000	1000000.0	1994	40	0
13368	Tiger town	School	Rabun County Elementary	false	false	false	false	false	false	false	false	false	false	false	1000000	5000000.0	2005	280	0
2196	Rabun County	Water System	City of Clayton	false	false	false	false	false	false	false	false	false	false	false	30000	150000.0	1998		0
2220	Rabun County	City Hall	Tiger City Hall	false	false	false	false	false	false	false	false	false	false	false	2000	120000.0	1994		0
2221	Clayton city	City Hall	Clayton City Hall	false	false	false	false	false	true	false	false	false	false	false	3156	167190.0	1994	10	0
2223	Dillard town	City Hall	Dillard City Hall	false	false	false	false	false	true	false	false	true	true	false	20656	691070.0	1994	2	0
2224	Sky Valley city	City Hall	Sky Valley City Hall	false	false	false	false	false	false	false	true	false	false	false	1024	58740.0	1994	6	0
2238	Tiger town	High School	Rabun County Middle/High	false	false	false	false	false	false	false	false	false	false	false	160000	1.116288E7	1994	400	0
2277	Clayton city	Sheriffs Office	Rabun County Sheriff's Office	false	false	false	false	false	false	false	false	false	false	false	2000	2000000.0	1994	10	0
2287	Tallulah Falls town	Police Station	Tallulah Falls Police Department	false	false	false	false	false	false	false	false	false	false	false	30000	175000.0	1994		0
2289	Rabun County	Police Station	Mountain City Police Department	true	false	false	false	false	false	false	false	false	false	false	1664	91790.0	2004	2	0
2290	Dillard town	Police Station	Dillard Police Department	false	false	false	false	false	false	false	false	false	false	false	300000	35800.0	1994	2	0
2291	Rabun County	Police Station	Sky Valley Police Department	true	false	false	false	false	false	false	false	false	false	false	300	50000.0	1994		0
2298	Rabun County	Marshals Office	Rabun County Marshal's Office	false	false	false	false	false	false	false	false	false	false	false	300	75000.0	1994		0
12507	Clayton city	Hospital, Admissions Entrance	Mountain Lakes Medical Cnter	true	false	true	false	false	true	true	false	true	false	false	74288	6480570.0	1994	120	0
13340	Clarkesville city	Recycling Center	Larel Lodge Recycle	false	false	false	false	true	false	false	false	true	false	false	400	32000.0	1997	1	0
13341	Tallulah Falls town	Recycling Center	Tallulah Falls Recycle Center	false	false	false	false	true	false	false	false	true	false	false	400	32000.0	1997	1	0

2121	Rabun County	Fire Station	Lakes Fire	false	false	false	false	false	true	false	false	false	false	false	18000	75000.0	1994	12	0
2122	Clayton city	Fire Station	Clayton Volunteer Fire Department/ Police	false	false	false	false	false	false	false	false	false	false	false	3500	4000000.0	1994	12	0
2123	Clayton city	Fire Station	Warwoman Volunteer Fire Department	false	false	true	false	false	false	false	false	false	false	false	45000	125000.0	1994	12	0
2124	Clayton city	Fire Station	Satolah Volunteer Fire Department	false	false	false	false	false	true	false	false	false	false	false	1800	275000.0	1994	12	0
2125	Rabun County	Fire Station	Chechero Volunteer Fire Department	false	false	false	false	false	true	false	false	false	false	false	3600	175000.0	1994	12	0
2126	Dillard town	Fire Station	Valley Volunteer Fire Department	false	false	false	false	false	true	false	false	true	false	false	2500	175000.0	1994	12	0
2172	Clayton city	Courthouse	Rabun County Courthouse	false	false	false	false	false	true	true	false	false	false	false	45000	2121290.0	1994	40	0
1522	Rabun County	Elementary School	South Rabun Elementary School	false	false	false	false	false	false	false	false	false	false	false	45664	2035890.0	1994	275	0
1524	Dillard town	Elementary School	Rabun Gap Community School	false	false	false	true	false	false	true	false	true	false	false	35288	1306150.0	1994	250	0
1888	Clayton city	Library	Rabun County Public Library	false	false	false	false	false	false	true	false	false	false	false	6180	313960.0	1994	15	0
2054	Tiger town	C&D	Landfill	false	false	false	false	true	false	false	false	true	false	false	300	20000.0	1994	8	0
2081	Rabun County	Private School	Tabernacle Baptist	false	false	false	false	false	false	false	false	false	false	false	4000	3000000.0	1994		0
2082	Rabun County	Private School	Rabun Gap Nacoochee (Coed-Boarding)	false	false	false	false	false	false	false	false	false	false	false	1000000	8.0E7	1994	400	0
2116	Tallulah Falls town	Fire Station	Tallulah Falls Fire Department	false	false	false	false	false	true	false	false	false	false	false	1800	175000.0	1994	12	0
2117	Rabun County	Fire Station	Lakemont Wiley Volunteer Fire Department	false	false	false	false	false	true	false	false	false	false	false	3000	290000.0	2005	12	0
2118	Tiger town	Fire Station	Tiger Volunteer Fire Department	false	false	false	false	false	true	false	false	true	false	false	2500	275000.0	1994	12	0
2119	Rabun County	Fire Station	Tallulah Persimmon Volunteer Fire Department	false	false	false	false	false	false	false	false	false	false	false	2800	150000.0	1994		0



Rabun County
Hazard Mitigation Plan
Toxic Release Inventory Facilities

N
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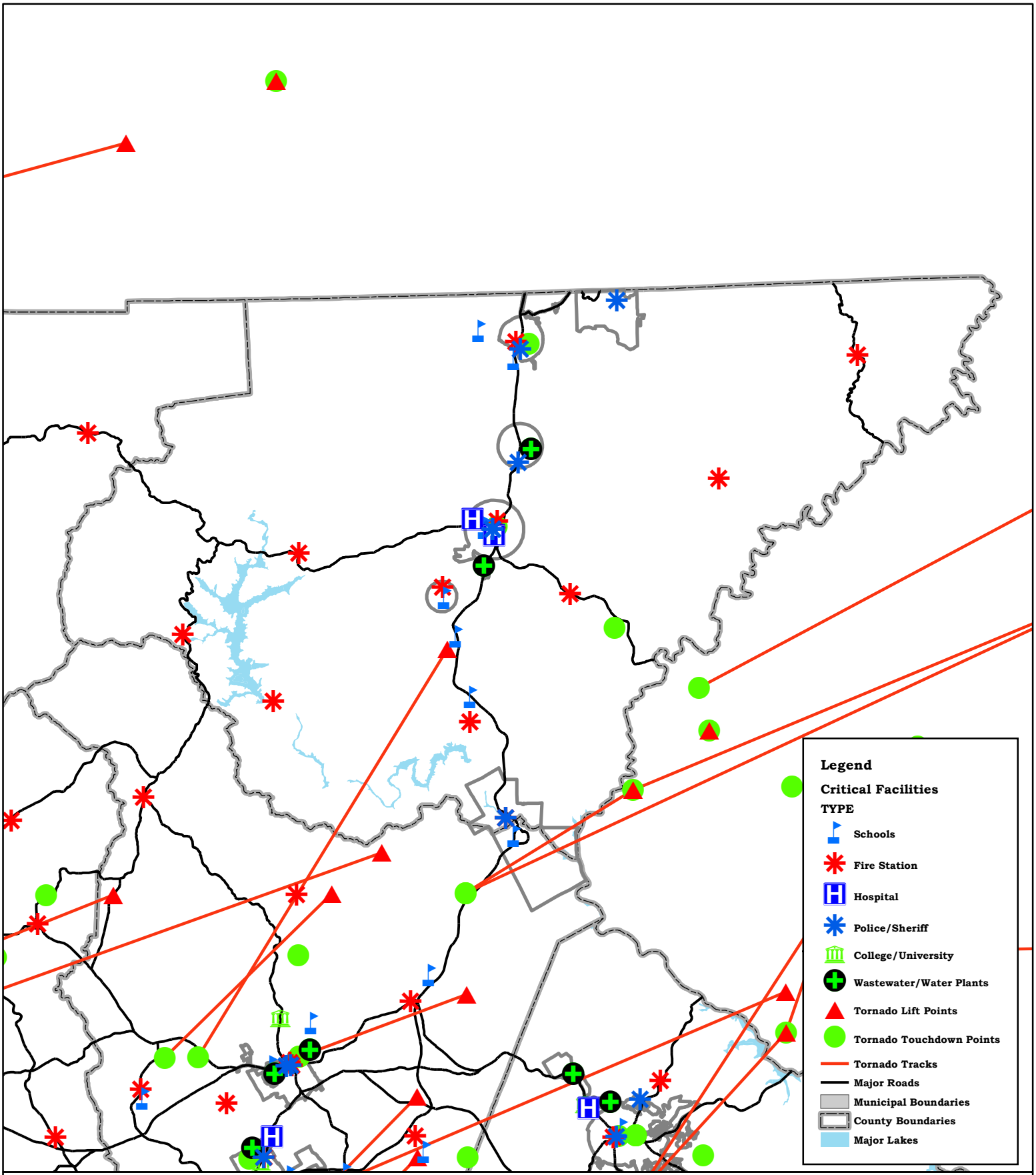
Georgia Mountains Regional Commission
Map Prepared By: FDB, June, 2013

