

NORTHWEST ALABAMA MULTI-JURISDICTIONAL HAZARD MITIGATION ACTION PLAN

A HAZARD MITIGATION PLAN FOR NORTHWEST ALABAMA
COUNTIES
COLBERT, FRANKLIN, LAMAR, LAWRENCE, MARION,
WALKER, AND WINSTON AND
ELIGIBLE JURISDICTIONS

Effective January 19, 2021 to January 18, 2026

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Section 1 – Hazard Mitigation Plan Background

Section Contents

1.1 Introduction

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1.1 Introduction

The Northwest Alabama Multi-Jurisdictional Hazard Mitigation Plan is a multi-jurisdictional plan that details natural hazards that threaten local jurisdictions in several northwest Alabama, specifically Colbert, Franklin, Lamar, Lawrence, Marion, Walker and Winston counties and the municipalities and other jurisdictions found therein. This plan fulfills the requirements set forth by the Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 requires jurisdictions to create a hazard mitigation plan in order to be eligible for mitigation grants made available by the Federal Emergency Management Agency (FEMA).

Although the northwest Alabama region is diverse in terms of development and physical geography, the hazard profiles of the counties are very similar. Counties with higher population may face greater vulnerability, but the risk of impact is largely the same. Communities in each county must contend with localized threats from flooding, wildfire, or landslides as well as those events with no geographic limitations such as winter storms and tornadoes. Likewise, the goals and mitigation strategies of urban and rural areas have not differed greatly. Additionally, the local emergency management agencies of the counties in the region have responsibility for both urban and rural areas of varying population density. Whether an urbanized county or a rural one, the hazard and risk profiles and mitigation techniques are very similar for each community across the region. Due to these similarities, a multi-jurisdictional approach has significant advantages for hazard mitigation planning processes, local mitigation strategies, and plan implementation.

1.2 Authority

Section 409 of the Robert T. Stafford Disaster Relief and Emergency Management Assistance Act (Public Law 93-228, as amended), Title 44 Code of Federal Regulations, as amended by Part 201 of the Disaster Mitigation Act of 2000, requires that all state and local

jurisdictions develop a hazard mitigation plan as a condition of receiving federal disaster assistance. These plans must be approved by FEMA and updated every five years.

1.3 Funding

Funding for the Northwest Alabama Multi-Jurisdictional Hazard Mitigation Plan was made available through the Hazard Mitigation Grant Program (HMGP), under the President's Disaster Recovery Declaration 4362 (DR 4362). Supplemental funding was supplied by the county commissions of Colbert, Franklin, Lamar, Lawrence, Marion, Walker, and Winston and the Northwest Alabama Council of Local Governments.

1.4 Scope

The Northwest Alabama Multi-Jurisdictional Hazard Mitigation Plan is a mitigation framework for all incorporated and unincorporated counties in the multi-jurisdictional planning area of Northwest Alabama, which includes Colbert, Franklin, Lamar, Lawrence, Marion, Walker, and Winston Counties. The plan addresses all-natural hazards that are identified by FEMA, and hazards that may affect the northwest Alabama region are analyzed for all jurisdictions. Short- and long-term goals for mitigation are developed for Colbert, Franklin, Lamar, Lawrence, Marion, Walker and Winston Counties and mitigation strategies are identified for participating jurisdictions. Responsibility for implementation of strategies is discussed and possible funding sources are identified.

1.5 Purpose

The Northwest Alabama Multi-Jurisdictional Hazard Mitigation Plan is an effort to evaluate and identify all-natural hazards which may affect the region. It presents mitigation strategies that address the hazards identified and is one of many steps that local jurisdictions will take to provide a safer environment for residents.

Section 2 – Northwest Alabama Regional Profile

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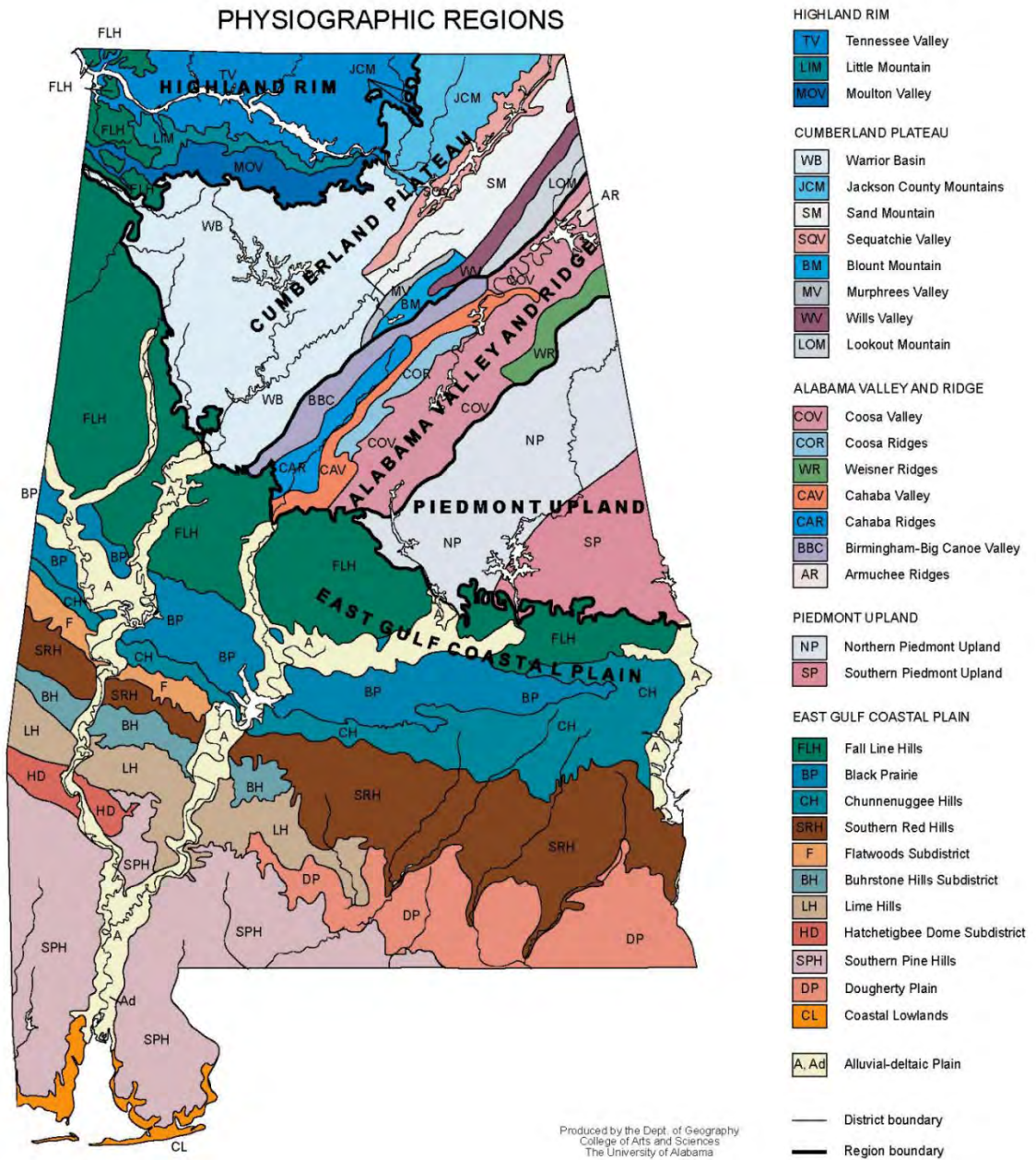
- 2.1 Geology
- 2.2 Transportation
- 2.3 Social and Economic Characteristics
- 2.4 Utilities
- 2.5 Development Trends

2.1 Geology

Geology describes the rock formations which are essential to the characteristics of a place. Geology is a central feature in determining the types and quantities of soils in an area, the topography of the location, and the amount of ground and surface water. In turn, these factors influence the geology of the location, as they affect changes in the structure of rock formations. The State of Alabama is divided into five geologic provinces- the Coastal Plain, Piedmont, Valley and Range, Cumberland Plateau, and Highland Rim. These provinces are determined by the characteristics of their underlying rock formations such as rock types, geologic structure, physiography, and water bearing properties.

Most of Colbert County is in the Highland Rim province, but areas northwest and southwest in these counties are in the Eastern Coastal Plain province. The Highland Rim is characterized by Mississippian era limestone, which is subject to dissolution potentially creating cracks, fissures, and sinkholes. Franklin County is divided between three provinces, the Highland Plain in the northeast, and Cumberland Plateau and East Gulf Coastal Plain. The underlying limestone of the Highland Plain is susceptible to dissolution. Marion County is divided between East Gulf Coastal Plain in the west and Cumberland Plateau in the east. Winston County rests entirely within the Cumberland Plateau. Walker County is also part of the Cumberland Plateau, and lies within the state's Upper Plains climatological region, which has a moist, subtropical climate, characterized by hot summers, mild winters, and abundant rainfall. The average daily high temperature ranges from 51°F in January to 90°F in July. The sun geologic conditions and drainage patterns largely determine susceptibility to sinkholes. Lamar County lies within the Fall Line Hills district of the East Gulf Coastal Plain, which is part of the Coastal Plain physiographic province.

The northern portion of Lawrence County is in the Highland Rim and the southern portion is in the Cumberland Portion. A portion of the Plateau Coal Region of the Warrior Coal Field sits in the southern part of the county.



2.2 Transportation

Northwest Alabama is connected to the rest of the State, the Southeastern United States, and the nation by a series of major roadways. The transportation network centers on the system of highway connections to the nation's interstate highway system. Interstate 22 crosses diagonally east to west from Birmingham to Olive Branch, Mississippi southeast of Memphis. Interstate 65 runs east of the region north to south and is connected to the region by I-22 in Birmingham and Highway 157 from the Shoals to Cullman, Alabama. Highway 72 is another important route, entering the state in from Mississippi at the Colbert County line, continuing north across the Tennessee River, through the northern portions of Lawrence County, into the Shoals before travelling east to Athens and I-65. U.S. Highway 43 is a major north to south connection between the Tennessee state line and the Marion County line in Winfield. Highway 43 touches on more communities in northwest Alabama than any other highway. Meanwhile, smaller highways cross it east to west or branch off to form major collectors and rural arterials. These include Highway 13, which connects Phil Campbell to Haleyville to I-22 in Walker County and Highway 278 from Hamilton to Double Springs and I-65.

The region is also home to several airports. The Muscle Shoals Regional Airport is the largest airport and the only one to offer commercial flights daily. Hamilton, Russellville, and Haleyville each have airports offering hangar service and private flights. Several private airports and landing strips are also found in the region. Lamar County has one airport located south of Sulligent. The airport does not provide commercial service. The Courtland Industrial Airport is in Lawrence County to the southwest of the Town of Courtland. The airport is owned and operated by the county and has two 5,000-foot runways, one of which is lighted. The airport is served by the Tennessee Valley Air Center. Additionally, Hood Harris Port is Lawrence County's industrial port located on the Tennessee River. It is located north of North Courtland off County Road 150. Walker County has an airport, operated by the County; it has one runway that is lighted, and it is 5,001 feet. The airport does not provide commercial service.

Railroads carrying freight across the region traverse north and south as well as east and west. A Norfolk Southern line enters Colbert County from Mississippi parallel to the Tennessee River and continues east through the Shoals, where it branches south and eventually connects to Birmingham, and east to Decatur, where it branches north and south, east and west. The north-south Norfolk Southern line from the Shoals travels through each county of the region before

merging into an east-west line of the Burlington Santa Fe Railroad and connecting to Birmingham. The Burlington Santa Fe Railroad enters the state in Lamar County and sweeps through the southern edge of Marion County near Guin and Winfield. Finally, minor lines serve the Port of Florence (Tennessee Southern Railroad) and the City of Red Bay (Belmont Railroad). The region lacks passenger rail transportation. Some of the major transportation routes for Walker County include, US 78, State Hwys: 69,269,257,5,18

2.3 Social and Economic Characteristics

Although the region is interconnected, the population and economy are best described at the county level. The total population for the region is approximately 256,000 people.

Population by jurisdiction is provided in Section 4, Table 4.7.2. Most of the regional employment is found in manufacturing, educational services, health services, and social assistance, and retail trade. Most residents, over 80% in each county, had resided in the same county in the region for at least one year. Median family incomes ranged from about \$31,000 to \$37,000 per family. Around 16% of each counties' families were below poverty level. Among residents over 25 years of age, high school dropout rates ranged from 17.4% to 29.4% in counties of the region.

2.4 Utilities

Utility service in northwest Alabama varies by location in urban and rural areas of the region. Each county has completed utility coverage in one or more incorporated areas; however, coverage varies in smaller towns and rural areas. Electricity and telephone service are close to universally available, followed by water service, which is provided to all but the most remote rural areas. Sewer is available in most incorporated areas, although several are lacking centralized wastewater collection and treatment. Natural gas is likewise available in most incorporated towns and their near vicinity, but its availability is more limited beyond. Internet and wireless telephone service are limited in the rural areas of the region.

2.5 Current and Future Development Trends

Northwest Alabama is made of three general categories of land use- 1) cities and towns of varying sizes, 2) sparsely settle low mountains and hills, and 3) flat to moderately rolling acreages. First, there are urban areas that range from moderately dense to very small town. The largest of these is in Colbert County, where the cities of Muscle Shoals, Tuscumbia, and Sheffield make up part of the urban area that, along with the City of Florence to the north in Lauderdale County, are known as the Shoals Metropolitan Area. These three cities in Colbert County account for

approximately 30,000 of the northwest Alabama region's total population of 256,000 residents. 100 year floods in 2019 and 2020 impacted newly built subdivisions in Colbert County. The 100 year flood in 2020 receive a federal emergency declaration. Outside of the Shoals, there are central cities with populations greater than 5,000. The cities of Russellville, Jasper, Hamilton fall into this category. Ten smaller cities with populations from 1,000 to 5,000 are located throughout the region: Cherokee, Littleville, Phil Campbell, Red Bay, Bear Creek, Guin, Hackleburg, Winfield, Double Springs, Haleyville, Millport, Sulligent, Vernon, Town Creek, Moulton, Carbon Hill, Cordova, Dora, and Sumiton. Development has been incremental and have not affected vulnerability levels. Small towns with populations less than 1,000 are the equally numerous in the region. These towns include Leighton, Hodges, Vina, Brilliant, Gu-Win, Twin, Addison, Arley, Lynn, Natural Bridge, North Courtland, Courtland, Hillsboro, Eldridge, Kansas, Nauvoo, Oakman, Parrish, Sipsey. Development has been incremental and has not affected vulnerability levels. These cities have a mix of residential, commercial, and industrial uses. Those located nearest to major transportation infrastructure have witnessed the greatest growth in industry, while those farther removed have struggled to retain businesses and industries. Lamar County's population has been declining over the past twenty years. All municipalities have experienced losses in population, many in double digits, except for the City of Sulligent, which has had only a minimal increase. Population growth in the region is uneven; between 2000 and 2010 Censuses regional growth varied greatly but overall growth rates were slight (+/- 1.5%). Lawrence County has had a population decrease since 2010. According to U.S. Census data, Lawrence county had a total population of 34,339 in 2010 and an estimated population of 33,571 in 2013. This indicates a 2% population loss. According to U.S. Census data, all the incorporated places in Lawrence County have also experienced population loss since 2010. Development has been incremental and has not affected vulnerability levels.

Colbert County is bordered by the Tennessee River and is crossed by two of the region's major highways. The major east-west highway, US Highway 72, passes through Muscle Shoals, connecting to Huntsville and Memphis and points beyond. Colbert County is the most populous county of the region and has the largest urbanized area. However, there are still largely rural areas, including flat to rolling agricultural parcels and low mountains and hills. These are each sparsely developed. Most of the populous lives in the urban cluster that is made up of Sheffield, Tusculumbia, and Muscle Shoals, which forms half of the Shoals Metropolitan Area. These three cities each

have the typical small city mix of residential (mostly single family detached), commercial, institutional and industrial uses. Tuscumbia and Sheffield are now predominantly residential, with only light commercial and little industrial use. Muscle Shoals is a developing middle-income city with a growing commercial and industrial sector and some older heavy industries. The northwest Alabama regional airport is located immediately east of Muscle Shoals, adjacent to a growing industrial park. The mountains and hills in the southwestern part of the county comprise close to one-fourth of the total land area. Aside from scattered single-family homes and a few small lumber-related enterprises, this quadrant of the county is mostly undeveloped. A wildlife management area occupies much of this area. In eastern Colbert from immediately south of the Tennessee River to the foothills of south of SR 157 lie thousands of acres of old river bottomlands that for two centuries have been highly productive cotton, soybean and cattle farms. Many are still in large agricultural tracts. The small town of Leighton is in this section. Other than the slow growth of the urban cluster, which expands by 1-2% each decade, development patterns have changed little in the past 30 years.

Franklin County is predominantly rural, with the City of Russellville being the only place with a population over 5,000. Russellville is the largest city and county seat and is located at the intersection the county's two major highways, Alabama 24 and U.S. Highway 43. Two smaller communities are located at major highway linkages in the county. Red Bay is located on Alabama 24 to the west, and Phil Campbell is located on Highway 43 to the south. Hodges and Vina are more remotely located in the southern-central section of the county. The predominant land uses are agriculture and woodlands, which provide as much as 90% of the land cover. In the 1960s the Tennessee Valley Authority created a series of lakes, now managed as a public resource by the Bear Creek Development Authority. Economic activities are centered in Russellville, Red Bay, and about 10 miles east of Russellville where a poultry processing plant employs almost 2,000 people. Like other predominantly rural counties in Alabama, there is sporadic residential development throughout, primarily along the major highway routes such as US 43 and AL 24, which is being improved to four lanes and bisects the county, running east and west. Future land development will probably follow the established pattern of relatively slow growth. Most economic development is likely to occur adjacent to major highways in Russellville, Red Bay, and Phil Campbell. The Town of Phil Campbell and the unincorporated community of East Franklin were struck by tornadoes on April 27, 2011 and are struggling to regain vitality in the post-disaster

recovery process. The Town of Hodges has developed over 25 miles of recreational trails and has recently begun heavy promotions to attract outdoor recreation to the county.

Marion County is a predominantly rural county, but it has more urban potential than many counties of similar size in Alabama. A substantial portion of the population of Marion County is located within the three largest cities of Hamilton, Winfield, and Guin. These are found along the county's traditional highway corridor, U.S. Highway 43. In addition, the recent opening of a new interstate through Marion County offers significant potential for each of the communities adjacent to it, which includes Hamilton, Guin, Brilliant, and Winfield. Proximity to the interstate will likely improve growth opportunities for other towns in southern Marion County as well. The county has suffered significant economic losses over the past two decades, with a once strong manufacturing base declining significantly. Manufactured housing struggles to remain viable in Marion County, while textiles have largely disappeared from the county. The county also has a long history of coal mining centered around the Town of Brilliant. Much of the county is rural and mountainous with sporadic residential and agricultural land uses. The unincorporated community of Shottsville and the Town of Hackleburg were hard hit by the April 27, 2011 tornadoes and continue to work on sustainability.

Lamar County is in west central Alabama along the state's western border. Fayette, Pickens and Marion Counties in Alabama and Lowndes and Monroe Counties in east Mississippi border Lamar County. The county has 605 square miles of land area and approximately 62 square miles of water area as reported by the 2014 Census. Lamar County contains six municipalities: the Towns of Beaverton, Detroit, Kennedy and Millport and the Cities of Sulligent and Vernon. The City of Vernon serves as the Lamar County seat while the City of Sulligent is the predominant center for local business and trade. Two rail lines serve the county, one in the north that runs through Beaverton and Sulligent, and the other in the south that goes through Kennedy and Millport. Lamar County operates a solid waste collection program and inert landfill. Lamar County's population has been declining over the past twenty years. All municipalities have experienced losses in population, many in double digits, except for the City of Sulligent, which has had only a minimal increase.

Lawrence County is in the northwestern portion of Alabama and encompasses nearly 700 square miles. It is bordered by Colbert and Franklin Counties to the west; Lauderdale and Limestone Counties to the north; Morgan County to the east; and Winston County to the south.

The City of Moulton serves as the county seat with four other incorporated towns in the county. The County contains the incorporated places of the City of Moulton, the Town of Courtland, the Town of Hillsboro, the Town of North Courtland, and the Town of Town Creek. According to the U.S. Census Bureau, the population of Lawrence County in 2010 was 33,571. The county consists of oak and pine forests, limestone valleys, uplands, and level plains. A portion of the Plateau Coal Region of the Warrior Coal Field sits in the southern part of the county. The Tennessee River and Wheeler Lake are located along the northern border of the county with their tributaries stretching throughout the planning area.

Walker County's land surface is highly dissected and contains narrow valleys and broad plateaus. Water supplies are adequate for domestic uses in most areas. Smith Dam, located on the Sipsey Fork of the Black Warrior River, creates more than 8,000 acres of surface water for a habitat and recreation. The riverbed overlies vast deposits of coal from the Warrior Coal Field, the southernmost large-scale coal-producing area in North America. Additionally, elevation ranges from approximately 298 feet to 664 feet. About 400,000 acres in Walker County is commercial forest land – 77%, about 16% is pasture and about 2% is cropland. Forestry is of major importance in the economy of Walker County. The total population for Walker County, Alabama is approximately 67,023. Its population has remained steady for the past 23 years, while some surrounding counties have shown considerable growth during this same time period.

Winston County is among the most rural counties in Alabama. It is the smallest and least populous county of the northwest Alabama region. The largest category of land use in Winston County is forestland, which is primarily located in the Bankhead National Forest, which encompasses close to half of the county's land area. The largest city in Winston County is Haleyville, which has about seventeen percent of the county's total population. Haleyville was struck by the tornadoes of April 27, 2011 and lost several houses and businesses as a result. Haleyville's recovery efforts continue. Most of the county's industry and commerce are centered on Haleyville. However, the Winston County Cooperative District Industrial Park, located south of Lynn on Highway 13, is prepared to receive future industrial growth. Smith Lake is located in southeastern Winston County and provides recreation and residential development along the lakefront. This area is expected to grow in coming years as a result of lakefront development. In keeping with recent countywide trends, however, growth rates are expected to be slight for Winston County as a whole.

Section 3 – Planning Process

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- 3.1 Multi-Jurisdictional Plan Adoption
- 3.2 Multi-Jurisdictional Planning Participation
- 3.3 Hazard Mitigation Planning Process
- 3.4 Public and Other Stakeholder Involvement
- 3.5 Integration with Existing Plans

3.1 Multi-Jurisdictional Plan Adoption

Participating jurisdictions will adopt the plan when deemed “approvable pending adoption” by the Alabama Emergency Management Agency (AEMA). Eligible jurisdictions include local governing bodies such as elected city councils, county commissions, school districts, and utility boards.

3.2 Multi-Jurisdictional Plan Participation¹

Each eligible local jurisdiction in Colbert, Franklin, Lamar, Lawrence, Marion, Walker, and Winston Counties participated in the development of the plan. Participants included local governments as well as local school boards and public utilities with separately elected or appointed governing boards. These were largely absent from past county-level hazard mitigation plans and were involved in the updated hazard mitigation planning process. Assessments were distributed to the participant stakeholders along with requests for feedback identifying hazards, risks, vulnerabilities, and strategies. Each participating jurisdiction was represented by personnel who performed a variety of functions including review of the plan at various stages during its drafting, attending meetings and updates on plan progress and contents, and providing feedback, comments, and consultation. The following table summarizes the jurisdictions involved, the representatives of each jurisdiction involved in the plan, and the means by which the jurisdictions were involved. Throughout the plan, threats are assessed at the community level for each jurisdiction such that hazards affecting a local governmental jurisdiction are considered to have an equal impact or potential impact on other jurisdictions located in that community, e.g. a hazard affecting a

¹ This section has been thoroughly reviewed and modified to describe plan participation for each jurisdiction.

particular city is assumed to have similar impact on school systems and utilities located in that community.

Who was Involved				How were they Involved			
Jurisdiction	Name	Position/Title	Agency/ Organization	Review Plan	Attend Meetings	Provide Written Comments	Provide concurrence/ POC form
Colbert County	David Bradford	Mayor	City of Muscle Shoals	X			
Colbert County	Ricky Williams	City Planner	City of Muscle Shoals	X	X		X
Colbert County	Dr. Brian Lindsey	Superintendent	Muscle Shoals City Schools	X	X	X	X
Colbert County	Terry Cosby	Mayor	Town of Cherokee	X	X		X
Colbert County	Arthur Walker	Town Council	Town of Cherokee	X			
Colbert County	Doug Greenhill	Manager	Cherokee Waterworks and Gas Board				X
Colbert County	Matt Bernauer	Manager	Muscle Shoals Electric Board	X	X	X	X
Colbert County	David Moore	Assistant Manager	Muscle Shoals Water Board	X	X		
Colbert County	Kevin Buttrum	Assistant Manager	Muscle Shoals Electric Board		X		
Colbert County	Kevin Stephenson	IT Director	Muscle Shoals Schools	X	X		
Colbert County	Terry Pearson	Maintenance Director	Muscle Shoals Schools	X			
Colbert County	Steve Hargrove	General Manager	Sheffield Utilities	X	X	X	X
Colbert County	Michael Smith	Director	Colbert County EMA	X	X	X	
Colbert County	Jody Hitt	Deputy Director	Colbert County EMA	X	X	X	
Colbert County	Keith Reaves	Grant Manager	Colbert County EMA	X	X		
Colbert County	David Black	Commissioner	Colbert County Commission	X	X		
Colbert County	Roger Creekmore	County Administrator	Colbert County Commission	X	X		X
Colbert County	Jeremy Robinson	County Engineer	Colbert County Commission	X	X	X	X

Colbert County	Dr. Gale Satchel	Superintendent	Colbert County Schools	X	X		X
Colbert County	Charles King	Asst. Engineer	Colbert County		X		
Colbert County	Allen Hyde	Maintenance Director	Colbert County Schools	X	X	X	
Colbert County	Emily Counce	Student Success Coach	Colbert County Schools	X	X	X	
Colbert County	Ian Sanford	Mayor	City of Sheffield	X	X		X
Colbert County	Tommy Barnes	Civil Manager	Sheffield Utilities	X	X		
Colbert County	Tyler JonesD	Electric Manager	Sheffield Utilities	X	X		
Colbert County	Matt Parker	CFO	Sheffield Utilities	X	X		
Colbert County	Keith Davis	Superintendent	Sheffield Schools	X	X	X	X
Colbert County	Chris White	HR/Safety Director	Sheffield Utilities	X	X		
Colbert County	James Vance	Manager	Muscle Shoals Water Board	X	X	X	X
Colbert County	Tony Jones	Manager	Spring Valley Water System	X	X		
Colbert County	Melissa Tidwell	Assistant Manager	Spring Valley Water System	X	X	X	
Colbert County	Kerry Underwood	Mayor	City of Tuscumbia	X	X		X
Colbert County	Tony Logan	Police Chief	City of Tuscumbia	X	X		
Colbert County	Bo Stanley	Public Works Director	City of Tuscumbia	X	X		
Colbert County	Jeff McDonald	Manager	Tuscumbia Utilities	X	X	X	X
Colbert County	Paul Pickett	Director of City Schools	Tuscumbia City Schools	X	X	X	X
Colbert County	Darryl Akerson	Superintendent	Tuscumbia City Schools		X		
Colbert County	Chris Hand	Director of Facilities	Tuscumbia City Schools	X	X		
Colbert County	Scott Howard	Mayor	City of Littleville	X	X		
Colbert County	Sherry Richey	Town Clerk	Town of Littleville	X	X	X	X
Colbert County	John Landers	Mayor	Town of Leighton	X	X		X

Franklin County	Charlene Fancher	Mayor	City of Red Bay	X			X
Franklin County	Mary Glass	Director	Franklin County EMA	X	X	X	
Franklin County	Barry Moore	Chairman	Franklin County Commission	X	X		
Franklin County	Leah Mansell	County Administrator	Franklin County Commission		X		
Franklin County	Missy Nichols	Human Resources Director	Franklin County Commission		X		
Franklin County	Kim Brooks	Accountant	Franklin County Commission		X		
Franklin County	Jim Hill	IT Director	Franklin County Commission		X		
Franklin County	Michael Hughes	GIS Coordinator	Franklin County Commission		X		
Franklin County	Gene Ward	Solid Waste Director	Franklin County Commission		X		
Franklin County	Jessica Thompson	Accountant	Franklin County Commission		X		
Franklin County	Greg Hamilton	Superintendent	Franklin County Schools	X	X		
Franklin County	Johnny Cleveland	Assistant Superintendent	Franklin County Schools		X		
Franklin County	Beverly Scott Hargett	Franklin County Water Service Authority	Franklin County Water	X			X
Franklin County	Joyce Saad	Mayor	Town of Hodges	X	X		
Franklin County	Steve Bell	Mayor	City of Phil Campbell	X			X
Franklin County	Darren Stewart	Superintendent	Phil Campbell Water	X			X
Franklin County	Chris Hargett	Chief	Russellville Police	X	X		
Franklin County	Joe Mansell	Manager	Russellville Fire Department		X		
Franklin County	John Harris	Emergency Manager	City of Russellville		X		
Franklin County	Rex Mayfield	Superintendent	Russellville City Schools	X			X

Franklin County	D.W. Franklin	Mayor	Town of Vina	X			
Lamar County	Luther C Ottis	Lamar County EMA	Lamar County Commission	X	X	X	X
Lamar County	Sharon Nethery	Probate Judge	Lamar County Commission	X	X	X	X
Lamar County	Johnny Allen	District 1 Commissioner	Lamar County Commission	X	X		X
Lamar County	Kevin King	District 2 Commissioner	Lamar County Commission	X	X		X
Lamar County	David Gunnels	District 3 Commissioner	Lamar County Commission	X	X		X
Lamar County	Jeff Long	District 4 Commissioner	Lamar County Commission	X	X		X
Lamar County	Josh Knight	County Engineer	Lamar County Commission	X	X		X
Lamar County	Suzanne Ives	County Administrator	Lamar County Commission	X	X	X	X
Lamar County	Hal Allred	County Sheriff	Lamar County Commission	X	X		X
Lamar County	Wayne Kelly	Chief Deputy	Lamar County Commission	X	X		X
Lamar County	Vance Herron	Board of Education Superintendent	Lamar County Commission	X	X	X	X
Lamar County	Greg Norton	Schools Transportation Superintendent	Lamar County Commission	X	X		X
Lamar County	Chris Sizemore	Fire Association President	Lamar County Commission	X	X		X
Lamar County	Eddie Pickle	Mayor	Town of Beaverton	X			X
Lamar County	Tracy Gann	Town Clerk	Town of Beaverton	X			
Lamar County	Miron Spence	Fire Chief	Town of Beaverton	X			
Lamar County	Keith King	Mayor	Town of Detroit	X			
Lamar County	Lana Colburn	Town Clerk	Town of Detroit	X			
Lamar County	Pete Welch	Fire Chief	Town of Detroit	X	X		X
Lamar County	Jackie Mitchell	Mayor	Town of Kennedy	X	X		X
Lamar County	Becky Akins	Town Clerk	Town of Kennedy	X			

Lamar County	Jason Sullivan	Fire Chief	Town of Kennedy	X	X		X
Lamar County	Stanley Allred	Mayor	Town of Millport	X	X		X
Lamar County	Linch Ferguson	Town Clerk	Town of Millport	X			
Lamar County	Charles White	Police Chief	Town of Millport	X	X		X
Lamar County	Scott Boman	Mayor	Town of Sulligent	X	X		X
Lamar County	Brett Ballard	Town Clerk	Town of Sulligent	X			
Lamar County	Chris Sizemore	Fire Chief	Town of Sulligent	X	X		X
Lamar County	Ricky McDaniel	Police Chief	Town of Sulligent	X	X		X
Lamar County	Glenn Crawford	Mayor	City of Vernon	X	X		X
Lamar County	Allen Chandler	Fire Chief	City of Vernon	X			X
Lamar County	Davie Eaves	Police Chief	City of Vernon				X
Lamar County	Rickey Moore	Fire Chief	Molloy Community				X
Lamar County	Allen Chandler	Fire Chief	Star Sunnyside Community				X
Lamar County	Marion Omary	Fire Chief	Henson Springs Community				X
Lawrence County	Clarence Logston	Mayor	Town of Courtland	X			X
Lawrence County	Roger Weatherwax	Mayor	City of Moulton	X			X
Lawrence County	Charles Owens	Mayor	Hillsboro				X
Lawrence County	Ronald Jones	Mayor	North Courtland				X
Lawrence County	Mike Parker	Mayor	Town Creek				X
Lawrence County	Mose Jones, Jr.	Chairman	Lawrence County Commission				X
Lawrence County	Mike Parker	Mayor	Town Creek Utilities	X			X
Lawrence County	Max Roberts	General Manager	Wheeler Basin				X
Lawrence County	Johnny Cantrell	EMA Director	Lawrence County EMA	X	X		

Lawrence County	Tammy Vinson	Director	Lawrence County 911	X	X		
Lawrence County	Heath Grimes	School Superintendent	Lawrence County Schools	X			
Lawrence County	Deroma Pepper	City Clerk	City of Moulton	X			
Lawrence County	Jeff Brewington	Street Department	City of Moulton	X			
Lawrence County	Jay Johnson	Water Department	City of Moulton	X			
Lawrence County	Mark Heflin	Sewer Department	City of Moulton	X			
Lawrence County	Tony Stockton	Executive Director	Industrial Development Board of Lawrence County, AL				X
Lawrence County	Kevin Martin	General Manager	West Lawrence Water Co-Op	X			
Lawrence County	Don Sims	General Manager	West Lawrence/East Morgan Water Authority	X			
Marion County	Tammy Rowe Batchelor	Mayor	City of Bear Creek	X	X		
Marion County	Tammy Rowe Batchelor	Mayor	Bear Creek Water	X			
Marion County	Perry Franks	Mayor	Town of Brilliant	X			
Marion County	Max Maddox	Councilman	City of Guin	X			
Marion County	Tommy Aston	Director/Manager	Guin Water	X			X
Marion County	Brandon Webster	Mayor	Town of Gu-Win	X			X
Marion County	Ken Sunseri	Mayor	City of Haleyville	X	X		X
Marion County	Darryl Colburn	Mayor	City of Hackleburg	X			X
Marion County	Bob Page	Mayor	City of Hamilton	X			X
Marion County	Jimmy Mills	Director	Marion County EMA	X	X	X	
Marion County	Erica Warren	911 Coordinator	Marion County EMA		X		

Marion County	Don Barnwell	Commissioner	Hackleburg Council	X	X		
Marion County	Kevin Williams	Sherriff	Marion County Sherriff's Department		X		
Marion County	Ryan Hollingsworth	Superintendent	Marion County Schools	X			
Marion County	Max Maddox	Mayor	City of Guin	X	X		
Marion County	Randy Price	Mayor	City of Winfield	X	X		
Marion County	Mike Watkins	Park Director	City of Winfield		X		
Marion County	Dr. James Keith Davis	Superintendent	Winfield City Schools	X			
Marion County	Terry May	Mayor	Town of Twin	X			X
Marion County	Jim Hollis	Director/Manager	Twin Water Authority	X			X
Walker County	Regina Myers	Coordinator	Walker County EMA	X	X		X
Walker County	Robbie Dickerson	County Administrator	Walker County Commission	X	X		X
Walker County	Jerry Bishop	Commission Chairman	Walker County Commission	X	X		X
Walker County	Keith Davis	District 1 Commissioner	Walker County Commission	X			
Walker County	Jeff Burrough	District 2 Commissioner	Walker County Commission	X			
Walker County	Ralph Williams	District 3 Commissioner	Walker County Commission	X			
Walker County	Steven Aderholt	District 4 Commissioner	Walker County Commission	X			
Walker County	Nick Smith	Walker County Sheriff	Walker County Sheriff's Office	X			
Walker County	Bartley Wyers	Forestor	US Forestry Department	X			
Walker County	Chuck Cordell	Local Director	ALDOT	X			
Walker County	Mark Chambers	Mayor	City of Carbon Hill	X			X

Walker County	Eric House	Police Chief	City of Carbon Hill	X			X
Walker County	Buddy Smith	Fire Chief	City of Carbon Hill				X
Walker County	Nanette Brown	City Clerk	City of Carbon Hill	X			
Walker County	Dean Harbison	Fire Chief	City of Cordova				X
Walker County	Drew Gilbert	Mayor	City of Cordova	X			X
Walker County	Billy Dill	Police Chief	City of Cordova	X			
Walker County	Leanne Dawkins	City Clerk	City of Cordova				X
Walker County	Randy Stephens	Mayor	City of Dora	X			X
Walker County	Jared Hall	Police Chief	City of Dora	X			X
Walker County	Brandon Key	Fire Chief	City of Dora				X
Walker County	Suleigh Warren	City Clerk	City of Dora				X
Walker County	Bobbie Jean Dodd	Mayor	Town of Eldridge	X			X
Walker County	Ralph Tittle	Fire Chief	Town of Eldridge	X			X
Walker County	Martha Tittle	Council	Town of Eldridge	X			
Walker County	Sue Piotrowski	City Clerk	Town of Eldridge				X
Walker County	Bartley Wyers	Forestry	Town of Eldridge				X
Walker County	David O'Mary	Mayor	Town of Jasper	X			X
Walker County	Kathy Chambless	City Clerk	Town of Jasper	X			
Walker County	Pat Hall	Administrative Asst.	Town of Jasper	X	X		
Walker County	JC Poe	Police Chief	Town of Jasper				X
Walker County	David Clark	Fire Chief	Town of Jasper				X
Walker County	Joe Matthews	PW Director	Town of Jasper	X			X
Walker County	Earnie Darty	Mayor	Town of Kansas	X			X

Walker County	Brenda Darty	Town Clerk	Town of Kansas	X			
Walker County	Dwight A. Byram	Mayor	Town of Nauvoo	X			X
Walker County	Nicole Byars	Town Clerk	Town of Nauvoo	X			
Walker County	Gary Knight	Fire Chief	Town of Nauvoo				X
Walker County	Cory Franks	Mayor	Town of Oakman	X			X
Walker County	Ken Marbury	Police Chief	Town of Oakman				X
Walker County	Shane Calloway	Fire Chief	Town of Oakman				X
Walker County	Jennifer Wade	City Clerk/Finance	Town of Oakman				X
Walker County	La' Tisha Oliver	Mayor	Town of Parrish	X			X
Donna Beavers	Donna Beavers	Town Clerk	Town of Parrish				X
Walker County	Julius Gamblin	Police Chief	Town of Parrish				X
Walker County	Randy Phillips	Fire Chief	Town of Parrish	X			X
Walker County	Brenda Robinson	Mayor	Town of Sipsey	X			X
Walker County	Kristina Ward	Town Clerk	Town of Sipsey	X			
Walker County	Beverley Seals	Acting Fire Chief	Town of Sipsey				X
Walker County	Petey Ellis	Mayor	City of Sumiton	X			X
Walker County	T.J. Burnett	Police Chief	City of Sumiton				X
Walker County	David Waid	Fire Chief	City of Sumiton				X
Walker County	Judy Glover	City Clerk	City of Sumiton	X			
Winston County	Jimmy Madison	Director	Winston County EMA	X	X	X	
Winston County	Marsha Pigg	Mayor	Town of Addison	X			
Winston County	Christopher Tyree	Mayor	Town of Arley	X			
Winston County	Tammi Farley	Town Clerk	Town of Arley	X			

Winston County	Elmo Robinson	Mayor	City of Double Springs	X	X		X
Winston County	Ken Sunseri	Mayor	City of Haleyville	X	X		X
Winston County	Dr. Holly Sutherland	Superintendent	Haleyville City Schools	X			X
Winston County	Jeff Stokes	Mayor	Town of Lynn	X			X
Winston County	Pete Parrish	Mayor	Town of Natural Bridge	X			X
Winston County	Roger Hayes	Chairman	Winston County Commission	X			X
Winston County	Gregory Pendley	Superintendent	Winston County Schools	X			X
Winston County	Danny Springer	Assistant superintendent	Winston County Schools	X			X
Colbert, Franklin, Marion, & Winston Counties	Keith Jones	Executive Director	Northwest Alabama Council of Local Governments	X	X		X
	Tiffany M. Boyd	Director of Government Services		X	X	X	
	Peggy D. Mighty	Community Development Specialist/Planner		X	X	X	
	Beau Cooper	Regional Planner		X	X		
Lamar County	Cory Johnson	Director of Community and Economic Development	West Alabama Regional Commission	X	X	X	X
Lawrence County	Jeffrey Pruitt	Executive Director	North-Central Alabama Regional Council of Governments				X
Lawrence County	Joey Hester	Director of Planning and Development		X	X	X	X
Lawrence County	Shelby Selman	Planner		X	X		
Walker County	Jesslan Wilson	Economic Development Specialist	Regional Planning Commission of Greater Birmingham	X		X	X

3.3 Hazard Mitigation Planning Process

The Northwest Alabama Multi-Jurisdictional Hazard Mitigation Plan was developed through cooperation of the Colbert County Emergency Management Agency (EMA), Franklin

County EMA, Marion County EMA, Lamar County EMA, Lawrence County EMA, Walker County EMA, and Winston County EMA, the county commissions, local governments, local school districts, and local utility boards of these counties, Regional Planning Commission of Greater Birmingham, West Alabama Regional Planning Commission, North Central Alabama Regional Council of Local Governments, and the Northwest Alabama Council of Local Governments. Stakeholders participated and helped facilitate the planning process by:

- Attending meetings,
- Representing interests of their sponsoring entity and jurisdiction,
- Collecting and reviewing information on their jurisdiction's conditions and resources,
- Facilitating the development of a comprehensive range of mitigation alternatives
- Recommending selected alternatives for action, and
- Facilitating information exchange among participating jurisdictions, acting as liaisons to eligible entities of each jurisdiction.

The Northwest Alabama Council of Local Governments (NACOLG) facilitated the planning process. Threatening natural hazards were identified from previous county-level plans and presented to stakeholders and participating jurisdictions for review and approval. Hazard profiles for these hazards were updated to reflect the most current information available regarding the frequency and intensity of events. Risk analysis was conducted using historical data estimates of magnitude and extent of damage from events. Results were presented to stakeholders and participating jurisdictions in print format, electronically and in hard copy, and were reviewed in a series of local meetings. Meetings were held periodically throughout the planning process. Documentation of public meetings and stakeholder involvement is provided in Appendix B.

3.4 Public and Other Stakeholder Involvement²

14 local public hearings were held during the planning process as the plan was developed. Each meeting was advertised in the local newspaper, and public involvement was encouraged at each meeting. Meetings were advertised in local publications throughout the region, including *The Colbert County Reporter*, *The Franklin County Times*, *The Red Bay News*, *The Marion County Journal Record*. In addition, a draft of the plan was advertised for public comment and posted to

² This section has been thoroughly reviewed and modified to describe opportunities for public involvement during the planning process prior to the final plan approval.

the website of the Northwest Alabama Council of Local Governments. Public comments were invited by email, fax, or mail. Neighboring EMAs were contacted by email or by mail to request comments and participation in the plan. Copies of the final version of the plan were placed in town halls, county commission offices, public libraries, and public utility offices throughout the region. Electronic copies of the final draft version were sent to Chambers of Commerce.

The Franklin County Times published their notice of public hearing with the hearing occurring on December 09, 2019. Stakeholders and members of the public were in attendance. *The Northwest Alabamian* advertised a public hearing that took place on December 26, 2019, allowing opportunity for public review and comment of the plan while it was being drafted. Individuals attended the meeting, which was held at the Winston County EMA office in Double Springs, AL. *The Marion County Journal Record* posted an advertisement for a public hearing which took place on December 09th to afford opportunity for public comment on the plan's contents and mitigation strategies. Individuals from the county commission attended this meeting. *The Colbert County Reporter* provided notice of a public hearing which occurred November 14th. This was attended by elected officials, community citizens, and government employees. *The Moulton Advertiser* also published a public hearing notice which took place November 14th. The meeting was attended by community members who provided input. *The West Alabama Gazette* posted notice of the public hearing in Lamar County, AL. Citizens were given an opportunity to provide feedback and ask questions concerning the draft of the plan. The meeting was attended by elected officials and citizens from the community. Walker County published their public hearing in the *Daily Mountain Eagle*, which was held November 15th, providing opportunity to give comments and ask questions concerning the plan draft.

Following this series of public hearings to receive comments, a second round of public hearings was announced. These 14 hearings, advertised in local papers with circulation throughout the participating jurisdictions, afforded opportunity for public participation throughout the planning process, during the drafting stages of the plan, and prior to adoption. Feedback was provided to the county EMA directors. The feedback included updates to current participant roles, review of past mitigation action items, review of any new hazard threats and citizen impact related to those threats. The information was reviewed by each respective county and local ema, prioritized by feasibility and relevance to hazard mitigation, and added to the multi-jurisdiction plan with a projected time for completion.

A final series of public hearings was conducted following review of the plan by Alabama Emergency Management Agency and the Federal Emergency Management Agency to review the final draft version of the plan prior to adoption by local jurisdictions. Public comments were solicited at this time, prior to final plan adoption.

3.5 Integration with Existing Plans

Existing plans were consulted to integrate the results into the hazard profiles and planning process of the Northwest Alabama Multi-Jurisdictional Hazard Mitigation Plan. Plans that were consulted included:

- Previously adopted local hazard mitigation plans, which are to be superseded by this regional multi-jurisdictional plan
- Alabama State Hazard Mitigation Plan (September 2018)
- Colbert County Threat Hazard Identification and Risk Assessment (2013 Update)
- Alabama Forestry Commission Fire Readiness Plans
- The Local Mitigation Plan Review Guide (2011)
- Lamar County Hazard Mitigation Plan (2015)
- Lawrence County Multi-hazard Mitigation Plan (2015)
- Multi-hazard Mitigation Plan for Walker County, Alabama (2015)
- Alabama Drought Management Plan (May 22, 2013)
- In addition, the plans and resources described in Table 4.1.1 below were incorporated throughout.

Section 4 – Risk Assessment

Section Contents

- 4.1 Hazard Identification and Description
- 4.2 Probability of Future Hazards
- 4.3 Extent of Hazards by Jurisdiction
- 4.4 Previous Occurrences
- 4.5 Impact of Hazards by Jurisdiction
- 4.6 Probability of Future Occurrence by Jurisdiction
- 4.7 Vulnerability Overview
- 4.8 Vulnerability Synthesis and Overall Risk

4.1 Hazard Identification and Description³

Northwest Alabama is susceptible to various natural hazards to varying degrees. These natural hazards were identified through the hazard mitigation planning process through input from stakeholders, assessments of local jurisdictions, empirical data from historic records, and research into the geographic location of natural hazards in the participating jurisdictions. This information was used to analyze the risk factors for communities in the region from various natural hazards, assess the extent of damage potential from various natural hazards, and determine the probability of future events and potential losses from such events.

Northwest Alabama is susceptible to a variety of natural hazards throughout the year due to its geographic location. The region is vulnerable to some degree to twelve natural hazards that are included in this plan and the Alabama State Hazard Mitigation Plan. Natural hazards that do not have applicability to northwest Alabama include avalanche, coastal erosion, tsunamis, and volcanoes. Although northwest Alabama has little direct impact from hurricanes and coastal storms, the region suffers effects as these storms move inland and produce severe thunderstorm and wind events; therefore, without dismissing the potential impact of hurricanes, the impact of these storms assessed and planned for mitigation in the plan under the categories of severe storm effects (hail, high winds, flooding, lightning, etc.). The natural hazards that potentially affect northwest Alabama include the following:

³ This section has been thoroughly reviewed and modified to include a list of each jurisdiction affected by each hazard.

- **Dam Failure**
- **Drought**
- **Earthquake**
- **Extreme Temperatures**
- **Flooding (Riverine and Flash)**
- **Hail**
- **High Winds (Tornadoes, Microburst, and Windstorms)**
- **Landslides**
- **Land Subsidence (Sinkholes)**
- **Lightning**
- **Wildfire**
- **Winter Storms**

Since many of these hazards are interrelated, some are grouped for data collection and presentation purposes. For example, High Winds are the combined impact of Hurricanes, Tornadoes, and Windstorms, which require similar preparation and mitigation techniques. General descriptions and historical occurrences of each natural hazard provide a hazard profile of each, which is important for understanding the risk and vulnerability of populations and properties to natural hazards. Additionally, since different hazards affect different geographic areas, with some presenting a consistent regional threat and others creating risk only to a local area, the hazards are assessed at different scales. For those with broad geographic risk, historical occurrences are aggregated across the region. For those threats with localized geographic risk, historical occurrences are examined in a local context. Table 4.1.1 shows each hazard identified and assessed in the hazard mitigation plan, provides planning resources incorporated into the plan and used to assess the threat, describes the nature of the threat and why it was examined, and describes the scale at which each hazard was assessed as a threat to life and property. Table 4.7.3 displays an approximate land area of each jurisdiction which is vulnerable to each hazard shown as having a local scale; descriptions of the location affected are also included in the hazard descriptions which follow.

Table 4.1.1 Northwest Alabama Hazards and Data Sources for Incorporation

Hazard	Source Used to Identify Hazard	Why Hazard was Identified	Scale Assessed
Dam Failure	USACE National Inventory of Dams (https://nid.sec.usace.army.mil/ords/f?p=105:22:10033107907784::NO::); State Hazard Mitigation Plan, AEMA (March 2017; (https://ema.alabama.gov/state-of-alabama-emergency-operations-plan/))	Vulnerable populations and structures below dams; flooding concerns	Local
Drought	NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/)	Historic record of damage	Region
Earthquake	USGA 2009 earthquake Probability Mapping (https://earthquake.usgs.gov/hazards/interactive/); USGS Geologic Hazards Science Center (https://earthquake.usgs.gov/hazards/interactive/)	Proximity to New Madrid and Southern Appalachian Seismic Zones	Region
Extreme Cold	NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/)	Historic record of damage	Region
Extreme Heat	NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/)	Historic record of damage	Region
Flooding	NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/); ADECA Severe Repetitive Loss Records, FEMA Flood Hazard Maps	Historic record of damage; location of identified flood hazard areas	Local
Hail	NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/)	Historic record of damage	Region
High Winds	NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/); Alabama Tornado Occurrences, National Weather Service (http://www.srh.noaa.gov/bmx/?n=tornadodb_main); Wind Zones in the United States, FEMA (https://www.fema.gov/pdf/library/ism2_s1.pdf), Index of Tropical Storms, National Weather Service (https://www.ncdc.noaa.gov/sotc/tropical-cyclones/201613)	Historic record of damage from high winds during storms and tornadoes	Region
Landslides	USGS Landslides Hazards Map, National Atlas (https://www.usgs.gov/natural-hazards/landslide-hazards), Landslides, Geological Survey of Alabama (http://gsa.state.al.us/gsa/geologic/hazards/Landslides.htm#AlabamaLandslides), Landslides Poster, Geological Survey of Alabama (http://gsa.state.al.us/gsa/geologic/hazards/Landslides_Poster_AdoBeReduced.pdf)	Known location of areas of landslide hazard	Local
Land Subsidence	USGS Karst, Engineering Aspects, National Atlas (https://water.usgs.gov/ogw/karst/kigconference/rco_proposedmap.htm), Land Subsidence, USGS (http://water.usgs.gov/ogw/subsidence.html)	Known location of areas of land subsidence	Local
Lightning	NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/)	Historic record of damage	Region
Wildfire	Fire Risk Assessment Maps, Alabama Forestry Commission (http://forestry.alabama.gov/Pages/Informational/Links.aspx), Federal Wildland Fire Occurrence Center (http://wildfire.cr.usgs.gov/firehistory/data.html), NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/)	Historic record of damage; known location of areas of wildfire risk	Region
Winter Storms	NOAA National Climate Data Center (http://www.ncdc.noaa.gov/stormevents/)	Historic record of damage	Region

These natural hazards have affected or threaten to affect communities in northwest Alabama. Many of them have been the cause of emergency and disaster declarations as shown in Table 4.1.2. As shown, several hurricanes have affected the region to an extent that necessitated, including counties of the region, a disaster declaration. These effects were assessed in the hazard profiles and strategies of related events such as high wind and flooding.

Table 4.1.2: Emergency and Disaster Declarations Affecting Northwest Alabama

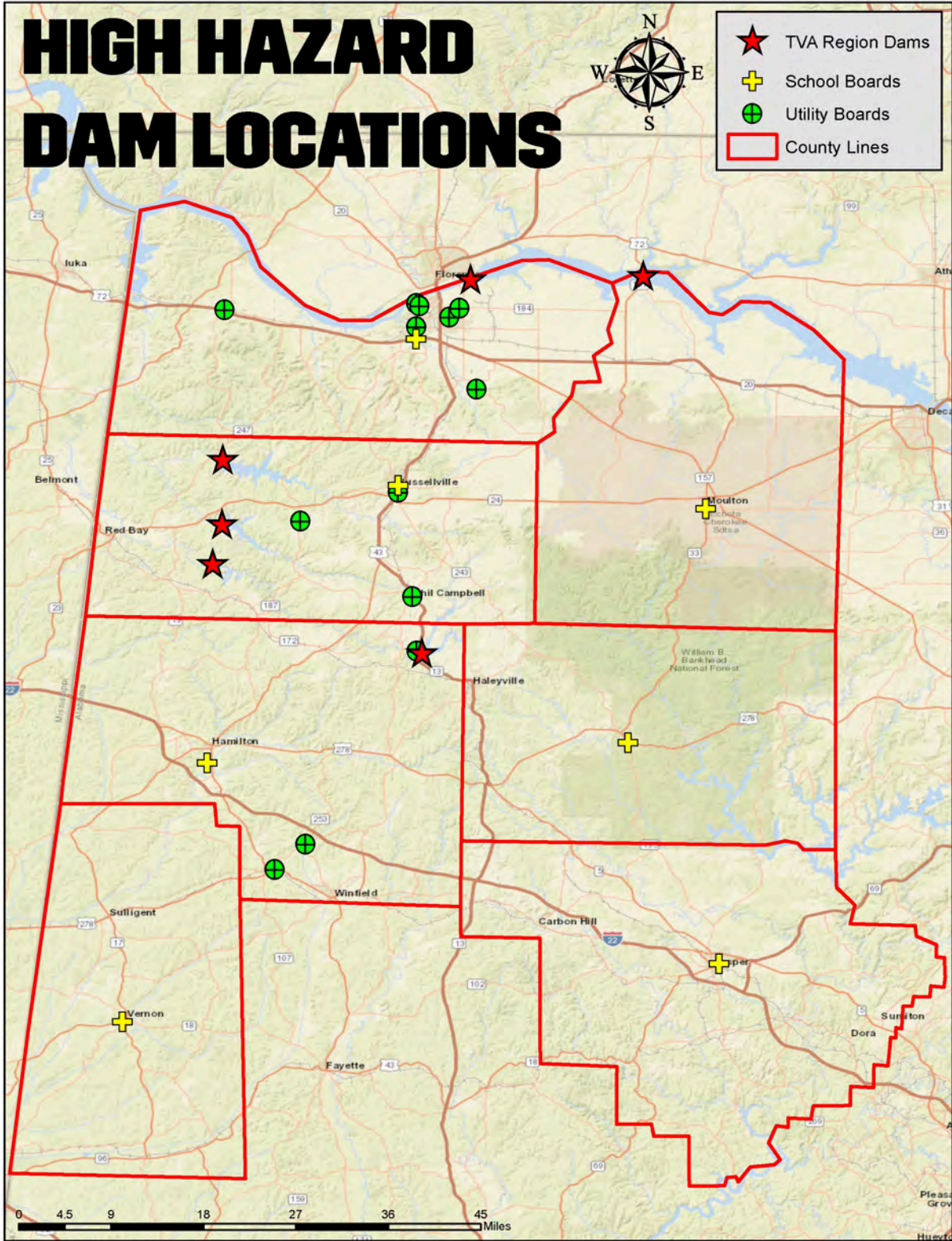
Date	Incident Description	Declaration Type
4/16/2019	Severe Storms Straight line winds and Tornadoes	Major Disaster Declaration
3/04/2019	Severe Storms Straight line winds and Tornadoes	Major Disaster Declaration
11/04/2018	Hurricane Michael	Major Disaster Declaration
10/11/2018	Hurricane Michael	Emergency Disaster Declaration
4/25/2018	Severe Storms and Tornadoes	Major Disaster Declaration
11/15/2017	Hurricane Nate	Major Disaster Declaration
7/10/2017	Hurricane Nate	Emergency Declaration
10/09/2017	Hurricane Irma	Emergency Declaration
1/20/2016	Severe Storms, Tornadoes, Straight-line Winds, and Flooding	Major Disaster Declaration
12/23/2015	Severe Storms, Tornadoes, Straight-line Winds, and Flooding	Major Disaster Declaration
4/28/2011	Severe Storms, Tornadoes, Straight-line Winds, and Flooding	Major Disaster Declaration
4/27/2011	Severe Storms, Tornadoes, and Straight-line Winds	Emergency Declaration
4/24/2010	Severe Storms, tornadoes	Major Disaster Declaration
8/30/2008	Hurricane Gustav	Emergency Declaration
9/10/2005	Hurricane Katrina Evacuation	Emergency Declaration
8/29/2005	Hurricane Katrina	Major Disaster Declaration
9/15/2004	Hurricane Ivan	Major Disaster Declaration
5/12/2003	Severe Storms, Tornadoes and Flooding	Major Disaster Declaration
11/14/2002	Severe Storms and Tornadoes	Major Disaster Declaration
12/7/2001	Severe Storms and Tornadoes	Major Disaster Declaration
3/5/2001	Severe Storms & Flooding	Major Disaster Declaration
9/18/1999	Russellville Fire	Fire Management Assistance Declaration
1/15/1999	Freezing Rain and Ice Storm	Major Disaster Declaration
9/28/1998	Hurricane Georges	Emergency Declaration
4/09/1998	Tornadoes Severe Thunderstorms	Major Disaster Declaration
2/23/1996	Storms/Flooding	Major Disaster Declaration
4/21/1995	Severe Storm, Tornadoes, Flooding	Major Disaster Declaration
3/30/1994	Severe Storm, Flooding, Tornado	Major Disaster Declaration
3/3/1994	Winter Storm, Severe Storm, Freezing, Flooding	Major Disaster Declaration

3/15/1993	Severe Snowfall, Winter Storm	Emergency Declaration
1/4/1991	Flooding, Severe Storm	Major Disaster Declaration
7/20/1977	Drought	Emergency Declaration
3/14/1975	SEVERE STORMS, FLOODING	Major Disaster Declaration
4/4/1974	TORNADOES	Major Disaster Declaration
3/27/1973	TORNADOES, FLOODING	Major Disaster Declaration

Source: <https://www.fema.gov/disasters>

Dam Failure

Dams provide communities with benefits including water for drinking and agricultural purposes, recreation, flood control, and power generation. However, a malfunctioning dam can create large problems for an area that is downstream. The volume of energy in the water stored behind a dam can cause casualties and property damage should a dam fail and release its capacity uncontrolled.



Source: Northwest Alabama Council of Local Governments

High risk dams are those with the capacity to cause both property and casualties in the downstream areas should the dam fail. At least one high risk dam is in each of the counties of the mitigation planning jurisdiction. Damage to downstream structures and possible loss of life would most likely occur in the event of a catastrophic earthquake or in conjunction with a catastrophic flood event. Both scenarios are highly unlikely. More likely, dams could be undermined by leakage due to karst topography. Water may move beneath a structure during seasonal rainfall events or as headwaters are backed up to higher elevations behind the dam. Slow and continuous leakage may undermine structural integrity. Earthen dams would be most susceptible. Concrete structures with spillways and controls would be less susceptible. Larger dams operated by the Tennessee Valley Authority are guided by Emergency Management Plans that address conditions of dam failure.

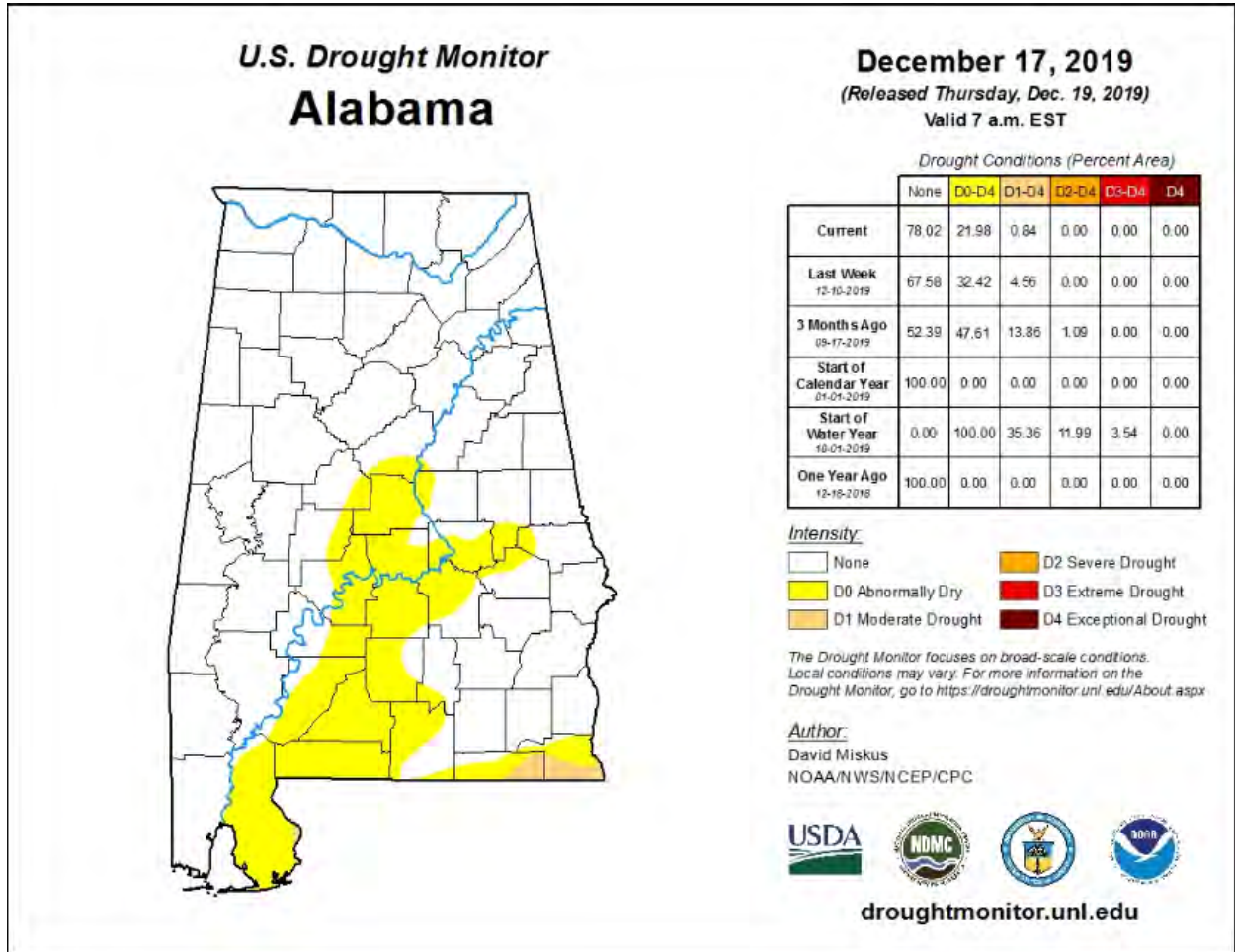
Dam failure potentially affects local jurisdictions in the region to the extent they are downstream from these structures. Colbert County, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin County, Red Bay, Russellville, Lamar County, Lawrence County, Hillsboro, Town Creek, Walker County, Cordova, Dora, Jasper, Oakman, Parrish, Sipsy and Sumiton are the local jurisdictions that are potentially affected by dam failures. Northwest Alabama does not have a history of dam failure. Dam failure would result in extreme property damage and risk of lost life downstream. Fortunately, dam failure is extremely rare and poses little overall risk.

Drought

A drought occurs when periods of low precipitation extend over a lengthy period. Drought affects crop productivity, water quality, and water quantity in way that can result in shortages of food or water for drinking, irrigation, or other purposes. Extended drought conditions can be dangerous to economic prosperity, agricultural productivity, and human health and welfare. Water shortages can lead to rationing or worse crises in extreme conditions.

