

BUTLER COUNTY NATURAL HAZARD MITIGATION PLAN

NOVEMBER 2009

ADOPTED BY:
BUTLER COUNTY COMMISSION
TOWN OF GEORGIANA
CITY OF GREENVILLE
TOWN OF MCKENZIE

FEMA APPROVED ON:

Prepared By:
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CHAPTER 1 PURPOSE AND PROCESS

The *Butler County Natural Hazard Mitigation Plan – 2009 Update* is an update of the 2005 plan, amended in 2006. Revisions have been incorporated into the 2009 update. The 2009 Update incorporates much of the 2005 plan language. The 2009 updates have been incorporated so the 2009 update stands on its own as a completed plan.

Natural hazard mitigation is the process of reducing or eliminating the loss of life and property damage resulting from natural disaster events. This process begins with the hazard mitigation plan in which hazards are identified and analyzed to determine their potential impact on a community or region and steps are outlined to avoid or minimize the undesired effects. The purpose of the hazard mitigation plan and planning process is the resulting mitigation strategy, which outlines a coordinated implementation of action steps with as little conflict and/or duplication of efforts as possible by the responsible agencies.

The *Butler County Natural Hazard Mitigation Plan* is multi-jurisdictional in scope, covering Butler County in its entirety including the unincorporated areas and the municipalities of Georgiana, Greenville, and McKenzie. The Butler County Commission and municipalities of Georgiana, Greenville, and McKenzie are participating in the 2008-2009 plan update as continuing participants. This 2009 plan update has been reviewed and has been approved by the County Commission and the three municipal governments located within the county, subject to review and comments from FEMA. During the 2005 planning process, and this 2009 update the following three goals were established and reconfirmed to guide mitigation efforts:

- Promote natural hazard mitigation as a means to decrease loss of life, property damage, and economic loss during a disaster occurrence.
- Provide on-going support of the Butler County Emergency Management Agency's efforts to make Butler County less vulnerable to natural disasters.
- Educate the general population about natural hazards and hazard mitigation options.

To develop the 2009 update to the Butler County Natural Hazard Mitigation Plan, the Butler County Local Emergency Planning Committee (LEPC) convened to guide the development of the Amendments and lend individual expertise to the planning process.

In preparing the 2009 update the Butler County LEPC insisted that the process and preparation of the original 2005 plan be reiterated in the 2009, primarily due to the recent completion of the original plan.

To develop the *Butler County Natural Hazard Mitigation Plan* in 2005 and the 2009 update, the Butler County Local Emergency Planning Committee (LEPC) was utilized as an update and oversight committee to guide the development of the plan and lend individual expertise to the planning process. The Butler County LEPC is a standing committee comprised of members representing emergency services, the County Commission, each of the three municipal governments, law enforcement, medical services, utilities, education, business and industry, forestry, agriculture, social services, and the media. The plan and this update were developed using a ten-step process outlined by the Federal Emergency Management Agency.

During the course of the 2005 planning process, the Local Emergency Planning Committee met on three occasions to discuss progress and provide information and comments. Additionally, two public workshops were held to educate the general public about the hazard mitigation plan and its contents and recommendations, and to hear citizens' comments and suggestions. Notification of the public workshops was accomplished with newspaper coverage and posting of meeting flyers in various public locations throughout Butler County. Following the second public workshop, citizen comments were used to finalize the plan and it was delivered to the Butler County Commission, and the municipal councils of the Towns of Georgiana and McKenzie, and the City of Greenville for review and comments. The plan was then submitted to the Alabama Emergency Management Agency for review, comments and revisions prior to adoption by the local governments in Butler County. Documentation of the adoption of the 2009 Plan Update can be found in Appendix A.

During the 2009 update, LEPC meetings were utilized for input and review. In addition, two formal public hearings were held and the County Commission meeting was conducted in accordance with Alabama's Opening Meeting Law. In updating the *Butler County Natural Hazard Mitigation Plan*, the South Central Alabama Development Commission (SCADC) Staff and EMA staff met with the Butler County LEPC on a regular basis. The LEPC first reviewed the recently completed plan in general. Following a general review the LEPC revised certain updated information on disaster events and updated the priorities. Next, the LEPC reviewed and revised the goals and objectives. An initial public meeting was held for input. The LEPC then met and reviewed and updated the proposed action items and discussed any progress made since the last NHMP update. A second public meeting was held. Dates and locations of meeting are available from the EMA or the SCADC office. The plan update was finalized and presented at a County Commission meeting.

The LEPC involved with SCADC and EMA staff to review sections of the plan. First, the LEPC reviewed information of recent events and the priorities to update priority hazards. The LEPC then reviewed the section on risk and vulnerability to "refresh their memories" on these issues. Finally the LEPC reviewed the goals, objectives and action items to update this section of the plan, especially considering recent actions or accomplishments and updating the actions.

As mentioned in the original *Butler County Natural Hazard Mitigation Plan*, each adopting jurisdiction (i.e., the County Commission and three municipalities) has representatives sitting on the Butler County LEPC. Each jurisdiction participated by: attending the LEPC meetings; reviewing drafts of the Amendments to the *Butler County Natural Hazard Mitigation Plan*; submitting suggestions and information for inclusion in the Plan; and/or by formal adoption (via resolution) of the Amendments to the *Butler County Natural Hazards Mitigation Plan*. During the LEPC sessions, each section of the original plan was reviewed for updates and comments. During the two public hearings on the 2009 Update, the previous plan sections were reviewed and opportunities for input a comments were provided.

