Walton County, GA
Multi-Jurisdictional
Hazard Mitigation Plan

September 1, 2009

Includes jurisdictions of Walton County, the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between.

Chapter 1
Introduction

1.1 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, 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 focus of this particular 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 Walton County and the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between in the future.

1.2 Organization of the Plan

The Hazard Mitigation Plan (HMP) consists of four main components: the narrative plan, the Hazard History Database, the Hazard Frequency Table, and an interactive Critical Facilities Database. 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 Hazard History Database is attached as a Microsoft Excel spreadsheet and includes relevant information on past hazards within the County. The Hazard Frequency Table is derived from the hazard history and provides frequency-related statistics for each discussed hazard. This table is also attached as a Microsoft Excel spreadsheet. Finally, the interactive Critical Facilities Database is an online tool developed in part by UGA 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 that can be used by Counties to help estimate losses and assess vulnerabilities. This interactive Critical Facilities Database will also help to integrate mitigation planning into their other planning processes.

A risk assessment, which is composed of elements from each of the four main HMP components discussed in the paragraph above, 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 to fifteen 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, other buildings, and population exposed to each hazard (see Worksheets 3a).

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 to some degree 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 the built environment.

Based on information gathered, the Plan identifies some specific mitigation goals, objectives, and actions to reduce exposure or impact from hazards that have the most impact on each community. 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 GEMA and North Georgia Consulting Group.

1.3 Participants in planning process

This Hazard Mitigation Plan (HMP) is designed to protect both the unincorporated areas of Walton County, as well as the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between. Though the County facilitated this planning process, the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between provided critical input into the process. Due to size and limited resources, two of these municipalities, the City of Jersey and the Town of Between, chose to have the Walton County EMA Director, who serves countywide and with whom these municipalities have a good working relationship, to represent them and act as their liaison during this planning process. This included providing information to the EMA Director for use in the HMP as well as receiving information from the EMA Director regarding the HMP planning process. This relationship has been developed over the years and is evidenced both by various interlocal agreements and joint adoption of the LEOP.

Without the mutual cooperation between Walton County and each of the municipalities, the Plan would not exist in its present comprehensive form. Note: Please keep in mind that throughout this Plan, the term "county", when used alone, refers to all of Walton County, including the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between.

The Walton County Hazard Mitigation Planning Committee (HMPC) is made up of approximately 200 members. The Chairman of the HMPC is Donnie McCullough. The HMPC was represented by a very diverse cross-section of the County's population as evidenced by the extensive list of participants following this paragraph. This included local government officials, County and City/Town employees, public safety personnel, volunteers, and various members of private industry. This diverse group provided valuable input into the planning process including identifying hazards and developing important mitigation measures to be considered in the future. The entire HMPC met several times over the course of the planning process. The "Kickoff Meeting" for the HMPC on January 18, 2007 represented a tremendous start to the planning process with over 100 in attendance. Other HMPC meetings occurred on April 12, 2007, May 10, 2007, June 28, 2007, September 27, 2007, January 24, 2008, March 3, 2008, March 17, 2008, and April 1, 2008. Various additional informal meetings were also held throughout the planning process at various times between two or more HMPC members in order to accomplish smaller tasks. Two public meetings relating to this Plan were required by FEMA: one during the drafting stages of the Plan, and one after Plan completion of the draft. The HMPC actually held more than the required number of public meetings to ensure that the public had ample opportunity to participate in the planning process. Public meetings that took place during planning process occurred on March 3, 2008, March 17, 2008, and April 1, 2008. Upon approval by GEMA, and prior to local government adoption, the HMPC will hold a fourth public meeting. Immediately after the public meeting, the Walton County Hazard Mitigation Plan will be presented to each local jurisdiction for adoption.

Listed below are persons invited to be members of the HMPC:

Adams, Dawn	Department of Family & Children Services
Albert, Debbie	BellSouth
Allgood, Brandi	Social Circle City Schools
Allman, John	Walton County Public Works
Almand, Ronald	Walton County Emergency Medical Services
Arrington, Brian	Walton Tribune
Ashley, Judy	Walton County Extension Office
Atha, Gerald	Walton County Board of Commissioners
Ayers, Clinton	Walton County Board of Commissioners
Baarlaer, Joseph L., III	HEPACO, Inc.
Baker, Rick	Partnership for Families, Children & Youth, The
Baldwin, Greg	Standridge Color Corp.
Barron, Tim	City of Loganville
Batson, Jill	American Dehydrated Foods, Inc.
Bennett, Dan	Walton Electric Membership Corp.
Boozer, Darin	Walton County Fire Rescue
Bowden, Tommy	Walton County Water Authority
Bradberry, Randy	Walton County Board of Education
Braswell, Mandy	Walton County Board of Commissioners
Brewer, Rhiannon	Division of Public Health/NE Health District
Briscoe, John	City of Monroe Utilities Network
Broadnax, Noelle	Division of Public Health/NE Health District
Brown, Stanley	Williams Gas
Burch, Billie Jean,	Walton County Red Cross
Burgess, Brandon	Walton County Fire Rescue
Burgess, Jim	City of Social Circle
Burgess, Nancy	Department of Family & Children Services
Burke, Mike	Walton County Magistrate Court
Bupp, Melissa	Walton County Health Department
Cannon, Don	City of Walnut Grove
Carlan, William	Walton County Extension Office
Carpenter, Phillip	Division of Public Health/NE Health District
Chambers, Joyce	Walton County Facilities Management
Chancey, Wayne	City of Monroe Fire Department
Chandler, Steve	Walton County Public Works
Chapman, Joe	Walton County Sheriff's Office
Chapman, Pat	City of Loganville Planning & Development
Clark, Angie	Standridge Color Corp.
Clark, Bruce	Walton County Board of Education
Conwell, Steve	City of Monroe Police Department
Couch, Nancy	Walton County Emergency Medical Services
Cox, Bobby	Georgia Forestry Commission
Crew, Bonita G.,	Georgia Department of Human Resources, DFCS
Dartnell, Devon	Georgia Forestry Commission

Davis, Brian	Walton County Fire Rescue
Dial, Bill	Williams Gas
Dial, Stan	City of Monroe Fire Department
Dillard, Rickey	Walton County Tax Assessor
Dixon, Kirklyn	Walton County Board of Commissioners
Dominicali, Bill	Walton Regional Medical Center
Donaldson, Henry	Walton County Sheriff's Office
Edmondson, Eugene	Williams Gas
Edmondson, Jimmy	Avondale Mills
Ehlert, Raymond	Doyle Generating Plant
Embry, Kimberly	Walton County Public Schools
Emerick, Steve	Walton County Fire Rescue
Everett, Anthony	Walton County Fire Rescue
Ferguson, Tony	City of Loganville Public Works
Fitzgerald, Amanda	Social Circle City Schools
Fonda, Dan	City of Monroe Fire Department
Franklin, Gretchen	Walton County Health Department
Fraser, Karen	Walton County Human Resources
Garrett, Randy	City of Good Hope
Gasaway, Vickie	Walton County Board of Commissioners
Gaston, Clarence	American Dehydrated Foods, Inc.
Geiger, Wendell	Walton County Water Authority
George, Alan	Walton Regional Medical Center
Glass, Keith	City of Monroe Police Department
Graham, Patrick	Walton Tribune
Gray, Bobby	MCI
Gunn, Jim	Doyle Generating Plant
Hamby, Kyle	Monroe Utilities Network
Hamilton, Robert	Division of Public Health/NE Health District
Haney, Kevin	Walton County Fire Rescue
Harris, Clay	Social Circle Board of Education
Head, James	Pike Electric
Heard, Jason	North Georgia Consulting Group
Heckethorn, Lynn	HEPACO, Inc.
Henderson, Laura	City of Walnut Grove
Hensler, Donnie	Walton County Planning & Development
Hilton, Frank	American Red Cross - Walton County
Hinsley, Joe	Universal Rundle
Hoff, Larry	Walton County Board of Education
Hogg, Duane	National Bank of Walton County
Howard, Randy	Georgia Emergency Management Agency
Hughes, Mike	Walton County Animal Control
Hupp, Scott	Social Circle Department of Public Safety
Jackson, Debra	Walton Electric Membership Corp.
Jackson, Julian	City of Monroe
James, Grady	Doyle Generating Plant

Johnson, Horace	Walton County Superior Court
Johnson, Wes	Walton County Fire Rescue
Jones, Bill	City of Loganville
Jones, Eland	Windstream Communications
Kinsey, Nancy	Development Authority of Walton County
Kracht, John	City of Monroe Police Department
Kumnick, Chris	Walton County Environmental Health Services
League, Craig	Walton County Fire Rescue/Coroner
Lee, Ronnie	Walton Electric Membership Corp.
Lilly, Jason	Walton Regional Medical Center
Lipscomb, Mark	Georgia Power Company
Little, Cindy	Faith In Serving Humanity (FISH)
Little, Kevin	Walton County Board of Commissioners
Locklin, Jonathan	City of Monroe Fire Department
Lowry, Dick	Loganville Police Department
Lull, Dr. Tim	Walton County Board of Education
Malcom, David	Bostwick Broadcasting Group (WMOQ 92.3 FM)
Marsh, Jon	Walton County Fire Rescue
Martin, Mike	Walton County Planning & Development
Masten, Kenneth	Georgia Forestry Commission
Matson, Skip	Walton County Red Cross
Matthews, Michael	City ofMonroe Police Department
Mayson, Rick	Citizen - Retired FEMA
McCullers, Betty	Loganville Chamber of Commerce
McCullough, Clay	Social Circle Department of Public Safety
McCullough, Donnie	Walton Co. Emergency Management/Fire Rescue
McGinniss, Derrick	Goodyear Tire & Rubber
McHugh, Mike	Loganville Police Department
Miles, Bryant	WalMart Distribution Center 6055
Milligan, Lamar	Walton County IT
Moore, Mike	Walton County Fire Rescue
Myers, Dr. Billy	Countryside Hospital for Animals
Nelson, Ron	WalMart Distribution Center 6055
Oakes, Elaine	Walton County Recycling Center
Ott, John	Walton County Superior Court
Owens, Bill	City of Monroe Fire Department
Page, Joe	City of Monroe Fire Department
Palmer, Lamar	Walton County Board of Commissioners
Pardue, Bill	RCGI - Criminal Consulting Company
Parker, Charna	Walton County Planning & Development
Pennington, Jennifer	American Red Cross - East Georgia Chapter
Petty, John T.	City of Monroe Police Department
Phelps, David	Walton Regional Medical Center
Pickens, Christi	Walton County Finance Department
Pilcher, Benny	City of Loganville Fire Department
Pilcher, Terry	City of Loganville Fire Department

Prater, Jennifer	City of Loganville - Public Works
Pritchett, Johnny W.	Walton County Planning & Development
Queen, Catherine	City of Monroe Fire Department
Queen, Hal	Walton Regional Medical Center
Quinn, Melinda	The Partnership
Radney, John W.	Williams Gas
Ray, Dr. Bettye	Social Circle Board of Education
Rhymer, Stanley	Walton County Juvenile Court
Roberts, Danny	Loganville Fire Department
Robinson, John	Walton County Board of Commissioners
Schimikowski, Clem	HEPACO, Inc.
Schwartz, Robbie	Walton Tribune
Self, Joshua	Walton Regional Medical Center
Shelton, Steve	Social Circle Department of Public Safety
Shirley, Hank	Walton County Facilities Management
Shore, Tim	Walton County Fire Rescue
Smith, Deedie	Walton County Fire Rescue
Smith, Holly	City of Walnut Grove
Smith, Renee	Walton Co. Enviromental Health Services
Smith, Sandra	Walton County Public Works
Spears, Russell	Universal Rundle
Stamey, Lora	Walton County Sheriff's Office
Stapp, Pam	City of Loganville Fire Department
Stone, Ariann	Walton County Central Communications
Stone, Jeff	Walton County Fire Rescue
Stone, Nancy	Walton County Juvenile Court
Sullivan, William	Town of Between
Tanner, Lorri	Walton County Health Department
Tarpley, Alan	Walton County Public Works
Thompson, Larry	Walton Electric Memebership Corp.
Thompson, Greg,	City of Monroe
Thompson, Ronnie	City of Jersey
Tolbert, Gentry	Walton County Health Department
Turner, Michael	Walton County Board of Conmmissioners
Vance, Ty	Walton County Sheriff's Office
Wall, Dr. Henry	Monroe Veterinary Clinic, Inc.
Watts, Blake	Walton Regional Medical Center
Wells, Kevin	Division of Public Health/NE Health District
White, Doug	City of Social Circle
Williams, Jenny	Walton Regional Medical Center
Williams, Wendra	Walton County Central Communications
Witcher, Phil	City of Monroe Fire Department
Worley, Steve	City of Monroe Public Works
Wright, Bruce	Walton County Sheriff's Office
Wellborn, Jennifer	City of Loganville Fire Department
Wuerzner, Reinhold	Walton Regional Medical Center

Yancey, Chris	City of Loganville
Yarbrough, Al	Angel Food Ministries

Non-HMPC-member participants in the planning process include:

Danielle Graham (GEMA), Alan Sloan (GEMA), North Georgia Consulting Group

1.4 HRV summary/Mitigation goals

Walton County has experienced a number of hazard events throughout its history, most resulting in fairly localized damage. Flooding, tornados, winter storms, wildfire, severe thunderstorms, earthquakes, dam failure and hazardous materials to varying degrees represent known threats to Walton County The Walton County HMPC used information gathered throughout this planning process to identify mitigation goals and objectives as well as some recommended mitigation actions. Each potential mitigation measure identifies an organization or agency responsible for initiating the necessary action, as well as potential resources, which may include grant programs and human resources. An estimated timeline is also provided for each mitigation action.

1.5 Multi-Jurisdictional Special Considerations

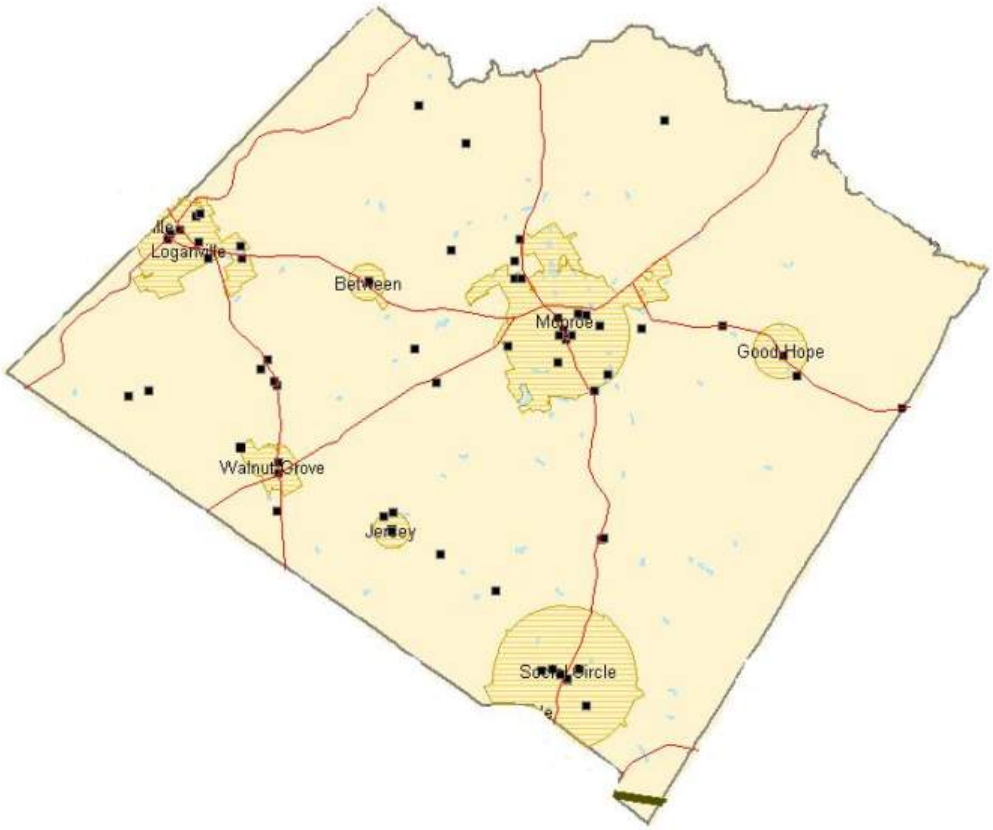
The Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between were active participants and equal partners in the planning process. As an active part of the HMPC, the Cities and Towns contributed to the identification of mitigation goals and objectives and potential mitigation measures contained within the HMP.

1.6 Adoption, Implementation, Monitoring, Evaluation

Each governing body of the eight jurisdictions is responsible for formally adopting this Plan. Upon completion of the Plan, it will be forwarded to GEMA for initial review. If no changes to the plan are required, GEMA will then forward the Plan to FEMA for final review and approval pending adoption. Once final FEMA approval has been received, Walton County and the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between will be responsible for initiating the appropriate courses of action related to this Plan. Actions taken may be in coordination with one another or may be pursued separately. The Plan maintenance section of this document details the formal process that will ensure that the Walton County HMP remains an active and relevant document. The HMP maintenance process includes monitoring and evaluating the Plan annually, and producing a complete Plan revision every five years. Additionally, procedures will ensure public participation throughout the plan maintenance process. This Plan will be considered for integration into various existing plans and programs, including the Walton County Comprehensive Plan at its next scheduled update. Mitigation actions within the HMP may be used by the County, Cities, and Towns as one of many tools to better protect the people and property of Walton County and the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between.

1.7 Brief County Overview

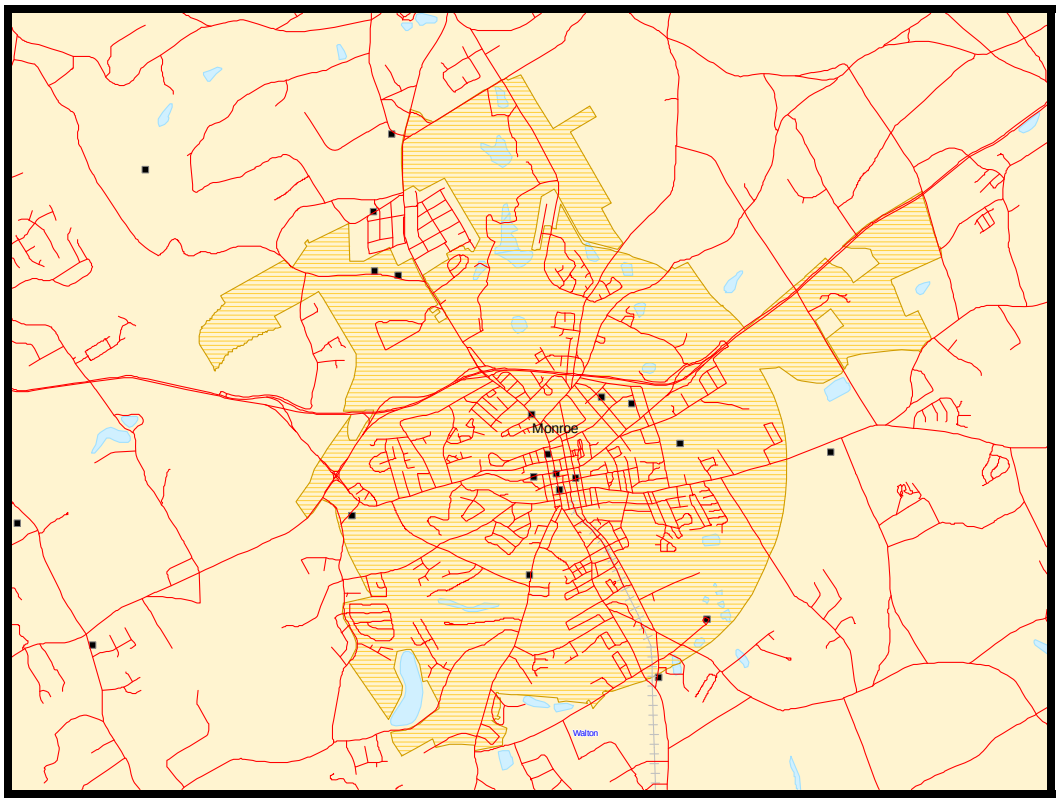
County Formed: December 15, 1818



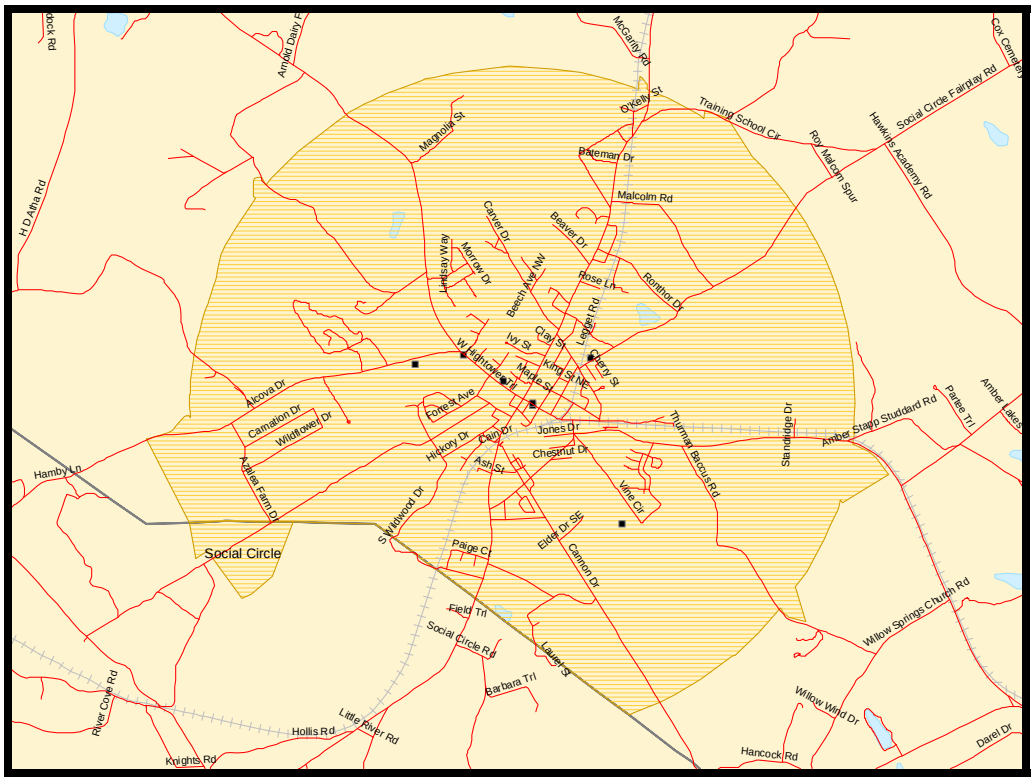
County Seat: City of Monroe

Incorporated Municipalities: Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between

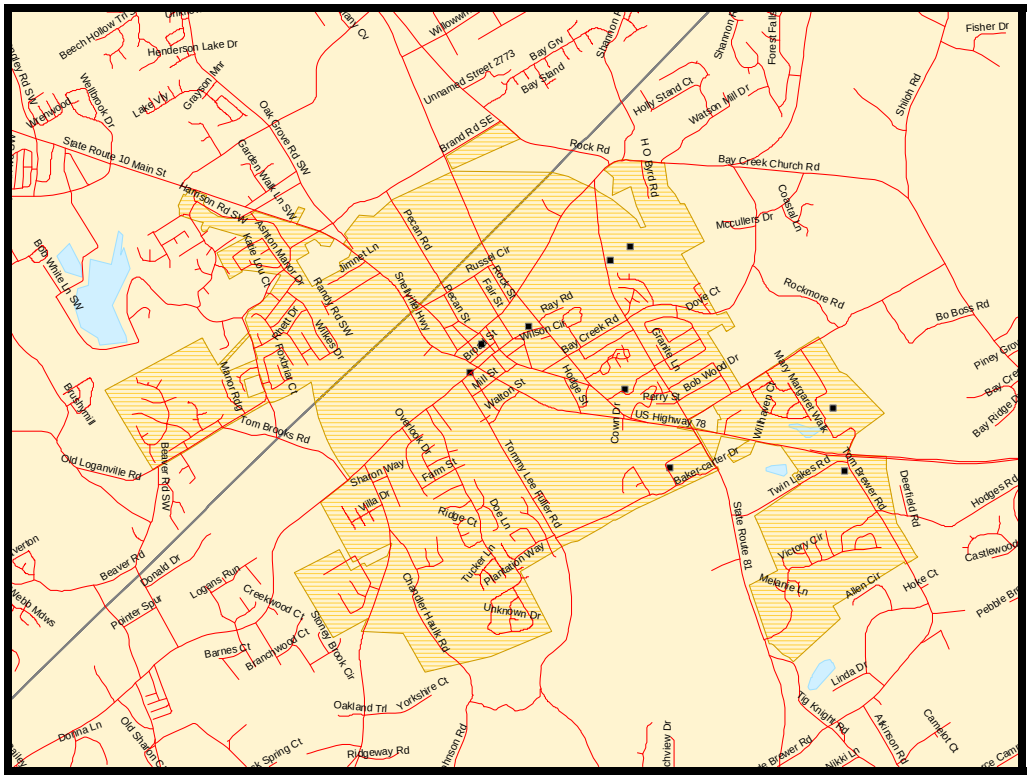
Monroe:



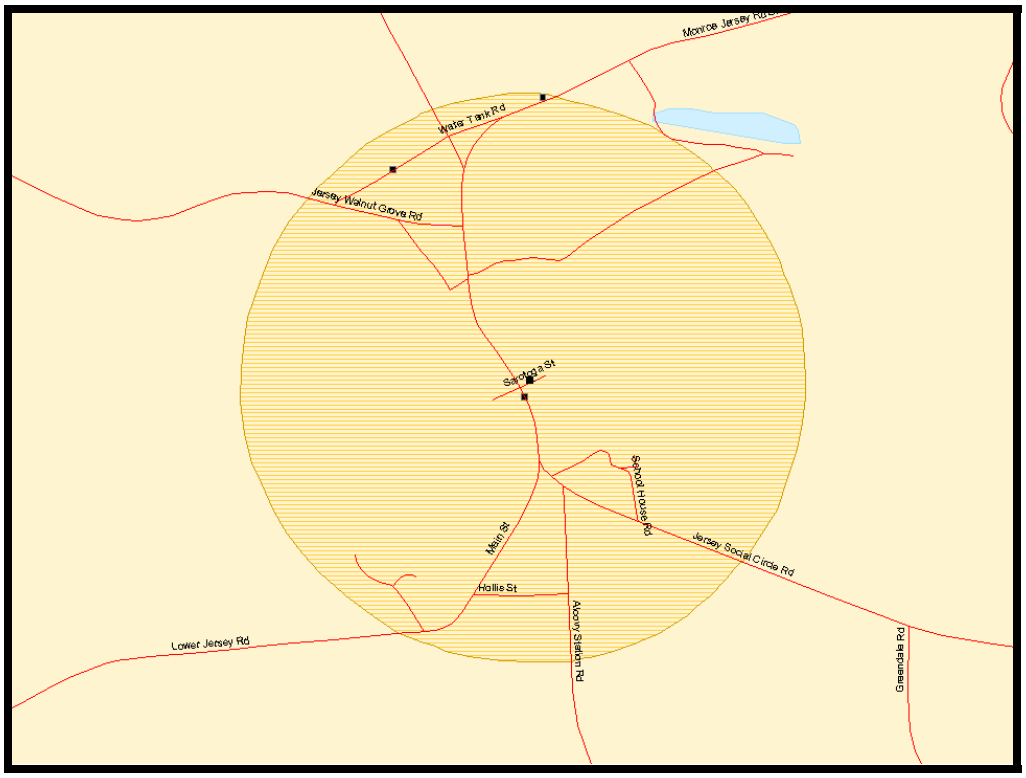
Social Circle:



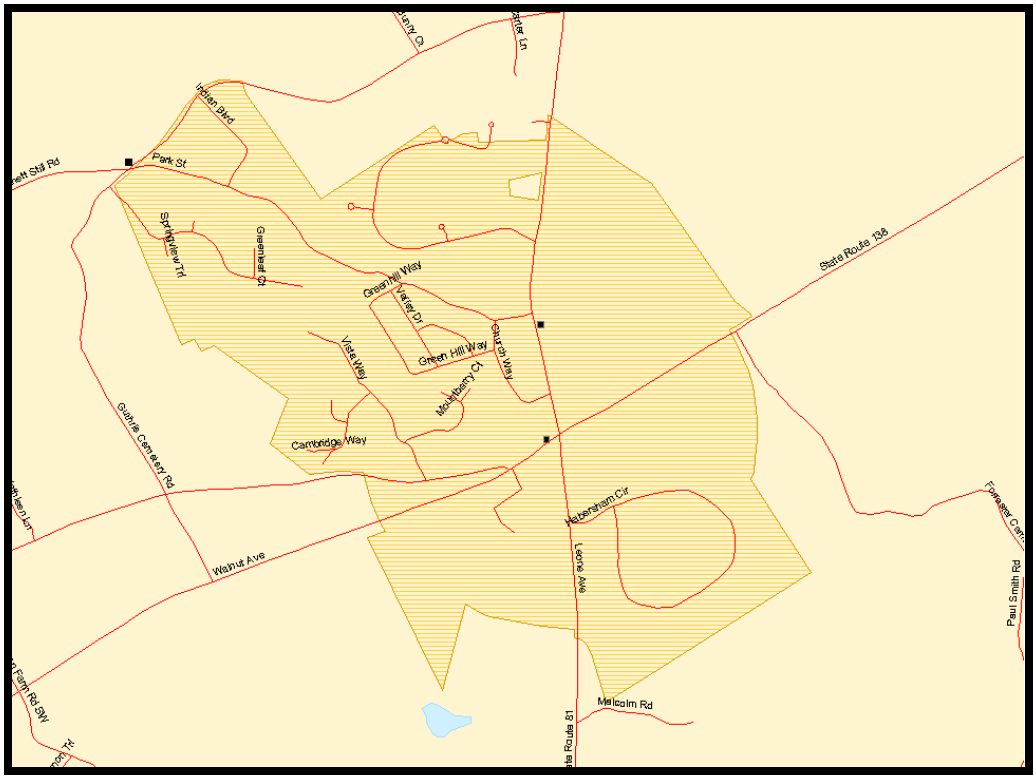
Loganville:



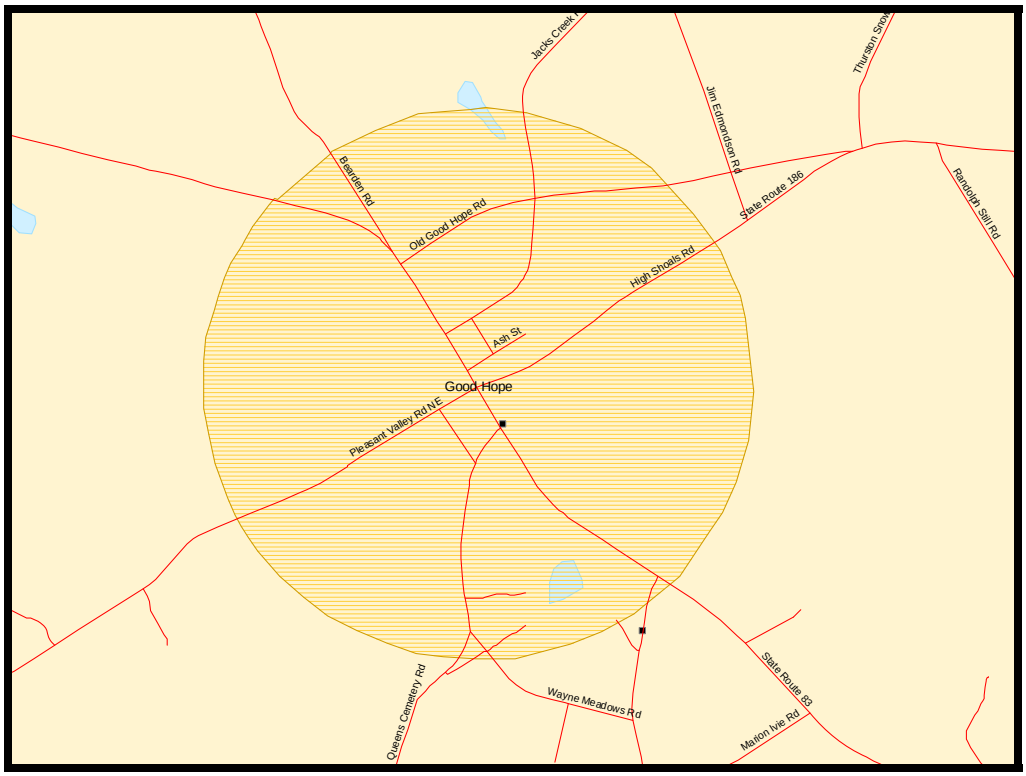
Jersey:



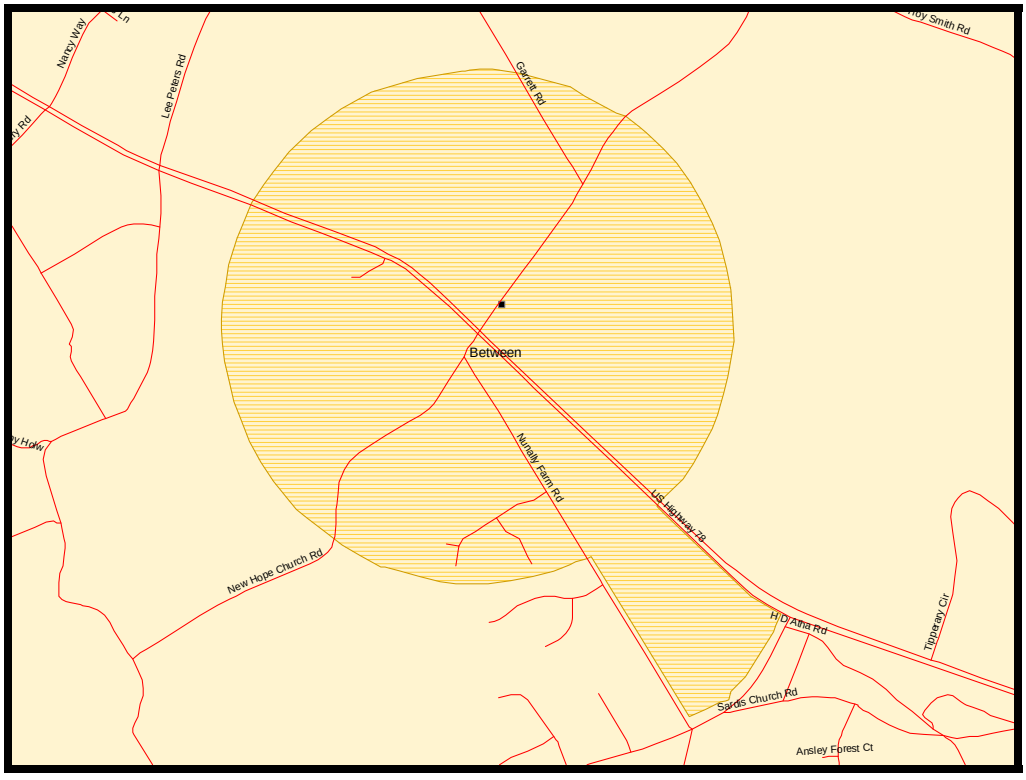
Walnut Grove:



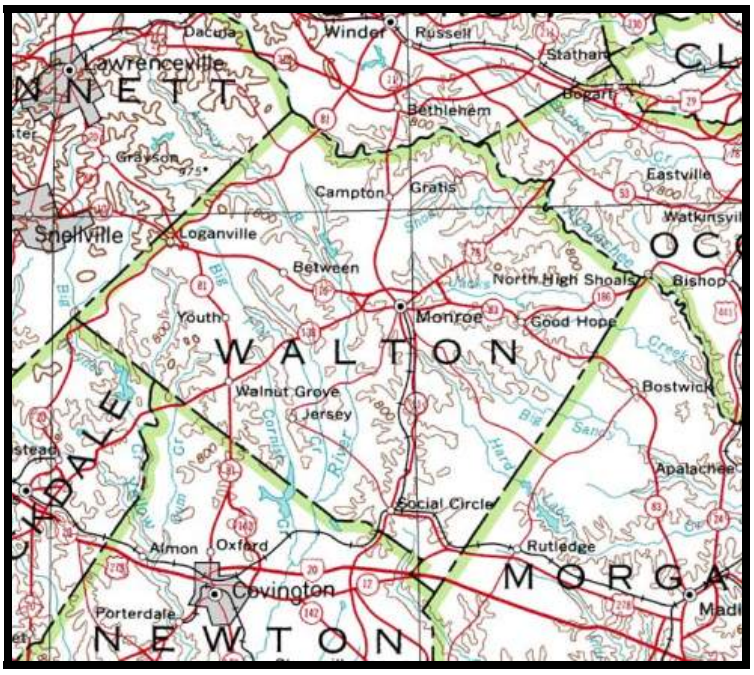
Good Hope:



Between:



Total Area: 329.3 square miles



Population Growth

Community	Population			Growth (%)	
	1980	1990	2000	1980-1990	1990-2000
Between	87	82	148	-5.7%	80.5%
Good Hope	200	181	210	-9.5%	16.0%
Jersey	201	149	163	-25.9%	9.4%
Loganville	1,841	3,180	5,435	72.7%	70.9%
Monroe	8,854	9,759	11,407	10.2%	16.9%
Social Circle	2,591	2,755	3,379	6.3%	22.6%
Walnut Grove	387	458	1,241	18.3%	171.0%
Walton County	31,211	38,586	60,687	23.6%	57.3%

Historical Facts:

Walton County which was created by the Lottery Act of 1818, was organized in 1819. Georgia's 46th county was named for George Walton, a signer of the Declaration of Independence, served as governor of Georgia and was a U.S. Senator.

There are several famous citizens of Walton County including seven other Georgia governors: James Boynton, Howell Cobb, Alfred Colquitt, Wilson Lumpkin, Henry McDaniel, Richard Russell, Jr., and Clifford Walker. Also, from Walton County was Moira B. Michael, known as the "Poppy Lady." She developed the symbol of the red Flanders Field Poppy as a memorial emblem for the veterans of wars.

Walton County has an unusually rich assemblage of historic sites and structures. Near Monroe is Jacks Creek, the site of the massacre by whites of a large encampment of Creek Indians in 1787. Some other historical sites worth visiting are the Brodnax House and Thompson's Mill.

Some of the communities in Walton County have very interesting names. Between was named by a postmaster because it was halfway between Monroe and Loganville, and Social Circle was possibly named for the first group of settlers who considered themselves a social circle and often passed around a "jug" of spirits.

Chapter 2
Local Natural Hazard, Risk and Vulnerability (HRV) Summary

The Walton County Hazard Mitigation Planning Committee (HMPC) identified nine natural hazards Walton County could be vulnerable to based on scientific evidence, of known past events, and on future probabilities. As a result of this planning process, which included an analysis of the risks associated with probable frequency and impact of each hazard, the HMPC determined that six natural hazards pose a threat significant enough to address within this Plan. These include drought, flooding, severe thunderstorm (including hail, lightning), tornado, wildfire, and winter storm. Each of these natural hazards is addressed in this chapter of the Plan. An explanation and results of the vulnerability assessment are found in Tables 2-1 and 2-2.

Table 2-1
Vulnerability Level Explanation

Based upon each hazard's total risk rating from the vulnerability assessment, a determination was made on whether each hazard poses a high, medium, or low risk to the entire County based on the following criteria:

Low Risk Level (0 to 15 Risk Rating Score)
A hazard with a Low Risk Level designation is expected to have little to no impact upon the County. The hazard poses very minimal health and safety consequences to the County's residences, and is expected to cause little to no property damage. The occurrence of a hazard with a Low Risk Level designation is rare; however, due to other factors, such as geographical location, it is still possible for such a hazard to occur and even cause significant damage based upon the magnitude of the event.

Medium Risk Level (16 to 25 Risk Rating Score)
A hazard with a Medium Risk Level designation is expected to have a moderate impact upon the County. The hazard poses minor health and safety consequences with minor injuries expected and few to no fatalities. The hazard may cause some properties to be damaged or destroyed. The occurrence of a hazard with a Medium Risk Level designation is likely at least once within the next 25 years.

High Risk Level (26 or higher Risk Rating Score)
A hazard with a High Risk Level designation is expected to have a significant impact upon the County. The hazard poses high health and safety consequences with numerous injuries and fatalities possible. The hazard may even cause some properties to be damaged or destroyed. A hazard with a High Risk Level designation is expected to occur at least once within a twelve month period.

Table 2-2
Results of Walton County Vulnerability Assessment

HAZARD	VULNERABILITY LEVEL
DAM FAILURE	LOW
DROUGHT	**HIGH**
EARTHQUAKE	LOW
FLOODING	**HIGH**
HAZMAT RELEASE	**HIGH**
SEVERE THUNDERSTORM (HAIL, LIGHTNING)	**HIGH**
TORNADO	**HIGH**
WILDFIRE	**HIGH**
WINTER STORM	**HIGH**

*Information for the table above was derived from the Vulnerability Assessment

2.1 Severe Thunderstorms (including Hail & Lightning)

A. Hazard Identification – A Severe Thunderstorm is defined as a thunderstorm producing wind at or above 58 mph and/or hail ¾ of an inch in diameter or larger. This threshold is met by approximately 10% of all thunderstorms. These storms can strike any time of year, but similar to tornados, are most frequent in the spring and summer months. They are nature's way of providing badly needed rainfall, dispersing excessive atmospheric heat buildup and cleansing the air of harmful pollutants. Not only can severe thunderstorms produce injury and damage from violent straight-line winds, hail, and lightning, but these storms can produce tornados very rapidly and without warning. Note: For the purposes of this Plan, severe thunderstorms that result from tropical storms and hurricanes are included in this section.

The most damaging phenomena associated with thunderstorms, excluding tornado activity, are thunderstorm winds. These winds are generally short in duration involving straight-line winds and/or gusts in excess of 50 mph. However, these winds can gust to more than 100 miles an hour, overturning trailers, unroofing homes, and toppling trees and power lines. Such winds tend to affect areas of the County with significant tree stands, as well as areas with exposed property, infrastructure, and above-ground utilities. Resulting damage often includes power outages, transportation and economic disruptions, and significant property damage. Severe thunderstorms can ultimately leave a population with injuries and loss of life. Thunderstorms produce two types of wind. Tornados are characterized by rotational winds. The other more predominant winds from a thunderstorm, downbursts, are small areas of rapidly descending air beneath a thunderstorm that strike the ground producing isolated areas of significant damage. 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. However, severe downburst winds can reach from 58 to 100 mph, or more, significantly increasing the potential for damage to structures. Downbursts develop quickly with little or no advance warning and come from thunderstorms whose radar signatures appear non-severe. There is no sure method of detecting these events, but atmospheric conditions have been identified which favor the development of downbursts. 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 tornados.

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

Finally, one of the most frightening aspects of thunderstorms is lightning. Lightning kills nearly one hundred people every year in the United States and injures hundreds of others. A possible contributing reason for this is that lightning victims frequently are struck before or just after the occurrence of precipitation at their location. Many people apparently feel safe from lightning when they are not experiencing rain. Lightning tends to travel the path of least resistance and often seeks out tall or metal objects. With lightning however, it's all relative. A 'tall' object can be an office tower, a home, or a child standing on a soccer field. 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.

B. Hazard Profile – Severe thunderstorms, hail, and lightning are serious threats to the residents of Walton County. Over the course of a year, the County experiences dozens of thunderstorms, with about one in ten being severe. Severe thunderstorms occur more frequently than any other natural hazard event within Walton County Most of these storms include lightning and/or hail. There have been dozens of severe thunderstorm events within Walton County over the past fifty years according to available documentation. It is very likely this is a low estimate due to poor record keeping in decades past. It is clear from information collected that more accurate record- keeping related to severe thunderstorms developed over the past two decades, with even more detailed information available for the past ten years.

Most of the available information relating to severe thunderstorms, hail, and lightning occurrences within Walton County fails to describe damage estimates in great detail. However, with each thunderstorm event it is likely there are unreported costs related to infrastructure and utilities repair and public safety costs, at a minimum. Severe thunderstorms have occurred in all parts of the day and night within Walton County They have also taken place in every single month of the year.

The Walton County HMPC utilized data from the National Climatic Data Center, the National Weather Service, numerous weather-related news articles and internet sites, and the Walton County LEOP 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. It is also likely that some severe thunderstorm events have gone unrecorded. Therefore, any conclusions reached based on available information on severe thunderstorms within Walton County should be treated as the minimal possible threat. In addition, due to insufficient record keeping in decades past, it is not feasible at this point to divide this historical hazard data by jurisdiction. The information contained within the Hazard Frequency Table, unless otherwise stated, pertains to Walton County as a whole.

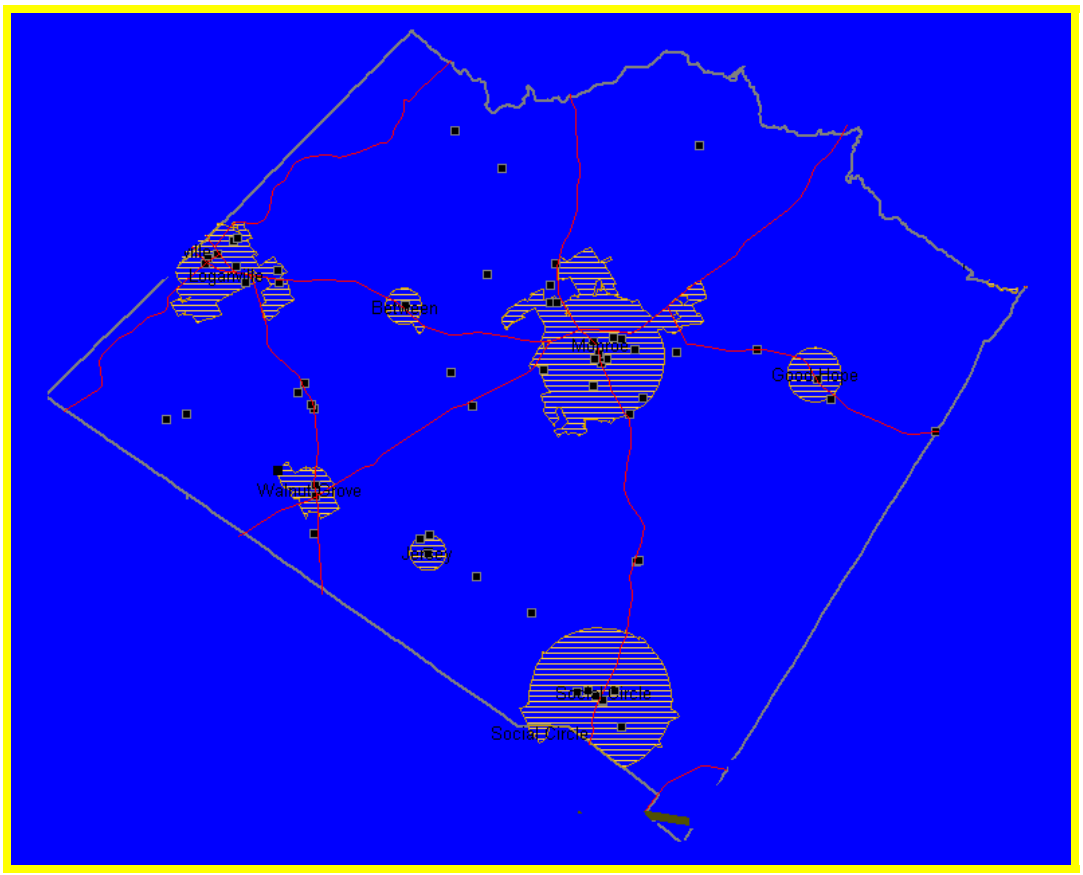
During the past fifty years, documentation of 136 severe thunderstorm events within Walton County was found. This number includes reported hail and lightning events. Based on the entire fifty-year period, it can be inferred that a severe thunderstorm is likely to occur roughly three times per year in Walton County. Another way of stating these findings is that every year in Walton County there is a 272% chance of a severe thunderstorm event. However, when only the past ten-year period is taken into consideration, the likelihood of such an event increases dramatically to a 610% chance per year (or about six events per year). The HMPC believes looking at this past ten-year period rather than the entire fifty-year period provides the most accurate information. Refer to the Hazard Frequency Table for more detailed analysis.

C. Assets Exposed to Hazard – In evaluating assets that are susceptible to severe thunderstorms, hail, and lightning, the committee determined that, since this hazard is not spatially defined, all public and private property is susceptible to severe thunderstorms, including all critical facilities. The map below identifies critical facilities located within the hazard area which, in the case of severe thunderstorms, includes the entire County. The entire County is classified under Wind Hazard Score Level 1. See legend for more detailed description.

Wind Hazard Scores Legend

The Wind Hazard Scores below are based on the 2000 International Building Code, figure 1609 contours showing 3 second gust wind speeds with a 50 year return interval.

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



D. Estimate of Potential Losses – For loss estimate information, please refer to the Critical Facilities Database, Appendix A and Appendix E-6, Worksheet 3A (Non-Spatially Defined Hazards) for each jurisdiction.

E. Multi-Jurisdictional Concerns – Any portion of Walton County can be negatively impacted by severe thunderstorms, hail, and lightning. Therefore, any mitigation steps taken related to these weather events should be pursued on a countywide basis and include the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between.

F. Hazard Summary – Overall, severe thunderstorm, hail, and lightning events pose one of the greatest threats to Walton County in terms of property damage, injuries and loss of life. Other than wildfire, these weather events represent the most frequently occurring natural hazard within Walton County and have a great potential to negatively impact the County each year. Based on the frequency of this hazard, as well as its ability to impact any part of the County, the HMPC recommends that the mitigation measures identified in this plan for severe thunderstorm, hail, and lightning be aggressively pursued. Specific mitigation actions related to these weather events are identified in Chapter 5.

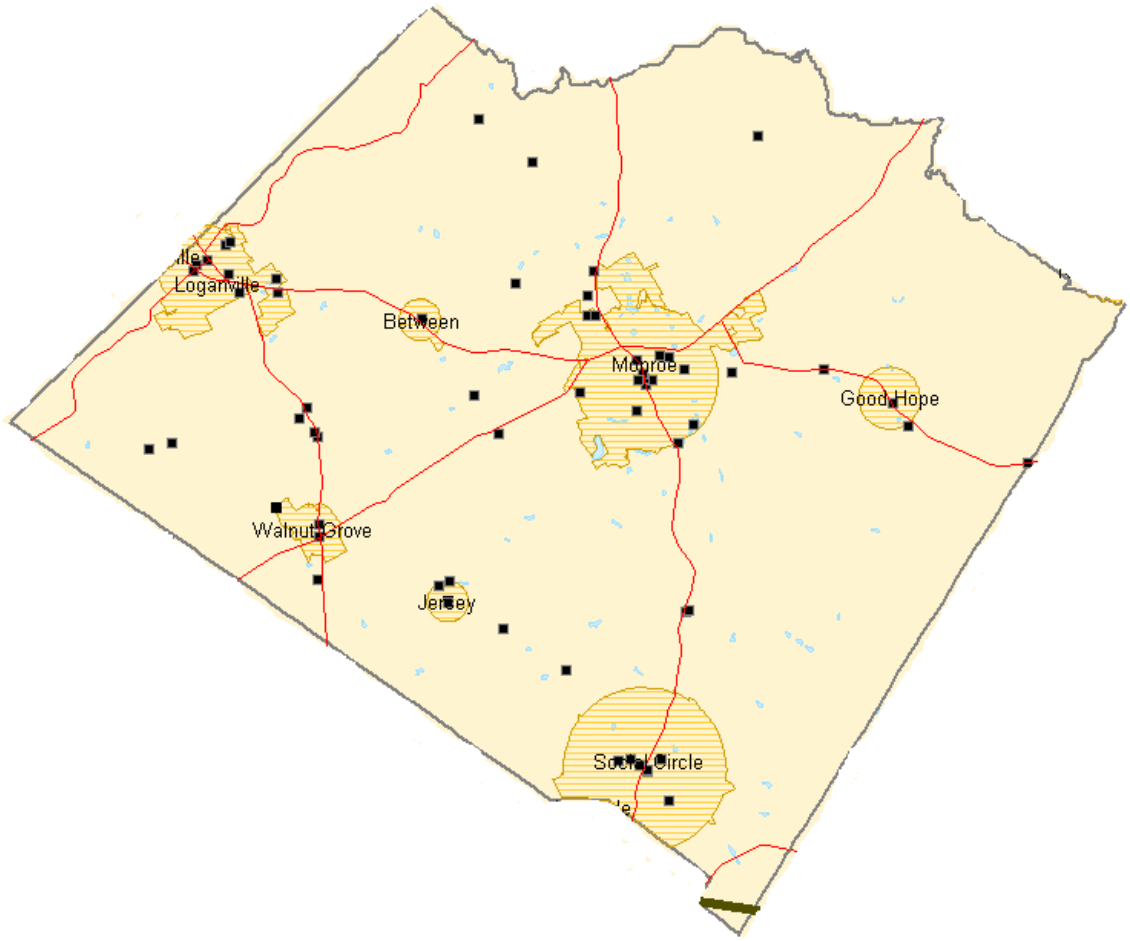
2.2 Winter Storms

A. Hazard Identification – The Walton County HMPC researched historical data from the National Climatic Data Center, The National Weather Service, as well as information from past newspaper articles and internet sites relating to winter storms in Walton County 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. Such storms make highway travel or any outdoor activity extremely hazardous due to falling trees, ice, and other debris.