Northwest Alabama is susceptible to drought during long periods without precipitation. Drought conditions are not easily predicted, and the effects of prolonged drought are not readily quantifiable. However, moderate drought conditions have prompted concern about vulnerability to extended or severe droughts in northwest Alabama. Historically, only one drought event has been significant enough to result in a declaration of emergency. The drought caused crop and property damage and a disaster declaration was made on July 20, 1977 for many counties in the state, including Lawrence County 59 drought events were reported by NOAA between 2015 and

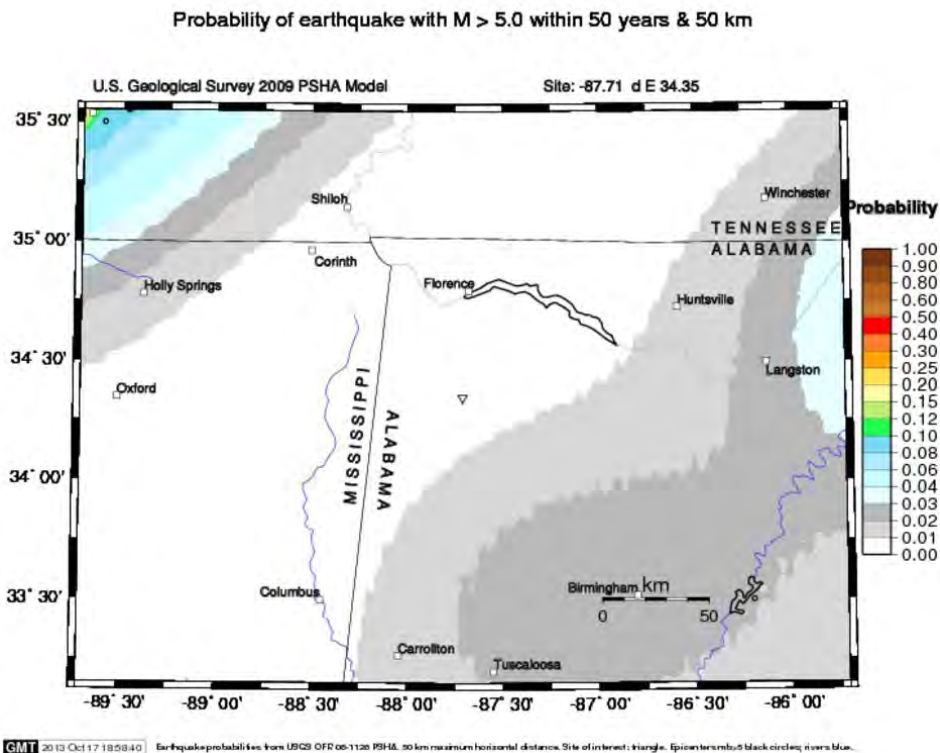
2019 with no deaths or losses of property or crops. The worst of these droughts was recorded in summer of 2007, when 100 percent of the State of Alabama was in some stage of drought and over 40% was classified as suffering from the worst stage, or Exceptional Drought (See U.S. Drought Monitor Map, December 17,2019).



Earthquake

An earthquake is the sudden movement of the earth as energy stored between plates in the earth's landforms erupts along fault lines. Earthquakes are most frequent along fault lines, or cracks in the earth's landforms that can be at or near the surface or buried deep beneath the surface. Earthquakes that occur underwater in the ocean can cause tsunamis or tidal waves that can also be devastating. The northwest Alabama region is susceptible to earthquakes due to proximity to two major seismic zones. The New Madrid Seismic Zone lies north and west of the region and was the source of the 1811-1812 earthquakes, which caused little structural damage due to sparse

settlement but were violent enough to create Reelfoot Lake in Tennessee and Kentucky. The Southern Appalachian Seismic Zone is located east and north of the region and is less active, with only infrequent earthquakes of small intensity and moderate earthquakes every few hundred years. Large quakes of magnitude 7 or higher on the Richter scale are possible in both fault zones. However, according to the USGS, the probability of a moderate or large earthquake is very low in the northwest Alabama region, with the probability of an earthquake greater than 5 magnitude being less than 3 percent in 50 years across the region.



Therefore, while damage from a major earthquake could be catastrophic, the risks are very low in northwest Alabama. There has been one recorded earthquake in the region since 1973, which occurred in 1989 near Littleville in Colbert County and caused slight damage (cracked windows and plaster). Earthquakes with epicenters outside of the region have been slightly more frequent, but they have not caused damage.

Extreme Temperatures

Extreme temperatures are abnormally high or low temperatures that result from atmospheric and weather events. Extreme temperatures may cause disruptions to agriculture and may present dangers to human health and safety. Extreme weather may occur in conjunction with

or separate from other events such as droughts and winter storms. Temperature may be related to crop loss or health hazards such as frostbite or heat stroke. The subtropical climate of northwest Alabama is not prone to extended exposure to extremes of either heat or cold. However, certain days of the year and certain weather patterns may produce dangerous temperatures, particularly for vulnerable populations and those who are exposed to the weather due to job conditions or a lack of resources to pay for climate control systems in the home. This is true especially of low-income individuals and seniors. Approximately 55 extreme temperature events were reported between 1996 and 2019 by NOAA. seven were extreme cold temperature events and 11 were excessive heat events, including one event leading to the treatment of 25 individuals for injuries related to the weather in Walker County in 2007.

Flooding (Riverine and Flash)

Flooding occurs when water cannot flow rapidly enough from upper elevations to lower elevations to prevent accumulation and inundation. Flooding is most often caused by precipitation, but it can also be related to manmade activities such as dam failures and ruptured water mains. Rainfall and storm water are the most frequent causes of flooding in northwest Alabama. Flooding that occurs when a stream overflows is known as riverine flooding. Often riverine floods are caused by an excess of rainfall for the natural channel to accommodate, but they may also be caused by blockages in the natural channel. Flash floods occur when water accumulates rapidly, within six hours of an event but often much faster. Floods are among the most destructive natural disasters in the United States and in the northwest Alabama region. Flooding depends on localized characteristics such as soils, slopes, and drainage features, as well as climate and weather patterns. Flood hazards are mapped by the Federal Emergency Management Agency (FEMA) as part of the National Flood Insurance Program (NFIP).

All of the jurisdictions in the region are included in FEMA Flood Hazard Mapping. Maps were updated between 2009 and 2011 as part of the FEMA Map Modernization Program. Table 4.1.3 contains information on participating jurisdictions and map effective dates for the northwest Alabama region.

Table 4.1.3

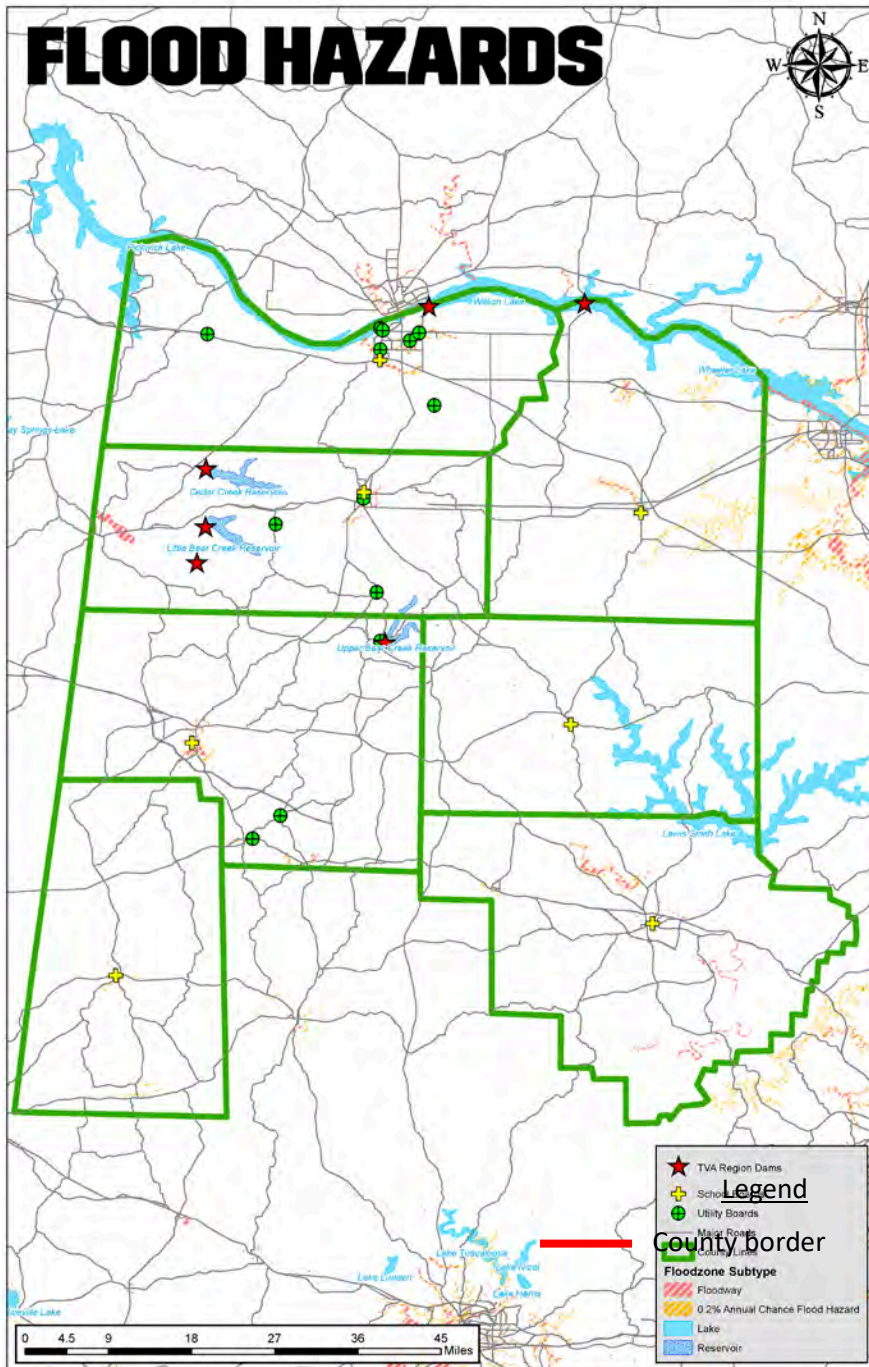
Federal Emergency Management Agency Community Status Book Report ALABAMA					
Communities Participating in the National Flood Insurance Program					
Community Name	County	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Regular- Emergency Entry Date
ADDISON	WINSTON COUNTY		8/18/09	09/16/11(M)	4/1/13
BEAVERTON	LAMAR COUNTY	09/20/74	05/03/10	5/03/10(M)	07/03/86
BRILLIANT	MARION COUNTY	7/15/1977	10/19/2010	10/19/2010	7/15/1978
CARBON HILL	WALKER COUNTY	5/31/1974	3/16/1981	10/2/2014	3/16/1981
CARDOVA	WALKER COUNTY	5/31/1974	3/16/1981	10/2/2014	3/16/1981
CHEROKEE	COLBERT COUNTY	6/28/74	3/14/80	2/17/10	9/28/79
COLBERT COUNTY	COLBERT COUNTY	2/24/78	6/15/81	2/17/10	7/9/81
COURTLAND	LAWRENCE COUNTY	03/08/74	04/17/78	09/11/09	04/17/78
DETROIT	LAMAR COUNTY	08/30/74	05/03/10	5/03/10(M)	06/01/87
DORA	WALKER COUNTY	4/4/1980	8/2/2007	10/2/2014	8/2/2007
ELDRIDGE	WALKER COUNTY		8/2/2007	10/2/2014	8/2/2007
FRANKLIN COUNTY	FRANKLIN COUNTY	1/20/78	1/20/82	9/29/10	1/18/91
GUIN	MARION COUNTY	6/14/74	9/28/79	10/19/10	9/28/79
HAYLEVILLE	WINSTON COUNTY	2/21/75	6/25/76	09/16/11(M)	6/25/76
HAMILTON	MARION COUNTY	5/31/74	1/16/80	10/19/10	1/16/80
HILLSBORO	LAWRENCE COUNTY	10/01/76	04/02/86	08/02/18	04/02/86
HODGES	FRANKLIN COUNTY		9/29/10	09/29/10(M)	9/29/10
JASPER	WALKER COUNTY	1/23/1974	6/15/1981	10/2/2014	6/15/1981
KANSAS	WALKER COUNTY	3/16/1979	8/2/2007	10/2/2014	9/9/2010
KENNEDY	LAMAR COUNTY	11/01/74	08/05/86	5/03/10(M)	08/05/86
LAWRENCE	LAWRENCE COUNTY	05/13/77	06/15/81	08/02/18	03/14/91
LAMAR	LAMAR COUNTY	12/06/74	06/04/90	05/03/10	06/04/90

LEIGHTON	COLBERT COUNTY	6/14/74	8/19/85	2/17/10	8/19/85
LITTLEVILLE	COLBERT COUNTY	6/18/76	11/24/78	2/17/10	11/24/78
MARION COUNTY	MARION COUNTY	10/18/74	12/4/79	10/19/10	12/4/79
MILLPORT	LAMAR COUNTY	06/28/74	09/18/85	05/03/10	09/18/85
MOULTON	LAWRENCE COUNTY	03/22/74	10/16/79	08/02/18	10/16/79
MUSCLE SHOALS	COLBERT COUNTY	3/8/74	12/15/77	12/17/10	12/15/77
NAUVOO	WALKER COUNTY	12/28/1979	8/2/2007	10/2/2014	3/3/2016
NORTH COURTLAND	LAWRENCE COUNTY	03/08/74	09/11/09	09/11/09	01/28/03
OAKMAN	WALKER COUNTY	2/21/1975	3/14/1980	10/2/2014	3/14/1980
PARRISH	WALKER COUNTY	1/10/1975	5/30/1980	10/2/2014	5/30/1980
PHIL CAMPBELL	FRANKLIN COUNTY	10/29/76	9/29/10	09/29/10(M)	9/29/10
RED BAY	FRANKLIN COUNTY	12/10/76	1/20/82	9/29/10	3/1/06
RUSSELLVILLE	FRANKLIN COUNTY	6/25/76	8/1/79	9/29/10	8/1/79
SULLIGENT	LAMAR COUNTY	05/03/74	06/25/76	05/03/10(M)	06/25/76
SHEFFIELD	COLBERT COUNTY	3/22/74	12/15/77	2/17/10	12/15/77
TOWN CREEK	LAWRENCE COUNTY	06/14/74	09/04/85	09/11/09(M)	09/04/85
TUSCUMBIA	COLBERT COUNTY	3/8/74	12/1/77	2/17/10	12/1/77
TWIN	MARION COUNTY		10/19/10	10/19/10	4/2/13
VERNON	LAMAR COUNTY	05/03/74	12/17/87	05/03/10	12/17/87
VINA	FRANKLIN COUNTY	12/16/77	9/29/10	09/29/10(M)	3/8/13
WINFIELD	MARION COUNTY	5/10/74	11/1/79	10/19/10	11/1/79
WINSTON	WINSTON COUNTY	2/17/78	9/1/91	09/16/11(M)	9/1/91
WALKER	WALKER COUNTY	6/9/1978	7/5/1982	10/2/2014	7/5/1982
Summary:					
Total in Flood Program			45		

*Communities Not Participating in the National Flood Insurance Program					
Community Name	County	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Regular-Emergency Entry Date
BEAR CREEK	MARION COUNTY	6/18/1976	10/19/2010	10/19/2010	6/18/1977
GU-WIN,	MARION COUNTY		10/19/2010	10/19/2010	10/19/2011
HACKLEBURG	MARION COUNTY		10/19/2010	10/19/2010	10/19/2011
LYNN	WINSTON COUNTY		8/18/2009	8/18/2009	8/18/2010
SIPSEY	WALKER		8/2/2007	10/2/2014	8/2/2008
SUMITON	WALKER/ JEFFERSON	1/19/1979	9/29/2006	3/21/2019	1/19/1980
Summary:					
Total Not in Flood Program			6		
Legend:					
	(E)	Indicates Entry In Emergency Program			
	NSFHA	No Special Flood Hazard Area - All Zone C			
	(>)	Date of Current Effective Map is after the Date of This Report			
	N/A	Not Applicable At This Time			
	(S)	Suspended Community			
	(W)	Withdrawn Community			
	(M)	No Elevation Determined - All Zone A, C and X			
	(L)	Original FIRM by Letter - All Zone A, C and X			
*Justifications for each nonparticipating community located in Appendix D					

Source: FEMA.GOV <https://www.fema.gov/cis/AL.html>












Flooding affects local jurisdictions to the extent that they are located near surface waters susceptible to floods. Colbert County, Cherokee, Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin County, Phil Campbell, Red Bay, Russellville, Vina, Marion County, Bear Creek, Guin, Hamilton, Winfield, Winston County, Double Springs, Haleyville, and Lynn, and Lamar County, Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, and Lawrence County, Courtland North Courtland Hillsboro, Moulton Town Creek, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, and Sumiton are the jurisdictions that are potentially affected by flooding in northwest Alabama. 282 flood events, including flash flooding, affected northwest Alabama from 1996 to 2019, according to NOAA. - 40-Flooding led to 2,792,5000 in property damage and \$39,000,000 in crop damage. No injuries or fatalities were reported from flooding.


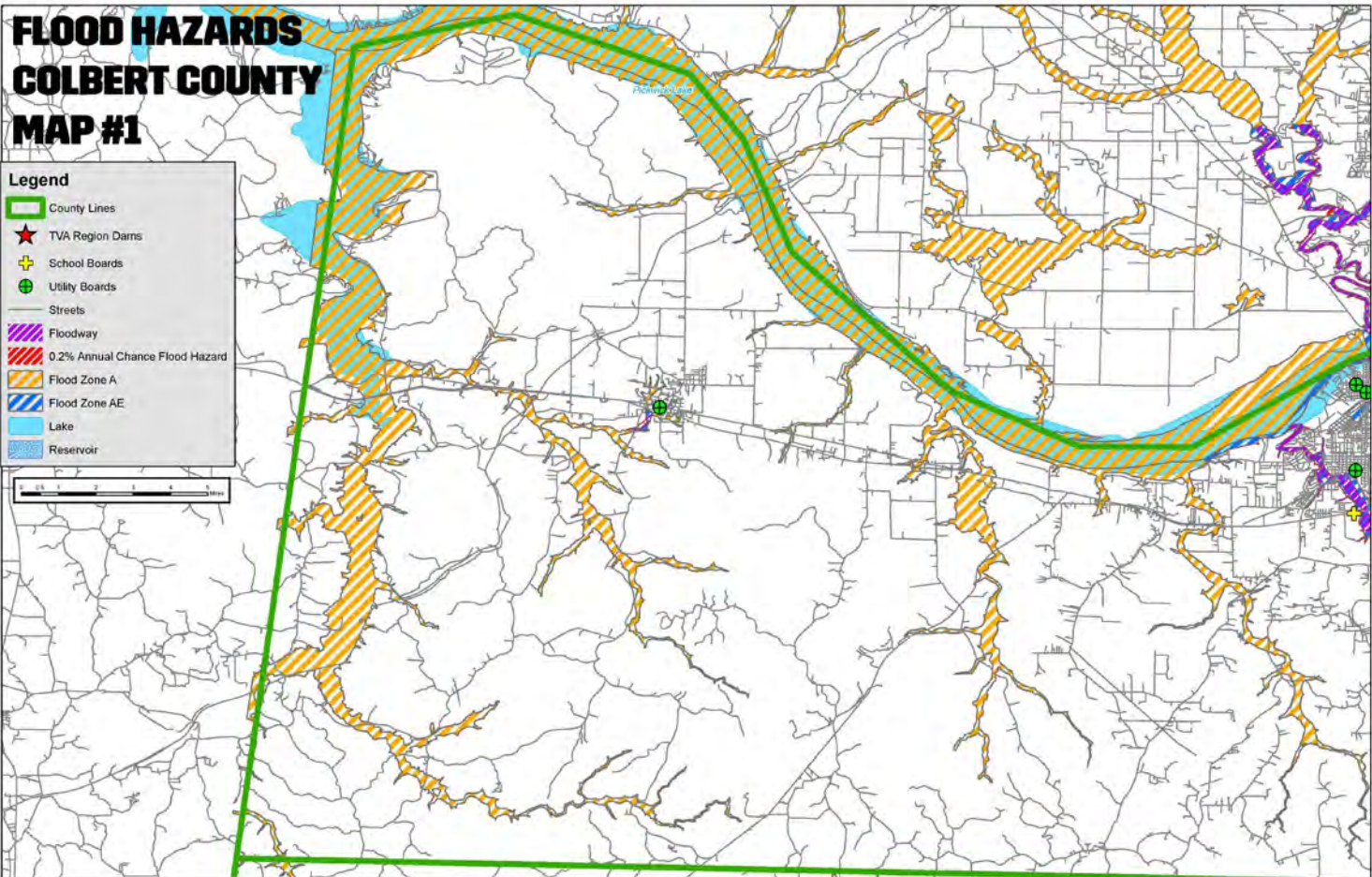


Source: Northwest Alabama Council of Local Governments (NACOLG)

FLOOD HAZARDS COLBERT COUNTY MAP #1

Legend












-  County Lines
-  TVA Region Dams
-  School Boards
-  Utility Boards
-  Streets
-  Floodway
-  0.2% Annual Chance Flood Hazard
-  Flood Zone A
-  Flood Zone AE
-  Lake
-  Reservoir


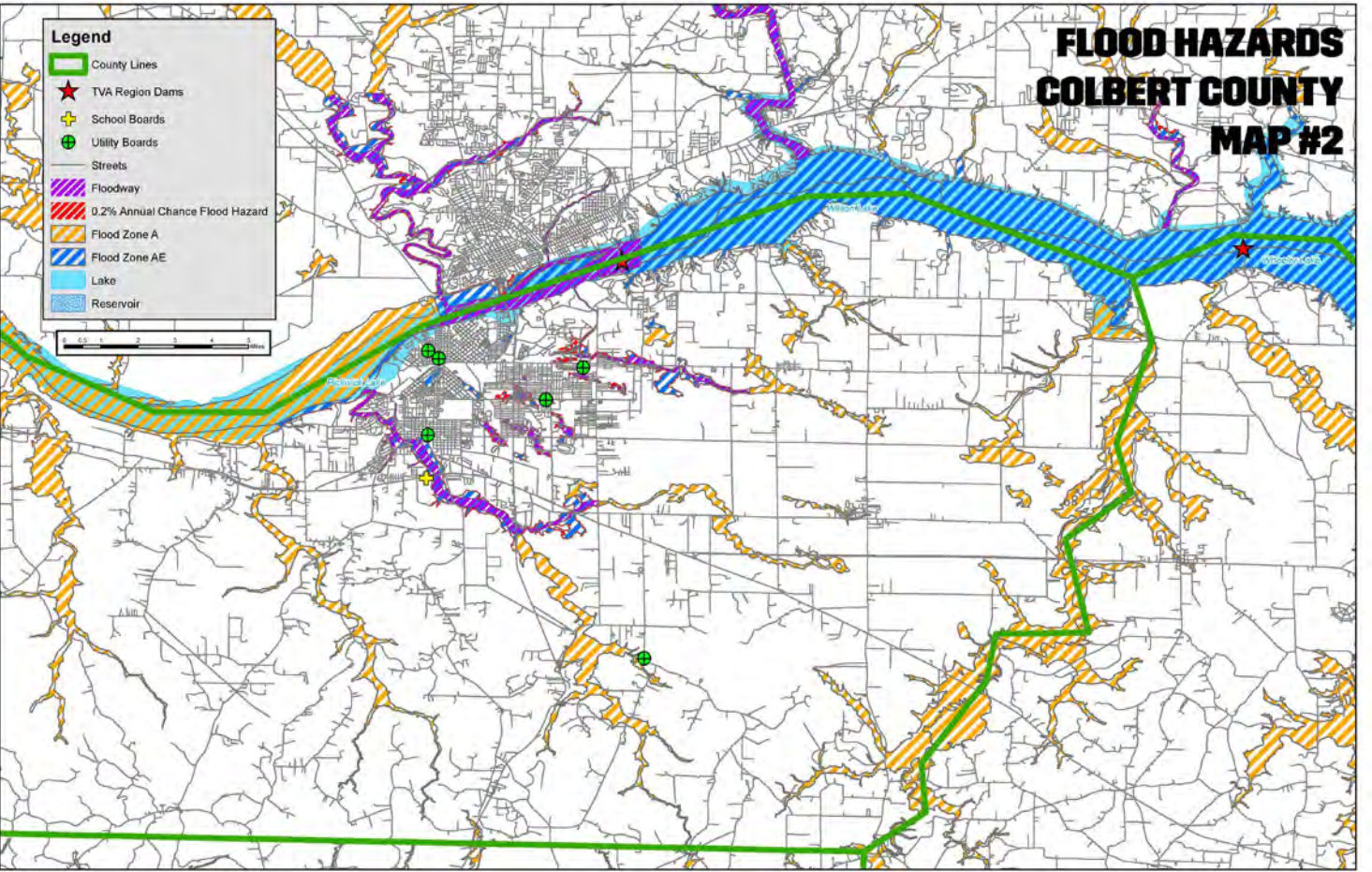



Source: Northwest Alabama Council of Local Governments (NACOLG)

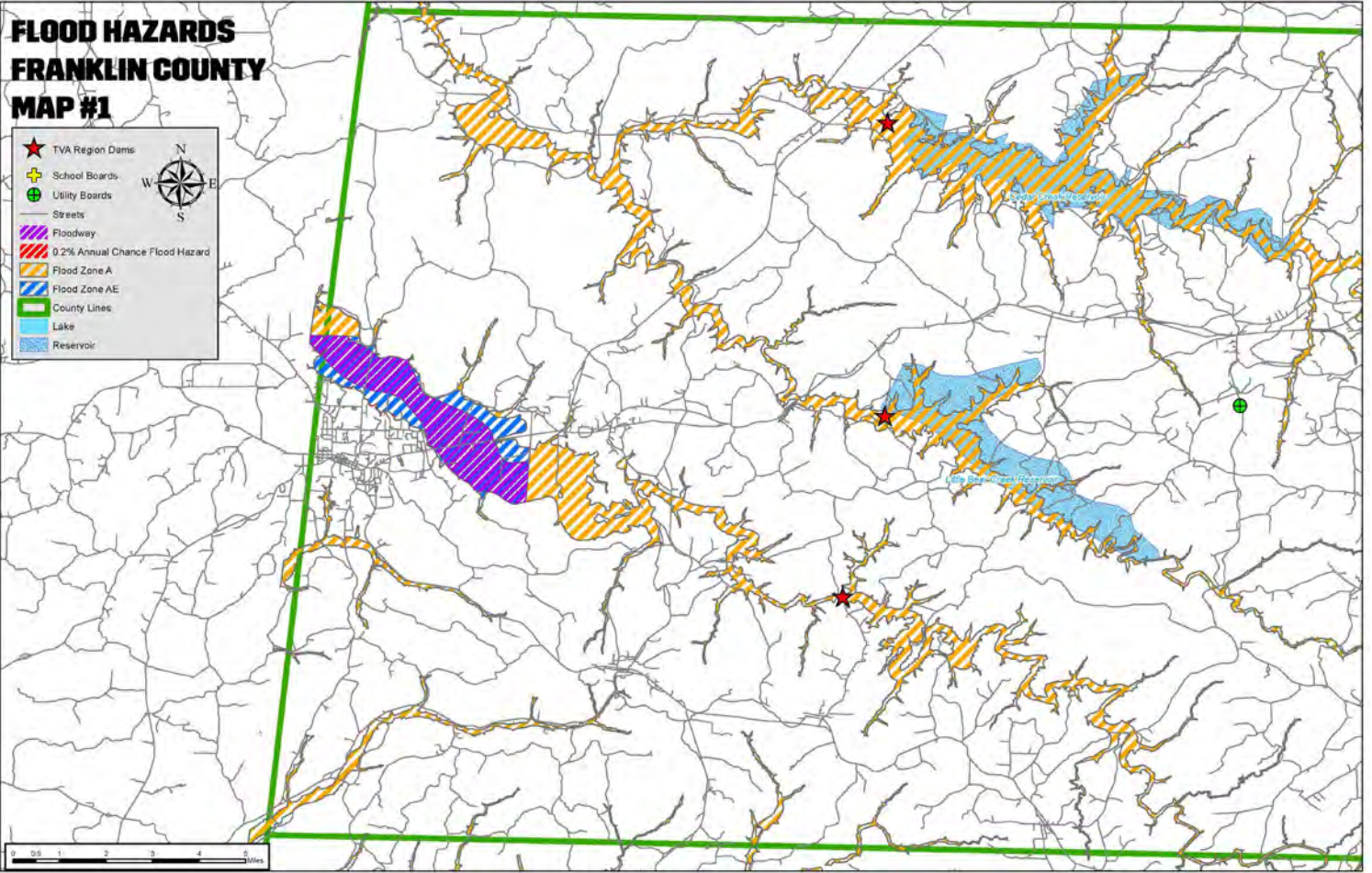
FLOOD HAZARDS COLBERT COUNTY MAP #2

Legend

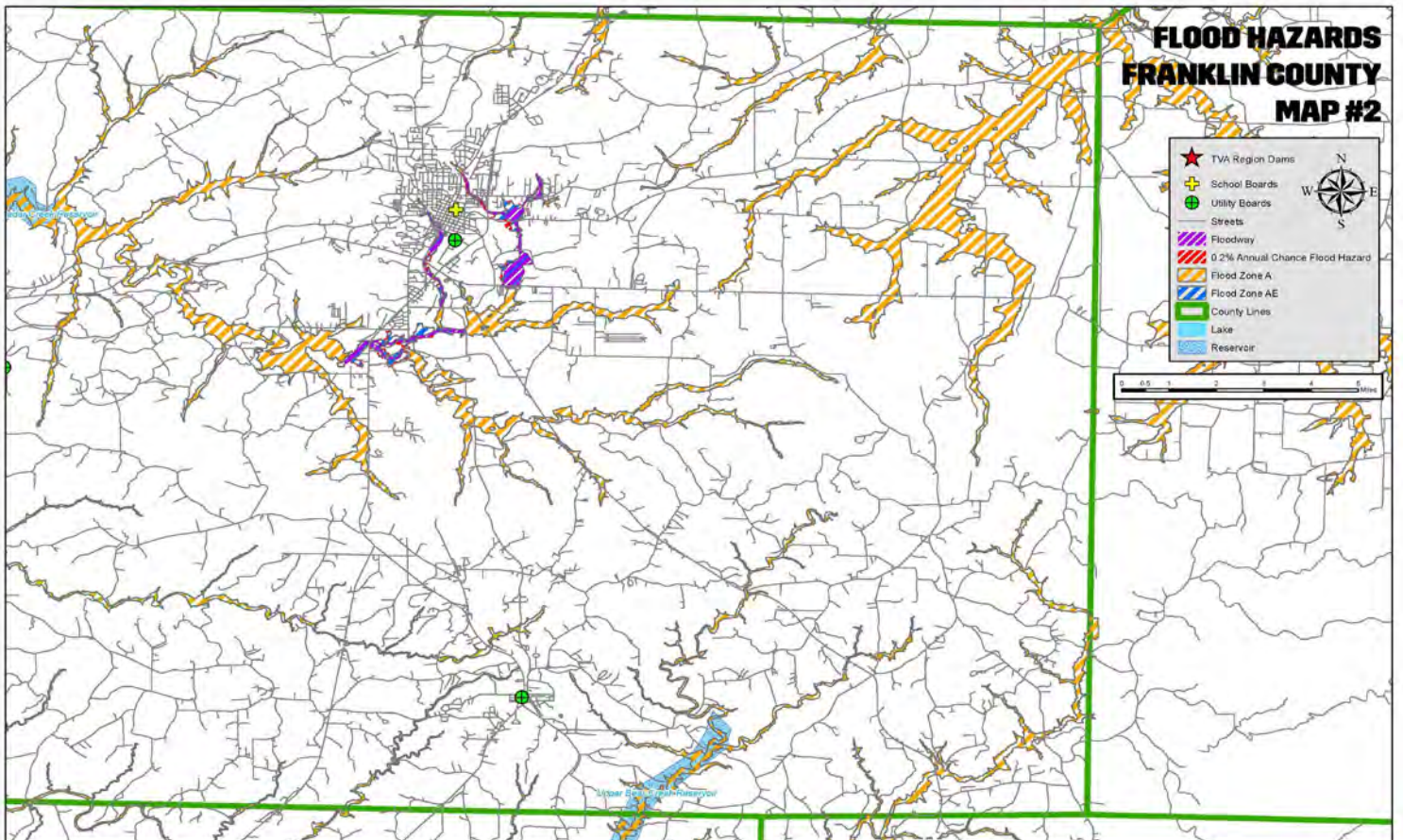
-  County Lines
-  TVA Region Dams
-  School Boards
-  Utility Boards
-  Streets
-  Floodway
-  0.2% Annual Chance Flood Hazard
-  Flood Zone A
-  Flood Zone AE
-  Lake
-  Reservoir

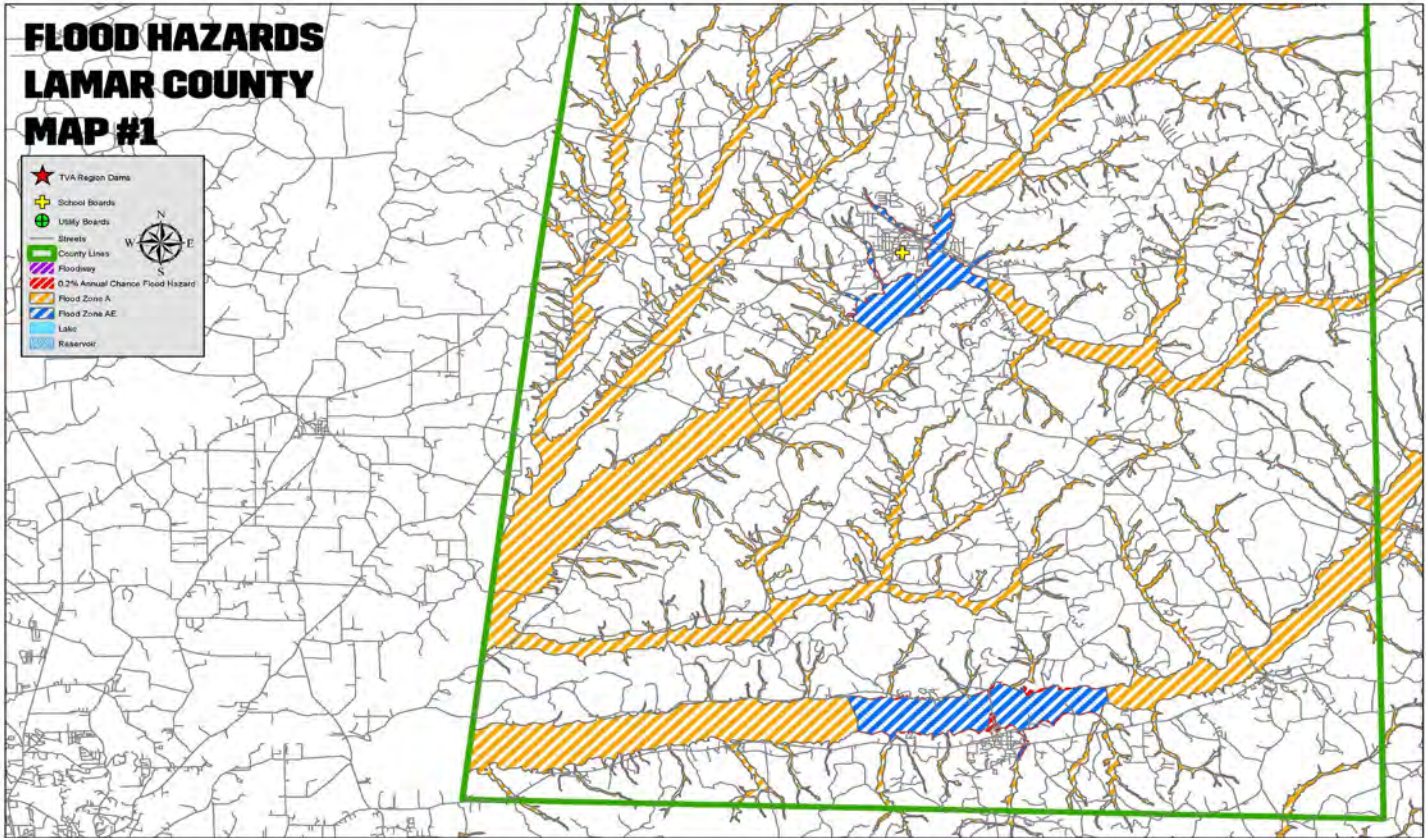
Source: Northwest Alabama Council of Local Governments (NACOLG)



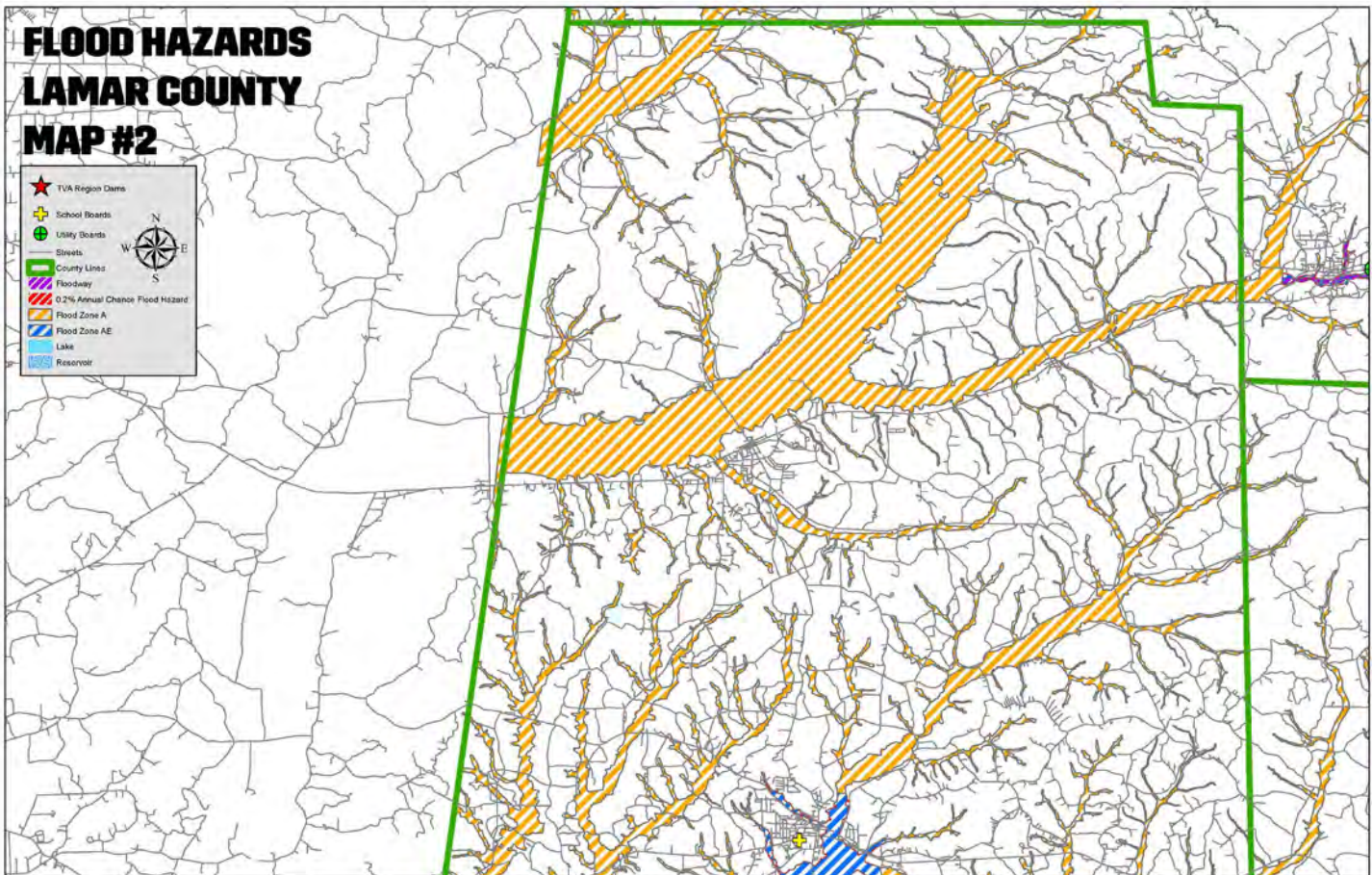
Source: Northwest Alabama Council of Local Governments (NACOLG)



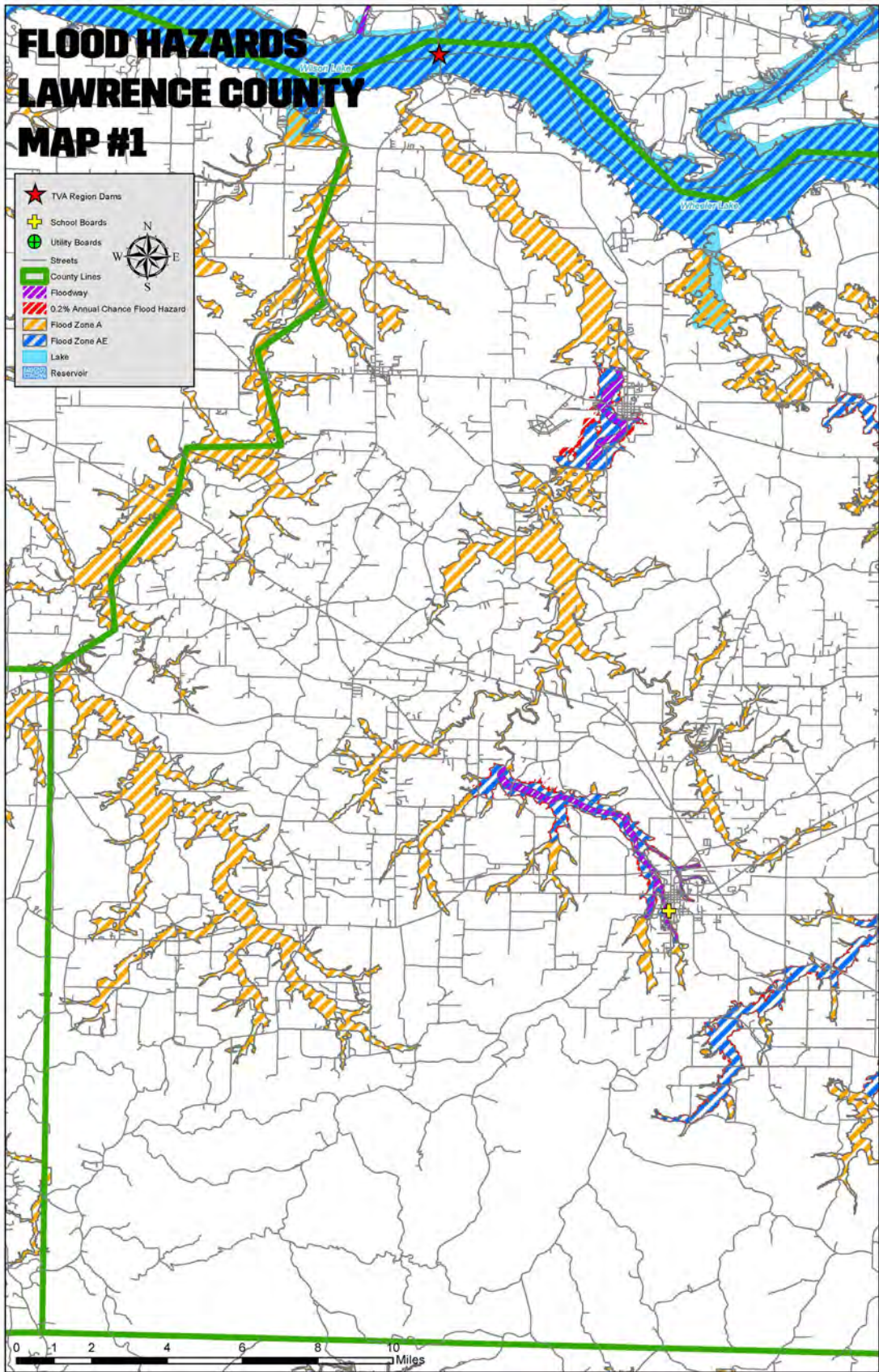
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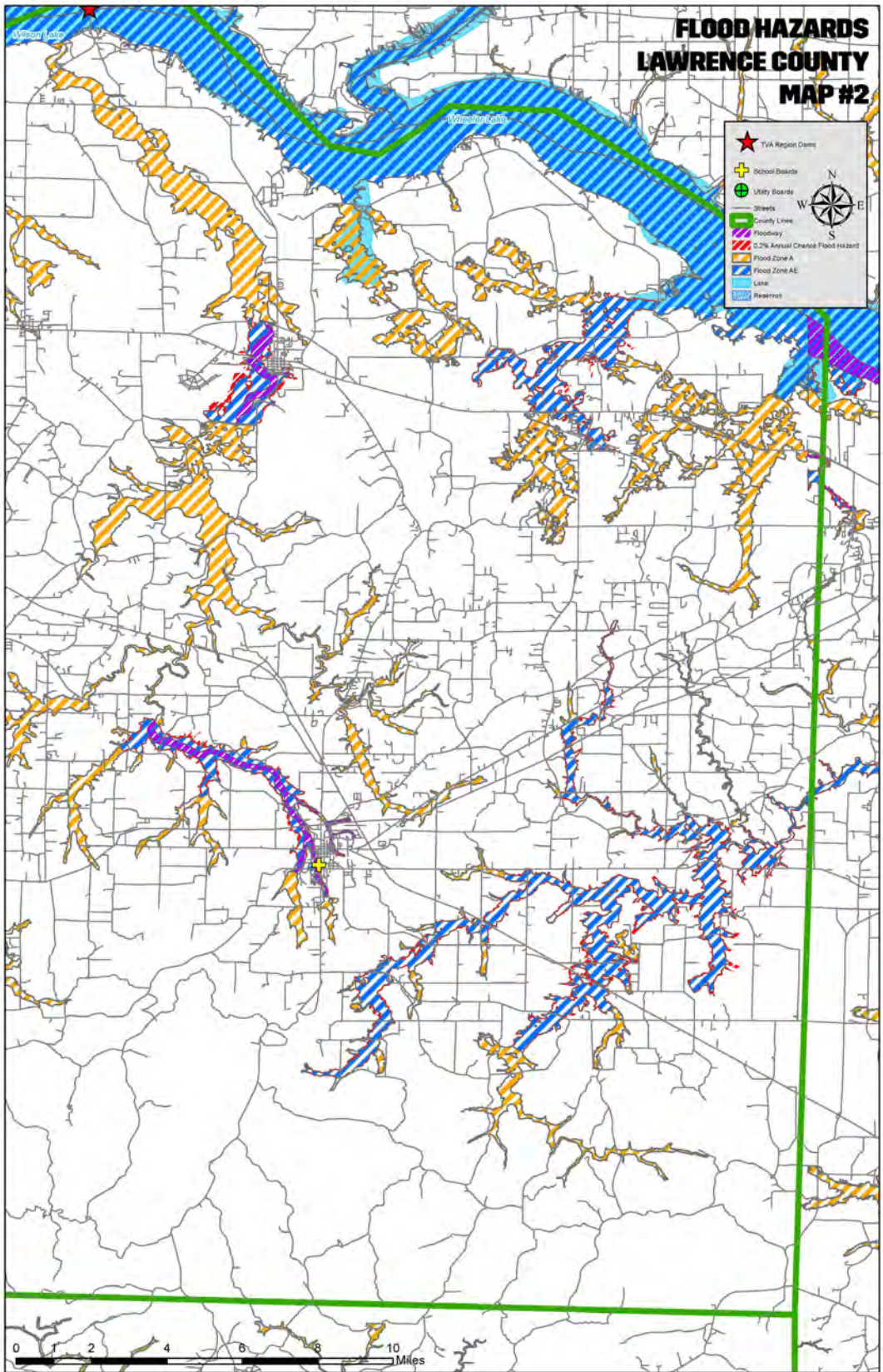
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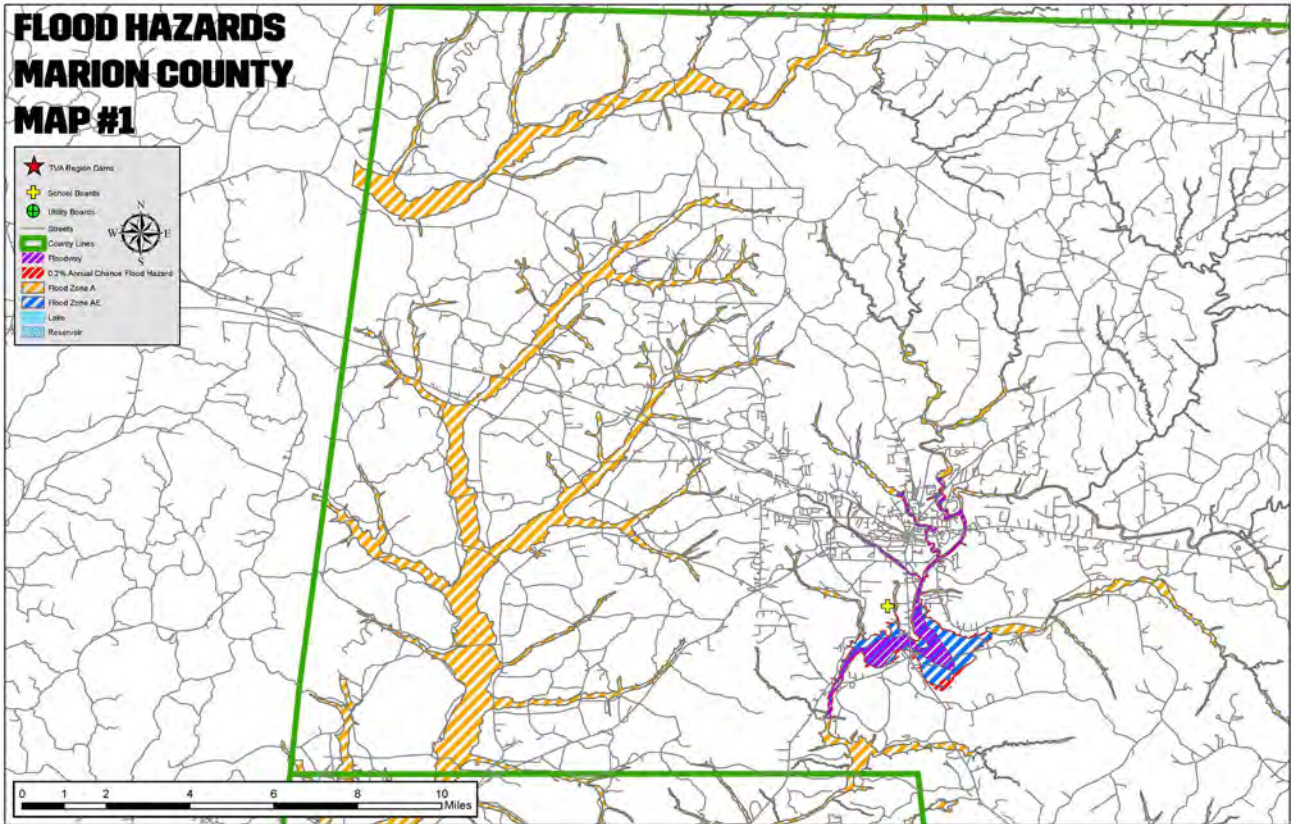
Source: Northwest Alabama Council of Local Governments (NACOLG)



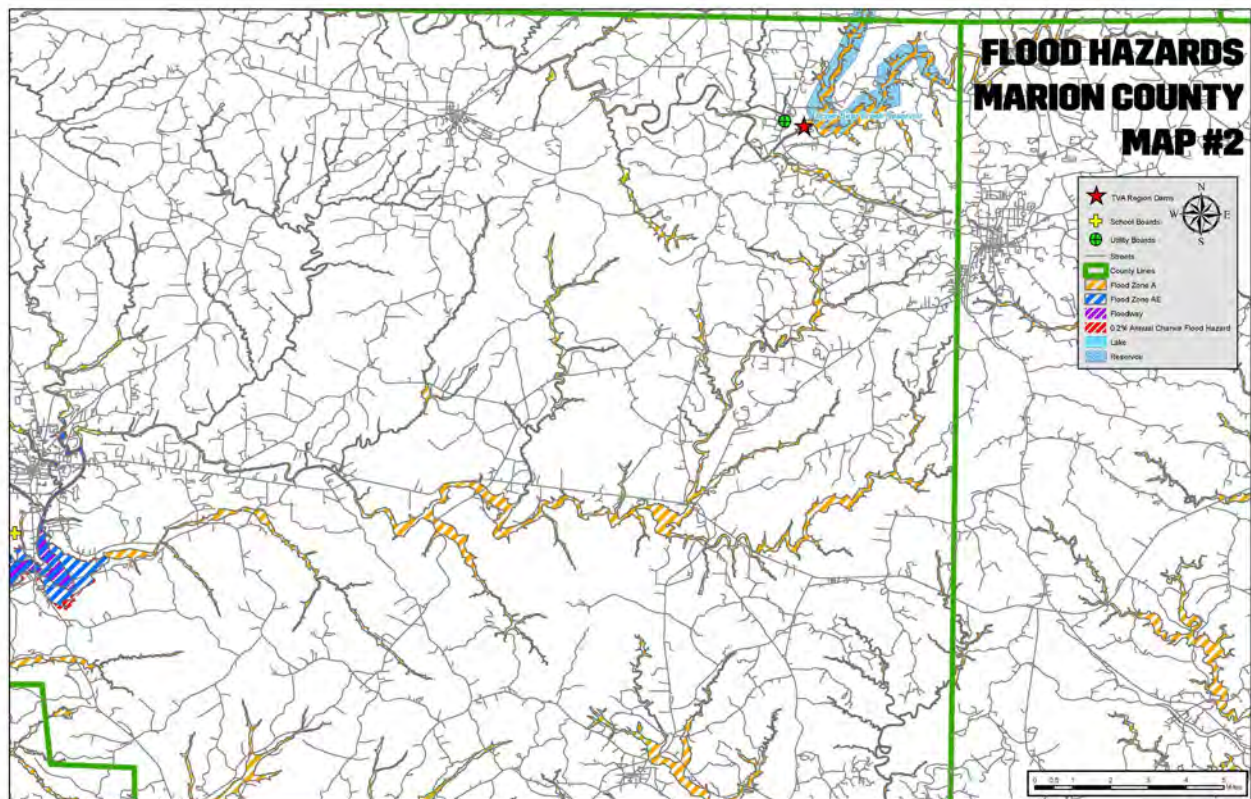
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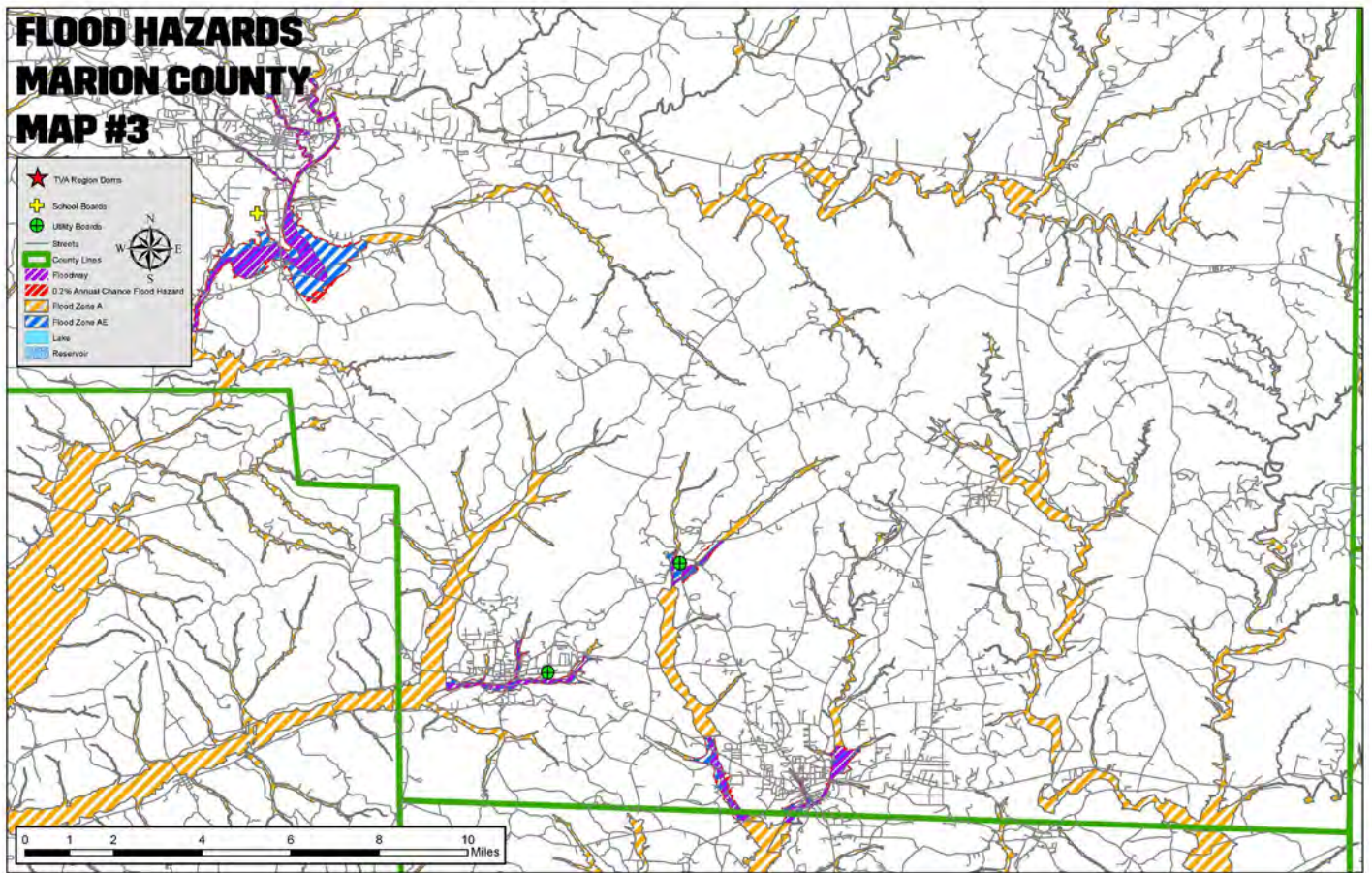
Source: Northwest Alabama Council of Local Governments (NACOLG)



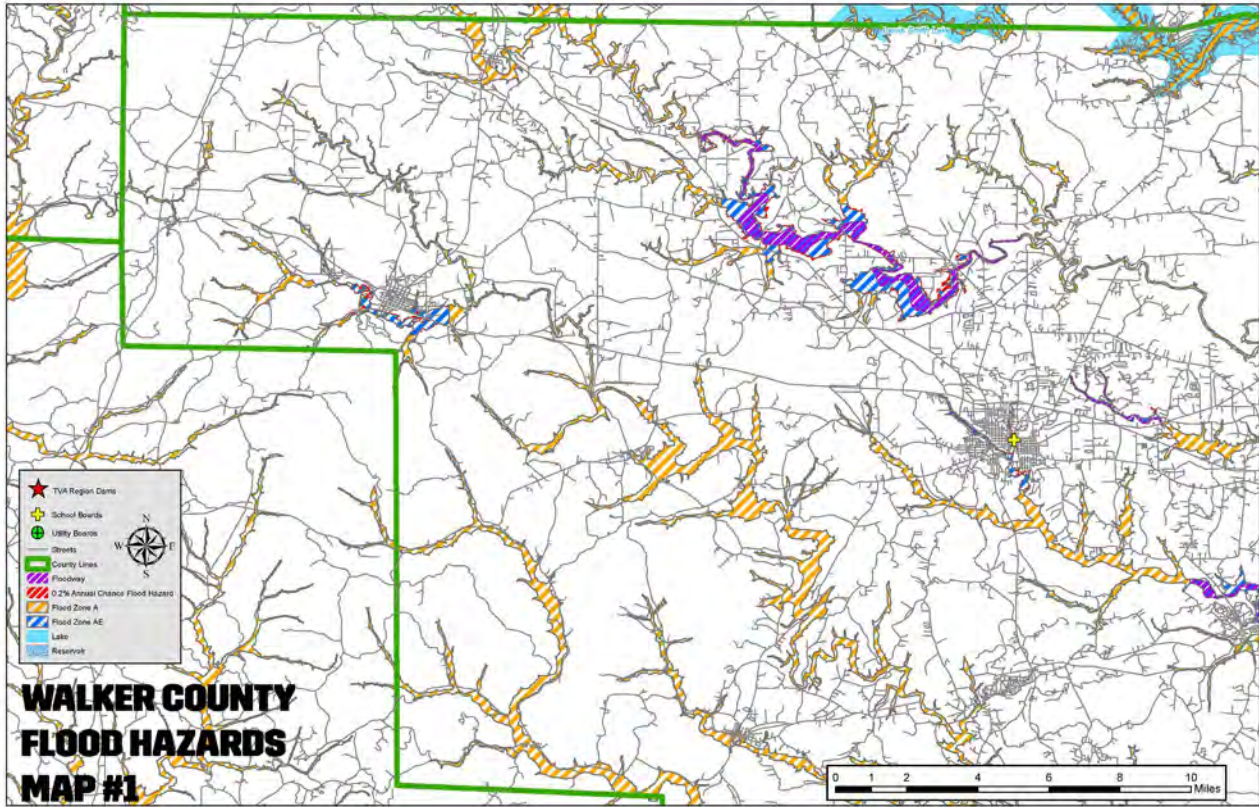
Source: Northwest Alabama Council of Local Governments (NACOLG)