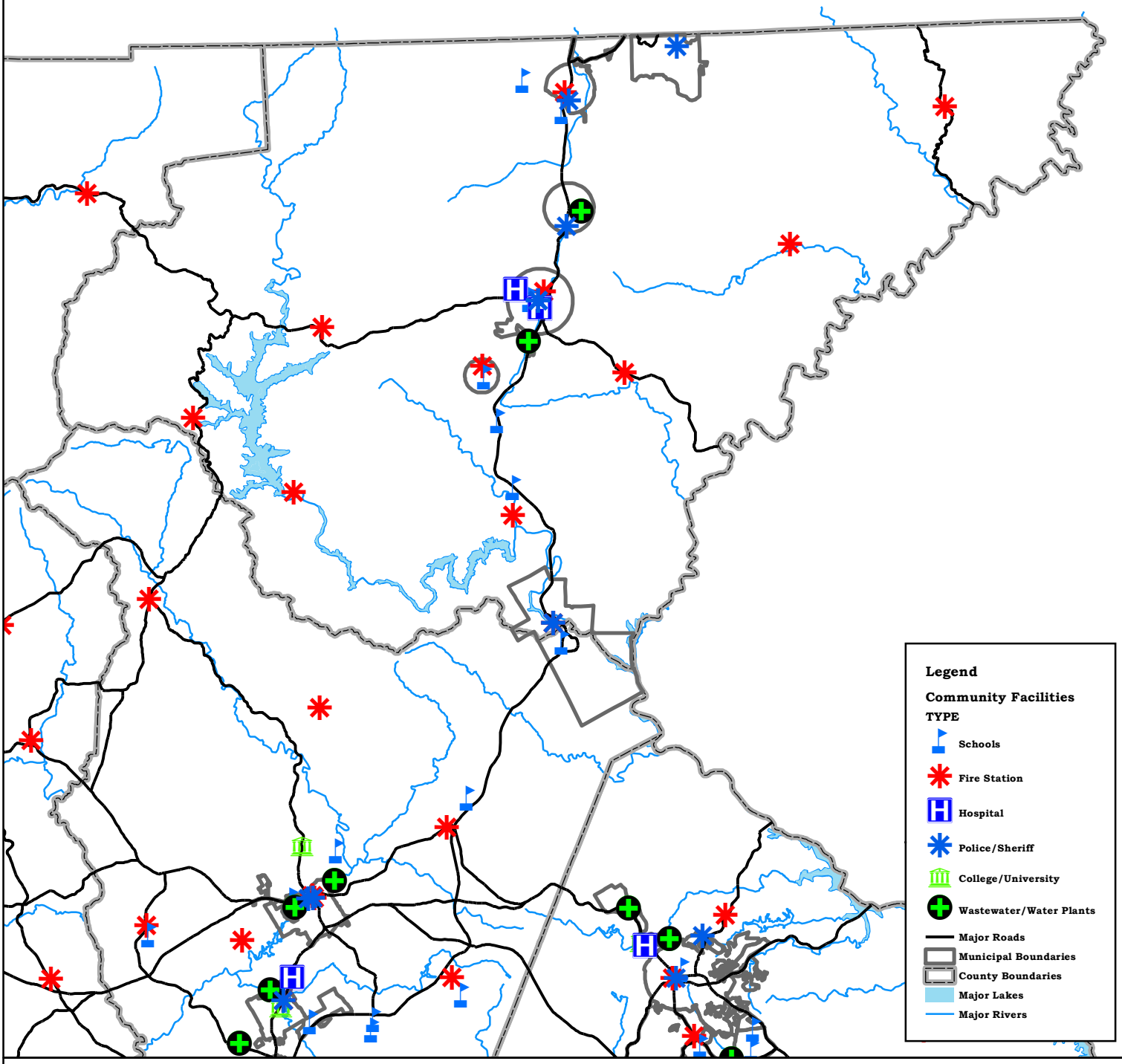
0 1 2 4 6 Miles



Rabun County
Hazard Mitigation Plan
Past Tornado Activity

Georgia Mountains Regional Commission

Map Prepared By: FDB, June, 2013



Rabun County
Hazard Mitigation Plan
Major Roads/State Routes and Critical Facilities

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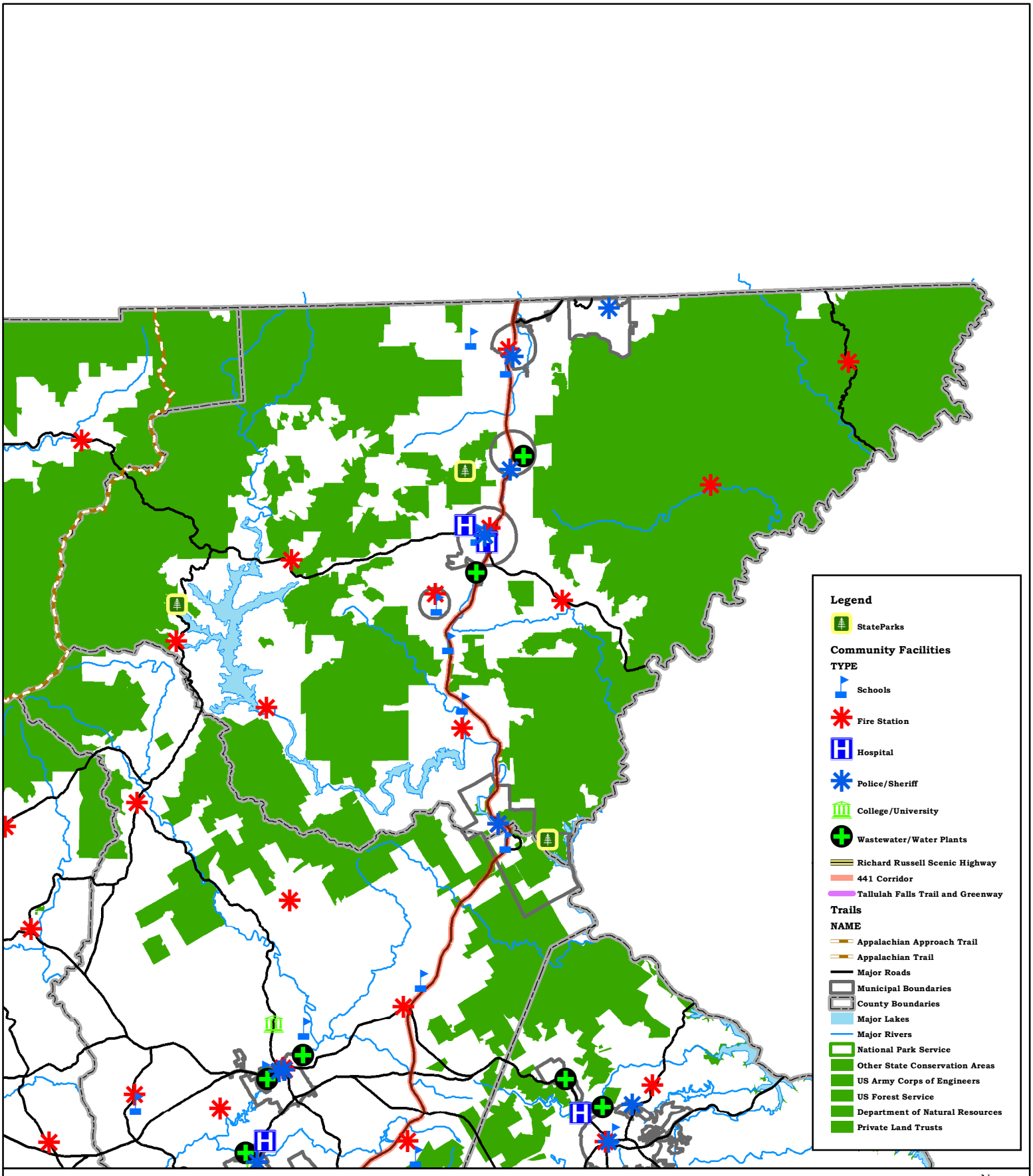
Georgia Mountains Regional Commission
Map Prepared By: FDB, June, 2013