B. Hazard Profile – Although winter storms occur relatively infrequently, they have the potential to wreak havoc on the community when they do strike. Winter storms within Walton County have typically caused damage to power lines, trees, buildings, structures, and bridges, to varying degrees. However, due to insufficient record keeping in decades past, it is not feasible at this point to divide this historical hazard data by jurisdiction. The information contained within the Hazard Frequency Table, unless otherwise stated, pertains to Walton County as a whole.

During the past fifty years, documentation of 15 winter storms was found. Based on the entire fifty-year period, a winter storm is likely to occur within Walton County approximately once every three years. Another way of stating these findings is that every year in Walton County there is a 30% chance of a winter storm. However, when only the past ten-year period is taken into consideration, the likelihood of such an event in Walton County increases significantly to a 130% chance per year (or about one storm 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. Refer to the Hazard Frequency Table for more detailed analysis.

C. Assets Exposed to Hazard - 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. The map on the following page identifies critical facilities located within the hazard area which, in the case of winter storms, includes the entire County.



D. Estimate of Potential Losses - For loss estimate information, please refer to the Critical Facilities Database, Appendix A and Appendix E-6, Worksheet 3A (Non-Spatially Defined Hazards) for each jurisdiction.

E. Multi-Jurisdictional Concerns – Any portion of Walton County can be negatively impacted by winter storms. Therefore, any mitigation steps taken related to winter storms should be pursued on a countywide basis and include the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between.

F. Hazard Summary – Winter storms, unlike other natural hazards, typically afford communities some advance warning. The National Weather Service issues winter storm warnings and advisories as these storms approach. Unfortunately, even with advance warning, some of the most destructive winter storms have occurred in the Southern United States, where buildings, infrastructure, crops, and livestock are not well-equipped for severe winter conditions. Motorists, not accustomed to driving in snow and icy conditions, pose an additional danger on roads and highways. The Walton County HMPC

recognized the potential threats of winter storms and identified specific mitigation actions. These can be found in Chapter 5.

2.3 Flooding

A. Hazard Identification: The vulnerability of a river or stream to flooding depends upon several 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 also contributing factors for floods in that water runoff is greater in areas with steep slopes and little or no vegetation.

B. Hazard Profile: The Walton County HMPC researched flood information on Walton County for the past fifty years. The main sources of information used by the HMPC were the National Climatic Data Center, the Walton County Emergency Operations Plan, newspaper articles, and internet sites. What was found was that flooding has caused moderate to severe damage on a relatively small number of occasions within the past decade. In addition, very few additional recorded flood events were found when looking back at the entire fifty-year period, which is likely a result of poor record keeping. Therefore, the HMPC believes the information collected is skewed when viewed from a fifty-year perspective.

Today, flood events within Walton County are usually associated within areas of special flood hazard as identified on Flood Insurance Rate Maps (FIRMs) published by FEMA. Relatively little information on flooding damage estimates, in terms of dollars, was available. However, with each of these events there were certainly significant costs related to road repair, infrastructure repair, and public safety, at a minimum. Most of the flood damage that has occurred historically within the County appears to be "public" flood damage. More specifically, roads and culverts washing out have been the most common flooding problem on record. There are only eight flood insurance claims reported since 1978.

During this fifty-year period, documentation of 10 flood events was found. Based on the entire fifty-year period, it can be inferred that a moderate to severe flood event is likely to occur approximately once every five years in Walton County. Another way of stating

these findings is that every year in Walton County there is a 20% chance of a moderate to severe flood event. However, when only the past ten-year period is taken into consideration, the likelihood of such an event in Walton County increased to a 90% chance per year (or almost once per year). The HMPC believes looking at this past ten-year period, rather than the entire fifty-year period, provides the most accurate information. Refer to the Hazard Frequency Table for more detailed analysis. However, due to insufficient record keeping in decades past, it is not feasible at this point to divide this historical hazard data by jurisdiction. The information contained within the Hazard Frequency Table, unless otherwise stated, pertains to Walton County as a whole.

Additionally, the Federal Emergency Management Agency (FEMA) advises that historically 85% of all Presidential Declared Disasters are flood-related. For this reason, Congress established the National Flood Insurance Program (NFIP) 38 years ago. Today, the NFIP is recognized as the premier flood mitigation program in the world. The NFIP established a national standard of the one percent annual flood frequency (.01%), or the so called 100-year flood level, as the standard for vulnerability identification; the standard for risk assessment; and, the standard for development protection. FEMA is charged with identifying all Special Flood Hazard Areas in the United States through a Flood Insurance Study and Mapping process. The result of this process produces Flood Insurance Rate maps (FIRMs) for jurisdictions vulnerable to flooding. For these reasons, the Walton County HMPC has determined that the FEMA identified 100-year floodplain is the risk that we will utilize for mitigation purposes. Walton County's countywide flood insurance study, dated February 16, 1995, is utilized for depth-damage information.

Walton County and the Cities of Monroe and Loganville and the Town of Good Hope each participate in the National Flood Insurance Program (NFIP) and follow the Program guidelines to ensure future development is carried out in the best interests of the public. The County (CID No. 130185) and the City of Monroe (CID No. 130227) entered the NFIP on February 16, 1990, the City of Loganville entered the NFIP program on July 16, 1982 (CID No. 130326), and the Town of Good Hope entered the NFIP program on June 17, 1986 (CID No. 130411). The City of Social Circle (CID no. 130505, sanction date: February 16, 1996) and the Towns of Between (CID no. 130410, sanction date: February 16, 1996) and Walnut Grove (CID no. 130413, sanction date: August 13, 1977) have each been sanctioned in years past and are not currently participating in the NFIP. Additionally, the City of Jersey has never participated in the NFIP. The HMPC has included a mitigation action to address the entry or re-entry by these four non-participants into the NFIP.

According to NFIP guidelines, each jurisdiction has executed a Flood Damage Prevention Ordinance. The purpose of this ordinance 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 ordinance 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 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 (2006 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.

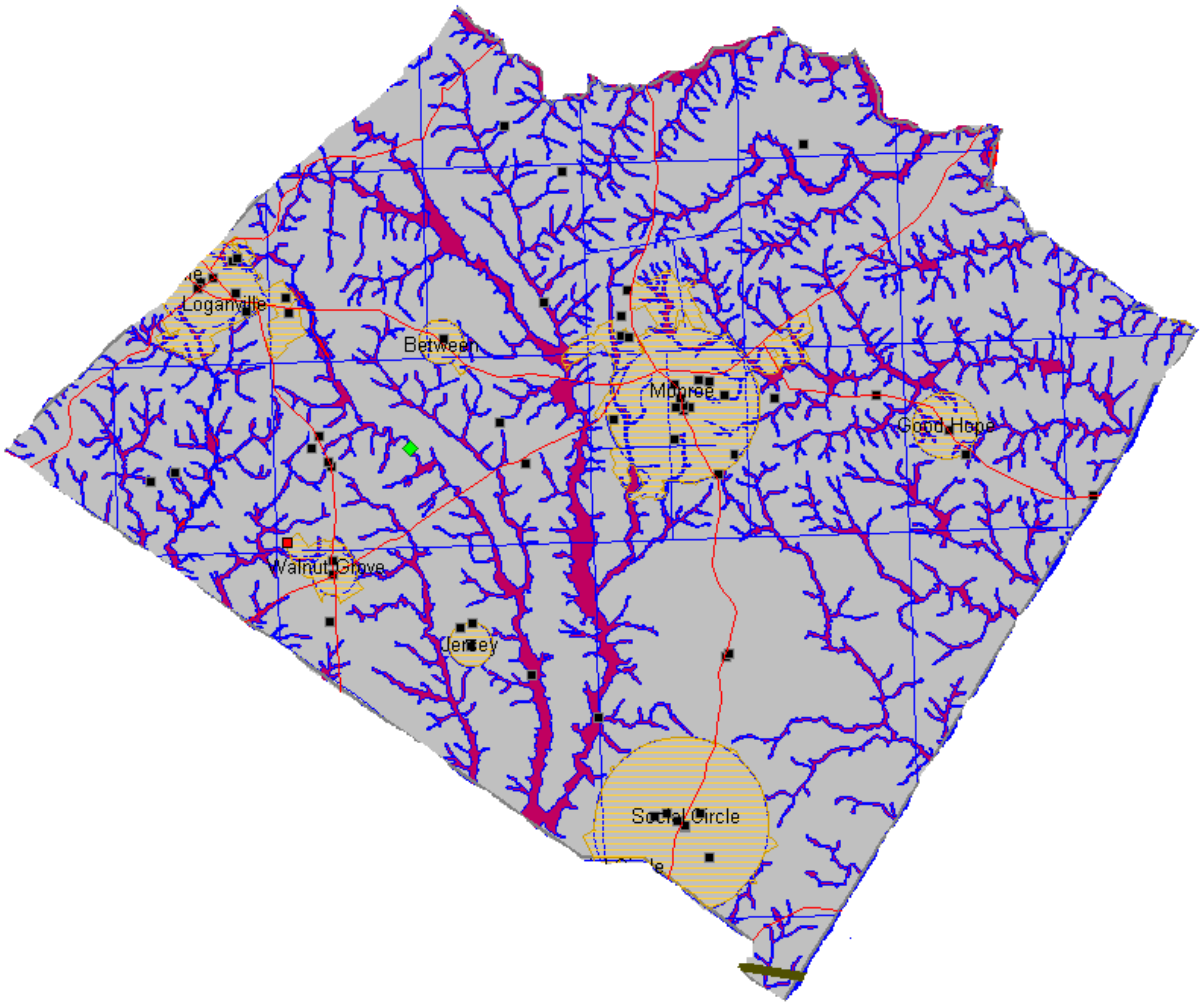
C. Assets Exposed to Hazard – In evaluating assets that may potentially be impacted by the effects of flooding, the HMPC attempted to identify all known structures located within or close to the identified 100-year floodplain.
The map below identifies the locations of critical facilities in relationship to the known flooding hazard areas within Walton County. Maps on the pages that follow identify individual municipalities and individual flood-prone areas that are listed in Section C. The addresses of these individual flood-prone areas have been edited due to privacy concerns.

Flood Hazard Scores

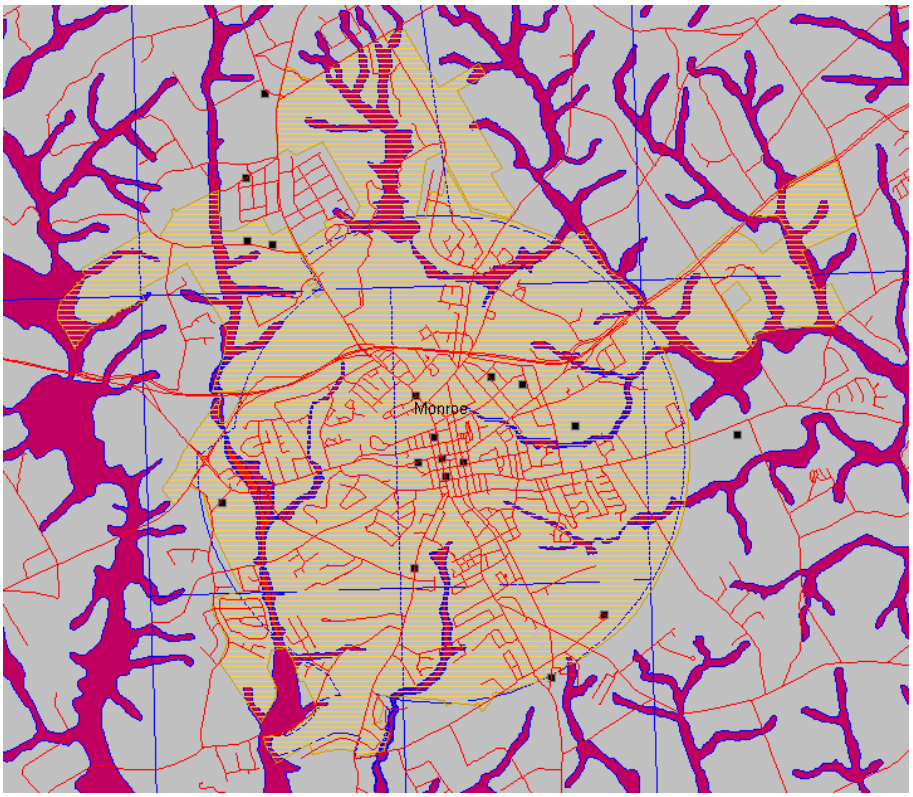
The flood hazard scores are derived from the FEMA Q3 "Zone" values. The Q3 layer is derived from the FEMA paper flood insurance rate maps.

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

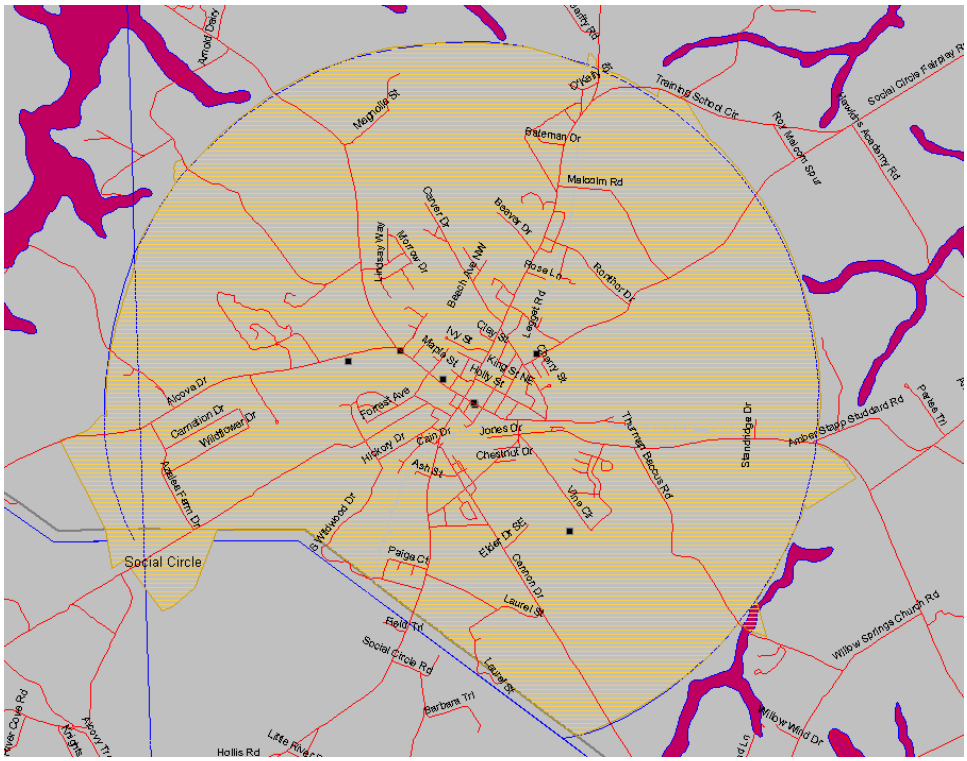
Walton County:



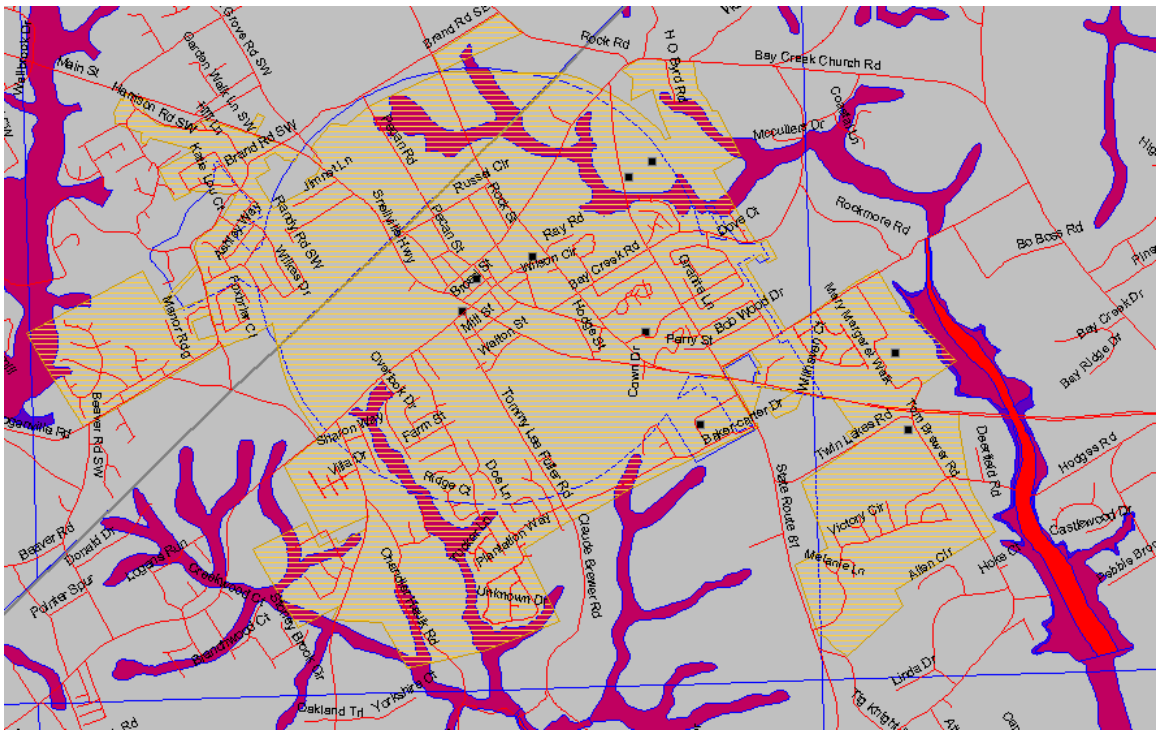
City of Monroe:



City of Social Circle:

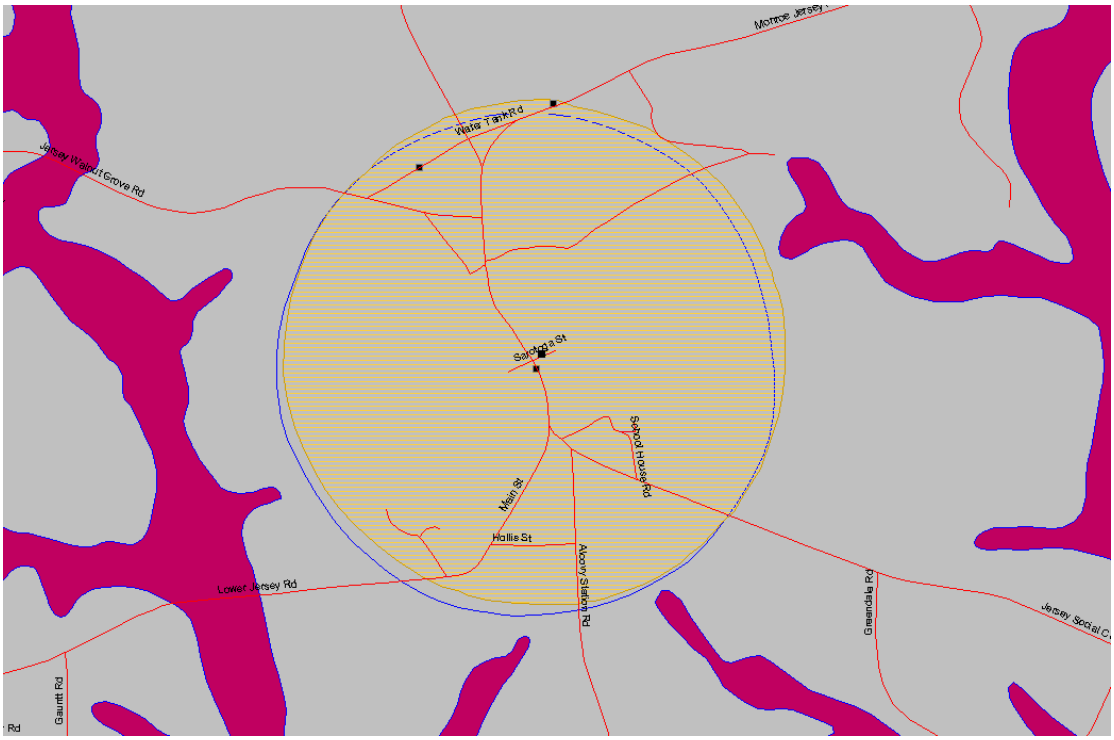


City of Loganville:

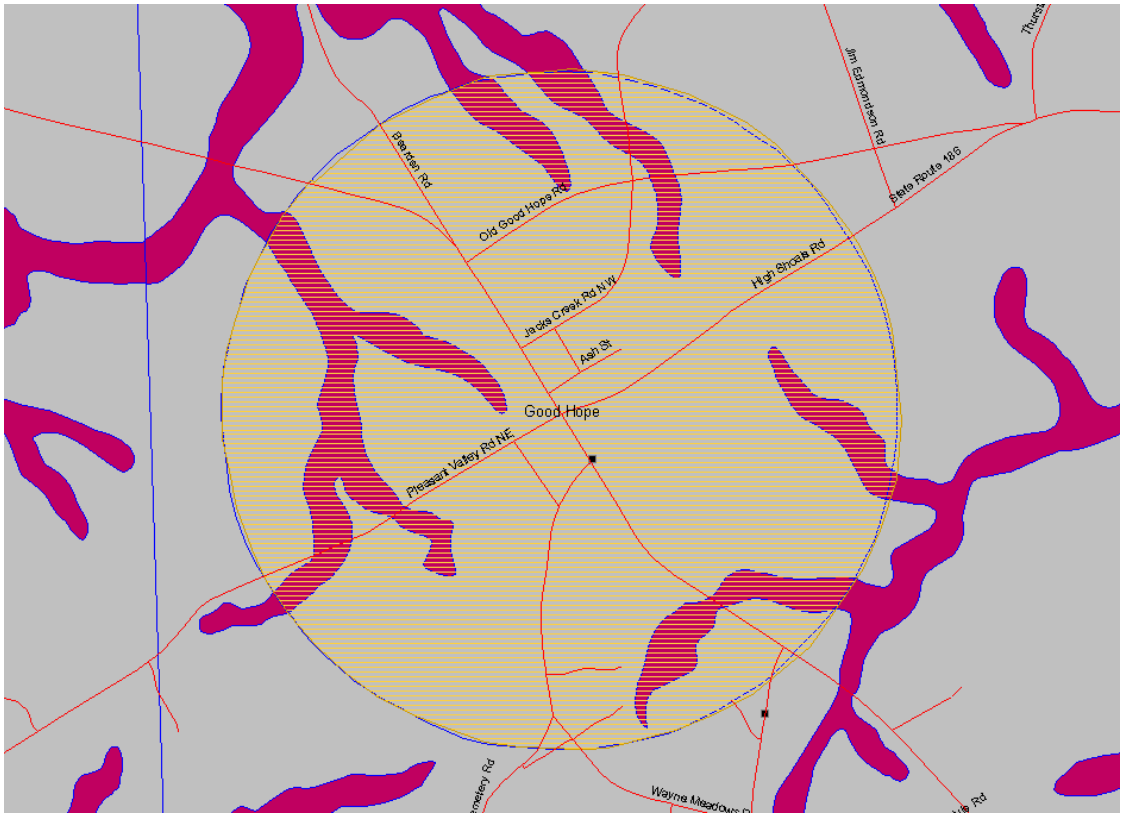


Town of Walnut Grove:

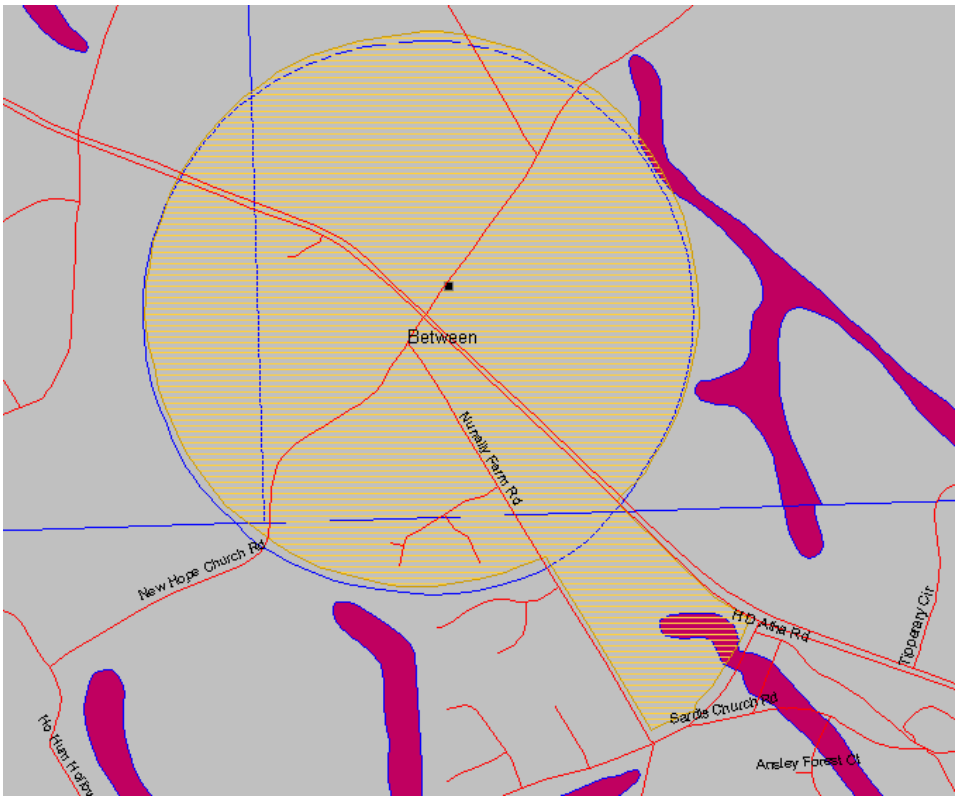
City of Jersey:



Town of Good Hope:

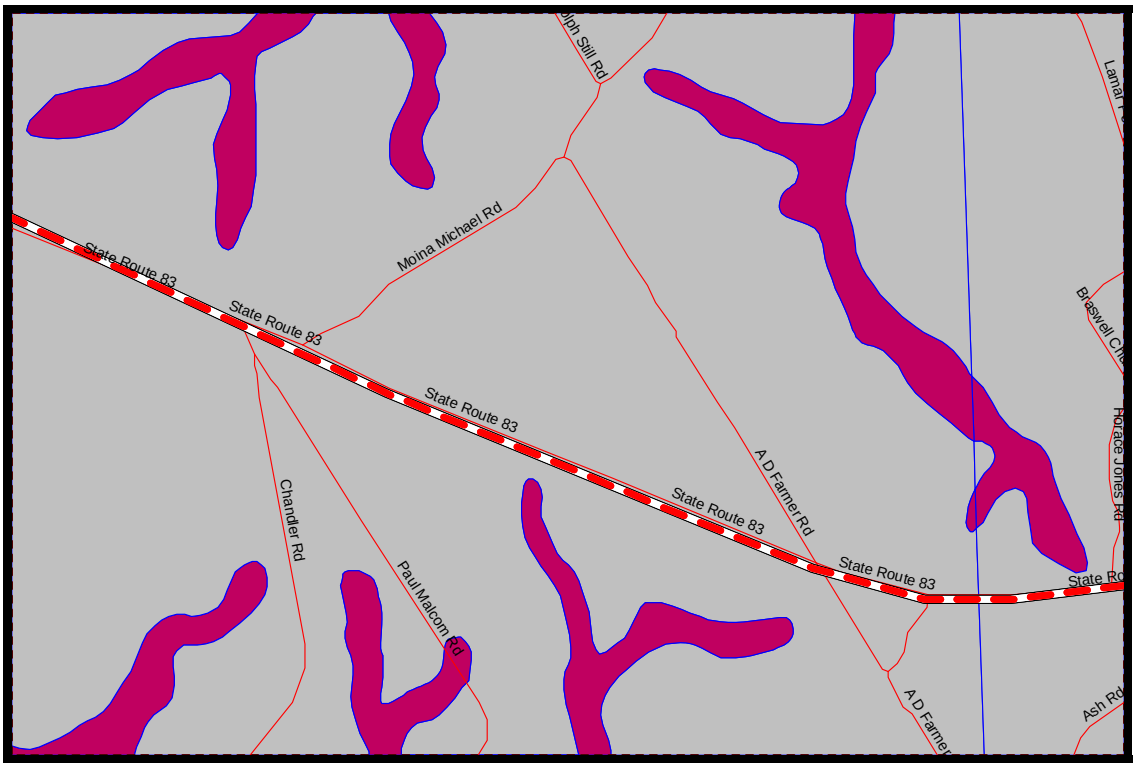


Town of Between:

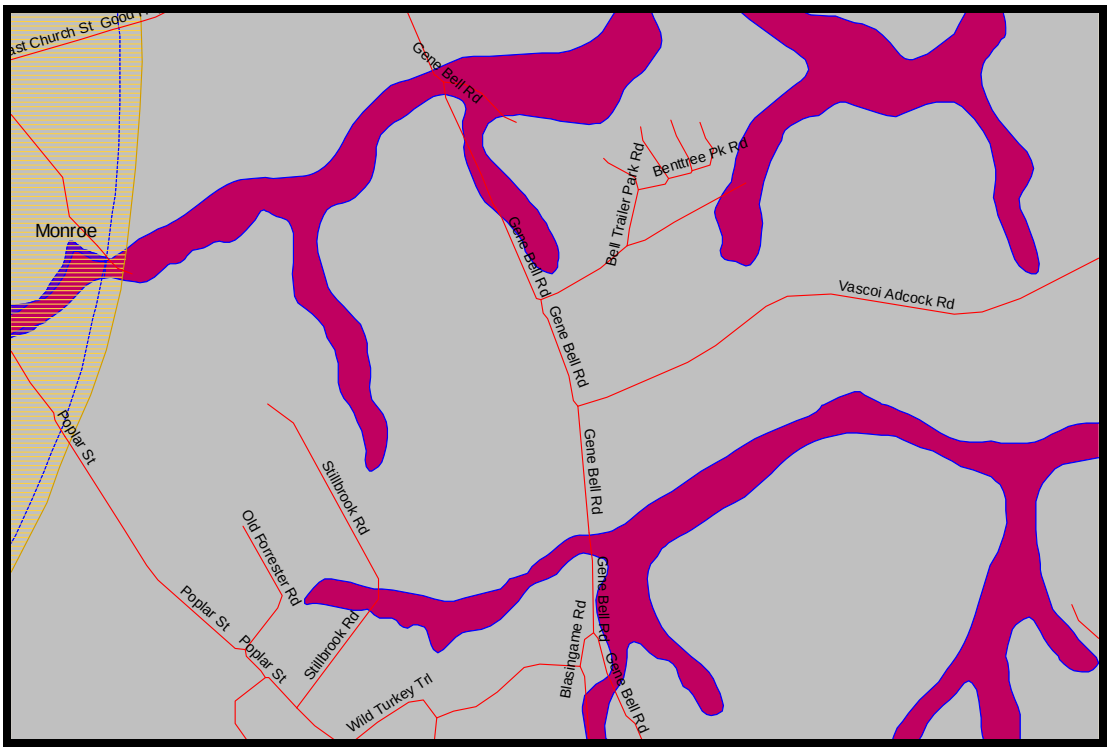


XXX Atha Woods Dr, Monroe, GA 30655:

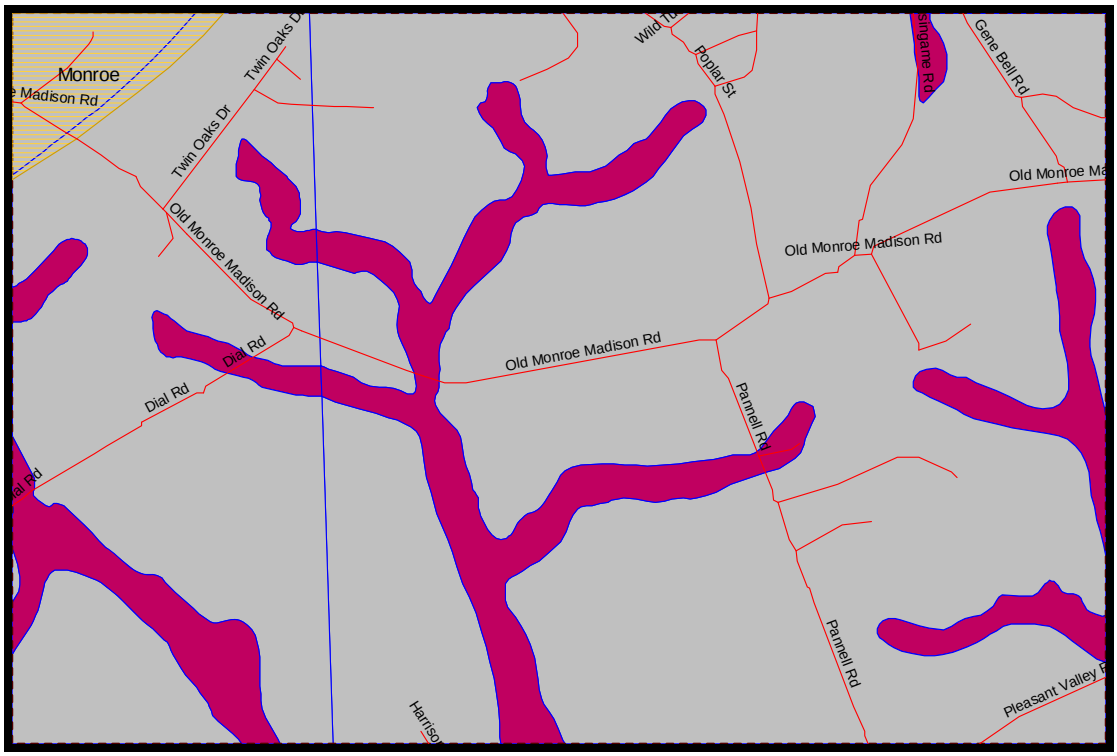
4.5M East of Monroe, Hwy 83:



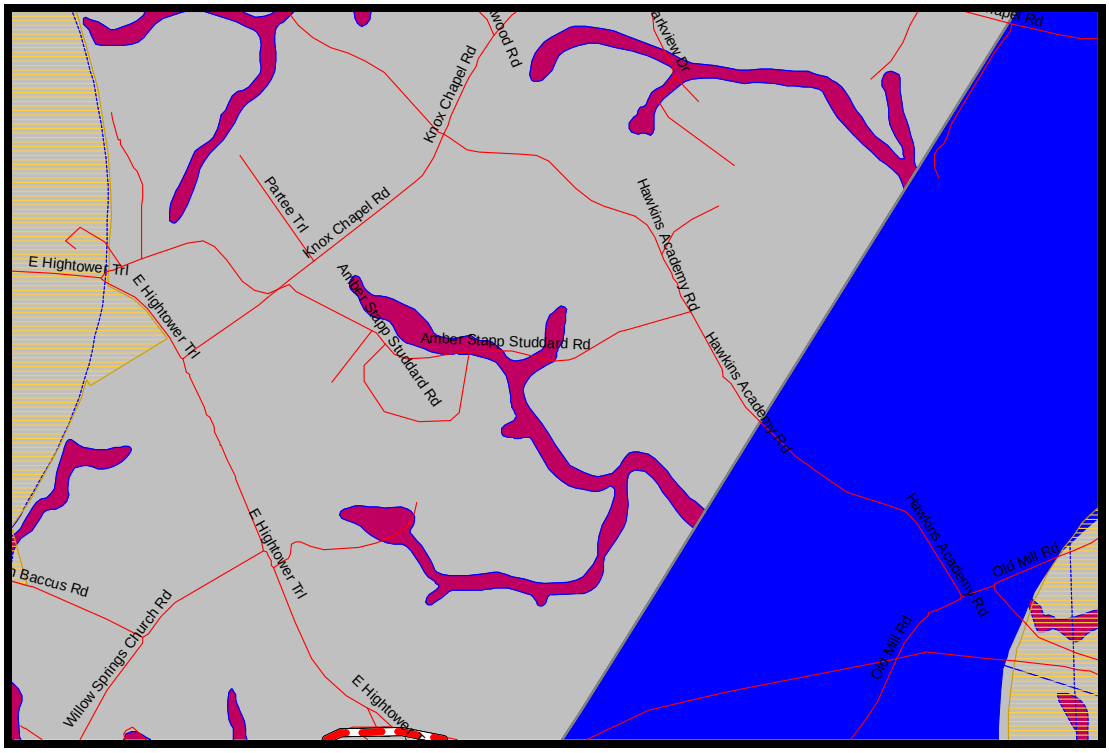
XXX Gene Bell Rd, Monroe, GA 30655:



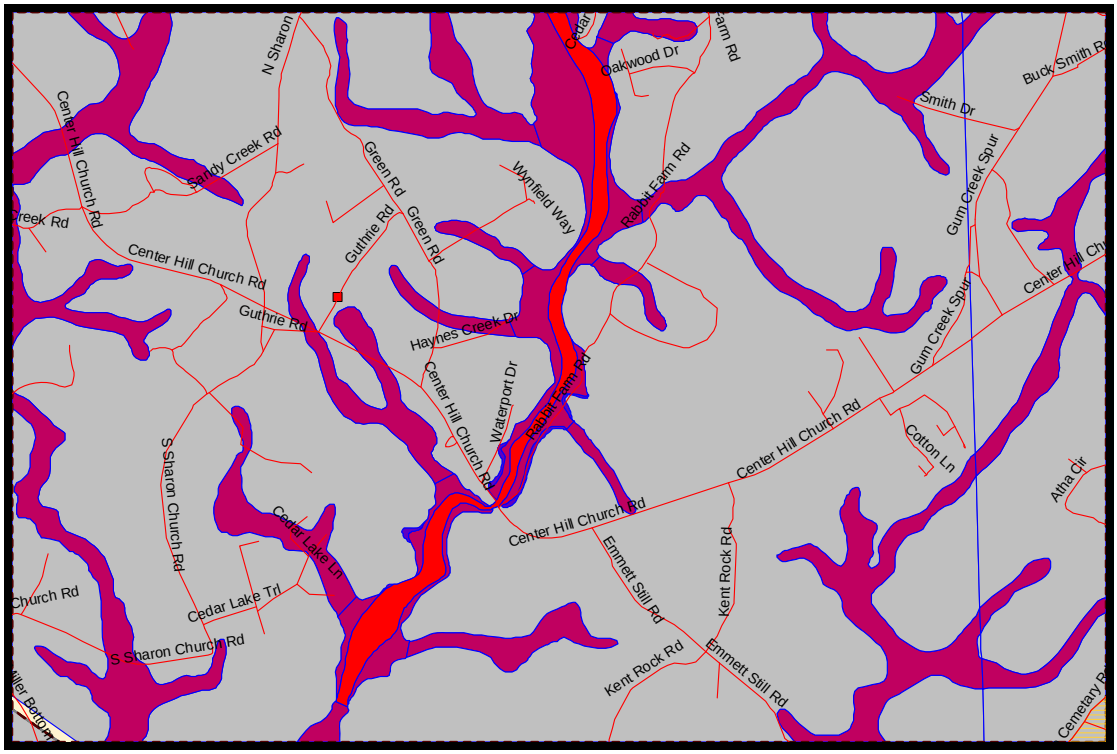
XXX Pannell Rd, Monroe, GA 30655:



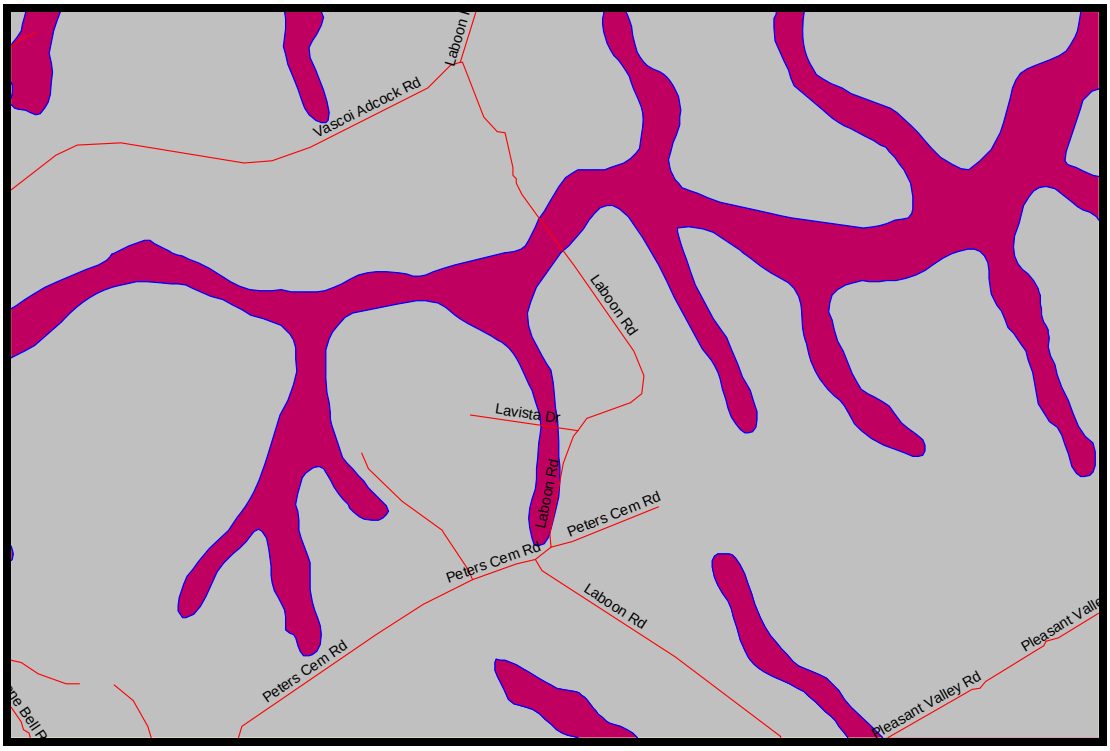
XXX Amberstapp Studdard Rd, Social Circle, GA 30279:



XXX Rabbit Farm Rd, Loganville, GA 30249:



XXX Laboon Rd, Monroe, GA 30655:



XXX Mt Creek Church Rd, Monroe, GA 30655:

D. Estimate of Potential Losses – For loss estimate information, please refer to

the Critical Facilities Database, Appendix A, and Appendix E-6, Worksheet 3A (Flooding) for each jurisdiction. Currently, no Worksheet 3A is available for Between, Good Hope and Walnut Grove. However, a mitigation action item has been added to this Plan that will address this lack of information and will include Worksheet 3A's for Between, Good Hope and Walnut Grove in the first update to this Plan.

E. Multi-Jurisdictional Concerns – With a large enough flood event, many portions of Walton County can potentially be impacted by flooding, however, the areas most prone to flooding have historically been those areas located within the 100-year floodplain. As a general rule, most of the flooding problems associated with Walton County, Monroe, Loganville, and Good Hope are in the following areas marked on maps where flood insurance claims have occurred. These are the areas of potential repetitive flood losses, although at this time none of the four communities that are flood-prone have experienced any repetitive flood losses. It should be noted that, although some of the prior flood insurance claims represent locations near Monroe, Loganville, and Good Hope, no flood insurance claims represent locations within these municipalities. All claims on file have occurred in unincorporated Walton County.

The jurisdictions of Social Circle, Jersey, and Between have never suffered flood damage to our knowledge; and, therefore have been determined by the HMPC to have no significant flood problem. The same holds true for the original boundaries of Walnut Grove. However, Walnut Grove later annexed a portion of the County which does include some areas in the 100-year floodplain.

F. Hazard Summary – Flooding has the potential to inflict significant damage within Walton County. Mitigation of flood damage requires the community to have knowledge of flood-prone areas, including roads, bridges, bodies of water, and critical facilities, as well as the location of the County's designated shelters. The Walton County HMPC identified flooding as a hazard requiring mitigation measures and identified specific mitigation goals, objectives and action items they deemed necessary to lessen the impact of flooding. These findings are found in Chapter 5.

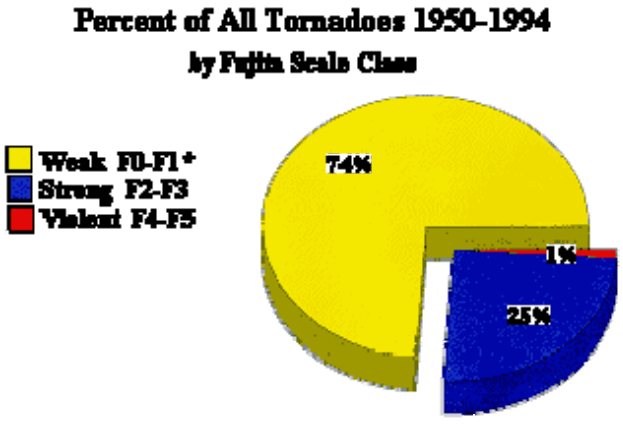
2.4 Tornados

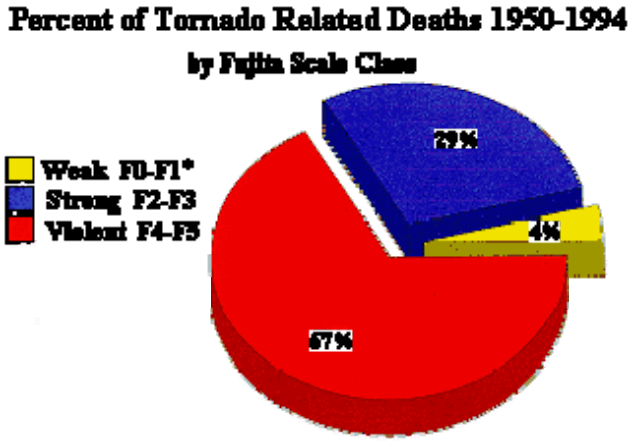
A. Hazard Identification – A tornado is a dark, funnel-shaped cloud containing violently rotating air that develops below a heavy cumulonimbus cloud mass and extends toward the earth. The funnel twists about, rises and falls, and where it reaches the earth causes great destruction. The diameter of a 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 just as 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 Fujita Scale is the standard scale for rating the severity of a tornado as measured by the damage it causes (see table below).

The Fujita Scale of Tornado Intensity

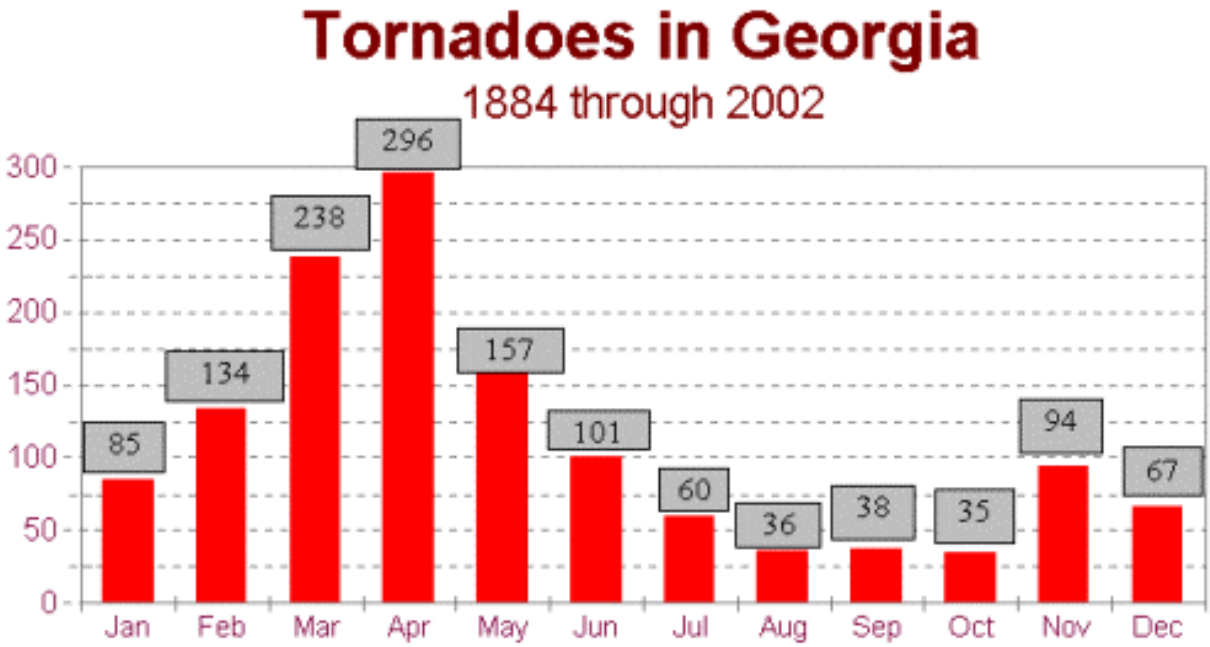
F-Scale Number	Intensity Phrase	Wind Speed	Type of Damage Done
F0	Gale tornado	40-72 mph	Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages sign boards.
F1	Moderate tornado	73-112 mph	The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages may be destroyed.
F2	Significant tornado	113-157 mph	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.
F3	Severe tornado	158-206 mph	Roof and some walls torn off well constructed houses; trains overturned; most trees in forest uprooted
F4	Devastating tornado	207-260 mph	Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.
F5	Incredible tornado	261-318 mph	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles fly through the air in excess of 100 meters; trees debarked; steel re-inforced concrete structures badly damaged.

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.

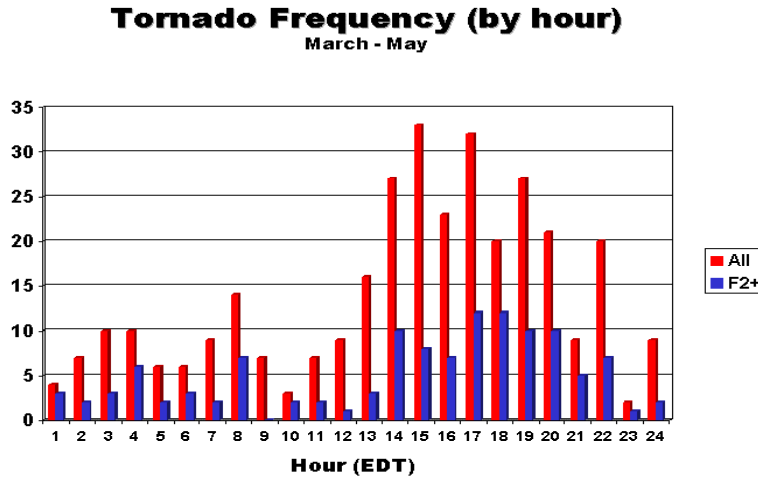


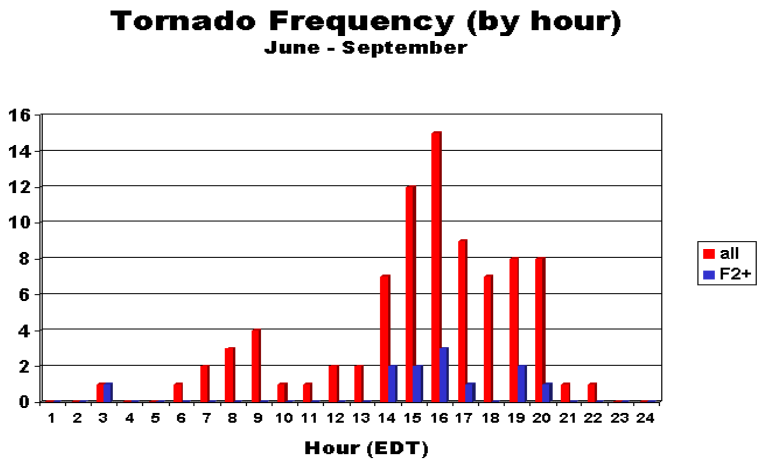


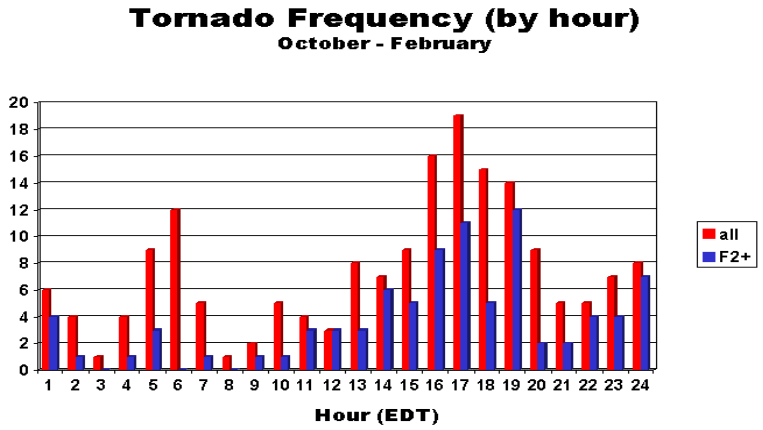
Tornados are considered to be the most unpredictable and destructive of weather events, even though they are not the most frequently occurring natural hazard within Walton County Tornado season in Georgia ordinarily runs from March through August, with the peak activity being in March and April. However,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



Tornados can also strike at any time of day or night, including early morning hours, though they are most common throughout the afternoon and into the evening hours.