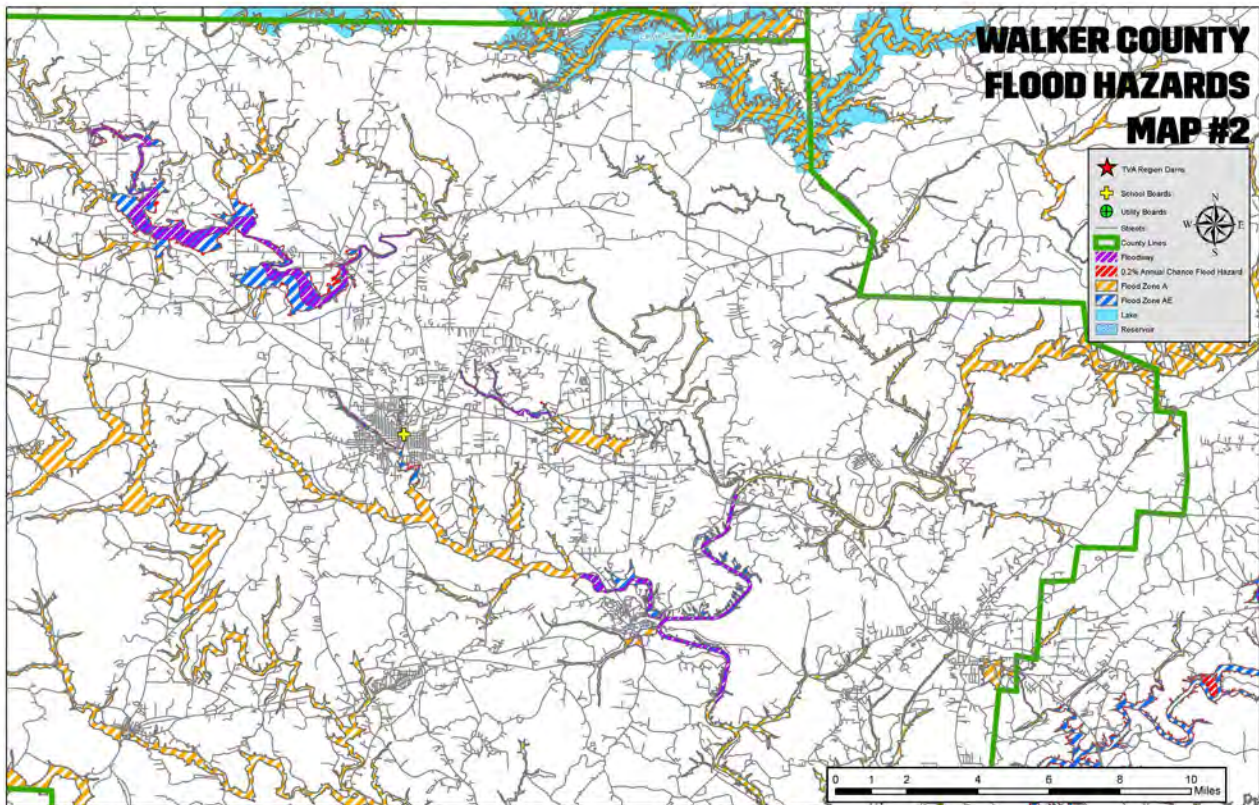
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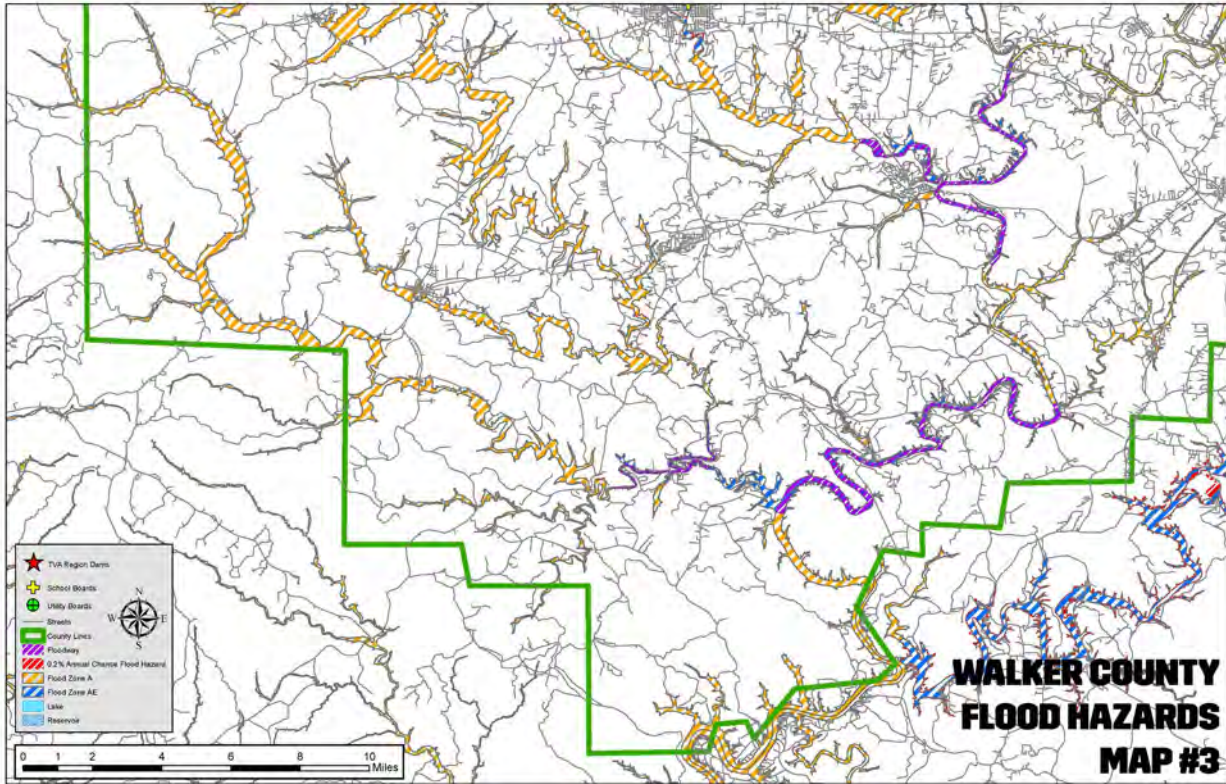
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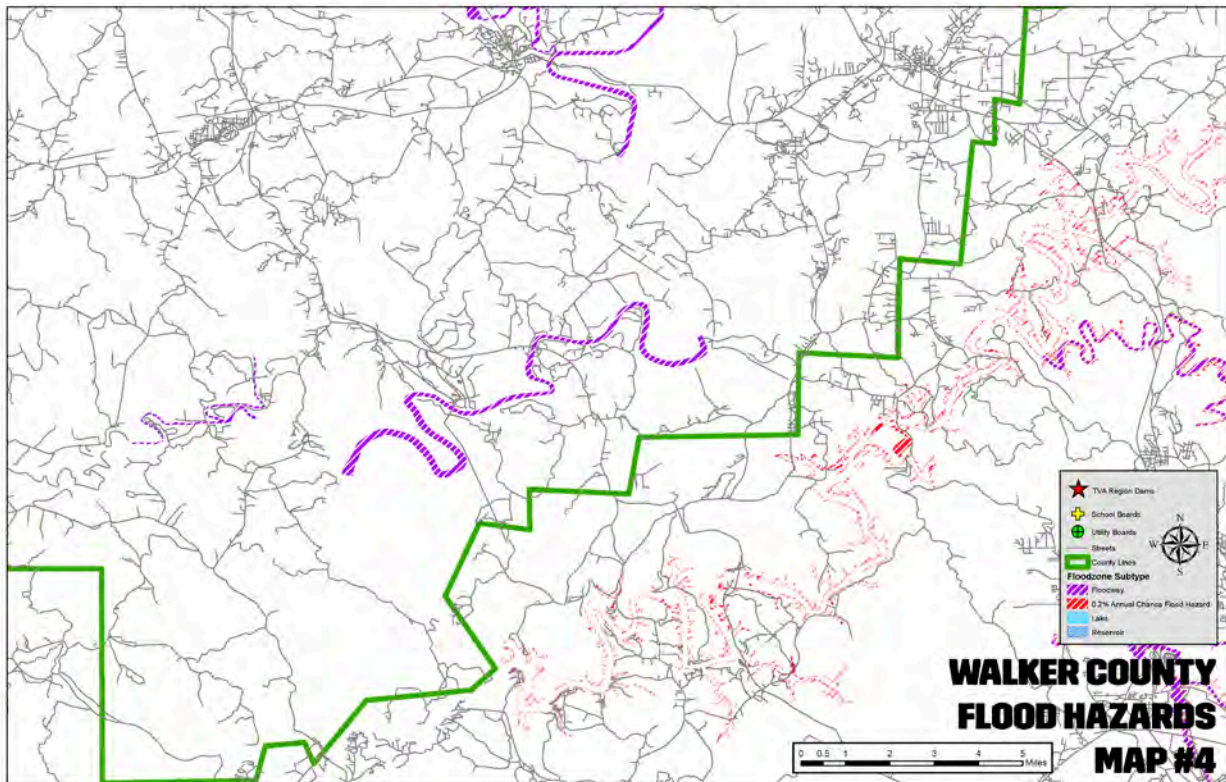
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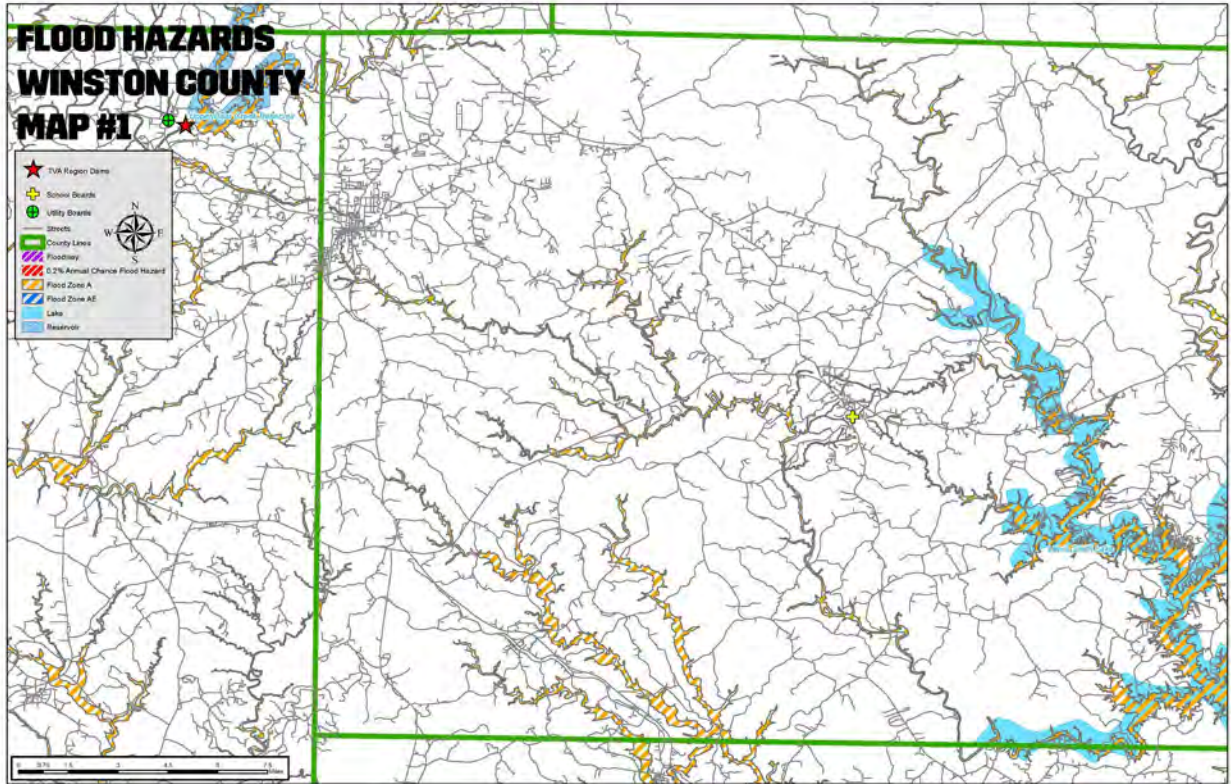
Source: Northwest Alabama Council of Local Governments (NACOLG)



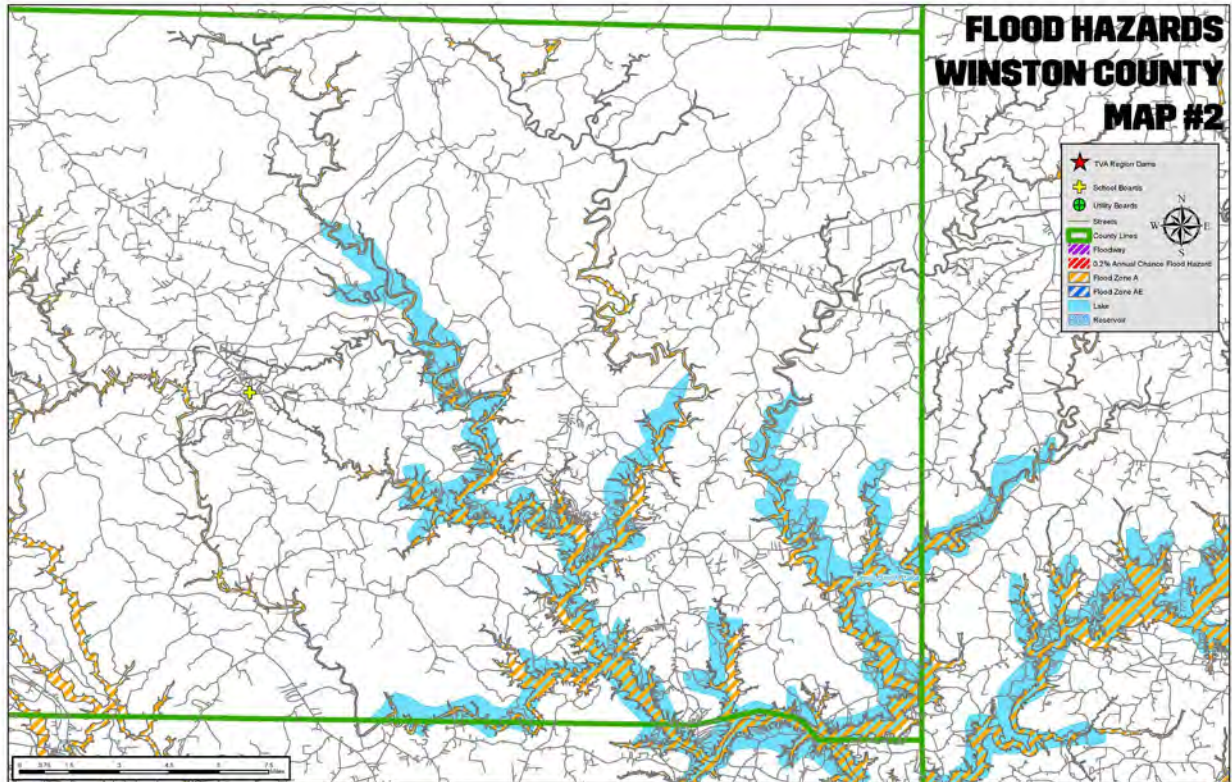
Source: Northwest Alabama Council of Local Governments (NACOLG)



Source: Northwest Alabama Council of Local Governments (NACOLG)



Source: Northwest Alabama Council of Local Governments (NACOLG)



Source: Northwest Alabama Council of Local Governments (NACOLG)

Hail

Hail occurs when falling precipitation passes from colder upper atmospheric regions, where it freezes, through layers of moisture and freezing temperatures gaining additional frozen mass as it falls to earth. As ice accumulates, and the mass of the hail stone increases, its damage potential increases. The largest hailstone ever reported was approximately 8 inches in diameter, but stones of much smaller diameter have the potential to cause property damage. The largest hailstone reported in northwest Alabama was from a 1996 storm in Hackleburg in Marion County, which deposited at least one stone of 4.5 inches during an event that caused about \$28,000 in property damage and \$0 in crop damage. The National Center for Environmental Information reported 57 occasions where hail was present between 2004 and 2015. Hail has been reported from pea size to 1.75" in diameter in Lamar County. An estimated \$28,000 in property damage has occurred as a result of hail events. Lawrence County reported hail on March 12, 2010 in the Hillsboro area, causing \$50,000 worth of property damage. Other reported storms deposited stones from three-quarter inch and larger. Most of the hail experienced since 1996 in Walker County has been quarter size (1 inch in diameter) hail. Of those events with larger hailstones, five events had baseball size (2 ¾ inches in diameter) hail. Walker County normally has pea to dime size hail. There had been 70 hail events reported for the area from January 2015 to November 2019. Approximately 749 events were reported by NOAA in northwest Alabama counties between 1996 and 2019, resulting in no deaths or injuries but \$ 1,217,000 in property damage and \$183,000 in crop damage.

High Winds (Tornadoes, Microburst, and Windstorms)

High winds are normally the result of thunderstorms and tornadoes in northwest Alabama. These may result from large storm fronts generally moving from west to east across the region or they may be caused by fronts moving north from the Gulf Coast during hurricanes. Hurricane season in the Atlantic Basin is from June 1 to November 30, during which time coastal hurricanes are most likely to affect the region. Severe thunderstorms may occur any time but they are most likely in summer months and are most damaging in the spring. Tornado season is in the spring. The region is in the southern area of strong tornado occurrences known as tornado alley, and incredibly violent outbreaks are possible as occurred in April 1974 and April 2011. Tornadoes are classified based on the Enhanced Fujita (EF) Scale, which was implemented in February 2007 to

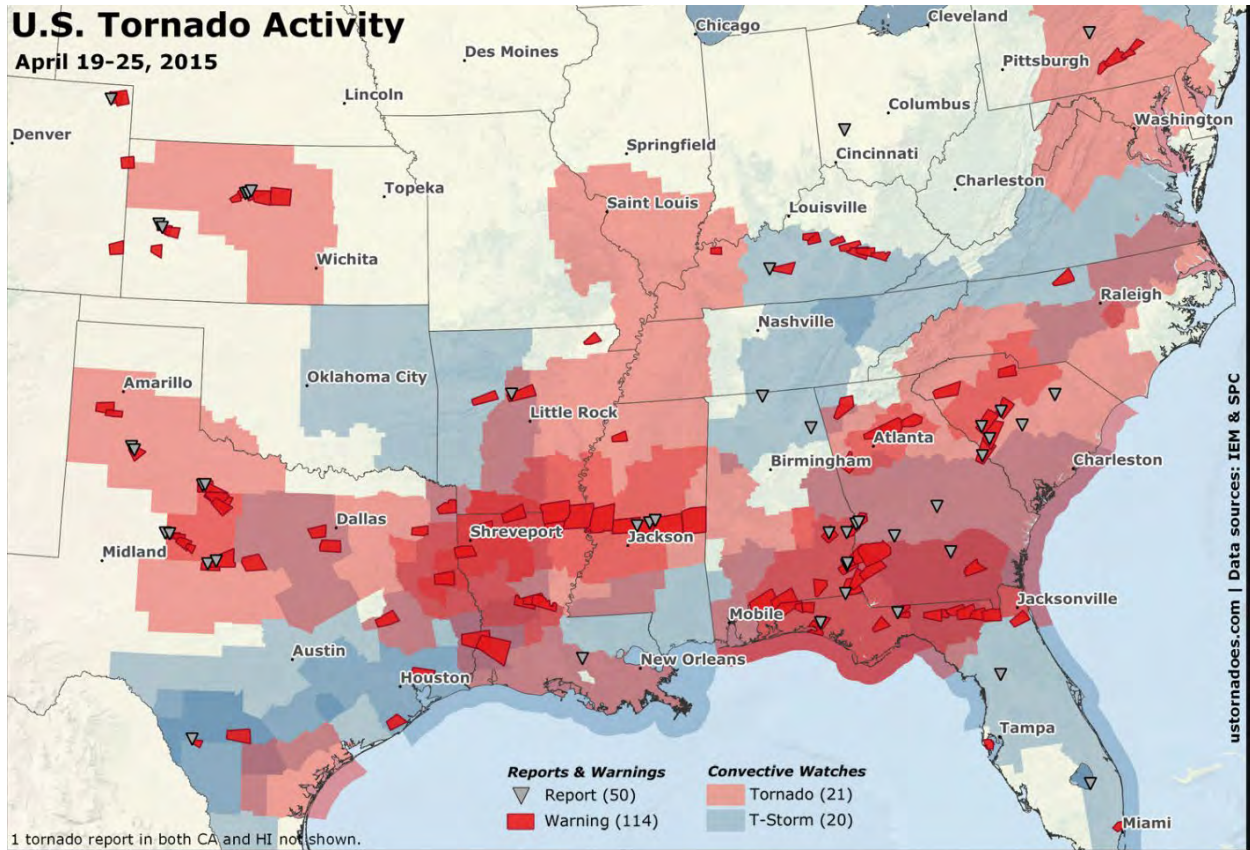
update the previous Fujita Scale. The EF Scale is a wind estimate indicator based on three-second gusts and the levels of damage likely to occur in a tornado. Table 4.1.4 provides a description of Enhanced Fujita Scale measures of wind speed and damage.

High winds, thunderstorm winds, and tornadoes were reported 934 times in northwest Alabama between 1996 and 2019. High wind events were the most numerous and costly of events in northwest Alabama. High winds resulted in 98 fatalities, 413 injuries, \$326,000 in crop damage, and \$719,142,500 in property damage. The worst event was the outbreak of tornadoes on April 27, 2011 which caused an estimated \$532,688,000 of property damage across three counties in northwest Alabama. Worse, the storm claimed the lives of 52 individuals in northwest Alabama.

Table 4.1.4

ENHANCED FUJITA SCALE

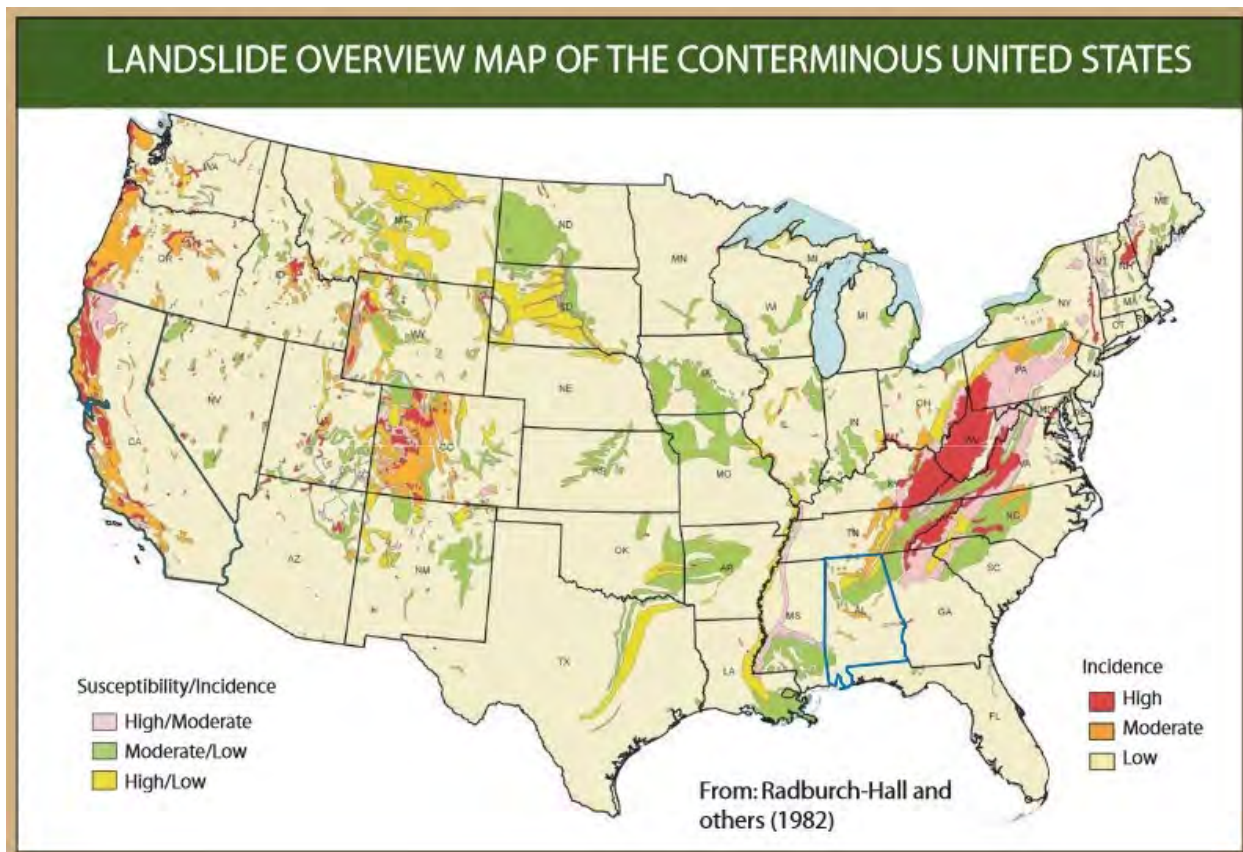
ENHANCED FUJITA SCALE		
EF Number	3 Second Gust (mph)	Damage Description
0	65-85	LIGHT DAMAGE: Some damage to chimneys; tree branches broken off; shallow-rooted trees pushed over; sign boards damaged.
1	86-110	MODERATE DAMAGE: The lower limit is the beginning of hurricane wind speed. Roof surfaces peeled off; mobile homes pushed off foundations or overturned; moving autos pushed off roads.
2	111-135	CONSIDERABLE DAMAGE: Roofs torn off from houses; mobile homes demolished; box cars pushed over; large trees snapped or uprooted; light-object missiles generated.
3	136-165	SEVERE DAMAGE: Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
4	166-200	DEVASTATING DAMAGE: Well-constructed houses levelled; structures with weak foundations blown off some distance; cars thrown; large missiles generated.
5	Over 200	INCREDIBLE DAMAGE: Strong framed houses lifted off foundations and carried considerable distances to disintegrate; automobile-sized missiles fly through the air in excess of 100 yards; trees debarked.



WHNT.com retrieved 01/21/2020

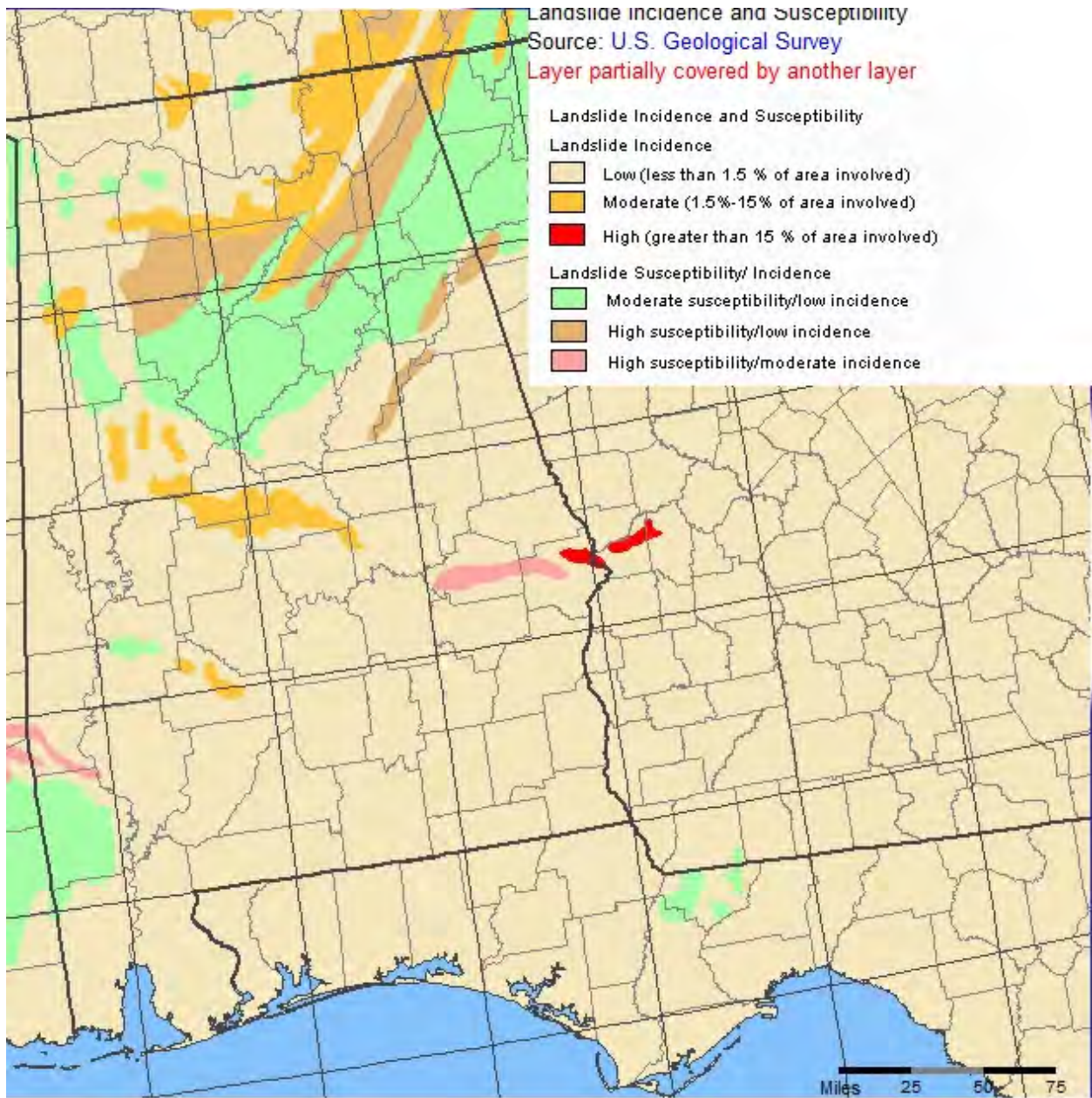
Landslides

Landslides occur when eroded slopes give way to the force of gravity and soil, rock, and other debris collapse downward along slopes. Landslides can be caused by or aided by both human and natural phenomenon. Landslides are commonly caused by changes to surface slopes that create instability, often due to changes in water runoff patterns from development, naturally occurring periods of excessive rain, or gradual erosion. Once conditions for a landslide form, the event usually happens rapidly and can cause high damage to property, endangering the lives of individuals at the top, bottom, and throughout the slopes. Counties in the northwest Alabama region assessed by the Geological Survey of Alabama had low incidence and low to moderate susceptibility to landslides. This means that while there is little land area involved in landslides, there is moderate potential in some isolated locations.

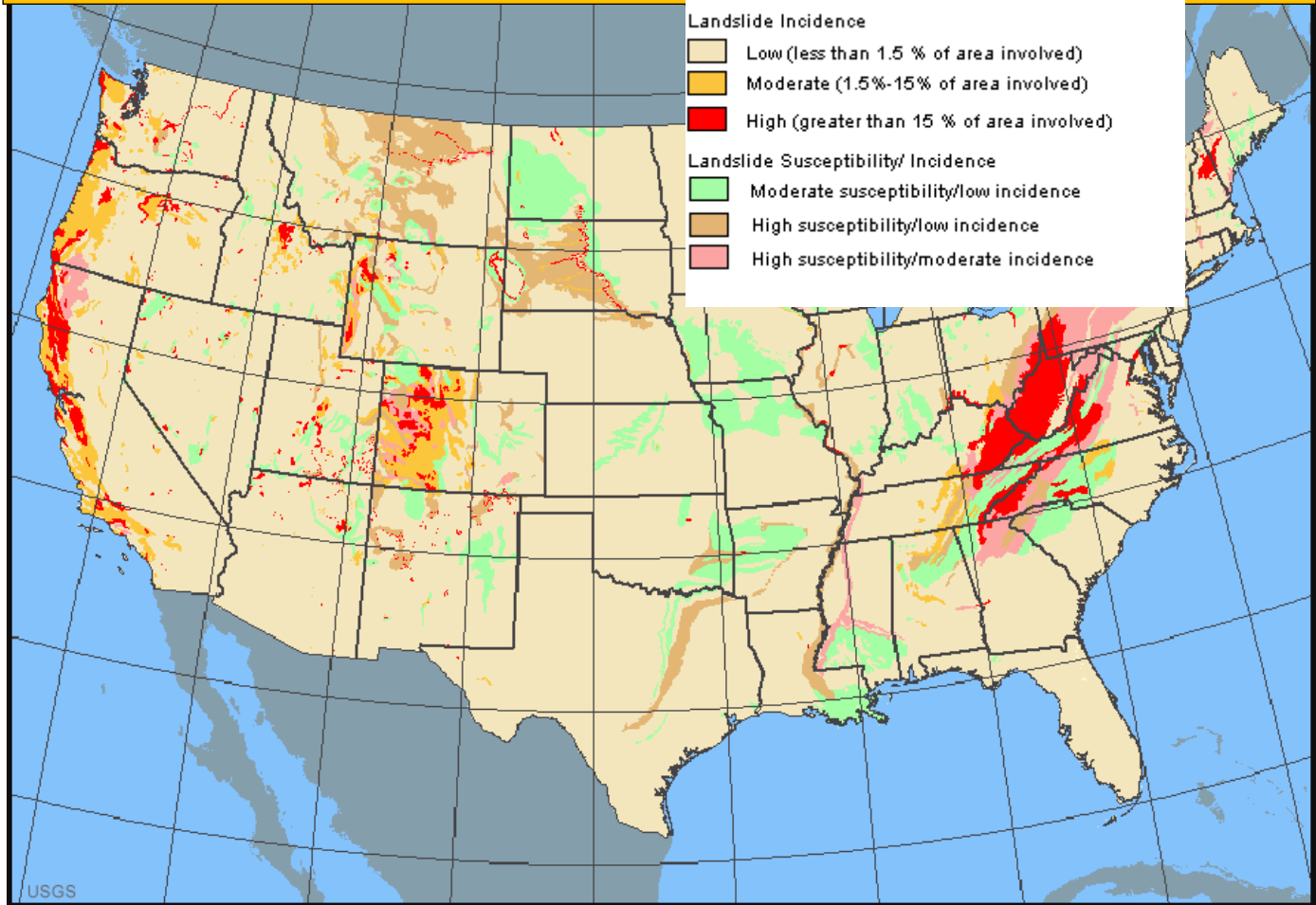


Landslide overview of the United States. Source: Ebersole, Driskell, and Tavis. 2011. Susceptibility to Landslides in Alabama.

Landslide hazard is determined locally by slopes and strength of underlying rock formations. Locations for which landslide is a potential hazard include the jurisdictions of Colbert County, Franklin County, Red Bay, Marion County, Brilliant, Guin, Gu-Win, Hamilton, Twin, Winfield, Winston County, Addison, Arely, Double Springs, Haleyville, and Lynn. The Geological Survey of Alabama noted 17 historic landslides in northwest Alabama.



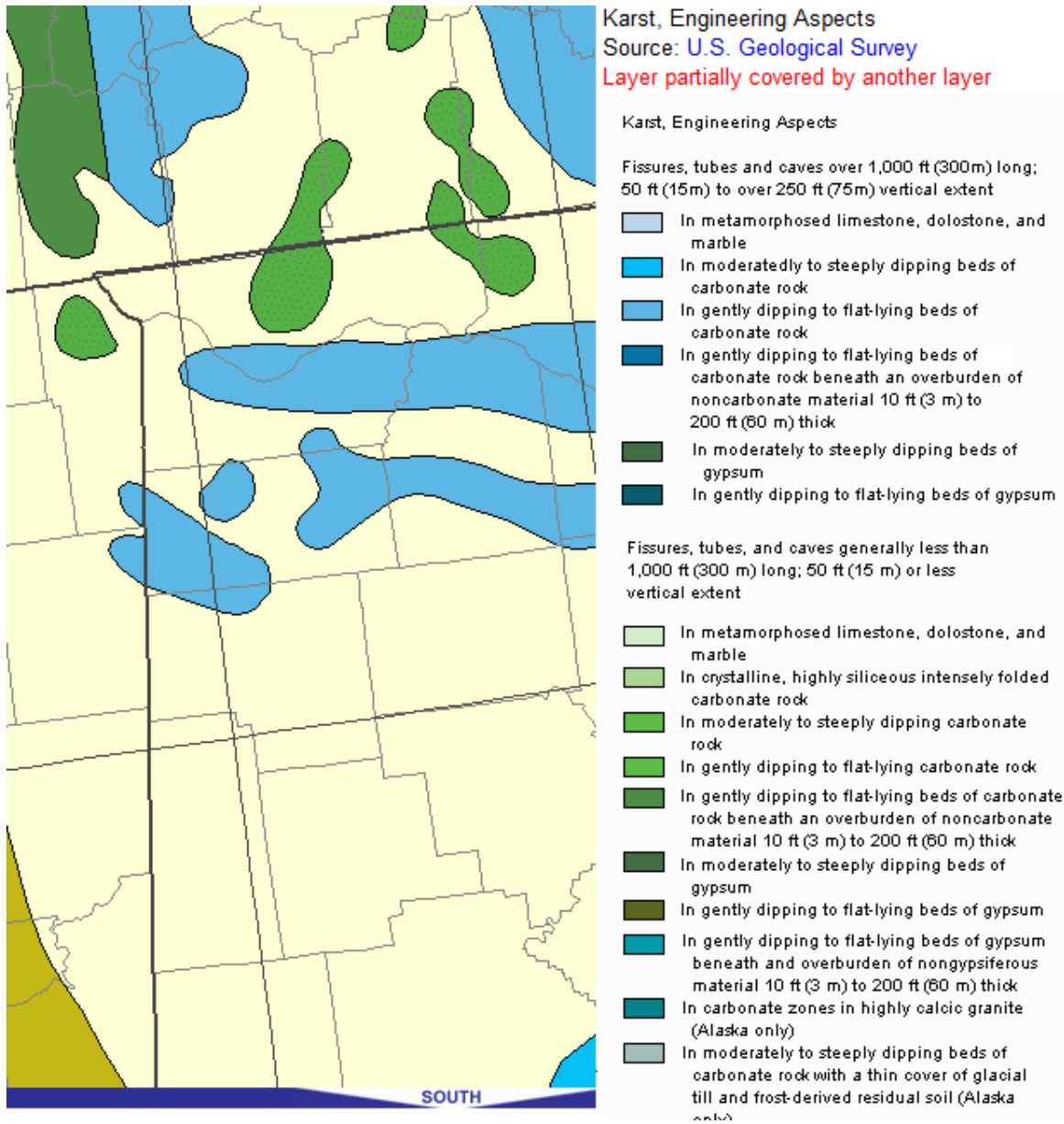
Landslide Incidence and Susceptibility Map



Source: geology.com and USGS. Retrieved 1/31/2020.

Land Subsidence (Sinkholes)

Land subsidence, or a sinkhole, is the collapse of ground surface due to hollowing of the subsurface geographic landscape from erosion. Landforms that are erodible or that dissolve in water can create underground caverns. Eventually, the weight of materials resting above may cause the surface to become unstable and to collapse into the vault or cavern below. When this occurs, a sinkhole is formed, and development above is placed in jeopardy. Sinkholes are often caused by changes in water patterns including water runoff and water table levels. These can be due to natural occurrences or manmade causes. Increased development in karst areas may also



Karst landforms susceptible to sinkholes. Source: National Atlas and USGS. Updated 1-31-2020.

increase the weight load on cavern ceilings and increase the likelihood of a collapse. Much of the northwest Alabama region is in areas with carbonate rocks, which are susceptible to dissolution by water activity. Therefore, much of the northwest Alabama region is also in areas of active sinkhole or sinkhole risk. Local jurisdictions for which land subsidence or sinkholes are a hazard include Colbert County, Cherokee, Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin County, Hodges, Phil Campbell, Red Bay, Russellville, Vina, Lamar County, Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Marion County, and Hackleburg, Walker County,

Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, and Sumiton.

Lightning

Lightning, which is normally a byproduct of thunderstorms, is a risk to life and property. Lightning is a risk to any area of the northwest Alabama region at any time, particularly during thunderstorms. Lightning is extremely frequent throughout the year, especially during severe thunderstorms, and accounts for many of the small damage incidents in northwest Alabama. Although individual damage is not as extreme as that resulting from some other natural disasters such as tornados, lightning is a significant risk to residents and their property. Lightning is often of greatest hazard risk for individuals and small businesses due to the frequent loss of property, particularly electronics, and resultant disruptions.

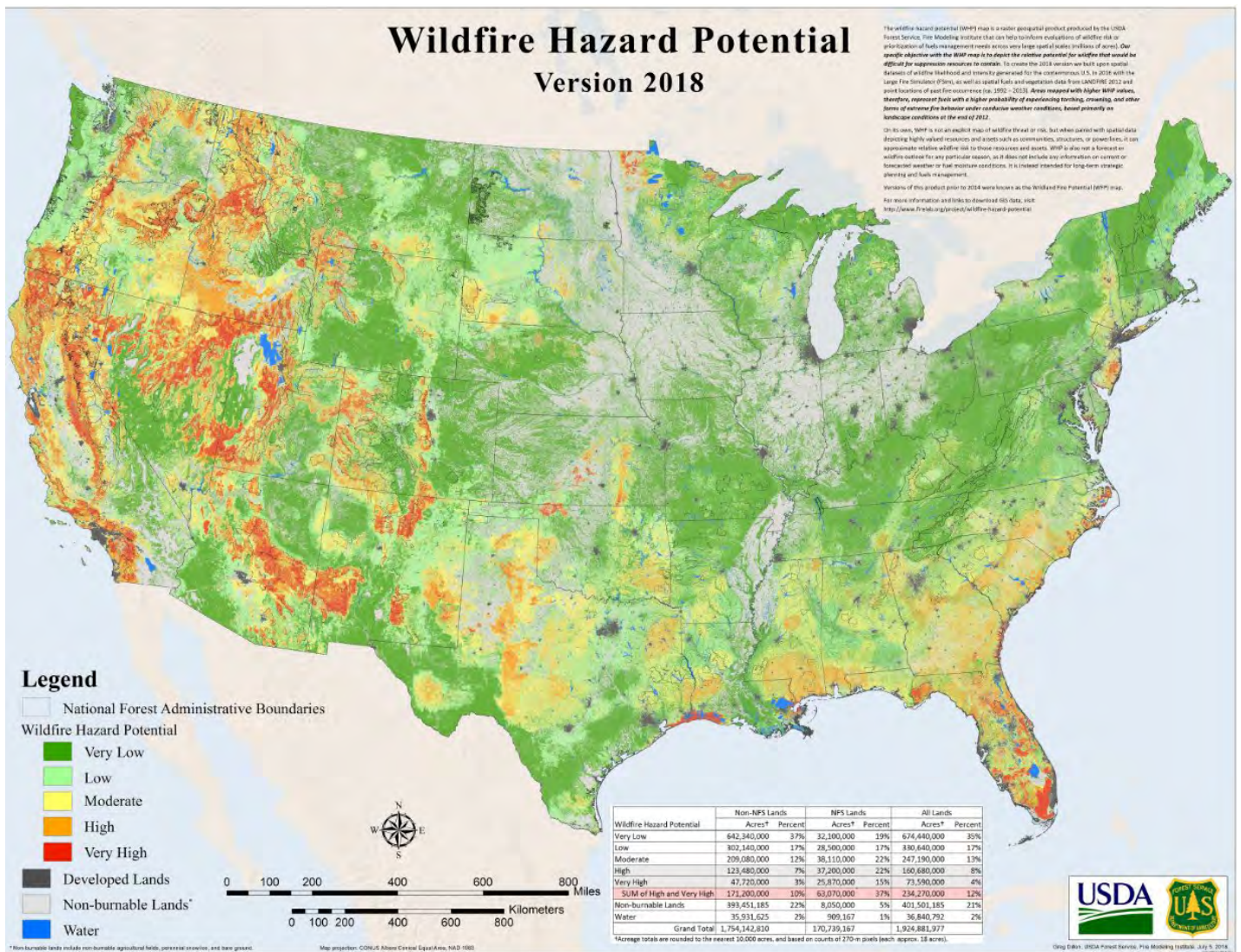
Only 58 lightning events were reported by NOAA between 1996-2019, although the actual number is likely to be much higher. Lightning reportedly caused one fatality, one injury, and \$0 in property damage between 2015-2019.

Wildfire

Wildfires are caused by combustible materials catching fire in areas of wilderness or where wilderness is adjacent to developed areas, known as the wildland-urban interface (WUI). Although wildfires in the wilderness can destroy valuable resources such as natural habitat and forestry resources, fires in the WUI are the most dangerous to life and property because of their proximity to assets and human populations. Fires are caused when fuel sources such as brush and undergrowth remain on the ground and combust. Fires of this nature are often devastating to homes and other natural resources. Lightning and drought often contribute to wildfires, but a large number are caused by human error in extinguishing combustible materials like campfires and burning cigarettes. Much of the region is at risk from wildfires both due to the heavily forested nature of the region, which leads to wildfire susceptibility, as well as the historical record of fires in the region.

Wildfire risk is imposed on areas with significant forestland adjacent to developed lands. Local communities susceptible to wildfire hazard include Colbert County, Cherokee, Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin County, Hodges, Phil Campbell, Red

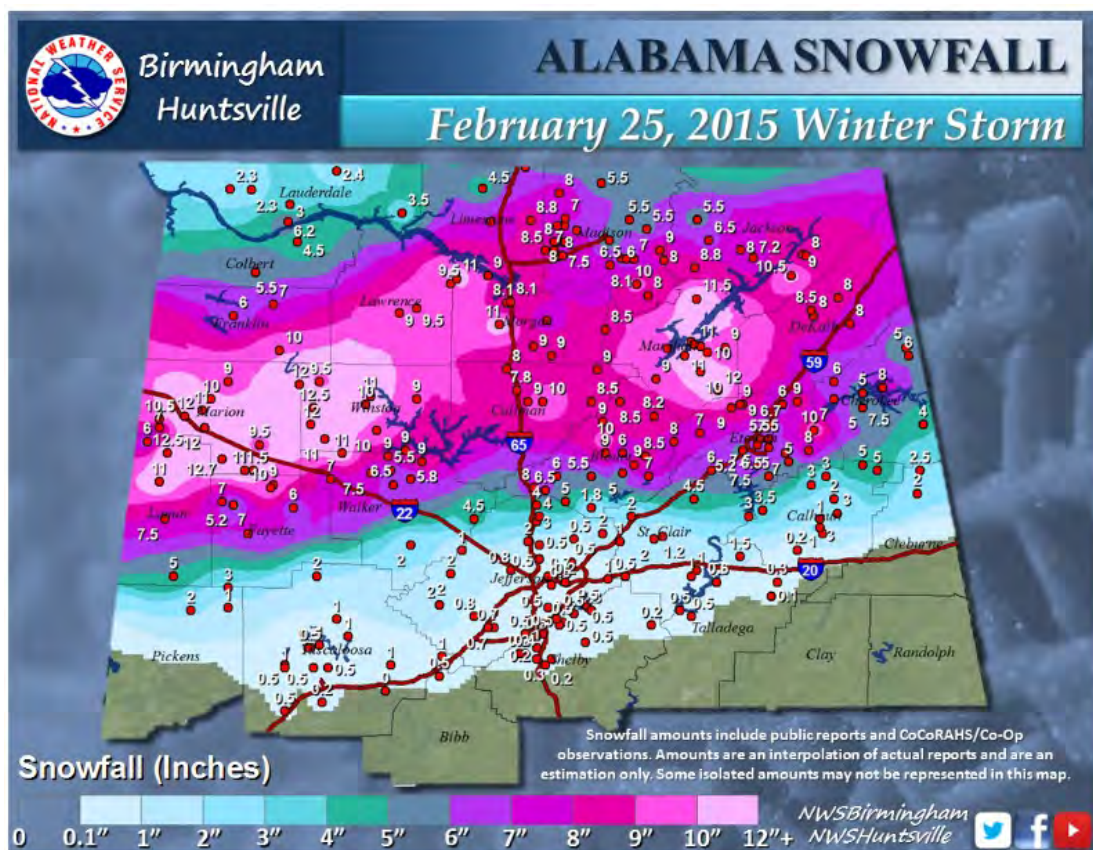
Bay, Russellville, Vina, Marion County, Bear Creek, Brilliant, Guin, Gu-Win, Hackleburg, Hamilton, Twin, Winfield, Winston County, Addison, Arley, Double Springs, Haleyville, Lynn, Natural Bridge Lamar County, Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence County, Town Creek, Moulton, Courtland, North Courtland, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipsey, and Sumiton. Over 644 fires were reported by various agencies between 1980 and 2012. Three wildfires were reported by NOAA from 1996 to 2013. No fatalities or injuries were reported, but the fires caused approximately \$103,000 in property damage. 12 fires were larger than 100 acres in affected area between 2015 and 2019.



Winter Storms

Winter storms cause heavy frozen precipitation, snow and ice, to accumulate on roads, bridges, trees, rooftops, and other structures. The threat of winter storms stems from both the extreme temperatures involved and the potential for accidents, power outages, and disruption of transportation, which leads to individuals being cut off from required emergency and non-emergency services. The duration of a storm and the duration of its negative results can vary greatly, but when the weight of ice and snow causes road closures, power outages, downed trees, or collapsed roofs, then the winter storm can prove among the most disruptive and damaging of natural hazards. The entirety of northwest Alabama is susceptible to winter storms due to the climate history, temperatures, precipitation, and historical record of the region.

NOAA reported 129 winter weather events between 1996 and 2019. Winter weather was not attributed as a cause of injury or death, but it did result in approximately \$4,031,100 in property damage and \$8,000 in crop damage. The worst single event occurred on December 23, 1998 and resulted in \$1,200,000 in property damage in Colbert County.



4.2 Probability of Future Hazards ⁴

Table 4.2.1 summarizes the planning area’s probability to experience effects from future hazards. Probability is the overall likelihood of experiencing a future event. Many of the hazards have equal potential probability across all northwest Alabama, while others are more localized due to geographic profiles and features particular to a specific location. Each hazard type was reviewed according to the level of impact most appropriate to understanding its threat to each jurisdiction. Each threat was given a probability rating at the appropriate scale. Probability was classified based on a comprehensive overview of available data, including risk mapping in GIS where available and records of damages.

Probability was classified as High, Medium, Low, or Very Low based on the following quantitative scale:

- **High:** Probable major damage in excess of \$100,000 in a 1-10 year period
- **Medium:** Probable major damage in excess of \$100,000 in a 10-50 year period
- **Low:** Probable major damage in excess of \$100,000 in a 100 year period
- **Very Low:** No probable major damage in excess of \$100,000; possible major damage in excess of \$100,000 in a very long (100+ year) period

Table 4.2.1

Hazard		Probability (All jurisdictions)				
Drought		Low				
Earthquake		Very Low				
Extreme Temperature		Low				
Hail		Low				
High Winds		High				
Lightning		Low				
Winter Storms		High				
Local Jurisdiction	Probability (Localized hazards)					
	Dam failure	Flooding	Landslide	Land Subsidence	Wildfire	
Colbert County	Very Low	Medium	Very Low	Very Low	Very Low	
Cherokee	None	Medium	Very Low	Very Low	Very Low	
Leighton	None	Medium	Very Low	Very Low	Very Low	
Littleville	None	Medium	Very Low	Very Low	Very Low	
Muscle Shoals	Very Low	Medium	Very Low	Very Low	Very Low	
Sheffield	Very Low	Medium	Very Low	Very Low	Very Low	
Tuscumbia	Very Low	Medium	Very Low	Very Low	Very Low	

⁴ This section was thoroughly reviewed and modified to reflect a quantitative scale for ‘major damage’.

Franklin County	Very Low	Medium	Very Low	Very Low	Very Low
Hodges	None	Medium	Very Low	Very Low	Very Low
Phil Campbell	None	Medium	Very Low	Very Low	Very Low
Red Bay	None	Medium	Very Low	Very Low	Very Low
Russellville	Very Low	Medium	Very Low	Very Low	Very Low
Vina	None	Medium	Very Low	Very Low	Very Low
Marion County	None	Medium	Very Low	Very Low	Very Low
Bear Creek	None	Medium	Very Low	Very Low	Very Low
Brilliant	None	Medium	Very Low	Very Low	Very Low
Guin	None	Medium	Very Low	Very Low	Very Low
Gu-Win	None	Medium	Very Low	Very Low	Very Low
Hackleburg	None	Medium	Very Low	Very Low	Very Low
Hamilton	None	Medium	Very Low	Very Low	Very Low
Twin	None	Medium	Very Low	Very Low	Very Low
Winfield	None	Medium	Very Low	Very Low	Very Low
Lamar County	Low	Medium	Very Low	Very Low	Very Low
Beaverton	None	Medium	Very Low	Very Low	Very Low
Detroit	None	Medium	Very Low	Very Low	Very Low
Kennedy	None	Medium	Very Low	Very Low	Very Low
Millport	None	Medium	Very Low	Very Low	Very Low
Sulligent	None	Medium	Very Low	Very Low	Very Low
Vernon	None	Medium	Very Low	Very Low	Very Low
Lawrence County	None	Medium	Very Low	None	High
Town Creek	None	Medium	Very Low	None	High
Moulton	None	Medium	Very Low	None	High
Courtland	None	Medium	Very Low	None	High
North Courtland	None	Medium	Very Low	None	High
Hillsboro	None	Medium	Very Low	None	High
Walker County	None	Medium	Very Low	High	Low
Carbon Hill	None	Medium	High	High	Low
Cardova	None	Medium	High	High	Low
Dora	None	Medium	High	High	Low
Eldridge	None	Medium	High	High	Low
Jasper	None	Medium	High	High	Low
Kansas	None	Medium	High	High	Low
Nauvoo	None	Medium	High	High	Low
Oakman	None	Medium	High	High	Low
Parrish	None	Medium	High	High	Low
Sipsey	None	Medium	High	High	Low
Sumiton	None	Medium	High	High	Low
Winston County	None	Medium	Very Low	Very Low	Very Low
Addison	None	Medium	Very Low	Very Low	Very Low
Arley	None	Medium	Very Low	Very Low	Very Low
Double Springs	None	Medium	Very Low	Very Low	Very Low
Haleyville	None	Medium	Very Low	Very Low	Very Low
Lynn	None	Medium	Very Low	Very Low	Very Low
Natural Bridge	None	Medium	Very Low	Very Low	Very Low

Source: Information provided by the respective counties

4.3 Extent of Hazards by Jurisdiction ⁵

Table 4.3.1 describes the extent of natural hazards in the region. Extent is used to define how severe or intense a natural hazard can be in order to provide a foundation for planning to mitigate damages from natural hazards. As with other aspects of natural hazards, the extent of natural hazards varies by jurisdiction, with some local areas being more likely to have intense effects than others due to geographic considerations. Meanwhile, other hazards have equally likely extent, damage or potential impact across all areas of the region.

Table 4.3.1 Extent of Natural Hazards

Hazard	Extent (All jurisdictions)				
Drought	D4: Exceptional Drought. Exceptional and widespread crop/pasture losses; shortages of water in reservoirs, streams, and wells creating water emergencies.				
Earthquake	Magnitude 7.0 on Richter scale. Potentially serious damage to structures.				
Extreme Temperature	Extreme highs above 100 deg. F increase risk of injury from exposure and drought risk. Low temperature extremes around 0 deg. F for several days at a time causing water shortages and injury.				
Hail	Large size hail (2-3 inch diameter) resulting in property damage.				
High Winds	EF-5 strength tornados (winds in excess of 200 mph), and strong straight line winds (greater than 60 mph) and down bursts (greater than 100 mph) causing catastrophic damage.				
Lightning	Lightning frequency of 4 to 8 flashes per square km per year; 4 to eleven flashes is considered “frequent”.				
Winter Storms	Six (or more) inches of ice and snow causing damage to roofs and utilities, road closures, and business losses.				
Local Jurisdiction	Extent (Localized hazards)				
	Dam failure	Flooding	Landslide	Land Subsidence	Wildfire
Colbert County	Flooding to depths of several feet affecting agriculture and some structures along lakefront	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over large acreage (100+)
Cherokee	No potential damage	Flooding to depths from 1 to several feet affecting ±24 structures and open space/agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over very small acreage (100+)
Leighton	No potential damage	Flooding to depths from 1 to several feet affecting ± 45 structures and open space/agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over very small acreage (5+)

⁵ This section was thoroughly reviewed and modified to include quantitative extent for each hazard.

Littleville	No potential damage	Flooding to depths from 1 to several feet affecting ±15 structures and open space/agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over very small acreage (5+)
Muscle Shoals	Flooding to depths of several feet small number of structures	Flooding to depths from 1 to several feet affecting ± 115 structures and open space/agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over very small acreage (5+)
Sheffield	Flooding to depths of several feet small number of structures	Flooding to depths from 1 to several feet affecting ± 65 structures and open space/agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over very small acreage (5+)
Tuscumbia	No potential damage	Flooding to depths from 1 to several feet affecting ±35 structures and open space/agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over very small acreage (5+)
Franklin County	Flooding to depths of several feet affecting agriculture and some structures along lakefront	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over large acreage (100+)
Hodges	No potential damage	Flooding to depths from 1 to several feet affecting agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (50+)
Phil Campbell	No potential damage	Flooding to depths from 1 to several feet affecting agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (50+)
Red Bay	No potential damage	Flooding to depths from 1 to several feet affecting ±15 structures and open space/agricultural land	Movement of land beneath several acres affecting multiple	Movement of land beneath less than one acre affecting multiple	Property and timber damage over very small acreage (5+)

			homes and businesses	homes and businesses	
Russellville	No potential damage	Flooding to depths from 1 to several feet affecting ±50 structures and open space/agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over very small acreage (5+)
Vina	No potential damage	Flooding to depths from 1 to several feet affecting agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (50+)
Lamar County	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	No potential damage	No potential damage	Property and timber damage over large acreage (10+)
Beaverton	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage over large acreage (100+)
Detroit	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage over large acreage (10+)
Kennedy	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage over large acreage (10+)
Millport	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage over large acreage (100+)
Sulligent	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage over large acreage (50+)

Vernon	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage acreage Less than (<10)
Lawrence County	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage acreage Less than (500+)
Town Creek	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage acreage Less than (10+)
Hillsboro	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage acreage Less than (10+)
Moulton	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage acreage Less than (10+)
Courtland	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage acreage Less than (10+)
North Courtland	No Potential Damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture	No potential damage	Movement of land beneath several acres affecting multiple homes and businesses	Property and timber damage acreage Less than (10+)
Marion County	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple	Movement of land beneath less than one acre affecting multiple	Property and timber damage over large acreage (100+)

			homes and businesses	homes and businesses	
Bear Creek	No potential damage	Flooding to depths from 1 to several feet affecting ±10 structures and open space/agricultural land	No potential damage	No potential damage	Property and timber damage over moderate acreage (50+)
Brilliant	No potential damage	Flooding to depths from 1 to several feet affecting agricultural land	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over moderate acreage (50+)
Guin	No potential damage	Flooding to depths from 1 to several feet affecting ±10 structures and open space/agricultural land	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over very small acreage (5+)
Gu-Win	No potential damage	Minor flooding, several inches to one foot with little impact	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over very small acreage (5+)
Hackleburg	No potential damage	Flooding to depths from 1 to several feet affecting agricultural land	No potential damage	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (50+)
Hamilton	No potential damage	Flooding to depths from 1 to several feet affecting ±20 structures and open space/agricultural land	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over moderate acreage (50+)
Twin	No potential damage	Flooding to depths from 1 to several feet affecting agricultural land	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over moderate acreage (50+)
Winfield	No potential damage	Flooding to depths from 1 to several feet affecting ±10 structures and open	Movement of land beneath several acres affecting multiple	No potential damage	Property and timber damage over very small acreage (5+)

		space/agricultural land	homes and businesses		
Walker County	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Carbon Hill	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Cardova	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Dora	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Eldridge	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Jasper	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Kansas	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Nauvoo	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting	Movement of land beneath less than one acre affecting	Property and timber damage over moderate acreage (100+)

			multiple homes and businesses	multiple homes and businesses	
Oakman	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Parrish	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (100+)
Sipsey	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (500+)
Sumiton	No potential damage	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	Movement of land beneath less than one acre affecting multiple homes and businesses	Property and timber damage over moderate acreage (500+)
Winston County	Flooding to depths of several feet affecting agriculture and some structures along lakefront	Flooding to depths from 1 to 10 feet affecting structures and agriculture.	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over large acreage (100+)
Addison	No potential damage	Minor flooding, several inches to one foot with little impact	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over moderate acreage (50+)
Arley	No potential damage	Minor flooding, several inches to one foot with little impact	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over moderate acreage (50+)
Double Springs	No potential damage	Minor flooding, several inches to one	Movement of land beneath several acres	No potential damage	Property and timber damage over

		foot with little impact	affecting multiple homes and businesses		moderate acreage (50+)
Haleyville	No potential damage	Flooding to depths from 1 to several feet affecting ±10 structures and open space/agricultural land	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over moderate acreage (50+)
Lynn	No potential damage	Flooding to depths from 1 to several feet affecting agricultural land	Movement of land beneath several acres affecting multiple homes and businesses	No potential damage	Property and timber damage over moderate acreage (50+)
Natural Bridge	No potential damage	Minor flooding, several inches to one foot with little impact	No potential damage	No potential damage	Property and timber damage over moderate acreage (50+)

Source: Alabama Forestry Commission

4.4 Previous Occurrences

One predictor of the risk associated with a natural hazard is the historical record of the event in an area. Although the past is not a perfect source of information to consider future risk, it provides some guidance as to which hazards have been historically the most frequent and intense. Table 4.4.1 summarizes the historical records of natural disasters and related events in northwest Alabama. No record can be completely accurate; however, the most up to date sources were used to compile the information below. A list of sources is provided in Table 4.1.1.

The most numerous incidents were high winds, which were also the most damaging across the region. Wildfire was next most frequent but significantly less damaging, causing isolated property damage. Most reported fires were in the Bankhead National Forest. Hail was also very frequent but caused only small, isolated property damage. Flooding was well behind wind, wildfire, and hail in frequency, but it was second most damaging. Flooding was largely isolated to areas with identified flood hazard. The City of Tusculumbia in Colbert County suffered the most frequent recorded flooding. Together, High Wind, Wildfire, Hail, and Flooding accounted for the majority of the recorded natural hazard events in northwest Alabama.

Table 4.4.1

Hazard	Previous Occurrences				
	(All jurisdictions)				
Drought	190				
Earthquake	1				
Extreme Temperature	55				
Hail	749				
High Winds	1532				
Lightning	58				
Winter Storms	129				
Local Jurisdiction	Susceptibility (Localized hazards) 1996-2019				
	Dam failure	Flooding	Landslide	Land Subsidence	Wildfire
Colbert County	0	25	0	0	120
Cherokee	0	7	0	0	100
Leighton	0	5	0	0	0
Littleville	0	2	0	0	0
Muscle Shoals	0	6	0	0	0
Sheffield	0	1	0	0	0
Tuscumbia	0	15	0	0	0
Franklin County	0	17	5	0	6
Hodges	0	1	0	0	0
Phil Campbell	0	0	0	0	0
Red Bay	0	5	0	0	0
Russellville	0	5	0	0	0
Vina	0	0	0	0	0
Marion County	0	18	12	0	0
Bear Creek	0	1	0	0	0
Brilliant	0	0	0	0	0
Guin	0	1	0	0	0
Gu-Win	0	0	0	0	0
Hackleburg	0	2	0	0	0
Hamilton	0	3	0	0	0
Twin	0	0	0	0	0
Winfield	0	2	0	0	0
Lamar County	0	28	0	0	25
Beaverton	0	2	0	0	3
Detroit	0	3	0	0	3
Kennedy	0	2	0	0	1
Millport	0	1	0	0	2
Sulligent	0	2	0	0	1
Vernon	0	33	0	0	0
Lawrence County	0	33	0	0	531
Hillsboro	0	1	0	0	0
Courtland	0	3	0	0	0
North Courtland	0	0	0	0	0
Town Creek	0	1	0	0	0
Moulton	0	12	0	0	0
Walker County	0	28	0	110	75
Carbon Hill	0	0	0	0	0
Cardova	0	2	0	0	0

Dora	0	0	0	0	0
Eldridge	0	0	0	0	0
Jasper	0	6	0	0	100
Kansas	0	2	0	0	0
Nauvoo	0	1	0	0	0
Oakman	0	1	0	0	0
Parrish	0	0	0	0	627
Sipsey	0	1	0	0	770
Sumiton	0	0	0	0	770
Winston County	0	8	0	0	549
Addison	0	0	0	0	1
Arley	0	0	0	0	0
Double Springs	0	1	0	0	0
Haleyville	0	7	0	0	0
Lynn	0	1	0	0	1
Natural Bridge	0	0	0	0	0

Source: <https://www.ncdc.noaa.gov/stormevents/>

4.5 Impact of Hazards by Jurisdiction

Table 4.5.1 describes the impact of natural hazards in the region. Impact is used to define how severe or intense a natural hazard has been in the past in order to provide a foundation for planning to mitigate damages from natural hazards in the future. The most significant or damaging past event provides a description of a hazard’s impact potential. Where no record exists, relevant examples are examined from other areas of the State to provide an impact analysis. The impact of natural hazards varies by jurisdiction, with some local areas being more likely to have experienced intense effects than others due to geographic considerations. Impact from hazards in one jurisdiction provide a baseline for evaluating future risk in that jurisdiction as well as others with similar characteristics and susceptibility to one or more natural hazards.

Hazard	Impact (All jurisdictions)
Drought	The most significant drought on record began in Spring 2007 and continued through Summer 2008. During this time, monthly records from NOAA reported extreme drought conditions for counties in northwest Alabama. Crop failure and heightened risk of fire were cited as impacts of the drought, which began in March 2007 and subsided in August 2008. Drought was reported 18 consecutive months. Crop losses were in the millions.
Earthquake	The known seismic history of Alabama spans about 100 years for local earthquakes. For shocks outside the State borders that caused damaged to cities in Alabama, the history can be traced to 1811 - 1812, when three great (estimated magnitude 8 or greater on the Richter scale) earthquakes centered in Missouri may have reached intensity VII in the northern and/or central sections. These gigantic earthquakes were comparable to the San Francisco shock in 1906 and were felt over 2 million square miles, more than half of the total area of the United States. Historical records indicate the first earthquake of consequence in Alabama shook residents of Sumter and Marengo Counties, located in the western part of the State, on February 4, 1886. A similar shock occurred nine days later, on February 13. Both were reported felt at communities along the Tombigbee River, but caused no damage. Only six months later, the destructive

	<p>Charleston, South Carolina, shock that was felt in cities all over the Eastern United States occurred. This shock, located about 400 miles east of Alabama's border, caused minor damage in the northeastern part of the State.</p> <p>In 1916 on October 18, a strong earthquake occurred on an unnamed fault east of Birmingham. It was apparently most strong at Easonville. Near the epicenter, chimneys were knocked down, windows broken, and frame buildings "badly shaken." It was noted by residents in seven States and covered 100,000 square miles.</p> <p>Another tremor that damaged the Birmingham area occurred on April 23, 1957. Centered near the Tennessee River below Guntersville Dam, the earthquake shook residents in southern Tennessee, western Georgia, and most of northern and central Alabama. Earthquake records for that year state: "Felt by, awakened, and alarmed many. Minor damage to several chimneys; one report of cement steps cracked in two; and several small cracks in walls. Table-top items tumbled to the floor."</p> <p>A shock centered in the Huntsville area on August 12, 1959. Though felt over a small area of southern Tennessee and northern Alabama, it shook bricks from chimneys at Hazel Green; damaged one chimney and a newly constructed concrete block building at Meridianville; shook violently the buildings at New Sharon, knocking canned goods from shelves and sending frightened residents fleeing from their homes; and cracked plaster and knocked groceries from shelves at Huntsville.</p> <p>Additional earthquakes (intensity V category) listed for this State that were minor and caused no damage centered near Rosemary, western Alabama, in June 1917; in the Scottsboro area northeast of Huntsville in June 1927; at Cullman, northern Alabama, in May 1931; and in the Anniston area in May 1939.</p> <p>A strong earthquake in southern Illinois in November 1968 caused intensity V effects in several localities in northern Alabama. The shock was the strongest in Illinois since 1895 and was felt over a half-million square miles in 23 States.</p> <p>1989 Aug 20 00:03 3.9M Intensity VI Near Littleville, Alabama (34.736N 87.6450W)</p> <p>A Colbert County official reported south of Florence, between Littleville and Russellville, a basement wall collapsed beneath a house. Only slight damage was reported north of the epicenter at Florence, where windows were cracked, and hairline cracks formed in plaster. Also felt in Lauderdale, Lawrence, and Morgan Counties in northwest Alabama and Lawrence County in south-central Tennessee.</p>
Extreme Temperature	Daytime high temperatures reached the middle to upper 90s during this period. In combination with humid air, heat index values climbed into the 100 to 105-degree range across northwest Alabama, including the Shoals. A newspaper reported that at least 12 people were treated for heat illness at a Florence hospital. Newspapers from January 2014 reported frozen water lines leading to leaks, necessitating conservation warnings from local water systems.
Hail	March 26, 2011: Hail the size of golf balls caused widespread damage to vehicles and buildings in the city of Haleyville. Estimated damage of \$100,000 to individual properties in Winston Co. and \$1.76 million statewide.
High Winds	<p>A powerful storm system roared across the Southeast United States on Wednesday, April 27, 2011. In the wake of this system, hundreds of people were left injured and/or homeless, along with approximately 100 people who lost their lives in the northern Alabama area alone. Some of the devastation was literally unimaginable with countless homes, neighborhoods and even portions of cities or towns either partially or completely destroyed. This storm system would be responsible for one of the largest and deadliest tornado outbreaks to ever impact much of the southeastern region.</p> <p>The powerful storm system that affected the National Weather Service, Huntsville service area</p>

would actually occur in three separate waves of severe weather that day. The first occurred during the early morning hours of April 27, 2011 roughly between the hours of 2 AM and 8 AM CDT, while the second occurred during the late morning to early afternoon period. The third and most devastating wave occurred during the afternoon hours on Wednesday, with some of the most violent and destructive tornadoes to affect the central Tennessee Valley area in recent decades.