0 1 2 4 6 Miles



Rabun County
Hazard Mitigation Plan
Major Woodlands and Critical Facilities

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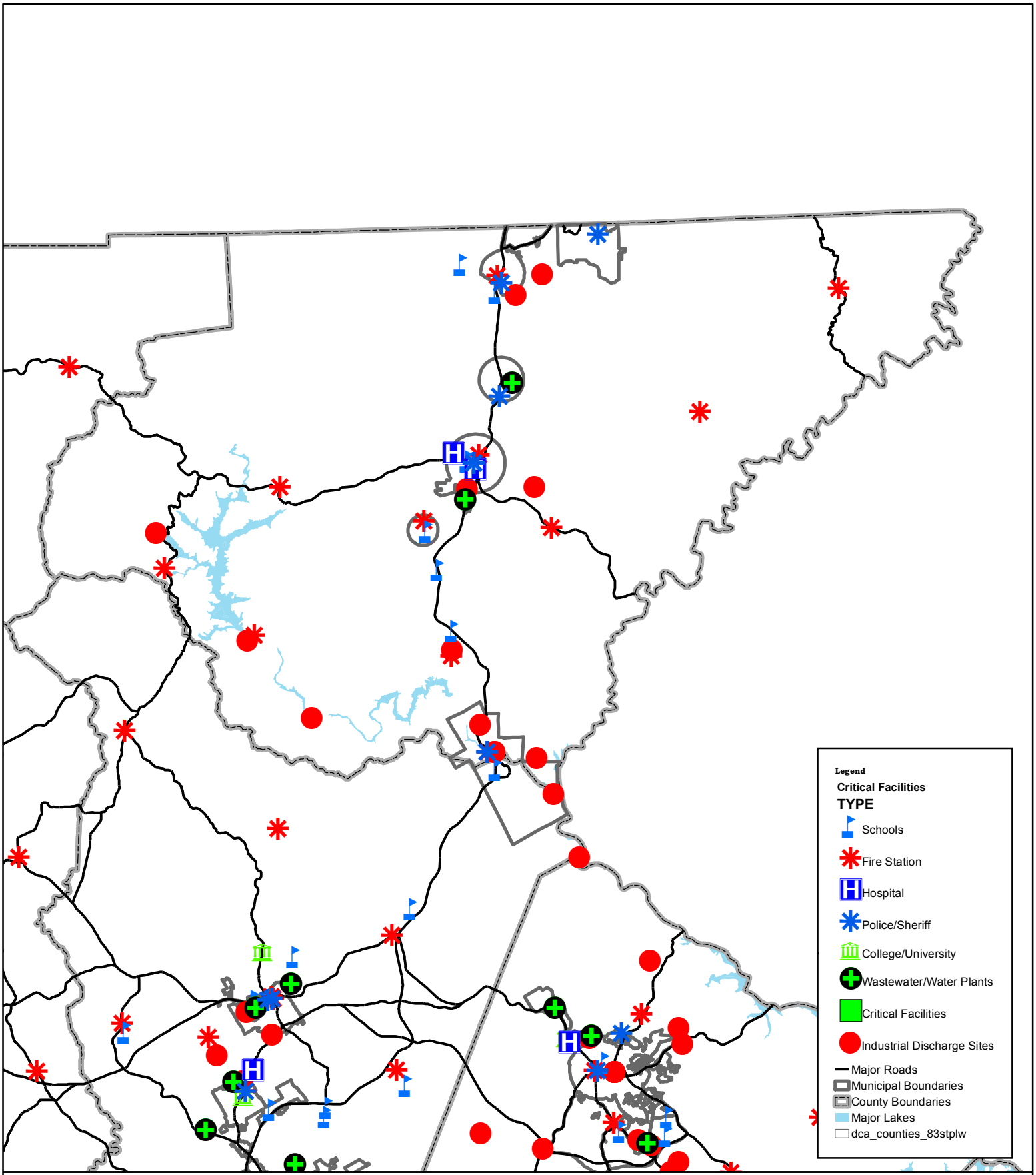
Georgia Mountains Regional Commission
Map Prepared By: FDB, June, 2013