B. Hazard Profile – All areas within Walton County are vulnerable to the threat of a tornado. There is simply no method to determine exactly when or where a tornado will occur. According to available records, Walton County has experienced 13 confirmed tornados within the past fifty years. It is likely that other tornados have occurred during the past half-century, but the information available was somewhat limited. Although this Plan only looks at the past fifty year history, it should be noted that one additional F2 tornado was found to have occurred in 1899 in Walton County.

The Walton County Hazard Mitigation Planning Committee (HMPC) 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 Walton County should be treated as the minimal possible threat. In addition, due to insufficient record keeping in decades past, it is not feasible at this point to divide this historical hazard data by jurisdiction. The

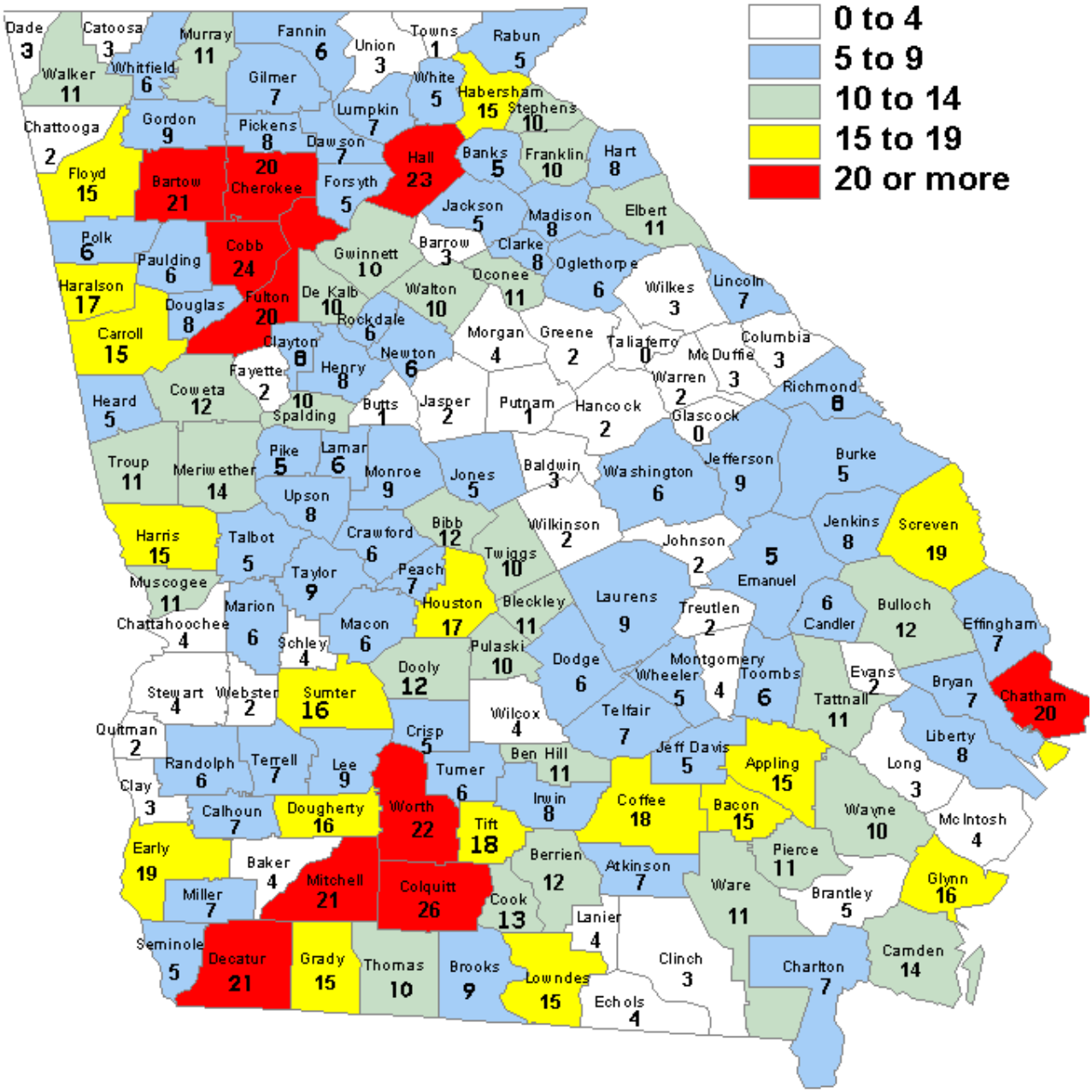
information contained within the Hazard Frequency Table, unless otherwise stated, pertains to Walton County as a whole.

During the past fifty years, documentation of 13 tornado events was found. Based on the entire fifty-year period, it can be inferred that a tornado is likely to occur within Walton County approximately once every four years. Another way of stating these findings is that every year in Walton County there is roughly a 26% chance of a tornado event. When only the past ten-year period is taken into consideration, the estimated likelihood of such an event occurring within Walton County decreases somewhat to a 20% chance per year (or about once every five years). The HMPC believes looking at the more active fifty-year period, rather than the most recent ten-year period, may provide a more accurate picture of the likelihood of future tornados within the County. Refer to the Hazard Frequency Table for more detailed analysis.

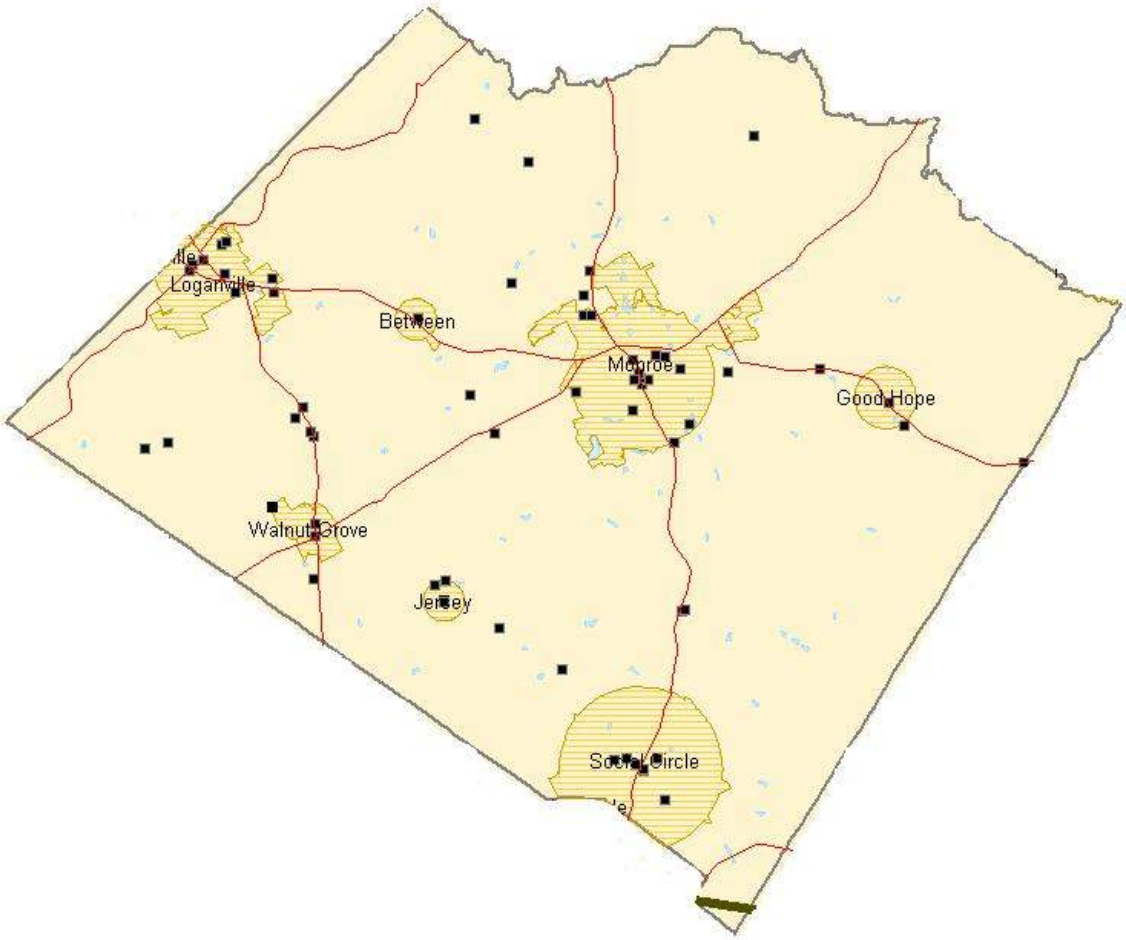
The statewide map on the following page shows Georgia tornados on record dating from 1950 to 2004. The map indicates the occurrence of only ten tornados within the County during this time period (the HMPC found 13), yet this statewide map is still valuable in demonstrating the tornado activity of Walton County in relationship to surrounding Georgia counties. As stated in the preceding paragraphs, the HMPC found evidence of 13 tornados within the past fifty years as well as one additional tornado dating back to 1899.

Number of Tornadoes per County

1950 - 2004



C. Assets Exposed to Hazard - Tornados are unpredictable and are indiscriminate as to when or where they strike. In evaluating assets that may potentially be impacted by the effects of tornados, the HMPC determined that all critical facilities, public and private property, are susceptible. The map below identifies critical facilities located within the hazard area which, in the case of tornados, includes the entire County.



D. Estimate of Potential Losses – For loss estimate information, please refer to the Critical Facilities Database, Appendix A, and Appendix E-6, Worksheet 3A (Non-Spatially Defined Hazards) for each jurisdiction.

E. Multi-Jurisdictional Concerns - Much of Walton County has a 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 tornados, any mitigation steps taken related to tornados should be undertaken on a countywide basis, including the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between.

F. Hazard Summary – Although the history of tornados within Walton County appears to indicate relatively low tornadic activity, the County remains at risk to potential damage

from tornados. Should a tornado strike dense residential areas, or certain critical facilities, significant damage and loss of life could occur. Due to the destructive power of tornados it is essential that the mitigation measures identified in this plan receive full consideration. Specific mitigation recommendations related to tornados are identified in Chapter 5.

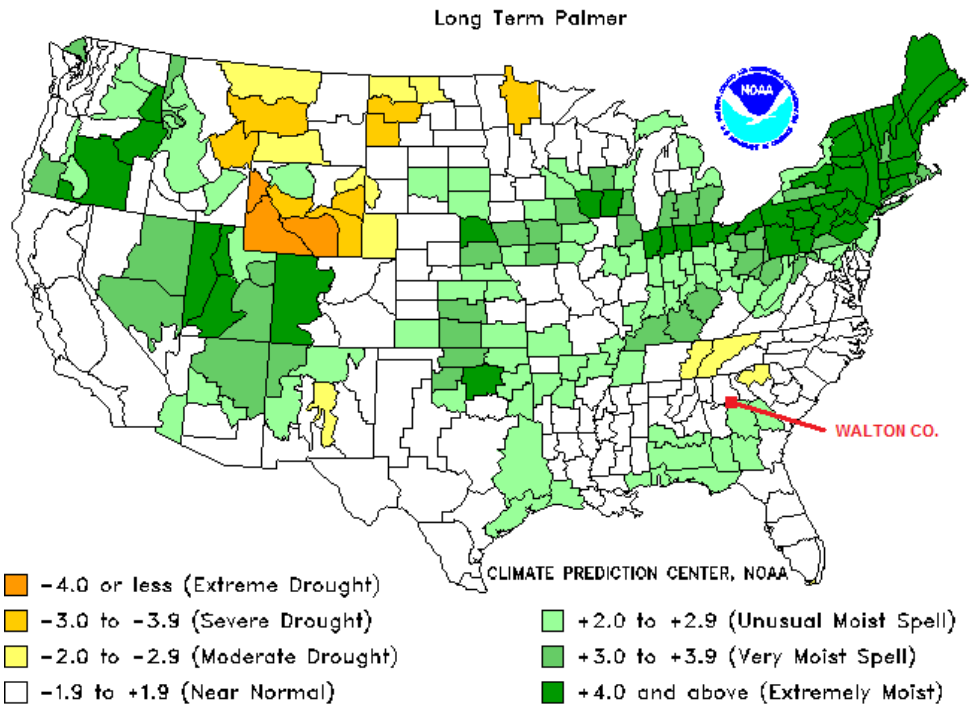
2.5 Drought

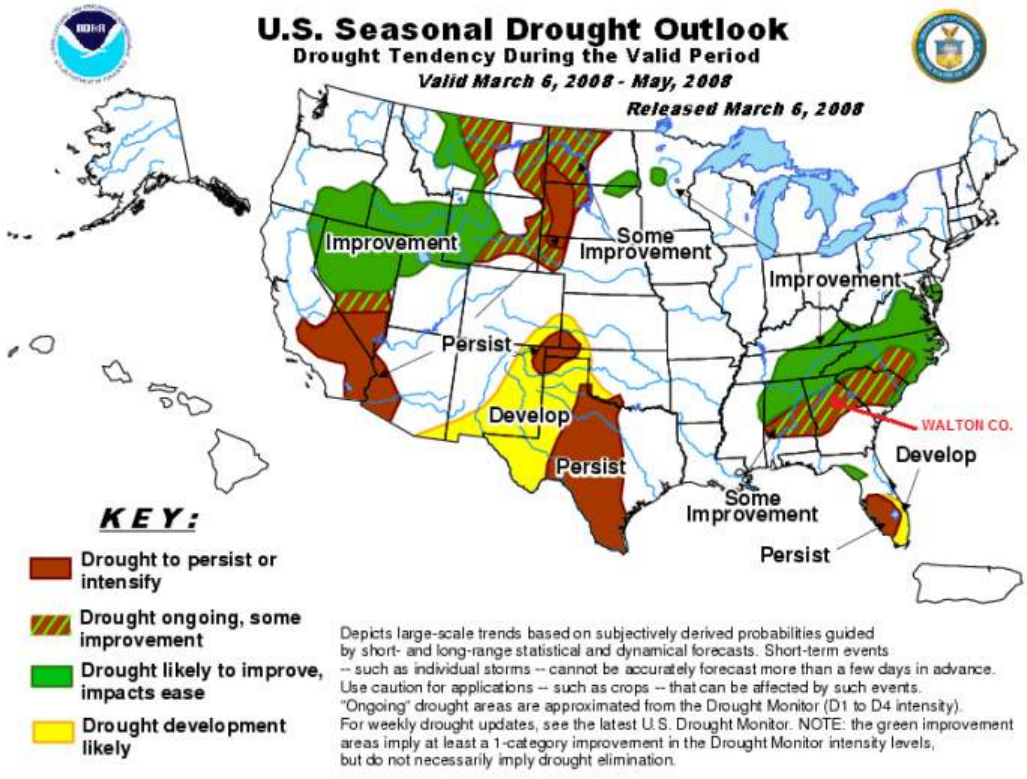
A. Hazard Identification – The definition of drought is a prolonged period of moisture deficiency. Drought is a normal, recurrent feature of climate. It occurs almost everywhere, although its features vary from region to region. These conditions originate from a deficiency of precipitation over an extended 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.

B. Hazard Profile – The Walton County HMPC reviewed historical data from the National Oceanic and Atmospheric Administration, the National Climatic Data Center, the U.S. Geological Survey, the Georgia Department of Natural Resources and the Georgia Forestry Commission in researching drought events of the County.

Walton County is presently experiencing moderate drought conditions. Historically, 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. However, due to insufficient record keeping in decades past, it is not feasible at this point to divide this historical hazard data by jurisdiction. The information contained within the Hazard Frequency Table, unless otherwise stated, pertains to Walton County as a whole. Refer to the Hazard Frequency Table for more detailed analysis.

The Drought Severity Index map, located below, shows current drought conditions nationwide and is updated weekly. According to the map, the County's current drought status, as of March 8, 2008, is "unusual moist spell". Drought conditions can change rapidly and must be continuously monitored. In addition, the second map on the following page, the U.S Seasonal Drought Outlook, predicts that through the spring of 2008, Walton County is likely to experience some improvement in drought conditions. This map is only a forecasting tool and can also change often.


Drought Severity Index by Division
Weekly Value for Period Ending 8 MAR 2008
Long Term Palmer
WALTON CO.
CLIMATE PREDICTION CENTER, NOAA
-4.0 or less (Extreme Drought)
-3.0 to -3.9 (Severe Drought)
-2.0 to -2.9 (Moderate Drought)
-1.9 to +1.9 (Near Normal)
+2.0 to +2.9 (Unusual Moist Spell)
+3.0 to +3.9 (Very Moist Spell)
+4.0 and above (Extremely Moist)


U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid March 6, 2008 - May, 2008
Released March 6, 2008
Improvement
Some Improvement
Improvement
Persist
Develop
Persist
WALTON CO.
Develop
Some Improvement
Persist
KEY:
Drought to persist or intensify
Drought ongoing, some improvement
Drought likely to improve, impacts ease
Drought development likely
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

C. Assets Exposed to Hazard – 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. In addition, water resources may become strained during periods of drought, affecting any or all residents.

D. Estimate of Potential Losses – No damage to facilities is anticipated as a result of drought conditions, aside from the threat of wildfire. Crop damage cannot be accurately quantified due to several unknown variables: duration of the drought, temperatures during the drought, severity of the drought, rainfall requirements for specific crops and livestock, and the different growing seasons. There may also be financial losses related to water system shortages. For loss estimate information, please refer to the Critical Facilities Database, Appendix A, and Appendix E-6, Worksheet 3A (Non-Spatially Defined Hazards) for each jurisdiction.

E. Multi-Jurisdictional Concerns – Agricultural losses associated with drought are more likely to occur in the rural, less populated areas of the County. This would mainly consist of unincorporated areas outside of the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between. Although the Municipalities may be somewhat less likely to experience drought-related agricultural losses, all portions of the County and Municipalities can be impacted by water system supply shortages due to drought.

F. Hazard Summary – Unlike other hazard events, drought causes damage slowly. A sustained drought can cause severe economic stress to the agricultural interests of the County and even the entire State or Region. The potential negative effects of sustained drought are numerous. In addition to an increased threat of wildfires, drought can affect water supplies, stream-water quality, water recreation facilities, hydropower generation, as well as agricultural and forest resources. The HMPC realized the limitations associated with mitigation actions for drought, but did identify some basic mitigation measures in Chapter 5.

2.6 Wildfire

A. Hazard Identification – The Walton County HMPC utilized data from Georgia Forestry and the Walton County Local Emergency Operations Plan in researching wildfires and their impact on the County.

A wildfire is defined as an uncontrolled fire occurring in any natural vegetation. For a wildfire to occur, there must be available oxygen, a supply of fuel, and enough heat to kindle the fuel. Often, these fires are begun by combustion and heat from surface and ground fires and can quickly develop into a major conflagration. 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 indrafts. 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 Walton County, 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.

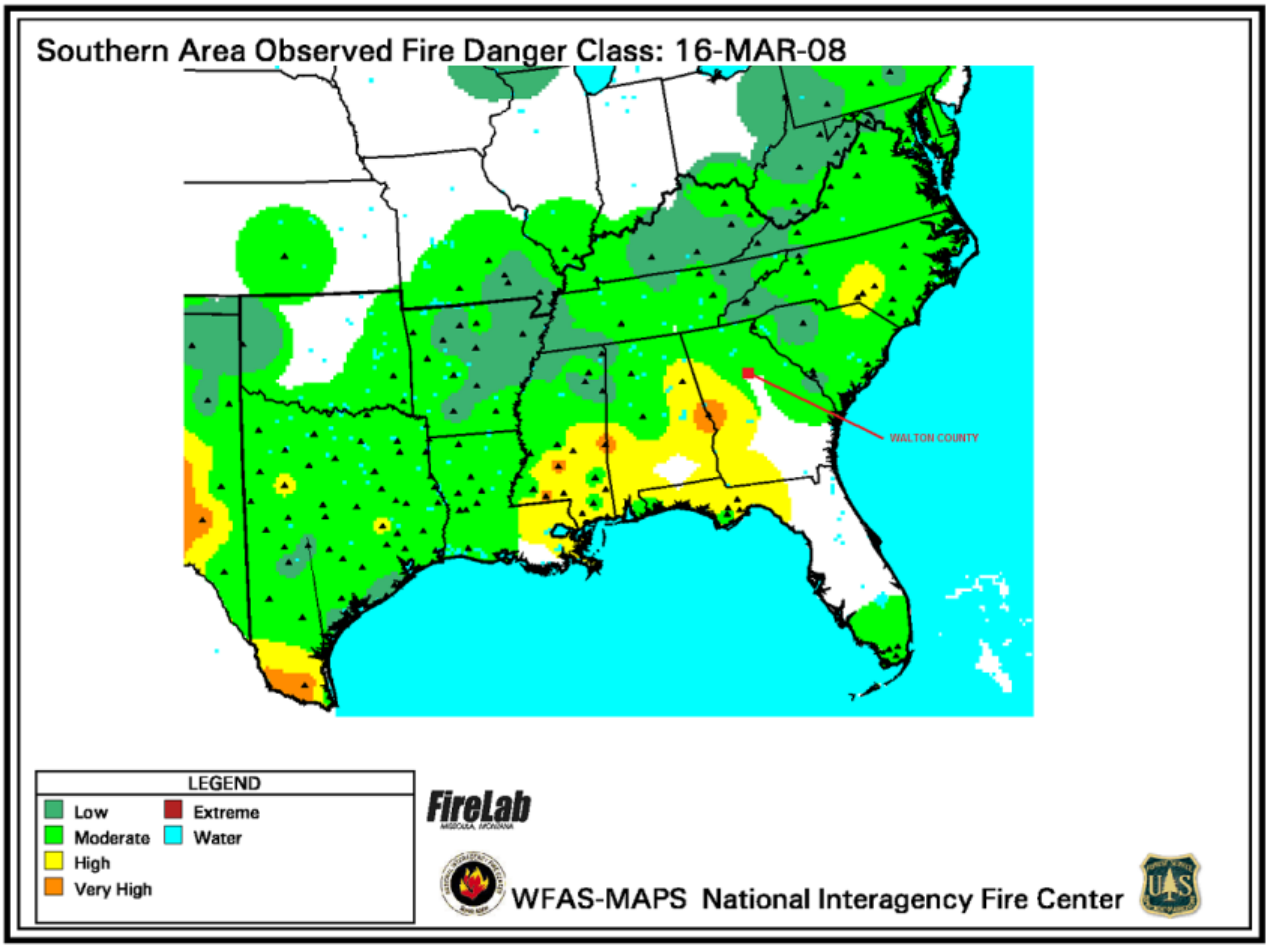
Tools for fighting wildfires range from the standard equipment of fire departments to portable pumps, tank trucks, and earth-moving equipment. Firefighting forces specially trained to deal with wildfire are maintained by local, state and federal entities including the Walton County Fire Department, Loganville Fire Department, Monroe Fire

Department, Social Circle Fire Department, Georgia Forestry, and U.S. Forest Service. These trained firefighters may attack a fire directly by spraying water, beating out flames, and removing vegetation at the edge of the fire to contain it behind a fire line. When the very edge is too hot to approach, a fire line is built at a safe distance, sometimes using strip burning or backfires to eliminate fuel in the path of the uncontrolled fire or to change the fire's direction or slow its progress. Backfiring is used only as a last resort.

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.

B. Hazard Profile – Wildfires are a serious threat to Walton County. For the past fifty-years, documentation of 1,514 wildfire events was found. However, due to insufficient record keeping in decades past, it is not feasible at this point to divide this historical hazard data by jurisdiction. The information contained within the Hazard Frequency Table, unless otherwise stated, pertains to Walton County as a whole. Based on the entire fifty-year period, it is likely that a wildfire event will occur approximately 30 times per year in Walton County, or about once every 12 days. Another way of stating these findings is that every year in Walton County there is roughly a 3,028% chance of a wildfire event. When only the past ten-year period is taken into consideration, the likelihood of such an event in Walton County remains consistent at around a 3,060% chance per year. Refer to the Hazard Frequency Table for more detailed analysis.