The worst areas impacted by these storms included the towns of Phil Campbell and Oak Grove in eastern Franklin County Alabama, Mt. Hope in western Lawrence County and the Tanner Community in eastern Limestone County. Along a line connecting these areas tracked an EF5 tornado with peak winds around 210 mph, the strongest and most violent on the Enhanced Fujita Scale.

Other areas impacted by the storms include the city of Cullman, where extensive damage occurred to buildings in the downtown area, and to the town of Fairview, both of which are located in Cullman County. Downstream, further significant damage occurred to the Ruth and Oak Grove communities in Marshall County. In addition, the communities of Rainsville and Sylvania along with the towns of Henagar and Ider in DeKalb County were severely impacted. Fatalities in DeKalb County alone numbered at least 33 people. Furthermore, the towns of Flat Rock, Higdon and Pisgah in Jackson County sustained incredible damage. The tornadoes that affected these areas were rated as an EF4 with maximum winds near 190 mph.

In most of these areas alone, numerous people lost their lives. These represent just several of the communities and towns impacted by the events of April 27, 2011. While the majority of the analysis and survey work conducted by the National Weather Service, Huntsville and its partners have been completed, there will undoubtedly be countless research studies conducted by both academia and operational personnel in order to further evaluate and understand the complex processes associated with this near unprecedented severe weather outbreak.

A tornado initially touched down west of Hamilton in southwest Marion County and moved northeast where it caused devastating damage to the city of Hackleburg. The tornado continued into Franklin County and tracked through Lawrence, Morgan, Limestone, and Madison Counties in Alabama. The tornado continued into Lincoln County Tennessee and finally dissipated in Franklin County Tennessee (See Storm Data Huntsville). The average path width of the tornado while in Marion County was 0.5 mile (880 yards). The tornado touched down west of AL Hwy 19 near Sipsey Creek and moved northeast and crossed Corridor X/Future Interstate 22. Here it caused significant tree damage. The tornado strengthened north of Hamilton and caused roof damage to at least one home. The storm strengthened further as it approached US Hwy 43, southwest of Hackleburg, to a violent EF4 rating with winds estimated at 170 mph. The tornado tracked parallel to US Hwy 43 toward Hackleburg and strengthened more to an EF5 with winds up to 210 mph, as its path widened to 0.75 mile (1320 yards). Several subdivisions and businesses, Hackleburg High School, Middle School, and Elementary School, and the Wrangler Plant were destroyed. Vehicles were tossed up to 200 yards. One well-built home with 4 brick sides was completely leveled and the debris from the home was tossed over 40 yards to the north. The tornado moved northeast of Hackleburg and continued to parallel US Hwy 43. It crossed into Franklin County just east of the highway. Along the damage path in Marion County, thousands of trees were downed, several hundred structures were damaged, and at least 100 of these structures were completely destroyed as many homes were leveled. Eighteen fatalities are attributed to this tornado in Marion County, as well as numerous injuries.

A violent long track tornado continued its path from Marion County into southern Franklin County north of Hackleburg. Significant devastation occurred throughout the city of Phil Campbell. Prolific damage was noted from the intersection of CR 51 and Alabama Highway 237, to the intersection of CR 81 and CR 75. Within a two-mile corridor of either side of the railroad tracks the damage was significant. Within this corridor, several well-constructed houses were destroyed. Along Bonner Street, multiple block homes were leveled to the ground with the block foundations destroyed. A twenty-five foot section of pavement was sucked up and scattered. Chunks of the

	<p>pavement were found in a home over 1/3 of a mile down the road. The damage in this area was consistent with EF-5 damage.</p> <p>In addition, at least three churches along the path sustained significant damage. One church in Phil Campbell was completely destroyed with only the slab remaining.</p> <p>Multiple mobile homes throughout the path were completely destroyed, and their mangled frames were tossed 25 to 50 yards. Cars were tossed and destroyed throughout the path of the tornado, with one car wrapped around a debarked tree in Phil Campbell. All along the path length, thousands of hardwood and softwood trees were snapped. Hundreds of trees were also debarked and twisted, and had only stubs of the largest branches remaining. EF-5 damage continued similarly northeast from Phil Campbell, roughly along County Roads 81 and 82 toward the community of Oak Grove.</p> <p>In Oak Grove, the tornado may have reached a relative maximum in intensity well into the EF-5 category as the damage was slightly more intense and the path width was at a maximum of greater than one mile. A large swath of complete devastation was noted in Oak Grove along County Roads 38 and Smith Lane. A large well-constructed home with extensive anchoring was razed with debris carried well away from the site. A Corvette sports car was mangled and thrown 641 feet (measured). A block home next door was also disintegrated. Along Smith Lane a block home was wiped out and the only remains of a nearby chicken house was a small piece of a metal truss. In this same area, the tree damage was significant, and a large percentage of trees were stripped bare.</p> <p>A long track violent tornado touched down in Monroe County (See Storm Data Memphis) Mississippi, southwest of Smithville where it caused damage associated with an EF5 rating. The tornado moved northeast through Itawamba County before it crossed into Marion County, Alabama at a point near CR 93, southwest of Bexar. The tornado weakened to an EF1 rating as it entered Alabama, with winds of 110 mph. As the tornado tracked south of Bexar, a few mobile homes and outbuildings were damaged and numerous trees were snapped off and uprooted. The tornado moved across Corridor X/Future Interstate 22, near CR 33. As the tornado approached AL Hwy 19, 4 miles east southeast of Shottsville, it strengthened to an EF3 rating with winds of 160 mph and destroyed several homes. This resulted in 6 fatalities. The tornado continued northeastward where it destroyed several single-family homes and mobile homes along CR 20 and AL Hwy 187, 9 miles north of Hamilton. As the tornado approached the Marion/Franklin County line, several more houses were damaged and at least one chicken house destroyed near AL Hwy 187. Along the Alabama portion of the tornado path, hundreds of trees were downed, and at least 25 homes, mobile homes, and outbuildings were damaged or destroyed. The average path width of the Alabama portion of the tornado path was 0.5 mile (880 yards). The tornado continued into Franklin County Alabama (See Storm Data Huntsville), dissipating near Old Line Rd.</p> <p>The April 27, 2011 storms caused 2.6 billion in damage, claimed 240 lives, and caused 2,200 injuries in Alabama.</p>
Lightning	<p>A thunderstorm became severe moving across the city of Cherokee in western Colbert County. The thunderstorm produced 1-inch hail and downed a number of trees across the town. Lightning also struck at least two houses causing fires which damaged two houses and caused approximately \$25,000 in property damage.</p>
Winter Storms	<p>A winter storm brought a mixture of freezing rain...sleet...and rain to the northern half of Alabama. The northwestern quarter of Alabama was especially hard hit. The precipitation began in a narrow band across Fayette, Walker, Cullman, and Marshall counties around 2 am and then around 5am in the rest of the counties and lasted until early afternoon on the 24th. The northwestern quarter of the state saw temperatures at or below freezing for most of the event. Liquid equivalent precipitation ranged from one to three inches. Significant ice accumulations of one half to one inch were common across the area. Numerous trees were down across every county. Significant power outages were encountered in all counties and many locations did not return to service until the 26th or 27th. The National Guard was activated in a few northwestern counties to help with the cleanup duties. Numerous roads were closed during the event which included Interstate 65 and 565 in the Huntsville area. One fatality occurred in Huntsville when a homeless man died of exposure. Numerous</p>

	<p>multiple vehicle and single automobile accidents occurred due to the icy road conditions. These accidents resulted in at least 5 fatalities and numerous minor injuries. One fatality occurred during the cleanup effort when the worker came into contact with a live electrical wire. Damage was estimated to be \$2.7 million in northwest Alabama counties and \$14.4 million statewide.</p>
Dam failure	<p>Historic U.S. Dam Failures</p> <p>At 7:20 a.m. on May 16, 1874, the 43-foot-high Mill River Dam above Williamsburg, Massachusetts failed, killing 138 people, including 43 children under the age of ten. Up to that date, this failure was the worst in U.S. history.</p> <p>Fifteen years later, on May 31, 1889, this tragedy was replayed on a larger scale in Pennsylvania. Over 2,200 people - more than one in five residents of Johnstown - perished in the flood caused by the failure of South Fork Dam, nine miles upstream.</p> <p>Many more failures - in Arizona, Tennessee, Oregon, North Carolina, Texas, Virginia, West Virginia, and elsewhere across the U.S. - occurred around the turn of the century, and early state dam safety legislation was passed.</p> <p>The failure of St. Francis Dam, in March 1928, was a landmark event in the history of state dam safety legislation, spurring legislation not only in California, but in neighboring states as well. However, most states had no substantive dam safety laws prior to a series of dam failures and incidents that occurred in the 1970s:</p> <p>February 26, 1972 - Buffalo Creek Valley, West Virginia</p> <p>The failure of a coal-waste impoundment at the valley's head took 125 lives, and caused more than \$400 million in damages, including destruction of over 500 homes.</p> <p>June 9, 1972 - Rapid City, South Dakota</p> <p>The Canyon Lake Dam failure took an undetermined number of lives (estimates range from 33 to 237). Damages, including destruction of 1,335 homes, totaled more than \$60 million.</p> <p>June 5, 1976 - Teton, Idaho</p> <p>Eleven people perished when Teton Dam failed. The failure caused an unprecedented amount of property damage totaling more than \$1 billion.</p> <p>July 19-20, 1977 - Laurel Run, Pennsylvania</p> <p>Laurel Run Dam failed, killing over 40 people and causing \$5.3 million in damages.</p> <p>November 5, 1977 - Toccoa Falls, Georgia</p> <p>Kelly Barnes Dam failed, killing 39 students and college staff and causing about \$2.5 million in damages.</p>
Flooding	<p>A quasi-linear convective system dropped south from Tennessee into northern Alabama just after sunrise. The storms dumped very heavy rainfall in far northwest Alabama as a secondary system moved east and merged with the southward moving system. This enabled some areas to receive rainfall amounts of three to five inches in portions of Lauderdale and Colbert Counties. In addition, the lines of storms produced damaging winds of 50 to 60 mph. Flash flooding resulted at many notorious low water crossings and poor drainage locations in urban areas of the Quad Cities. Flash flooding was reported at the intersection of Highway 133 and Avalon Road and numerous other low lying locations in Muscle Shoals. Damage was estimated at \$500,000 for this event.</p>

Landslide	In 1998, a landslide in DeKalb County wiped out a portion of County Highway 81 on Lookout Mountain (above). The slide moved 117,527 cubic yards of rock and cost \$1.7 million to repair. Other slides on Highway 35 between Rainsville and Fort Payne and on Highways 146 and 71 in Jackson County have cost between \$1 and \$2 million each to repair.
Land Subsidence	Trussville provides a prime example of the impact sinkholes can have on a growing community where land and ground water are both in great demand. Sinkholes first formed beneath and around the Trussville Middle School, forcing closure and rebuilding of the school at another site. Sinkholes continued to develop in a nearby park and neighborhood and emptied a pond. Damage has been estimated to be millions of dollars.
Wildfire	A period of very dry and hot weather in September 18 th – 20 th , 2010 led to numerous, mostly small, grass fires across north Alabama. One large grass fire developed in Franklin County on the east side of CR 83 and jumped to the west side of the highway on Saturday, September 18 th . It then continued onward for another nine to ten hours, burning through timberland and farmland. Three structures were lost to the flames before Volunteer firefighters were able to put the fire out. Officials estimate between 250 and 300 acres of land were damaged by this blaze. Another smaller grass fire developed at 3 pm on Tuesday, September 21 st . It damaged at least another 75 acres before it was contained and caused \$100,000 in property damage.

4.6 Probability of Future Occurrence by Jurisdiction

Table 4.6.1 estimates the probability of a hazard event occurring based on the past record of events. The future probability of a hazard event is critical for estimating potential losses and risk associated with the hazard. While past events are not guaranteed predictors of future hazard events, calculated probability provides some estimate of potential and allows those events with the greatest frequency or damages to be assessed and explored in greater detail. FEMA’s cost benefit calculations for injuries (\$12,500) and deaths (\$2.2 million) are used to provide a standardized estimate of probable damages. Events per year is equal to the number of occurrences divided by the period observed in years. Average Damages per Event is equal to damages observed divided by the number of occurrences. The Annual Risk Factor is equal to Probability multiplied by Average Damages per Year and is a standard, monetized estimate of the probable losses for each hazard in a one-year period.

Table 4.6.1 Natural Hazard Probability and Damage from Historical Records

Hazard	Occurrences	Time Period Observed (Years)	Damages recorded	Events per Year	Average Damages per Event	Annual Risk Factor
Drought	190	1996-2019 (24 years)	\$0	4.83	NA	NA
Earthquake ¹	1	50	\$0	0.02	NA	NA
Extreme Temperature	55	1996-2019 (25 years)	\$150,000	2.29	\$2,72.27	\$6,250
Hail	749	1996-2019 (24 years)	\$3,134,000	31.20	\$4,184.25	\$130,583
High Winds	1532	1996-2019	\$719,468,500	63.83	\$469,626.96	\$29,977,854

		(24 years)				
Lightning	58	1996-2019 (24 years)	\$9,511,750	2.41	\$163,995.69	\$396,323
Winter Storms	129	1996-2019 (24 years)	\$5,351,001	5.375	\$41,480.63	\$222,958
Dam failure ¹	0	50	\$0	NA	NA	NA
Flooding	282	1996-2019 (24 years)	\$2,831,500	11.75	\$10,041	\$117,979
Landslide ¹	17	50	\$0	0.70	NA	NA
Land Subsidence	0	50	\$0	NA	NA	NA
Wildfire ²	3	1996-2019 (24 years)	\$103,000	0.125	\$34,333	\$4,292
¹ Estimated due to a lack of concise records. Actual risk may be considerably higher than reported. ² Only 3 wildfires were reported by NOAA. USGS data indicates hundreds of fires but contains no estimate of losses. Actual risk from fire may be considerably higher than reported. NA- unable to calculate based on historical record due to a zero value. No prior occurrences or prior damage.						

Dam Failure: NA- the risk of losses due to dam failure is not calculable based on historic record since no dam failures or damages from dam failure have been recorded in northwest Alabama. This evidence does not dismiss the risk associated with dam failure, rather, it adds vital information to the risk assessment. Dam failure could be potentially devastating for communities and structures downstream from large dams in Colbert and Franklin Counties.

Drought: NA- the risk of losses due to drought is not calculable based on historic record since no damages from drought have been recorded in northwest Alabama. This evidence does not dismiss the risk associated with drought, since qualitative records exist to show evidence of significant crop losses and risk to public water supply during drought. Drought could be potentially damaging to local agriculture and could place the public at risk through water shortages in all jurisdictions in northwest Alabama.

Earthquake: NA- the risk of losses due to earthquakes is not calculable based on historic record since no earthquakes or damages from earthquakes have been recorded in northwest Alabama. This evidence does not dismiss the risk associated with earthquake since qualitative descriptions of major earthquakes in the past, particularly those of 1811, show major impact potential in surrounding communities. Although the probability of losses in northwest Alabama is very low, preparation for impact to adjacent communities is important in northwest Alabama.

Extreme Temperatures: 55 extreme temperature events in a 24-year period injured 25 individuals, resulting in an average impact of \$2,727.27 per occurrence and an event frequency of 2.29 events per year. The annual risk of losses for extreme temperatures based on the historical

record was \$6,250 of damages per year, sixth highest (and second lowest) among the hazard events for which data allowed calculations.

Flooding (Riverine and Flash): 282 flooding events in a 24-year period caused an estimated \$2,831,500 in damages, resulting in an average impact of \$10,041 per occurrence and an event frequency of 11.75 events per year. The annual risk of losses for floods based on the historical record was \$117,979 of damages per year, fourth highest (and fourth lowest) among hazard events for which data allows calculations.

Hail: 749 hail events in a 24-year period caused an estimated 3,134,000 in damages, resulting in an average impact of \$4,184.25 per occurrence and an event frequency of 31 events per year. The annual risk of losses for hail damage based on the historical record was \$130,583 of damages per year, fifth highest among hazard events for which data allows calculations.

High Winds (Tornadoes, Microburst, and Windstorms): 1532 high wind events in a 24-year period caused an estimated \$719,468,500 in damages, resulting in an average impact of \$469,626.96 per occurrence and an event frequency of 63.83 events per year. The annual risk of losses for wind damage based on the historical record was \$29,977,854 of damages per year, highest among hazard events for which data allows calculations by an exceptional margin. The staggering losses from tornadoes, particularly the loss of lives and property on April 27, 2011, provide clear evidence of the intensity of impact and risk associated with severe weather, wind and tornadoes in northwest Alabama.

Landslides: NA- the risk of losses due to landslides is not calculable based on historic record since no damages from landslides have been recorded in northwest Alabama. This evidence does not dismiss the risk associated with landslides, since evidence exists to show potential losses from landslides in isolated areas of northwest Alabama.

Land Subsidence (Sinkholes): NA- the risk of losses due to land subsidence and sinkholes is not calculable based on historic record since little to no damages from land subsidence and sinkholes have been recorded in northwest Alabama. This evidence does not dismiss the risk associated with land subsidence and sinkholes, since evidence exists to show potential losses from land subsidence and sinkholes in areas of karst, soluble rock formations in northwest Alabama.

Lightning: 58 lightning events in a 24-year period caused an estimated \$9,511,750 in damages, resulting in an average impact of \$169,995.69 per occurrence and an event frequency of 2.41 events per year. The annual risk of losses for lightning damage based on the historical record

was \$396,323 of damages per year, second highest (and sixth lowest) among hazard events for which data allows calculations.

Wildfire: Three wildfires in a 24-year period caused an estimated \$103,000 in damages, resulting in an average impact of \$34,333 per occurrence and an event frequency of 0.18 events per year. The annual risk of losses for wildfire damage based on the historical record was \$6,059 of damages per year, seventh highest (and the lowest) among hazard events for which data allows calculations.

Winter Storms: 129 storm events in a 24-year period caused an estimated \$5,351,001 in damages, resulting in an average impact of \$41,480 per occurrence and an event frequency of 5.37 events per year. The annual risk of losses for winter storms damage based on the historical record was \$222,958 of damages per year, third highest (and fifth lowest) among hazard events for which data allows calculations.

4.7 Vulnerability Overview

Vulnerability is the susceptibility of people and their valuables to loss from natural hazards. Vulnerability can be personal, material, social, political, environmental, or economic. Whenever a natural hazard threatens an individual, or a thing or institution that is valued by individuals, then vulnerability exists. Vulnerability exists at many scales in northwest Alabama. Each individual within an area susceptible to a particular hazard is vulnerable to that hazard and should bear some responsibility for mitigating that vulnerability. When vulnerability exists across a wider scale, or at a community level or regional level, then the local jurisdictions may develop assessments and strategies for mitigating those vulnerabilities. A hazard mitigation planning process with mitigation strategies may target ways to assist individuals to identify vulnerabilities and provide an assessment of individual and community vulnerability, but the responsibility for implementing the strategies is shared between individuals and local jurisdictions.

Vulnerability can be assessed in terms of population at risk, area of the jurisdiction at risk, buildings at risk, and critical facilities in the planning jurisdiction that are at risk. In addition, some populations are more susceptible to natural hazards due to social or economic conditions. In particular, low income and elderly individuals are at greater risk for losses during natural hazards because of diminished financial and physical capabilities to weather the effects of a natural disaster. Finally, vulnerability is not uniform across the region because some hazards are more

localized than others. Tables 4.7.1- 4.7.9 summarizes vulnerability for each natural hazard by particular aspects of vulnerability and the appropriate scale of potential impact.

Table 4.7.1 Vulnerable Population describes the total populace of each jurisdiction that is susceptible to particular hazards. The total population of the region is susceptible to several natural hazards equally, while local areas are susceptible to others. Total population is provided based on population estimates from the 2017-2019 U.S. Census. Local area population that is vulnerable to a particular hazard is estimated based on the percentage of the land area that is exposed to a given natural disaster (found in Table 4.7.3) and assumes that the population is evenly distributed across the jurisdiction. While this method is flawed since population may be unevenly distributed, especially near particularly vulnerable sites such as waterfronts and areas of steep slope or known karst erosion, it provides a useful baseline for assessing overall impact of natural hazards. Additionally, it should be recalled that vulnerability to hazards is not uniform across jurisdictions and that the overall susceptibility or incidence of a hazard may differ from the population that is exposed to risk from a hazard. Therefore, vulnerable population is useful only as part of an overall vulnerability analysis.

Table 4.7.1 Vulnerable Population(rounded)

Hazard	Vulnerable Population (All jurisdictions) Averaged	Hazard	Vulnerable Population (All jurisdictions) Averaged
Drought	Colbert-54,000 Franklin- 32,000 Marion- 9,000 Winston- 24,000 Lamar-0 Lawrence-0 Walker-2,7000 Winston-24,500 Total: 122,200	Earthquake * NA- the risk of losses due to earthquakes is not calculable based on historic record since no earthquakes or damages from earthquakes have been recorded in northwest Alabama	Colbert-54,000 Franklin- 32,000 Marion- 31,000 Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-67,000 Winston-24,500 Total: 256,000
Extreme Temperature	Colbert-54,000 Franklin- 32,000 Marion- 31,000 Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-67,000 Winston Total: 256,000	Hail	Colbert-54,000 Franklin- 32,000 Marion- 31,000 Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-67,000 Winston Total: 256,000
High Winds	Colbert-54,000 Franklin- 32,000 Marion- 31,000	Lightning	Colbert-54,000 Franklin- 32,000 Marion- 31,000

	Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-67,000 Total: 256,000		Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-67,000 Total: 256,000
Winter Storms	Colbert-54,000 Franklin- 32,000 Marion- 31,000 Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-67,000 Total: 256,000	*Dam Failure *The risk of losses due to dam failures is not calculable based on historic record since no damages from dam failures have been recorded in northwest Alabama.	Colbert-54,000 Franklin- 32,000 Marion- 31,000 Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-67,000 Total: 256,000
Flooding	Colbert-54,000 Franklin- 31,700 Marion- 29,000 Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-63,800 Total: 250,500	Landslide *The risk of losses due to landslides is not calculable based on historic record since no damages from landslides have been recorded in northwest Alabama.	Colbert-not calculable Franklin- not calculable Marion- not calculable Winston- not calculable Lamar-not calculable Lawrence- not calculable Walker- not calculable Total: not calculable
*Land Subsidence *The risk of losses due to lands subsidence is not calculable based on historic record since no damages from land subsidence have been recorded in northwest Alabama.	Colbert-not calculable Franklin- not calculable Marion- not calculable Winston- not calculable Lamar-not calculable Lawrence- not calculable Walker- not calculable Total: not calculable	Wildfire	Colbert-54,000 Franklin- 32,000 Marion- 31,000 Winston- 24,000 Lamar-14,500 Lawrence-33,500 Walker-67,000 Total: 256,000

Source: www.census.gov; county plans

Table 4.7.2: U.S. Census Demographics for Population Estimates

Local Jurisdiction	Total Population	Number of Housing Units	Percent of Population in Poverty	Population over 65	Population Under 18
Colbert County	54,428	25,758	16.5%	9,463	12,732
Cherokee	1,048	529	18.2%	227	234
Leighton	729	419	30.7%	160	151
Littleville	1,011	459	13.0%	182	250
Muscle Shoals	14,263	6,594	10.6%	2318	3746
Sheffield	9,039	4,692	21.9%	1,630	2,107
Tuscumbia	8,423	4,120	19.3%	1,678	1,915
Franklin County	31,704	14,022	20.1%	4,825	8,328
Hodges	288	131	10.2%	42	69
Phil Campbell	1,148	580	21.1%	202	264
Red Bay	3,158	1,508	28.6%	579	779
Russellville	9,830	4,086	26.6%	1,535	2,789
Vina	358	161	38.4%	57	104
Lamar County	14564	7390	23.1%	2731	3342
Beaverton	201	174	12.9%	50	36
Detroit	237	118	24.6%	43	66

Kennedy	447	253	10.3%	107	104
Millport	1049	552	18.6%	189	273
Sulligent	1927	1060	29.2%	362	488
Vernon	2000	1090	30.5%	315	570
Lawrence County	33,571	15,164	100%	4999	7964
Hillsboro	534	269	18.6%	58	118
Courtland	604	401	27.6%	93	130
North Courtland	618	416	25.4%	143	96
Moulton	3404	1590	26.1%	725	729
Town Creek	1,080	533	30.1%	725	729
Marion County	30,776	14,737	20.3%	5,645	7,050
Bear Creek	1,070	502	30.6%	167	257
Brilliant	900	512	25.0%	181	204
Guin	2,376	1,119	21.8%	497	564
Gu-Win	176	87	26.5%	20	38
Hackleburg	1,516	769	33.5%	320	336
Hamilton	6,885	3,096	25.6%	1,310	1,428
Twin	399	181	15.4%	100	91
Winfield	4,717	2,289	17.7%	951	1,073
Walker County	67023	30988	2.15%	10,894	7,748
Carbon Hill	2026	1,011	22.1%	350	478
Cardova	1909	945	35.8%	419	463
Dora	2068	994	17.6%	328	478
Eldridge	124	61	28%	27	36
Jasper	13960	5596	20.2%	2620	3092
Kansas	218	97	23.0	37	46
Nauvoo	218	130	25%	40	50
Oakman	843	423	30.6%	110	185
Parrish	992	478	20.6%	159	251
Sipsey	418	191	25.1%	68	101
Sumiton	2619	1188	23.%	444	573
Winston County	24,484	13,469	21.2%	4,333	5,618
Addison	758	351	28.9%	143	193
Arley	357	174	17.2%	78	92
Double Springs	1,083	461	21.0%	260	228
Haleyville	4,173	2,073	30.9%	867	998
Lynn	659	336	20.8%	127	149
Natural Bridge	37	41	0.0%	10	6

Source: census.gov--(2017-2019 reports)

Table 4.7.3 Vulnerable Land Area displays estimates of land area exposed or vulnerable to hazards by jurisdiction and for all areas within the northwest Alabama planning area. Land area estimates are based on a visual assessment of natural hazard GIS resources. Land area is presented in percentages of total area of each jurisdiction that is at least moderately threatened by a natural hazard. Analysis of land area proves important for estimating vulnerable population and for determining the number of structures that may be vulnerable to natural hazard risks.

Table 4.7.3 Vulnerable Land Area

Hazard	Vulnerable Land Area (All jurisdictions)	Hazard	Vulnerable Land Area (All jurisdictions)
Drought	Colbert- 100% of 624 sq. miles (399,360 acres) Franklin- 100% of 647 sq. miles (414,080 acres) Lamar- 100% of 605 sq miles (387,200 acres) Lawrence- 100% of 717 sq miles (458,880 acres) Marion- 100% of 744 sq. miles (476,160 acres) Walker- 100% of 805 sq miles(515,200 acres) Winston- 100% of 632 sq. miles (404,480 acres) Total: 100% of 2,647 sq. miles (1,694,080 acres)	*Earthquake *The risk of losses due to landslides is not calculable based on historic record since no damages from earthquakes have been recorded in northwest Alabama	Colbert-not calculable Franklin- not calculable Marion- not calculable Winston- not calculable Lamar-not calculable Lawrence- not calculable Walker- not calculable Total: not calculable
Extreme Temperature	Colbert- 100% of 624 sq. miles (399,360 acres) Franklin- 100% of 647 sq. miles (414,080 acres) Lamar- 100% of 605 sq miles (387,200 acres) Lawrence- 100% of 717 sq miles (458,880 acres) Marion- 100% of 744 sq. miles (476,160 acres) Walker- 100% of 805 sq miles (515,200 acres) Winston- 100% of 632 sq. miles (404,480 acres) Total: 100% of 2,647 sq. miles (1,694,080 acres)	Hail	Colbert- 100% of 624 sq. miles (399,360 acres) Franklin- 100% of 647 sq. miles (414,080 acres) Lamar- 100% of 605 sq miles (387,200 acres) Lawrence- 100% of 717 sq miles (458,880 acres) Marion- 100% of 744 sq. miles (476,160 acres) Walker- 100% of 805 sq miles (515,200 acres) Winston- 100% of 632 sq. miles (404,480 acres) Total: 100% of 2,647 sq. miles (1,694,080 acres)
High Winds	Colbert- 100% of 624 sq. miles (399,360 acres) Franklin- 100% of 647 sq. miles (414,080 acres) Lamar- 100% of 605 sq miles (387,200 acres) Lawrence- 100% of 717 sq miles (458,880 acres) Marion- 100% of 744 sq. miles (476,160 acres) Walker- 100% of 805 sq miles (515,200 acres) Winston- 100% of 632 sq. miles (404,480 acres)	Lightning	Colbert- 100% of 624 sq. miles (399,360 acres) Franklin- 100% of 647 sq. miles (414,080 acres) Lamar- 100% of 605 sq miles (387,200 acres) Lawrence- 100% of 717 sq miles (458,880 acres) Marion- 100% of 744 sq. miles (476,160 acres) Walker- 100% of 805 sq miles (515,200 acres) Winston- 100% of 632 sq. miles (404,480 acres)

	Total: 100% of 2,647 sq. miles (1,694,080 acres)		Total: 100% of 2,647 sq. miles (1,694,080 acres)
Winter Storms	Colbert- 100% of 624 sq. miles (399,360 acres) Franklin- 100% of 647 sq. miles (414,080 acres) Lamar- 100% of 605 sq miles (387,200 acres) Lawrence- 100% of 717 sq miles (458,880 acres) Marion- 100% of 744 sq. miles (476,160 acres) Walker- 100% of 805 sq miles (515,200 acres) Winston- 100% of 632 sq. miles (404,480 acres) Total: 100% of 2,647 sq. miles (1,694,080 acres)	*Dam Failure *The risk of losses due to landslides is not calculable based on historic record since no damages from dam failure have been recorded in northwest Alabama	Colbert-not calculable Franklin- not calculable Marion- not calculable Winston- not calculable Lamar-not calculable Lawrence- not calculable Walker- not calculable Total: not calculable
Flooding *Not fully calculable. However, EMA offices consider this a hazard within the stated counties.	Colbert-not calculable Franklin- not calculable Marion- not calculable Winston- not calculable Lamar-not calculable Lawrence- not calculable Walker- not calculable Total: not calculable	Landslide *The risk of losses due to landslides is not calculable based on historic record since no damages from landslides have been recorded in northwest Alabama.	Colbert-not calculable Franklin- not calculable Marion- not calculable Winston- not calculable Lamar-not calculable Lawrence- not calculable Walker- not calculable Total: not calculable
*Land Subsidence *The risk of losses due to land subsidence is not calculable based on historic record since no damages from land subsidence have been recorded in northwest Alabama	Colbert-not calculable Franklin- not calculable Marion- not calculable Winston- not calculable Lamar-not calculable Lawrence- not calculable Walker- not calculable Total: not calculable	Wildfire	Colbert- 20%-45% of 624 sq. miles (399,360 acres) Franklin- 20-45% of 647 sq. miles (414,080 acres) Lamar- 20%-45% of 605 sq miles (387,200 acres) Lawrence-20%-45% of 717 sq miles (458,880 acres) Marion- 20%-45% of 744 sq. miles (476,160 acres) Walker- 20%-45% of 805 sq miles (515,200 acres) Winston- 20%-45% of 632 sq. miles (404,480 acres) Total: 20%-45% of 2,647 sq. miles (33, 8816-762336 acres)

Table 4.7.4 Vulnerable Buildings, Total by Jurisdiction

Vulnerable Buildings, Total Number of Buildings and Total Number of Residential, Commercial, and Industrial Buildings, estimated*

	Total	Residential	Commercial	Industrial
Colbert County	28,753	26,656	1,388	395
Cherokee	591	547	29	8
Leighton	468	434	23	6
Littleville	512	475	25	7
Muscle Shoals	6299	5840	304	87
Sheffield	5238	4856	253	72
Tuscumbia	4599	4264	222	63
Franklin County	16,291	15,293	655	182
Hodges	152	143	6	2
Phil Campbell	674	633	27	8
Red Bay	1752	1645	70	20
Russellville	4747	4456	191	53
Vina	187	176	8	2
Lamar County		7,326		11
Beaverton	2415 *Tract 300	2380 *Tract 300	24 *Tract 300	11 *Tract 300
Detroit	*Tract 300	*Tract 300	*Tract 300	*Tract 300
Sulligent	*Tract 300	*Tract 300	*Tract 300	*Tract 300
Kennedy	2,882 *Tract 301	2836 *Tract 301	30 *Tract 301	16 *Tract 301
Millport	*Tract 301	*Tract 301	*Tract 301	*Tract 301
Vernon	2,155 *Tract 302	2138 *Tract 302	13 *Tract 302	4 *Tract 302
Lawrence County	15449	14642	648	159
Courtland	**	**	**	**
Hillsboro	**	**	**	**
Moulton	**	**	**	**
North Courtland	**	**	**	**
Town Creek	**	**	**	**
Marion County	18,139	17,095	685	184
Bear Creek	618	582	23	6
Brilliant	630	594	24	6
Guin	1377	1298	52	14
Gu-Win	107	101	4	1
Hackleburg	947	892	36	10
Hamilton	3811	3591	144	39
Twin	223	210	8	2
Winfield	2817	2655	106	29
Walker County	**	30988	**	**
Carbon Hill	**	1,011	**	**
Cardova	**	945	**	**
Dora	**	994	**	**
Eldridge	**	61	**	**
Jasper	**	5,596	**	**
Kansas	**	97	**	**
Nauvoo	**	130	**	**
Oakman	**	423	**	**
Parrish	**	478	**	**
Sipsey	**	191	**	**
Sumiton	**	1,188	**	**
Winston County	14,243	13,386	525	211
Addison	371	349	14	5
Arley	184	173	7	3

Double Springs	487	458	18	7
Haleyville	2192	2060	81	32
Lynn	355	334	13	5
Natural Bridge	43	41	2	1
*Building count for each county USCensus.gov for local governments calculated based on ratio of housing units in jurisdiction to housing units in county from 2010 U.S. Census, calculated from Table 4.7.2, and combined across cities within specified census tract				
**Building Count retrieved from Lawrence County Data HAZUS-MH 2015				

Source: information provided by respective counties

4.7.5 Vulnerable Buildings, Total Values by Jurisdiction

Vulnerable Building Values, Total Value of Buildings and Total Value of Residential, Commercial, and Industrial Buildings, 1000s of dollars, estimated*				
	Total	Residential	Commercial	Industrial
Northwest Alabama Region	8006904	5537178	1335237	752949
Colbert County	3462962	2380309	627573	291423
Cherokee	71120	48885	12889	5985
Leighton	56331	38720	10209	4741
Littleville	61709	42416	11183	5193
Muscle Shoals	758657	521472	137487	63844
Sheffield	630803	433590	114317	53085
Tuscumbia	553902	380731	100380	46613
Franklin County	1538065	1089896	246386	113086
Hodges	14369	10182	2302	1057
Phil Campbell	63620	45082	10191	4678
Red Bay	165412	117213	26498	12162
Russellville	448191	317595	71797	32953
Vina	17660	12514	2829	1298
Lamar County	**	**	**	**
Beaverton	364793 *Tract 300	256274 *Tract 300	69619 *Tract 300	38900 *Tract 300
Detroit	*Tract 300	*Tract 300	*Tract 300	*Tract 300
Sulligent	*Tract 300	*Tract 300	*Tract 300	*Tract 300
Kennedy	497402 *Tract 301	333966 *Tract 301	94180 *Tract 301	69256 *Tract 301
Millport	*Tract 301	*Tract 301	*Tract 301	*Tract 301
Vernon	*Tract 302	1,740 *Tract 302	31,250 *Tract 302	12,242 *Tract 302
Lawrence County	**2672811000	**2278882,000	\$339998000	\$53931000
Courtland	**	**	**	**
Hillsboro	**	**	**	**
Moulton	**	**	**	**
North Courtland	**	**	**	**
Town Creek	**	**	**	**
Marion County	1584396	1079259	289398	142182
Bear Creek	53971	36764	9858	4843
Brilliant	55046	37496	10054	4940
Guin	120305	81950	21974	10796
Gu-Win	9353	6371	1708	839
Hackleburg	82676	56317	15101	7419

Hamilton	332855	226734	60798	29870
Twin	19460	13255	3554	1746
Winfield	246094	167634	44950	22084
Walker County	*** 627,906,250	***	***	***
Carbon Hill	***	***	***	***
Cardova	***	***	***	***
Dora	***	***	***	***
Eldridge	***	***	***	***
Jasper	***	***	***	***
Kansas	***	***	***	***
Nauvoo	***	***	***	***
Oakman	***	***	***	***
Parrish	***	***	***	***
Sipsey	***	***	***	***
Sumiton	***	***	***	***
Winston County	1421481	987714	171880	206258
Addison	37044	25740	4479	5375
Arley	18363	12760	2220	2665
Double Springs	48653	33806	5883	7060
Haleyville	218779	152018	26454	31745
Lynn	35461	24640	4288	5145
Natural Bridge	4327	3007	523	628
Building count for each county supplied from the respective counties using either HAZUS, county tax assessor's information, previous hazard mitigation plans. *Included within the indicated tract number ** Information was unavailable *** Total cost of all buildings as stipulated in the 2015 Walker County Hazard Action Mitigation Plan.				

Source: information provided by respective counties

Table 4.7.9 Essential Facilities, Jurisdictions, and Building Statistics

Name	City	Use	Replacement cost (1000s)
Carraway Burdick West Medical Center – 99 beds	Haleyville	Hospital	\$19,915.79
Marion Regional Medical Center – 112 beds	Hamilton	Hospital	\$22,531.00
Carraway Northwest Medical Center – 56 beds	Winfield	Hospital	\$11,265.50
Russellville Hospital – 100 beds	Russellville	Hospital	\$20,116.96
Red Bay Hospital – 25 beds	Red Bay	Hospital	\$5,029.24
Helen Keller Hospital – 151 beds	Sheffield	Hospital	\$30,376.61
Shoals Hospital – 128 beds	Muscle Shoals	Hospital	\$25,749.71
Lamar Medical Center	Vernon	Hospital	\$2,000
Vernon Clinic	Vernon	Clinic	\$750.00
Lawrence Medical – 98 beds	Moulton	Hospital	\$20,000.00
Walker Baptist Medical Center – 267 beds	Jasper	Hospital	\$280,000.00

Police Departments	City	Contact	Replacement Cost (thous. \$)
Muscle Shoals Police Dept.	Muscle Shoals	Police Departments	\$3,240.00
Muscle Shoals Fire Dept	Muscle Shoals	Fire Department	\$6,978.60
Brilliant Police Dept.	Brilliant	Police Departments	\$1,260.00
Winston County Sheriff	Double Springs	Sheriff	\$1,260.00
Winfield Police Dept.	Winfield	Police Departments	\$1,260.00
Red Bay Police Dept.	Red Bay	Police Departments	\$1,260.00
Franklin County Sheriff Dept.	Red Bay	Sheriff	\$1,260.00
Marion County Sheriff's Office	Hamilton	Sheriff	\$1,260.00
Colbert County Sheriff	Tuscumbia	Sheriff	\$1,260.00
Addison Police Dept.	Addison	Police Departments	\$1,260.00
Littleville Police Dept.	Russellville	Police Departments	\$1,260.00
Sulligent Police Department	Sulligent	Police Departments	\$1,300.00
Jasper Police Station	Jasper	Police Department	\$3,354.67
Haleyville Police Dept.	Haleyville	Police Departments	\$1,260.00
Hackleburg Police Dept.	Hackleburg	Police Departments	\$1,260.00
Double Springs Police Dept.	Double Springs	Police Departments	\$1,260.00
Tuscumbia Police Dept.	Tuscumbia	Police Departments	\$2,800.00
Hackleburg City Police Dept.	Hackleburg	Police Departments	\$1,260.00
Bear Creek Police Dept.	Bear Creek	Police Departments	\$1,260.00
Cherokee Police Dept.	Cherokee	Police Departments	\$1,260.00
Russellville Police Dept.	Russellville	Police Departments	\$1,260.00
Franklin County Sheriff's Office	Russellville	Sheriff	\$1,260.00
Hamilton Police Dept.	Hamilton	Police Departments	\$1,260.00
Phil Campbell Police Dept.	Phil Campbell	Police Departments	\$1,260.00
Sheffield Police Dept.	Sheffield	Police Departments	\$1,260.00
Arley Police Dept.	Arley	Police Departments	\$1,260.00
Guin Town Police Dept.	Guin	Police Departments	\$1,260.00
Leighton City Police Dept.	Leighton	Police Departments	\$1,260.00
Carbon Hill Police Station	Carbon Hill	Police Departments	\$50.00
Cordova Police Station	Cordova	Police Departments	\$4,000.00
Dora Police Department	Dora	Police Departments	\$952.75
Oakman Police Department	Oakman	Police Department	\$20.00
Parrish Police Department	Parrish	Police Department	\$80.00
Sumiton Police Station	Sumiton	Police Department	\$665.055

Fire Departments	City	Replacement Cost (thous. \$)
Helicon Volunteer Fire Department	Arley	\$1,260.00
Houston/ Moreland Volunteer Fire Dept.	Houston	\$1,260.00
Double Springs Fire Department	Double Springs	\$1,260.00
Black Pond Volunteer Fire Department	Double Springs	\$1,260.00

Delmar Volunteer Fire Department	Haleyville	\$1,260.00	
Haleyville Fire/Rescue	Haleyville	\$1,260.00	
Lynn Volunteer Fire Department	Lynn	\$1,260.00	
Hackleburg Volunteer Fire Department	Hackleburg	\$1,260.00	
Hodges Volunteer Fire Department	Hodges	\$1,260.00	
Byrd Volunteer Fire & Rescue Department	Detroit	\$1,260.00	
Shiloh Volunteer Fire Department	Hamilton	\$1,260.00	
Hamilton Fire Department	Hamilton	\$1,260.00	
Town of Brilliant Volunteer Fire Dept.	Brilliant	\$1,260.00	
Guin Volunteer Fire Department	Guin	\$1,260.00	
Pea Ridge Volunteer Fire Department	Guin	\$1,260.00	
Twin Fire and Rescue Service	Guin	\$1,260.00	
Winfield Fire & Rescue	Winfield	\$1,260.00	
Tharptown Volunteer Fire Department	Russellville	\$1,260.00	
Russellville Fire Department	Russellville	\$1,260.00	
Frankfort Fire Department	Russellville	\$1,260.00	
Belgreen Fire Protection District	Russellville	\$1,260.00	
Pleasant Site Fire Protection Authority	Red Bay	\$1,260.00	
Burnout Water and Fire Protection District	Red Bay	\$1,260.00	
Vina VFD	Vina	\$1,260.00	
Blue Springs Fire Department	Phil Campbell	\$1,260.00	
Town of Phil Campbell Volunteer Fire Dept.	Phil Campbell	\$1,260.00	
Gravel Hill VFD	Phil Campbell	\$1,260.00	
Sheffield Fire & Rescue	Sheffield	\$1,260.00	
Tuscumbia Fire Department	Tuscumbia	\$2,000.00	
Muscle Shoals Fire Rescue	Muscle Shoals	\$1,260.00	
Nitrate City Volunteer Fire Department	Muscle Shoals	\$1,260.00	
Brick Hatton Volunteer Fire Department	Leighton	\$1,260.00	
Rogersville Volunteer F.D.	Rogersville	\$1,260.00	
White Oak Volunteer Fire Department	Leighton	\$1,260.00	
Locust Shores Volunteer Fire Department	Tuscumbia	\$1,260.00	
New Bethel Fire Department	Tuscumbia	\$1,260.00	
Barton Volunteer Fire Department	Cherokee	\$1,260.00	
Hwy 247 Vol. Fire Department	Tuscumbia	\$1,260.00	
Vernon Fire Station	Vernon	\$260.00	
Fire Hall	Detroit	207.55	
Arley Volunteer Fire Department	Arley	\$1,260.00	
Ashridge Volunteer Fire Department	Haleyville	\$1,260.00	
Pebble Fire Department	Haleyville	\$1,260.00	
Sunny Home Volunteer Fire Department	Brilliant	\$1,260.00	
Littleville Volunteer Fire Department	Russellville	\$1,260.00	

Colbert Heights Volunteer Fire Dept.	Tuscumbia	\$1,260.00	
Caddo Fire Station #1	Lawrence	\$2,672.28	
Caddo Fire Station #2	Lawrence	\$135.81	
Hatton Fire Station	Lawrence	\$125.00	
Mt. Hope Fire Dept.	Lawrence	\$70.00	
Police Dept/Fire Dept	Courtland	\$1,150.00	
Fire Department #2 and #3	Courtland	\$190.00	
Fire Departments	Moulton	\$3,000.00	
Volunteer Fire Department	North Courtland	\$40.00	
Carbon Hill Fire Station	Carbon Hill	\$30.00	
Cordova Fire Station	Cordova	\$250.00	
Dora Fire Station	Dora	\$607.77	
Eldridge Fire Dept	Eldridge	\$40.00	
Jasper Fire Station #1,#2, #3	Jasper	\$1,558.44	
Nauvoo Fire Dept.	Nauvoo	\$263.63	
Oakman Fire Dept.	Oakman	\$15.00	
Parrish Fire Dept. #1, #2	Parrish	\$125.00	
Sipsey Fire Hall	Sipsey	\$200.85	
Sumiton Fire Station #1	Sumiton	\$2,000.00	
Sumiton Fire Station #2	Sumiton	\$7.96	
Sumiton Fire Station #3	Sumiton	\$5.21	

Schools	City	Replacement Cost (thous. \$)	Students
Highland Park Elementary School	Muscle Shoals	\$2,120.38	199
Muscle Shoals High School	Muscle Shoals	\$12,711.97	864
Webster Elementary School	Muscle Shoals	\$2,346.82	214
McBride Elementary School	Muscle Shoals	\$9,345.51	620
Howell-Graves Preschool	Muscle Shoals	\$2,418.87	232
T V Y S D F	Tuscumbia	\$4,349.30	332
Liberty Christian Academy	Guin	\$641.91	49
Save The World Ministries Daycare	Muscle Shoals	\$67.37	6
Covenant Christian School	Tuscumbia	\$3,576.38	273
Fellowship Christian School	Double Springs	\$563.31	43
Tharptown Junior High School	Russellville	\$5,161.52	394
Belgreen High School	Russellville	\$6,733.56	514
Franklin County Career Technical Center	Russellville	\$6,733.56	514
Red Bay High School	Red Bay	\$13,521.39	842
Vina High School	Vina	\$3,825.29	292
East Franklin Junior High School	Phil Campbell	\$2,292.55	175
Phil Campbell High School	Phil Campbell	\$5,384.23	411
Phil Campbell Elementary School	Phil Campbell	\$5,873.24	453

Hatton Elementary School	Leighton	\$ 8,673.06	264
Colbert County High School	Leighton	\$2,213.31	462
Leighton Elementary School	Leighton	\$10,136.00	436
Colbert Heights High School	Tuscumbia	\$1,720.78	508
New Bethel Elementary School	Tuscumbia	\$ 5,510.77	190
Colbert Heights Elementary School	Tuscumbia	\$ 9,096.85	563
Hackleburg School	Hackleburg	\$7,165.87	547
Hamilton Middle School	Hamilton	\$7,641.22	553
Hamilton High School	Hamilton	\$5,344.92	408
Marion County Alternative School	Hamilton	\$91.70	7
Hamilton Elementary School	Hamilton	\$10,096.78	701
Brilliant Elementary School	Brilliant	\$2,114.76	226
Brilliant High School	Brilliant	\$2,423.56	185
Marion County High School	Guin	\$2,882.07	220
Guin Elementary School	Guin	\$3,063.23	288
Winfield Middle School	Winfield	\$4,759.15	413
Winfield High School	Winfield	\$4,807.81	367
Winfield Elementary School	Winfield	\$7,593.31	554
Russellville Elementary School	Russellville	\$7,780.65	565
Russellville Middle School	Russellville	\$8,114.70	576
Russellville High School	Russellville	\$9,544.51	672
West Elementary School	Russellville	\$8,461.86	605
Phillips High School	Bear Creek	\$3,458.48	264
Phillips Elementary School	Bear Creek	\$3,914.75	338
Cherokee Elementary School	Cherokee	\$ 7,778.36	350
Cherokee Middle School	Cherokee	\$ 1,647.94	0
Cherokee High School	Cherokee	\$1,485.32	269
Addison High School	Addison	\$4,336.20	331
Meek High School	Arley	\$3,379.88	258
Addison Elementary School	Addison	\$4,408.63	367
Meek Elementary School	Arley	\$3,301.65	302
Winston County Technical Center	Double Springs	\$6,733.56	514
Winston County High School	Double Springs	\$3,720.49	284
Double Springs Elementary School	Double Springs	\$5,924.33	456
Double Springs Middle School	Double Springs	\$3,997.46	356
Lynn High School	Lynn	\$2,305.65	176
Lynn Elementary School	Lynn	\$2,858.86	276
Haleyville High School	Haleyville	\$11,135.26	740
Haleyville Center of Technology	Haleyville	\$6,733.56	514
Haleyville Elementary School	Haleyville	\$14,626.86	967
Sheffield Junior High School	Sheffield	\$2,481.57	221

Sheffield High School	Sheffield	\$4,703.01	359
L E Wilson Elementary School	Sheffield	\$4,340.51	363
W.A Threadgill Primary School	Sheffield	\$3,574.14	318
Deshler High School	Tuscumbia	\$6,235.75	476
R E Thompson Intermediate School	Tuscumbia	\$10,800.00	335
Deshler Alternative School	Tuscumbia	\$4,349.30	332
Deshler Middle School	Tuscumbia	\$4,087.30	364
G W Trenholm Primary School	Tuscumbia	\$8,700.00	367
Deshler Career Technical Center	Tuscumbia	\$6,733.56	514
Muscle Shoals Center for Technology	Muscle Shoals	\$7,406.91	595
Muscle Shoals Middle School	Muscle Shoals	\$8,948.81	668
East Lawrence Elementary School	Lawrence	\$520.90	554
East Lawrence Middle School	Lawrence	\$920.57	416
East Lawrence High School	Lawrence	\$6,523.95	381
Speake High School	Lawrence	\$679.90	188
Lawrence County High School	Lawrence	\$935.73	609
Lawrence County Learning Center	Lawrence	\$673.35	Variable
Hazelwood Elementary School	Lawrence	\$201.18	240
South Lamar School	Lamar	\$24,026.54	*
Vernon School	Lamar	\$6,660.27	*
Sulligent School	Lamar	\$23,976.39	*
Lamar County High-Intermediate	Vernon	19513.61	*
Lamar County Vocation/Technical/Alternative	Lamar	\$600.00	*
Lamar County School of Technology	Lamar	\$6,571.06	
Vernon Elementary School	Lamar	\$300.00	*
Vernon Intermediate /High School	Lamar	\$400.00	*
Carbon Hill Elementary, Jr High, and High School	Carbon	\$5,379.69	554-elem middle
Carbon Hill High	Carbon	Included above	334 -High School
Cordova Elementary	Cardova	\$2,748.41	547
Cordova/Bankhead Middle	Cardova	\$2,582.17	313
Cordova High	Cardova	\$5,316.07	490
Dora High	Dora	\$2,847.76	476
Alternative School – Highland Ave	Jasper		*
Walker County Center of Technology	Jasper	\$943.73	*
Maddox Middle	Jasper	*	620
Memorial Park Elementary	Jasper	*	415
TR Simmons Elementary	Jasper	*	406
Jasper High	Jasper	*	799
Oakman Elementary	Oakman	\$2,545.34	368
Oakman High	Oakman	\$4,039.64	682

Parrish Elementary	Parrish	\$1,876.92	274
Sumiton Elementary -Middle	Sumiton	\$2,655.70	1,179
Sumiton Christian	Sumiton	\$1,269.20	*
Curry Elementary	Walker County	\$1,178.17	547
Curry Middle	Walker County	\$1,577.79	359
Curry High	Walker County	\$2,443.22	470
Lupton Jr High	Walker County	\$1,088.81	468
Valley Elementary -Middle	Walker County	\$1,016.05	578
Bevill State Jasper	Jasper		
Bevill State Sumiton	Sumiton		
*Information not readily available			

Source: information provided by respective counties

4.8 Vulnerability Synthesis and Overall Risk Assessment

The following section provides an overview of potential vulnerability to land area, property, and individuals from the natural hazards assessed in this plan. It is intended to evaluate vulnerability in terms of probability of a natural hazard occurring, potential damages from the hazard, and the capacity of the community to effectively plan for and implement hazard mitigation measures. The hazards are discussed and then rated as High Risk, Medium Risk, Low Risk, or Very Low Risk.

High Risk: Potentially widespread damage (> \$100,000) or loss of life in a 1-10 year period.

Medium Risk: Potentially widespread damage (> \$100,000) or loss of life in a 10-50 year period.

Low Risk: Potentially widespread damage (> \$100,000) or loss of life in a 100 year period

Very Low Risk: No probable major damage (> \$100,000) or loss of life; possible major damage in a very long (100+) year period.

Under this assessment of risk, those hazards with at least a low risk or those with a reasonable capacity for jurisdiction to mitigate require consideration of mitigation planning strategies that could reduce vulnerability or risk of damage or lost life in the event of a natural hazard.

Dam Failure: People and communities in flood hazard areas and other low areas downstream from major dams have the greatest vulnerability from dam failure. Major dams in Colbert and Franklin counties are the source of greatest vulnerability. With exception of Sloss Lake Dam, owned by the City of Russellville, jurisdiction over these dams rest with the Tennessee

Valley Authority and private individuals. Although the likelihood of dam failure is very low, a catastrophic failure was estimated to have a potential impact of over and estimated \$800 million dollars to buildings. The combination of susceptibility and vulnerability led to an overall assessment of very low risk from dam failure, which eliminated any need for specific mitigation planning efforts.

Drought: Drought can potentially affect all 256,000 residents with 122,000 residents being the most at risk and the entire land area of northwest Alabama. Groundwater and surface water sources can diminish during a drought, causing crop losses on agricultural lands and affecting drinking water supplies. Public systems and as individual private wells are potentially affected by drought. Although a total loss from drought is highly unlikely, these structures are valued at over \$8 billion. More commonly, drought would lead to temporary water shortages and acute strain on public utilities and crop losses. The overall risk of drought is low across the region, and mitigation actions should be reviewed for addressing potential water shortages and crop losses.

Earthquake: Earthquakes can potentially affect all residents and 256,000 structures in northwest Alabama. A significant earthquake is highly unlikely, but despite being improbable one could result in widespread serious damage and destruction. The risk to buildings is minimal according to previous HAZUS models for the area since the probability of an earthquake of significant magnitude is very low. The overall risk of an earthquake is very low, however, the mitigation practices for earthquakes are complementary to those for other disasters and have been reviewed and incorporated into the mitigation plan.

Extreme Temperatures: Extreme temperatures can potentially affect all residents of northwest Alabama. High or low temperatures over a prolonged period are not likely to affect structures or facilities; however, they may contribute to droughts and/or winter storm activity. The overall risk from extreme temperature is low, which necessitates a review of mitigation planning techniques to avoid injury to vulnerable populations, particularly the elderly and younger aged population of the region.

Flooding (Riverine and Flash): Flooding is localized to those areas adjacent to surface waters and to areas of poor drainage. Flood hazard areas are most readily identifiable when they appear on a flood hazard map produced by FEMA. However, flooding potentially affects a broader range of properties than those located within FEMA mapped flood areas due to unpredictable weather patterns and changes to drainage features. A population of approximately 250,500

residents was identified as vulnerable to flooding across the four counties of the planning region in northwest Alabama. This affects structures valued at over \$ 867 million. Flooding is among the most common and extensive causes of property damage in the region. Risk associated with flooding was assessed to be medium, with floods causing significant damage to large numbers of structures and necessitating a mitigation action plan to address potential losses.

The Federal Emergency Management Agency’s National Flood Insurance Program provides insurance to homes located in areas of flood hazard in communities that participate in the NFIP program, which requires certain standards for elevating or flood proofing buildings in flood hazard zones and avoiding impacts that would worsen downstream flooding. The FEMA program tracks two types of insured properties under the program, which provide an indication of the long-term severity of flood problems in local communities. The Repetitive Loss (RL) Program and Severe Repetitive Loss (SRL) Programs target properties with the worst history of flooding.

Repetitive loss properties: FEMA defines repetitive loss properties as those having two or more claims of \$1,000 or more in the past rolling 10-year period.

Severe repetitive loss properties: Properties claiming at least four claim over \$5,000, which amount to more than \$20,000 total; or properties with two claim payments cumulatively greater than the market value of the building- both of which must take place within a rolling 10-year period and not less than 10 days apart.

In northwest Alabama, 19 properties accounted for 61 total loss claims with total damages of \$860,182.28 in the ten years preceding September 30, 2019. Of these losses, damages sustained to two properties in Colbert County also qualified as Severe Repetitive Losses, accounting for 20 individual loss claims and \$466,715.36 in damages, or over half of the total claims. Evidence supports efforts to reduce RL and SRL claims through mitigation efforts to address the inordinately high costs of these properties.

	Building	Contents	Total	Average		
Community Name	Payments	Payments	Payments	Payment	Losses	Properties
Colbert County*	\$ 255,457.22	\$ 211,258.14	\$ 466,715.36	\$ 23,335.77	20	2
Muscle Shoals, City of	\$ 22,177.98	\$ 243.02	\$ 22,421.00	\$ 2,802.63	8	3
Sheffield, City of	\$ 5,581.86	\$ 20,763.53	\$ 26,345.39	\$ 6,586.35	4	2
Tuscumbia, City of	\$ 76,600.25	\$ 32,154.86	\$ 108,755.11	\$ 9,886.83	11	5
Florence, City of	\$ 36,111.91	\$ 50,593.32	\$ 86,705.23	\$ 10,838.15	8	3
Hamilton, City of	\$ -	\$ 28,858.76	\$ 28,858.76	\$ 14,429.38	2	1

Winfield, City of	\$ 84,783.18	\$ 35,598.25	\$ 120,381.43	\$ 15,047.68	8	3
Sulligent, City of	-	\$ 7,394.75	\$ 24,789.50	\$ 12,394.75	2	2
Lawrence, County of	-	-	\$ 245,427.00	\$ 14,436.88	17	8
Courtland, City of	-		\$ 199,870.65	\$ 18,170.05	11	
Moulton, City of	-	-	\$ 289,804.95	\$ 72,451.23	4	
Walker, City of			\$ 67,981.00	\$ 16,995.25	4	1

Source: information provided by respective counties

Hail: Hail can potentially affect an estimated 256,000 residents of northwest Alabama and over 100,000 structures. Vulnerability to hail is limited to sporadic damages to properties, including homes and automobiles, across the entire region. Building vulnerability is largely limited to roofs and windows. The overall risk from hail is low, which would normally necessitate a review of mitigation planning techniques; however, the community’s capacity to implement mitigation against hail damage is low. Protection is largely limited to property design, maintenance, and insurance, which are individual responsibilities. Unlike other hazards, which can be mitigated through public education and community investments, the isolated and sporadic nature of hail damage makes it primarily an individual responsibility. Therefore, no mitigation techniques are presented for hail events.

High Winds (Tornadoes, Microburst, and Windstorms): High winds, including tornadoes, are the most destructive natural hazards in northwest Alabama historically and in terms of potential future risk. All lives and property in the region are potentially affected by tornadoes, as the devastation of April 27, 2011 demonstrates clearly. Over \$2 billion in damages were sustained in the aftermath of those storms. All 256,000 residents and over 100,00 building structures, over an estimated \$8 billion in potential losses, and unaccounted for potential for other destruction are directly related to the risk of high winds in northwest Alabama. Risk from high winds is high and requires mitigating responses from all levels of government and from individuals throughout the region.

Landslides: The geography of northwest Alabama is conducive to landslides, and the greatest susceptibility is found in unincorporated areas of Colbert, Franklin, and Marion Counties, as well as throughout all of Winston County. Between 25% and 100% of jurisdictions are vulnerable to landslides; however, damages and incidence in historical occurrences have been slight in the unincorporated areas of Colbert and Franklin Counties. Nevertheless, approximately 31,905 structures remain at risk, based on the analysis of hazards, with a total value of \$2.1 billion.

Widespread landslide incidence is not likely, and damages are most likely to be confined and sporadic. Therefore, the risk of landslides is assessed to be very low, but a plan for mitigation is provided for them because of the capacity of local jurisdictions to influence landslide risk through development policies.

Land Subsidence (Sinkholes): Sinkholes are a threat to large areas of Colbert, Franklin, and Walker Counties due to karst landforms underlying the surface of developments, and an extensive mining system underneath the towns of Nauvoo, Parrish, Carbon Hill, Oakman, Townley and other outlying areas in western Walker County. The potential for land subsidence affects residents as a result of this geologic condition. An estimated 40% to 50% of total land area in Colbert, Franklin and Walker Counties is at risk from land subsidence. While sinkholes are rare and sporadic, they would potentially damage individual properties rather than causing widespread damage. Sinkhole risk is estimated to be very low due to the rarity of sinkholes and the relatively sporadic, low damage they cause. However, a mitigation plan is provided for sinkholes based on the ability of local jurisdictions to encourage good design and siting decisions for new developments.

Lightning: Lightning can potentially affect all 256,000 residents of northwest Alabama, and it can potentially affect all structures. Vulnerability to lightning is limited to sporadic damages to properties, including homes, electronics, and structural damage from fires. The overall risk from lightning is low, despite it being a very common and highly destructive natural hazard, necessitating a review of potential mitigation techniques.

Wildfire: Wildfire is a potentially damaging natural hazard for those areas closest to fuel sources, such as uncleared forestland and timberland. Approximately 10,866 residents live within this area, known as the urban wildland interface. Between 20% and 45% of the acreage of each county is in an area that is vulnerable to wildfire, representing approximately 22,674 structures valued at over \$1.1 billion. The risk of a catastrophic loss of this magnitude is very low, however. More likely, isolated fires would place acreage in more rural areas at risk causing lower overall damages. Nonetheless, wildfire remains a low risk natural hazard to life and property in those areas and necessitates a mitigation plan.

Winter Storms: Winter storms are a high-risk natural hazard for northwest Alabama. Although winter storms are infrequent, they threaten all 256,000 residents of northwest Alabama and potentially affect all structures valued at over \$8.2 billion. Although a catastrophic loss is

unlikely, the entire area of northwest Alabama is at risk from winter storms, which can damage structures where they cannot properly bear the weight of ice and snow and can cause injury and loss of life where extended power outages and poor heating conditions may lead to exposure to the elements. Winter storms are rated as a high-risk natural hazard, which necessitates a mitigation plan.

Section 5- Mitigation Plan Draft

Section Contents

- 5.1 Mitigation Planning Process
- 5.2 Mitigation Goals
- 5.3 Mitigation Strategies Overview
- 5.4 Mitigation Strategies by Jurisdiction

5.1 Mitigation Planning Process

Each hazard mitigation planning participant was asked to review the progress of their mitigation goals and strategies and to re-evaluate those goals and strategies based on changing information, demographic or growth patterns, or updated risk assessment and vulnerability measures. Participants were asked to review their goals and strategies in light of the likelihood of a hazard occurrence within their community, the spatial extent of particular hazards, and the impact of hazard occurrences in the local jurisdiction. The jurisdictions were also asked to provide information regarding the completion, addition, and deletion of their action items and other hazard mitigation strategies. Each jurisdiction's strategies continue to be prioritized based on the jurisdiction's technical, administrative, political, legal, economic, and environmental capability.

5.2 Mitigations Goals

Each jurisdiction was asked to review the mitigation goals of the prior hazard mitigation plans and to provide feedback as to the need to amend, add, or delete goals from the plan as a result of changing circumstances or newly updated risk, threat, threat or vulnerability assessments. Many priorities have remained the same with many of the action goals being partially or fully completed. Jurisdictions continue to work with local funding and/or pursue external funding sources to meet previously established goals. The mitigation goals for the plan were determined to be the following:

1) Protect Life and Property

- a.** Implement measures that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from natural hazards.
- b.** Increase community awareness of and preparedness for natural hazards.
- c.** Reduce losses and repetitive damages for chronic hazard events.

- d. Improve hazard assessment information to make recommendations for discouraging new development and encouraging preventative measures for existing development in areas vulnerable to natural hazards, especially those that are area specific.

2) Public Awareness

- a. Develop, implement, and expand current education and outreach programs to increase public awareness of the risks associated with natural hazards.
- b. Provide information on tools, partnership opportunities, and funding resources for municipalities and the region to assist in implementing mitigation activities.

3) Natural Systems

- a. Balance planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.
- b. Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.

4) Partnership and Implementation

- a. Strengthen communication and coordinate participation among and within public agencies, municipalities, citizens, non-profit organizations, business, and industry to gain a unified interest in plan implementation and maintenance.
- b. Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

5) Emergency Services

- a. Establish policies to ensure mitigation projects for critical facilities, services, and infrastructure.
- b. Strengthen emergency operations by increasing collaboration and coordination among public agencies, municipalities, non-profit organizations, business, and industry.
- c. Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operation plans and procedures.