0 1 2 4 6 Miles



Rabun County
Hazard Mitigation Plan
Industrial Discharge Sites

N
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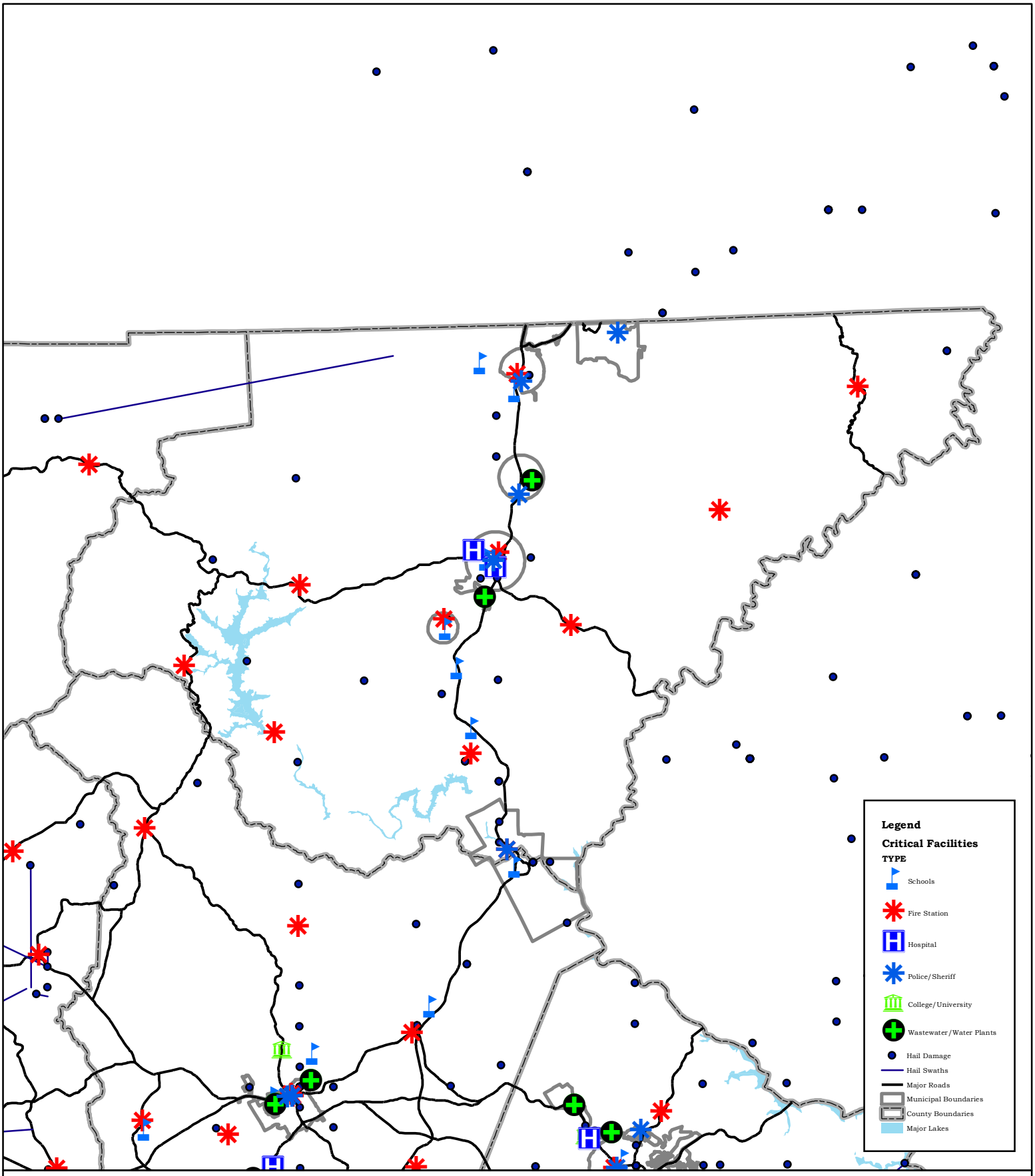
S