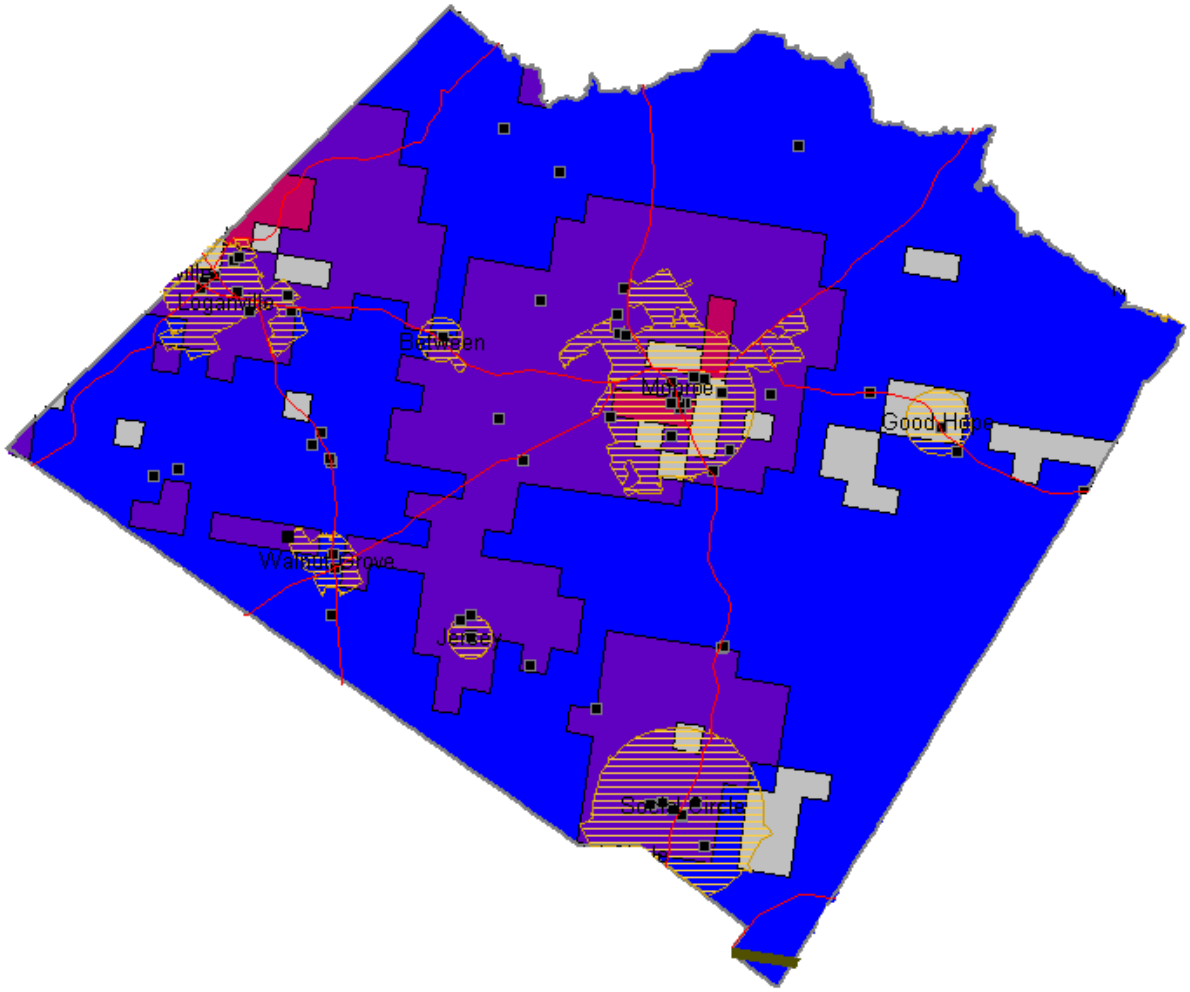
At the time this planning effort took place, Walton County's threat of wildfire was classified as "moderate". However, this status can change from week to week, especially considering the current drought conditions throughout the State of Georgia. See map below.



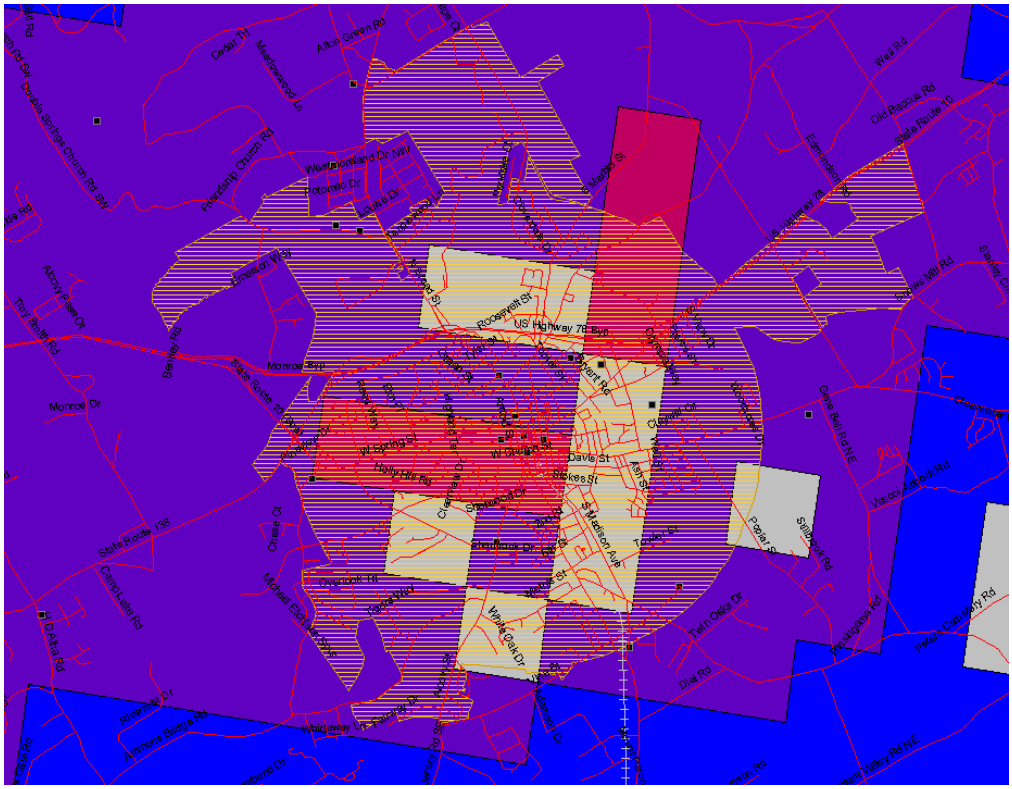
C. Assets Exposed to Hazard – In evaluating assets that are susceptible to wildfire, the committee determined that all public and private property is susceptible to wildfire, including all critical facilities. The maps on the following pages identify critical facilities located within the hazard area, which, in the case of wildfire, includes the entire County to varying degrees.

The Wildfire Threat Categories are defined as:

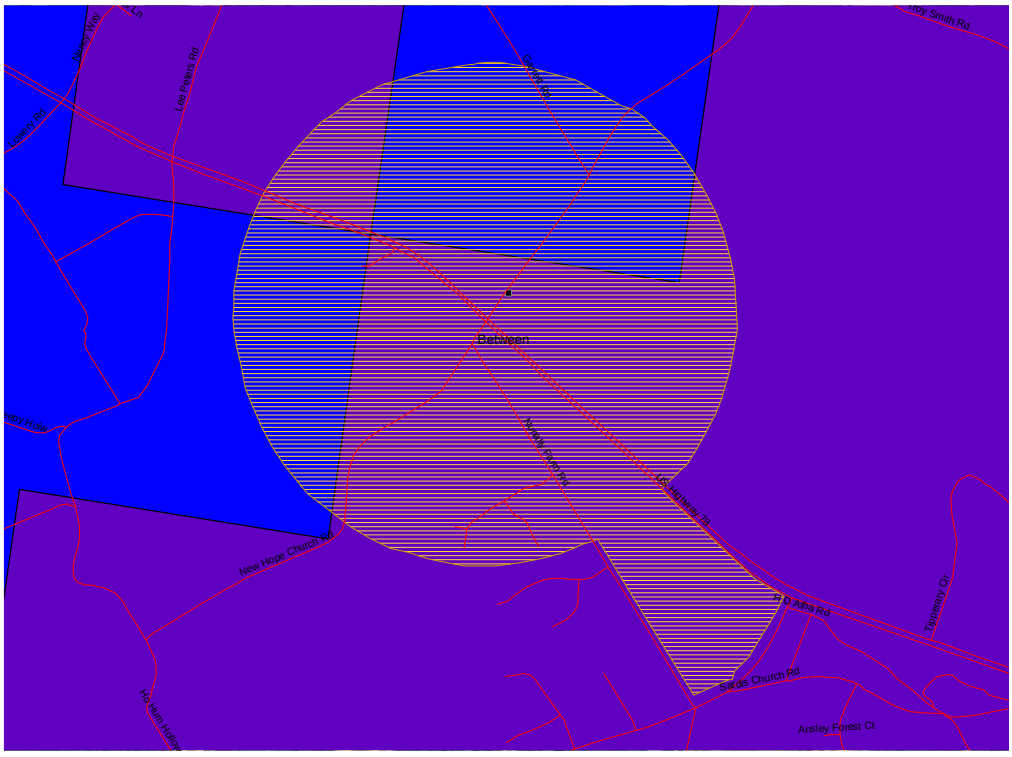
Category	Description
Wildfire Threat Category 0	Lowest Threat: includes areas with no houses, with bodies of water, agricultural areas, and/or cities.
Wildfire Threat Category 1	Very Low Threat
Wildfire Threat Category 2	Low Threat
Wildfire Threat Category 3	Moderate Threat
Wildfire Threat Category 4	High Threat



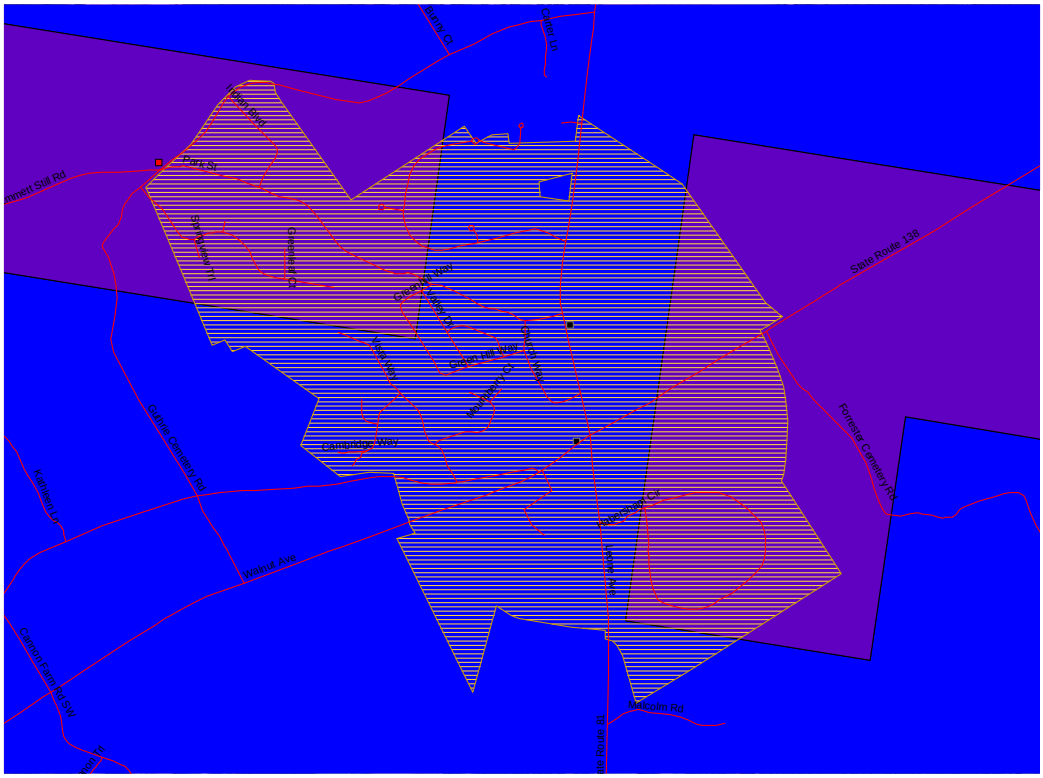
Monroe:



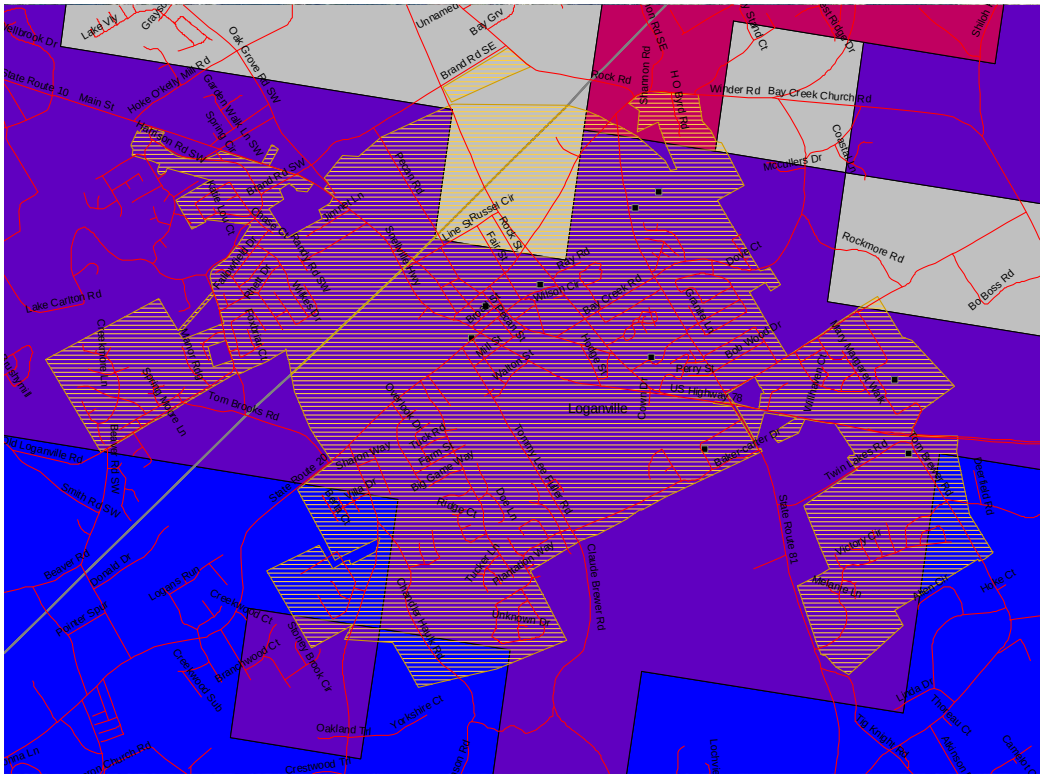
Between:



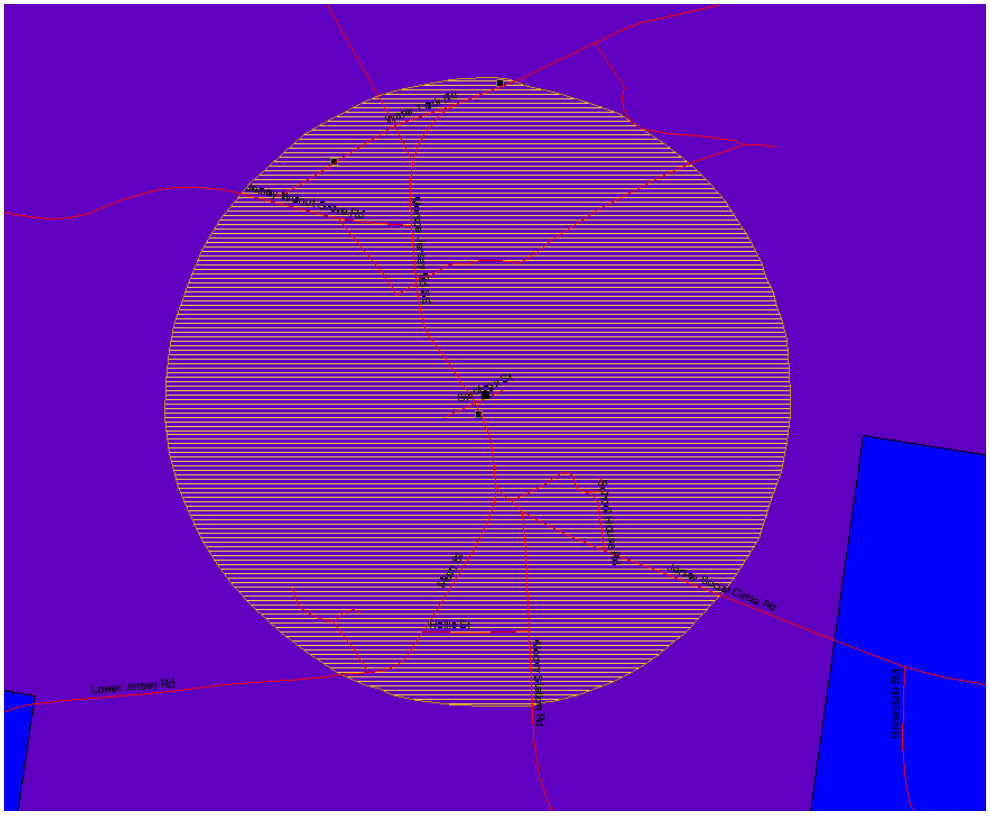
Walnut Grove:



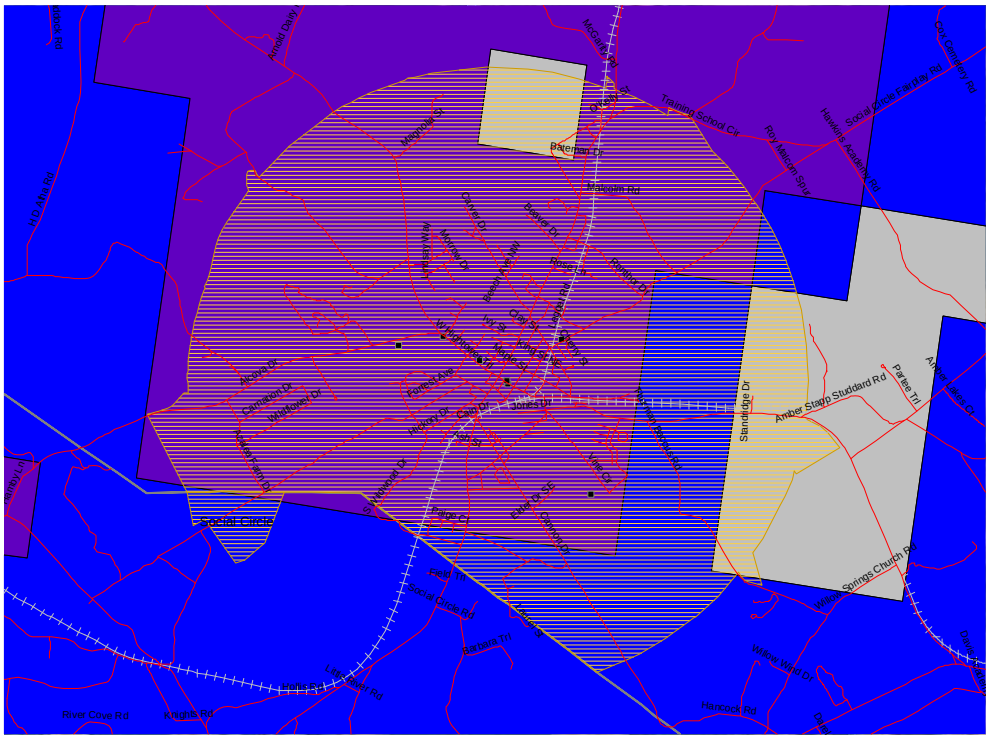
Loganville:



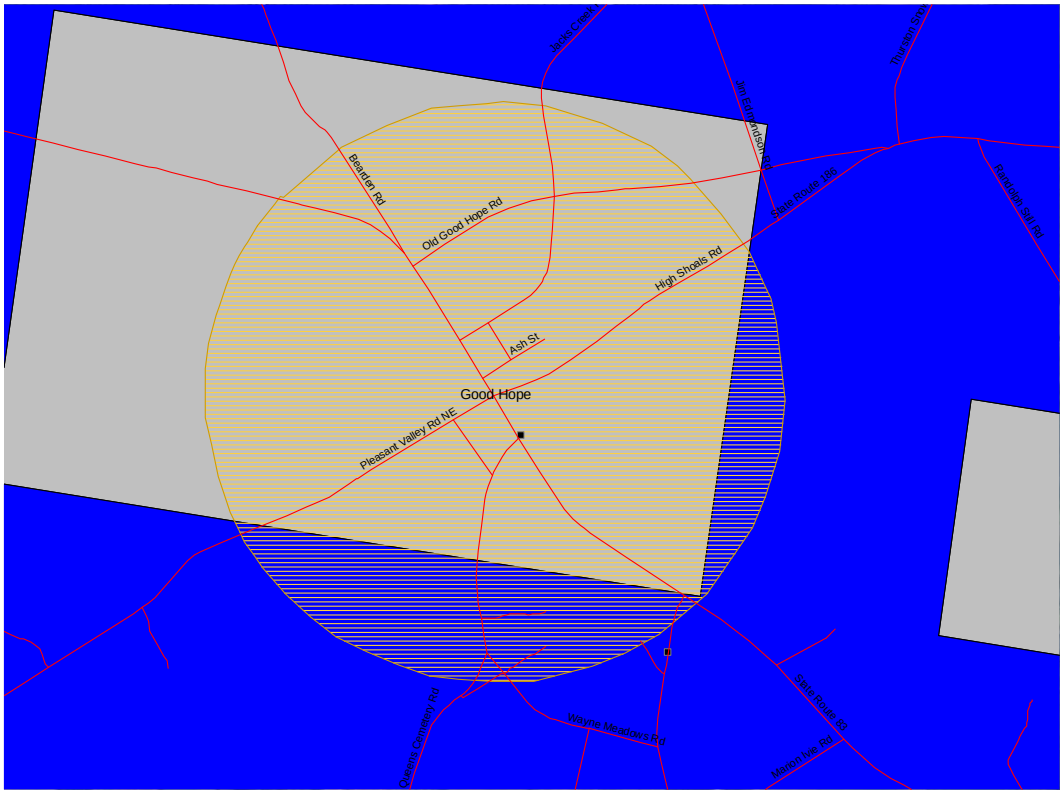
Jersey:



Social Circle:



Good Hope:



Fortunately, no portions of the County appear to have been classified under Wildfire Threat Category 4, which represents a "high threat area". There are a few small areas within the County classified under Wildfire Threat Category 3. Wildfire Threat Category 3 is considered a "moderate threat area". These limited areas are located mainly in and around the Cities of Monroe and Loganville.

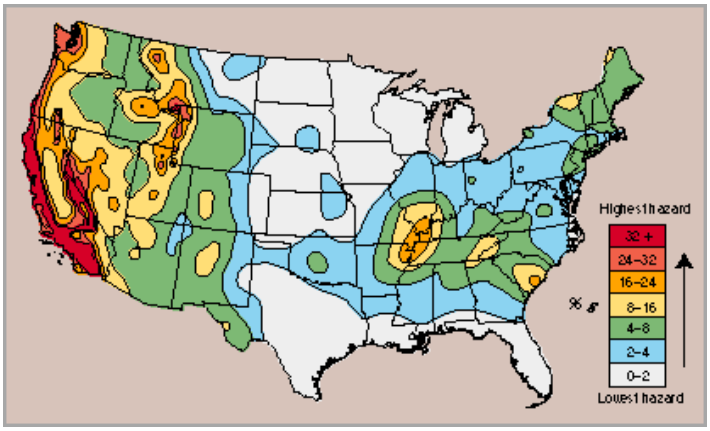
It should be noted the HMPC believes that the above information relating to wildfire threat classification needs to be updated with the best available information. As a result, the HMPC has recommended such an update in the form of a mitigation action item in Chapter 5. This will involve the GIS Department developing a database that identifies buildings and values subject to wildfire hazards. Therefore, there will be no Worksheet 3a specifically for the threat of wildfire until such mitigation action has been taken.

D. Estimate of Potential Losses – In most of the documented cases of wildfire within Walton County, 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. For existing loss estimate information, please refer to the Critical Facilities Database, Appendix A, for each jurisdiction. There will be no Worksheet 3a specifically addressing wildfire until the mitigation action item which calls for an update to this information has been completed. The estimated project time is one year.

E. Multi-Jurisdictional Concerns – Virtually all of Walton County can potentially be affected by wildfire. There are few exceptions because of the wildland-urban interface (WUI). The entire County is located within Wildfire Threat Categories 1 through 3, which are all considered "low" to "moderate" threat areas. The "moderate threat area" includes a few limited locations in and around the Cities of Monroe and Loganville. Any steps taken to mitigate the effects of wildfire should be undertaken on a countywide basis and include the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between.

F. Hazard Summary – Wildfires pose a serious threat to Walton County in terms of property damage, as well as injuries and loss of life. Wildfires are one of the most frequently occurring natural hazard s within the County each year. Based on the frequency of this hazard, as well as its ability to inflict devastation most anywhere in the County, the mitigation measures identified in this plan should be aggressively pursued. Specific mitigation actions related to wildfire are identified in Chapter 5.