Mitigation planning serves to lessen a community's vulnerability to the hardships and costs of disasters. The implementation of mitigation strategies is a key to achieving a sustainable

community, one in which the economic and social needs of people, businesses, critical facilities, and institutions coexist with natural environmental constraints and are protected from the disruptions and impacts of emergencies and disasters. Hazard mitigation planning must be closely coordinated with a community’s overall development efforts. The most effective way for a community to initiate this objective is through a comprehensive local mitigation planning program, as presented here.

5.3 Mitigation Strategies Overview

Each jurisdiction reviewed a comprehensive range of hazard mitigation strategies prior to developing an action plan for mitigation activities to be attempted in the future. The summaries below provide the background on strategies for mitigating hazards that were reviewed prior to the selection of techniques by each local jurisdiction.

<u>Flood</u> Ninety percent of federal disaster declarations are flood events. Response and recovery costs can be extremely high, so where risks are apparent it makes sense to take actions that prevent damage from occurring. If flood damage cannot be fully prevented, there may be mitigation techniques that lessen the damage. Flooding addressed in this section can be from high ground water, overland flooding from rivers or streams, or from a dam failure.	
Acquisition	Land with structures may be purchased by and titled in the name of a local governing body that can remove structures and enforce permanent restrictions on development.
Relocation	A structure may be moved to a less hazardous location.
Elevation	A structure may be mechanically lifted so that the lowest floor, including basement, is raised above the base flood elevation. Utilities or other mechanical devices should also be raised above flood levels.
Dry-Flood proofing	It may be possible to keep water out by strengthening walls, sealing openings, or using waterproof compounds or plastic sheeting on walls. Dry-proofing is not recommended for residential construction but may be a reasonable alternative for non-residential structures- either in new construction or while making substantial improvement, or while repairing a substantially damaged structure.
Wet-Flood proofing	Using water-resistant paints or materials can allow for easy cleanup after floodwater exposure in accessory structures or in garage area below an elevated residential structure. In a basement, wet-flood proofing may be preferable to attempting to keep water out completely because it allows for controlled flooding to balance exterior and interior water forces and discourage structural collapse. Wet-flood proofing may not be used for basements in cases of new construction, substantial improvement, or substantial damage.
Floodplain/Coastal Zone Management	Determining and enforcing acceptable land uses through planning and regulation may not prevent inevitable flooding in flood-prone areas, but planning and regulation can alleviate the risk of damage by limiting exposure in such hazard areas. Floodplain and coastal zone management can be included in comprehensive planning.
Capital Improvements Plans	Infrastructure planning decisions can affect flood hazard mitigation. For example, decisions to extend roads or utilities to an area may increase exposure. Some communities may consider structural flood protection such as levees or floodwalls.
Zoning Ordinance Adoption or Amendments	Examples of zoning methods that affect flood hazard mitigation include: 1) adopting ordinances that limit development in the floodplain; 2) limiting the density of developments in the floodplain; and 3) requiring that floodplains be kept as open space.

Subdivision Ordinances Or Amendments	Subdivision design standards can require elevation data collection during the platting process. Lots may be required to have buildable space above the base flood elevation.
Building Code Adoption Or Amendment	Requirements for building design standards and enforcement include the following possibilities: 1) that a residential structure be elevated; and 2) that a non-residential structure be elevated, or flood proofed.
Conservation Easements	Conservation easements may be used to protect environmentally significant portions of parcels from development. They do not restrict all use of the land. Rather, they direct development to areas of land that are not environmentally significant.
Transfer of Development Rights	In return for keeping floodplain areas in open space, a community may agree to allow a developer to increase densities on another parcel that is not at risk. This allows a developer to recoup potential losses from the non-use of a floodplain site with gains from development of a non-floodplain site.
Purchase/Easement Of Development Rights	Compensating an owner for partial rights, such as easement of development rights, can prevent a property from being developed contrary to a community's plan to maintain open space. This may apply to undeveloped land generally or to farmland in particular.
Storm water Management Ordinances or Amendments	Storm water ordinances may regulate development in upland areas in order to reduce storm water run-off. Examples of erosion control techniques that may be employed within a watershed area include proper bank stabilization with sloping or grading techniques, planting vegetation on slopes, terracing hillsides, or installing riprap boulders or geotextile fabric.
Multi-Jurisdiction Cooperation Within Watershed	Forming a regional watershed council helps bring together resources for comprehensive analysis, planning, decision-making, and cooperation.
Comprehensive Watershed Tax	A tax can be used as a mitigation action in several ways: 1) tax funds can be used to finance maintenance of drainage systems or to construct reservoirs; 2) tax assessments may discourage builders from constructing in a given areas; or 3) taxes may be used to support a regulatory system
Post-Disaster Recovery Ordinance	A post-disaster recovery ordinance regulates repair activity, generally depending on property location. It prepares a community to respond to a disaster event in an orderly fashion by requiring citizens to 1) obtain permits for repairs, 2) refrain from making repairs, or 3) make repairs using standard methods.
Flood Insurance	Purchasing flood insurance does not prevent a flood from occurring, but it does mitigate a property owner's exposure to loss from flood damage. National Flood Insurance Program (NFIP) policies are only available in communities that participate in the program which is administered by FEMA.
Floodplain Ordinances or Amendments	Communities that choose to participate in the NFIP must adopt ordinances that meet minimum federal and state requirements. Communities may pass more stringent ordinances to reduce risk even further.
Community Rating System	Also administered by FEMA, the Community Rating System (CRS) is a companion program to the NFIP. It rewards a community for taking actions over and above the minimum NFIP requirements with the goal of further reducing flood damages in the community. The more actions a community takes, the lower the premiums for flood insurance within that community.
Updated Floodplain Mapping	By taking the initiative locally to map problem areas more accurately with information not already on FEMA maps, a community can warn residents about potential risks that may not have been anticipated. Upgrading maps provides a truer measure of risks to a community.
Storm Drainage Systems	Flood mitigation can involve installing, re-routing, or increasing the capacity of a storm drainage system that may involve detention and retention ponds, drainage easements, or creeks and streams. It can include separation of storm and sanitary sewers as well as higher engineering standards for drain and sewer capacity.
Drainage System Maintenance	At most times, a drainage system will do its job and move water to intended areas. However, if a system is not maintained, erosion, material dumping, or deterioration

	of man-made reinforcement materials may reduce the carrying capacity of a stream. Therefore, regular maintenance, such as sediment and debris clearance, is needed so that the stream may carry out its designed function. Also important is detection and prevention/discouragement of discharges into storm water/sewer systems from home footing drains, downspouts, or sump pumps.
Drainage Easements	Communities may consider obtaining easements for planned and regulated public use of privately owned land for temporary water retention and drainage.
Wetland Protection	With special soils and hydrology, wetlands serve as natural collection basins for floodwaters. Acting like sponges, wetlands collect water, filter it, and release it slowly into rivers and streams. Protecting and preserving wetlands can go a long way toward preventing flooding in other areas.
Roads	Roads are needed to get people and goods from place to place. In addition to planning for traffic control during floods, there are various construction and placement factors to consider when building roads. To maintain dry access, roads should be elevated above the base flood elevation; however, if a road creates a barrier, it can cause water to pond. Where ponding is problematic, drainage and flow may be addressed by making changes to culvert size and placement. In situations where flood waters tend to wash roads out, construction, reconstruction, or repair can include not only attention to drainage but also stabilization or armoring of vulnerable shoulders or embankments.
Structural Flood Control Measures	Structural flood control measures (e.g. levees, dams, or floodwalls) channel water away from people and property. Structural measures may increase drainage or absorption capacities (e.g. detention or retention basins, relief drains, spillways, drain widening/dredging or re-routing, logjam and debris removal, extra culverts, bridge modification, dike setbacks, flood gates and pumps, or channel redirection). However, structural measures may also cause an increase in the base flood elevation. History has shown that structures that channel water may create a false sense of security and result in greater damage to nearby properties if the structures fail.
Minor Structural Projects	A minor structural project is similar by smaller and more localized than a structural project, in that the measures used to reduce flooding may include levees, floodwalls, dams, or other activities that channel water away from people or property. However, a minor structural project should only be constructed in areas that cannot be mitigated through non-structural activities, or where structural activities are not feasible due to low densities.
Dam and Levee Maintenance	Although dams and levees may have been constructed properly, failure to maintain them can lead to significant loss of life and property if they are stressed and broken or breached during a flood event. An inspection, maintenance and enforcement program help to ensure continued structural integrity. Dams or levees need to be kept in good repair. Unnecessary or old and structurally unsound dams should be removed. Planning for dam breaks can include constructing emergency access roads as well as automating pump and flood gate operation. And it never hurts to regulate development in a dam's hydraulic shadow, where flooding would occur if there was a severe dam failure.
Community Outreach and Education	Communities may use outreach programs to 1) advise homeowners of risks to life, health, and safety; 2) facilitate technical assistance programs that address measures that citizens can take; or 3) facilitate funding for mitigation measures. Driver safety strategies for flooded areas can be addressed through driver safety/education classes and by the media. Local officials can be trained on flood fighting, floodplain management, flood proofing, traffic control during flooding, and other measures.
Debris Control	Community members can participate in debris control by securing debris, yard items, or stored objects that may otherwise be swept away, damaged, or pose a hazard if floodwaters would pick them up and carry them away. Additionally, a community can pass and enforce an ordinance that regulates dumping.
Hazardous and Buoyant Material Protection	Containers of hazardous materials such as petroleum or chemicals should not be in a flood hazard area. If such a location is necessary, hazardous material containers need

	to be anchored, because the contents can contaminate water and multiply the damaging effects of flooding by causing fires or explosions. Also, buoyant materials should be anchored because if they float downstream, they may cause additional damage to buildings or bridges or may plug a stream resulting in higher flood heights.
Manufactured Homes	Manufactured or mobile homes should be elevated above the base flood elevation and anchored, or more preferably, kept out of the floodplain.
Flood Warning	In addition to a communication strategy, a flood warning system may consist of people or machines monitoring water level with stream gauges. Although a flood warning system generally does not provide long-term damage reduction, it can alleviate health and safety risk by providing citizens time to escape and possibly remove belongings that could be damaged. NOAA weather radio and EAS broadcasts can be incorporated into a community's flood warning system.
Back-up Generators	A community may consider back-up generators for pumping and lift stations in sanitary sewer systems, along with other measures (e.g. alarms, meters, remote controls, and switchgear upgrades).
Basement Backflow Prevention	Depending on its infrastructure capabilities, a community may encourage the use of check valves, sump pumps, and backflow prevention devices in homes and buildings.
<u>Landslides</u>	
Landslides can be caused by the same high water levels or rain which result in flooding. Landslides can also be caused by earthquakes. Although many mitigation measures resemble those for flowing, landslides pose unique considerations.	
Mapping	Local governments, developers, and residents will make better decisions using maps. Soil types, slope percentages, drainage, or other critical factors will be used to identify landslide prone areas.
Building Codes	Building codes will set construction standards, including minimum foundation requirements in landslide prone areas.
Zoning Ordinances	Zoning ordinances may be used to create buffers between structures and high-risk areas.
Slide-Prone Area Ordinance	A special purpose ordinance for slide-prone areas may be used to limit fill or dumping, as well as address drainage and other landslide related problems.
Code Enforcement	A strong community commitment to code enforcement is necessary to ensure compliance with building codes and zoning ordinances.
Drainage Control Requirements	Drainage regulations resemble storm water management regulations. By controlling drainage, a community can reduce the risk of landslide associated with saturated soils.
Grading Ordinances	Grading ordinances require developers to obtain permits prior to filling or grading. Such ordinances may also provide specific design standards.
Hillside Development Ordinances	Hillside development ordinances are special purpose ordinances that set specific standards for construction on hillsides.
Subdivision Ordinances	Subdivision ordinances set guidelines on how land will be divided, the placement and size of roads, and the location of infrastructure. Such ordinances can also be used to regulate open space and buildable areas.
Sanitary System Codes	Sanitary codes can reduce the effects of drainage on landslides by limiting the type and location of sanitary systems.
Geological Hazard Overlay Zones	A geological hazard overlay zone requires a detailed geotechnical analysis prior to any construction activity. Used in association with building codes, this may reduce damage potential by providing clear information about risk.
<u>Thunderstorms/Lightning</u>	
Damage from thunderstorms and lightning is often underestimated. Everyone should have an appreciation for the dangers of lightning. Although not entirely preventable, damage and life safety risk from these events can be minimized.	

Community Outreach and Education	Communities may use outreach programs to promote awareness of thunderstorm dangers. Driver safety strategies for severe weather events can be address by driver safety/education classes and by the media.
Early Warning Systems	Local and state governments can invest in public early warning systems/networks, as well as train people to serve as weather spotters
Construction	Public and private buildings can be designed with structural bracing, shutters, laminated glass in windowpanes, and hail-resistant roof shingles or flashing to minimize damage.
Surge Protectors and Lightning Protection	Surge protection can be installed on critical electronic equipment. Lightning protection devices and methods, such as lightning rods and grounding, can be installed on a community's communications infrastructure and other critical facilities.
Burying Power	Buried power lines offer the security of uninterrupted power during and after storms. However, consideration needs to be made for maintenance and repairs, particularly in cold climates where soil freezes more readily.
<u>Tornado</u>	
Tornadoes can strike anywhere and cause extensive damage. Damage and life safety risk may not be entirely preventable, but it can be minimized.	
Construction Standards and Techniques	To strengthen public and private structures against sever wind damage, communities can require or encourage wind engineering measures and construction techniques that may include structural bracing, straps and clips, anchor bolts, laminated or impact-resistant glass, reinforced pedestrian and garage doors, window shutters, waterproof adhesive, sealing strips, or interlocking roof shingles. Also, architectural design can make roofs less susceptible to uplift.
Safe Rooms	Risk to lives can be improved through construction and use of concrete safe rooms in homes and shelter areas of mobile home parks, fairgrounds, shopping malls, or other vulnerable public areas.
Manufactured Homes	Damage and injury can be prevented by anchoring manufactured homes and exterior attachments such as carports and porches.
Loose Items	Loose items like yard and patio furniture should be secured.
Temporary Debris Disposal	Temporary debris disposal sites can be protected by fencing and/or located away from populated areas.
<u>Severe Wind</u>	
Severe wind can be as destructive as tornadoes. Damage and life safety risk may not be entirely preventable, but it can be minimized.	
Roofing Shingles	Requiring the use of special roofing shingles designed to interlock and resist uplift forces in extreme wind conditions can reduce damage to a roof or other structure.
Building Construction	Engineered construction can accommodate foundation design, braced elevated platforms, and the ability of a structure to withstand lateral forces of winds and waves
Manufactured Home Tie-Downs	The risk of manufactured home damage can be greatly reduced by using tie-downs with anchors and ground anchors appropriate for the soil type.
Burying Power Lines	Buried power lines offer the security of uninterrupted power during and after storms. However, consideration needs to be made for maintenance and repairs, particularly in cold climates where soil freezes more readily.
Designed-Failure Mode	Designed-failure mode refers to power line design that allows for lines to fall or fail in small sections rather than as a complete system, so restoration can be done more quickly.
Backup Power	Backup power resources can enable critical facilities to continue basic services and can be used by businesses to ensure security and protect refrigerated goods.
Tree Management	Tree pruning near power lines can reduce the potential for trees falling on and breaking power lines.
<u>Extreme Temperature</u>	

When temperatures reach levels that are extremely high or extremely low, they pose dangers that can be alleviated by planning for how to handle such situations.	
Outreach/Public Awareness	A local government can organize outreach to vulnerable populations during period of extreme temperature, including establishing and promoting accessible heating or cooling centers in the community.
Heating Requirements	Housing/landlord codes can require minimum temperatures.
Heating Bills	If not already required by state law, communities can encourage utility companies to offer special arrangements for paying heating bills.
Heating and Cooling Centers	A community can establish heating and/or cooling centers for vulnerable populations. Center operations should be linked to outreach projects that encourage at-risk populations to use the centers.
<u>Winter Weather/Snowstorms</u>	
Proper preparation can decrease the risks of injury that can occur during cold weather and snowstorms.	
Family and Traveler Emergency Preparedness	A local or state government can produce and distribute family and traveler emergency preparedness information relating to severe winter weather hazards.
Driver Safety	Safety strategies for severe weather events can be included in driver education classes and materials.
Power Lines	Burying or otherwise protecting electric lines and other utility lines can prevent utility disruption by protecting lines from ice, wind, or snow damage. Nevertheless, lines buried in frozen soil may be difficult to reach or repair when necessary.
Code Enforcement and Building Maintenance	Local governments can impact building/site design through building code enforcement of snow-related ordinances such as snow loads, roof slope, snow removal, and storage. Communities can also monitor snow amounts to provide site-specific snow load data. Home and public building maintenance should be encouraged to prevent roof and wall damage from “ice dams”, particularly resulting from ice and sleet storms.
Shelters	A community can establish heating centers or shelters for vulnerable populations, not only for residents, but also for stranded motorists/travelers.
Outreach	A community can plan to systematically contact isolated, vulnerable, or special-needs populations.
Animal Protections	Farmers and other animal custodians should plan for addressing livestock or other animal needs.
Roads	Local governments need to always plan for and maintain adequate road and debris clearing capabilities.
Snow Fences	Using snow fences or “living snow fences” (rows of trees or other vegetation) can limit blowing and drifting of snow over critical roadway segments.
<u>Sinkholes (Land Subsidence)</u>	
Some areas of land are susceptible to collapse. Risks of collapse can be determined and managed.	
Community Awareness	Local and state governments can promote community awareness of subsidence risks and effects.
Mapping	Old mining areas or geologically unstable terrain should be identified and mapped so that development can be prevented or limited.
Open Space	Areas susceptible to collapse can be maintained as public open space.
Acquisition	Land or structures may be purchased by and titled in the name of a local governing body that can enforce permanent restrictions on development.
Filling or Buttressing	Filling or buttressing subterranean open spaces, as with abandoned mines, can prevent or alleviate collapse.
Relocation	A structure may be relocated to a less hazardous location.
Hydrological Monitoring	Groundwater levels can be monitored in subsidence-prone areas.
<u>Earthquake</u>	

Some regions are particularly susceptible to earthquake damage. Risks of injury and damage from earthquake events can be determined and managed.	
Seismic Hazard Mapping	Information gained from seismic hazard mapping can be used to assess risk. The first step is collection of geologic information on seismic sources, soil conditions, and related potential hazards. The second step is to prepare a map showing the approximate locations of various hazards.
Related Hazard Mapping	Other earthquake hazards include liquefaction and landslides. Maps of these related hazards may be used for vulnerability analysis and risk assessment.
Map Education	Map users should be educated in the appropriate uses and limitations of maps.
Rapid Visual Screening	Rapid visual screening is a technique used to quickly inspect a building and identify disaster damage or potential seismic structural and non-structural weaknesses. This method may be used to screen and prioritize retrofitting efforts or inventory high-risk structures and critical facilities. In a post-disaster setting, rapid visual screening can be used to assess risk during response and recovery efforts and determine if buildings are safe to re-occupy.
Loss Estimation Studies	After seismic hazards have been identified, planners can create an earthquake scenario to estimate potential loss of life and injuries, the types of potential damage, and existing vulnerabilities within the community. Scenarios can be particularly useful in predicting lifeline performance, i.e. the sustainability of critical public services or systems such as electricity, water, or roadways. This knowledge can be used to develop earthquake mitigation priorities.
HAZUS	FEMA's HAZUS is a computer-based tool that can be used to quantitatively estimate losses from an earthquake.
Seismic Safety Committees	Duties of a local or state seismic safety committee can include providing policy recommendations, evaluating and recommending changes in state and local seismic safety standards, and an annual assessment of local and statewide implementation of safety improvements.
School Survey Procedures	Schools are critical facilities not only because of the special population they accommodate, but also because they are often identified as shelter sites for a community. Due to this sheltering role, it is essential that these buildings function after a seismic event. A community can develop a survey procedure and guidance document to inventory structural and non-structural hazards in or near school buildings. Survey results can be used to determine mitigation priorities that can be incorporated into capital improvements plans.
Capital Improvements Planning	School districts, local governments, corporations, and others have developed capital improvements plans to ensure that facilities remain operational for years down the road. It is more efficient and cost effective to incorporate structural and non-structural seismic strengthening actions into on-going building plans and activities, rather than rehab later.
Guidelines and Model Ordinances	Earthquake hazards can be mitigated through land use planning. Communities can develop and distribute guidelines or pass ordinances that require developers to locate lifelines, buildings, critical facilities, and hazardous materials out of areas subject to significant seismic hazards. Consideration should be given to enforcing such ordinances in areas with steep slopes or subject to ground displacement, severe ground shaking, or liquefaction.
Building Codes	Although land use management that avoids building on hazardous sites is an effective way to reduce earthquake risk, there may be times when it is necessary to build on such sites. Engineers and architects have designed buildings in ways that reduce the impact of ground shaking. Encouraging all local governments to adopt and enforce updated building code provisions is one effective way to reduce earthquake risk.
Seismic Code Training	Legislators often enact seismic building provisions that do not get enforced because architects, engineers, and building departments are unaware of the provisions. Conducting information sessions or other forms of outreach on seismic code

	provisions for new and existing development can enhance code use and enforcement by local architects, engineers, contractors, and code enforcement personnel.
Buildings as Structural Hazards	Homeowners and businesses can take simple measures to strengthen their buildings before the next earthquake. Bracing walls and bolting sill plates to the foundation are examples. Non-reinforced masonry buildings and non-ductile concrete facilities are particularly vulnerable to ground shaking. These buildings should be strengthened and retrofitted against future seismic events.
Non-Structural Hazards	Many injuries in earthquakes are caused by non-structural hazards such as attachments to buildings. These include lighting fixtures, windows (glass), pictures, tall bookcases, computers, ornamental decorations on the outside of the buildings (like parapets), gas lines, etc. Activities that can reduce the risk of injury and damages include: anchoring tall bookcases and file cabinets, installing latches on drawers and cabinet doors, restraining desktop computers and appliances, using flexible connections on gas and water lines, mounting framed mirrors and pictures securely, and anchoring and bracing propane tanks and gas cylinders.
Technical Assistance for Homeowners	Developing a technical assistance information program for homeowners and teaching them how to seismically strengthen their houses can be an effective mitigation activity. The program could include providing local government building departments with copies of existing strengthening and repair information for distribution to homeowners. Other potential distribution sources include insurance companies, realtors, and libraries.
Infrastructure Hardening	Identification and hardening of critical lifeline systems, i.e., critical public services such as utilities and roads, to meet “Seismic Design Guidelines and Standards for Lifelines,” or equivalent standards, may distinguish a manageable earthquake from a social and economic catastrophe.
Bridge Strengthening	State and local highway departments should review construction plans for all bridges to determine their susceptibility to collapse. Problem bridges should be retrofitted.
Hazard Mitigation Awareness	Local or state governments can use community outreach activities to foster an awareness of earthquake mitigation activities in homes, schools, and businesses.
Financial Incentives	Local or state governments can support financial incentives like low interest loans or tax breaks for home and business owners who seismically retrofit their structures.
Insurance	Local or state governments can work with insurance industry representatives to increase public awareness of the importance of earthquake insurance. Home structural improvements can be factored into the process of obtaining insurance coverage or reduced deductibles.
Reference Library	A local or state government can establish a library consisting of technical documents on structural and nonstructural mitigation options, as well as model ordinances and procedures that have been used by other jurisdictions to reduce earthquake risk.
<u>Drought</u>	
Periods of time with little or no precipitation can pose risks that can be mitigated with conservation and preparation.	
Water-Saving	Citizens can be encouraged to take water-saving measures, especially when extra water is needed for irrigation and farming. Possibilities include installing low-flow water saving showerheads and toilets, and turning water flow off while brushing teeth or during other cleaning activities.
Water Storage	Human consumption is the primary reason to maintain a storage of water. People cannot live without consuming water regularly.
Water Use Ordinances	Communities can pass ordinances to prioritize or control water use, particularly for emergency situations like firefighting.
Contingency Plans	Drought contingency plans can help anticipate needs and actions to take during a drought.
Water Delivery	Systems Designs or plans for water delivery systems can include consideration of drought events.
Crop Insurance	Crop insurance can preserve economic stability for farms during a drought.

<u>Wildfire</u>	
Wildfires typically start in woodland or prairie areas. They can occur naturally though they are often exacerbated by human activities. Wildfires can be hard to control as they threaten homes and communities located nearby. Although preventing or controlling wildfires is preferable, there are many mitigation efforts we can take to prevent or alleviate damage to our homes and communities when fires inevitably occur.	
Public Education	Outreach efforts can promote such items as non-combustible roof covering, fire safe construction, and the importance of clearing brush and grass away from buildings. It is important to promote public education on smoking hazards and the risks of recreational fire.
Neighborhood Groups	Citizens can organize neighborhood wildfire safety coalitions to plan how their neighborhoods can work together to prevent a wildfire.
Zoning	Zoning can be used to cluster development into defensible areas and keep development away from fire hazards such as steep slopes, where fires are difficult to contain.
Defensible Space	Damage potential can be reduced by ensuring that structures are surrounded by defensible space or buffer zones. Buffer zones are manageable areas, generally 30 to 100 feet and cleared of combustible materials.
GIS Mapping	GIS mapping of vegetative cover can facilitate analysis and planning decisions through comparison with topography, zoning, developments, infrastructure, or other markers.
Power Line Management	Local power companies can help prevent or alleviate wildfires by proper maintenance and separation of power lines, as well as efficient response to fallen power lines.
Insurance Company Promotions	Insurance companies can include wildfire safety information in materials provided to residents.
Property Maintenance	Maintenance of property in or near wildfire prone areas can go a long way toward preventing or reducing the spread of fire. Maintenance includes fuel management techniques such as pruning and clearing of dead vegetation, selective logging, keeping grass short, planting fire-resistant vegetation, and creating fuel breaks. Other helpful techniques include the use of fire-resistant roofing and building materials; use of functional shutters on windows; keeping flammables such as curtains secured away from windows, or using heavy fire-resistant drapes; taking advantage of fire department's home safety inspections; sweeping/cleaning dead or dry leaves, needles, twigs, and combustibles from roofs, decks, eaves, porches and yards; keeping woodpiles and other combustibles away from structures; use of boxed or enclosed eaves on a house; thorough cleanup of spilled flammable fuels; and keeping garage areas protected from blowing embers, whether from a chimney or outdoor fire place.
Fireplace and Chimney Maintenance	Residents should be encouraged to inspect chimneys at least twice a year and clean them at least once a year. Safe fireplace/chimney use and maintenance includes spark arrestors and emphasis on proper storage of flammable items.
Building Codes	Building codes can be used to require upgrades to existing as well as new structures.
Waste Disposal	Wildfire risk can be reduced by safe disposal of yard and household waste rather than open burning.
Arson Prevention	Wildfires can be prevented by arson prevention cleanup activities in areas of abandoned or collapsed structures, accumulated junk or debris, and in areas with a history of storing flammable materials where spills or dumping may have occurred.
Burning Restriction	Local ordinances can require burn permits and restrict campfires and outdoor burning.
Road and Driveway Clearance	Roads and driveways should be kept accessible to emergency vehicles and fire equipment. Driveways should be relatively straight and flat, with at least some open spaces to turn. Bridges should be strong enough to support emergency vehicles, with clearance wide and high enough for two-way traffic and emergency vehicle access. Addresses should be visible from the road, and keys to gates around property should be provided to the local fire department.

Hillside Clearance	It is important to note that hillsides facing south or west are more vulnerable to increased dryness or heat from sun exposure. Structures should be set back from slopes outside of the “convection zone” of intense heat that is projected up the slope of a hill as a wildfire “climbs” it.
Building Foundations	In wildfire prone areas, risk may be decreased by enclosing the foundations of a home or other building, rather than leaving them open where undersides can be exposed to blown embers or other materials.
Motorized Equipment	Proper maintenance and storage of motorized equipment can decrease wildfire risk.
Flammable Materials	Wildfires can be alleviated by safely using and storing necessary flammable materials, including machine fuels. Approved safety cans should be used for storing gasoline, oily rags, and other flammable materials. Firewood should be stacked at least 100 feet away and uphill from homes.
Smoke/Fire Detectors and Sprinklers	Citizens can install and maintain smoke detectors and fire extinguishers on each floor of their homes or other buildings. This equipment should be tested and/or inspected regularly and smoke detector batteries should be changed twice a year. Everyone in a household or building can be taught how to use a fire extinguisher. Other valuable fire mitigation systems include interior and exterior sprinkler systems.
Spotters	Early detection of wildfires, while fires are smaller, can help make firefighting more successful. Detection can be accomplished by fire spotters who work either from towers or planes.
Media	Media can broadcast information about fire watches and fire warnings.
Response Personnel	Response personnel should have regular training and exercise experience.
Water Supplies	Water supplies for emergency firefighting should be maintained in accordance with National Fire Protection Association (NFPA) standards. Residents should identify and maintain any number of outside water sources such as small ponds, cisterns, wells, swimming pools or hydrants. It is a good idea to have a garden hose long enough to reach any area of a home or structures on a property. Freeze-proof exterior water outlets are recommended for at least two sides of a home or other structure. Additional outlets can be installed at least 50 feet from a home. It may be a good idea to obtain a portable gasoline powered pump in case electrical power is cut off.
Evacuation	Residents should be instructed on proper evacuation procedures, such as wearing protective clothing (e.g. sturdy shoes, cotton or woolen clothing, long pants, a long-sleeved shirt, gloves and a handkerchief to protect the face); taking a Disaster Supplies Kit; and choosing a route away from fire hazards.
Individual Response	<p>Fire emergency telephone numbers should be posted at every telephone. Residents should plan several escape routes away from their homes, by car and foot.</p> <p>It is a good idea to keep a set of hand tools, such as a rake, axe, hand/chainsaw, bucket, and shovel, to use as fire tools.</p> <p>When wildfire threatens, residents should be instructed to carry and listen to battery-operated radios for reports and evacuation information and follow instructions from local officials. Cars should be backed into garages or parked in open space facing the direction of escape, with doors and windows closed and the key in the ignition. Garage windows and doors should be closed but left unlocked. If residents have time, they can take steps to protect their homes by closing windows, vent doors, venetian blinds and heavy drapes; removing lightweight curtains; shutting off natural gas at the meter; turning off pilot lights; closing fireplace screens; and moving flammable furniture into the center of the home away from windows and sliding glass doors. Outside, residents can seal the attic and ground vents with pre-cut plywood or commercial seals; turn off propane tanks; place combustible patio furniture inside; connect garden hose to outside taps; set up a portable gasoline-powered pump; place lawn sprinklers on the roof and near above-ground fuel tanks; wet the roof, wet or remove shrubs within 15 feet of the home; and gather fire tools.</p>

5.4 Capabilities Assessment for Local Jurisdictions⁶

The mitigation strategy is framed by the capacity and capability of local jurisdictions to implement particular actions through existing authority, policy, programs, and resources. For most jurisdictions in the planning area, these are each very limited. Authority to control development through land use planning and zoning is vested in municipalities that choose to exercise this practice; however, capacity is limited for enforcement due to expertise, financial constraints, and public acceptance. Therefore, most local jurisdictions avoid the practice of land use planning and zoning for general purposes and for hazard mitigation. In the unincorporated county jurisdictions, this authority is largely absent except as it applies to flood control and public streets, which are practiced by each county in the planning area. Flood control, more broadly, is authorized for each local jurisdiction to practice through local ordinance regulating the placement and construction of new structures. Many municipalities and each county participate in the National Flood Insurance Program and maintain compliance with the applicable regulations of the NFIP (Table 4.1.3). Likewise, the authority to enforce building codes is restricted to municipalities and is only practiced by a limited number of these due to capacity constraints in the form of personnel, financial ability, and public acceptance.

Financial and technical capacity are limiting factors for implementation in most participating jurisdictions. The need for assistance in planning and implementation is well-established. Communities work together through the local EMA and the Northwest Alabama Council of Local Governments (NACOLG) to meet gaps in technical capacity related to planning for mitigation. Local jurisdictions work with county EMAs to implement specific strategies. Authority over spending is vested in local elected or appointed boards and commissions. Primarily, the county commissions and local municipal councils have been the leaders in deciding which mitigation strategies are worthy of investment. Other eligible jurisdictions have, largely, channeled mitigation projects through these local governmental bodies. The use of grants from external sources is a prevalent feature of the financial strategy for mitigation projects involving new construction.

The capabilities of each participating jurisdiction are defined by the authorities, policies, programs, and resources that each possesses, practices, implements or intends to expand upon in

⁶ This section has been thoroughly reviewed and revised to incorporate an assessment of each jurisdictions' capabilities and means of incorporating hazard mitigation planning and implementation into ongoing activities.

pursuit of hazard mitigation. Each jurisdiction falls into one of several categories, which possesses distinct authorities and resources to establish hazard mitigation programs. For example, counties and municipalities differ in terms of statutory authority to pursue hazard mitigation. Meanwhile, two communities with the same authority may approach mitigation entirely differently in terms of the exercise of their authority. School and utility boards are subject to even greater restrictions on their authority.

The authorities and capabilities are summarized based on the powers granted by different units of government that participated in the planning process. County jurisdictions include Colbert County, Muscle Shoals Electric Board, Muscle Shoals Water Board, Sheffield Utilities, Tuscumbia Utilities, Spring Valley Water System, Franklin County, Marion County, Marion County School, Winfield Schools, Lamar County, Lawrence County, Walker and Winston County. Municipalities include Cherokee, Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Hodges, Phil Campbell, Red Bay, Russellville, Vina, Bear Creek, Brilliant, Guin, Hackleburg, Hamilton, Twin, Winfield, Addison, Arley, Double Springs, Haleyville, Lynn, Natural Bridge, Beaverton, Detroit, Kennedy, Sulligent, Millport, and Vernon, Courtland, North Courtland, Moulton, Hillsboro, Town Creek. School Boards include Winston County Schools, Russellville City Schools, Colbert County Schools, Muscle Shoals City Schools, Sheffield City Schools, Tuscumbia City Schools Lamar County Schools, Lawrence County Schools Utilities include Phil Campbell Water Works and Sewer Board, Cherokee Water Works and Gas Board, Bear Creek Water Works, Guin Water and Sewer Board, Twin Water Authority, Franklin County Water Authority, Moulton Water Works, Wheeler Basin Gas, Town Creek Utilities, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipsey, and Sumiton Commission, Walker County Schools West Lawrence Water Co-Op, Courtland Utilities, West Morgan-East Lawrence Water Authority.

The following table summarizes the statutory authority and resources of each jurisdiction and its present use or intended future use of these powers to implement the hazard mitigation plan. The table describes powers or policies that are granted to different types of jurisdictions in general terms, describes the jurisdictions that currently apply those policies in their mitigation efforts, describes the jurisdictions that intend to apply those authorities and policies for future implementation, and describes the means by which each jurisdiction will incorporate the mitigation action into its existing powers, authorities, policies, and capabilities. In every case, the primary

means of incorporation involves review of proposed actions and implementation through the appropriate governmental authority such as the city council, county commission, school board, or utility board.

<u>Multi-Jurisdictional Hazard Mitigation Action Plan: Capabilities Assessment</u>	Authorized for...	Practiced by...	Proposed for...	Incorporated through...
Police power- ability to regulate activities of individuals in the jurisdiction for purposes of health, safety, and public welfare	Municipalities	All municipal jurisdictions	All municipal jurisdictions	Council action to enact and enforce regulations
Control of public expenditures- ability to acquire property and improve property owned by the jurisdiction, capacity to borrow and expend funds	Municipalities, Counties, School Boards, Utilities	All jurisdictions	All jurisdictions	Action to approve expenditures by local county commission, city council, school board, or utility board
Building code enforcement- ability to enforce codes related to building materials and construction standards outside of flood hazard areas	Municipalities, Counties	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Hamilton, Haleyville, Lamar Co, Vernon, Lawrence County, Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Oakman, Parrish, Sipsey, Sumiton	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Hamilton, Haleyville, Lamar Co., Vernon, Lawrence County, Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Oakman, Parrish, Sipsey, Sumiton	Council action to enact and enforce regulations
Floodplain management authority- ability to regulate development in areas of special flood hazard in compliance with NFIP standards; includes authority to regulate land use and subdivisions inside of flood hazard areas	Municipalities, Counties	Colbert Co, Cherokee, Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin Co., Hodges, Phil Campbell, Red Bay, Russellville, Lamar Co, Beaverton, Detroit, Kenedy Millport Sulligent, Vernon, Lawrence County, Moulton, Courtland, Hillsboro,	Colbert Co, Cherokee, Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin Co., Hodges, Phil Campbell, Red Bay, Russellville, Marion Co, Lamar Co, Beaverton, Detroit, Kenedy Millport Sulligent, Vernon, Guin, Hamilton,	Council or Commission action to enact and enforce regulations

		North Courtland, Town Creek Marion Co, Guin, Hamilton, Winfield, Winston Co., Haleyville, Double Springs, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipsey, Sumiton	Winfield, Lawrence County, Moulton, Courtland, Hillsboro, North Courtland, Town Creek Winston Co., Haleyville, Double Springs, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipsey, Sumiton	
Purchase properties subject to flooding and maintain as permanent open space.	Municipalities, Counties, School Boards, Utilities	City of Tuscumbia		Action to approve expenditures by local county commission, city council, school board, or utility board
Capital improvements- ability to plan public infrastructure to mitigate hazards	Municipalities, Counties, School Boards, Utilities	All jurisdictions	All jurisdictions	Action to approve expenditures by local county commission, city council, school board, or utility board
Zoning authority- ability to divide political jurisdiction into districts for purposes of regulating buildings and their use (inside and outside of flood hazard areas)	Municipalities	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Winfield, Hamilton, Haleyville, Double Springs, Lamar Co., Millport, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Winfield, Hamilton, Haleyville, Double Springs, Lamar Co., Millport, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek	Council action to enact and enforce regulations
Subdivision regulations- ability to control new developments involving new lot lines and infrastructure (inside and outside of flood hazard areas)	Municipalities	Muscle Shoals, Sheffield, Tuscumbia, Russellville, Winfield, Haleyville Lamar Co., Millport, Kennedy, Vernon, Lawrence Co., Moulton, Courtland,	Muscle Shoals, Sheffield, Tuscumbia, Russellville, Winfield, Haleyville, Lamar Co., Millport, Kennedy, Vernon, Lawrence Co.,	Council action to enact and enforce regulations

		Hillsboro, North Courtland, Town Creek, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	
Storm water management program- ability to regulate retention, detention, and release of storm water runoff	Municipalities	Muscle Shoals, Russellville, Walker County	Muscle Shoals, Russellville, Walker County	Council action to enact and enforce regulations

Source: information provided by respective counties

5.5 Mitigation Strategies by Jurisdiction

Responsibility for hazard mitigation in northwest Alabama is found at the local level and is shared between local governments and private and semi-private entities such as utility companies, hospitals, and business/industry entities. Primary responsibility for recommending and implementing the strategies necessary for hazard mitigation has typically been vested in local governments and individuals. As such, the following section contains the mitigation plans of each county and each municipality in the planning area of northwest Alabama. Other eligible local jurisdictions have been included in the planning process and have been encouraged to adopt the multi-jurisdictional planning framework to facilitate implementation by public utilities, school boards, volunteer fire departments and others. Although included in a single multi-jurisdictional plan, each entity’s individual plans for hazard mitigation vary, with the exception that each action is undertaken within the framework of goals and objectives established above. Because of local level differences in the approaches to hazard mitigation, the following statements vary in presentation and format. In general, however, the action plans provide an overview of immediate past mitigation efforts, undertaken in the five years since the prior plan was adopted, ongoing activities, and proposed future actions intended to reduce damages to life and property in the event of a natural disaster.

The plan is structured to express multi-jurisdictional strategies that may be common among local jurisdictions as well as presenting local priorities that may be specific to local jurisdictions. Therefore, the first section provides a multi-jurisdictional framework for each local jurisdiction in the planning area. The following section provides information on specific mitigation priorities that

may be present in the local jurisdiction. The two sections are interdependent and collectively express the local action plan for each jurisdiction in the planning area. Both sections are considered critical actions for those who have endorsed a particular action item in the Multi-Jurisdictional Action Plan or have presented a particular action item in the Individual Jurisdictional Plan sections below.

5.5.1 Multi-Jurisdictional Action Plan

The following Multi-Jurisdictional Action plan establishes broad mitigation actions adopted by participating local jurisdictions. Although the mitigation action is common to all jurisdictions threatened by a hazard type, each jurisdiction determined whether to adopt a particular action based on local contextual factors including social, economic, environmental, technical, and other capabilities. In all cases, timelines for implementation are immediate, intended to take place as soon as possible within the next five years, as opportunities for mitigating hazards become available. A list of partners and participants is provided, along with a listing of potential funding opportunities; however, additional partnerships and opportunities will be explored as they become known. The plan further specifies whether actions affect existing or future development (or in many cases, both) and the jurisdictions which endorsed a particular action item.

Multi-Jurisdictional Hazard Mitigation Action Plan			
	Partners & Participants	Funding Sources	
Actions 1.1 to 1.22 Flood: Ninety percent of federal disaster declarations are flood events. Response and recovery costs can be extremely high, so where risks are apparent it makes sense to take actions that prevent damage from occurring. If flood damage cannot be fully prevented, there may be mitigation techniques that lessen the damage. Flooding addressed in this section can be from high ground water, overland flooding from rivers or streams, or from a dam failure.	local gov'ts; EMA, AEMA, FEMA, developers, others TBD	local; AEMA/FEMA (HMGP; PDM; FDA); ADECA; others TBD	County EMA Office
	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Office
Action 1.1 Acquisition			
Purchase properties subject to flooding and maintain as permanent open space.	New & Existing	All counties and municipalities	Office of the Mayor
Action 1.2 Relocation			
Relocate structures subject to flooding outside of flood hazard areas.	Existing	All counties and municipalities and school boards and utilities	Office of the Mayor
Action 1.3 Elevation			

Elevate structures subject to flooding above the base flood elevation.	New & Existing	All counties and municipalities and school boards and utilities	Town/County Engineer
Action 1.4 Dry-Flood proofing			
Dry-flood proof properties where appropriate.	New & Existing	All counties and municipalities and school boards and utilities	Resident
Action 1.5 Wet-Flood proofing			
Wet-flood proof properties where appropriate.	New & Existing	All counties and municipalities and school boards and utilities	County EMA
Action 1.6 Floodplain Management			
Incorporate floodplain management into ongoing planning activities.	New & Existing	All counties and municipalities	County EMA Office
Action 1.7 Capital Improvements			
Plan capital improvements to minimize the risk of flooding.	New & Existing	All counties and municipalities and school boards and utilities	Office of The Mayor
Action 1.8 Zoning Ordinance Adoption/Amendment			
Enforce zoning regulations that minimize density of development in flood prone areas.	New & Existing	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Winfield, Hamilton, Haleyville, Double Springs, Lamar Co., Kenney, Vernon, Lawrence Co., Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipsy, Sumiton	County Commission
Action 1.9 Subdivision Regulations			
Enforce subdivision regulations that minimize flood risks to new developments.	New	Muscle Shoals, Sheffield, Tuscumbia, Russellville, Winfield, Haleyville, Lamar Co., Millport, Kennedy, Vernon, Lawrence Co., Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper,	County Commission

		Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	
Action 1.10 Building Code Adoption			
Enforce building codes that minimize flood risks.	New & Existing	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Hamilton, Haleyville, Lamar Co. Kennedy, Vernon, Lawrence Co., Walker Co.	County Commission
Action 1.11 Storm water Management			
Regulate storm water runoff in a manner that minimizes the threat of flooding.	New & Existing	Muscle Shoals, Vernon, Russellville, Lamar Co., Sulligent, Lawrence Co., Walker Co.	County Commission and Water Board
Action 1.12 Flood Insurance			
Participate in the National Flood Insurance program, allowing residents to qualify for flood insurance.	New & Existing	Colbert Co, Cherokee, Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin Co., Hodges, Phil Campbell, Red Bay, Russellville, Marion Co, Guin, Hamilton, Winfield, Winston Co., Haleyville, Double Springs, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	County EMA Office
Action 1.13 Updated Floodplain Maps			
Participate in efforts to update floodplain maps as part of ongoing federal, state, and local activities.	New & Existing	All counties and municipalities	County Commission
Action 1.14 Storm Drainage Systems			
Mitigate flood hazard by improving or installing storm drainage systems that adequately convey storm waters.	New & Existing	All counties and municipalities	Town/County Engineer

Action 1.15 Drainage System Maintenance			
Maintain storm drainage systems in order to adequately convey storm waters.	New & Existing	All counties and municipalities	Town/County Engineer
Action 1.16 Drainage Easements			
Plan for and obtain drainage easements where necessary to protect against or mitigate flooding.	New & Existing	All counties and municipalities and utilities	Town/County Engineer
Action 1.17 Roads			
Require road construction to adequately mitigate flood hazards by requiring appropriate elevations and drainage in new construction; remediate existing flood hazards on existing roads.	New & Existing	All counties and municipalities	County Commission
Action 1.18 Community Outreach			
Provide information on flood hazards to residents; train responders to react to the threat and incidence of flooding.	New & Existing	All counties and municipalities	County EMA Office
Action 1.19 Debris Control			
Minimize debris; provide for collection points; keep properties clear of debris.	New & Existing	All counties and municipalities	County Utilities Dept.
Action 1.20 Manufactured Homes			
Elevate and anchor manufactured homes in areas with flood hazard.	New	All counties and municipalities	Resident
Action 1.21 Flood Warning			
Participate in and improve flood warning systems.	Existing	All counties and municipalities	County EMA Office
Action 1.22 Back-up Generators			
Provide back-up generators for facilities in case of flooding.	Existing	All counties and municipalities and school boards and utilities	County EMA Office
Actions 2.1 to 2.3 Landslides: Landslides can be caused by the same high water levels or rain that result in flooding. Landslides can also be caused by earthquakes. Although many mitigation measures resemble those for flowing, landslides pose unique considerations.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	County EMA Office
	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Position
Action 2.1 Mapping			
Participate in efforts to map landslide risks.	New & Existing	Colbert Co, Franklin Co., Red Bay, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent,	County EMA Office

		Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek Marion Co., Brilliant, Guin, Gu-Win, Hamilton, Twin, Winfield, Winston Co., Addison, Arley, Double Springs, Haleyville, Lynn, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	
Action 2.2 Outreach and Education			
Make public education materials available regarding the risks of landslides.	New & Existing	Colbert Co, Franklin Co., Red Bay, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Marion Co., Brilliant, Guin, Gu-Win, Hamilton, Twin, Winfield, Winston Co., Addison, Arley, Double Springs, Haleyville, Lynn, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	County EMA Office
Actions 3.1 to 3.5 Severe Storms (Lightning and Hail): Damage from thunderstorms and lightning is often underestimated. Everyone should have an appreciation for the dangers of lightning. Although not entirely preventable, damage and life safety risk from these events can be minimized.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	Responsible Office County EMA Office
	Structures Affected (New/Existing)	Participating Jurisdictions	
Action 3.1 Community Outreach			

Provide information on the threat of severe storms, including driving tips, to the public.	Existing	All counties and municipalities	County EMA Office
Action 3.2 Early Warning			
Invest in an early warning system.	Existing	All counties and municipalities	County EMA Office
Action 3.3 Building Codes			
Enforce building codes that minimize storm damage.	New & Existing	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Hamilton, Haleyville, Lamar Co., Kennedy, Vernon, Lawrence Co., Walker Co.	County Commission
Action 3.4 Surge Protectors and Lightning Protection			
Install surge protectors and lightning protection.	New & Existing	All counties and municipalities and school boards and utilities	County EMA Office
Action 3.5 Burying Power Lines			
Bury power lines, where appropriate.	New & Existing	All counties and municipalities and electric utilities	County Engineer
Actions 4.1 to 4.5 Tornado: Tornadoes can strike anywhere and cause extensive damage. Damage and life safety risk may not be entirely preventable, but it can be minimized.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	County EMA Office
	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Office
Action 4.1 Construction Standards			
Encourage techniques that make buildings less susceptible to wind damage.	New & Existing	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Hamilton, Haleyville, Lamar Co., Kennedy, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo,	County EMA Office

		Sipsey, Oakman, Parrish, Sumiton	
Action 4.2 Safe Rooms/Shelters			
Install additional safe rooms/shelters.	New & Existing	All counties and municipalities and school boards	County EMA Office
Action 4.3 Manufactured Homes			
Anchor manufactured homes.	New	All counties and municipalities	Resident
Action 4.4 Loose Items			
Secure loose items.	New & Existing	All counties and municipalities and school boards and utilities	County EMA Office
Action 4.5 Temporary Debris			
Locate collection centers in fenced areas or away from populated places.	New & Existing	All counties and municipalities	County Commission
Actions 5.1 to 5.6 Severe Storms (Wind, including Hurricane and Coastal Storms): Severe wind can be as destructive as tornadoes. Damage and life safety risk may not be entirely preventable, but it can be minimized.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	Responsible Office County EMA Office
	Structures Affected (New/Existing)	Participating Jurisdictions	
Action 5.1 Building Construction			
Encourage techniques that make buildings less susceptible to damage.	New & Existing	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Hamilton, Haleyville, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Sipsey, Oakman, Parrish, Sumiton	Town/County Engineer
Action 5.2 Manufactured Homes			

Anchor manufactured homes.	New & Existing	All counties and municipalities	Resident
Action 5.3 Burying Power Lines			
Bury power lines where feasible.	Existing	All counties, municipalities and electric utilities	Town/County Engineer
Action 5.4 Backup Power			
Provide backup power for essential services and recovery/response locations.	Existing	All counties, municipalities, school boards and utilities	County EMA Office
Action 5.5 Tree Maintenance			
Provide adequate tree maintenance to avoid damages.	Existing	All counties, municipalities and electric utilities	Town/County Utilities
Action 5.6 Safe Rooms/Shelters			
Provide additional safe rooms/shelters.	New & Existing	All counties, municipalities and school boards	County EMA Office
Actions 6.1 to 6.3 Extreme Temperature: When temperatures reach levels that are extremely high or extremely low, they pose dangers that can be alleviated by planning for how to handle such situations.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	County EMA Office
	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Person
Action 6.1 Outreach/Public Education			
Promote accessible heating/cooling centers and public knowledge of them and dangers of extreme temperature.	Existing	All counties and municipalities	County EMA Office
Action 6.2 Heating Bills			
Facilitate payment of bills through organizations offering such services.	Existing	All counties and municipalities	Utilities Department
Action 6.3 Heating and Cooling Centers			
Establish heating/cooling centers.	Existing	All counties and municipalities and school boards	County Engineer
Actions 7.1 to 7.6 Winter Weather/Snowstorms: Proper preparation can decrease the risks of injury which can occur during cold weather and snowstorms.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	County EMA Office

	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Position
Action 7.1 Family and Traveler Emergency Preparedness			
Distribute emergency preparedness materials to families and travelers.	Existing	All counties and municipalities and school boards	County EMA Office
Action 7.2 Driver Safety			
Include driver safety education in safety programs and driver's education courses.	Existing	All counties and municipalities and school boards	County Commission
Action 7.3 Power Lines			
Bury or protect power lines where feasible.	New & Existing	All counties and municipalities and electric utilities	County Engineer
Action 7.4 Code Enforcement			
Enforce local codes relating to structural and load-bearing characteristics.	New & Existing	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Hamilton, Haleyville, Lamar Co. Walker Co., Vernon, Kennedy, Lawrence Co.,	County Commission
Action 7.5 Shelters			
Establish heating centers for vulnerable populations.	Existing	All counties and municipalities and school boards	County Engineer
Action 7.6 Roads			
Plan for and maintain adequate road safety equipment and supplies.	Existing	All counties and municipalities	County Engineer and County EMA
Actions 8.1 to 8.2 Sinkholes: Some areas of land are susceptible to collapse. Risks of collapse can be determined and managed.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	County Engineer and County EMA
	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Positions
Action 8.1 Community Awareness			
Provide information on the risks of sinkholes and activities that can mitigate risks.	New & Existing	Colbert Co., Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin Co., Hodges, Red Bay, Russellville, Vina,	County Engineer and County EMA

		Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, , Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Marion Co., Brilliant, Hackleburg, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipsey, Sumiton	
Action 8.2 Mapping			
Participate in efforts to map sinkholes.	New & Existing	Colbert Co., Leighton, Littleville, Muscle Shoals, Sheffield, Tuscumbia, Franklin Co., Hodges, Red Bay, Russellville, Vina, Lamar Co., Beaverton, Detroit, Kennedy, Vernon, Millport, Sulligent, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Marion Co., Brilliant, Hackleburg, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipsey, Sumiton	County Engineer
Actions 9.1 to 9.9 Earthquakes: Some regions are particularly susceptible to earthquake damage. Risks of injury and damage from earthquake events can be determined and managed.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	County Engineer and County EMA
	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Positions
Action 9.1 Seismic Hazard Mapping			
Participate in efforts to map seismic hazards.	New & Existing	All counties and municipalities	County Engineer
Action 9.2 Related Hazard Mapping			

Participate in efforts to locate and map related features, including secondary earthquake hazards, evacuation routes, response and recovery centers, shelters, etc.	New & Existing	All counties and municipalities	County Engineer
Action 9.3 Map Education			
Map users should be educated in the appropriate uses and limitations of maps.	New & Existing	All counties and municipalities and school boards	County Engineer
Action 9.4 Capital Improvements Planning			
Plan capital facilities to accommodate earthquake risks.	New	All counties and municipalities and school boards and utilities	Mayor's Office
Action 9.5 Building Codes			
Enforce building codes sufficient to minimize structural weaknesses, as appropriate to earthquake risks.	New & Existing	Cherokee, Muscle Shoals, Sheffield, Tuscumbia, Russellville, Hamilton, Haleyville Lamar Co., Kennedy, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Sipsy, Oakman, Parrish, Sumiton	County Commission Office and Building Department
Action 9.6 Buildings as Structural Hazards			
Strengthen existing buildings in ways appropriate to the risk of earthquakes.	New & Existing	All counties and municipalities and school boards and utilities	County Commission Office and Building Department
Action 9.7 Non-Structural Hazards			
Secure non-structural items against earthquakes.	New & Existing	All counties and municipalities and school boards and utilities	County EMA
Action 9.8 Bridge Strengthening			
Strengthen bridges as appropriate for the risk of earthquakes.	Existing	All counties and municipalities	County Engineer
Action 9.9 Hazard Mitigation Awareness			

Participate in public outreach campaigns and make information available to the public.	New & Existing	All counties and municipalities and school boards	County EMA
Actions 10.1 to 10.3 Drought: Periods of time with little or no precipitation can pose risks that can be mitigated with conservation and preparation.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	County EMA
	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Positions
Action 10.1 Water Saving			
Encourage citizens to save water during droughts.	Existing	All counties and municipalities and school boards and utilities	County EMA
Action 10.2 Water Storage			
Maintain sufficient water treatment and storage for extreme drought conditions.	Existing	All counties and municipalities and utilities	County Commission and Water Board
Action 10.3 Delivery System			
Designs and plans for water delivery systems will include consideration of drought events.	New & Existing	All counties and municipalities and utilities	County Engineer and Water Board
Actions 11.1 to 11.9 Wildfire: Wildfires typically start in woodland or prairie areas. They can occur naturally though they are often exacerbated by human activities. Wildfires can be hard to control as they threaten homes and communities located nearby. Although preventing or controlling wildfires is preferable, there are many mitigation efforts we can take to prevent or alleviate damage to our homes and communities when fires inevitably occur.	Partners & Participants local gov'ts; EMA, AEMA, FEMA, developers, others TBD	Funding Sources local; AEMA/FEMA (HMGP; PDM) ADECA; others TBD	County EMA
	Structures Affected (New/Existing)	Participating Jurisdictions	Responsible Positions
Action 11.1 Public Education			
Participate in public outreach efforts to provide public education materials.	New & Existing	Cherokee, Colbert Co., Sheffield, Franklin Co., Red Bay, Vina, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek Marion	County Commission and County EMA

		Co., Bear Creek, Brilliant, Guin, Gu-Win, Hackleburg, Hamilton, Twin, Winfield, Haleyville, Winston Co., Addison, Arley, Double Springs, Haleyville, Lynn, Natural Bridge, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Sipse, Oakman, Parrish, Sumiton	
Action 11.2 Zoning			
Enforce zoning regulations that minimize wildfire risks.	New & Existing	Cherokee, Sheffield, Russellville, Winfield, Hamilton, Double Springs	County Commission
Action 11.3 Defensible Space			
Encourage buffer zones sufficient to minimize wildfire risk.	New & Existing	Cherokee, Colbert Co., Sheffield, Franklin Co., Red Bay, Vina, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Marion Co., Bear Creek, Brilliant, Guin, Gu-Win, Twin, Hackleburg, Hamilton, Winfield, Haleyville, Winston Co., Addison, Arley, Double Springs, Lynn, Natural Bridge, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	County EMA
Action 11.4 GIS Mapping			
Participate in efforts to map wildfire threats.	New & Existing	Cherokee, Colbert Co., Sheffield, Franklin Co., Red Bay, Vina, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro,	County Engineer and County EMA

		North Courtland, Town Creek, Marion Co., Bear Creek, Brilliant, Guin, Gu-Win, Hackleburg, Hamilton, Twin, Winfield, Haleyville, Winston Co., Addison, Arley, Double Springs, Lynn, Natural Bridge, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton,	
Action 11.5 Power Line Management			
Maintain power lines to minimize threat of fire.	Existing	Sheffield	Utilities Department
Action 11.6 Property Maintenance			
Encourage appropriate property maintenance to minimize wildfire threats.	Existing	Cherokee, Colbert Co., Sheffield. Franklin Co., Red Bay, Vina, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Marion Co., Bear Creek, Brilliant, Guin, Gu-Win, Hackleburg, Hamilton, Twin, Winfield, Haleyville, Winston Co., Addison, Arley, Double Springs, Lynn, Natural Bridge, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	County EMA
Action 11.7 Fireplace and Chimney Maintenance			
Enforce restrictions on burning that minimize fire risk.	Existing	Cherokee, Colbert Co., Sheffield. Franklin Co., Red Bay, Vina, Lamar Co., Beaverton,	County Commission Building Department

		Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Marion Co., Bear Creek, Brilliant, Guin, Gu-Win, Hackleburg, Hamilton, Twin, Winfield, Haleyville, Winston Co., Addison, Arley, Double Springs, Lynn, Natural Bridge, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	
Action 11.8 Motorized Equipment			
Maintain equipment in a manner that minimizes fire risk.	Existing	Cherokee, Colbert Co., Sheffield. Franklin Co., Red Bay, Vina, Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Marion Co., Bear Creek, Brilliant, Guin, Gu-Win, Hackleburg, Hamilton, Twin, Winfield, Haleyville, Winston Co., Addison, Arley, Double Springs, Lynn, Natural Bridge, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	County Commission and Building Department
Action 11.9 Flammable Materials			
Store flammable materials in a manner that minimizes fire risk.	Existing	Cherokee, Colbert Co., Sheffield. Franklin Co., Red Bay, Vina,	County Commission and

		Lamar Co., Beaverton, Detroit, Kennedy, Millport, Sulligent, Vernon, Lawrence Co., Moulton, Courtland, Hillsboro, North Courtland, Town Creek, Marion Co., Bear Creek, Brilliant, Guin, Gu-Win, Hackleburg, Hamilton, Twin, Winfield, Haleyville, Winston Co., Addison, Arley, Double Springs, Lynn, Natural Bridge, Walker County, Carbon Hill, Cordova, Dora, Eldridge, Jasper, Kansas, Nauvoo, Oakman, Parrish, Sipse, Sumiton	Building Department
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Source: information provided by respective counties

5.5.2 Jurisdictional Action Plans⁷

The following section of the plan details the ongoing planning activities of each local jurisdiction and provides information on the status of mitigation activities proposed in previous plans. It reviews the status of proposed planning activities as completed, deferred (pending funding within current planning cycle), or deleted and briefly discusses the local capacity that has affected this status. Deferred actions are designated as such with the expectation of implementing and/or completing the item within the specified time frames, with the possibility of acquiring additional funding.

Action items were determined as (1), Low- not an immediate need, low impact, (2) Moderate- some impact, but not an immediate, or (3) High Priority-high impact, immediate need. Other considerations included: level of impact=High, local financial feasibility=Moderate and funding opportunities readily available for each municipality=Low.

Benefit Score Criteria was determined utilizing the following criteria below:

- Enhancement of quality of life- High
- Natural and beneficial values- Moderate
- Other Benefits- Low

⁷ This section has been thoroughly reviewed and revised to include ongoing planning activities and identify the office responsible for implementation.

**COLBERT COUNTY
HAZARD MITIGATION ACTION PLAN**

Colbert County Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Drainage, and elevation options are being explored. Increased growth in demand for water is causing problems with drought; conservation efforts are being implemented. The area is susceptible to high winds; Provision of safe rooms for students and public is the primary option.

Goal	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Provide safe rooms for students and public Estimated Timeframe: 1-3 years	All	County Administrator	CDBG	High	High
1,5	Provide back-up generators Estimated Timeframe: 1-3 years	All	EMA	Local	High	High
1,3	Improve drainage at facilities to provide safety for students and public Estimated Timeframe: 1-3 years	All	County Administrator		High	Moderate
1	Plan capital investments to mitigate hazards Estimated Timeframe: 1-3 years	All	County Administrator	Local	Moderate	Moderate
1	Install surge protectors	All	County Administrator	Local	High	High

	Estimated Timeframe: 1-3 years					
1	Store loose item	All	Colbert County EMA	Local	High	Moderate
2,5	Participate in community outreach and awareness of hazards and hazard mitigation Estimated Timeframe: 1-3 years	All	Colbert County EMA	HGMP	High	High
3	Flood Protection Estimated Timeframe: 1-3 years	Flooding	NFIP Coordinator	ADECA/ Local	High	High
1	Colbert County was a participant in the FEMA Flood Map Modernization Program, which improved flood mapping data. Estimated Timeframe: 1-3 years	Flooding	County Administrator	ADECA/Local	Complete (partial)	High
1,3	Deferred (Funding). Colbert County continues to seek remedies to flooding issues in areas of the County Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	ADECA/Local /Other TBD	High	Moderate

1,3	Hollowfield Rd.- Dead –end dirt road accepted by the County 2 years ago- During major flooding event road gets blocked at beaver pond area. Solution explored is to elevate road. Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/Local/ Other TBD	High	Moderate
1,3	6 th Street at Fennel Rd.- Water stays for months presenting safety issues. Solution is to elevate road. Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/Local/ Other TBD	High	Moderate
1,3	Cassie Davis- House flooding/Blocked road. Solutions include drainage improvements and buyout Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/Local/ Other TBD	High	Moderate
1,3	Dawson Store-Three houses with flooding and four others blocked during flooding. Solutions include elevation and/or buy out Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/Local/ Other TBD	High	Moderate

1, 3	Mulberry Lane- Two separate areas on this road flood. In the West Area, sinkholes appear stopped up which cause water to cover road during flash floods. On the East portion of the road the creek floods and blocks road. Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/Local/Other TBD	High	High
1	Lane Springs Bridge- Thirty-foot bridge on County 1 has previously washed out. Forces traffic diversion of approximately 15 miles. Water continues to undermine bridge. Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/Local/Other TBD	High	High
1	Shook Rd.-Private roads (private deed)- Eight homes along Bear Creek appear to be in floodplain. Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/Local/Other TBD	Moderate	Moderate
1	Depot Lane-Area just north of railroad tracks in Barton has three houses subject to flooding and nine	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/Local/Other TBD	High	High

	more have water on their properties. Estimated Timeframe: 1-3 years					
1	Buck Bridge/ 6 th Street -three houses in floodplain, and the roadway also floods. Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/ Local/Other TBD	Moderate	High
1,3	Old Hwy 20 near Aviator Lane – Dry Creek floods its banks causing water to over top Old Hwy 20 as well as the private drive known as Aviator Lane. Houses on the private drive are in danger of flooding. Solutions considered are working with the Corp of Engineers to improve drainage of Dry Creek. Estimated Timeframe: 1-3 years.	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/ Local/Other TBD	High	High
1,3	Old Hwy 20 near Galilee Church – Road in this area often overtops due to flash flooding. Possible solution is to improve drainage or elevate roadway.	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/ Local/Other TBD	High	High

	Estimated Timeframe: 1-3 years					
1,3	Crockett Lane – Road near Leighton stays under water after flooding. Possible solution is elevating the roadway. Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/ Local/Other TBD	High	High
1,3	Gate 6 Road – Area near Hwy 184 has major drainage issues due to flat topography and backing up of Pond Creek due to beavers and other issues, possible solution is improvement of Pond Creek drainage and elevation of the roadway. Estimated Timeframe: 1-3 years.	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/ Local/Other TBD	High	High
1,3	County Line Road – Area South of River Rd overtops during flash flooding. Solution would be to elevate the roadway. Estimated Timeframe: 1-3 years.	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/ Local/Other TBD	High	High
1,3	Cottontown Ln – Portion of road stays under water after	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/ Local/Other TBD	High	High

	<p>flooding. Solution would be to elevate the roadway. Estimated Timeframe: 1-3 years.</p>					
1,3	<p>6th St – Section between Hwy 133 and NAL stayed under water for 4 weeks after last major flood event. This is a very busy road and causes traffic and safety concerns. Solution is to elevate the roadway. Estimated Timeframe: 1-3 years.</p>	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/Local/Other TBD	High	High
1,3	<p>Beacon Light Road – Road gets under water during flash flooding. Solutions would be drainage improvements and roadway elevation. Estimated Timeframe: 1-3 years.</p>	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/Local/Other TBD	High	High
1,3,4	<p>Marthaler Lane – Area south of Hwy 184 near Pond Creek overtops during severe flooding. Beavers have caused entire area to be inundated with water year-round. This also has an effect on a private road known as Mule Dr. Solutions</p>	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/Local/Other TBD	High	High

	<p>considered are to work with Corp of Engineers to improve drainage along Pond Creek.</p> <p>Estimated Timeframe: 1-3 years.</p>					
1,4,5	<p><u>Water Supply.</u> Deferred (Funding). Colbert County continues to experience growth in demand for water throughout the County. During recent drought conditions, demand for water has exceeded the County's capacity to treat and store water for residential, commercial and industrial uses. The County will explore a comprehensive range of solutions including water management and conservation plans, interconnectivity with neighboring water facilities, and construction of additional treatment facilities to find safe, efficient solutions to this growing problem. Additional storage for the East end system would help alleviate some problems that are being encountered.</p>	All	Water Board	Other/ TBD	Medium	Medium

	Estimated Timeframe: 1-3 years.					
5	<p><u>Emergency Warning System</u>. Complete (Partial)/Deferred (Funding). There is a countywide emergency warning system in place, which is maintained by the Emergency Management Agency. This system contains numerous sirens and is currently in the process of expanding with the installation of 24 new sirens to reach a wider audience using HMGP funds. Additional sirens are needed.</p> <p>Estimated Timeframe: 1-3 years.</p>	All	Colbert County EMA	CDBG/HGMP/ Local/Other TBD	Completed (Partial)	High
5	<p>Community Shelters / Safe Centers. Complete (Partial)/Deferred (Funding). The County EMA is currently using HMGP funds to assist in the construction of storm shelters strategically located throughout the county in order to provide safe and accessible places for citizens to go in the case of</p>	High Winds	County Administrator	CDBG/Other TBD	Complete (Partial)	High

	tornados or other severe storm activities. These centers will need to be provided with adequate emergency generators. Additional shelters are needed. Estimated Timeframe: 1-3 years.					
5,4	Emergency Communications. Deferred (Funding). Colbert County's first responders particularly the Colbert County Sherriff's Department needs upgrades to communications equipment: radios, repeaters, towers, and cameras. Estimated Timeframe: 1-3 years.	All	Colbert County EMA	HGMP/Local/ Other TBD	Medium	High
2	Public Education and Outreach: Colbert County provides severe weather-related updates when severe weather of any type poses a threat. The county maintains email, text, and telephone communications and provides briefings and updates on weather. The County provides information on how to respond to severe	All	Colbert County EMA	HGMP/Local/ Other TBD	High	Moderate

<p>weather in the form of briefings and information to be distributed to potentially affected individuals, such as those exposed to extreme cold when the threat of extreme cold is presented.</p> <p>Estimated Timeframe: 1-3 years.</p>					
<ul style="list-style-type: none"> • Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in Colbert County will be coordinated through the Office of the County Commission and the Emergency Management Agency. 					