Georgia Mountains Regional Commission
Map Prepared By: FDB, June, 2013

0 1 2 4 6 Miles

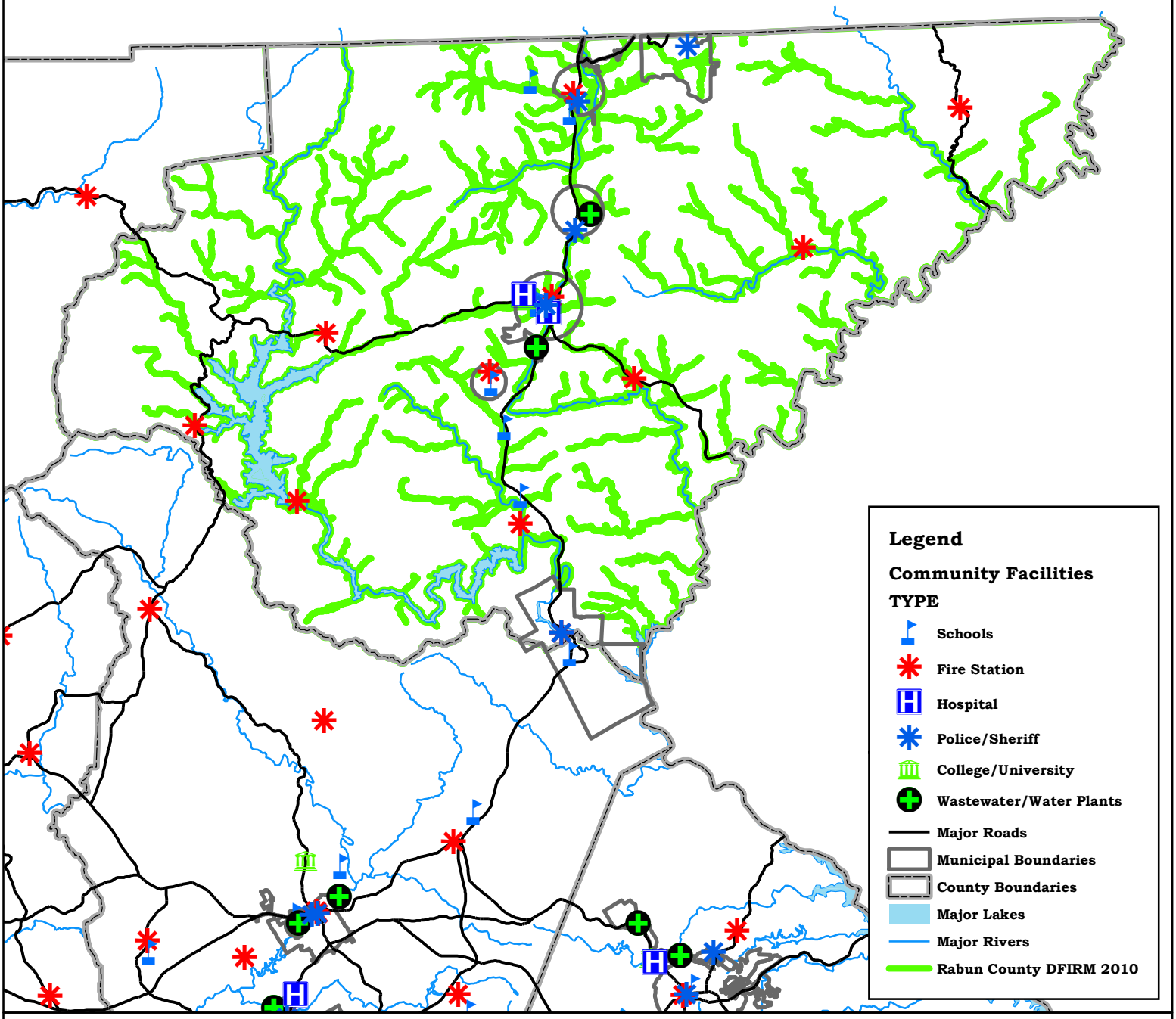


Rabun County
Hazard Mitigation Plan
Past Hail Activity

N
W E
S

Georgia Mountains Regional Commission
Map Prepared By: FDB, June, 2013

0 1 2 4 6 Miles



Rabun County
Hazard Mitigation Plan
Flood Plains - Critical Facilities

N
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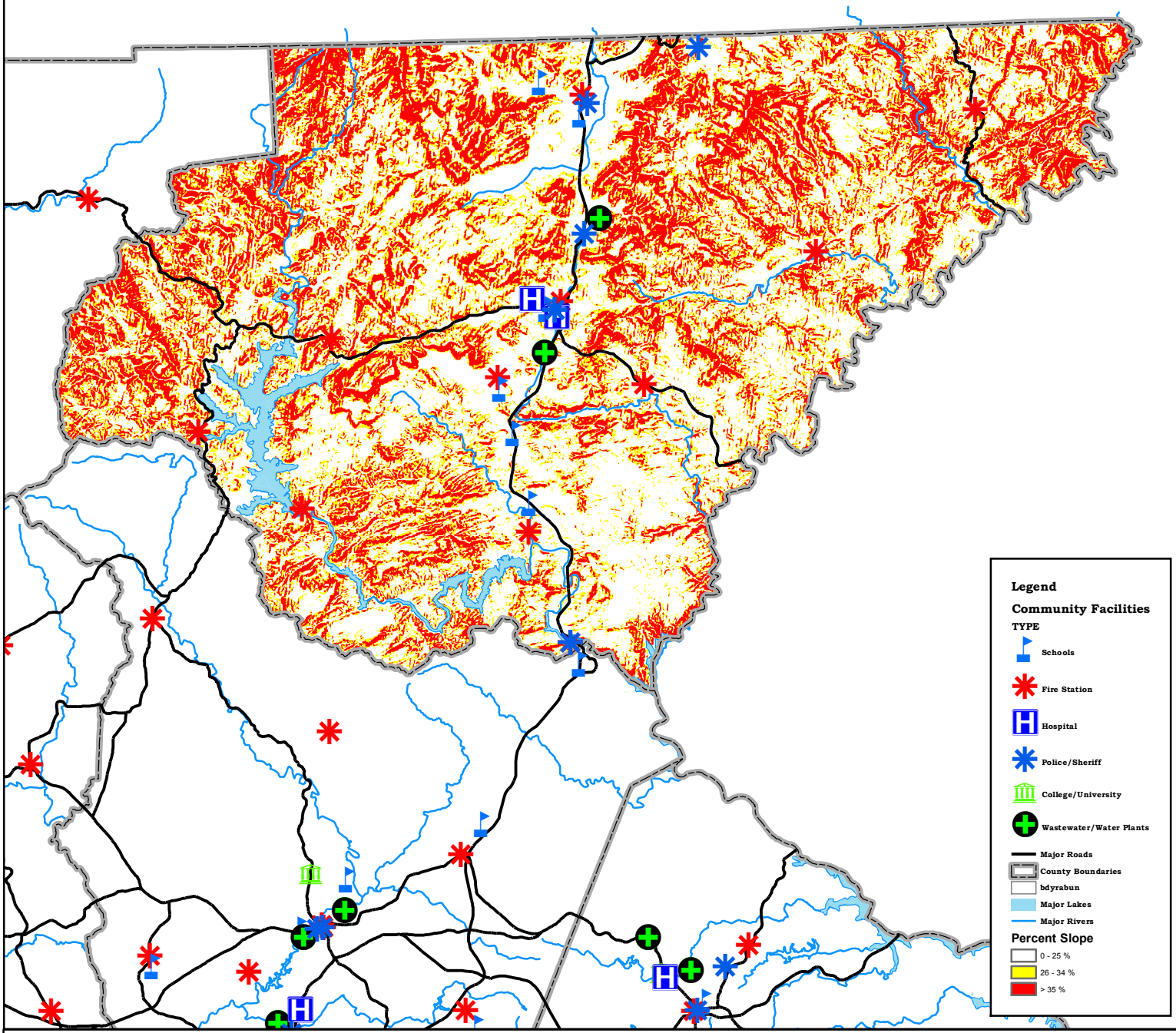
Georgia Mountains Regional Commission
Map Prepared By: FDB, June, 2013

0 1 2 4 6 Miles



Rabun County
Hazard Mitigation Plan
Steep Slopes

N
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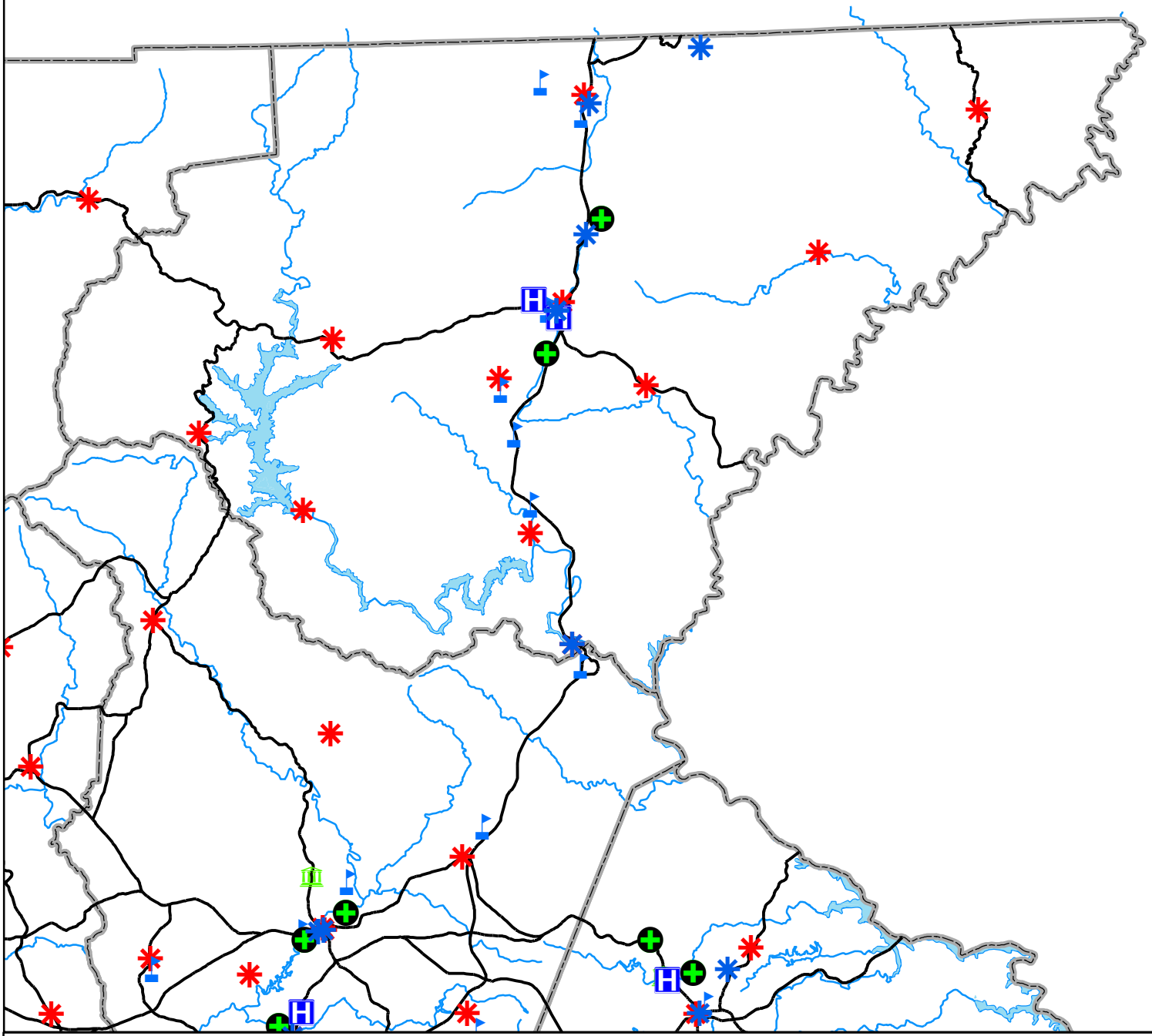
S

Georgia Mountains Regional Commission
Map Prepared By: FDB, June, 2013

0 1 2 4 6 Miles



Rabun County
Hazard Mitigation Plan
Critical Facilities

N
W E
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Georgia Mountains Regional Commission
Map Prepared By: FDB, June, 2013

0 1 2 4 6 Miles

APPENDIX B – RELATED RABUN COUNTY PLANNING RESOURCES

Rabun County Planning and Development

- Comprehensive Plan
- Local Ordinances and Regulations

Rabun County Emergency Services

- Hazard Mitigation Plan
- Local Emergency Response Plan

www.rabuncountygov.com

City of Clayton

- Local Ordinances and Regulations

http://www.cityofclayton.com

City of Sky Valley

- Local Ordinances and Regulations

www.skyvalleyga.com

Georgia Emergency Management Agency

- 2011 Georgia Hazard Mitigation strategy

APPENDIX C – PUBLIC PARTICIPATION DOCUMENTATION

- **Public Meeting Announcement (text shown below)**
- **Sample Bulletin Board Announcement**
- **Screen Shot of plan available on www.gmrc.ga.gov**

Meeting Advertisement

(To run in the Clayton Tribune, July 3rd, 2013)

Dear Editor and Readers,

Rabun County and its municipalities have been working with several stakeholders and citizens over the past 2 years to complete the federally required update of its Hazard Mitigation Plan. This document helps the community prepare for potential natural and man-made disasters, and determines the governments' eligibility for assistance regarding emergency preparation. Now that a draft of the updated document has been completed, the County and its partners invite the public to review and comment on this material before it is considered for adoption.