2.7 Earthquakes



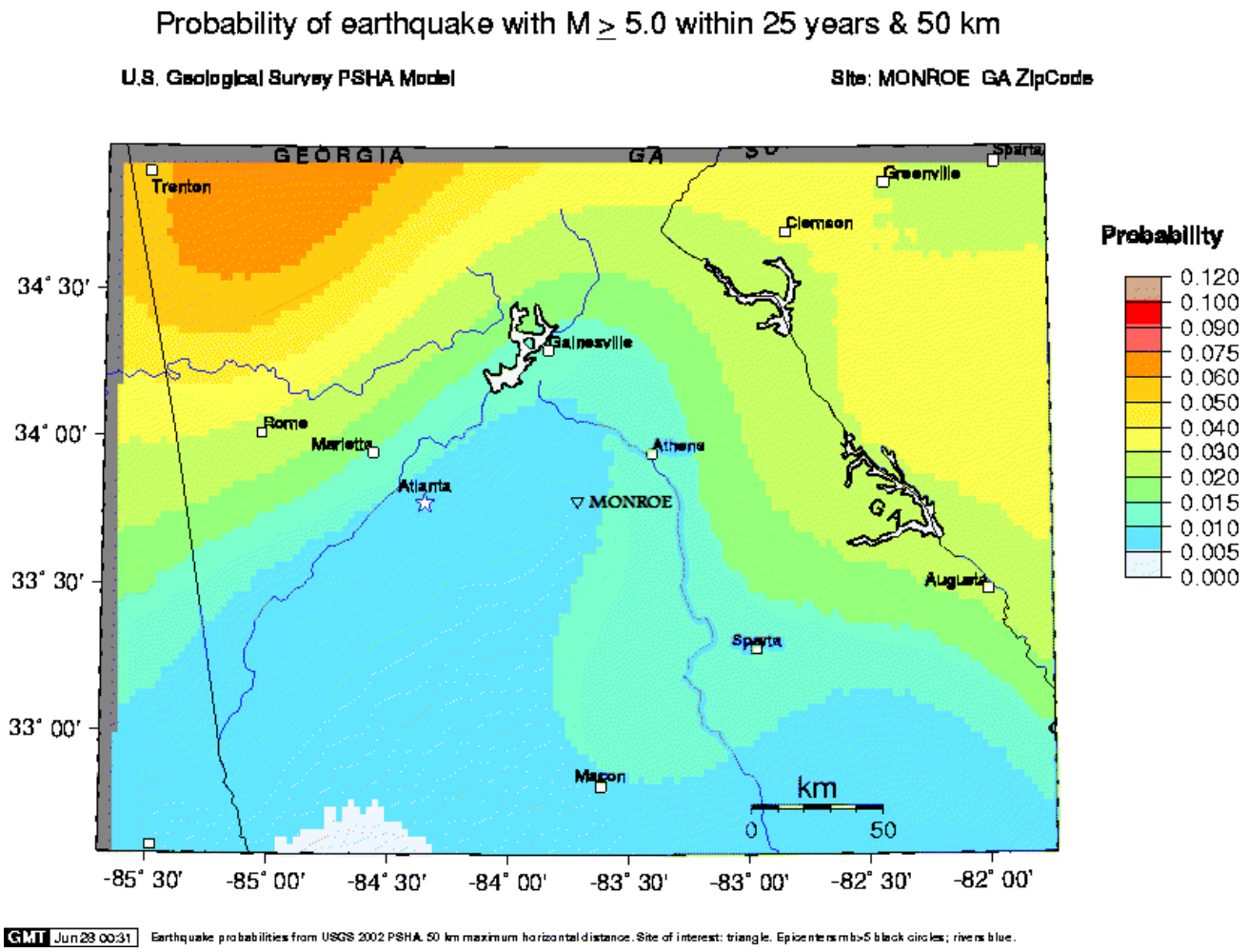
A. Hazard Identification – One of the most frightening and destructive natural hazards is a severe earthquake. An earthquake is a sudden movement of the Earth, caused by the abrupt release of strain that has accumulated over a long time. The forces of plate tectonics shape the Earth as the huge plates 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. This research includes field, laboratory, and theoretical investigations of earthquake mechanisms and fault zones. A primary goal of earthquake research is to increase the reliability of earthquake probability estimates. 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 (that is, just as likely to happen as not to happen) 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 5.0 or more occurring within Walton County over the next 25 years is between 0.5% and 1% (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 Walton 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

I. Not felt except by a very few under especially favorable conditions.

II. Felt only by a few persons at rest, especially on upper floors of buildings.

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.

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.

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.

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.

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.

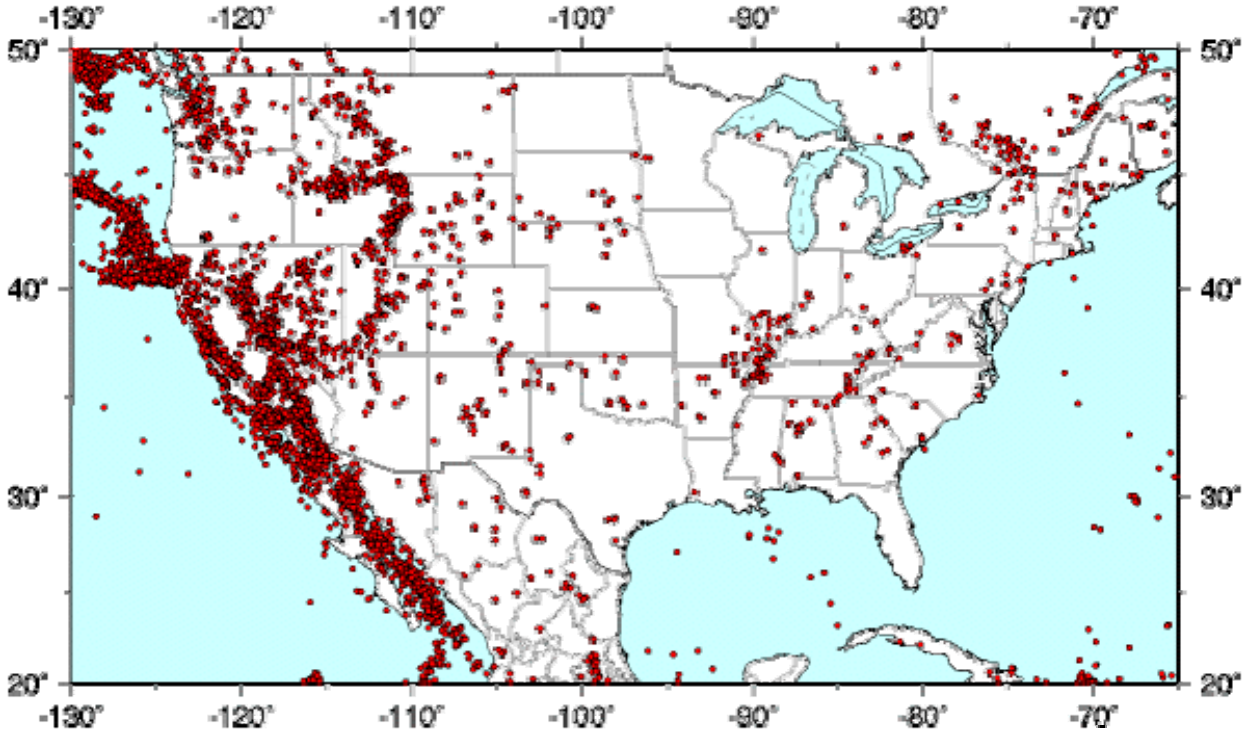
Magnitude / Intensity Comparison

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

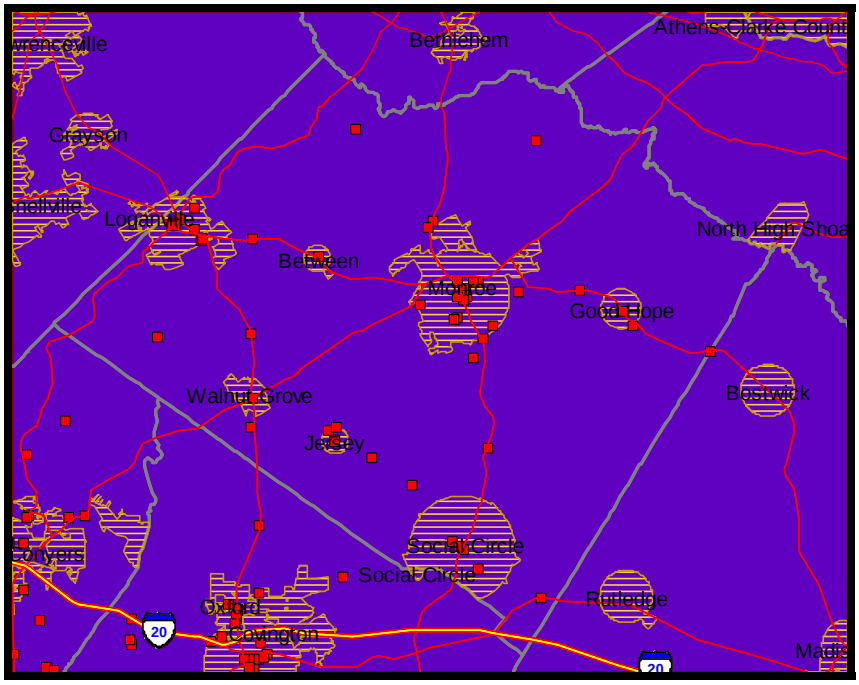
B. Hazard Profile – The Walton County HMPC reviewed historical data from the National Oceanic and Atmospheric Administration, the National Climatic Data Center, and the U.S. Geological Survey in researching earthquake events of the County. Evidence of one earthquake is all that was found within the past fifty years. This 4.9 magnitude earthquake occurred on April 29, 2003 at around 5:00am, and originated near Fort Payne, Alabama.

However, the State of Georgia has experienced seven earthquakes from 1974 to 2003 (see the map on the following page), according to USGS information. The HMPC was unable to determine which of these additional earthquakes affected Walton County and, if so, to what degree. Nevertheless, the HMPC determined that these earthquakes would have occurred close enough to Walton County (even if they occurred in south Georgia) to merit consideration. The threat of earthquakes in Walton County may be more significant than the one documented earthquake incident would seem to indicate. In addition, the probability for future earthquakes is estimated to be the same for each jurisdiction.

Earthquakes, Magnitude 3.5 and greater 1974 to 2003



C. Assets Exposed to Hazard - All structures and facilities within Walton County are susceptible to earthquake damage since they can occur in any portion of the County.



D. Estimate of Potential Losses – For loss estimate information, please refer to the Critical Facilities Database, Appendix A, and Appendix E-6, Worksheet 3A (Non-Spatially Defined Hazards) for each jurisdiction.

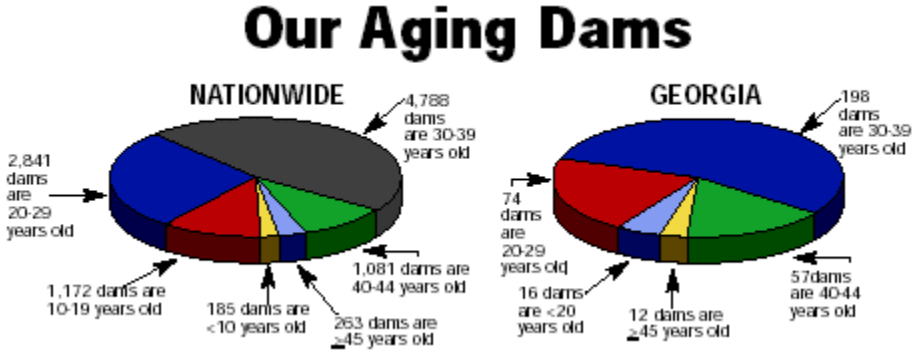
E. Multi-Jurisdictional Concerns – Any portion of Walton County, including each of the municipalities, can potentially be affected by earthquakes. Based on the GEMA map above, all areas within the County, including the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between, carry the same threat level for earthquakes. Any steps taken to mitigate the effects of earthquake should be undertaken on a countywide basis and include all municipalities.

F. Hazard Summary – Scientific understanding of earthquakes is of vital importance to the Nation. As the population increases, expanding urban development and construction works encroach upon areas susceptible to earthquakes. With a greater understanding of the causes and effects of earthquakes, we may be able to reduce damage and loss of life from this destructive phenomenon. The HMPC was limited in its ability to develop mitigation measures associated with earthquakes, but did provide some guidance in Chapter 5.

2.8 Dam Failure

A. 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. The increasing age of dams nationwide is a contributing factor to each of the problems above. The following graphs show how the aging of dams is becoming a serious issue.



B. Hazard Profile – The Walton 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 Walton County Fortunately, Walton County 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 specific future probability cannot be determined based on the lack of historic information. The appropriate steps must be taken to minimize such risks. The Safe Dams Program seeks to accomplish 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, in which 39 people lost their lives when the breached dam, which held back a 45-acre lake, 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.

The Georgia Stormwater Management Manual, Appendix H, provides the definition for a Category I and a Category II dam in the State of Georgia:

- "Category I" means the classification where improper operation or dam failure would result in probable loss of human life. Situations constituting "probable loss of life" are those situations involving frequently occupied structures or facilities, including, but not limited to, residences, commercial and manufacturing facilities, schools and churches.

- "Category II" means the classification where improper operation or dam failure would not expect to result in probable loss of human life.

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. Specialized software is used 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). 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 also approves 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.

To date, out of 38 total identified dams within Walton County, the Safe Dam Program has classified two as Category I dams. These dams are the Buccaneer Lake Dam and the Monroe Reservoir Dam. The additional 36 classified dams within the County are Category II dams (24) or exempt dams (12). The Program requires all Category II dams to be inventoried at least every five years. It is possible there are additional unclassified dams within the County that have not yet been identified by the Safe Dam Program.

C. Assets Exposed to Hazard – Areas most vulnerable to the physical damages associated with dam failure within Walton County are the low-lying and downstream areas associated with the Buccaneer Lake Dam and the Monroe Reservoir Dam. 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.

D. Estimate of Potential Losses - Loss estimation due to dam failure is an approximate effort, at best. Direct loss to infrastructure, critical facilities and businesses in terms of repair and replacement can be roughly estimated. However, estimating indirect costs is less accurate. For loss estimate information, please refer to the Critical Facilities Database, Appendix A, and Appendix E-6, Worksheet 3A (Flooding) for each jurisdiction.

E. Multi-Jurisdictional Concerns – Only the City of Monroe has been identified as vulnerable to the threat of dam failure. This is due to its close proximity to the Monroe Reservoir Dam. No other municipalities appear to be threatened.

F. Hazard Summary – No recorded dam failures were found for Walton County. However, with two Category I dams located in the County, risks associated with dam failure cannot be ignored. The Walton County HMPC has identified some specific mitigation actions for dam failure in Chapter 5.

Chapter 3
Local Technological Hazard, Risk and Vulnerability (HRV) Summary

In accordance with FEMA guidelines, the Walton 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 Walton County.

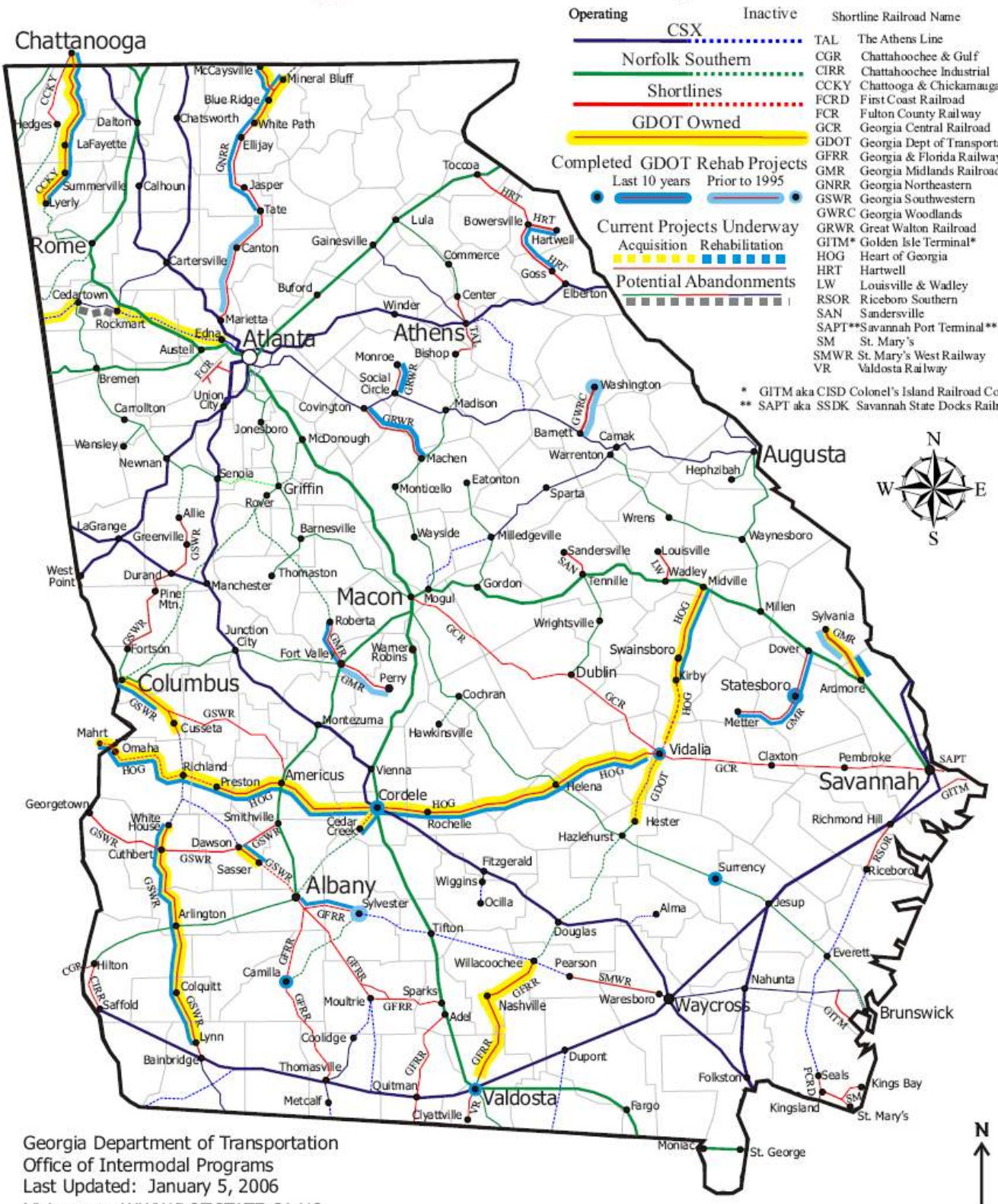
3.1 Hazardous Materials Release

A. 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. Research institutes, industrial plants, individual households, and government agencies all generate chemical waste. Approximately one percent is classified as hazardous.

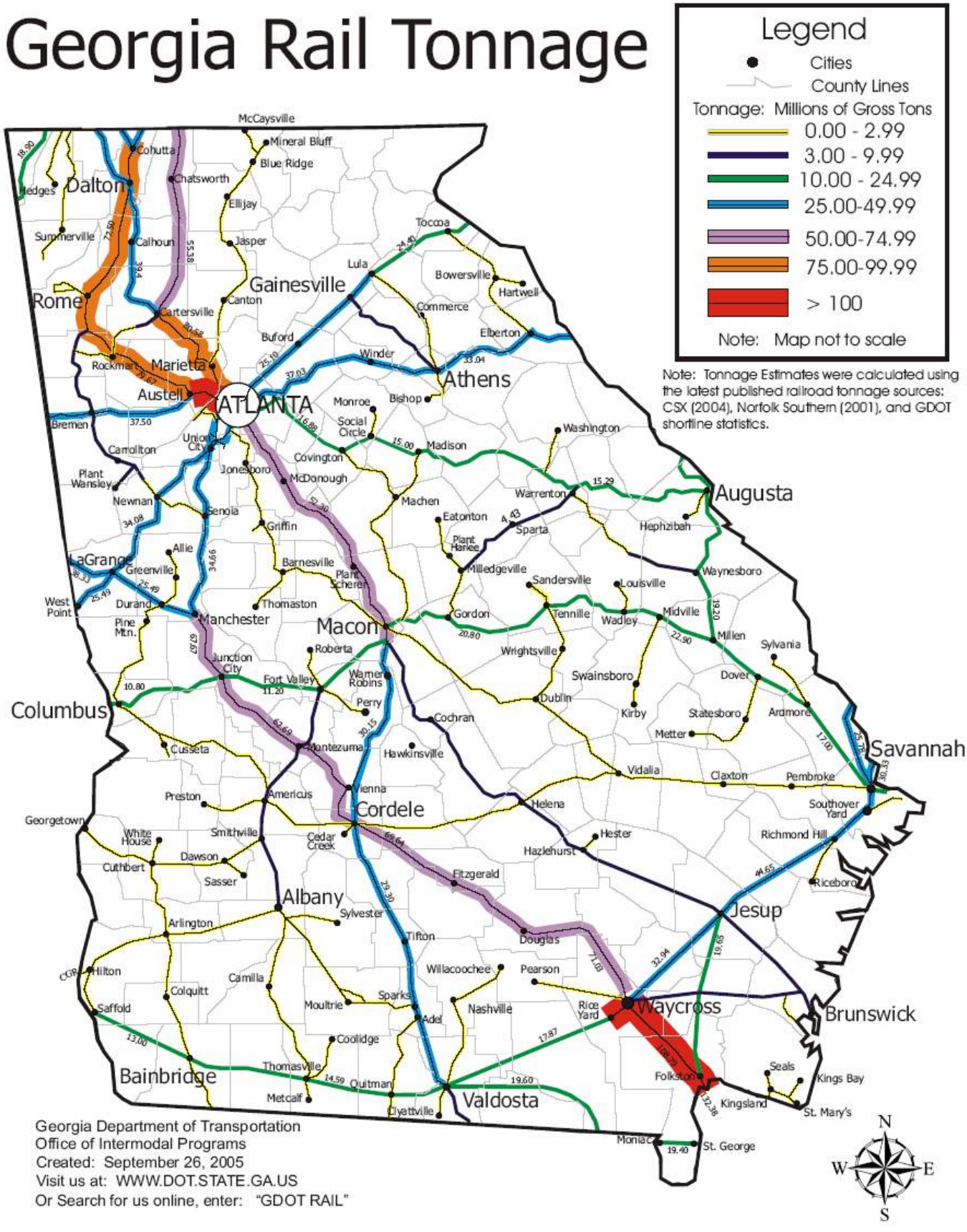
A hazmat spill or release occurs when hazardous material or waste gets into the environment in an uncontrolled fashion. Many manufacturing processes use hazardous materials or generate hazardous waste, but a hazardous spill doesn't always come from a chemical plant or a factory. Any substance in the wrong place at the wrong time in too large an amount can cause harm to the environment. The response to a spill depends on the situation. When the emergency response team is notified of a spill, it must quickly decide what sort of danger is likely. Members of the team collect appropriate clothing and equipment and travel to the scene. There they try to contain the spill, sometimes testing a sample to identify it. If necessary, they decontaminate themselves before leaving the area. Once material has been identified, other personnel arrive to remove it.

B. Hazard Profile – The Walton County 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 materials releases within Walton County Hazmat spills are usually categorized as either fixed releases, which occur when hazmat is released on the site of a facility or industry that stores or manufactures hazmat, or transportation-related releases, which occur when hazmat is released during transport from one place to another. Both fixed and transportation-related hazmat spills represent tremendous threats to Walton County. The County's thriving industries are one of the main threats with regard to fixed hazmat spills. Perhaps the more serious concern comes from transportation-related hazmat spills. Interstate 20 and CSX and GDOT Rail Lines run through potions of the County. Rail lines run through the Cities of Social Circle and Monroe. The maps on the following two pages provide the location of the rail lines, as well information on the 0 to 25 million gross tons of materials transported in and out of Walton County each year along these rail lines.

Georgia Rail System



Georgia Rail Tonnage



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Office of Intermodal Programs
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Or Search for us online, enter: "GDOT RAIL"

COX

During the past fifty-year period, documentation of 179 hazmat spills was found. Based on this entire fifty-year period, there is a 358% chance per year that such events will occur in Walton County. However, when only the past ten-year period is taken into consideration, the likelihood of a hazmat spill in Walton County increases dramatically to a 1110% chance per year (or roughly once a month).

The higher concentration of hazardous materials releases in the past decade is likely due to increases in demand for and production and transportation of hazardous materials. Better record keeping in the past decade may also be a factor. The HMPC believes consideration of the past ten years, rather than the entire fifty-year period, provides the most accurate information relating to hazmat release events for Walton County. However, due to insufficient record keeping in decades past, it is not feasible at this point to divide this historical hazard data by jurisdiction. The information contained within the Hazard Frequency Table, unless otherwise stated, pertains to Walton County as a whole.

Refer to the Hazard Frequency Table for more detailed analysis.

C. Assets Exposed to Hazard – The environment is especially vulnerable to hazardous materials releases. Waterways are at greatest risk of contamination. Over the past two decades, numerous waterways have been contaminated to varying degrees due to hazmat spills. See Appendix B for information on specific incidents. Due to limited record keeping in years past, these incident numbers should all be treated as minimums with regard to their impact on the environment. Such releases are also a potential threat to all property and persons within any primary highway and railway corridors of Walton County, especially Interstate 20 and the GDOT and CSX Rail Lines, 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 most hazmat releases within the County have been relatively minor in nature. The most common hazmat releases include diesel, gasoline, oil, antifreeze, paint, battery acid, and sewage. However, records show there have been incidents involving much more toxic substances within the County over the past couple of decades including copper sulfate, sodium hydroxide, potassium hydroxide, ethylene glycol, chlorine gas, and sulfuric acid, as well as many cases of unknown substances.

D. Estimate of Potential Losses - It is difficult to determine potential damage to the environment caused by hazardous materials releases. Waterways within Walton County have certainly been impacted to some degree. Such damage is difficult to calculate in dollar figures however, and future problems are almost impossible to estimate. In addition, no recorded information was located that mentioned damage to any critical facilities as a result of hazmat releases. It should be noted however, when either fixed or transportation hazmat releases do occur, there are significant costs incurred relating to emergency response, road closings, evacuations, watershed protection, expended man-hours, and cleanup materials and equipment. Corridors for the GDOT and CSX Rail Lines, Interstate 20, U.S. Routes 78 and 278, and Georgia State Routes 10, 11, 12, 20, 81, 83, 138, 186, and 402 are most vulnerable to transportation-related releases. However,

such releases can occur in virtually any part of the County or Municipalities accessible by road. Fixed location releases are not as likely to affect the more rural areas of the County. For loss estimate information, please refer to the Critical Facilities Database, Appendix A, and Appendix E-6, Worksheet 3A (Non-Spatially Defined Hazards) for each jurisdiction.

E. Multi-Jurisdictional Concerns – All of Walton County, including the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between are vulnerable to both fixed and transportation-related hazardous materials releases.

F. Hazard Summary – Hazardous materials releases are a common occurrence in Walton County. Approximately 179 recorded incidents have occurred over the past two decades. This makes hazmat releases one of the most significant threats to Walton County. Unknown quantities and types of hazmat are transported through the County by truck on a daily basis. The main highways and railways of concern are the GDOT and CSX Rail Lines, Interstate 20, U.S. Routes 78 and 278, and Georgia State Routes 10, 11, 12, 20, 81, 83, 138, 186, and 402. These hazmat shipments pose a great potential threat to all of Walton County. The fact that the County is unable to track these shipments seriously limits the mitigation measures that can be put into place. Fixed hazmat releases are also considered to be a major threat to Walton County, especially due to the County's proximity to Interstate 20. Therefore, the Walton County HMPC has identified some specific mitigation actions for hazardous materials releases in Chapter 5.

Chapter 4
Land Use and Development Trends

In accordance with Georgia State Statutes, Walton County and each of the municipalities have adopted Comprehensive Plans. Currently, the County and each Municipality are under contract with Northeast Georgia Regional Development Center to update their plans. As of the development of the Hazard Mitigation Plan (August 2007), a draft updated Comprehensive Plan has been issued and distributed. The document has been utilized as best available current data, and is included as Appendix D to this Plan. This includes the Current Land Use Map for Walton County and the Future Land Use Maps for Walton County, the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between.