<p align="center">Colbert County Schools Mitigation Action Plan</p>						
<p>Vulnerability Summary: Major issues include flooding in several major corridors. Drainage, and elevation options are being explored. Increased growth in demand for water is causing problems with drought; conservation efforts are being implemented. The area is susceptible to high winds; Provision of safe rooms for students and public is the primary option.</p>						
Goal	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Provide back-up generators. Estimated Timeframe: 1-3 years.	All	County Administrator	CDBG	High	High
1,5	Install surge protectors. Estimated Timeframe: 1-3 years.	All	EMA	Local	High	High

1,5	Provide safe rooms for students and public. Estimated Timeframe: 1-3 years.	High Winds	County Administrator	CDBG	High	High
1	Store loose items. Estimated Timeframe: 1-3 years.	All	County Administrator	Local	High	Moderate
1	Plan capital investments to mitigate hazards. Estimated Timeframe: 1-3 years.	All	County Administrator	Local	Moderate	Moderate
2,5	Participate in community outreach and awareness of hazards and hazard mitigation	All	Colbert County EMA	HGMP	High	High
<ul style="list-style-type: none"> Mitigation activities in the Colbert County School System will be coordinated through the Superintendent and the School Board. 						

Town of Cherokee Mitigation Action Plan
Vulnerability Summary: Major issues include flooding in several major corridors. Drainage, and elevation options are being explored. The area is susceptible to high winds; Provision of safe rooms for students and public is the primary option. The area is susceptible to wildfires. Options include constructing a fire station on the south side of the Norfolk Southern Railroad to house and disperse emergency equipment.

Goal	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,3	8 th St. Cherokee-Subdivision in Northeastern Cherokee. Two sinkholes located in the subdivision have historically been stopped up and caused water to get into two houses. County has recently cleaned out sinkholes. Water gets over road. Estimated Timeframe: 1-3 years	Flooding	County Administrator and Colbert County EMA	CDBG/HGMP/Local/Other TBD	Moderate	High
1,5	A second shelter should be added near the high school for protection during severe weather for students in high school and residence in Lyle Acers Subdivision. Estimated Timeframe: 1-3 years.	High Winds	City/Town Administration/Colbert County EMA	CDBG/FMA/HGMP/ Other TBD	High	High
1,5	Flooding: Deferred (Funding).	Flooding	City/Town Administration/	CDBG/FMA/HGMP/ Other TBD	Moderate	Moderate

	Construct and improve existing storm drainage systems, ditches, etc., in flash flood areas. The town has several areas that flood during heavy or multiple day rains that may not be located in designated flood plain areas. Estimated Timeframe: 1-3 years.		Colbert County EMA			
1,5	Fire/Wildfire Protection. Deferred (Funding). Construct a fire station on the south side of the Norfolk Southern Railroad to house and disperse emergency equipment. If possible, this facility would include some type of shelter facility. This new facility would prevent the total loss of emergency equipment in the event that something happened to the current facility.	Wildfire	City/Town Administration/ Colbert County EMA	CDBG/FMA/H GMP/ Other TBD	Moderate	High

	Estimated Timeframe: 1-3 years.					
5	<u>Backup Power at Essential Sewer Facility.</u> Deferred (Funding). Complete site work and install a 200 KW diesel generator at the Cherokee Water Treatment Plant to assure power for emergency operations. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Colbert County EMA	CDBG/FMA/H GMP/ Other TBD	Moderate	High
5	Warning Systems and Drainage project Cherokee sewer system. Estimated Timeframe: 1-3 years.	High winds and Flooding	City/Town Administration/ County EMA	CDBG/FMA/ HGMP/ Other TBD	High	High

- Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Town of Cherokee will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Cherokee Utilities Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Drainage, and elevation options are being explored. The area is susceptible to high winds; Provision of safe rooms for students and public is the primary option. The area is susceptible to wildfires. Options include constructing a fire station on the south side of the Norfolk Southern Railroad to house and disperse emergency equipment.

Goal	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Provide back-up generators Estimated Timeframe: 1-3 years.	All	City/Town Administration/ County EMA	CDBG/FMA/HG MP/ Other TBD	High	High
5	Coordinate drainage easements Estimated Timeframe: 1-3 years.	All	City/Town Administration/ County EMA		Moderate	High
5	Install surge protectors Estimated Timeframe: 1-3 years.	All	City/Town Administration/ County EMA	Local/Other TBD	High	High
1	Design buildings to mitigate structural and non-structural hazards. Estimated Timeframe 3-5 years.	All	City/Town Administration/ County EMA	Local/Other TBD	Moderate	Medium
2,5	Encourage water saving in droughts. Continuous	Drought	City/Town Administration/ County EMA	Local	Moderate	Medium
1	Provide adequate water storage to protect against drought. Estimated Timeframe: 3-5 years.	Drought	City/Town Administration/ County EMA	CDBG/FMA/HG MP/ Other TBD	Moderate	High

- Mitigation activities in the Cherokee Utilities will be coordinated through the supervisor of Cherokee utilities.

Town of Leighton Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Funding for maintaining and cleaning drain ditches is being explored as well as the installation of water valves. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option; the area is susceptible to wildfires. A wildfire readiness plan and a wildfire prevention plan will be utilized to address this hazard

Goal	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Provide back-up generators Estimated Timeframe: 1-3 years.	All	City/Town Administration/ County EMA	CDBG/FMA/HG MP/ Other TBD	High	High
5	Generators for critical infrastructure. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ County EMA			
1	Funding for cleaning and maintaining drainage ditches Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration	CDBG/Local/ Other TBD	Moderate	Moderate
5	Water valves to isolate in case of emergency. Estimated Timeframe: 1-3 years.	All	City/Town Administration	CDBG/Local/ Other TBD	Moderate	Medium

5	Develop emergency plan for after school activities. Estimated Timeframe: 1-3 years.	All	Colbert County EMA	CDBG/Local/ Other TBD	Moderate	Medium
5	The Colbert County Rangers' Office responds to over fifty wildfires a year on average in Colbert County. A fire set at the right time could do considerable damage. This is especially true with the increasing number of homes being built. The Alabama Forestry Service (with the assistance of the local fire department) has two plans in place to deal with this situation: a wildfire readiness plan and a wildfire prevention plan. Estimated Timeframe: 1-3 years.	Wildfire	Colbert County Forestry Office, Colbert County Association of Volunteer Fire Departments	CDBG/Local/ Other TBD	Moderate	High

- Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Town of Leighton will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Town of Littleville Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Funding is needed for maintaining and cleaning drain ditches. The area is susceptible to high winds; provision of safe rooms for

students and public is the primary option; the area is susceptible to wildfires. A wildfire readiness plan and a wildfire prevention plan will be utilized to address this hazard.

Goal	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	<p><u>Flooding:</u> Maintain storm water system. Littleville works to keep drains clean that are stopped up during heavy rains and winds. Estimated Timeframe: 1-3 years.</p>	All	City/Town Administration/ County EMA	CDBG/FMA/HG MP/ Other TBD	Complete (partial)	High
5	<p>The Colbert County Rangers' Office responds to over fifty wildfires a year on average in Colbert County. A fire set at the right time could do considerable damage. This is especially true with the increasing number of homes being built. The Alabama Forestry Service (with the assistance of the local fire department) has two plans in place to deal with this situation: a wildfire readiness plan and a wildfire prevention plan.</p>	Wildfire	Colbert County Forestry Office, Colbert County Association of Volunteer Fire Departments	HMP/CDBG/ LOCAL	Moderate	High

	Estimated Time frame: 3-5 years.					
<ul style="list-style-type: none"> • Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Town of Littleville will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Muscle Shoals City Mitigation Action Plan						
Vulnerability Summary: Major issues include flooding in several major corridors. A Special Flood Hazard Area Improvement Program has been implemented, as well as other drainage improvements completed. The area is susceptible to wildfires. A wildfire readiness plan and a wildfire prevention plan will be utilized to address this hazard.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	The Colbert County Rangers' Office responds to over fifty wildfires a year on average in Colbert County. A fire set at the right time could do considerable damage. This is especially true with the increasing number of homes being built. The Alabama Forestry Service (with the assistance of the local fire department) has two plans in place to deal with this situation: a wildfire readiness	Wildfire	Colbert County Forestry Office, City of Muscle Shoals Fire Department	HMP/Local Other TBD	Moderate	High

	plan and a wildfire prevention plan. Estimated Timeframe: 1-3 years.					
2	Education plan for disaster assistance. Ongoing. An education plan for storm water hazards was developed by the Muscle Shoals City Schools in accordance with EPA guidelines.	All	City/Town Administration / Colbert County EMA	Local/Other TBD	High	High
2	Special Flood Hazard Area (SFHA) Improvement Program Complete. Muscle Shoals implemented the SFHA Improvement Program to update records of structures and actions affecting SFHAs.	Flooding	City/Town Administration/ Colbert County EMA	FMA/ HGMP/ OTHER TBD	Complete	High
1	Citywide Drainage Ordinance. Complete. The city adopted a new drainage ordinance that address stormwater runoff and flooding for any new development within the City of Muscle Shoals.	Flooding	City/Town Administration/ Colbert County EMA	FMA/ HGMP/ OTHER TBD	Complete	High

1	Various Drainage Improvements. Complete (Partial). Drainage improvements are ongoing to protect residential and commercial structures from flooding throughout the city and are completed on an “as needed” basis. Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration/ Colbert County EMA	FMA/ HGMP/ OTHER TBD	Complete (partial)	High
1	Additional capacity at Wilson Dam Road Retention Pond Planned. Excavation of additional storage volume in pond. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Colbert County EMA	FMA/ HGMP/ OTHER TBD	Moderate	High
1	Adding pump capacity at Nathan Estates Retention Pond (Partial). Pump and discharge is being added to existing retention pond. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Colbert County EMA	FMA/ HGMP/ OTHER TBD	Complete (partial)	High
1	SE Quadrant Drainage Study- The city plans to	Flooding	City/Town Administration/	FMA/ HGMP/ OTHER TBD	High	High

	perform a drainage study generally covering the southeast portion of the city. The study will look at ways to mitigate future flooding in some parts of the study area. Estimated Timeframe: 1-3 years.		Colbert County EMA			
1,5	Buena Vista Drainage Improvements- The city plans to install new drainage structures underneath Woodward Avenue near Avalon Avenue. The project will positively affect the drainage on the west side of Woodward Avenue. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Colbert County EMA	FMA/ HGMP/ OTHER TBD	High	High
2	Participate in community outreach and awareness of hazards and hazard mitigation. Estimated Timeframe: 1-3 years.	All	Muscle Shoals Superintendent /Colbert County EMA	Local/Other TBD	High	High
5	Flood Ordinance Revision. Complete. The Muscle Shoals	Flooding	NFIP Coordinator	FMA/ HGMP/ OTHER TBD	Complete	High

	Flood Damage Prevention Ordinance was revised to comply with NFIP Regulations and was adopted by the City Council. Estimated Timeframe: 1-3 years.					
<ul style="list-style-type: none"> Mitigation activities in the City of Muscle Shoals will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Muscle Shoals Electric Board Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Funding is needed for maintaining and cleaning drain ditches. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option. The area is susceptible to wildfires. A wildfire readiness plan and a wildfire prevention plan will be utilized to address this hazard.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Power line maintenance. Ongoing. Estimated Timeframe: 1-3 years.	All	City/Town Administration	Local/Other TBD	High	High
1	Hardening of critical circuits (including overhead and underground conversion and system upgrades)	All	City/Town Administration	Local/Other TBD	Moderate	High

	Estimated Timeframe: 1-3 years.					
1	Provide storm shelter for MSEB warehouse facility. Estimated Timeframe: 1-3 years.	High winds	Colbert County EMA	CDBG	High	Moderate
1,5	Provide offsite facility to store backup equipment and materials. Estimated Timeframe: 1-3 years.	All	City/Town Administration	Other TBD	Moderate	Moderate
5	Purchase satellite phones for emergency communications. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Colbert County EMA	Other TBD	Moderate	High
1,5	Provide back-up generators or mobile pumps to off-site sewage pump stations Estimated Timeframe: 1-3 years.	All	Muscle Shoals City Electric Board	Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in the City of Muscle Shoals will be coordinated through the Muscle Shoals Electric Board and the Emergency Management Agency. Mitigation activities in the Muscle Shoals Electric Board will be coordinated through the general manager and/or appropriate departmental supervisor(s). 						

Muscle Shoals Water Board Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Funding is needed for maintaining and cleaning drain ditches. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option; the area is susceptible to wildfires. A wildfire readiness plan and a wildfire prevention plan will be utilized to address this hazard.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Design Buildings to mitigate structural and non-structural hazards Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Muscle Shoals City Water Board	Other TBD	Low	High
2,3	Encourage water saving in droughts Estimated Timeframe: 1-3 years.	Drought	City/Town Administration/ Muscle Shoals City Water Board	Local/OTHER TBD	Moderate	High
1,4	Coordinate drainage easements Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration/ Muscle Shoals City Water Board	Local	Moderate	High
1	Plan capital investments to mitigate flooding of critical facilities. Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration/ Muscle Shoals City Water Board	Local/OTHER TBD	Moderate	High

- Mitigation activities in the City of Muscle Shoals will be coordinated through the Muscle Shoals City Board and the Emergency Management Agency.
- Mitigation activities in the Muscle Shoals Water Board will be coordinated through the general manager and/or appropriate departmental supervisor(s).

Muscle Shoals Schools Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Funding is needed for maintaining and cleaning drain ditches. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option; the area is susceptible to wildfires. A wildfire readiness plan and a wildfire prevention plan will be utilized to address this hazard.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
2	Provide back-up generators. Estimated Timeframe: 1-3 years.	All	Muscle Shoals Superintendent /Colbert County EMA	Local/Other TBD	High	High
5	Install surge protectors. Estimated Timeframe: 1-3 years.	All	Muscle Shoals Superintendent /Colbert County EMA	Local/Other TBD	High	High
1,5	Provide safe rooms for students and public. Estimated Timeframe: 1-3 years.	All	Muscle Shoals Superintendent /Colbert County EMA	Local/Other TBD	High	High
1	Store loose items. Estimated Timeframe: 1-3 years.	All	Muscle Shoals Superintendent /Colbert County EMA	Local/Other TBD	High	Moderate
1	Plan capital investments to mitigate hazards. Estimated Timeframe: 1-3 years.	All	Muscle Shoals Superintendent /Colbert County EMA	Local/Other TBD	Moderate	Moderate
5	The Colbert County Rangers' Office responds to over fifty wildfires a year on average in Colbert County. A fire set at the right time could do considerable damage. This is especially true	Wildfire	Colbert County Forestry Office, City of Muscle Shoals Fire Department	HMP/Local Other TBD	Moderate	High

	<p>with the increasing number of homes being built. The Alabama Forestry Service (with the assistance of the local fire department) has two plans in place to deal with this situation: a wildfire readiness plan and a wildfire prevention plan. Estimated Timeframe: 1-3 years.</p>					
<ul style="list-style-type: none"> • Future Actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Muscle Shoals City Schools will be coordinated through the Superintendent and the School Board. 						

<p align="center">Sheffield City Mitigation Action Plan</p>						
<p>Vulnerability Summary: Major issues include flooding in several major corridors. Storm water drainage and tree maintenance will be implemented. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option; the area is susceptible to wildfires. A wildfire prevention plan will be utilized to address this hazard.</p>						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
2	Provide back-up generators Estimated Timeframe: 1-3 years.	All	City/Town Administration /Colbert County EMA	Local/Other TBD	High	High

1	<p>Storm water and drainage maintenance. The city has continued to maintain and improve storm water drainage facilities. A major storm drainage improvements project was completed in 2017 which upgraded pumping capacity and reliability at the Towne Plaza Pump Station and replaced a failed large diameter pipe outfall in the Furnace Hill area to the Tennessee River.</p> <p>Estimated Timeframe: 3-5 years.</p>	Flooding	City/Town Administration /Colbert County EMA	Local/Other TBD	High	High
1	<p>Tree maintenance and power line maintenance program. The city has continued an ongoing program to maintain trees in a manner that minimizes</p>	Flooding	City/Town Administration /Colbert County EMA	Local/Other TBD	Moderate	High

	<p>damage from storm events.</p> <p>The city works to remove limbs from overhead power lines.</p> <p>Estimated Timeframe: 1-3 years.</p>					
1	<p>The city is up to date with Building Code adoption.</p>	All	City/Town Administration	Local/Other TBD	Complete	Moderate
1,5	<p>The city intends to install additional warning sirens at strategic locations as funding is available.</p> <p>Estimated Timeframe: 1-3 years.</p>	All	City City/Town Administration /Colbert County EMA	Local/Other TBD	High	High
1,5	<p>Flood studies for problem areas. The city intends to seek funding to conduct a comprehensive storm drainage facilities plan.</p> <p>Estimated Timeframe: 1-3 years.</p>	All	City/Town Administration /Colbert County EMA	Local/CDBG/Other TBD	High	High
1,3	<p>GIS improvements to assist with storm water maintenance. Sheffield Utilities cooperates with the city in continuing to</p>	All	City/Town Administration	Local	Moderate	Moderate

	<p>update its GIS mapping of drainage, sanitary sewer, and water system facilities.</p> <p>Estimated Timeframe: 1-3 years.</p>					
1	<p>Sheffield Utilities- Water Plant, Wastewater Plant, Natural Gas and Distribution and Collection and Electric:</p> <ul style="list-style-type: none"> -Plant chemical containment and alternative chemical feed systems -Building structure enhancements to mitigate structural and non-structural hazards -Back-up generators at water booster stations and wastewater lift stations -Bypass pump with generator -Coordinate and clear drainage easements -Remove or replace suspended sewer lines along 	All	City/Town Administration	Local/CDBG/Other TBD	High	High

	<p>Tennessee River and Spring Creek</p> <ul style="list-style-type: none"> -Provide new piping in annexed areas and locations where corrosion is present -Provide enhanced connections with nearby cities to ensure water supply to citizens -Secure the best sensor technology for detecting gases -Secure and upgrade natural gas regulator stations in flood or risk areas -Enhance water intake to plant during drought conditions <p>Install surge protectors</p> <ul style="list-style-type: none"> -Maintain power lines, bury power lines, and maintain trees to protect against hazard. <p>Estimated Timeframe: 1-3 years.</p>					
1	<p>Install storm shelters</p> <p>Estimated Timeframe: 1-3 years.</p>	High winds	Colbert County EMA	Local/ CDBG/Other TBD	High	High

1	Flood Protection: Kings Bridge (demolished) Colbert Lane, Old Lee Hwy intersection with Barnes Rd near Barton, and Gargis / Hollow Road(complete d)	Flooding	Colbert County EMA	Demolished/ Completed	Low	High
<ul style="list-style-type: none"> Mitigation activities in the City of Sheffield will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Sheffield Schools Mitigation Action Plan						
Vulnerability Summary: Major issues include flooding in several major corridors. Funding is needed for maintaining and cleaning drain ditches. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option; the area is susceptible to wildfires. A wildfire readiness plan and a wildfire prevention plan will be utilized to address this hazard.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
2	Provide back-up generators Estimated Timeframe: 1-3 years.	All	City/Town Administration /Colbert County EMA	Local/Other TBD	High	High
5	Install surge protectors Estimated Timeframe: 1-3 years.	All	City/Town Administration /Colbert County EMA	Local/Other TBD	High	High
1,5	Provide safe rooms for students and public	All	City/Town Administration /Colbert County EMA	CDBG/Local/ Other TBD	High	High

	Estimated Timeframe: 1-3 years.					
1	Store loose items Estimated Timeframe: 1-3 years.	All	City/Town Administration /Colbert County EMA	Local/Other TBD	High	Moderate
1	Plan capital investments to mitigate hazards Estimated Timeframe: 3-5 years.	All	City/Town Administration /Colbert County EMA	CDBG/FMA/ HGMP/Local/ Other TBD	Moderate	Moderate
2	Participate in community outreach and awareness of hazards and hazard mitigation Estimated Timeframe: 1-3 years.	All	City/Town Administration /Colbert County EMA	Local/Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in the Sheffield City Schools will be coordinated through the Superintendent and the School Board. 						

Sheffield Utilities Mitigation Action Plan						
Vulnerability Summary: Major issues include flooding in several major corridors. Funding for maintaining and cleaning drain ditches. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option; the area is susceptible to wildfires. The area is susceptible to drought; The town plans to provide adequate water storage to protect against drought.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
2	Provide back-up generators	All	City/Town Administration /Colbert County EMA	Local/Other TBD	High	High

	Estimated Timeframe: 1-3 years.					
5	Install surge protectors Estimated Timeframe: 1-3 years.	All	City/Town Administration /Colbert County EMA	Local/Other TBD	High	High
1,5	Provide safe rooms for students and public Estimated Timeframe: 1-3 years.	All	City/Town Administration /Colbert County EMA	CDBG/Local/ Other TBD	High	High
1	Store loose items Estimated Timeframe: 1-3 years.	All	City/Town Administration /Colbert County EMA	Local/Other TBD	High	Moderate
1,4	Coordinate drainage easements Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration /Colbert County EMA	Local/Other TBD	High	Moderate
1	Maintain power lines, bury power lines, and maintain trees to protect against hazards Estimated Timeframe: 1-3 years.	All	City/Town Administration	Local/Other TBD	Moderate	High
1,5	Provide adequate water storage to protect against drought	Drought	City/Town Administration /Colbert County EMA	Local/Other TBD	Moderate	High

	Estimated Timeframe: 3-5 years.					
2	Encourage water saving in droughts Continuous	All	City/Town Administration /Colbert County EMA	CDBG/FMA/HGMP/Local/Other TBD	Moderate	Moderate
1	Design Buildings to mitigate structural and non-structural hazards Estimated Timeframe: 5-10 years.	All	City/Town Administration	Other TBD	Low	High
<ul style="list-style-type: none"> Mitigation activities in the Sheffield Utilities will be coordinated through Sheffield Utilities. 						

Tuscumbia City Mitigation Action Plan						
<p>Vulnerability Summary: Major issues include flooding in several major corridors. Funding is needed for maintaining and cleaning drain ditches. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option; the area is susceptible to wildfires. The area is susceptible to drought; A new water supply system is in place to mitigate vulnerability. The area is susceptible to wildfire. A wildfire readiness plan and a wildfire prevention plan will be utilized to address this hazard.</p>						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Relocate sewer lines in danger of flood damage. Partial. The city has relocated one of several sewer lines in danger of being damaged from flooding.	Flooding	City/Town Administration	CDBG/HGMP/Other TBD	Partial Completion	High

	Additional lines await funding opportunities. Estimated Timeframe: 1-3 years.					
1	Infiltration and inflow into sanitary sewers during flooding. Partial. The city has corrected problems in some areas. Additional improvements have been deferred due to limited funding Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration	CDBG/HGMP/ Other TBD	High	High
1	Tree maintenance. Status: Partial. The city has an ongoing tree maintenance program that mitigates tree damage Estimated Timeframe: 1-3 years.	All	City/Town Administration	CDBG/HGMP/ Other TBD	High	High
1	Storm water maintenance. Status: (Partial). The city has an ongoing storm water maintenance program that corrects problems with	Flooding	City/Town Administration	CDBG/HGMP/ Other TBD	High	High

	blocked storm drains Estimated Timeframe: 1-3 years.					
1,5	Mitigation actions taken to prevent flood damage to city property. Several homes that were in the flood zone were purchased and removed using FEMA grants. Property in the flood zone has been purchased.	Flooding	City/Town Administration	CDBG/HGMP/ Other TBD	Complete	High
3,5	Water supply. Complete. The city has constructed a new water treatment facility that eliminates the threat of water shortages in the foreseeable future	Drought	City/Town Administration	Local/ Other TBD	Complete	High
5	The Colbert County Rangers' Office responds to over fifty wildfires a year on average in Colbert County. A fire set at the right time could do considerable damage. This is especially true with the increasing	Wildfire	Colbert County Forestry Office, City of Tuscumbia Fire Department	CDBG/HGMP/ Other TBD	Moderate	High

	number of homes being built. The Alabama Forestry Service (with the assistance of the local fire department) has two plans in place to deal with this situation: a wildfire readiness plan and a wildfire prevention plan. Estimated Timeframe: 1-3 years.					
<ul style="list-style-type: none"> Mitigation activities in the Tuscumbia City will be coordinated through the Mayor 						

Tuscumbia Utilities Mitigation Action Plan						
Vulnerability Summary: Major issues include flooding in several major corridors and is addressed through pumping for lift stations during flooding events.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Portable back up power for sewer lift stations Estimated Timeframe: 1-3 years.	All	City/Town Administration	Local/ Other TBD	High	High
1	Portable pumping for lift stations and flooding	Flooding	City/Town Administration	Local/ Other TBD	Moderate	High

	Estimated Timeframe: 3-5 years.					
<ul style="list-style-type: none"> • Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities will be coordinated through Tuscumbia Utilities. 						

Tuscumbia City Schools Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Funding for maintaining and cleaning drain ditches. The area is susceptible to high winds; provision of safe rooms for students and public is the primary option.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Provide back-up generators Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration	CDBG/HGMP/ Other TBD	Partial Completion	High
5	Install surge protectors Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Colbert County EMA	CDBG/HGMP/ Other TBD	High	High
5	Provide safe rooms for students and public Estimated Timeframe: 1-3 years.	High winds	City/Town Administration/ Colbert County EMA	CDBG/HGMP/ Other TBD	High	High
1,5	Store loose items Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Colbert County EMA	Local/Other TBD	High	High
1	Plan capital investments to mitigate hazards	All	City/Town Administration/ Colbert County EMA	Local/Other TBD	Moderate	Moderate

	Estimated Timeframe: 3-5 years.					
2	Participate in community outreach and awareness of hazards and hazard mitigation Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Colbert County EMA	Local/Other TBD	Moderate	Moderate

Mitigation activities in the Tuscumbia City Schools will be coordinated through the Superintendent and the School Board.

Spring Valley Water Mitigation Action Plan

Vulnerability Summary: Major issues include flooding in several major corridors. Drainage easements are being explored. The area is susceptible to drought; encouraging water conservation will be the primary mitigation effort.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Mitigation activities in the Colbert County School System will be coordinated through the Superintendent and the School Board Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration	CDBG/HGMP/ Other TBD	Partial Completion	High
1	Provide back-up generators or mobile pumps to	Flooding	City/Town Administration	CDBG/HGMP/ Other TBD	Partial Completion	High

	off-site sewage pump stations Design Buildings to mitigate structural and non-structural hazards Estimated Timeframe: 1-3 years.					
2,3	Encourage water saving in droughts Estimated Timeframe: 1-3 years.	Drought	City/Town Administration/ Colbert County EMA	CDBG/ HGMP/ Other TBD	Partial Completion	High
3	Coordinate drainage easements Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Colbert County EMA	Local	Moderate	Moderate
1	Plan capital investments to mitigate flooding of critical facilities Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Colbert County EMA	CDBG/ HGMP/ Other TBD	Moderate	Moderate

Mitigation activities for Spring Valley Water will be coordinated through Spring Valley Water.

FRANKLIN COUNTY
HAZARD MITIGATION ACTION PLAN

Franklin County Mitigation Action Plan

Vulnerability Summary: Flooding is an issue for the area especially around Bridges. Mitigation plans include reviewing drainage plans, as well as replacing several bridges that washout or are too narrow to cross during flooding. High wind susceptibility is addressed by increasing the number of storm shelters. Wildfire evacuation plans address the area’s susceptibility. Additional water storage addresses drought vulnerability.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Alert Sense - Mass Notification system for Franklin County. Deferred (Funding). Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration	Other TBD	High	High
1	County Owned Fiber Optic Lines Estimated Timeframe: 3-5 years.	All	City/Town Administration/Franklin County EMA	Other TBD	Moderate	Moderate
5	Early warning system. Franklin County has maintained and upgraded the early warning system throughout the county. A total of 26 sirens are in place in Franklin County, however, additional sirens are still needed. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Franklin County EMA	Complete (Partial)	High	High

5	<p>Storm shelters.</p> <p>Complete (Partial). A total of 33 storm shelters have been installed. There are 4 in Red Bay, 10 in Russellville, 1 in Vina, 1 in Hodges, 7 in Phil Campbell, 1 at Union Community Center, 1 at East Franklin, 1 at Blue Springs, 1 at Gravel Hill, 1 at Frog Pond, 1 at Tharptown, 1 at Belgreen, 1 at Frankfort, 1 at Burnout, and 1 at Pleasant Site. Altogether, these shelters have a capacity of 3400 people. Additional shelters are still needed.</p> <p>Estimated Timeframe: 1-3 years.</p>	High Winds	City/Town Administration/ Franklin County EMA	Complete (Partial)	High	High
5	Flood property mitigation. The county is reviewing the drainage plan and is working toward implementing its	Flooding	City/Town Administration/ Franklin County EMA	Complete (Partial)	High	High

	<p>recommendations . The county is seeking funding for needed improvements. Storm drainage for Oak Hills Subdivision is the top priority</p> <p>Estimated Timeframe: 1-3 years.</p>					
2	<p>Public education for disaster response. School systems provide outreach and awareness in classrooms. Local EMA Director provides outreach and awareness materials to interested public.</p> <p>Estimated Timeframe: 1-3 years.</p>	All	Franklin County EMA	Complete (Partial)	High	High
1,5	<p>Wildfire evacuation planning.</p> <p>Estimated Timeframe: 1-3 years.</p>	Wildfire	Franklin County EMA	Other TBD	High	High
1,5	<p>Construct additional water storage.</p> <p>Estimated Timeframe: 3-5 years.</p>	Drought	City/Town Administration/ Franklin County EMA	OtherTBD	Moderate	High

1	<p>Old Bridges that need to be replaced with a clear span bridge:</p> <p>1. Bridge on Co rd. 68 catches a lot of drift and causes flooding.</p> <p>2. Bridge on Co rd. 63 catches a lot of drift and causes flooding.</p> <p>3. Bridge on Co rd. 27 bridge is too small; approaches wash out during heavy rains.</p> <p>4. Bridge on Co rd. 144 bridge is too small, causes flooding during heavy rains.</p> <p>Estimated Timeframe: 3-5 years.</p>	Flooding	City/Town Administration/ Franklin County EMA	CDBG/FM A/HMGP/Local/Other TBD	Moderate	High
2	<p>Public education for disaster response. School systems provide outreach and awareness in classrooms. Local EMA Director provides outreach and awareness materials to interested public.</p> <p>Estimated Timeframe: 1-3 years.</p>	All	City/Town Administration/ Franklin County EMA	Complete (Partial)	High	High
3,5	<p>Wildfire evacuation planning.</p>	Wildfire	City/Town Administration/ Franklin County EMA	Other TBD	High	High

	Deferred (Funding). Estimated Timeframe: 3-5 years.					
3,5	Construct additional water storage. Deferred (Funding) Estimated Timeframe: 3-5 years.	Drought	City/Town Administration/ Franklin County EMA	Other TBD	High	High

- Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in Franklin County will be coordinated through the Office of the County Administrator and the Emergency Management Agency.

Franklin County Schools Mitigation Action Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the number of storm shelters.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Provide back-up generators Estimated Timeframe: 1-3 years.	All	Franklin County Schools /Franklin County EMA	Other TBD	High	High
5	Install surge protectors Estimated Timeframe: 1-3 years.	All	Franklin County Schools /Franklin County EMA	Other TBD	High	High
1,5	Provide safe rooms for students and public Estimated Timeframe: 1-3 years.	High winds	Franklin County Schools /Franklin County EMA	CDBG/Other TBD	High	High

1	Store loose items Estimated Timeframe: 1-3 years.	All	Franklin County Schools /Franklin County EMA	Other TBD	High	Moderate
1	Plan capital investments to mitigate hazards Estimated Timeframe: 3-5 years.	All	Franklin County Schools /Franklin County EMA	Other TBD	Moderate	High
2,5	Participate in community outreach and awareness of hazards and hazard mitigation Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Other TBD	Moderate	High

Mitigation activities in the Franklin County Schools will be coordinated through the Superintendent and the School Board.

Franklin County Water Authority Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation plans include coordinating drainage easements. High wind susceptibility is addressed by increasing the number of storm shelters. Education and additional water storage addresses drought vulnerability.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Provide back-up generators Estimated Timeframe: 1-3 years.	All	Franklin County Water Authority /Franklin County EMA	Other TBD	High	High
1	Coordinate drainage easements	Flooding	Franklin County Water Authority /Franklin County EMA	CDBG/ Other TBD	High	High

	Estimated Timeframe: 1-3 years.					
5	Install surge protectors Estimated Timeframe: 1-3 years.	All	Franklin County Water Authority /Franklin County EMA	Local/ Other TBD	High	High
1	Design buildings to mitigate structural and non-structural hazards Estimated Timeframe: 1-3 years.	All	Franklin County Water Authority /Franklin County EMA	Other TBD	Moderate	Moderate
2	Encourage water saving in droughts Estimated Timeframe: 1-3 years.	Drought	Franklin County Water Authority /Franklin County EMA	Local Other TBD	High	High
5	Provide adequate water storage to protect against drought Estimated Timeframe: 1-3 years.	Drought	Franklin County Water Authority /Franklin County EMA	Local/ Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in the Franklin County Water Authority will be coordinated through the Superintendent and the Water Board. 						

Town of Hodges Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the number of storm shelters. Wildfire evacuation plans address the area's susceptibility. Additional water storage addresses drought vulnerability.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Provide back-up generators Estimated Timeframe: 1-3 years.	All	City/Town Administration /Franklin County EMA	Other TBD	High	High
2	Public education for disaster response Estimated Timeframe: 1-3 years.	All	City/Town Administration /Franklin County EMA	Local/ Other TBD	High	High
2,5	Wildfire evacuation planning. Deferred (Funding). Estimated Timeframe: 1-3 years.	All	City/Town Administration /Franklin County EMA	Local, HGMP/ Other TBD	High	High
1	Storm shelter construction. Hodges has installed a community shelter with a capacity to shelter 80 persons behind Town Hall. Additional storm shelters are needed throughout the community to serve growing visitation and recreational use of property in the	All	City/Town Administration /Franklin County EMA	Complete (Partial)	High	High

	vicinity of Hodges. Estimated Timeframe: 1-3 years.					
<ul style="list-style-type: none"> • Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Town of Hodges will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Phil Campbell Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation plans include improving storm drainage in flood prone areas. High wind susceptibility is address by increasing the number of storm shelters. Wildfire evacuation plans address the area’s susceptibility. Additional water storage addresses drought vulnerability.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Provide back-up generators Estimated Timeframe: 1-3 years.	All	City/Town Administration /Franklin County EMA	Other TBD	High	High
2	Public education for disaster response. Estimated Timeframe: 1-3 years.	All	City/Town Administration /Franklin County EMA	Local/ Other TBD	High	High
2,5	Wildfire evacuation planning. Estimated Timeframe: 1-3 years.	Wildfire	City/Town Administration /Franklin County EMA	Local/ Other TBD	High	High
1,5	Storm shelter construction. Complete (Partial). Phil Campbell constructed storm shelters at	High winds	City/Town Administration /Franklin County EMA	Completion (partial)	High	High

	the senior/community center which were used on April 27, 2011 to shelter individuals during the EF5 tornado outbreak. Estimated Timeframe: 1-3 years.					
	Improve storm drainage in flood-prone areas of the City and replace aged storm drainage culverts in the city. Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration /Franklin County EMA	Local TBD	High	High

- Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Town of Phil Campbell will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Phil Campbell Water Works and Sewer Board Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation plans include improving storm drainage easements in flood prone areas. High wind susceptibility is addressed by increasing the number of storm shelters. Wildfire evacuation plans address the area's susceptibility. Additional water storage addresses drought vulnerability.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Provide back-up generators	All	Water and Sewer Board	HMGP/ Local/Other TBD	High	High

	Expected Timeframe 1-3 Years		/Franklin County EMA			
1	Coordinate drainage easements. Expected Timeframe 3-5 Years	Flooding	City/Town Administration	HMGP/CDBG/ Local/Other TBD	High	High
5	Install surge protectors Expected Timeframe 1-3 Years	All	Water and Sewer Board /Franklin County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1,5	Design buildings to mitigate structural and non-structural hazards. Expected Timeframe 5-10 Years	All	Franklin County EMA	HMGP/CDBG/ Local/Other TBD	Moderate	Moderate
2	Encourage water saving in droughts. Expected Timeframe 1-3 Years	Drought	Franklin County EMA	HMGP/ Local/Other TBD	High	High
1,5	Provide adequate water storage to protect against drought. Expected Timeframe 1-3 Years	Drought	Franklin County EMA	HMGP/ Local/Other TBD	Moderate	High

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Town of Natural Bridge will be coordinated through the Water and Sewer Board and the Emergency Management Agency.

City of Red Bay Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation plans include improving storm drainage and replacing culverts in flood prone corridors. High wind susceptibility is addressed by increasing the number of storm shelters. Wildfire evacuation plans address the area’s susceptibility.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Public education for disaster response. Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Other TBD	High	High
2,5	Wildfire evacuation planning. Estimated Timeframe: 3-5 years.	Wildfire	Franklin County EMA	Local	High	High
2	Public education for informing residents with up-to-date information regarding their: flood zone.2. flood proofing options, their costs and benefits. 3. need and availability of flood insurance opportunities to participate in programs which can assist them with their mitigation efforts Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Local	High	High

1	Storm drainage improvements. Drainage improvement projects were completed with HMGP and CDBG funds. Additional drainage improvements are needed in other location of the City. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration /Franklin County EMA	Complete (Partial)	High	High
1	Addition of safety shelters in residential areas without shelters Estimated Timeframe: 1-3 years.	High winds	City/Town Administration /Franklin County EMA	Local	High	High
1	Implement the Envision Rating System to ascertain sustainability of infrastructure projects to guide the City's evaluation, maintenance and upgrade of existing infrastructure to determine vulnerabilities as well as opportunities for improvement. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Franklin County EMA	Other TBD	Moderate	High

1	<p>Improve storm drainage in flood-prone areas of the City and replace aged storm drainage culverts in the following areas:</p> <ol style="list-style-type: none"> 1. McCarthy Subdivision 2. Hospital Road 3. Hunter's Road 4. Gober Drive 5. Dogwood Drive 6. 11th Avenue NE 7. Waldrep Drive 8. (Dixie Youth Baseball Fields) <p>Estimated Timeframe: 3-5 years.</p>	Flooding	City/Town Administration/ Franklin County EMA	Other TBD	Moderate	High
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- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above
- Mitigation activities in the Town of Red Bay will be coordinated through the Office of the Mayor and the Emergency Management Agency.

City of Russellville Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include studying the best method for drainage. High wind susceptibility is addressed by increasing the number of storm shelters. Wildfire evacuation plans address the area's susceptibility.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	<p>Public education for disaster response.</p> <p>Estimated Timeframe: 1-3 years.</p>	All	Franklin County EMA	Other TBD	High	High

2	<p>Storm shelters. The city now has nine storm shelters throughout the city. Additional shelters may be needed in areas of the city.</p> <p>Estimated Timeframe: 1-3 years.</p>	High winds	City/Town Administration/ Franklin County EMA	Complete (Partial).	High	High
5	<p>Community emergency services public/private. Russellville fire station number 2 on Highway 43 is in need of an emergency backup generator. This station houses our Haz-Mat, High Angle rescue, Dive team's equipment trailers as well as our only compressor for filling our SCBA's and has been used for temporary IC, community information distribution center, first aid station and emergency short term shelter for the public.</p> <p>Estimated Timeframe: 1-3 years.</p>	All	City/Town Administration/ Franklin County EMA	Local/CDBG/Other TBD	High	High
1	<p>Power line maintenance. Russellville Electric Board,</p>	All	City/Town Administration	Complete (Partial)	High	High

	(REB), is currently in the process of identifying and replacing Power Poles that may potentially be degraded. REB is approximately 80% complete with this project. Estimated Timeframe: 1-3 years.					
1	Flooding/Drainage improvements. The City of Russellville has a few areas that remain prone to flooding that need to be studied and improved Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration	Complete (Partial).	High	High
2	Public education for disaster response. Deferred (Funding). Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Franklin County EMA	Local /Other TBD	High	High
1	Water storage improvements. Deferred (Funding). The City of Russellville has a history of water shortage and/or outage at local treatment facilities during power outages, mechanical	All	City/Town Administration/ Franklin County EMA	Other TBD	High	High

	failures, and drought. This project proposes a one-million-gallon storage tank to facilitate storage capacity at an adequate elevation to supply water to the region during outages. This plan will eliminate the potential water shortages or outages and is estimated at \$998,000.00. Estimated Timeframe: 3-5 years					
1	Sloss Lake Dam failure. The city of Russellville used CDBG funding to repair damage to Sloss Lake Dam which threatened downstream properties. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Franklin County EMA	Complete	High	High
1	Power line upgrades. REB is installing a new substation with 6 outgoing feeders to provide full back up to the existing substation. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Franklin County EMA	Complete (Partial)	High	High
1	Power line relocating. Planning (Local	All	City/Town Administration/	Complete (Partial)	High	High

	<p>funding). REB are currently preparing and ordering material for a project that has been identified as being a trouble spot. REB is planning on relocating overhead services and installing the service underground. This project should virtually eliminate trouble calls in this area. This project is expected to be completed two months after receipt of the materials.</p> <p>Estimated Timeframe: 1-3 years.</p>		Franklin County EMA			
1	<p>Power line preventive maintenance.</p> <p>Ongoing (Local funding). REB tree crews are aggressively performing tree removal/trimming as warranted and required to protect the system, thereby improving reliability of the system.</p> <p>Estimated Timeframe: 3-5 years</p>	All	City/Town Administration/ Franklin County EMA	Ongoing /Local	High	High

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Town of Russellville will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Russellville City Schools Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation plans include improving storm drainage and replacing culverts in flood prone corridors. High wind susceptibility is addressed by increasing the number of storm shelters.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Provide back-up generators Estimated Timeframe: 1-3 years.	All	School Superintendent/ Franklin County EMA	Other TBD	High	High
5	Install surge protectors Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Other TBD	High	High
1,5	Provide safe rooms for students and public Estimated Timeframe: 1-3 years.	High winds	School Superintendent/ Franklin County EMA	Other TBD/ HMP	High	High
1	Store loose items Estimated Timeframe: 1-3 years.	All	School Superintendent/ Franklin County EMA	Other TBD/ HMP	High	Moderate
1	Plan capital investments to mitigate hazards Estimated Timeframe: 3-5 years.	All	School Superintendent/ Franklin County EMA	Other TBD/ HMP	Moderate	Moderate

2	Participate in community outreach and awareness of hazards and hazard mitigation. Estimated Timeframe: 1-3 years.	All	School Superintendent/ Franklin County EMA	Other TBD/ HMP	High	High
<ul style="list-style-type: none"> Mitigation activities in the Russellville City Schools will be coordinated through the Superintendent and the School Board 						

Town of Vina Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation plans include improving storm drainage and replacing culverts in flood prone corridors. High wind susceptibility is addressed by increasing the number of storm shelters.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Provide back-up generators Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Other TBD	High	High
1,5	Storm Shelter. A storm shelter has been installed to provide for residents' safety during storm and tornado events. Additional shelters are needed at locations throughout town in order to shelter additional residents in disasters. Estimated Timeframe: 1-3 years.	High wind	Franklin County EMA	Complete (Partial).	High	High

1	Wastewater facilities improvements. Vina has completed a wastewater facilities study of improvements to wastewater system. The town is seeking funds to implement the recommendations. Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Complete (Partial).	High	High
5	Storm drainage planning. Complete (Partial). The town has completed a drainage plan and is working toward implementing its recommendations. Vina is seeking funding for many of the needed improvements. The City proposes to provide adequate storm drainage culverts on County Road 23, Main St., Pecan St. and at the intersection state Hwy. 19 and County Rd. 23. Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Complete (Partial).	High	High
1	Improve storm drainage in flood-prone areas of the City and replace aged storm drainage culverts in the city.	Flooding	Franklin County EMA	Complete (Partial).	High	High

	Estimated Timeframe: 1-3 years.					
1	Need a permanent generator at backup for raw water source to pump water to the filter plant for treatment. Generator needed to operate the only well source in distribution system. School Superintendent/ Franklin County EMA Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Other TBD	High	Moderate
1	Filter plant basin repairs needed to fix damaged concrete Estimated Timeframe: 1-3 years.	All	Franklin County EMA	Other TBD	High	Moderate
1	Filter media replaced to treat up to 6 million gallons of water per day at filter plant. Estimated Timeframe: 3-5 years.	All	Franklin County EMA	Complete	High	High
1	Road improvements for the only access point to the raw water pump station and primary water source for the City of Russellville. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Franklin County EMA	CDBG/ Other TBD	High	Moderate

1	Filter plant building and site upgrades to make plant safer and acceptable to safety codes. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Franklin County EMA	CDBG	High	Moderate
1	Wastewater infrastructure: Deferred (Funding) Generators needed to operate individual wastewater pump stations in distribution system to prevent flooding and to prevent flooding and environmental issues.	All	City/Town Administration/ Franklin County EMA	Other TBD	High	High
5	Upgrade existing wastewater plant generator and transfer switch to prevent loss of life, environmental disasters and further complicate flooding damage. Estimated Timeframe: 3-5 years	All	City/Town Administration/ Franklin County EMA	Other TBD	High	High
1	Distribution system: Deferred (Funding) Pipe to replace aging water and sewer mains to prevent future flooding issues. Wastewater pump stations upgraded to prevent wastewater from escaping the system during flooding, including pumps and electrical components.	All	City/Town Administration/ Franklin County EMA	CDBG/ Other TBD	High	High

	Estimated Timeframe: 3-5 years					
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- Mitigation activities in the Town of Vina will be coordinated through the Office of the Mayor and the Emergency Management Agency.

LAMAR COUNTY
HAZARD MITIGATION ACTION PLAN

Lamar County Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include enforcing flood management requirements and incorporating drainage improvements. High wind susceptibility is addressed by increasing the number of storm shelters.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Implement Drainage Improvements. Estimated Timeframe: 3-5 years.	All	City/Town Administration	Other TBD	High	High
5	Install Additional Outdoor Warning Sirens. Deferred Estimated Timeframe: 3-5 years.	All	Lamar County EMA	Other TBD	High	High
	Provide indoor warning systems to critical facilities. Estimated Timeframe: 3-5 years.	All	Lamar County EMA	Other TBD	High	High
1,5	Individual Storm Shelters throughout County (568 Units). Estimated Timeframe: 5-10 years.	High winds	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	High
5	Upgrade Communications Equipment. Deferred (Funding). Estimated Timeframe: 3-5 years.	All	Lamar County EMA	Other/TBD	High	High
2,5	Enforce Floodplain Management Requirements: Regulate Construction or	Flooding	Lamar County EMA	Other/TBD	High	High

	improvements in Special Flood Hazard Areas (SFHA's). Continuous. Estimated Timeframe: 3-5 years.					
5	Provide Emergency Generators to Critical Facilities. Deferred (Funding). Estimated Timeframe: 3-5 years.	All	Lamar County EMA	Other/TBD	High	High
<ul style="list-style-type: none"> • Future Mitigation Goals- Implement Drainage Improvement. • Mitigation activities in Franklin County will be coordinated through the Office of the County Administrator and the Emergency Management Agency. 						

Town of Beaverton Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include upgrading drainage and culvert systems. High wind susceptibility is addressed by increasing the number of storm shelters.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Upgrade communications Equipment. Deferred (Funding). Estimated Timeframe: 3-5 years.	All	City/Town Administration	Other/ TBD	High	High
1,5	Build Short-term Community Storm Shelters. Deferred (Funding). Estimated Timeframe: 3-5 years.	High winds	Lamar County EMA	CDBG/Other/ TBD	High	High
1	Upgrade Drainage System, add Culverts, Pipe, Storm Drains. Deferred (Funding). Estimated Timeframe: 5-10 years.	All	City/Town Administration/ Lamar County EMA	CDBG/Other/TB D	High	High

5	Enforce Floodplain Management Requirements, Regulate Construction or Improvements in Special Flood Hazard Areas (SFHA's). Continuous. Estimated Timeframe: 1-3 years.	All	Lamar County EMA	Local Other/TBD	High	High
1	Power line right of way clearing is an ongoing process. Estimated Timeframe: 1-3 years.	High winds	Lamar County EMA	Local Other/TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in the Town of Beaverton will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Detroit Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include enforcing flood management requirements and incorporating drainage improvements. High wind susceptibility is addressed by increasing the number of storm shelters.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Construct short-term Community Storm Shelters with Emergency Generators. Deferred (Funding). Estimated Timeframe: 3-5 years.	High winds	City/Town Administration /Lamar County EMA	CDBG/ Other TBD	High	High
1	Upgrade Drainage System to enlarge ditches, add pipe and storm drain. Deferred (Funding). Estimated	All	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	High

	Timeframe: 3-5 years.					
2,5	Enforce Floodplain Management Requirements, Regulate Flooding. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Lamar County EMA	Local/ Other TBD	High	High
2	All Warning Sirens have been installed; Individual Storm Shelters will always be encouraged. Estimated Timeframe: 3-5 years.	High winds	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	Low	High
<ul style="list-style-type: none"> Mitigation activities in the Town of Detroit will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Kennedy Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include enforcing flood management requirements and incorporating drainage improvements. High wind susceptibility is addressed by increasing the number of storm shelters.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Install additional outdoor warning sirens. Deferred (Funding). Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	High
1	Upgrade Drainage System to enlarge ditches, add pipe and storm drain. Deferred (Funding). Estimated Timeframe: 5-10 years.	Flooding	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	High

2,5	Enforce Floodplain Management Requirements, Regulate Construction or Improvements in Special Flood Hazard Areas (SFHA's). Continuous	Flooding	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	High
1	Encourage Individual Storm Shelters. Estimated Timeframe: 1-3 years.	High winds	City/Town Administration / Lamar County EMA	CDBG/ Other TBD	High	High
1,5	Community Storm Shelter has been Condemned, Kennedy still needs a community Storm Shelter, Individual Storm Shelters will always be encouraged	High winds	City/Town Administration / Lamar County EMA	CDBG/ Other TBD	Moderate	High
<ul style="list-style-type: none"> Mitigation activities in the Town of Kennedy will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Millport Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include enforcing flood management requirements and incorporating drainage improvements. High wind susceptibility is addressed by increasing the number of storm shelters.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Construct short-term Community Storm Shelter. Deferred (Funding). Estimated Timeframe: 3-5 years.	High winds	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	High

5	Install additional outdoor warning sirens. Deferred (Funding). Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Lamar County EMA	CDBG/ HMGP/Other TBD	High	High
1	Upgrade Drainage System to enlarge ditches and culverts. Deferred (Funding). Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	High
2,5	Enforce Floodplain Management Requirements: Regulate Construction or improvements in Special Flood Hazard Areas (SFHA's). Continuous Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration/ Lamar County EMA	Other TBD	High	High
2	Encourage Individual Storm Shelters. Estimated Timeframe: 3-5 years.	High winds	City/Town Administration/ Lamar County EMA	Local/ Other TBD	Moderate	High
1	Construct short-term Community Storm Shelter. Deferred (Funding).	High winds	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	Moderate
<ul style="list-style-type: none"> Mitigation activities in the Town of Millport will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

City of Sulligent Action Mitigation Plan
Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include enforcing flood management requirements and incorporating drainage improvements. High wind susceptibility is addressed by increasing the number of storm shelters.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Install additional outdoor warning sirens. Estimated Timeframe: 3-5 years.	All	Lamar County EMA	CDBG/HMGP/Other TBD	High	High
1	Upgrade Drainage System. Deferred (Funding). Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	High	High
2	Encourage Individual Storm Shelters. Estimated Timeframe: 3-5 years.	High winds	City/Town Administration/ Lamar County EMA	CDBG/ Other TBD	Moderate	High
2,5	Enforce Floodplain Management Requirements: Regulate Construction or improvements in Special Flood Hazard Areas (SFHA's). Continuous	Flooding	City/Town Administration/ Lamar County EMA	Local/ Other TBD	High	High
1,5	Community Storm Shelter has been constructed. Completed.	High winds	City/Town Administration/ Lamar County EMA	Complete	Low	High
<ul style="list-style-type: none"> Mitigation activities in the Town of Sulligent will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

City of Vernon Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include enforcing flood management requirements and incorporating drainage improvements. High wind susceptibility is addressed by increasing the number of storm shelters.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Upgrade Drainage System, enlarge ditches and culverts, add pipe, storm drains. Deferred (Funding). Estimated Timeframe: 5-10 years.	All	Administration/ Lamar County EMA	CDBG/ Other TBD	High	High
1,5	Construct short-term Community storm shelters 2012 (completed).	High Winds	Lamar County EMA	Completed	High	High
5	Enforce Floodplain Management Requirements: Regulate Construction or improvements in Special Flood Hazard Areas (SFHA's). Continuous	Flooding	Lamar County EMA	CDBG/ Other TBD	High	High
5	Install additional outdoor warning sirens. Estimated Timeframe: 3-5 years.	High winds	Lamar County EMA	CDBG/ HMGP/Other TBD	High	High
1	Indoor Warning Systems have not been installed and Individual Storm Shelters will always be encouraged	All	Lamar County EMA	CDBG/ HMGP/Other TBD	Moderate	Moderate
<ul style="list-style-type: none"> Mitigation activities in the Town of Vernon will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

LAWRENCE COUNTY
HAZARD MITIGATION ACTION PLAN

Lawrence County Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include looking for water diversion sites. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires especially around school zones which must be addressed.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Select the greatest impacting hazard to the county and initiate an educational program to mitigate that hazard. Quantitative data indicates that floods are the costliest hazard in Lawrence County and the region. Estimated timeframe for completion: 1-3 years	Flooding	Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
2,5	Continue placement of NOAA weather radios within the community. Use local sponsorship to place radios in areas of consistent hazard danger. Placement should continue to focus on distribution to critical facilities as a priority. Estimated timeframe for completion: 1-3 years.	All	Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High
	Clarify that additional erosion control methods should be put in place that go beyond the erosion	All	City/Town Administration/ Lawrence County EMA	Other TBD	High	High

	caused by new construction. Estimated timeframe for completion: 1-3 years					
1	Establish open space and passive recreation as a priority within the county as a hazard mitigation strategy. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	High
1	Identify in conjunction with the county engineer specific sites for storm water diversion projects. Identification should take place in conjunction with community participants and local leadership. Identify maintenance areas and needed retaining walls as they arise. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	Local/ Other TBD	High	High
1	Continue to support development of and seek funds for community safe rooms within Lawrence County. Estimated timeframe for completion: 1-3 years.	High winds	Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High

1	Identify maintenance areas and needed retaining walls as they arise. Estimated timeframe for completion: 3 to 5 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1	Lawrence County Schools- Lawrence County has 100,000 acres of forest land that could endanger local schools. Will implement wildfire evacuation planning. Deferred (Funding). Estimated Timeframe: 3-5 years.	Wildfires	Lawrence County Fire Fighters	CDBG/ HMGP/Other TBD	Moderate	Moderate
<ul style="list-style-type: none"> Mitigation activities in the Lawrence County will be coordinated through the Office of the County Commission and the Emergency Management Agency. 						