A copy of the draft updated Plan is available on the County's web site at www.rabuncounty.ga.gov. Comments and questions about the Plan may be submitted to Adam Hazell at 770.538.2671 or via email to ahazell@gmrc.ga.gov. Please indicate "Rabun County HazMit Plan" in the subject line to ensure the message is properly addressed upon receipt.

There will also be a public forum to discuss the Plan scheduled for July 5th from 11:30 AM until 1 PM, to be held at the Rabun County Courthouse. Representatives will on hand to address comments and questions about the Plan and the planning process at this time.

We're proud to be serving the residents of our community and look forward to continuing our service to Rabun County.

Public Hearing Opportunity

July 5th, 2013

11:30AM – 1 PM

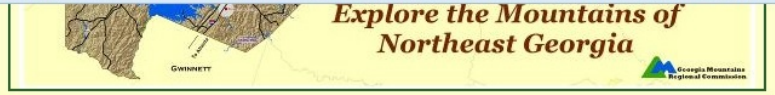
Rabun County Courthouse

A public forum to share and discuss the final draft of the
Rabun County Hazard Mitigation Plan

- **Representatives will on hand to address comments and questions about the Plan and the planning process.**

- **Copies of the Plan are available on the County's web site at www.rabuncounty.ga.gov and www.gmrc.ga.gov.**

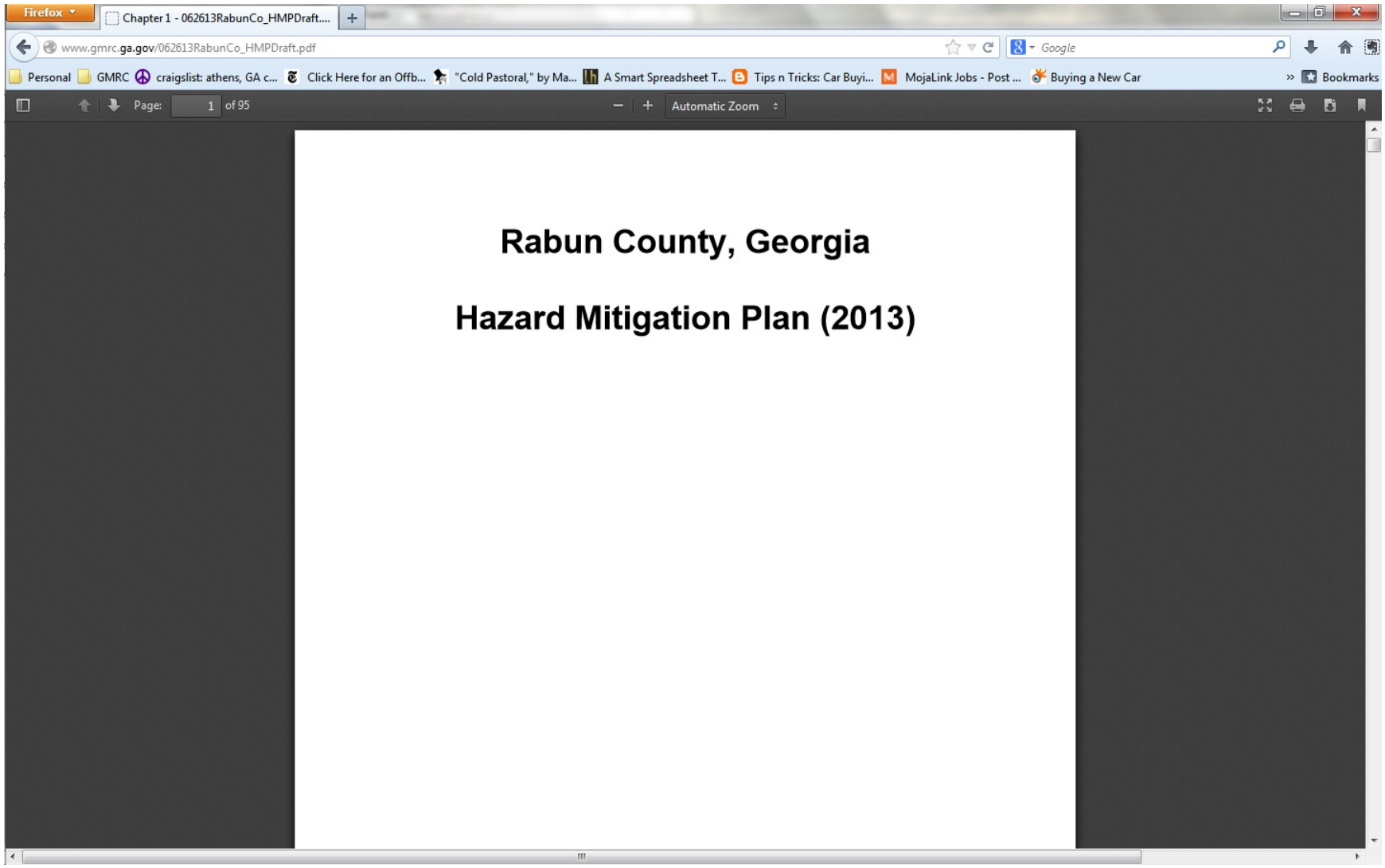
- **Comments and questions about the Plan may be submitted to Adam Hazell at 770.538.2671 or via email to ahazell@gmrc.ga.gov. Please indicate "Rabun County HazMit Plan" in the subject line to ensure the message is properly addressed upon receipt.**



GMRC's New Staff Member

Micah Thomas began employment with GMRC in June. Growing up in Snellville, Georgia he was active in serving others both in his local church and high school. After graduating from South Gwinnett he attended UGA, was involved with the UGA Wesley Foundation and Watkinsville Baptist Church. Graduating in 2007 with a BA in History, he worked for a year with the UGA Wesley Foundation. He then moved to Africa for a brief period of time continuing work with college students. Returning home in 2010, he began working at Eagle Ranch where he has spent the past three years helping families work toward family restoration. Micah is looking forward to the opportunity to work with the GMRC and serve our community in a new capacity as an MTU instructor.

- 2011—2012 GMRC Annual Report
- Next Scheduled Council Meeting
- June 2013 GMRC Newsletter
- Legislative Appreciation Dinner Photos
- Regional Events & Festivals
- GM WIB Board Meeting Announcement
- Cruisin' For Coats Event
- Rabun County Hazard Mitigation Plan—Review Document
- CarFit Video—Gainesville Event with Georgia State Patrol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www.gmrc.ga.gov/062613RabunCo_HMPDraft.pdf
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Rabun County, Georgia
Hazard Mitigation Plan (2013)

APPENDIX D – GLOSSARY

Disaster: The occurrence of widespread or severe damage, injury, loss of life or property, or such severe economic or social disruption that supplemental disaster relief assistance is necessary for the affected political jurisdiction(s) to recover and alleviate the damage, loss, hardship, or suffering caused thereby.

EOC: Emergency Operations Center

Extensive: Having wide or considerable extent.

Federal Emergency Management Agency (FEMA): Federal agency under the Department of Homeland Security responsible for coordinating the federal government's efforts to plan for, respond to, recover from and mitigate against the effects of natural and technological hazards.

Flash Flood Warning: Flash flooding is actually occurring or imminent in the warning area. It can be issued as a result of torrential rains, a dam failure, or ice jam.

Flash Flood Watch: Flash flooding is possible in or close to the watch area. Flash Flood Watches are generally issued for flooding that is expected to occur within 6 hours after heavy rains have ended.

Flood Insurance Rate Map (FIRM): Prepared by the Federal Emergency Management Agency to show Special Flood Hazard Areas; this map is the basis for regulating development according to the Regulations for Flood Plain Management (Chapter 64) and Standards for Construction of Streets and Drainage in Subdivisions (Chapter 82).