Projected Future Development Maps for the overall County, as well as for each jurisdiction, are provided for the next 20 years. The analysis clearly indicates that the western portion of the County from Bold Springs in the north, to Loganville in the central, to Walnut Grove in the south, extending eastward through Between to Monroe, and to the south to Jersey and Social Circle, is experiencing a rapid growth rate that is outstripping the ability of infrastructure (roads, sewers, and water) to keep pace. The eastern portion of the County will continue to be rural in nature and experience slower development, at least through the next five years, which is the planning period for the multi-jurisdictional Hazard Mitigation Plan's development trends. The implications of this pattern of land use and development trend are as follows:

1. The effects of thunderstorms (hail, high winds, lightning), tornados and floods on the population and property protection of the western part of the County will require improved transportation routes for emergency vehicles, access to Walton Regional Medical Center, and other medical facilities, additional schools (for sheltering), as well as monitoring of building codes and floodplain management ordinances.

2. The effects of wildfires in the more rural and more natural vegetation areas of the eastern portions of the County will require consideration for public awareness to remove vegetation near structures during this time of historical drought conditions.

3. While dam failure has never occurred in Walton County, the Hard Labor Creek Reservoir is being planned, and will be constructed within the five year planning period of this Plan. Consideration of open space easements below the impoundment should be implemented during the master planning of the Reservoir. This will accomplish two needs within the County. The first is the need to preclude development below the impoundment, and the second is the need for passive recreation and park lands for the expanding population.

4. Continued growth within the County will require that special consideration be used when rezoning any property for uses that could involve the use or manufacture of hazardous materials. Placement of such industries should be limited to the more industrial-oriented areas of the County and should not be allowed to migrate into more populated residential areas.

Growth Rates and Building Trends

The estimated annual growth rate between 2005 and 2010 for each jurisdiction is as follows:

Between: 5.9%
Good Hope: 3.4%
Jersey: 9.5%
Loganville: 0.9%
Monroe: 1.5%
Social Circle: 0.6%
Walnut Grove: 3.7%
Unincorporated Walton County: 7.0%
Combined totals: 5.0% (from 75,647 to 94,459)

Future building estimates over the next five year planning period are based on the above listed annual growth rates and calculating the percentages of each structural type found in Worksheets 3a for each jurisdiction (Appendix E-6).

Critical facilities and infrastructure estimates are taken from multiyear work programs and planning documents.

Jurisdiction	Residential	Commercial	Industrial	Agricultural	Religious/NP
Between	27	3	0	0	0
Good Hope	21	2	0	0	0
Jersey	35	4	0	0	0
Loganville	106	12	0	0	1
Monroe	285	38	1	0	4
Social Circle	43	2	0	0	0
Walnut Grove	90	3	1	0	0
Walton - unincorporated	11989	487	36	0	83
Community wide	12596	551	38	0	88

Chapter 5
Natural Hazard Mitigation Goals, Objectives, & Actions

When Walton County and the incorporated jurisdictions of the County embark on any large-scale planning effort, it is imperative that the planning process is driven by a clear set of goals and objectives. Goals and objectives are the foundation of an effective Hazard Mitigation Plan. They address the key problems and opportunities to help establish a framework for identifying risks and developing strategies to mitigate those risks. Walton County's multi-jurisdictional Hazard Mitigation Planning Committee (HMPC) discussed, identified, and adopted four major goals and numerous objectives for the first plan at the May 2007 meeting.

In order to fully understand the hazard mitigation goals, objectives, and actions, it is necessary to clearly define the terms **"goal"**, **"objective"**, and **"action"**:

A **goal** is a broad-based statement of intent that establishes the direction for the Walton County Hazard Mitigation Plan. Goals can essentially be thought of as the desired "outcomes" of successful implementation of the Plan.
An **objective** is the stated "means" of achieving each goal, or the tasks to be executed in the process of achieving goals.
An **action** is a project-specific strategy to mitigate a particular hazard event within the context of the overarching goals and objectives.

While specific mitigation actions are listed later in this chapter, it is important to note that the actions were selected and evaluated in relation to the overarching hazard mitigation goals and objectives of this plan, which are as follows:

Goal #1. Protect life and minimize loss of property damage.

Objective 1-1. Implement mitigation actions that will assist in protecting lives and property by making homes, businesses, public facilities, and infrastructure more resistant to vulnerable hazards.
Objective 1-2. Review existing ordinances, building codes, and safety inspection procedures to help ensure that they employ the most recent and generally acceptable standards for the protection of buildings.
Objective 1-3. Ensure that public and private facilities and infrastructure meet established building codes and enforce the codes to address any deficiencies.
Objective 1-4. Implement mitigation actions that encourage the protection of the environment.
Objective 1-5. Integrate the recommendations of this plan into existing land use plans and capital improvement programs.
Objective 1-6. Build upon past databases to ensure that vulnerable hazards' risks are accurate.

Goal #2. Increase Public Awareness.

Objective 2-1. Develop and implement additional education and outreach programs to increase public awareness of the risks associated with hazards and on specific preparedness activities available.
Objective 2-2. Encourage homeowners and businesses to take preventative actions and purchase hazard insurance.

Goal #3. Encourage Partnerships.

Objective 3-1. Strengthen inter-jurisdictional and inter-agency communication, coordination, and partnerships to foster hazard mitigation actions designed to benefit multiple jurisdictions.
Objective 3-2. Identify and implement ways to engage public agencies with individual citizens, nonprofit organizations, business, and industry to implement mitigation activities more effectively.

Goal #4. Provide for Emergency Services.

Objective 4-1. Where appropriate, coordinate and integrate hazard mitigation actions with existing emergency operations plans.
Objective 4-2. Identify the need for, and acquire, any special emergency services and equipment to enhance response capabilities for specific hazards.
Objective 4-3. Encourage the establishment of policies to help ensure the prioritization and implementation of mitigation actions designed to benefit critical facilities, critical services, and emergency traffic routes.

Format Utilized to Develop Mitigation Actions

The HMPC reviewed 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 committee members' personal knowledge, interviews with other officials of each jurisdiction, and knowledge of successful actions implemented in other communities.

The committee members developed a prioritized list (Drop, No Opinion, Low, Medium, High) utilizing the GEMA recommended STAPLEE prioritization methodology, with special emphasis on the following:

1. Cost effectiveness (and when potential federal projects are anticipated, cost-benefit reviews will be conducted prior to application);
2. Comprehensiveness, i.e. addresses a specific goal and objective;
3. Addresses reducing effects of hazards on new and existing buildings and infrastructure;
4. Addresses reducing effects of hazards on critical facilities where necessary; and,
5. 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 definitely 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).

All rankings were composited to represent the consensus of the HMPC.

Members of the HMPC prioritized the potential mitigation measures identified in this Plan. 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. The subcommittee prioritized the potential mitigation measures based on what they considered most beneficial to the community. Several criteria were established to assist HMPC members in the prioritization of these suggested mitigation actions. Criteria included perceived cost benefit or cost effectiveness, availability of potential funding sources, overall technical feasibility, measurable milestones, multiple objectives, and both public and political support for the proposed actions. Through this prioritization process, several projects emerged as being a greater priority than others. Some of the projects involved expending considerable amounts of funds to initiate the required actions. Most projects allowed the community to pursue completion of the project using potential grant funding. Still others required no significant financial commitment by the community. All proposed mitigation actions were evaluated to determine the degree to which the County would benefit in relation to the project costs. After review by the HMPC, the prioritized list of mitigation measures, as presented within this Plan, was determined.

Mitigation Actions

Each mitigation action is presented by jurisdiction, or in the case of joint actions by multiple jurisdictions, or by independent public bodies (such as School System), or by private nonprofits (such as the Medical Center), in priority order (objective), by best estimate of cost, if applicable, by potential funding source if other than operating budgets, by department or agency that will administer the action, by secondary departments or agencies that will provide supporting rolls, and by timeframe.

Each mitigation action that follows may be supported by one or more jurisdictions below, as indicated by letters A) through H).

A) Walton County (unincorporated)
B) City of Monroe
C) City of Loganville
D) City of Social Circle
E) Town of Between
F) Town of Good Hope
G) Town of Jersey
H) Town of Walnut Grove.

1. Flood Database Updates (including Worksheet 3a info): Obtain updates to the Flood Data Base (FEMA Map Modernization Program) of the 100-Year Floodplain. Current data is from 1993. Utilize all flood hazard information to update Worksheet 3a information for each jurisdiction. Funding methods include FEMA (through GA DNR). No out-of-pocket costs to County or Municipalities. Two year project. This project has been in progress for some time and is nearing completion. Completion expected later in 2009. This mitigation action will be removed from updates to the HMPC once fully completed by FEMA. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 1-6.

2. Applications for Participation in the NFIP: The City of Social Circle (CID no. 130505, sanction date: February 16, 1996) and the Towns of Between (CID no. 130410, sanction date: February 16, 1996) and Walnut Grove (CID no. 130413, sanction date: August 13, 1977) have each been sanctioned in years past and therefore are not currently participating in the NFIP. Additionally, the City of Jersey has never participated in the NFIP. The HMPC has determined these four non-participants in the NFIP should take the necessary steps to apply or re-apply to the NFIP, whichever may be the case. There will be no out-of-pocket costs for this administrative process if handled by each municipality themselves. This is a 12 month project. This project will be supported by the Cities of Social Circle and Jersey, and the Towns of Between and Walnut Grove. Jurisdictional

participants include: D, E, G, H. Goals and objectives represented by this mitigation action include: 1-1, 1-2, 1-3, 2-1, 2-2, 3-1, 4-3.

3. Community Rating System: Make application to participate in FEMA's National Flood Insurance Program's (NFIP) Community Rating System (CRS) in order to enhance flood plain management practices and thereby reducing exposure to flooding and reducing individual insurance rates. The NFIP's CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood resist resulting from the community actions meeting the three goals of the CRS:
    1) Reduce flood losses;
    2) Facilitate accurate insurance rating; and
    3) Promote awareness of flood insurance.

   This project would not require funding, but would require time and effort of the Walton County Planning and Development Department. This is a two year initial project that continues indefinitely. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 1-1.

4. Walton County Reservoir: Obtain federal and state permits, acquire necessary land, and build a new Walton County Reservoir to assure adequate future water supplies. This project would be supported by Walton County Water and Sewer and the Walton County Commission in partnership with Oconee County. It is anticipated that this project be funded by the issuance of bonds. This is a five year project. The estimated cost of this project may exceed $100 million. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 1-1, 1-4, 3-1.

5. Walton County Water and Sewerage Authority Upgrades: One large project, consisting of three main actions, is needed to ensure the future viability of the Walton County Water and Sewerage Authority. This project includes the construction of a 13 billion gallon water reservoir, diversion of the Apalachee River, and construction of a new water treatment facility. The estimated cost of this project is Phase I) $169 million, and Phase II) $360 million, for a total cost of $529 million. This project would be funded via the bond market. Failure to make these upgrades may negatively impact system pressures, tank levels, pump stations, and may create fire and health risks. It will take approximately six years to reach 14 million gallons per day (MGD), and 50 years to reach 63 MGD. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 1-4.

6. Walton County Water and Sewerage Authority Backup Power: This project pertains to the following critical facilities/infrastructure: Bold Springs booster pump station and the 500,000 gallon Bold Springs tank on Loth Wages Rd. In order to prevent loss of power to water distribution pump, and other AC power resulting in loss of system pressure, some actions need to be taken to ensure an appropriate source of backup powers. This includes purchase and installation of a backup generator with an automatic transfer switch (150kw) Cummins generator. The power company involved is Walton EMC. The estimated cost of this project is $80,000. Anticipated funding methods include Georgia Environmental Facilities Authority (GEFA), and the bond market. This is a one year project. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 4-2.

7. Walton County Water and Sewerage Authority Backup Power: This project pertains to the following critical facilities/infrastructure: Alcovy Jersey/Flat Rock Rd booster pump station and the 750,000 gallon master tank on Hwy 81. In order to prevent loss of power to water distribution pump, and other AC power resulting in loss of system pressure, some actions need to be taken to ensure an appropriate source of backup powers. This includes purchase and installation of a backup generator with an automatic transfer switch (750kw) Cummins generator. The power company involved is Walton EMC. The estimated cost of this project is $220,000. Anticipated funding methods include Georgia Environmental Facilities Authority (GEFA), and the bond market. This is a one year project. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 4-2.

8. Walton Regional Medical Center Water: To prevent a loss of the central vacuum system resulting in water loss to the Walton Regional Medical Center, additional suction units are needed. The estimated cost of this project is $2,500. Anticipated funding methods include the operating budget and any pertinent grants. This is a six month project. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 4-2.

9. Reverse 911-type System: A Reverse 911-type system that can target specific communities, groups, facilities, or the County and Cities as a whole in order to notify residents of various pending dangers in order to greatly enhance public safety. This project will be supported by Walton County 911 and the various public safety officials from each municipality. The estimated cost of this project is $50,000. Anticipated funding methods include general funds, SPLOST, and any pertinent grants. This is a six month project. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 3-1.

10. Emergency Operations Center: Build out the recently approved Emergency Operations Center with state-of-the-art equipment, test operational capability during countywide hazmat exercise in late 2008. The estimated cost of this project is $500,000. Anticipated funding methods include general funds and any pertinent grants. This is a one year initial project that will continue indefinitely. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 4-1, 4-2.

11. Wildfire Database Updates (including Worksheet 3a info): Due to concerns about the accuracy of existing GEMA wildfire data, the County plans to develop a wildfire database in order to help determine areas susceptible to wildfire in the future. This will involve the GIS Department developing a database that identifies buildings and values subject to wildfire hazards. Utilize all available wildfire information to update Worksheet 3a information for each jurisdiction. The result is to have defined the threat of wildfire in a more objective manner. The cost of this project would be limited to GIS and other local governmental staff time and effort. This project is a one year project. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 1-6.

12. Amateur Radio Assistance: Establish a linked VOIP, amateur radio repeater system that incorporates a Specific Area Message Encoding (SAME) weather alert radio system. Two bands, VHF and UHF, interconnectable, to allow trained SkyWarn Spotters the ability to communicate around the County, with neighboring Counties, and with the National Weather Service in Peachtree City. This system would provide real-time reporting, as well as advanced early warning for hazardous weather approaching the County. Individuals with scanners and other receivers would also be able to monitor the system and receive real-time updates and reports. The cost of this project would consist of volunteer labor and equipment provided by the Walton County Emergency Radio Club, Inc. This Club already has all of the necessary equipment and permission from Walton County 911 Director for tower space. The only outside help needed relates to establishment of specific tower, gaining access, and working out a Memorandum of Understanding (MOU). The timeline of this project would be indefinite. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 3-1.

13. NOAA Weather Radios: Provide NOAA weather radios to the elderly and low income citizens. This project would be supported by Walton County EMA. The estimated cost of this project is $20,000. Anticipated funding methods include general funds and any pertinent grants. This is a two year project. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 4-2.

14. Outdoor Warning Sirens: Install outdoor weather warning sirens in each municipality and other areas of concentrations of citizens within Walton County. This project would be supported by Walton County EMA and various public safety officials within the municipalities. The estimated cost of this project is $15,000 - $20,000 for each siren and $35,000 for each voice capable speaker. An exact count of the required equipment would be made at the start of any bidding process. Anticipated funding methods include general funds and any pertinent grants. This is a two year project. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 4-2.

15. Special Needs Citizens: Identify citizens with special needs within Walton County and implement individual notification of warnings and conditions. This may include the gathering of basic medical data for individuals with acute conditions. This project would be supported by Walton County EMA and Walton County 911, with the assistance of each of the municipalities. The estimated cost of this project is $20,000. This is a one year project. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 2-1, 3-2, 4-2.

16. Walton Regional Medical Center Communications: With regard to Walton Regional Medical Center communications, install adequate antenna(s) for the following forms of communications to prevent communications loss during emergencies: Southern Link Radios, NOAA Weather Radios, Shortwave Radios. The estimated cost of this project is $750. The WRMC Emergency Preparedness Account would be the source of funding for this project. This is a three month project. Jurisdictional participants include: None. Goals and objectives represented by this mitigation action include: 3-1, 4-2.

17. Backup Power – Critical Facilities: Inventory and test backup generators at critical county and municipal facilities and infrastructure. Assess shortages of generators needed for all county and municipal facilities and infrastructure. This assessment will include governmental buildings, schools, hospitals, and other important facilities or infrastructure. The cost of this project would involve some degree of county and municipal staff time necessary to develop the assessment. This is a six month project. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 1-1, 4-2.

18. Backup Power - Schools: Install generators at county and municipal schools to allow Walton County Red Cross to use the schools as designated shelters even in the event of power failure. This project would be supported by Walton County School System, Social Circle School System, and Walton County Red Cross. The estimated cost of this project is undetermined at this time. Anticipated funding methods include grants and donations from local businesses. This is a one year project. Jurisdictional participants include: A, D. Goals and objectives represented by this mitigation action include: 1-1, 4-2.

19. Lightning and Power Surge Protection: Inspect all county and municipal critical facilities for proper grounding. Install lightning rods in high value critical facilities. Install surge protectors at power entrance of applicable critical facilities. The estimated cost of this project is undetermined at this time. Anticipated funding methods include general funds and any pertinent grants. This is a two year project. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 1-1, 4-2.

20. Storm Ready Program: Establish the National Weather Service "Storm Ready Program" within Walton County and to include each municipality. This project would be supported by Walton County EMA and each municipality. Anticipated funding methods include general funds and any pertinent grants. This is a two year project. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 1-1, 2-1, 4-1.

21. Walton County EMA Website: Develop a website for Walton County EMA that will be updated on a regular basis to provide the community with alerts and other pertinent information. This project may be done internally utilizing staff resources, or it may be contracted out to a private website design company. Until this decision is made, a project cost cannot be determined. This is six month project. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 2-1.

22. Public Awareness: Establish a "Hazards Identification, Preparedness, and Mitigation" section within each unit of the Walton County Public Library. Obtain and provide copies of nationally published and locally published documents in order to increase public awareness of county hazard risks and preparedness activities available. The cost of this project would be limited to county and library staff time and effort. This is a one year initial project that continues indefinitely. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 2-1, 2-2.

23. Walton County Local Emergency Operations Plan (LEOP): Review and update the Walton County LEOP to include recommendations from the Walton County Hazard Mitigation Plan. The cost of this project would be limited to county and library staff time and effort. This is a one year initial project that continues indefinitely. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 4-1.

24. City of Good Hope Citizens Emergency Response Team (CERT): In the event of severe weather damage and isolation due to severe weather or other disasters, the City of Good Hope has no local means of self-help or self-sufficiency other than the County Fire Dept located immediately outside our corporate limits. If our citizens were trained and organized to form a CERT, our community would be more adequately prepared fro self-sufficiency until external assistance could be received. The cost of this project would be limited to City of Good Hope staff time and effort. This is a one year initial project that continues indefinitely. Jurisdictional participants include: F. Goals and objectives represented by this mitigation action include: 3-2, 4-2, 4-3.

25. Hazardous Materials Release Exercise: Plan and exercise a full-scale hazardous materials exercise during the fourth quarter of 2008. This project would be supported by the LEPC membership. The cost of this project would be limited to LEPC time and effort. This is a project that would occur within one year. Jurisdictional participants include: A, B, C, D, E, F, G, H. Goals and objectives represented by this mitigation action include: 3-1, 4-3.

26. Hazardous Materials Response Unit: Assess the current resource requirements of the Walton County Fire Rescue Hazardous Materials Response Unit and develop needed equipment, training, and manpower gaps in order to maintain peak operating efficiency. The cost of the assessment would be limited to staff time and effort. However, any equipment and training costs cannot be determined until after said assessment has been completed. This is a two year project. Jurisdictional participants include: A. Goals and objectives represented by this mitigation action include: 4-2.

27. Repetitively Flood Damaged Acquisition/Relocation Project: If one or more of the eight previously flood damaged structures suffer repetitive flood damage, and if cost effective and technically feasible, make application to FEMA for an acquisition or relocation project. The cost would be shared by FEMA (75%) and the County in-kind services (25%). A. Goals and objectives represented by this mitigation action include: 1-1; 1-4.

Chapter 6
Executing the Plan

6.1 – Action Plan Implementation

The hazard mitigation planning process was overseen by the Walton County Emergency Management Agency. Once GEMA completes its initial review of this Plan, it will be presented to the Walton Board of Commissioners for consideration. Once adopted, the Walton County EMA Director shall assume responsibility for the maintenance of the Plan. It shall be the responsibility of the EMA Director to ensure that this Plan is utilized as a guide for initiating the identified mitigation measures within the community. The EMA Director, or his designee, shall be authorized to convene a committee to review and update this Plan annually. The Plan will also have to be updated and resubmitted once every five years. Through this Plan updating process, the EMA Director shall identify projects that have been successfully undertaken in initiating mitigation measures within the community. These projects shall be noted within the planning document to indicate their completion. Additionally, the committee called together by the EMA Director shall help to identify any new mitigation projects that can be undertaken in the community.

6.2 – Review and Evaluation

As previously stated, the Walton County EMA Director, or his designee, will be charged with ensuring that this plan is monitored and updated at least annually, after the occurrence of any major disaster, or more often if deemed necessary. The method of evaluation will consist of utilizing a checklist to determine what mitigation actions were undertaken, the completion date of these actions, the cost associated with each completed action, and whether actions were deemed to be successful. A committee, perhaps with much of the same membership as the existing HMPC, will convene quarterly in order to accomplish the annual plan review and evaluation. These meetings will provide an opportunity to discuss the progress of the action items and maintain the partnerships that are essential for the sustainability of the HMP. The EMA Director, or his designee, should document the progress of quarterly meetings, and ensure the results are reported to the Walton County Board of Commissioners, as well as to any agencies or organizations having an interest in the hazard mitigation activities identified in the plan.

6.3 – Multi-Jurisdictional Strategy and Considerations

As set forth by Georgia House Bill 489, the Emergency Management Agency is the overall implementing agency for projects such as hazard mitigation. Walton County will work in the best interests of the County as well as the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between. The Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between played an active role in the planning process. Participation from the Cities and Towns was solicited and received by Walton County EMA. As a result, a truly multi-jurisdictional plan was created for Walton County and the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between, with ideas and viewpoints of all participants included.

6.4 – Plan Update and Maintenance

According to the requirements set forth in the Disaster Mitigation Act of 2000, Walton County is required to update and revise the HMP every five years. At the direction of the EMA Director, the Walton County HMPC will reconvene at the beginning of "Year Four" in order to accomplish this requirement. The revision process should include a firm schedule and timeline, and identify any agencies or organizations participating in the plan revision. The committee will review the mitigation goals, objectives and action items to determine their relevance to changing situations in the County, as well as changes in State or Federal policy, and to ensure they are addressing current and expected conditions. The committee will also review the risk assessment portion of the plan to determine if this information should be updated or modified, given any new available data. Walton County is dedicated to involving the public directly in review and updates of the HMP. During the plan revision process, the committee will conduct, at a minimum, one public hearing near the completion of the revision process. This public hearing will provide the public a forum for which they can express their concerns, opinions, or ideas about the plan. Additionally, if persons from the community express interest in participation in the planning process, they will be provided the opportunity to suggest possible mitigation measures for the community. Documentation will be maintained to indicate all efforts at continued public involvement. All relevant information will be forwarded to GEMA and FEMA as a product of the proposed plan revision.

The EMA Director will ensure the revised plan is presented to the Walton County Board of Commissioners for formal adoption. In addition, all holders of the HMP will be notified of affected changes. No later than the conclusion of the five-year period following initial approval of the plan, the EMA Director shall submit a revised Hazard Mitigation Plan to the Georgia Emergency Management Agency and the Federal Emergency Management Agency for their review.

The Walton County Hazard Mitigation Plan will be considered for incorporation into other local plans and programs. This includes some form of incorporation into the

Walton County Comprehensive Plan at the next scheduled update. The Comprehensive Plan, which focuses on land use and community development, is required of all local governments by the Georgia Dept. of Community Affairs (DCA). Portions of the HMP may also be integrated into the Walton County Local Emergency Operations Plan (LEOP), emergency plans for the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between, and other existing or future public safety-related plans. In addition, some hazard mitigation projects may be good candidates for the local Short Term Work Program (SWP) which focuses on projects that enhance the community. Once approved by FEMA, copies of the Walton County Hazard Mitigation Plan will be provided to the appropriate governmental jurisdictions, agencies, and/or departments for review and possible inclusion into plans and programs. The HMP will be distributed by the EMA Director to the appropriate officials to allow them to review the Plan and determine to what extent the Plan should be integrated into, or referenced by, other plans and programs. Limitations may be placed on certain sensitive information by the EMA Director.

Chapter 7
Conclusion

7.1 – Summary

Walton County has gained a great deal of knowledge relating to the County's disaster history and future potential for disaster as a result of the hazard mitigation planning process. This includes an extensive hazard history of recorded hazard events from the past fifty years, a vulnerability assessment, a detailed critical facilities database with valuable information on some of most critical County, City, and Town structures, and some valuable ideas from the community abroad concerning measures that should be considered for future hazard mitigation. Community involvement has been at the heart of this effort. Not only did the planning process include the creation of a Hazard Mitigation Planning Committee with representatives from all walks of life, but multiple public hearings were conducted to provide all Walton County citizens with the opportunity to comment on, and offer suggestions concerning potential hazard mitigation measures within the community. Walton County, the Cities of Monroe, Social Circle, Loganville, and Jersey, and the Towns of Walnut Grove, Good Hope, and Between all contributed to ensure a broad range of citizens were represented. These efforts have all had the effect of better protecting our Community from the threats of nature and technology. While it would be naïve to believe this Plan provides complete protection to Walton County and its residents, it is the hope of all parties involved in this planning process that the recommended mitigation measures contained within the Plan will provide some level of increased preparedness as well as spur further discussion and planning related to the important subject of Hazard Mitigation for years to come.

7.2 – References

Numerous sources were utilized to ensure the most complete planning document could be assembled:

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)
Walton County Local Emergency Operation Plan
Walton County Hazard Mitigation Plan

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)
http://roadsidegeorgia.com/nrhp/Walton (National Register of Historic Places)
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
Walton County
Walton County Chamber of Commerce
City of Monroe
City of Social Circle
City of Loganville
City of Jersey
Town of Walnut Grove
Town of Good Hope
Town of Between
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

Appendix B – Hazard History Database

Appendix C – Hazard Frequency Table

Appendix D – Walton County Comprehensive Plan 2007-2027
(Including Land Use Maps)

Appendix E – Other Planning Documents

Appendix F – Glossary