Town of Hillsboro Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include strengthening the NFIP program. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires especially around school zones which must be addressed.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Update Town of Hillsboro comprehensive plan. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	Local, CDBG/ Other TBD	High	High
1,4	Seek support for establishing a five-year improvements plan to include capital projects that are identified in the	All	Lawrence County EMA	CDBG/ HMGP/Other TBD	Moderate	High

	hazard mitigation planning process. Estimated timeframe for completion: 2-4 years.					
4	Identify potential funding sources and partners and prioritize areas of needed open space within the jurisdiction. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
5	Evaluate methodologies for strengthening the NFIP program through flood plain management. Estimated timeframe for completion: 1-3 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
2	Evaluate a scope of work and funding sources to identify current safe shelters and future needs for safe shelters. Planning should identify appropriate sites for appropriately locating the safe shelter. Estimated timeframe for completion: 1 to 3 years.	High winds	Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High
5	Continuing to oversee future installation of additional warning sirens in the community of Hillsboro. Evaluation	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High

	of installing a telephone or cell phone app-based warning system. Estimated timeframe for completion: 1-3 years.					
5	Identify critical facilities in Hillsboro that do not have emergency power and pursue funds within the planning period to provide emergency power. Estimated timeframe for completion: 2-4 years.	All	Lawrence County EMA	CDBG/HMGP/Other TBD	High	High
2	Update Town of Hillsboro comprehensive plan. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration	CDBG/Other TBD	Moderate	Moderate
4,5	Seek support for establishing a five-year improvements plan to include capital projects that are identified in the hazard mitigation planning process. Estimated timeframe for completion: 2-4 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1	Identify potential funding sources and partners and prioritize areas of needed open space within the jurisdiction. Estimated timeframe for	All	City/Town Administration/ Lawrence County EMA	CDBG/HMGP/Other TBD	High	High

	completion: 3-5 years.					
1,2	The town should evaluate and implement their adopted subdivision regulations. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
1	Evaluate methodologies for strengthening the NFIP program through flood plain management. Estimated timeframe for completion: 1-3 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in the Hillsboro will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Moulton Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include looking for water diversion sites. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires especially around school zones which must be addressed.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
3	Identify areas within the planning jurisdiction appropriate for wetland restoration and preservation. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High

5	Identify any future needs for safe centers within the town and update existing safe centers. Attempt to use multi-use facilities that are occupied at other times than during storm periods. Estimated timeframe for completion: 1-3 years.	High winds	City/Town Administration	CDBG/Other TBD	Moderate	Moderate
2	Continue to gauge support for and identify funding for comprehensive plan. Estimated timeframe for completion: 3-5 years	All	City/Town Administration/ Lawrence County EMA	Local/ CDBG/ Other TBD	High	High
5	Evaluate future needs to meet identified hazard risks and any identified mitigation strategies related to updating local building codes within the city. Estimated timeframe for completion: 2-4 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High
1	Gauge support for capital improvements program. Estimated timeframe for completion: 2-4 years.	All	City/Town Administration	CDBG/Other TBD	Moderate	Moderate
3	Update map and prioritize needed open space lands within the City of Moulton. Once generalized areas have been identified	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High

	there should be selection of potential properties and cost estimates assigned to each. Estimated timeframe for completion: 3-5 years.					
3	Seek contemporary methods to mitigate storm water runoff through constructed wetlands and roadside containment methods. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High
5	Continue to monitor the current subdivision regulations for potential updates and opportunities to mitigate identified hazard risks. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
1	Continue support for existing programs and identify two to three improvements that need to be made. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High
1	Establish critical facility minimum standards for the City of Moulton and its school system. The assessment should address building and	All	City/Town Administration	CDBG/Other TBD	Moderate	Moderate

	site vulnerabilities to hazards. Estimated timeframe for completions: 3-5 years.					
5	Continue implementation of warning sirens as requested by communities and update existing ones. Evaluation of installing a telephone or cell phone app-based warning system. Estimated timeframe for completion: 3-5 years.	All	Lawrence County EMA	CDBG/ Other TBD	High	High
4	Continue municipal coordination with TVA and Lawrence County EMA. The city has no municipal dams or levees to manage within its jurisdiction. Estimated timeframe for completion: 3-5 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High
4	Continue to monitor and document needed right-of-way maintenance and sharing information to the correct entities. Estimated timeframe for completion: 1-3 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
1	Establish critical facility minimum standards for the City of Moulton and its school system. The	All	City/Town Administration	CDBG/Other TBD	Moderate	Moderate

	assessment should address building and site vulnerabilities to hazards. Estimated timeframe for completion: 3-5 years.					
5	Evaluate plans for update to include hazard mitigation components. Identify two to three mitigation land use components to include in the next municipal planning document. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
5	Continue implementation of warning sirens as requested by communities and update existing ones. Evaluation of installing a telephone or cell phone app-based warning system. Estimated timeframe for completion: 1-3 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ HMGP/Other TBD	High	High
3	Evaluation of current stream and tributary inventory for future restoration. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	High
1	Continue to identify maintenance areas and needed retaining walls as they arise.	All	City/Town Administration	CDBG/Other TBD	Moderate	Moderate

	Estimated timeframe for completion: 3-5 years.					
5	Clarification for future actions for mitigating specific natural hazards needs to be completed. Estimated timeframe for completion: 2-4 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
5	Identify and document specific areas needing storm water diversion culverts and those that are in need of repair. Each should be mapped for planning purposes and placed in a long-range implementation list. Estimated timeframe for completion: 1-3 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ HGMP/Other TBD	High	High
5	Identify and document specific areas needing seawalls. Each should be mapped for planning purposes and placed in a long-range implementation list. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
5	Evaluate current repetitive flood areas and determine whether storm sewer improvements will assist in reducing the	Flooding	City/Town Administration	CDBG/Other TBD	Moderate	Moderate

	<p>flood damage. This should be evaluated in conjunction with real-estate purchase programs as a cost benefit analysis.</p> <p>Estimated timeframe for completion: 1-3 years.</p>					
2	<p>Identify areas within the planning area where soils are unstable and not favorable to new construction without utilizing soil stabilization methods prior to construction.</p> <p>Estimated timeframe for completion: 2-4 years.</p>	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1,5	<p>Moulton's wastewater treatment is in the floodway. Will need to assess a means of getting it elevated.</p> <p>Estimated timeframe for completion: 3-5 years.</p>	Flooding	City/Town Administration/ Lawrence County EMA	CDBG, ARC, FEMA, USDA, ADEM Clean Water SRLF, and local	High	High
1	<p>Flood Prone Building Proofing and Retrofitting; Freeboard Requirements for Building Elevations;</p> <p>Estimated timeframe for completion: 3-5 years.</p>	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate

1	Strom Shutter Programs and Installation; Estimated timeframe for completion: 1-3 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
2,5	Hazard Information Kiosk. Estimated timeframe for completion: 1-3 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
2,3	Watershed Management Programs; and Reservoir Construction. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in Moulton will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Courtland Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include support for the NFIP program. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires; mitigation actions include providing burn permits.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
3	Identify areas within the planning jurisdiction appropriate for wetland restoration and preservation. Estimated timeframe for	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate

	completion: 3-5 years.					
1	Ongoing implementation of current and preparation for future planning updates in three to five years from prior plan completion date. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration	CDBG/Other TBD	Moderate	Moderate
1	Evaluate the use of a capital improvements program within the planning period of this plan for the Town of Courtland. Estimated timeframe for completion: 2-4 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
1	Evaluate the need for updates to the subdivision regulations. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration	CDBG/ Other TBD	High	Moderate
2	Continue public awareness through public outreach programs. Estimated timeframe for completion: 1-3 years.	Flooding	City/Town Administration	CDBG/Other TBD	Moderate	Moderate
4	Continue support for NFIP program and implement program's goals and objectives. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
1	Evaluate the need for updates to the subdivision. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration	CDBG/Other TBD	Moderate	Moderate

5	Evaluate the need for regulations for mitigating risk in relation to identified hazards within the town. Adopt any needed updates to the regulations. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
5	Evaluate the need for additional shelters and analyze the appropriate site placement prior to seeking property. Estimated timeframe for completion: 1-3 years.	High winds	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
5	Continue support for NFIP program and implement program's goals and objectives. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
5	Evaluate the need for additional shelters and site placement. Estimated timeframe for completion: 1-3 years.	High winds	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
1	Monitor and document needed right-of-way maintenance. Estimated timeframe for completion: 2-4 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
5	Evaluate need for plans to include hazard mitigation components. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
2	Provide public education and discussions with potential property owners in need of purchase. Estimated	All	City/Town Administration	CDBG/Other TBD	High	High

	timeframe for completion: 2-4 years.					
1	Initiate discussions within the council to decide whether real-estate disclosure is necessary to prevent repetitive loss properties from continued development. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
2,4	Install an informative kiosk to promote hazard mitigation within the Town of Courtland as well as within the county. Estimated timeframe for completion: 3- 5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
5	Clarify funding sources and specify hazard to be discussed in the pamphlet and its strategy for mitigating the specific hazard. This hazard can occur heavily within the town or be part of a broad county wide initiative with other jurisdictions. Estimated timeframe for completion: 1-3 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
1	Develop NOAA weather radio public and private partners. Continue to distribute weather radios to local entities in need. Estimated timeframe for completion: 3 -5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High

1,5	Identify funding sources to complete an existing needs assessment and site selection process for safe shelters in the county and incorporated areas. Estimated timeframe for completion: 3-5 years.	High Winds	City/Town Administration/ Lawrence County EMA	CDBG/Other TBD	High	High
3	Evaluation of current stream and tributary inventory for future restoration. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
3,4	Clarify need for expansion of local watershed management in Courtland and potential for cooperating with a county wide initiative. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
3	Provide Natural Resource Protection including: Best practices for Forest and Vegetation Management. Estimated timeframe for completion: 1-3 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
3	Establish open space and passive recreation as a priority within recreational Planning. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
3	Urban Forestry Planning. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate

4	Water Resource Program roundtable discussions. Estimated timeframe for completion: 3-5 years	High Winds	City/Town Administration/ Lawrence County EMA	CDBG/Other TBD	High	High
1	Provide Mitigation Strategies on Structural Projects including: Identify needs for future safe rooms. Estimated timeframe for completion: 1-3 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
2	Burn Permits Estimated timeframe for completion: 1-3 year	Wildfire	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
5	Evaluate current flood areas and whether sewer systems can alleviate future damages. Estimated timeframe for completion: 3-5 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
5	Determine if reservoir construction is needed. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
5	Identify areas with unstable foundations to determine suitable construction zones. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
2,5	Flood Map Information Distribution. Estimated timeframe for completion: 1-3 years	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
2	Press & Media Mitigation Releases Estimated timeframe for completion: 1-3 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
3	Forest and Vegetation Management.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate

	Estimated timeframe for completion: 3-5 years					
3	Wetland Restoration and Preservation. Estimated timeframe for completion: 3-5 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
2	Media Mitigation Training Sessions. Estimated timeframe for completion: 1-3 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
3	Water Resource Conservation Programs. Estimated timeframe for completion: 3-5 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
5	Ground Stabilization; Reservoir Construction. Estimated timeframe for completion: 3-5 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
<ul style="list-style-type: none"> Mitigation activities in Courtland will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of North Courtland Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include support for NFIP program and implement program’s goals and objectives. The area is susceptible to high winds. Additional storm shelters is being assessed. The area is susceptible to wildfires; Mitigation actions include providing burn permits.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Provide Mitigation strategies on Prevention including: Gauging support for the development of the comprehensive plan Estimated timeframe for	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate

	completion: 3-5 years.					
1,2	Continued participation and implementation in the NFIP. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1,4	Evaluate the use of capital improvement projects within the planning period. Estimated timeframe for completion: 2-4 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
1	Evaluate current building code for risk assessments. Estimated timeframe for completion: 2-4 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1,5	Evaluate regulation needs within the town boundary. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
5	Evaluate the need for additional shelters. Estimated timeframe for completion: 1-3 years.	High winds	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	High
5	Continue implementation of warning sirens. Estimated timeframe for completion: 1-3 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High

2	Burn Permits. Estimated timeframe for completion: 1-3 year	Wildfire	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
2,5	Hazard Information Kiosk. Estimated timeframe for completion: 1-3 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
<ul style="list-style-type: none"> Mitigation activities in North Courtland will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Town Creek Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include support for NFIP program and implement program’s goals and objectives. The area is susceptible to high winds. The area is susceptible to wildfires; Mitigation actions include providing burn permits.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
3	Provide Mitigation strategies on Prevention including: Gauging support for the development of the comprehensive plan Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	Moderate
4	Continued participation and implementation in the NFIP. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	High
4	Evaluate the use of capital improvement projects within the planning period.	All	City/Town Administration/ Lawrence County EMA	Local/ Other TBD	Low	Moderate

	Estimated timeframe for completion: 2-4 years.					
4	Evaluate current building code for risk assessments. Estimated timeframe for completion: 2-4 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
4	Evaluate regulation needs within the town boundary. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	Local/ Other TBD	Low	Moderate
5	Evaluate the need for additional shelters. Estimated timeframe for completion: 1-3 years.	High Winds	City/Town Administration/ Lawrence County EMA	Local/ Other TBD	High	High
5	Continue implementation of warning sirens. Estimated timeframe for completion: 1-3 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
3	Provide Natural Resource Protection including: Best practices for Forest and Vegetation Management. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1	Clarify that additional erosion control methods should be put in place that go beyond the erosion caused by new	All	City/Town Administration/ Lawrence County EMA	Local/CDBG/ Other TBD	High	High

	construction. Estimated timeframe for completion: 1 to 3 years.					
5	Determine if reservoir construction is needed. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
5	Evaluate current flood areas and whether sewer systems can alleviate future damages. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	HMP/CDBG/ Other TBD	Moderate	Moderate
4,5	Provide Mitigation Strategies on Structural Projects including: Identify needs for future safe rooms. Estimated timeframe for completion: 1-3 years.	High Winds	City/Town Administration/ Lawrence County EMA	HMP/CDBG/ Other TBD	Moderate	High
4	Establish open space and passive recreation as a priority within recreational Planning. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
4	Urban Forestry Planning. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	Local/ Other TBD	Low	Moderate

3	Water Resource Program roundtable discussions. Estimated timeframe for 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	HMP/ Other TBD	Moderate	High
3	Evaluation of current stream and tributary inventory for future restoration. Estimated timeframe for completion: 1-3 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
2,3	Develop and promote best management practices in forests. Estimated timeframe 3-5 years.	All	City/Town Administration/ Lawrence County EMA	Other TBD	Moderate	High
2	Establish biannual training sessions for local and regional media to be briefed on hazard mitigation and natural disasters. Estimated timeframe for completion: 1 to 3 years.	High winds	City/Town Administration/ Lawrence County EMA	Local / Other TBD	Moderate	High
1,3	Clarify need for expansion of local watershed management in Town Creek. Estimated timeframe 3-5 years	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1	Identify areas with determine suitable construction zones. Estimated timeframe for completion: 3-5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
4	Identify areas within the planning area where soils are unstable and not	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate

	favorable to new construction without utilizing soil stabilization methods prior to construction. Estimated timeframe for completion: 2 to 4 years.					
1	Identify and document specific areas needing seawalls. Estimated timeframe for completion: 3-5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ HMP/Other TBD	Moderate	High
1	Evaluate current repetitive flood areas and determine whether storm sewer improvements will assist in reducing the flood damage. Estimated timeframe for completion: 1 to 3 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
4,3	On-going communication and coordination between partners to determine if reservoir construction is needed. Estimated timeframe for completion: 3 to 5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
1	Critical Facility Assessments. Estimated timeframe for completion: 3 to 5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	High

	Planning and Landuse Studies. Estimated timeframe for completion: 3 to 5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	Moderate
1	Real-Estate Flood Prone Property Acquisition. Estimated timeframe for completion: 1 to 3 years.	Flooding	City/Town Administration/ Lawrence County EMA	Local/ Other TBD	Moderate	High
1	Flood Prone Building Proofing and Retrofitting. Estimated timeframe for completion: 3 to 5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1,5	Critical Facility Protection. Estimated timeframe for completion: 3 to 5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	High	High
1,5	Storm Shutter Programs and Installation. Estimated timeframe for completion: 3 to 5 years.	High winds	City/Town Administration/ Lawrence County EMA	HMP/CDBG/ Other TBD	High	High
5	Installation of Shatter Resistant Glass, Estimated timeframe for completion: 3 to 5 years.	High winds	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	High
2,4	Outreach Projects. Estimated timeframe for completion: 2 to 4 years.	All	City/Town Administration/ Lawrence County EMA	Local/ Other TBD	Moderate	Moderate

1	Real-Estate Disclosure Requirements. Estimated timeframe for completion: 3 to 5 years.	Flooding	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
2	School Age Education Programs. Estimated timeframe for completion: 1 to 3 years.	All	City/Town Administration/ Lawrence County EMA	Local	Moderate	Moderate
3	Wetland Restoration and Preservation. Estimated timeframe for completion: 3 to 5 years.	All	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Moderate	Moderate
1	Retaining Walls Estimated timeframe for completion: 2 to 4 years.	High winds	City/Town Administration/ Lawrence County EMA	CDBG/ Other TBD	Low	High
4,5	Geographic Information Systems. Estimated timeframe for completion: 2 to 4 years.	All	City/Town Administration/ Lawrence County EMA	Local	Moderate	High

- Mitigation activities in Town Creek will be coordinated through the Office of the Mayor and the Emergency Management Agency.

MARION COUNTY
HAZARD MITIGATION ACTION PLAN

Marion County Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include implementing flood buyouts and leaving the area as green space. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Expand early warning system. New sirens have been installed using HMGP funds following the April 27, 2011 tornadoes. Additional sirens are still needed. Marion County plans on getting fifteen more warning sirens and dispersing them throughout the county. Existing sirens need a talkback system to allow remote testing and a silent test system to permit testing without alarming citizens. In addition, several sirens need to be upgraded from box sirens to radio frequency sirens. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Marion County EMA	Complete (partial)	High	High
5	Phone Notifications. Phone Notification system to allow alerts for weather and other natural hazard alerts. Deferred (Funding) Estimated	All	City/Town Administration	CDBG/ HMGP/FMA Other TBD	High	High

	Timeframe: 3-5 years.					
	Add additional community shelters. Complete (Partial). New shelters have been installed using HMGP funds following the April 27, 2011 tornadoes. Additional shelters are still needed. The county is looking at ways to acquire funding to increase the number of storm shelters throughout the county. In this effort the county needs to look at retro fitting all existing community/senior centers. The county applied for 127 in-home safe rooms following the April 27, 2011 tornadoes, and 96 have been installed. Estimated Timeframe: 3-5 years.	High Winds	City/Town Administration/ Marion County EMA	CDBG/ HMGP/FMA Other TBD	High	High
3,5	Flood buyouts. Deferred (Funding). There are a few areas where flooding is a problem. The County would like to pursue funding to buy out these areas and leave them as green space. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration	CDBG/ HMGP/FMA Other TBD	High	High

5	Wildfire planning. Deferred (Funding) Estimated Timeframe: 3-5 years..	Wildfire	City/Town Administration/ Marion County EMA	CDBG/ HMGP/FMA Other TBD	High	High
5	Emergency generators. Deferred (Funding). Add emergency generators at all existing community/senior centers. The Pea Ridge Community is in need of a generator to power the Pea Ridge Volunteer Fire department that is used as shelter during inclement weather or natural disasters. All of the county's fire departments became gathering/dining halls during prior disasters and are in need of emergency generators. Only Hamilton and Winfield have generators, leaving 10 fire departments in need of them. All water and wastewater treatment facilities (spring, well, surface) need backup generators to assure continuation of services during emergency situations. Estimated Timeframe: 3-5 years.	All	City/Town Administration	CDBG/ HMGP/FMA Other TBD	High	High

5	<p>Communications equipment. Deferred (Funding). Marion County is in need of tower(s) and radio system for countywide alert notification. A multi-frequency repeater system is needed to allow communications from towers that are currently dedicated to one frequency for one particular service. A countywide system of wireless internet is needed to improve emergency communications.</p> <p>Estimated Timeframe: 3-5 years.</p>	All	City/Town Administration/ Marion County EMA	CDBG/ HMGP/FMA Other TBD	High	High
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- Mitigation activities in Marion County will be coordinated through the Office of the County Administrator and the Emergency Management Agency.

Marion County Schools Action Mitigation Plan

Vulnerability Summary: The area is susceptible to wildfires; mitigation actions including wildfire buffer zones.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	<p>Historically landslides haven't been an issue for Marion County School property. The property is maintained by the school board to mitigate the occurrence of</p>	Landslides	City/Town Administration / Marion County EMA	Other /Local TBD	Low	Medium

	landslides. Estimated Timeframe: 1-3 years.					
5	Historically sinkholes haven't been an issue for Marion County School property. The property is maintained by the school board to mitigate the occurrence of sinkholes. Estimated Timeframe: 1-3 years.	Subsidence	Marion County EMA	Other /Local TBD	Low	Medium
5	The school board maintains a buffer zone around all property to act as a fire lane. These lanes act to protect buildings from uncontrolled wildfires. Estimated Timeframe: 1-3 years.	Wildfires	Marion County EMA	Other /Local TBD	Low	Medium
<ul style="list-style-type: none"> Mitigation activities in Marion County Schools will be coordinated through the Superintendent's Office and the Emergency Management Agency. 						

Town of Bear Creek Action Mitigation Plan

Vulnerability Summary: Flooding is an issue for the area. Mitigation actions include implementing flood buyouts and leaving the area as green space. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan. The area is susceptible to drought, with preparedness actions include, flushing out tanks, and providing potable water.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
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5	Bear Creek has one heating/cooling facility that is open to the public. Additional resources are needed to provide assistance with utility bills. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	Local/Other TBD	High	Moderate
5	Drought preparedness calls for frequent flushing of tanks to maintain potable water supply, which is costly. Assistance with these costs is desirable. Estimated Timeframe: 1-3 years.	Drought	City/Town Administration/ Marion County EMA	Complete (partial)	High	High
5	Wildfire evacuation planning. Deferred (Funding). Estimated Timeframe: 3-5 years.	Wildfire	City/Town Administration	CDBG/ HMGP/FMA Other TBD	High	High
1,5	Construction of a safe center in Bear Creek at proposed multipurpose building. Deferred (Funding). Estimated Timeframe: 3-5 years.	High Winds	City/Town Administration/ Marion County EMA	CDBG/ HMGP/FMA Other TBD	High	High

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in Bear Creek will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Bear Creek Water Works Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan. The area is susceptible to drought, with preparedness actions include, and providing potable water, and increasing water storage.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Provide back-up generators. Expected Timeframe 3-5 Years	All	City/Town Administration/ Winston County EMA	HMGP/ Local/Other TBD	High	High
1	Coordinate drainage easements. Expected Timeframe 3-5 Years	All	City/Town Administration	HMGP/CDBG/ Local/Other TBD	High	High
5	Install surge protectors. Expected Timeframe 1-3 Years.	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1,5	Design buildings to mitigate structural and non-structural hazards. Expected Timeframe 5-10 Years	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	Moderate	Moderate
2	Encourage water saving in droughts Expected Timeframe 1-3 Years	Drought	Winston County EMA	HMGP/ Local/Other TBD	High	High
1,5	Provide adequate water storage to protect against drought. Expected Timeframe: 3-5 Years	Drought	City/Town Administration/ Winston County EMA	HMGP/ Local/Other TBD	Moderate	High

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Bear Creek Water Works will be coordinated through the Superintendent and the Water Board.

Town of Brilliant Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in the area. Green space conversion within flood zones, and water and sewer improvements are primary actions. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Water and sewer improvements. Complete (Partial). Brilliant continues to work toward expanding access to water and sewer throughout the town limits. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Marion County EMA	Local/Other TBD	High	Moderate
5	Bostick Creek flood mitigation. Deferred (Funding). Estimated Timeframe: 3-5 years	Flooding	City/Town Administration/ Marion County EMA	Local/Other TBD	High	Moderate
5	Wildfire evacuation plan. Deferred (Funding). Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	Local/Other TBD	High	High
3,5	Floodplain mitigation. Deferred (Funding). In the flood plain area that runs along Bostick Creek, a future goal is to develop recreational green ways and wetland wildlife habitats. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Marion County EMA	Local/Other TBD	High	Moderate

Mitigation activities in Brilliant will be coordinated through the Office of the Mayor and the Emergency Management Agency.

City of Guin Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors. Plans include upgrades to culverts to alleviate blockage. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Natural disaster education and planning. Complete (Partial). Emergency protocols are taught in area schools. An emergency response plan is needed. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Marion County EMA	Local/Other TBD	High	High
5	Warning sirens. Deferred (Funding). There is a need for additional sirens Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	CDBG/Local/ Other TBD	High	High
5	Weather radios. Deferred (Funding). There is a need for additional weather radios. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	HMGP/FMA/ Local/Other TBD	High	High
5	Wildfire planning. Deferred (funding). In the event of a large wildfire or other large natural disaster, the populous needs to be aware of an evacuation plan, such as signposts along major transportation routes. Estimated	Wildfire	City/Town Administration/ Marion County EMA	HMGP/FMA/ Local/Other TBD	High	High

	Timeframe: 3-5 years.					
1,5	Backup generator. Deferred (Funding). Assure emergency power for the Guin Water Treatment Plant and the Guin City Hall. Install a 150 KW diesel generator at the Water Treatment Plant and a 60 KW diesel generator at the City Hall. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	Local/Other TBD	High	High
1	Drainage improvements. Deferred (Funding). Upgrade the Little Creek culvert to eliminate blockage of 15th Avenue. Install two 9x10 pre-cast concrete box culverts at Little Creek culvert. Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration	CDBG/Local/ Other TBD	High	High
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in Guin will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Guin Water Works Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors. Plans include coordinating drainage easements. High wind susceptibility is addressed by increasing the number of storm shelters. The area is susceptible to drought. Plans include conservation and storage. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Provide back-up generators Expected Timeframe: 1-3 Years	All	City/Town Administration/ Winston County EMA	HMGP/ Local/Other TBD)	High	High
1	Coordinate drainage easements. Expected Timeframe: 3-5 Years	All	City/Town Administration	HMGP/CDBG/ Local/Other TBD	High	High
5	Install surge protectors. Expected Timeframe: 1-3 Years	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1,5	Design buildings to mitigate structural and non-structural hazards. Expected Timeframe: 5-10 Years	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	Moderate	Moderate
2	Encourage water saving in droughts. Expected Timeframe: 1-3 Years	Drought	Winston County EMA	HMGP/ Local/Other TBD	High	High
1,5	Provide adequate water storage to protect against drought. Expected Timeframe: 3-5 Years	Drought	City/Town Administration/ Winston County EMA	HMGP/ Local/Other TBD	Moderate	High
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Guin Water Works will be coordinated through the Superintendent and the Water Board. 						

City of Gu-Win Action Mitigation Plan

Vulnerability Summary: The area is susceptible to drought. Plans include conservation and storage. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Natural disaster education and planning. Complete (Partial). Emergency protocols are taught in area schools. An emergency response plan is needed. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Marion County EMA	Completion partial)	High	High
	Warning sirens. Deferred (Funding). Additional sirens are needed. Estimated Timeframe: 3-5 years.	All	Marion County EMA	HMGP/CDBG/ Local/Other TBD	High	High
	Police and fire station. Deferred (Funding). Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	HMGP/FMA/ Local/Other TBD	High	High
	Wildfire evacuation planning. Deferred (Funding). Estimated Timeframe: 3-5 years.	Wildfire	City/Town Administration/ Marion County EMA	HMGP/FMA/ Local/Other TBD	High	High

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in Gu-Win will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Town of Hackleburg Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors. Plans include coordinating drainage easements. High wind susceptibility is addressed by increasing the number of storm shelters. Plans include

conservation and storage. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Natural disaster education and planning. Complete (Partial). Emergency protocols are taught in area schools. An emergency response plan is needed. Estimated Timeframe: 1-3 years.	All	City/Town Administration / Marion County EMA	Completion (partial)	High	High
5	Wildfire evacuation planning. Deferred (Funding). Estimated Timeframe: 3-5 years.	Wildfires	City/Town Administration / Marion County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Warning sirens. Deferred (Funding). Additional sirens are needed. Estimated Timeframe: 3-5 years.	All	City/Town Administration / Marion County EMA	HGMP/CDBG/ Local/Other TBD)	High	High
1,5	Storm shelters. Deferred (Funding). Additional shelters are needed. Estimated Timeframe: 3-5 years.	High winds	Marion County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1	Police and fire station. Following their destruction in April 2011, new facilities are under construction using disaster recovery funds from HUD and ADECA. Estimated	All	City/Town Administration / Marion County EMA	Completion (partial)	High	High

	Timeframe: 1-3 years.					
1	<p>Sewer system infrastructure. Following the April 2011 tornadoes, sewer was identified as a need in the town's long-term recovery plan. New sewer infrastructure is under construction using funds from HUD, ADECA, and EDA.</p> <p>Estimated Timeframe: 1-3 years.</p>	All	City/Town Administration / Marion County EMA	Complete (Partial)	High	High
5	<p>Historically, landslides haven't been an issue in Hackleburg, if landslides occurred, they would likely occur around roadways or steam zones. The county and state manage the areas of likely occurrence to mitigate the occurrence of landslides.</p> <p>Estimated Timeframe: 1-3 years.</p>	Landslides	Marion County EMA	Complete	Low	Medium
<ul style="list-style-type: none"> Mitigation activities in Hackleburg will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

City of Hamilton Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors and school zones. Plans include coordinating drainage easements. High wind susceptibility is addressed by increasing the number of storm shelters. Plans include conservation and storage. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Warning Sirens. Deferred (Funding). At least 4 additional warning sirens are needed. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	HMGP/CDBG/ Local/Other TBD D	High	High
1	Comprehensive plan and zoning ordinance. Complete (Partial). Hamilton has adopted a zoning ordinance and floodplain management ordinance to aid in growth management. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Marion County EMA	Complete (Partial)	High	Moderate
1	Natural disaster education and planning. Complete (Partial). Emergency protocols are taught in area schools. An emergency response plan is needed.	All	City/Town Administration/ Marion County EMA	Complete (Partial)	High	High
5	Wildfire evacuation planning. Deferred (Funding). Estimated Timeframe: 3-5 years.	Wildfires	City/Town Administration/ Marion County EMA	Local/Other TBD	High	High

3	Floodplain and storm water management. Complete (Partial). The city has developed a walking trail in an area that is prone to flooding to preserve it as green space. The city has addressed drainage problems in downtown and near Hamilton High School. Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration/ Marion County EMA	Complete (Partial)	High	High
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in Hamilton will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Twin Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue in certain corridors. Plans include storm water management. High wind susceptibility is addressed by increasing the number of storm shelters. Plans include conservation and storage. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Community shelter. Deferred (Funding). The town needs a community shelter. Estimated Timeframe: 3-5 years.	High winds	City/Town Administration/ Marion County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Warning siren. Deferred (Funding). Twin is in desperate need of a warning siren. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	CDBG/ Other TBD	High	High

5	Storm water management plan. Deferred (Funding). Estimated Timeframe: 3-5 years.	Flooding	City/Town Administration/ Marion County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Natural disaster education and planning. Emergency protocols are taught in area schools. An emergency response plan is needed. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Marion County EMA	Complete (Partial).	High	High
4	Wildfire evacuation planning. Deferred (Funding). Estimated Timeframe: 3-5 years.	Wildfires	City/Town Administration/ Marion County EMA	Local/ Other TBD	High	High
	Community Facilities. Deferred (Funding). Twin needs a police station and a generator at the Twin Fire and Rescue Center. Estimated Timeframe: 3-5 years.	All	City/Town Administration/ Marion County EMA	CDBG/ Other TBD	High	Moderate

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in Twin will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Twin Water Authority Action Mitigation Plan

Vulnerability Summary: Drought susceptibility has led to conservation and water storage in the area .

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
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5	Provide back-up generators. Expected Timeframe: 1-3 Years	All	City/Town Administration/ Winston County EMA	HMGP/ Local/Other TBD	High	High
1	Coordinate drainage easements. Expected Timeframe: 3-5 Years	All	City/Town Administration	HMGP/CDBG/ Local/Other TBD	High	High
5	Install surge protectors. Expected Timeframe: 1-3 Years	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1,5	Design buildings to mitigate structural and non-structural hazards. Expected Timeframe: 5-10 Years	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	Moderate	Moderate
2	Encourage water saving in droughts. Expected Timeframe: 1-3 Years	Drought	Winston County EMA	HMGP/ Local/Other TBD	High	High
1,5	Provide adequate water storage to protect against drought. Expected Timeframe: 3-5 Years	Drought	City/Town Administration/ Winston County EMA	Complete (Partial)	Moderate	High

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Twin Water Authority will be coordinated through the Superintendent and the Water Board.

City of Winfield Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors. Plans include drainage improvements. The area is susceptible to wildfires; mitigation actions include a wildfire implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
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5	Comprehensive plan and zoning ordinance updates. Winfield has a zoning ordinance and is in need of an updated comprehensive plan and a review of the zoning ordinance. Estimated Timeframe: 1-3 years.	All	City/Town Administration/ Marion County EMA	Complete (Partial)	High	High
5	Fire prevention code. Complete. Winfield has adopted building codes for structural safety in the city.	All	City/Town Administration/ Marion County EMA	Complete	High	High
5	planning. Deferred (Funding). Estimated Timeframe: 1-3 years.		City/Town Administration/ Marion County EMA	Complete (Partial)	High	High
1	Drainage improvements. Deferred (Funding). The Midway culvert structure is failing. The loss of this structure will endanger lives and disrupt traffic flow in downtown Winfield. The structure needs to be upgraded to meet a 50 year or greater storm event. Estimated Timeframe: 1-3 years.	Flooding	City/Town Administration/ Marion County EMA	Local/Other TBD	High	High
5	Community facilities. Deferred (Funding). The Winfield Community Center is in need of an 80 KW diesel emergency generator. Establish a safe center with emergency generator, emergency operations center, and emergency kitchen facilities	All	City/Town Administration/ Marion County EMA	Local/ Other TBD	Moderate	High

capably of supplying community needs in the event of an extended power outage. Estimated Timeframe: 1-3 years.					
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in Winfield will be coordinated through the Office of the Mayor and the Emergency Management Agency. 					

Winfield City Schools Action Mitigation Plan						
Vulnerability Summary: The area is susceptible to wildfires; mitigation actions include an implementation plan.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	The school board maintains a buffer zone around all property to act as a fire lane. These lanes act to protect buildings from uncontrolled wildfires. Estimated Timeframe: 1-3 years.	Wildfires	Marion County EMA	Local/Other TBD	Low	Medium
5	Historically landslides haven't been an issue for Winfield City School property. The property is maintained by the school board to mitigate the occurrence of landslides. Estimated Timeframe: 1-3 years.	Landslides	Marion County EMA	Local/Other TBD	Low	Medium
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in Winfield City School will be coordinated through the Superintendent's Office Emergency Management Agency. 						

WALKER COUNTY
HAZARD MITIGATION ACTION PLAN

Walker County Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors. Plans include storm water management plan. High wind susceptibility is addressed by increasing the number of storm shelters. Plans include conservation and storage; mitigation actions include an implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	<p>Goal 1: Implement a comprehensive Public Education Campaign regarding the hazards posing significant risk to the community.</p> <p>Objectives: Educate the public to increase awareness of hazards and opportunities for mitigation actions. Promote hazard mitigation in business, residential and agricultural communities and develop regional partnerships to implement mitigation actions. Monitor and publicize the effectiveness of mitigation actions implemented community wide.</p> <p>Expected Timeframe for Completion: 2025</p>	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
2	<p>Goal 2: Build and support the concept of sustainable communities through a commitment to</p>	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	<p>become less vulnerable to hazards.</p> <p>Objectives:</p> <p>Improve capabilities to warn the public of emergency situations.</p> <p>Develop programs to enhance the safety of the residents of each community during an emergency.</p> <p>Identify vulnerable populations.</p> <p>Expected Timeframe for Completion: 2025</p>					
5	<p>Goal 3: Reduce exposure to hazard related losses, before and after disaster strikes.</p> <p>Objectives:</p> <p>Implement policies, procedures and regulations to reduce exposure to identified hazards.</p> <p>Decrease vulnerability of community assets, especially critical facilities, located in vulnerable areas.</p> <p>Expected Timeframe for Completion: 2025</p>	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in Walker County will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Carbon Hill Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors. Plans include improved drainage and culverts. High wind susceptibility is addressed by increasing the number of storm shelters.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Flooding Protection. Improve drainage of pitch channel, place flood walls, increase culvert size, increase creek flow. Status: Waiting on funding. Expected Timeframes for completion: 2025.	Flooding	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Storm Shelter. Adequate Storm Shelter within city limits. Status: Waiting on additional funds to come available Expected Timeframe for completion: 2025.	High winds	City/Town Administration/ Walker County EMA	CDBG/Local/ Other TBD	High	High

Mitigation activities in Carbon will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Cordova Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors. Plans include elevation plan. High wind susceptibility is addressed by increasing the number of storm shelters and radio sirens; mitigation actions include an implementation plan.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Storm Shelters Placement. Build Community Storm Shelters with backup power. Status: Due to April 2011 Cordova has received funding for two community shelter	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	but more are needed due to size of the city. Expected Timeframe for Completion: 2025.					
5	Emergency Power. Power for sewer plant, water tank lift stations, and temporary command locations. In the event of a lengthy power outage, generators will be needed to ensure the sewer plant and water supply lift stations are able to continue to operate. If pumps are down for long periods of time it could pose serious health issues. The water tanks must be filled to provide adequate water. And mobile generators will be able to provide power to other needed areas of the city to include temporary incident command locations. Status: Waiting on funding Expected Timeframe for Completion: 2025	All	Water and Gas, City Hall, and Risk Manager	HMGP/CDBG/Local/TBD	High	High
1	Adopt and update codes and regulations. Establish a comprehensive plan that includes the adoption or updating of zoning regulations, subdivision regulations,	All	City/Town Administration/Walker County EMA	HMGP/CDBG/Local/Other TBD	High	High

	floodplain management regulations, storm water management regulations, building-related codes, fire prevention codes, wetlands protection regulations, water quality regulations, stream-dumping regulations, and the preservation of open space as preventative measures that protect existing and future buildings, infrastructure, and critical. Status: Still a priority but funding has not been available. Expected Timeframe for Completion: 2025.					
5	Mass Notification Systems. Cordova needs a mass notification system for weather emergencies, hazardous material issues, and other issues relating to the public safety. This system will go out through phone land lines and cellular phone services. Expected Timeframe for Completion: 2025	All	Walker County EMA	CDBG/HMGP/Local	High	High
5	Purchase Emergency/Tornado sirens. Purchase Emergency Sirens and distribute around	High winds	City/Town Administration/Walker County EMA	HMGP/CDBG/Local/Other TBD	High	High

	<p>the city in strategic locations for early notification and warning of Tornados and / man-made disasters i.e. derailments, chemical spills, etc. Our city has two high traffic railways spanning several miles of tracks and several miles of interstate within our city and protection area. Status: City was able to purchase one siren after April 2011, but more are needed.</p> <p>Expected Timeframe for Completion: 2025.</p>					
1	<p>Flood Mitigation. Protect property by relocating the structures out of flood zones, acquire and clear flood prone property, elevate structures above flood levels as appropriate, place barriers (floodwalls and sewer backup valves) in strategic areas, and retrofit structures for protection. Status: Still a priority but funding has not been available. Expected Timeframe for Completion: 2025.</p>	All	<p>City/Town Administration/ Walker County EMA</p>	<p>FMA/CDBG/ Local/Other TBD</p>	High	High

1	Structural Flood Protection. Improve infrastructure such as wind retrofits, drainage improvements, reservoirs and retention or detention basins which store excess water, levees and floodwalls which place barriers between the sources of flooding and vulnerable properties, modifications to channeling including culverts and bridges, and improve channel flow by keeping streams, ditches, and storage basins clear. Status: Still a priority but funding has not been available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/FMA/ Local/Other TBD	High	High
1	Storm Drains. Improve storm drainage in various areas that are known to flood and to prevent erosion. Status: Waiting on funding to come available Expected Timeframe for Completion: 2025	Flooding	Water and Gas Department	CDBG/HMP/ Local/ OTHER TBD	High	High
1,5	Emergency Lighting. Mobile light plants that produce their own power, has a tall mast with a minimum of 4 flood lights that are adjustable.	All	City Engineer	CDBG/HMP/ Local/ OTHER TBD	High	High

	Portable Light Plants will be purchased and used in times of prolonged power outages to provide light to a large scale area. Status: Waiting on funding to come available Expected Timeframe for Completion: 2025					
<ul style="list-style-type: none"> Mitigation activities in Cardova will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Dora Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors. Plans include road elevation. High wind susceptibility is addressed by increasing the number of storm shelters and radio sirens. A mass notification system is a primary action.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1, 5	City Code Enhancements. Adopt and update building, fire safety codes. (NFPA) and regulations.	All	Mayor's Office	CDBG/HMP/ Local/ OTHER TBD	Medium	High
5	Emergency Sheltering from a storm. Due to the annual recurrence of Tornados in our area and the poor structural and building quality of the structures in our City our citizens are at risk if several devastation should a tornado or high winds	High Winds	Mayor's Office	CDBG/HMP/ Local/ OTHER TBD	High	High

	hit by our area. The majority of our houses are either mobile home, government housing or low quality due to lack of building code enforcement and lack of codes ensuring a sturdier structure to provide security from storms. Our plan is to construct 4 Emergency Storm Shelters around our City in strategically located areas, these are at the Golf Course, TS Boyd, Burnwell and Horse Creek areas. Status: Waiting on funds to come available Expected Timeframe for Completion: 2025					
5	Storm Shelters Placement. Build Community Storm Shelters with backup power. Status: Due to April 2011 Dora has received funding for two community shelter but more are needed due to size of the city. Expected Timeframe for Completion: 2025.	High winds	City/Town Administration/ Walker County EMA	HGMP/CDBG/ Local/Other TBD	High	High
	Emergency Sheltering from a storm. Due to the annual recurrence of Tornados in our area and the poor	All	City/Town Administration/ Walker County EMA	Complete (Partial)	High	High

	<p>structural and building quality of the structures in our City our citizens are at risk if several devastations should a tornado or high winds hit by our area. Status: Waiting on funds to come available Expected Timeframe for Completion: 2025.</p>					
	<p>Purchase Emergency/Tornado sirens Purchase 4 Emergency Sirens and distribute around the city in various locations for early notification and warning of Tornado or the more pressing disasters of rail car emergencies due to derailment. Status: Waiting on funds to come available Expected Timeframe for Completion: 2025.</p>	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
	<p>Power for sewer plant, water tank lift stations, and temporary command locations. In the event of a lengthy power outage, generators will be needed to ensure the sewer plant and water supply lift stations are able to continue to operate. If pumps are down for long periods of time it could pose</p>	Flooding	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	<p>serious health issues. The water tanks must be filled to provide adequate water. And mobile generators will be able to provide power to other needed areas of the city to include temporary incident command locations. Status: Waiting on funding. Expected Timeframe for Completion: 2025.</p>					
	<p>Provide Backup Radio/Antenna Emergency Services and Public Works. In the event the only radio communication is destroyed by a natural or man-made disaster. It is a priority to reestablish communications thru an alternate means immediately. A back up radio/antennae will be purchased and installed that will serve our community. Status: Waiting on funds to come available. Expected Timeframe for Completion: 2025.</p>	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	Moderate	High
	<p>Handheld Radios for each member and a portable for each vehicle. Purchase handheld radios and/or Southern Linc's for communications. Status: Waiting on</p>					

	funding to come available. Expected Timeframe for Completion: 2025.					
1	Improve storm drainage in various areas that are known to flood and to prevent erosion. Status: Waiting on funding to come available Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Emergency Lighting. Mobile light plants that produce their own power, has a tall mast with a minimum of 4 flood lights that are adjustable. Status: Waiting on funding to come available Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Mass Notification Systems. Dora needs a mass notification system for weather emergencies, and hazardous materials. Status: Waiting on funds to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD)	High	High
5	Power for Civic Center/relief. In the event of a disaster Tornado, Rail Car Accident, Water Supply, Hurricane, Natural Gas, Sinkhole or other natural or manmade emergency	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	the Dora Civic Center will serve as a Relief Station for the area Status: Waiting on funds to come available. Expected Timeframe for Completion: 2025.					
1,5	Radio Antenna Tower. Provide Backup Radio/Antenna support for Police and Fire radios at Fire Station. In the event our only radio communication located on top of the water tower is destroyed by a natural disaster or man-made malfunction it is a priority to reestablish credible communications thru an alternate means immediately. A back up radio/antennae can be installed at the Fire Station that will serve as a backup to the current radio/antennae and console located in the police dept and antennae on top of the water tank. Status: Waiting on funds to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Hand-Held Radios for each member and a portable for each vehicle. Status:	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	Waiting on funding to come available Expected Timeframe for Completion: 2025.					
5	Weather Alert Radios. Early warning radios for Dora citizens. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HGMP/CDBG/ Local/Other TBD	High	High
1,5	Road Flooding/Storm Drains. Improve storm drainage in various areas that are known to flood. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	Flooding	City/Town Administration/ Walker County EMA	HGMP/CDBG/ Local/Other TBD	High	High
5	Emergency Command Vehicle. The goal is to have the resources available at any moment and on every disaster whether big or small so that even an average emergency doesn't turn into a large-scale disaster. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	CDBG/Local/ Other TBD	Moderate	High
1,5	Sheltering Preparations. Making sure supplies and equipment needed are available to provide	High winds	City/Town Administration/ Walker County EMA	CDBG/Local/ Other TBD	High	High

	food, cots, blankets, water, basic medical supplies, temporary housing, hygiene, etc., for post even displaced individuals. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.					
<ul style="list-style-type: none"> Mitigation activities in Dora will be coordinated through the County Commission and the Emergency Management Agency. 						

Eldridge Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue in the area. Plans include water tanks and generator light towers. High wind susceptibility is addressed by increasing the number of storm shelters and radio sirens. The area is susceptible to wildfires; mitigation actions include an implementation plan.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1	Phase generators with natural gas. Purchase portable generators for water tanks and safe places. Status: Waiting on funding to come available. Expected Timeframe: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1,5	Generator light towers. To assist with storm damage in the event. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HGMP/CDBG/ Local/Other TBD	High	High
5	Project Name: Communications. To purchase handheld radios & pagers with back up batteries.	All	Walker County EMA	HGMP /Local/Other TBD	High	High

	Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.					
<ul style="list-style-type: none"> Mitigation activities in Eldridge will be coordinated through the County Commission and the Emergency Management Agency. 						

Jasper Action Mitigation Plan						
Vulnerability Summary: High wind susceptibility is addressed by increasing the number of storm shelters.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Construct a public 60 Person Occupancy FEMA Rated Storm Shelter to accommodate the citizens of Jasper. To obtain funds for the construction of a 60 Person Occupancy FEMA Rated Storm Shelter (N.P.C.A. certified manufacturing facility); Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1,5	Doctor's Branch - Road Flooding.	Flooding	City/Town Administration/ Walker County EMA	Completed	High	High
<ul style="list-style-type: none"> Mitigation activities in Eldridge will be coordinated through the County Commission and the Emergency Management Agency. 						

Kansas Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the number of alert systems.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Early Warning-Siren. Obtain funding for additional early warning sirens Status: Waiting on funding to come available Expected Timeframe for Completion: 2025.	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Emergency Power. Obtain funding for emergency power Status: Waiting on funding to come available Expected Timeframe for Completion: 2025.	All	Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Weather Alert Radios. Weather Alert Radios for each household. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	Walker County EMA	HMGP /CDBG/Local/ Other TBD	High	High
5	Handheld radios for the emergency response team. To purchase radios for walkie talkies for communication. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025	All	Walker County EMA	HMGP/ Local/Other TBD	High	High

1,5	Free standing lights for use in designated areas. To purchase free stand lights for use in power outage Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in Kansas will be coordinated through the County Commission and the Emergency Management Agency. 						

Nauvoo Action Mitigation Plan						
Vulnerability Summary: Flooding is an issue in certain corridors and bridges. Plans include waterflow, drainage, culverts, and bridge improvements. High wind susceptibility is addressed by increasing the number of storm shelters, replacing windows and doors with safety options, and adding more radio sirens.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Replace Street Storm Drains & Culverts. Repair storm drainage in street areas that flood during storms & rainstorms. Improve the flow of water through the creek channel. Improve drainage ditches. Keep Nauvoo Rd. open for emergency vehicles and daily traffic. Status: Waiting on funding to come available Expected Timeframe for Completion: 2025.	Flooding	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

5	Improve County Road 11 Hwy Bridges / Drainage Prevent Damage During Storm Flooding. Expected Timeframe for Completion: 2025	Flooding	Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Improve the flow of water through the primary Blackwater Creek Bridge channel (Bridge number 1) & the secondary Blackwater Creek Bridge channel (Bridge number 2) known as Dry Creek. Also improve Road drainage ditches leading to the Bridges. This will keep Nauvoo Road / County Road 11 open for emergency vehicles and daily traffic in a flood situation. Status: Waiting on funding to come available Expected Timeframe for Completion: 2025.	Flooding	Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Install a Second Emergency Tornado Siren. Install a second emergency siren for early notification warning of tornados or other disaster such as Norfolk Southern railway emergencies due to derailment. Status: Waiting on funding to come available Expected	High winds	Walker County EMA	HMGP/Local/ Other TBD	High	High

	Timeframe for Completion: 2025.					
1,5	Improve Bridge Crossings on Fourth Street Bridges (Walker County Road 29) @ Blackwater Creek Main Channel & Blackwater Secondary Channel. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/ CDBG/Local/ Other TBD	High	Moderate
1,5	Install Backup Generator Power for the Nauvoo Town Hall & Nauvoo Volunteer Fire Department in the event of a Tornado disaster, Train Railway Accident, Water Supply Interruption, Drought Related Wild Fire, Hurricane Collateral Damage, or other Natural or Manmade emergency the Nauvoo Town Hall & Volunteer Fire Department will serve as a Cooling/Warming/Rest Station for the Nauvoo Area Population. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

5	Emergency Radios for Nauvoo Elected Officials & Employees. Purchase handheld radios or walkie-talkies for emergency communications. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	Walker County EMA	HMGP/Local/Other TBD	High	High
5	NOAA Weather Alert Radios. Emergency warning radios for Nauvoo citizens Plan for Implementation. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	Walker County EMA	HMGP/Local/Other TBD	High	High
1	Replace Nauvoo Town Hall Windows and Doors. Safety Windows and Doors on Nauvoo Town Hall for Safety in high windows when glass is broken by flying objects than can cause injury or death to persons inside the structure. Hazard- Wind and Debris Plan: Purchase and install Safety Windows and doors for the Nauvoo Town Hall. Expected Timeframe for Completion: 2025.	High winds	City/Town Administration	HGMP/CDBG/Local/Other TBD	Moderate	Moderate

- Mitigation activities in Nauvoo will be coordinated through the County Commission and the Emergency Management Agency. Contact information is provided in Appendix.

Oakman Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors and bridges. Plans include waterflow, drainage, culverts, and bridge improvements. High wind susceptibility is addressed by increasing the number of storm shelters and radio sirens.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Improve storm drainage. Drainage study followed by a determination of cost. A benefit to cost ratio will determine viability of this plan. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	Flooding	City/Town Administration/ Walker County EMA	HMGP/CDBG/Local/Other TBD	High	High
5	Emergency Storm Shelter. Build Community Storm Shelters with backup power. Due to the annual recurrence of Tornadoes in our area and the poor structural and building quality of the structures in our city, our citizens are at risk should a tornado or high winds hit our area. We have several mobile homes, modular homes, government housing, and older low-quality homes due to the lack of building codes in their time to provide security from storms. Future Actions: Will	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/Local/Other TBD	High	High

	apply when funds are available. Expected Timeframe for Completion: 2025					
5	Local Emergency Notification Siren. Purchase Emergency/Tornado sirens and distribute around the town in strategic locations for early notification and warning of Tornados and man-made disasters. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025. Future Actions: Will apply when funds are available.	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/Local/Other TBD	High	High
5	Project Name: Weather Alert Radios. This project proposes the provision of weather alert radios to all households. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025. Future Actions: Will apply when funds are available.	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/Local/Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in Oakman will be coordinated through the County Commission and the Emergency Management Agency. 						

Sipsey Action Mitigation Plan

Vulnerability Summary: Flooding is an issue in certain corridors and bridges. Plans include waterflow, drainage, culverts, and bridge improvements. High wind susceptibility is addressed by increasing the number of storm shelters, replacing windows and doors with safety options, and adding more radio sirens.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Purchase portable generators for town hall and local shelters. Obtain funding to purchase 3 portable generators Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/Local/Other TBD	High	High
1	Wind proof and Plexiglas windows. To ensure the city hall and main shelters have wind proof and Plexiglas windows to protect against hail and wind damage. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	High winds	City/Town Administration	HMGP/CDBG/Local/Other TBD	Moderate	High
5	Radio Antenna Tower. Place a metal tower at back of police station to provide better communication ability for police radios. Status: Waiting on funding to come available. Expected	All	Walker County EMA	HMGP/CDBG/Local/Other TBD	High	High

	Timeframe for Completion: 2025.					
5	Purchase handheld radios or walkie talkies for communications. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
<ul style="list-style-type: none"> Mitigation activities in Sipsey will be coordinated through the County Commission and the Emergency Management Agency. 						

Sumiton Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the number of storm shelters, replacing windows and doors with safety options, and adding more radio sirens.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Storm Shelters Placement. Build Community Storm Shelters with backup power. Due to the annual recurrence of Tornadoes in our area and the poor structural and building quality of the structures in our city, our citizens are at risk should a tornado or high winds hit our area. We have several mobile homes, modular homes, government housing, and older low-quality homes due to the lack of building codes in	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	<p>their time to provide security from storms. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025. Future Actions: Will apply when funds are available</p>					
5	<p>Weather Alert Radios. This project proposes the provision of weather alert radios to all households. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025. Future Actions: Will apply when funds are available</p>	All	<p>City/Town Administration/ Walker County EMA</p>	<p>HMGP/ Local/Other TBD</p>	High	High
5	<p>Emergency Siren. Purchase Emergency Sirens and distribute around the City in strategic locations for early notification and warning of Tornados and / man-made disasters. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025. Future Actions: Will apply when funds are available</p>	All	<p>City/Town Administration</p>	<p>HMGP/CDBG/ Local/Other TBD</p>	Moderate	High
5	<p>Handheld Radios. To purchase radios for communication Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025. Future Actions:</p>	All	<p>Walker County EMA</p>	<p>HMGP/CDBG/ Local/Other TBD</p>	High	High

	Will apply when funds are available					
5	Notification System. This project would use a notification system that all City residents could sign up for and receive any notifications through the local ema. The notifications could range from all hazards that the county faces. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025. Future Actions: Will apply when funds are available	All	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Emergency Power to the Sumiton Storm Shelter. Install Larger Backup Generator Power for the Sumiton Storm Shelter. In the event of a Tornado disaster, Train Railway Accident, Water Supply Interruption, Drought Related , Hurricane Collateral Damage, or other Natural or Manmade emergency this structure will need a larger backup generator to maintain operations in the case of an extended power interruption. Status: Waiting on funding to come available. Expected Timeframe for Completion:	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	2025. Future Actions: Will apply when funds are available					
1,5	Generator light Towers. To make the damaged area safe and use equipment if necessary. Plan for Implementation: Would use generator part to run equipment and lighting to clean debris off roads to make it safe for first responders in the damaged areas. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025. Future Actions: Will apply when funds are available	High winds	City/Town Administration	HMGP/CDBG/ Local/Other TBD	Moderate	High

Mitigation activities in Sumiton will be coordinated through the County Commission and the Emergency Management Agency.

County-Wide Action Mitigation Plan

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Countywide Mitigation Project # 1 - Safe Room Project Project Name: Educational Project – Funding for Safe Rooms Project Description: Residential safe rooms Plan for Implementation: Each municipality and the	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	<p>county EMA will have available information for residents who are interested in securing funding to build their own safe room within their home. The “Safe Room and Community Shelters Funding and Initiatives” program through FEMA provides information to individuals and governments about obtaining money to build the safe rooms and FEMA also provides guidance on how to build a safe room. Status: Waiting on funding to come available Expected Timeframe for Completion: 2025.</p>					
1,5	<p>"Countywide Mitigation Project # 1 - Safe Room Project Project Name: Educational Project – Funding for Safe Rooms Project Description: Residential safe rooms Plan for Implementation: Each municipality and the county EMA will have available information for residents who are interested in securing funding to build their own safe room within their home. The “Safe Room and Community Shelters Funding and Initiatives” program</p>	High winds	City/Town Administration/ Walker County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	through FEMA provides information to individuals and governments about obtaining money to build the safe rooms and FEMA also provides guidance on how to build a safe room. Status: Waiting on funding to come available Expected Timeframe for Completion: 2025.					
2,4,5	"Countywide Mitigation Project # 3 - Identification of Vulnerable Populations In reviewing Walker County's emergency operations plan, we found that the plan was deficient. We do not know where the vulnerable populations are in the county. An emergency can make someone already vulnerable even more so and that is a weakness that must be addressed. A high priority project is to start a program to identify and locate our vulnerable populations. We are to develop a registration form for people with special needs. The form will be simple and one page which identifies name, street address, telephone numbers, and	All	City/Town Administration/ Walker County EMA	HMGP/ Local/Other TBD	High	High

	<p>emergency contacts. It will also identify individuals with pets. Many people are concerned about their pets during times of crisis. The program will be directed to citizens who are dependent on others for routine care; children under the age of 18 without adult supervision; people who are blind, hearing or mobility impaired; people needing medical care; persons requiring treatments like chemotherapy or dialysis; and people dependent on equipment such as wheelchairs. A confidential registry will be developed and kept at the emergency management office for emergency use only. Our partners in this project will be the Center for Independent Living and the American Red Cross 133. Expected Timeframe for Completion: 2025</p>					
2	<p>Countywide Mitigation Project # 4 – Public Education Project Project Name: Emergency supplies for evacuations and sheltering in place</p>	All	<p>City/Town Administration/ Walker County EMA</p>	<p>HMGP/ Local/Other TBD</p>	High	High

	<p>Project Description: “Grab And Go”: Packing An Emergency Preparedness Kit Is Easy -Essential” and “Your Family Needs An Emergency Supply Kit” – brochures distributed to the public. Plan for Implementation: Provide information to area residents with brochures and area meetings and activities to ensure residents are aware of emergency procedures in the event of a disaster, including evacuation plans and shelter-in- place instructions. Also provide information pertaining to household emergency kits. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.</p>					
5	<p>Countywide Mitigation Project #5 – Early Warning Systems Project Name: Weather Alert Radios. Project Description: Early warning radios for county residents. Plan for Implementation: This project proposes the provision of weather alert radios to all</p>	All	City/Town Administration/ Walker County EMA	HMGP/ Local/Other TBD	High	High

	households. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.					
5	Countywide Mitigation Project #6 – Outdoor Early Warning Systems Project Name: Outdoor Sirens. Project Description: Outdoor early warning sirens for county residents. Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.	All	City/Town Administration/ Walker County EMA	HMGP/ Local/Other TBD	High	High
5	Countywide Mitigation Project #7 – Call, Text and Email Notification System Project Name: Notification System. Project Description: To be able to do a mass notification to all users sign up for county alerts through the system. Plan for Implementation: This project would use a notification system that all county residents could sign up for and receive any notifications through the local ema. The notifications could Status: Waiting on funding to come available. Expected	All	City/Town Administration/ Walker County EMA	HMGP/ Local/Other TBD	High	High

	Timeframe for Completion: 2025.					
5	<p>Countywide Mitigation Project #8 – Software for Polygon for Outdoor Sirens</p> <p>Project Name: Polygon Software for Outdoor Sirens.</p> <p>Project Description: We would like to only notify the part of the county that the threat is capable. Plan for Implementation: We would only activate the sirens where the threat is capable.</p> <p>Status: Waiting on funding to come available. Expected Timeframe for Completion: 2025.</p>	All	City/Town Administration	HMGP/CDBG/Local/Other TBD	Moderate	High
1,5	<p>Countywide Mitigation Project #9 – Generator Light Towers</p> <p>Project Name: Generator Light Towers. Project Description: To make the damaged area safe and use equipment if necessary. Plan for Implementation: Would use generator part to run equipment and lighting to clean debris off roads to make it safe for first responders in the damaged areas. Status:</p>	All	City/Town Administration/ Walker County EMA	HMGP/Local/Other TBD	High	High

	Waiting on funding to come available. Expected Timeframe for Completion: 2025.					
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Mitigation activities County wide will be coordinated through the County Commission and the Emergency Management Agency.

WINSTON COUNTY
HAZARD MITIGATION ACTION PLAN

Winston County Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the number of storm shelters, replacing windows and doors with safety options, and more radio sirens. The area is susceptible to wildfires. Mitigation plans include evacuation planning.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	<p>Early warning sirens. Deferred (Funding). At Present there are seventeen warning sirens in place throughout the county. Winston County continues to need additional early warning sirens for natural disasters. There is a need for more warning signs throughout the County, especially in the southwestern and south central portions of the County, in the City/Town of Natural Bridge, the Delmar Community, Arley on County Road 12 at the satellite fire station, on County Road 8 at the Blackpond community, and in Lynn. Many sirens are in need of retrofitting to protect against lightning and to provide battery backup systems. Expected Timeframe 3-5 Years.</p>	All	City/Town Administration/ Winston County EMA	HMGP/CDBG/ Local/Other TBD	Moderate	High
1,5	Storm shelter construction. Winston	High winds	City/Town Administration/	Complete (Partial).	High	High

	County is working on storm shelters in the Houston community and Moreland community, but additional storm shelters are still needed county wide. All existing community/senior centers should be retrofitted with safe rooms and generators for emergency operations. Expected Timeframe 3-5 Years		Winston County EMA			
2,5	Natural Disaster response training, education, and planning. Deferred (Funding). Providing better information on disaster response is still needed. Expected Timeframe 3-5 Years	All	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High
2,5	Wildfire evacuation planning. Deferred (Funding). In the event of a large wildfire or other large natural disaster, the populous needs to be aware of an evacuation plan, such as signposts along major transportation routes. Better response and evacuation plans are still needed for wildfires. Expected Timeframe 3-5 Years	Wildfires	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High
5	Communications equipment. Improvements are needed to the county's system of emergency	All	City/Town Administration/ Winston County EMA	Complete (Partial)	High	High

	<p>contact. The County has implemented a reverse 911 system to call residents to provide weather notifications.</p> <p>Expected Timeframe 1-3 Years</p>					
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in Winston will be coordinated through the County Commission and the Emergency Management Agency. 						

Town of Addison Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the amount of storm shelters and incorporating response training. The area is susceptible to wildfires. Mitigation plans include evacuation planning.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	<p>Storm shelter construction. Addison has completed one storm shelter, but additional storm shelters and safe rooms are still needed.</p> <p>Expected Timeframe 1-3 Years.</p>	High Winds	City/Town Administration/ Winston County EMA	Complete (Partial).	Moderate	High
2	<p>Natural Disaster response training, education, and planning. Deferred (Funding). Providing better information on disaster response is still needed. There should be an effort to educate the populous on how to respond to a natural disaster, such as a plan for schools following the new EPA guidelines.</p>	All	City/Town Administration/ Winston County EMA	Complete (Partial).	High	High

	Expected Timeframe 1-3 Years.					
2,5	Wildfire evacuation planning. Deferred (Funding). Better response and evacuation plans are still needed for wildfires. In the event of a large wildfire or other large natural disaster, the populous needs to be aware of an evacuation plan, such as signposts along major transportation routes. Expected Timeframe 1-3 Years.	Wildfires	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Town of Addison will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Arley Action Mitigation Plan						
Vulnerability Summary: High wind susceptibility is addressed by increasing the amount of storm shelters and incorporating response training. The area is susceptible to wildfires. Mitigation plans include evacuation planning.						
Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Storm shelter construction. Arley has completed one shelter but additional storm shelters are still needed. Help residents acquire funds to build storm shelters or safe rooms. Expected Timeframe 1-3 Years.	High Winds	City/Town Administration/ Winston County EMA	Complete (Partial).	Moderate	High

2	Natural Disaster response training, education, and planning. Deferred (Funding). Providing better information on disaster response is still needed. There should be an effort to educate the populous on how to respond to natural disasters, such as a plan for schools following the new EPA guidelines. Expected Timeframe 1-3 Years.	All	City/Town Administration/ Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
2,5	Wildfire evacuation planning. Deferred (Funding). Better response and evacuation plans are still needed for wildfires. In the event of a large wildfire or other large natural disaster, the populous needs to be aware of an evacuation plan, such as signposts along major transportation routes. Expected Timeframe 1-3 Years.	Wildfires	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
5	Generators. Deferred (Funding). The Town of Arley is need of a generator to assure power during emergency situations. Expected Timeframe 1-3 Years.	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Town of Arley will be coordinated through the Office of the Mayor and the Emergency Management Agency.

Town of Double Springs Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the amount of storm shelters and incorporating response training. The area is susceptible to wildfires. Mitigation plans include evacuation planning.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Storm shelter construction. Double Springs is working on one storm shelter, but additional storm shelters are still needed. Expected Timeframe 1-3 Years.	High Winds	City/Town Administration/ Winston County EMA	Complete (Partial).	Moderate	High
2	Natural Disaster response training, education, and planning. Deferred (Funding). Providing better information on disaster response is still needed. There should be an effort to educate the populous on how to respond to natural disasters, such as a plan for schools following the new EPA guidelines. Expected Timeframe 1-3 Years.	All	City/Town Administration/ Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
2,5	Wildfire evacuation planning. Deferred (Funding). Better response and evacuation plans are still needed for wildfires. In the event of a large wildfire or other large natural	Wildfires	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High

disaster, the populous needs to be aware of an evacuation plan, such as signposts along major transportation routes. Expected Timeframe 3-5 Years.					
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Town of Double Springs will be coordinated through the Office of the Mayor and the Emergency Management Agency. 					

City of Haleyville Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the amount of storm shelters and incorporating response training. The area is susceptible to wildfires. Mitigation plans include evacuation planning.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Storm shelter construction. Haleyville has completed five shelters, including one with an emergency operations center, but additional storm shelters are still needed. Help residents acquire funds to build storm shelters or safe rooms. Expected Timeframe 3-5 Years.	High Winds	City/Town Administration/ Winston County EMA	Complete (Partial)	Moderate	High
2,5	Natural Disaster response training, education, and planning. Deferred (Funding). Providing better information on disaster response is still needed. There should be an effort to	All	City/Town Administration/ Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	<p>educate the populous on how to respond to natural disasters, such as a plan for schools following the new EPA guidelines.</p> <p>Expected Timeframe 3-5 Years.</p>					
2,5	<p>Wildfire evacuation planning. Deferred (Funding). Better response and evacuation plans are still needed for wildfires. In the event of a large wildfire or other large natural disaster, the populous needs to be aware of an evacuation plan, such as signposts along major transportation routes.</p> <p>Expected Timeframe 3-5 Years.</p>	Wildfires	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High
1,5	<p>Generators. Deferred (Funding). The City of Haleyville Water Works and Sewer Board has requested a generator at the Kelly Hill Water Booster Station. This station is critical in the operation of supplying water to approximately 65% of Haleyville's customers as well as the town of Double Springs. This generator will be used to pump water from the lower to higher-pressure zones.</p> <p>Expected Timeframe 3-5 Years.</p>	All	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High

5	<p>Mitigation in flood-prone areas. Deferred (Funding). Along Hwy 13 in Haleyville, near the radio station and in front of Hardee's is a trouble spot. The water crosses the road making it a hazard for traffic during heavy storms. The City of Haleyville proposes to replace/relocate an approximately 2,600 linear foot undersized storm sewer system with failing sections and sections to be located close to and underneath existing buildings. This project will: relocate the existing storm sewer system away from and out from underneath existing structures; upsize the system and provide additional inlets to eliminate flooding of roads; and install guardrail in one location to prevent cars from accidentally driving into a large drainage swale during flooding conditions. This swale, when filled with flood waters, is deep enough to completely cover an automobile, posing the threat of a person drowning before rescue would be available. Water</p>	Flooding	Winston County EMA .	HMGP/CDBG/Local/Other TBD	High	High
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	<p>covers the road during heavy rain along Hwy 129 near Jolly Dam's Service Station at the railroad underpass making this area a hazard for traffic.</p> <p>Water covers the road at Highway 13 in northern Haleyville at the entrance to the North Industrial park, blocking access to industrial property.</p> <p>Expected Timeframe 3-5 Years.</p>					
1,5	<p>The presence of vegetation that could create a landslides and fuel wildfires is a low threat to life, health and safety, and buildings. All vegetation around the schools are maintained to reduce vulnerability to landslides and wildfires.</p> <p>Expected Timeframe 3-5 Years.</p>	Landslides /Wildfires	City/Town Administration	HMGP/CDBG/Local/Other TBD	Low	Low
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Haleyville will be coordinated through the Office of the Mayor. 						

Town of Lynn Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the amount of storm shelters and incorporating response training. The area is susceptible to wildfires. Mitigation plans include evacuation planning.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Storm shelter construction. Lynn is working on one storm shelter, but additional storm shelters are still needed. Expected Timeframe 1-3 Years.	High Winds	City/Town Administration/ Winston County EMA	Complete (Partial)	Moderate	High
2,5	Natural Disaster response training, education, and planning. Deferred (Funding). Providing better information on disaster response is still needed. There should be an effort to educate the populous on how to respond to natural disasters, such as a plan for schools following the new EPA guidelines. Expected Timeframe 3-5 Years.	All	City/Town Administration/ Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
2,5	Wildfire evacuation planning. Deferred (Funding). Better response and evacuation plans are still needed for wildfires. In the event of a large wildfire or other large natural disaster, the populous needs to be aware of	Wildfires	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High

	an evacuation plan, such as signposts along major transportation routes. Expected Timeframe 3-5 Years.					
1,5	Bridge replacement. Deferred (Funding). There are a few wooden bridges in need of being replaced because they are in danger of being washed out in the event of a large flood. Lynn continues to seek opportunities to make these bridges safer. Expected Timeframe 3-5 Years.	Flooding	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	Moderate
5	Roadway improvements. Deferred (Funding). There are several gravel roads that wash out during times of heavy storm water runoff that need to be updated to withstand this type of hazard. Lynn continues to seek opportunities to repair these roads in a manner that permanently corrects washouts. Expected Timeframe 3-5 Years.	Flooding	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Town of Lynn will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Town of Natural Bridge Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the amount of storm shelters and incorporating response training. The area is susceptible to wildfires. Mitigation plans include evacuation planning.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
1,5	Storm shelter construction. Natural bridge is working on one storm shelter, but additional storm shelters are still needed. Expected Timeframe 1-3 Years.	High Winds	City/Town Administration/ Winston County EMA	Complete (Partial)	Moderate	High
2,5	Early warning sirens. Deferred (Funding). Natural Bridge continues to need an early warning system for natural disasters. Expected Timeframe 3-5 Years.	All	City/Town Administration/ Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
2,5	Fire station construction. Deferred (Funding). Natural Bridge continues to seek opportunities to expand fire protection to residents. The town needs a Fire Station. Presently the town is protected by the station in Lynn and the one just north of Natural Bridge on State Route 13. Expected Timeframe 3-5 Years.	Wildfires	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1,5	Police Station construction. Deferred (Funding). Natural	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	Moderate

	Bridge continues to seek opportunities to expand police protection. The town is in need of a police station. Presently the town is protected by the station in Lynn and the County Sheriff's office. Expected Timeframe 3-5 Years.					
5	Storm shelter construction. Deferred (Funding). Additional storm shelters are a continuing need in Natural Bridge. Help residents acquire funds to build storm shelters or safe rooms. Expected Timeframe 3-5 Years.	High winds	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High
2,5	Natural Disaster response training, education, and planning. Deferred (Funding). Providing better information on disaster response is still needed. There should be an effort to educate the populous on how to respond to a natural disaster, such as a plan for schools following the new EPA guidelines. Expected Timeframe 1-3 Years.	All	City/Town Administration/Winston County EMA	Complete (Partial)	Moderate	High
2,5	Wildfire evacuation planning. Deferred (Funding). Better response and evacuation plans are	Wildfires	City/Town Administration/Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High

	still needed for wildfires. In the event of a large wildfire or other large natural disaster, the populous needs to be aware of an evacuation plan, such as signposts along major transportation routes. Expected Timeframe 3-5 Years.					
	Backup power supply for critical facilities. Deferred (Funding). Natural Bridge needs a generator to supply power during natural disasters at Town Hall. Expected Timeframe 3-5 Years.	All	Winston County EMA	HMGP/CDBG/Local/Other TBD	High	High
<ul style="list-style-type: none"> • Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above. • Mitigation activities in the Town of Natural Bridge will be coordinated through the Office of the Mayor and the Emergency Management Agency. 						