Flood Warning: Flooding conditions are actually occurring or are imminent in the warning area.

Flood Watch: High flow or overflow of water from a river is possible in the given time period. It can also apply to heavy runoff or drainage of water into low-lying areas. These watches are generally issued for flooding that is expected to occur at least 6 hours after heavy rains have ended.

Frequency: A measure of how often events of a particular magnitude are expected to occur.

Georgia Emergency Management Agency (GEMA): Georgia state agency responsible for coordinating state efforts to plan for, respond to, recover from, and mitigate against the effects of natural and technological hazards.

Grant: An award of financial assistance.

Grantee: A government entity to which a grant is awarded and which is accountable for use of the funds provided. The grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award document.

Hazard: The natural or technological phenomena, event or physical condition that has the potential to cause property damage, infrastructure damage, other physical losses, and injuries and fatalities.

High: Of greater degree, amount, cost, value, or content than average.

Hurricane Warning: Hurricane conditions are expected in the warning area in 24 hours or less.

Hurricane Watch: Hurricane conditions (sustained winds greater than 73 mph) are possible in the watch area within 36 hours.

Low: Characterized as being toward the bottom of the range.

Measure: Any mitigation measure, project or action proposed to reduce risk of future damage, hardship, loss or suffering from disasters.

Minor: Not serious or involving risk to life.

Mitigation: Actions taken to reduce or eliminate the long-term risk to life and property from hazards. Mitigation actions are intended to reduce the need for emergency response – as opposed to improving the ability to respond.

Moderate: Tending toward the mean or average amount.

National Flood Insurance Program (NFIP): Located within FEMA, and charged with preparing FIRMs, developing regulations to guide development, and providing insurance for flood damage.

Probability: A measure of the likelihood that a hazard event will occur.

Risk: The potential losses associated with a hazard. Ideally, risk is defined in terms of expected probability and frequency of the hazard occurring, the people and property that are exposed, and the consequences.

Severe Thunderstorm Warning: A severe thunderstorm has actually been observed by spotters or indicated on radar, and is occurring or imminent in the warning area.

Severe Thunderstorm Watch: Conditions are conducive to the development of severe thunderstorms in and close to the watch area.

Severity: Degree of critical or dangerous result; degree of inflicted physical discomfort or hardship.

Special Flood Hazard Area (SFHA) or **Floodplain:** The area adjoining a river, stream, shoreline or other body of water that is subject to partial or complete inundation. The SFHA is the area predicted to flood during the 1% annual chance flood, commonly called the “100-year” flood.

State Hazard Mitigation Program: An ongoing program involving a coordinated effort of state agencies to reduce the threat to people and property from natural hazards. During and following periods of presidentially declared major disasters, this program or approach is the compilation of activities required under Sections 404 and 409, Federal Regulations.

Subgrant: An award of financial assistance under a grant to an eligible subgrantee.

Subgrantee: Government or other legal entity to which a subgrant is awarded and which is accountable to the grantee for the use of the funds provided. Subgrantees may be a state agency, local government or eligible private non-profit organizations as defined in Section 206.433, 44 CFR.

Tornado Warning: A tornado has actually been sighted by spotters or indicated on radar and is occurring or imminent in the warning area.

Tornado Watch: Conditions are conducive to the development of tornadoes in and close to the watch area.

Tropical Storm Watch: Tropical storm conditions with sustained winds from 39 to 73 mph are possible in the watch area within the next 36 hours.

Tropical Storm Warning: Tropical storm conditions are expected in the warning area within the next 24 hours.

Other definitions applicable to the administration of the Hazard Mitigation Program are found in Section 206.401, 44 CFR, Part 206 and the Georgia Administrative Plan for Public Assistance.

APPENDIX E – HAZARD EVENT AND FREQUENCY DATA

Hazard Events Since 1995 – Rabun County

Location	Date	Event	Magnitude	Deaths	Injuries	Damage (x $1,000)	
						Property	Critical Facilities
Countywide	12/1/96	Flash Flood		0	0	0	0
Countywide	3/14/97	Flash Flood		0	0	0	0
Countywide	7/23/97	Flash Flood		0	0	0	0
Countywide	10/26/97	Flash Flood		0	0	0	0
Clayton	1/7/98	Flash Flood		0	0	0	0
Clayton	7/17/03	Flash Flood		0	0	0	0
Clayton	9/22/03	Flash Flood		0	0	0	0
Clayton	7/7/05	Flash Flood		0	0	0	0
Persimmon	8/26/08	Flash Flood		0	0	0	0
Blalock	8/21/10	Flash Flood		0	0	0	0
Dillard	11/28/11	Flash Flood		0	0	0	0
Dillard	7/14/12	Flash Flood		0	0	0	0
Dillard	8/26/02	Flood		0	0	5	0
Lakemont	5/6/96	Hail	0.75 in.	0	0	0	0
Clayton	3/29/97	Hail	0.75 in.	0	0	0	0
Pine Mtn	4/21/97	Hail	0.75 in.	0	0	0	0
Clayton	5/7/98	Hail	1.75 in.	0	0	0	0
Clayton	5/7/98	Hail	1.75 in.	0	0	0	0
Clayton	5/7/98	Hail	1.00 in.	0	0	0	0
Clayton	5/6/99	Hail	1.00 in.	0	0	0	0
Clayton	6/25/01	Hail	1.75 in.	0	0	0	0
Clayton	4/28/02	Hail	1.00 in.	0	0	0	0
Clayton	4/28/02	Hail	1.00 in.	0	0	0	0
Tiger	6/4/02	Hail	0.75 in.	0	0	0	0
Clayton	7/1/02	Hail	0.75 in.	0	0	0	0
Dillard	8/26/02	Hail	0.75 in.	0	0	0	0
Lakemont	4/29/03	Hail	1.50 in.	0	0	0	0
Clayton	4/30/03	Hail	1.00 in.	0	0	0	0
Clayton	3/27/05	Hail	0.75 in.	0	0	0	0
Tiger	4/22/05	Hail	1.00 in.	0	0	0	0
Lakemont	4/22/05	Hail	0.75 in.	0	0	0	0
Dillard	6/18/05	Hail	0.75 in.	0	0	0	0
Clayton	8/4/05	Hail	1.75 in.	0	0	0	0