Winston County Schools Action Mitigation Plan

Vulnerability Summary: High wind susceptibility is addressed by increasing the amount of storm shelters and incorporating response training. The area is susceptible to drought. Mitigation actions include community outreach and conservation.

Goals	Action Description	Hazards Addressed	Lead Agency	Funding Source	Priority/Status	Benefit
5	Provide back-up generators. Expected Timeframe: 1-3 Years.	All	City/Town Administration/ Winston County EMA	HMGP/ Local/Other TBD	High	High
5	Install surge protectors.	All	City/Town Administration	HMGP/CDBG/ Local/Other TBD	High	High

	Expected Timeframe: 1-3 Years.					
5	Provide safe rooms for students and public. Expected Timeframe: 3-5 Years.	High winds	Winston County EMA	HMGP/CDBG/ Local/Other TBD	High	High
1,5	Store loose items Expected Timeframe: 1-3 Years.	All	Winston County EMA	HMGP/CDBG/ Local/Other TBD	Moderate	Moderate
1	Plan capital investments to mitigate hazards. Expected Timeframe: 5-10 Years.	Drought	Winston County EMA	HMGP/ Local/Other TBD	High	High
1,5	Participate in community outreach and awareness of hazards and hazard mitigation. Expected Timeframe: 1-3 Years.	Drought	City/Town Administration/ Winston County EMA	Complete (Partial)	Moderate	High

- Future actions: Future actions are as indicated in the Multi-jurisdictional Action Plan above.
- Mitigation activities in the Winston County Schools will be coordinated through the Superintendent and the School Board.

Section 6- Plan Maintenance Process

Section Contents

- 6.1 Planning Cycle
- 6.2 Procedures
- 6.3 Implementation through Existing Programs
- 6.4 Continuing Public Involvement

6.1 The Planning Cycle

This chapter presents a continuous cycle for monitoring, evaluating and updating the Natural Hazard Mitigation Plan; the process for incorporating mitigation strategies into other, ongoing planning activities; and methods for continuing public involvement. Continual plan maintenance ensures an active and relevant hazard mitigation planning process.

6.2 Procedures

The Northwest Alabama Council of Local Governments will oversee plan maintenance during the five-year framework of the Action Plan. One year prior to expiration, NACOLG, will begin the process of updating said plan. NACOLG will work with local EMA staff to serve as facilitator. This process will include several kick-off meetings with Division E local EMA directors/coordinators and councils of local governments. NACOLG will organize collected data and incorporate any changes into the plan. Local EMA Directors will serve as liaison with those assigned implementation responsibilities in the Action Plan. Local EMA Directors will also serve as liaison with participating municipalities and the County Commission in respective counties to gather data.

After the initial plan is finalized and adopted, the EMA Directors and NACOLG will meet annually.

1. If unable to attend a meeting, NACOLG will follow up by communicating with EMA Directors through personal visits, phone calls, correspondence, email or fax.
2. A list of completed mitigation projects will be reviewed at each meeting.
3. Previously implemented mitigation actions will be evaluated for effectiveness.
4. There will be an update on the status of current mitigation projects.
5. Changing land use patterns and new developments will be addressed.

6. Any changes in risk assessment and/or risk vulnerability will be identified.
7. Any other concerns will be addressed; possible future mitigation plans discussed, and any new projects will be adopted by signed resolution.
8. The plan may be updated in the interim as routine maintenance and changing information requires. In the event of an unexpected disaster emergency, the plan may be updated to include measures to address this event by the any local EMA Director. The plan may also be updated by local amendment adopted by any participating jurisdiction, which may address only that jurisdiction's mitigation strategies or mitigation actions and shall be kept as part of the appendices of this plan.

NACOLG will schedule the meetings at a time and location convenient to the EMA Directors and staff. All meetings will be advertised in the local newspaper and open to the public.

At the end of the five-year cycle of the Action Program, the Committee will oversee a major update to the plan that follows the FEMA planning criteria in effect at the time of the update. The updated plan will again be submitted to the AEMA and FEMA for approval.

6.3 Implementation Through Existing Programs

Once the Alabama Emergency Management Agency and the Federal Emergency Management Agency have approved this plan, it will be adopted by each of the jurisdictions in northwest Alabama as the Multi-jurisdictional Natural Hazard Mitigation Plan. The Hazard Mitigation Plan will be incorporated into the existing planning processes of local jurisdictions in a manner that is appropriate to the ongoing planning activities of each community. Further incorporation will occur as required by local legislative bodies in these communities. When appropriate, plan elements will be submitted to the appropriate local coordinating body prior to determining prioritization, funding for public projects, review of new developments, and other activities affecting new and existing development. This has been the practice of participating jurisdictions since the practice of mitigation planning was first initiated. Local jurisdictions will prioritize the implementation of specific mitigation strategies based on maximizing the value of mitigation strategies' likely success reducing property damage, injury, and death. Those project with the greatest perceived value, including the greatest ratio of benefits to cost, will receive priority.

6.4 Continuing Public Involvement

A critical part of maintaining an effective and relevant natural hazard mitigation plan is ongoing public review and comment. Consequently, NACOLG and local EMA Directors are dedicated to direct involvement of its citizens in providing feedback and comments on the plan throughout the five-year implementation cycle.

Therefore, a hard copy of the plan will be available for viewing at all appropriate agencies throughout the region, at minimum to include; the County Emergency Management Agency offices, the office of the County Commission of each county, the offices of the Mayors of each municipality, and the municipal Public Libraries of the region. After adoption, a public information notice in the local newspaper will inform the public that the plan may be viewed at these locations.

Public meetings will be held when significant modifications to the plan are required or when otherwise deemed necessary by the Hazard Mitigation Steering Committee. The public will be able to express their ideas, concerns and opinions at the meetings. At a minimum, public hearings will be held during the drafting stage of the five-year plan update and to present the final plan to the public before adoption.

Appendix A: Local Mitigation Plan Review Tool

APPENDIX A: LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA’s evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan’s strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: AEMA Division E (Colbert, Franklin, Lamar, Lawrence, Marion, Walker and Winston Counties)	Title of Plan: Northwest Alabama Multi-Hazards Mitigation Plan	Date of Plan: December 28,2019
Local Point of Contact: Peggy D. Mighty	Address: P.O. Box 2603 Muscle Shoals, AL	E-Mail: pmighty@nacolg.org
Title: Director: Community Development Specialist/Planner		
Agency: North Alabama Council of Local Government		
Phone Number: 334-738-3883		

State Reviewer: Robert Baylis/Lisa Castaldo Review Comments in Red	Title: Operational Logistics Coordinator/Long Term Recovery Coordinator	Date: January 9, 2020 Resubmitted to AEMA 3/2/2020 Resubmitted to FEMA RIV 9/22/2020
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FEMA Reviewer: Lillian Huffman	Title: Program Analyst	Date: 5/11/20, Revisions: 9/24/2020, 10/29/20, 12/10/20), ARs – 1/19/21
Martin Erbele	Program Analyst	7/13/2020 (QC)
Date Received in FEMA Region IV	3/26/2020	
Plan Not Approved	7/13/2020	
Plan Approvable Pending Adoption	12/20/2020	
Plan Approved	1/19/2021	

Appendix B: Documentation of Participation and Public Involvement

REGIONAL HAZARD MITIGATION PLAN MEETING

SIGN-INSHEET

Meeting Date:
9/11/2019

Facilitator: MIKE MELTON / NACOLG

Location L.C.EMA

Name	Department	Phone	E-Mail
Johnny Cantrell	Law. Co. EMA	256-974-7641	jeantrell@lawcoema.com
Peggy Mighty	NACOLG	256-389-0500	pmighty@nacolg.org
Tiffany Boyd	NACOLG	256-389-0564	tboyd@nacolg.org
Mary Glass	Franklin Co EMA	256-398-4020	FCEM@Hiwayy.net
Jimmy Madison	Winston Co EMA	205-489-2747	jmadison@winstonalama.org
Regina Myers	Walker EMA	205-471-8043	r.myers@walkercountyga.us
Jimmy Mills	Marion Co EMA	205-921-4535	JMills@marionsoal.com
Jody Hitt	Colbert Co EMA	256-386-8558	jhitt@colbertco.org
Luther Otts	Lamar Co EMA	205-495-1511	emalamar@outlook.com
Keith Reeves	Colbert Co EMA	256-386-8558	kreeves@colbertco.org
Michael Smith	Colbert Co EMA	256-386-8558	msmith@colbertco.org
Tammy Vinson	Lawrence Co EMA	256-974-7641	tvinson@lawcoema.com

Regional Hazard Mitigation Plan Meetings
Colbert County, AL

Sign-in Sheet: DATE: September 23, 2019

LOCATION: Colbert County EMA

(PLEASE PRINT CLEARLY)

Name	Agency/Department	Phone Number	E-Mail
Brian Dinkley	Muscle Shoals City Schools Superintendent	256-389-2600	b.dinkley@msec.k12.al.us
BRAD WILLIAMS	M.S. / SHERIFFS CO	256-320-1125	BRAD@GOEVIILGROW.COM
Allan Hyde	Colbert County Board	256-577-4068	Ahyde@colbert.k12.al.us
Emily Counce	Colbert County Schools	256-412-6533	ecounce@colbert.k12.al.us
Tony Logan	City of Tusculumbia	256-275-2964	tlogan@tusculumbia.pd.org
Bo Stanley	City of Tusculumbia	256-762-1860	bostan29@comcast.net
David Moore	City of Muscle Shoals Utilities Board	(256) 386-9260	MuscleShoalsWWRP@comcast.net
Chris Hand	Tusculumbia City Schools	(256) 577-1980	chand@tusculumbia.k12.al.us
Keith Reaves	Colbert EMA Reaves@colbertco.org	(256) 386-8558	kreaves@colbertco.org
Michael Smith	Colbert EMA	256 386 8558	msmith@colbertco.org

Regional Hazard Mitigation Plan Meeting
October 9, 2019 Marion County

Name	Agency	Phone	Email
Jimmy Mills	Marion County EMA	205-921-4555	JMills@marionsoal.com
Tiffany Boyd	NACOLG	256-389-0564	tboyd@nacolg.org
Tyler Hill	Colbert Co EMA	256-356-5558	thill@colbertco.org
MICHAEL SMITH	COLBERT CO EMA	2563943056	msmith@colbertco.org
Keith Reaves	colbert Co EMA	256-436-4889	Kreaves@colbertco.org
Peggy M. Ghty	NACOLG	256-589-0553	
Mary Glass	Franklin EMA	256-398-4020	FCBM@Hiway.net
Tammy Vinson	Lawrence Co EMA	256-974-7641	tvinson@lawrenceema.com
Johnny Cantrell	Lawrence Co EMA	256-214-1660	
Mike Mokon	NACOLG	256-335-8500	colomac@hiway.net
Corey Johnson	NACOLG	205-333-2990	corey.johnson@westal.org
HELBY SELMAN	NACOLG	256-355-4515	SELBY.SELMAN@ADSS.ALABAMA.GOV
Joy Hester	NACOLG	256-355-4515	joy.hester@adss.alabama.gov
Keith Jones	NACOLG	256-339-0555	KJones@nacolg.org
Ryan Hayse	NACOLG	256-389-0514	Rhayse@nacolg.org
Bean Cooper	NACOLG	256-389-0595	rcooper@nacolg.org
Keaina Myers	Walker EMA	205-471-8043	comillers@walkeremal.us
Timmy Madison	Winston Co EMA	205-489-2747	tmadison@winstonalema.org

Regional Hazard Mitigation Plan Meetings
Colbert County, AL
Community Meeting

Sign-in Sheet: DATE: November 19, 2019

LOCATION: Colbert County Court House

(PLEASE PRINT CLEARLY)

Name	Agency/Department	Phone Number	E-Mail
Jimmy Gardiner			drgrd64@gmail.com
Donna Vinson			donnacostleyvinson@yahoo.com
Justin Gasque	ERH		JG93@att.net
April Bearden	Commission		abearden@colbertco.org
Roger Creekmore	Commission	256-386-8501	rcreekmore@colbertco.org
David L. Black	Commission	256-427-2630	dblack@una.edu
Tommy Barnes	commission	256-284-8850	tommybarnes1958@gmail.com
Jeremy Johnson	Colbert County	256-381-2120	jrobison@colbertco.org
Tori Barber	Colbert County	256-394-8674	Tori.Barber@col.com

Regional Hazard Mitigation Plan Meetings
Colbert County, AL
Community Meeting

Sign-in Sheet: DATE: November 19, 2019

LOCATION: Colbert County Court House

(PLEASE PRINT CLEARLY)

Name	Agency/Department	Phone Number	E-Mail
Edgar Black		256-385-4620	edgar.black@blackandhouston.com
Justin Franks	Whiteoak ^{FHP} Fire Dept	256-415-1145	Whiteoak850@gmail.com
Coastal	White Oak VFD	256 263 7291	
Dereb Benda	Commission	256-810-0953	debbendall@gmail.com
Keith Reeves	Colbert EMA	256-386-8558	kreaves@colbertco.org
Michelle Smith	Colbert EMA	256 386 8558	msmith@colbertco.org
Jody Hitt	Colbert EMA	256-386-8558	jhitt@colbertco.org
Peggy Mighty	NACOLC-	256-389-0553	pmighty@necolg.org

Regional Hazard Mitigation Plan Meetings
Colbert County, AL
Community Meeting

Sign-in Sheet: DATE: November 14, 2019

LOCATION: Colbert County EMA

(PLEASE PRINT CLEARLY)

Name	Agency/Department	Phone Number	E-Mail
MICHAEL SMITH	COLBERT EMA	256 386 8558	msmith@colbertco.org
Keith Reaves	Colbert EMA	256 386 8558	kreaves@colbertco.org
Mike Melton	NACDLG	256-535-8500	colomca@hiway.net
Russ Corey	TimesDaily	256-740-5738	russ.corey@timesdaily.com
Peggy Mighty	NACOLC	256-389-0553	pmighty@nacolg.org
Roger Creekmore	Colbert County Commission	256-386-8501	rcreekmore@colbertco.org
David L. Black	Chairman, Colbert County Commission	256-386-8501	dblack@uwa.edu

Colbert County Reporter Standard and Times

106 W. Fifth Street, P.O. Box 969, Tuscumbia, AL 35674-0969
(256) 383-8471 or Fax (256) 383-8476

AFFIDAVIT OF PUBLICATION OF LEGAL NOTICE

State of Alabama)
Colbert County)

**COLBERT COUNTY EMA
PUBLIC HEARING NOTICE**
REGIONAL HAZARD MITIGATION PLAN
The Colbert County EMA will hold a public hearing on November 19, 2019 at the Colbert County Courthouse Meeting Room 201 North Main Street at 7 p.m. The purpose of this hearing will be to discuss the Northwest Alabama Hazard Mitigation Plan, which addresses natural hazards and mitigation efforts in Colbert, Franklin, Lamar, Lawrence, Marion, Walker and Winston counties. Information will be presented includes the purpose and contents of the plans and the county's hazard mitigation policies. Individuals not attending the public hearing may send written comments to: Regional Hazard Mitigation Plan, P. O. Box 2603, Muscle Shoals, AL 35661. Under provisions of the American Disabilities Act of 1990, individuals wishing to attend the public hearing with special requirements should call (256) 389-0515 at least five days prior to the date of the hearing. Hearing impaired individuals having access to a TDD may contact via Alabama Relay Service at 1-800-548-2546.

46/1TNP/2565

Before me, a notary public in and for the county and state above listed, personally appeared Vicki Hood, who, by me duly sworn, deposes and says that:

"My name is Vicki Hood with the of the Colbert County Reporter. The Newspaper is printed in the English language, has a general circulation and its principal editorial office in the county above listed and has been mailed under a publication class mailing privilege of the United States Postal Service from the post office where it is published at least 51 weeks a year.

The Newspaper published the attached legal notice in the issues of: 11/15, 2019.

The sum charged for publication was \$ 62.40. The sum charged by the Newspaper for said publication does not exceed the lowest classified rate paid by commercial customers for an advertisement of similar size and frequency in the same newspaper(s) in which the public notice(s) appeared. There are no agreements between the Newspaper and the officer or attorney charged with the duty of placing the attached legal advertising notices whereby any advantage, gain or profit accrued to said officer or attorney.



AFFIANT

Sworn and subscribed this 15 day of Nov., 2019.



NOTARY PUBLIC

FRANKLIN COUNTY COMMISSION


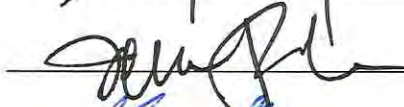
HAZARD MITIGATION PLAN MEETING

DECEMBER 12, 2019 10:00 AM

- | | |
|-------------------------|-----------|
| 1. <u>Mary Glass</u> | 16. _____ |
| 2. <u>Kim Brooks</u> | 17. _____ |
| 3. <u>Missy Wichok</u> | 18. _____ |
| 4. <u>Deah Mansell</u> | 19. _____ |
| 5. <u>[Signature]</u> | 20. _____ |
| 6. <u>Shade Cary</u> | 21. _____ |
| 7. <u>Erin Pickett</u> | 22. _____ |
| 8. <u>Cindy Shivers</u> | 23. _____ |
| 9. _____ | 24. _____ |
| 10. _____ | 25. _____ |
| 11. _____ | 26. _____ |
| 12. _____ | 27. _____ |
| 13. _____ | 28. _____ |
| 14. _____ | 29. _____ |
| 15. _____ | 30. _____ |

FRANKLIN COUNTY EMERGENCY MANAGEMENT
NATURAL HAZARD MITIGATION PLAN

Directly to follow Work Session
DECEMBER 9, 2019

- | | |
|---|-----------|
| 1.  | 16. _____ |
| 2. Mike Melton | 17. _____ |
| 3.  | 18. _____ |
| 4.  | 19. _____ |
| 5.  | 20. _____ |
| 6. David Butler | 21. _____ |
| 7.  | 22. _____ |
| 8.  | 23. _____ |
| 9.  | 24. _____ |
| 10.  | 25. _____ |
| 11.  | 26. _____ |
| 12.  | 27. _____ |
| 13. Valerie Landers | 28. _____ |
| 14. Mary Glass | 29. _____ |
| 15. _____ | 30. _____ |

AFFIDAVIT OF PUBLICATION

STATE OF ALABAMA AND COUNTY OF FRANKLIN

FRANKLIN COUNTY COMMISSION PO BOX 1028 RUSSELLVILLE, AL 35653

Franklin County, Franklin Online

Before me, a notary public in and for the county and state above listed, personally appeared the undersigned affiant, known to me to be a duly authorized representative of the Franklin County, Franklin Online. The newspaper published the attached legal notice(s) in the issue(s) referenced below, by the Newspaper for said publications does not exceed the lowest classified rate paid by commercial customers for an advertisement of similar size and frequency in the same newspaper(s) in which the public notice(s) appeared.

There are no agreements between the Newspaper and the officer or attorney charged with the duty of placing the attached legal advertising notice(s), whereby any advantage, gain or profit accrued to said officer or attorney:

[Signature of Paul Walker]

Affiant

PUBLISHED ON: 11/20/19, 11/21/19, 11/22/19, 11/23/19, 11/24/19, 11/25/19, 11/26/19
TOTAL COST: \$109.20
AD SPACE: 48 LINES
FILED ON: 11/20/19

Sworn to or affirmed before me on: 11/26/19

[Signature of Jane Brasfield]
Notary Public, State at Large, My Commission expires:

MY COMMISSION EXPIRES 11/15/2022



Franklin County EMA Public Hearing Notice Regional Mitigation Plan

The Franklin County EMA will hold a public hearing on December 9th 2019, following the regularly scheduled work session that begins at 5:00 PM, and December 12th 2019, at 10:00 AM. It will be held at the Franklin County Courthouse Annex, 405 Jackson Ave. North Russellville, AL. The purpose of this hearing will be to discuss the Northwest Alabama Hazard Mitigation Plan, which addresses natural hazards and mitigation efforts for Franklin, Colbert, Marion, Winston, Lawrence, Walker and Lamar counties. Information to be presented includes the purpose and contents of the plan and the county's hazard mitigation strategy. All citizens are urged to express their views on the community's hazard mitigation policies.

Individuals not attending the public hearing may send written comments to: regional Hazard Mitigation Plan P.O. Box 2603 Muscle Shoals, AL. 35561. Under provisions of the American Disabilities Act Of 1990, individuals wishing to attend the public hearing with special requirements should call (256) 332-8850 at least five days prior to the date of the hearing. Hearing impaired individuals having access to TDD may contact via the Alabama Relay Service at 1-800-548-2546.

Franklin County Times November 20, 2019.



... Sandra Smith of
(Tommy) of Fayette;
great grandchildren.

... Lane Luther and Charlotte
ing care for 10 years. They
of the family.
... please make a donation to West
ce or your favorite charity.

JUDITH LANE JOHNSON
ALICEVILLE - Judith Lane Johnson, age 76, of Aliceville, Ala., died November 5, 2019 at DCH Regional Medical Center. Services were held at 2:00 p.m. Friday, November 8, 2019, at West End Baptist Church with Rev. Jim Robinson officiating. Burial followed in Magnolia Memorial Gardens with Skelton Funeral Home of Reform directing. Visitation was one hour prior to services at the church.

KEN ELMORE LOWERY
GORDO - Ken Elmore Lowery, age 66, of Gordo, Ala., died November 6, 2019 at DCH Regional Medical Center. Memorial Services were held at 6:00 p.m. Friday, November 8, 2019, at Skelton Funeral Home Chapel with Rev. Trey Reece officiating. A private burial was held with Skelton Funeral Home of Reform directing. Visitation was immediately following the service at the funeral home.

He was preceded in death by his father, Don Lowery; grandparents, Charlie and Stella Elmore and Bonn and Vera Lowery; and brother-in-law, Mike Turner. Survivors include his wife of 42 years, Sandra Lowery; sons, Luke Lowery and Jake Lowery; mother, Joyce Elmore Lowery; sisters, Mickie Turner and Donna Winters (Johnny); brother, Layne Lowery (Tiffany); granddaughter, Emmalce Lowery; and a number of nieces and nephews.
Ken was born June 8, 1953 in Birmingham, Alabama. He was a loving husband, father and Pappy. He loved motorcycles and being outdoors, hunting and fishing.

JAMES LAKE PARKER, IV
ALICEVILLE - James (Jim) Lake Parker IV, age 75, of Aliceville was called to his Heavenly home on Saturday, November 9, 2019. Memorial services were held at 11 a.m. Monday, November 11, 2019 at the Aliceville First Presbyterian Church with Rev. Dr. Tom Kay and Rev. Derrick Brite officiating and Skelton Funeral Home of Reform directing. The

See Obits | Page 7

SANDERS

... ALICEVILLE, Ala. - Mary Ruth "Sutie" Sanders, died Nov. 3, 2019, at DCH Regional Medical Center in Tuscaloosa. Home Going Celebration services were held at 11 a.m. Saturday, November 9, at Emory Chapel C.M.E. Church, with William ... Sr. officiating. Burial followed at Mt. Moriah Cemetery. Visitation was held from 2-6 p.m. Friday ... vendor's Funeral Service. Lavender's Funeral Home of Aliceville was in charge of arrangements.



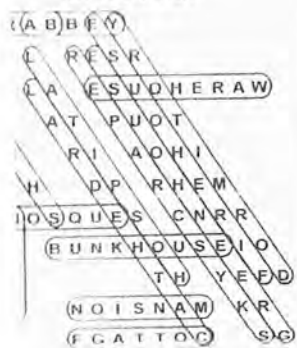
HERBERT JUNE SMITH
FAYETTE, Ala. - Herbert June Smith, 61, died Nov. 2, 2019, in Fayette. Services were held at 1 p.m. Monday, November 4, 2019 at New Friendship Baptist Church, with the Rev. Charlie Humphrey officiating. Burial followed at New Ship Cemetery. Visitation was one hour prior to services at the church. Otts Funeral Home of Sulphur was in charge of arrangements. Mr. Smith was born May 22, 1958, in Fayette County, to the late E. Smith and Mertene Franks. He was a graduate of Fayette County High School and a U.S. Army veteran. He was a member of New Hope Baptist Church in Kennedy. In addition to his parents, he was preceded in death by his brother, James Dale Smith. He is survived by his brothers, David E. Smith of Vernon, Melvin Smith of Fayette and Martin Smith of Tuscaloosa; and sisters, Barbara Smith, Merlene Walker and Janice White, all of Fayette; and a son, Smith of Colorado Springs, Colorado, and a daughter, Smith of New London, Connecticut.

Weekly SUDOKU

Answer

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9	1	6	8	4	2	5	3
8	2	1	7	5	6	4	9
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3	5	4	6	7	9	2	8
7	9	2	3	1	4	6	5
4	8	7	5	2	3	1	6
2	3	9	1	6	8	7	4
1	7	8	4	3	5	9	2

BUILDINGS



PUBLIC NOTICE

The Lamar County Hazard Mitigation Planning Committee will meet on (11/21/2019) at (9:00 AM) in the classroom of the Lamar County EMA offices located at 1118 County Road 9 in Vernon. The purpose of the meeting will be to discuss local hazard mitigation issues and review the draft Division E Hazard Mitigation Plan that includes Lamar County and its municipal jurisdictions and provide updates for the plan. The public is invited to attend and participate. Those persons needing information or requiring assistance to participate should contact Luke Otts, Lamar County EMA Director at 205/695-7105 at least 24 hours in advance of the meeting.

Hazard Mitigation Plan
Public Meeting #2
11/26/2019

(PLEASE PRINT)				
NAME	Agency	E-MAIL ADDRESS	PHONE NUMBER	Initials
Sharon Netherly	Judge of Probate	snetherly@aol.com	(205) 695-9119	SN
Glenn Crawford	MAYOR City of Vernon	gcrawford77777@yahoo.com	205-695-7718	GC
Kenny King	Commissioner	kingdistrict2@yahoo.com	205-712-0530	KK
John Allen	DI Commissioner	'	205-712-2011	JA
Josh Kneeling	ENGINEER	lamarcoeng@yahoo.com	(205) 695-7156	JK
David Bayle H	Revenue Comm.	davidbayle@lamarrevenue.com	(205) 695-9139	DB
Jeff Long	DI Commissioner	Guitarphysis@yahoo.com	(205) 431-6415	JL
Hal Alford	Sherrif	lc401@centurytel.net	205-712-3290	HA
DAVID GUNDS	Commissioner		205-712-1407	D.G.
CHARLES WHITE	CHIEF OF MILLPORT	920 BLACK ST Millport	205-662-4228	CW
STANLEY ALLRED	MAYOR Millport	millportmayor@yahoo	205-662-4228	SA
Linda Ferguson	Town Clerk - Town of Millport	millporttownclerk@yahoo.com	205-662-4228	LF
Rebecca Akins	Town of Kennedy	townofkenedy@gmail.com	205-596-3670	RA
Jackie Mitchell	Town of Kennedy	townofkenedy@gmail.com	205-596-3670	JM
Lana Colburn	Town of Detroit	townofdetroit@centurytel.com	205-273-4294	LC
Scott Boman	CITY OF SULLY	SULLY@FAYETTE.NET	205-712-0093	SB
Rick D. McDaniel	Ch. of Police Sulligent, AL	rick-mcdaniel@att.net	205-698-9112	RM
BRETT BALLARD	CITY MANAGER	brett@sulligent.org	205-698-9111	BB
Janie Sizemore	North Lamar Rescue	sizemorejanie@yahoo.com	205-712-8013	JS
Chris Sizemore	Lamar County FF Association	sizemorefarm73@yahoo.com	205-712-5003	CS
Vance Herron	Lamar Co, Superintendent Ed	vherron@lamarcountybee.com	205-712-1330	VH

Hazard Mitigation Plan Public Meeting # 1 11/21/2019

(PLEASE PRINT) NAME	Agency	E-MAIL ADDRESS	PHONE NUMBER	Initials
Sharon Miller	Judge of Probate	shemiller@aol.com	(205) 695-9119	SM
Glenn Crawford	Mayor City of Vernon	gcrawford97777@yahoo.com	205) 695-2218	GC
Kevin King	Commissioner	kingdistrict2@yahoo.com	205-712-0530	KK
John King	DI Commissioner		205-712-2011	JK
Josh Knepper	ENGINEER	lamarjeng@yahoo.com	(205) 695-7156	JK
David Bayle H	Revenue Comm.	DavidBayleHamarrevenue.com	(205) 695-9139	DB
Jeff Long	D4 Commissioner	Guitarphreak@yahoo.com	(205) 431-6415	JL
Hal Alford	Shenit	lc401@centurylink.net	205-712-3990	HA
David Gwads	Commissioner		205-712-1407	DG
CHARLES WHITE	CHIEF OF MILLPORT	920 BLACK ST Millport	205-662-4779	CW
STANLEY ALLRED	MAYOR Millport	millportmayor@yahoo.com	205-662-4228	SA
Linda Ferguson	Town Clerk - Town of Millport	millporttownclerk@yahoo.com	205-662-4228	LF
Rebecca Atkins	Town of Kennedy	townofkenedy@gmail.com	205-596-3670	RA
Jackie Mitchell	Town of Kennedy	townofkenedy@gmail.com	205-596-3670	JM
Lana Colburn	Town of Detroit	townofdetroit@centurytel.com	205-273-4294	LC
Scott Benton	CITY OF SULLY	SULLY@CITYOFDETNET	205-712-0093	SB
Rick D McDaniel	Ch. of Police Sulligent	r.d.mcDaniel@att.net	205-698-9112	RM
BRETT BALLARD	CITY MANAGER	brett@Sulligent.org	205-698-9111	BA
Janie Sizemore	North Lamar Rescue	sizemorejanie@yahoo.com	205-712-8073	JS
Chris Sizemore	Lamar County FE Association	sizemorefarm73@yahoo.com	2057125003	CS
Vance Herron	Lamar Co, Superintendent	vherron@lamarcountytexas.com	205-712-1330	VH

... November 6, 2019, at Lawrence Funeral Home. Burial was in Owens Chapel Cemetery.

Tom was the son of the late Dick and Lois Peoples.

Irene Miller Ragsdale MOULTON

Irene Miller Ragsdale, 90, passed away Wednesday, November 6, 2019, at NHC Healthcare. Funer-

... in death by her husband, Phillip Naylor and nephew, Cory Bock.

Pallbearers were family and friends.

The family extends special thanks to Hospice of the Valley for their loving care.

In lieu of flowers, memorials may be made to Smyrna Baptist Church Building Fund.

... the work se sion, District 3 Commi sioner Kyle Pankey sa he was for approving t adjustments as long as pe scales would remain t

Community Happenings

Thursday, Nov. 14

The Lawrence County Emergency Management Agency's Stake Holder meetings will be held Thurs., Nov. 14, at Town Creek City Hall, 1600 Main St., Town Creek and Monday, Nov. 18, at Lawrence County EMA office, 555 Walnut St., Moulton, both meetings begin at 6 p.m. The purpose of these meetings is to involve citizens, leadership, agencies, industry and non-profits in the identification of natural and human made hazards. In addition, your input is needed to determine the best method for mitigating local hazards in your community.

Tuesday, Nov. 19

American Education Week is Nov. 18-22. Retired Teachers' Day is Nov. 19, a day set aside to show appreciation for retired educators who have contributed to their local community. The Law. Co. Education Retirees Assoc. (LCERA) encourage all local churches to recognize and honor retired school personnel on either Sunday, Nov. 17 or Sunday, Nov. 24.

A grief support meeting will be held Tuesday, Nov. 19, 11:30 a.m. to 12:30

p.m., at Moulton Senior Center on Court Street in Moulton. This is sponsored by Amedisys Hospice. For more info call 256-760-7877. Everyone is welcome.

Saturday, Nov. 23

The second annual Community Thanksgiving Dinner will be provided by the Moulton Soup Kitchen on Sat., Nov. 23, at noon, at the old S&R Catfish location, in Moulton on Hwy. 157N. For more info call 256-401-7486.

\$5 INSTANT DISCOUNT

Any Havoline® Motor Oil Change

Includes up to 5 quarts of oil, oil filter and 10 point inspection.



Expires 11-30-19
Must present coupon for discount



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• 256-974-5426

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 05)921-4004.

STORAGE SPACE FOR RENT

& K RENTALS -
 arge storage for
 oats & RV's, also
 arge office space
 available. 205-412-
 2676. (tfn)

HOUSE & APTS FOR RENT

FOR RENT - 2 bed-
 room, 1 bath house
 in Haleyville,
 \$450/mo., \$300/dep
 no pets. Call 205-
 486-4645 or 205-
 269-2978. (11-27/tfn)

FOR RENT - 2 bed-
 room, 1 bath house
 in Haleyville,
 \$450/mo. \$300/dep.
 no pets. Call 205-
 486-4645 or 205-
 269-2978. (11-27/tfn)

HOUSE FOR RENT
 - 3 bedroom, 1.5
 bath house located
 in Brilliant. \$500.00
 per month. Call 205-
 289-1087. (11-20/tfn)

FOR RENT - Hamil-
 ton-Newly built home
 for rent. 3 BR, 2BA,
 \$525.00 mo/\$525.00
 deposit with 1 yr
 lease. 205-487-0941

NORTHWEST ALABAMA GAS DISTRICT

has an immediate job opening for
CONSTRUCTION/MAINTENANCE HELPER

Duties include but are not limited to:
 Assist foreman and equipment operators with the following tasks:

- Installation of new gas mains, service lines; meters, regulator stations
- Maintenance of existing natural gas system including regulator stations, gas mains, residential and commercial meters, and pipeline right of way.
- Maintenance of construction equipment.

Required Skills

- Extensive physical activity. Requires strenuous physical work; heavy lifting, pushing, or pulling required of objects over 50 pounds.
- Work environment involves some exposure to hazards or physical risks, which require following basic safety precautions.
- Work involves almost constant exposure to unusual elements, such as extreme temperatures, toxic chemicals, biohazardous materials, dirt, dust, fumes, smoke, and/or loud noises.

Qualifications and Education Requirements

- Candidate will be required to obtain Alabama Plumbing Journeyman Pipefitter License and CDL License after employment. Licenses are not required to be considered for the positions, but special consideration will be given to candidates who poses licenses.
- Must possess and maintain a valid driver's license.
- Must speak and read English fluently.
- Must pass pre-employment drug screening and is subject to random DOT drug testing.
- Candidates must live within system service area or be within commuting distance of reporting location or relocate within six months of end of probationary period.

Salary Range is \$36,900 to \$58,200 based on qualifications and experience. A copy of the complete job posting is available by contacting the General Manager, Heath Reed, at 205-921-3106 or can be obtained at the district office located at 310 2nd Street, SW Hamilton, AL 35570. Applications and Resumes may be mailed to Northwest Alabama Gas District, PO Box 129, Hamilton, Alabama 35570, Attn: Heath Reed. Resumes and applications must be received by 5:00 pm, January 7, 2020.

HALEYVILLE HEALTH & REHAB CENTER

has openings for
Director of Nursing
PART TIME
Nurses Aide
RN/LPN

Charge Nurse
House Keeping
Dietary

Apply in person at
 2201 11th Ave.
 Haleyville, AL 35565
 or Fax Resume to
 (205) 486-8393

LEGAL NOTICES

LEGAL NOTICE
 STATE OF ALABAMA
 WINSTON COUNTY

NOTICE OF ABANDONED AND UNCLAIMED VEHICLES

Notice is hereby given that sealed bids will be taken until Wednesday, January 22, 2020 at 9:00 a.m. on the following wrecked, burned, or abandoned vehicles

2006 SATURN
 ION, GRAY
 VIN # 1G8AJ55F86
 Z183870

LEGAL NOTICE
 IN THE PROBATE COURT OF WINSTON COUNTY, ALABAMA

IN RE:
 JIMMY WAYNE CARVER, AN INCAPACITATED PERSON,
 CASE NO. 4826

Ellen Berry-Pratt, Conservator in the above styled case, has filed her final settlement, and a hearing has been scheduled for December 20, 2019, at 2:00 pm at the Winston County Courthouse in the Courtroom of Judge Sheila G. Moore.

Ellen Berry-Pratt, Conservator
 P. O. Box 2903
 Tuscaloosa, AL 35403
 (205) 345-7500

JC-Dec. 4, 11, 18
 74

LEGAL NOTICE
 NOTICE OF APPOINTMENT TO BE PUBLISHED BY PERSONAL REPRESENTATIVE

IN THE PROBATE COURT OF WINSTON COUNTY, ALABAMA

IN RE: The Estate of MARGARET SUE STERLING, Deceased.

PROBATE COURT OF WINSTON COUNTY, AL
 CASE# 4905

TAKE NOTICE
 that Letters of Testamentary has been granted to Cynthia Renee Allred as Executrix of the Estate of Margaret Sue Sterling, on the 12th day of December, 2019 by the Honorable Sheila G. Moore, Judge of Probate Court of Winston County;
NOTICE IS HEREBY GIVEN
 that all persons hav-

the said Estate are hereby required to present the same within the time allowed by law or the same will be barred.

Cynthia Renee Allred
 Petitioner

Hon. Betsy M. Harrison
 Attorney at Law
 P O Box 339
 Double Springs, AL 35553
 (205) 489-8118

BS-Dec. 18, 25
 Jan. 1

LEGAL NOTICE
 Winston County EMA
 Public Hearing Notice

The Winston County EMA will hold a public hearing on December 26, 2019 at 10:00 A.M and December 27, 2019 at 10:00 A.M. Location at the EMA Office located at Double Springs Municipal Building, 23415 Highway 195, Double Springs, AL at 10:00 A.M. each day. The purpose of this hearing will be to discuss the Northwest Alabama Hazard Mitigation Plan, which address natural hazards and mitigation efforts in Colbert, Franklin, Marion, and Winston counties.

WW-Dec. 18
 80

LEGAL NOTICE
 NOTICE OF APPOINTMENT TO BE PUBLISHED BY PERSONAL REPRESENTATIVE

IN THE PROBATE COURT OF WINSTON COUNTY
 CASE NO. 4888

ESTATE OF MARLON DALE PIPKINS, DECEASED
 PROBATE COURT OF WINSTON COUNTY

made request for final settlement of said Contract. All persons, having any claim for labor, materials or otherwise in connection with this project should immediately notify The Cassady Company, Inc..

BC-Dec. 11, 18, 25,
 Jan. 1
 81

LEGAL NOTICE
 IN THE CIRCUIT COURT OF WINSTON COUNTY, ALABAMA

WILLIAM SHOCKLEY
 Plaintiff,

vs.
 Lot Number Six (6) of Brookhaven Subdivision, Haleyville, Alabama, as shown in Map Book 1, Page 182, in the Judge of Probate Of Winston County, Alabama.
 And WAYNE NEWBORN, his heirs and Devisees
 And DOROTHY CHARLENE MILLS
 And A, B, C, AND ALL OTHER PERSONS OR ENTITIES CLAIMING ANY PRESENT, FUTURE, CONTINGENT,

REMAINDER OR OTHER INTEREST IN THE DEFENDANT LANDS DESCRIBED HEREIN ABOVE, WHERE TRUE NAME IS UNKNOWN TO THE PLAINTIFF AT THE PRESENT TIME BUT WHICH WILL BE ADDED HERETO BY AMENDMENT WHEN ASCERTAINED
 Defendants.

NOTICE OF



Walker County Emergency Management Agency

Regina A Myers, Coordinator

1801 3rd Ave S, Suite 9
Jasper, AL 35501
Telephone (205)384-7233
Fax (205)221-2788

November 6, 2019

PUBLIC NOTICE

Walker County EMA will be having a Public meeting on November 15th, 2019 at 10 am in the Walker County Commission Boardroom. The purpose of this meeting is to discuss local Hazard Mitigation issues, to identify probable hazards, and to develop projects to alleviate the effects of hazards. The Public is invited to attend his important meeting and may provide input.

Regina A Myers
Coordinator/ALDHS POC
Walker EMA
205-384-7233

**Walker County Hazard Mitigation Plan Public Meeting
November 15, 2019**

Name	Phone Number	Email Address
Jake Romano	205-522-2028	Jake.Romano@charter.net.
Kollie Dickerson	205-302-6063	_____
Janet Adams Clayton	205-544-6789	adamsj29@gmail.com
Joyce Ann Caselini	205-275-3320	_____
Dina Whitehead	205-544-5075	_____
Pat Hall	205-275-2788	_____
Susan Russell	205-470-1339	suzymr12@yahoo.com
Scott Drummond		

NOV. 15, 2019

JASPER, ALABAMA

— Friday —

BRIEFS**Parole denied for Walker County man**

The Alabama Board of Pardons and Paroles denied parole Wednesday to five violent offenders, including one who had a case involving Walker County.

Brian Keith Aaron, who was denied parole, was sentenced in 2012 to 15 years in prison for two convictions for manufacturing a controlled substance and one conviction for possession of a controlled substance in Jefferson and Walker counties.

His prior record includes a one-year, six-month prison sentence in 2008 for third-degree robbery in Jefferson County.

County EMA to host public meetings

The Walker County Emergency Management Agency will host public meetings today at 10 a.m. and Monday, Nov. 18, at 4:30 p.m. in the Walker County Commission board room.

The public is invited to attend either or both of these meetings.



Daily Mountain E



Daily Mounta



Walker County Emergency Management Agency

Regina A Myers, Coordinator

1801 3rd Ave S, Suite 9
Jasper, AL 35501
Telephone (205)384-7233
Fax (205)221-2788


November 6, 2019

PUBLIC NOTICE

Walker County EMA will be having a Public meeting on November 18th, 2019 at 4:30 pm in the Walker County Commission Boardroom. The purpose of this meeting is to discuss local Hazard Mitigation issues, to identify probable hazards, and to develop projects to alleviate the effects of hazards. The Public is invited to attend his important meeting and may provide input.

Regina A Myers
Coordinator/ALDHS POC
Walker EMA
205-384-7233

Walker County Hazard Mitigation Plan Public Meeting
November 18, 2019

Name	Phone Number	Email Address
Jeff Carr	205-482-0529	chrefcarr@yahoo.com
Shirley Embury	205-384-0373	shirley.embury@davita.com
PHILIP FREEMAN	(205) 522-4966	
		

Appendix C -Contact information

County EMA Directors	Phone	Number
Colbert County EMA- Director Michael David Smith	256-394-3056	msmith@colbertco.org
Winston County EMA Director James Madison	205-489-2747	jmadison@Winstonalema.org
Franklin County EMA Director – Mary Glass	256-332-8890	FCEM@Hiwaay.net
Walker County EMA Director- Regina A. Myers	205-471-8043	r.myers@walkercountyal.us
Marion County EMA Director- Jimmy Mills	205-921-4555	jmills@marionsoal.com
Lamar County EMA Director- Luke Otts	205-695-7105	emalamar@outlook.com
Lawrence County EMA Director- Johnny Cantrell	256-974-4621	jcantrell@lawcoema.com

**Hazard Mitigation Planning
Local Authorities Participant Contact Form**

Authority Name: Colbert county commission

Name of Contact: Roger Creekmore

Telephone Number: 256-386-8550

Email Address: rcreekmore@colbertco.org

Mailing Address: 201 North main street Tusculum AL 35672

**Hazard Mitigation Planning
Local Authorities Participant Contact Form**

Authority Name: Town of Cherokee

Name of Contact: Terry Cosby

Telephone Number: 256-359-4959

Email Address: townhall@cherokeetel.net

Mailing Address: P.O. Box D Cherokee, AL 35616

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: Gale D. Satchel

Name of Contact: Allan Hyde / Gale Satchel

Telephone Number: 256-577-4068 | 256-710-7544

Email Address: Ahyde@Colbert.k12.al.us
gsatchel@colbert.k12.al.us

Mailing Address: 425 Highway 7a West
P.O. Box 538
Tuscumbia, AL 35674

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: colbert county Road Dept.

Name of Contact: Jeremy Robinson

Telephone Number: 258-381-2120

Email Address: Jrobinson@colbertco.org

Mailing Address: 2750 old Hwy 20

Hazard Mitigation Planning

Local Authorities Participant Contact Form

Authority Name: Muscle Shoals City Schools

Name of Contact: Brian Lindsey

Telephone Number: 256-389-2600

Email Address: blindsey@mscs.k12.al.us

Mailing Address: 3200 Wilson Dam Rd.
Muscle Shoals, AL 35661

IT Director

— Kevin Stephenson 256-577-7780 Cell
KStephenson@mscs.k12.al.us

Maintenance Director

— Terry Pearson 256-349-9797
Tpearson@mscs.k12.al.us

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: Muscle Shoals Utilities Board

Name of Contact: James Vance

Telephone Number: 256-386-9260 (office) 256-577-3053 (cell)

Email Address: jvancemsub@comcast.net

Mailing Address: P.O. Box 2648, Muscle Shoals, AL 35662

www.muscleShoalsWater.org

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: Muscle Shoals Electric Board

Name of Contact: Matt Bernauer

Telephone Number: (256) 386-9290 , (256) 762-4565

Email Address: mbernauer@mseb.net

Mailing Address: PO Box 2547, Muscle Shoals, AL 35662

Kevin Buttrum - kbuttrum@mseb.net
(256) 386-9290
(256) 710-9533

Hazard Mitigation Planning

Local Authorities Participant Contact Form

Authority Name: City of Sheffield

Name of Contact: JAN SANFORD

Telephone Number: 256-383-0250

Email Address: itsinra@sheffialabama.org

Mailing Address: 600 N. Montgomery Ave.
Sheffield, AL 35660

Dewey King - City of Sheffield

Clayton Kelly - City of Sheffield

BRAD Williams - The Civil Group - 256-320-5082

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: Spring Valley Water Sys

Name of Contact: Tony Jones

Telephone Number: 256-366-5775

Email Address: Springvalleywater@bellsouth.net

Mailing Address: 912 Lagrange Rd
Tuscumbia, AL 35674

**Hazard Mitigation Planning
Local Authorities Participant Contact Form**

Authority Name: Town of Leighton

Name of Contact: John Landers (mayor)

Telephone Number: 256-446-8477

Email Address: leiclerk308@att.net

Mailing Address: P.O. Box 308 Leighton, Az 35646

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: Town of Littleville

Name of Contact: Sherry Richey

Telephone Number: 256-332-3567

Email Address: townoflittleville@gmail.com

Mailing Address: 1810 George Wallace Hwy.
Russellville, AL 35654

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: Sheffield Utilities

Name of Contact: Steve Hargrove GM

Telephone Number: 256-627-7370

Email Address: shargrove@sheffieldutilities.org

Mailing Address: PO Box 580 Sheffield, AL 35660

Tommy Barnes	256-443-6114	Civil Manager
Chris White	256-412-8999	HR/Safety Director
Tyler Jones	256-412-9022	Electric Manager
Matt Parker	256-577-1894	CFO

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: Sheffield City Schools

Name of Contact: Keith DAVIS

Telephone Number: 256-383-0400 Cell - 205-412-6934

Email Address: Kdavis@scs.k12.al.us

Mailing Address: 300 W. 6th Street Sheffield 35660

Hazard Mitigation Planning
Local Authorities Participant Contact Form

Authority Name: City of Tusculmbia

Name of Contact: Mayor Kerry Underwood

Telephone Number: 256-383-5463

Email Address: mayorunderwood@comcast.net

Mailing Address: 116 East 6th Street Tusculmbia, AL 35674

Police Chief Tony Logan 256-275-2964 tlogan@tusculmbiapd.org
Bo Stanley Public Works Dir. 256-762-1860 bostan29@comcast.net
Fire Chief Rodney McAnally 256-443-0470 firechief1fd@gmail.com
Park & Rec Dir - Joel Kendrick 256-349-0835
joelkendrick@comcast.net

Hazard Mitigation Planning

Local Authorities Participant Contact Form

Authority Name: Tusculum City Schools

Name of Contact: Paul J. Pettit

Telephone Number: 256-389-2909 256-263-2551

Email Address: pjpettit@tusculum.k12.al.us

Mailing Address: 303 N Commons E
Tusculum AL 35674

Chris Hand Director of Facilities
256-389-2909 256-577-1980
chand@tusculum.k12.al.us
303 N Commons E
Tusculum AL 35674

**Hazard Mitigation Planning
Local Authorities Participant Contact Form**

Authority Name: Tuscumbia Utilities

Name of Contact: Jeff McDonald

Telephone Number: 256-383-0321

Email Address: jmcDonald@tuscutilities.com

Mailing Address: Po Box 269 Tuscumbia, AL 35674

Franklin County Contact List

- Franklin County EMA Mary Glass 256-332-8890 P.O. Box 1028 Russellville, AL.
35653 Fcem@Hiwaay.net Local Government
- City Of Russellville David Grissom 256-332-6060 P.O. Box 486 Russellville, AL.
35653 mayor.grissom@yahoo.com Local Government
- City Of Red Bay Charlene Fancher 256-460-0288 P.O. Box 2002 Red Bay, AL.
35582 mayor@redbay-al.gov Local Government
- Town Of Phil Campbell Steve Bell 205-993-5313 P.O. Box 489 Phil Campbell, AL. 35581
clerkpc@gmail.com Local Government
- Town Of Hodges Joyce Saad 205-935-5445 P.O. Box 87 Hodges, AL. 35571
townofhodges@centurytel.net Local Government
- Town Of Vina Michael Moomaw 256-356-4996 7111 Hwy 19 Vina, AL 35593
michael.moomaw6@gmail.com Local Government
- Franklin County Schools Greg Hamilton 256-332-1360 500 Coffee Avenue NE
Russellville, AL. 35653 Greghamilton@franklin.k12.us Public School System
- Russellville City Schools Heath Grimes 256-331-2000 1945 Waterloo Road Russellville, AL.
35653 heath.grimes@rcs12.al.us Public School Systems
- Phil Campbell Water Darren Stewart 205-993-5464 215 McClung Av. Phil Campbell,
AL. 35581 pcwater@centurytel.net Water & Sewer Board
- Franklin County Water Beverly Hargett 256-332-1496 12951 Hwy 187
Russellville, AL. 35653 fcwater@Hiwaay.net Water Authority
- Russellville Water & Sewer Eric Hill 256-810-7363 P.O. Box 1148
Russellville, AL. 35653 ehill@rutility.com Water & Sewer Board

Franklin County Contact List

- Franklin County EMA Mary Glass 256-332-8890 P.O. Box 1028 Russellville, AL.
35653 Fcem@Hiwaay.net Local Government
- City Of Russellville David Grissom 256-332-6060 P.O. Box 486 Russellville, AL.
35653 mayor.grissom@yahoo.com Local Government
- City Of Red Bay Charlene Fancher 256-460-0288 P.O. Box 2002 Red Bay, AL.
35582 mayor@redbay-al.gov Local Government
- Town Of Phil Campbell Steve Bell 205-993-5313 P.O. Box 489 Phil Campbell, AL. 35581
clerkpc@gmail.com Local Government
- Town Of Hodges Joyce Saad 205-935-5445 P.O. Box 87 Hodges, AL. 35571
townofhodges@centurytel.net Local Government
- Town Of Vina Michael Moomaw 256-356-4996 7111 Hwy 19 Vina, AL 35593
michael.moomaw6@gmail.com Local Government
- Franklin County Schools Greg Hamilton 256-332-1360 500 Coffee Avenue NE
Russellville, AL. 35653 Greghamilton@franklin.k12.us Public School System
- Russellville City Schools Heath Grimes 256-331-2000 1945 Waterloo Road Russellville, AL.
35653 heath.grimes@rcs12.al.us Public School Systems
- Phil Campbell Water Darren Stewart 205-993-5464 215 McClung Av. Phil Campbell,
AL. 35581 pcwater@centurytel.net Water & Sewer Board
- Franklin County Water Beverly Hargett 256-332-1496 12951 Hwy 187
Russellville, AL. 35653 fcwater@Hiwaay.net Water Authority
- Russellville Water & Sewer Eric Hill 256-810-7363 P.O. Box 1148
Russellville, AL. 35653 ehill@rutility.com Water & Sewer Board

Changes to the Contact Information in Appendix A: Stakeholders

Winston County Schools

No Change

Haleyville City Schools

Change: Holly Southerland

Change: hsoutherland@havc.k12.al.us

Winston County EMA

Change: Jimmy Madison

jmadison@winstonalema.org

Town of Addison

Add: addisonc@hiwaay.net

Town of Arley

Add: tfarley@bellsouth.net

City of Double Springs

Add: epr35553@yahoo.com

City of Haleyville

Add: haleyvillemayor@cityofhaleyville.com

Town of Lynn

Change: Jeff Stokes

Add: Marcia-townoflynn@tds.net

Town of Natural Bridge

Add: agparrish@centurytel.net

Winston County Commission

Add: rdhayes32@gmail.com

Double Springs Water
Add: dswater@centurytel.net

Addison Water
Add: addisonw@hiwaay.net

Arley Water
Change: Christopher Tree
Add: tfarley@bellsouth.net

Lynn Water
Change: Joe Bell
Add: joe-townoflynn@tds.net

Haleyville Water
Change: Lane Bates
No email due changing email providers soon

Haleyville Housing Authority
Change: Cleta Pinkard
Add: cleta@haleyha.com

Appendix D -NFIP Nonparticipating Justifications

NFIP Non-Participating Justifications for Guin, Hackleburg, and Bear Creek

From: EMAoffice <emaoffice@marionsoal.com>

Sent: Monday, September 21, 2020 11:38 AM

To: Peggy Mighty <pmighty@nacolg.org>

Subject: RE: NFIP Nonparticipating status

I spoke with the municipalities in question. Due to the elevation of these communities and low occurrence of flooding in those areas they chose not to participate in the NFIP. They are all open to the possibility of future opportunities to participate.

Also attached is the requested justification for the Action Items you requested.

If I need to make any changes to the memo just let me know.

Thanks,

Eric

Eric R. Terrell

Marion County EMA Director/Safety Coordinator

P.O.Box 322 Hamilton Al, 35570

Office (205)921-4555

Cell (205)570-3682

SL# 77*249 Email: emaoffice@marionsoal.com





Walker County Emergency Management Agency

Regina A Myers, Coordinator

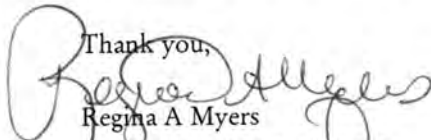
1801 3rd Ave S. Suite 9
Jasper, AL 35501
Telephone (205)384-7233
Fax (205)221-2788

September 21, 2020

To Whom it may concern:

I have spoken with the Town of Sipsey and the reason for their decision to not participate in the NFIP is they are concerned with the burden it would put on their citizens. They are a very small very rural town and they feel the citizens couldn't carry the extra costs of the insurance.

Thank you,



Regina A Myers
Coordinator/ALDHS POC
Walker EMA

City of Sumiton
WALKER COUNTY
P.O. BOX 10 – 416 STATE STREET
SUMITON, ALABAMA 35148
205-648-3261

August 26, 2020

Regina Myers
Walker County EMA


Re: National Flood Insurance Program

Mrs. Myers,

At this time, the City of Sumiton does not participate in the National Flood Insurance Program. Our reasoning is the Council and I do not want to place an undue burden on our citizens. We may revisit at a later date.

If you have any questions or need additional information do not hesitate to contact me.

Sincerely,



Petey Ellis,
Mayor


TOWN OF LYNN
PO Box 145
Lynn, AL 35575
205-893-5250/205-893-2404 Fax
marcia-townoflynn@tds.net

September 1, 2020

To Whom It May Concern

The previous elected officials with the Town of Lynn had not got into the National Flood Insurance Program. Since this has been brought to my attention the town needs to be put into the upcoming planning cycle.

Thank You



Mayor/ Earl Gilbert

Appendix E County Resolutions

RESOLUTION NO. 2021 - 1-5

**NORTHWEST ALABAMA MULTI-JURISDICTIONAL HAZARD MITIGATION
ACTION PLAN**

Whereas, Section 409 of the Robert T. Stafford Disaster Relief Act and Emergency Assistance Act (Public Law 93-228, as amended), Title 44 CFR, as amended by Section 102 of the Federal Disaster Mitigation Act of 2000, as administered by the Federal Emergency Management Agency, Region IV, requires and provides a framework for all state and local governments to review and evaluate a local hazard mitigation strategy to protect life and property through an assessment of risk and mitigation practices, as a condition of receiving Federal disaster and hazard mitigation assistance; and,

Whereas, the Colbert County Emergency Management Agency, along with other officials in Colbert County, has been involved in the development of the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan; and,

Whereas, the Colbert County Commission supports the enhancement and refinement of the plan in accordance with guidance from the Alabama Emergency Management Agency and the Federal Emergency Management Agency; and,

Whereas, the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan has been reviewed by the Alabama Emergency Management Agency and the Federal Emergency Management Agency and has obtained approval pending adoption by local legislative bodies; and,

Whereas, the draft Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan was advertised at a public hearing during its development and again following review by the Federal Emergency Management Agency and the Alabama Emergency Management Agency;

NOW, THEREFORE, BE IT RESOLVED BY THE Colbert County Commission, Colbert County, ALABAMA that the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan is hereby adopted as the multi-jurisdictional hazard mitigation plan.

Duly Passed and Adopted this January 5, 2021 .
Date

ATTEST:



Colbert County Commission:


County Commission Chair

Franklin County Commission
Resolution Number 21019

WHEREAS, the Franklin County Commission recognizes the threat that natural hazards pose to people and property within the community; and

WHEREAS, the Franklin County Commission development and implementation of a hazard mitigation action plan can result in actions that reduce the long-term risk to life and property from natural hazards; and

WHEREAS, the Franklin County Commission in coordination with multiple jurisdictions in AEMA Division E has supported and participated in the preparation of the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan to fulfill the local mitigation planning requirement set forth in the Disaster Mitigation Act of 2000 with input from the appropriate local and state officials; and

WHEREAS, the Alabama Emergency Management Agency and the Federal Emergency Management Agency have reviewed the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan for compliance and has approved the plan pending the completion of local adoption procedures.

NOW THEREFORE, BE IT RESOLVED, this 19th day of January 2021 that the Franklin County Commission hereby adopts the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan as an official plan.



Chairman

Attest:



Secretary

LAMAR COUNTY COMMISSISON
RESOLUTION ADOPTING
NORTHWEST ALABAMA MULTI-JURISDICTIONAL
HAZARD MITIGATION ACTION PLAN
Resolution Number 01-25-2021B

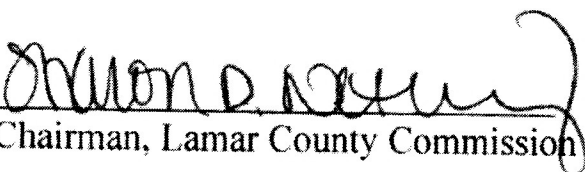
WHEREAS, the Lamar County Commission recognizes the threat that natural hazards pose to people and property within the community; and

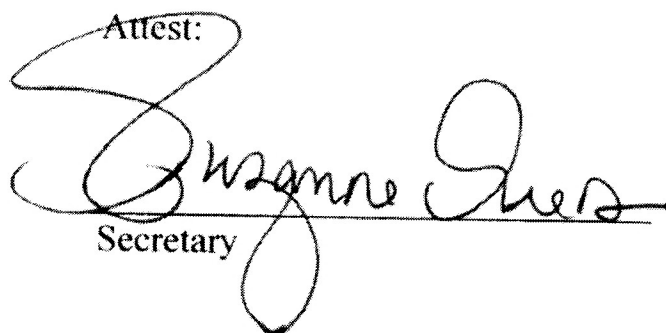
WHEREAS, the Lamar County Commission development and implementation of a hazard mitigation action plan can result in actions that reduce the long-term risk to life and property from natural hazards; and

WHEREAS, the Lamar County Commission in coordination with multiple jurisdictions in AEMA Division E has supported and participated in the preparation of the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan to fulfill the local mitigation planning requirement set forth in the Disaster Mitigation Act of 2000 with input from the appropriate local and state officials; and

WHEREAS, the Alabama Emergency Management Agency and the Federal Emergency Management Agency have reviewed the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan for compliance and has approved the plan pending the completion of local adoption procedures.

NOW THEREFORE, BE IT RESOLVED, this 25th day of January, 2021 that the Lamar County Commission hereby adopts the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan as an official plan.


Chairman, Lamar County Commission

Attest:

Secretary



**LAWRENCE COUNTY COMMISSION
RESOLUTION NUMBER: 01-2021**

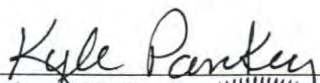
WHEREAS, the Lawrence County Commission recognizes the threat that natural hazards pose to people and property within the community; and

WHEREAS, the Lawrence County Commission development and implementation of a hazard mitigation action plan can result in actions that reduce the long-term risk to life and property from natural hazards; and

WHEREAS, the Lawrence County Commission in coordination with multiple jurisdictions in AEMA Division E has supported and participated in the preparation of the Northwest Alabama Multi-Jurisdictional Hazard Mitigation Action Plan to fulfill the local mitigation planning requirement set forth in the Disaster Mitigation Act of 2000 with input from the appropriate local and state officials; and

WHEREAS, the Alabama Emergency Management Agency and the Federal Emergency Management Agency have reviewed the Northwest Alabama Multi-Jurisdictional Hazard Mitigation Action Plan for compliance and has approved the plan pending the completion of local adoption procedures.

NOW THEREFORE, BE IT RESOLVED, this 8th day of January, 2021 that the Lawrence County Commission hereby adopts the Northwest Alabama Multi-Jurisdictional Hazard Mitigation Action Plan as an official plan.



Kyle Pankey, Chairman
Lawrence County Commission

ATTEST:



Heather Dyar, Administrator
Lawrence County Commission



Marion County Commission

Post Office Box 460
Hamilton, Alabama 35570

Keith Nichols, District 1
Kenneth Cochran, District 2
Dale Holt, District 3
Tim Estes, District 4
Bobby E. Burleson, District 5

Kenneth Cochran, Chairman
Kalyn Moore, Administrator
Phone 205-921-3172
Fax 205-921-5109
marioncountycommission@gmail.com

WHEREAS, the Marion County Commission recognizes the threat that natural hazards pose to people and property within the community; and

WHEREAS, the Marion County Commission's development and implementation of a hazard mitigation action plan can result in actions that reduce the long-term risk to life and property from natural hazards; and

WHEREAS, the Marion County Commission, in coordination with multiple jurisdictions in AEMA Division E, has supported and participated in the preparation of the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan to fulfill the local mitigation planning requirement set forth in the Disaster Mitigation Act of 2000 with input from the appropriate local and state officials; and

WHEREAS, the Alabama Emergency Management Agency and the Federal Emergency Management Agency have reviewed the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan for compliance and has approved the plan pending the completion of local adoption procedures.

NOW THEREFORE, BE IT RESOLVED, this 16th day of February, 2021, that the Marion County Commission hereby adopts the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan as an official plan.


Kenneth Cochran, Chairman

Attest:


Kalyn Moore, County Administrator

Walker County Commission

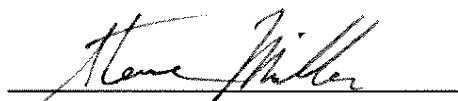
WHEREAS, the Walker County Commission recognizes the threat that natural hazards pose to people and property within the community; and

WHEREAS, the Walker County Commission development and implementation of a hazard mitigation action plan can result in actions that reduce the long-term risk to life and property from natural hazards; and

WHEREAS, the Walker County Commission in coordination with multiple jurisdictions in AEMA Division E has supported and participated in the preparation of the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan to fulfill the local mitigation planning requirement set forth in the Disaster Mitigation Act of 2000 with input from the appropriate local and state officials; and

WHEREAS, the Alabama Emergency Management Agency and the Federal Emergency Management Agency have reviewed the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan for compliance and has approved the plan pending the completion of local adoption procedures.

NOW THEREFORE, BE IT RESOLVED, this 19th day of April 2021 that the Walker County commission hereby adopts the Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan as an official plan.


Chairman

Attest:


Administrator

Winston County Commission
Resolution Number

WHEREAS, the Winston County Commission recognizes the threat that natural hazards pose to people and property within the community; and

WHEREAS, the Winston County Commission development and implementation of a hazard mitigation action plan can result in actions that reduce the long-term risk to life and property from natural hazards; and

WHEREAS, the Winston County Commission in consultation with multiple jurisdictions in FEMA Division E has supported and participated in the preparation of the *Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan* to fulfill the local mitigation planning requirement set forth in the Disaster Mitigation Act of 2000 with input from the appropriate local and state officials; and

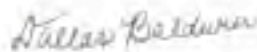
WHEREAS, the Alabama Emergency Management Agency and the Federal Emergency Management Agency have reviewed the *Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan* for compliance and has approved the plan pending the completion of local adoption procedures.

NOW THEREFORE, BE IT RESOLVED, this 25 day of January 2021 that the Winston County Commission hereby adopts the *Northwest Alabama Multi-jurisdictional Hazard Mitigation Action Plan* as an official plan.



Roger Hayes, Chairman
Winston County Commission

Attest:



Secretary