Clayton	8/18/05	Hail	1.00 in.	0	0	0	0
Clayton	4/8/06	Hail	1.00 in.	0	0	0	0
Clayton	4/8/06	Hail	0.75 in.	0	0	0	0
Lakemont	4/21/06	Hail	0.75 in.	0	0	0	0
Clayton	5/20/06	Hail	0.75 in.	0	0	0	0
Satolah	5/20/06	Hail	1.25 in.	0	0	0	0
Clayton	5/25/06	Hail	0.88 in.	0	0	0	0
Mountain City	5/25/06	Hail	0.75 in.	0	0	0	0
Clayton	6/12/07	Hail	1.00 in.	0	0	0	0
Clayton	6/12/07	Hail	1.75 in.	0	0	0	0
Lakemont	7/1/07	Hail	1.75 in.	0	0	0	0
Lakemont	7/1/07	Hail	0.75 in.	0	0	0	0
Clayton	8/23/07	Hail	1.50 in.	0	0	0	0
Lakemont	8/24/07	Hail	0.75 in.	0	0	0	0
Clayton	7/21/08	Hail	0.75 in.	0	0	0	0
Clayton	9/9/09	Hail	1.00 in.	0	0	0	0
Saw Tooth	4/25/11	Hail	1.00 in.	0	0	0	0
Persimmon	4/27/11	Hail	1.75 in.	0	0	0	0
Rabun Co.	6/10/11	Hail	1.00 in.	0	0	0	0
Rabun Co.	6/21/11	Hail	1.00 in.	0	0	0	0
Satolah	3/24/12	Hail	0.75 in.	0	0	0	0
Rabun Gap	4/3/12	Hail	0.75 in.	0	0	0	0
Clayton	4/26/12	Hail	0.75 in.	0	0	0	0
Clayton	4/26/12	Hail	0.75 in.	0	0	0	0
Lakemont	4/26/12	Hail	1.00 in.	0	0	0	0
Pine Mtn	7/9/12	Hail	0.88 in.	0	0	0	0
Countywide	11/25/99	Heavy Rain		0	0	0	0
Burton	5/27/09	Heavy Rain		0	0	0	0
Checkero	5/15/10	Lightning		0	0	500	0
Satolah	5/25/96	Thunderstorm Wind	50 kts.	0	0	0	0
Dillard	5/27/96	Thunderstorm Wind	50 kts.	0	0	0	0
Dillard	6/15/96	Thunderstorm Wind	50 kts.	0	0	0	0
Dillard	2/21/97	Thunderstorm Wind	50 kts.	0	0	0	0
Clayton	3/29/97	Thunderstorm Wind	50 kts.	0	0	0	0
Countywide	5/2/97	Thunderstorm Wind	50 kts.	0	0	0	0
Mountain City	7/4/97	Thunderstorm Wind	50 kts.	0	0	0	0
Mountain City	7/4/97	Thunderstorm Wind	50 kts.	0	0	0	0
Clayton	2/17/98	Thunderstorm Wind	50 kts.	0	0	0	0
Wiley	3/20/98	Thunderstorm Wind	50 kts.	0	0	0	0
Pine Mtn	3/20/98	Thunderstorm Wind	50 kts.	0	0	0	0
Clayton	6/26/98	Thunderstorm Wind	50 kts.	0	0	0	0

Pine Mtn	2/13/00	Thunderstorm Wind	65 kts. E	0	0	0	0
Clayton	6/16/00	Thunderstorm Wind	50 kts. E	0	0	0	0
Clayton	8/10/00	Thunderstorm Wind	50 kts. E	0	0	0	0
Tiger	6/4/02	Thunderstorm Wind	50 kts. E	0	0	0	0
Clayton	7/1/02	Thunderstorm Wind	50 kts. E	0	0	0	0
Clayton	9/14/02	Thunderstorm Wind	50 kts. E	0	0	0	0
Clayton	11/11/02	Thunderstorm Wind	50 kts. E	0	0	0	0
Clayton	7/5/04	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	8/2/04	Thunderstorm Wind	50 kts. EG	0	1	2	0
Clayton	8/2/04	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	8/20/04	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	8/20/04	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	4/22/05	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	6/6/05	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	8/4/05	Thunderstorm Wind	50 kts. EG	0	0	0	0
Dillard	2/4/06	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	5/20/06	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	5/26/06	Thunderstorm Wind	50 kts. EG	0	0	0	0
Tiger	6/23/06	Thunderstorm Wind	50 kts. EG	0	0	0	0
Lakemont	7/1/07	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	7/10/07	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	8/24/07	Thunderstorm Wind	60 kts. EG	0	0	0	0
Mountain City	8/26/07	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	3/4/08	Thunderstorm Wind	50 kts. EG	0	0	0	0
Tiger	6/11/09	Thunderstorm Wind	55 kts. EG	0	0	0	0
Rabun Gap	6/17/09	Thunderstorm Wind	50 kts. EG	0	0	0	0
Burton	6/17/09	Thunderstorm Wind	50 kts. EG	0	0	0	0
Persimmon	8/5/09	Thunderstorm Wind	50 kts. EG	0	0	0	0
Checkero	5/15/10	Thunderstorm Wind	55 kts. EG	0	0	0	0
Checkero	5/27/10	Thunderstorm Wind	50 kts. EG	0	0	0	0
Pine Mtn	6/22/10	Thunderstorm Wind	50 kts. EG	0	0	0	0
Saw Tooth	6/22/10	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	6/27/10	Thunderstorm Wind	50 kts. EG	0	0	0	0
Grove	6/28/10	Thunderstorm Wind	50 kts. EG	0	0	0	0
Lakemont	6/28/10	Thunderstorm Wind	50 kts. EG	0	0	0	0
Mountain City	2/28/11	Thunderstorm Wind	50 kts. EG	0	0	0	0
Clayton	4/20/11	Thunderstorm Wind	50 kts. EG	0	0	0	0
Saw Tooth	5/11/11	Thunderstorm Wind	50 kts. EG	0	0	0	0
Rabun Co.	6/10/11	Thunderstorm Wind	50 kts. EG	0	0	0	0
Rabun Co.	6/11/11	Thunderstorm Wind	50 kts. EG	0	0	0	0
Rabun Gap	7/13/11	Thunderstorm Wind	50 kts. EG	0	0	0	0

Dillard	7/1/12	Thunderstorm Wind	55 kts. EG	0	0	0	0
Dillard	7/5/12	Thunderstorm Wind	55 kts. EG	0	0	0	0
Clayton	7/10/12	Thunderstorm Wind	50 kts. EG	0	0	0	0
Persimmon	4/27/11	Tornado	EF3	1	0	5 M	0

HAZARD FREQUENCY TABLE- RABUN COUNTY

Hazard	Number of Events			Historic Recurrence Interval (years)			Historic Frequency (% chance/year)			Record Frequency Per Year		
	Past 10 Yrs	Past 20 Yrs	Past 50 Yrs	Past 10 Yrs	Past 20 Yrs	Past 50 Yrs	Past 10 Yrs	Past 20 Yrs	Past 50 Yrs	Past 10 Yrs	Past 20 Yrs	Past 50 Yrs
Hurricane Surge	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
Tropical Storm/Hurricane	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0	0.0	0	0	0
High Winds (Non-Thunderstorm)	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0	0.0	0	0	0
Flooding	7	13	20	1.4	1.5	2.5	0.7	0.7	0.4	0.7	0.65	0.4
Wildfire	108	211	331	0.1	0.1	0.2	10.8	10.6	6.6	10.8	10.55	6.62
Earthquake	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
Tornado	1	1	3	10.0	20.0	16.7	0.1	0.1	0.1	0.1	0.05	0.06
Severe Thunderstorm	37	79	113	0.3	0.3	0.4	3.7	4.0	2.3	3.7	3.95	2.26
Drought	5	13	22	2.0	1.5	2.3	0.5	0.7	0.4	0.5	0.65	0.44
Unseasonably High Temps	1	1	1	10.0	20.0	50.0	0.1	0.1	0.0	0.1	0.05	0.02
Unseasonably Low Temps	1	1	2	10.0	20.0	25.0	0.1	0.1	0.0	0.1	0.05	0.04
Winter Storm	4	11	37	2.5	1.8	1.4	0.4	0.6	0.7	0.4	0.55	0.74
Landslide	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0	0.0	0	0	0
Dam Failure	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
Fog	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	0.0	0.0	0.0	0	0	0
HazMat Release (fixed)	13	38	46	0.8	0.5	1.1	1.3	1.9	0.9	1.3	1.9	0.92
HazMat Release (trans)	9	23	40	1.1	0.9	1.3	0.9	1.2	0.8	0.9	1.15	0.8
Radiological Release	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0

NOTE: The historic frequency of a hazard event over a given period of time determines the historic recurrence interval. For example: If there have been 20 HazMat Releases in the County in the past 5 years, statistically you could expect that there will be 4 releases a year.

Realize that from a statistical standpoint, there are several variables to consider. 1) Accurate hazard history data and collection are crucial to an accurate recurrence interval and frequency. 2) Data collection and accuarcy has been much better in the past 10-20 years (NCDC weather records). 3) It is important to include all significant recorded hazard events which will include periodic updates to this table.

By updating and reviewing this table over time, it may be possible to see if certain types of hazard events are increasing in the past 10-20 years.