Figure 1

Hazard Mitigation 10-Step Planning Process

- Step 1: Organize
- Step 2: Involve the Public*
- Step 3: Coordinate with Agencies and Organizations*
- Step 4: Assess the Hazard
- Step 5: Assess the Problem
- Step 6: Set Goals
- Step 7: Review Possible Activities
- Step 8: Draft an Action Plan
- Step 9: Adopt an Action Plan
- Step 10: Implement, Evaluate and Revise**

** Step 2 and Step 3 are continuous throughout the process.*

*** Upon evaluation and revision, the process should begin again at Step 2. Evaluation and revision of the plan should occur at least every five years.*

During the update of the plan, the LEPC met on three occasions to review the plan and new information. The meetings were all publicized as public meetings. The LEPC conducted a formal public meeting. A follow up meeting with the LEPC resulted in a draft plan being submitted to the County Commission for a second public meeting. As part of the planning process, a review was conducted of known historical and current plans, ordinances, and studies that were prepared for the County and its municipalities. These plans were researched for ideas and relevance in terms of disaster mitigation and preparedness, and a short list of findings were presented, which concluded that there was still limited data or information directly related toward hazard mitigation found in the reviewed documents, however the information found in these plans was used to help identify hazards and risks, determine vulnerabilities, and provide ideas for mitigation strategies and activities. During the update the City of Greenville updated its comprehensive plan as well as zoning and subdivision regulations. This work was conducted by the SCADC staff and consultants with some degree of coordination. The LEPC also severed as the coordinating committee for the

pandemic flu planning process which has provided especially detailed implementation on preventing and managing hazards. With the coordination of the pandemic planning with hazard mitigation planning has been very successful and is providing excellent public input into the planning process.

The public involvement process allows the Butler County Local Emergency Planning Committee with specific ties in terms of both benefits and responsibilities, to work directly on the preparation of the mitigation plan, providing suggestions from both an individualized, or agency, perspective and for the overall welfare of the citizens of Butler County. Committee meetings and public meetings insured that the citizens were aware of the process, had ample opportunity to comment, and that the plan was not biased in the direction of any one agency or segment of the population.

Utilizing the ten-step planning process, an inventory was made of Butler County as part of the 2005 plan to determine the physical characteristics of the area, development and land use patterns, and demographics. The inventory was followed by identification of natural hazards and their potential impact on Butler County, coupled with an investigation of previous disaster events. With this information at hand, the LEPC was able to determine those hazards that are most likely to impact Butler County and cause the most severe damage. During the update, the LEPC reconfirmed the natural hazards are became priority one hazards, meaning they were most likely to occur more often and/or have the most severe impact on Butler County and the citizens that live there. Priority two and three hazards were also updated during the plan update; it was possible to identify additional facilities that are critical in terms of disaster recovery or disaster impact in the event of a natural hazard occurrence. The Hazard Mitigation Strategy has been updated, based on progress made or strategies revisited during the update. These measures have been revisited in the mitigation strategy portion of the Butler County Natural Hazard Mitigation Plan. The implementation schedule and a plan to review and maintain the *Butler County Natural Hazard Mitigation Plan* on a regular basis has also been updated. During the planning process SCADC staff and consultants led the process. Working with the EMA Director, LEPC members participated in reviews and were made aware of the meeting and follow-up drafts were made available for review by LEPC members, the public and jurisdictions.

In the 2009 update a section has been added highlighting strategies as related to each jurisdiction. As mentioned previously, each adopting jurisdiction (i.e., the County Commission and the three municipalities) was invited to participate and send representatives to the Butler County LEPC. During the update process representatives from each of the jurisdictions did participate by: attending the LEPC and/or public meetings; reviewing drafts of the Butler County Natural Hazard Mitigation Plan; submitting suggestions and information for inclusion in the Plan; and/or by formal adoption (via resolution) of the Butler County Natural Hazard Mitigation Plan.

Implementation of the *Butler County Natural Hazard Mitigation Plan* will continue to be shared by all local governments in the county, along with a number of emergency agencies and responders. The on-going review and evaluation will allow the Butler County Emergency Management Agency to revise and update the mitigation plan in response to changing conditions and changes in the economic climate that may have an impact on the provision of facilities and services.

The 2008-2009 plan updated has been approved by the County Commission and resolutions will be adopted by the Commission and governing bodies of Georgiana, Greenville, and McKenzie upon notice to the county that the plan has been approved. Resolutions of adoption will be incorporated into Appendix B, upon approval by FEMA. It should be noted that resolutions have

been adopted approving the plan update in 2010. Public meetings were held by the Georgiana City Council and Resolution of Approval adopted March 2, 2010 and following public meetings on March 8, 2010. Resolutions of approval were adopted by the County Commission and Greenville City Council.

In implementing and updating the plan in the future, the public will have an opportunity to participate, as the LEPC and County Commission will comply with the Alabama Year meetings law, with regard to LEPC meetings, public hearings and County Commission meetings.

Of note particular note to Butler County, the LEPC is being used as the planning committee for the pandemic flu epidemic. This level of cooperation is a progressive step worthy of note for the Butler County EMA.

The following is a summary of key meetings during the update planning process:

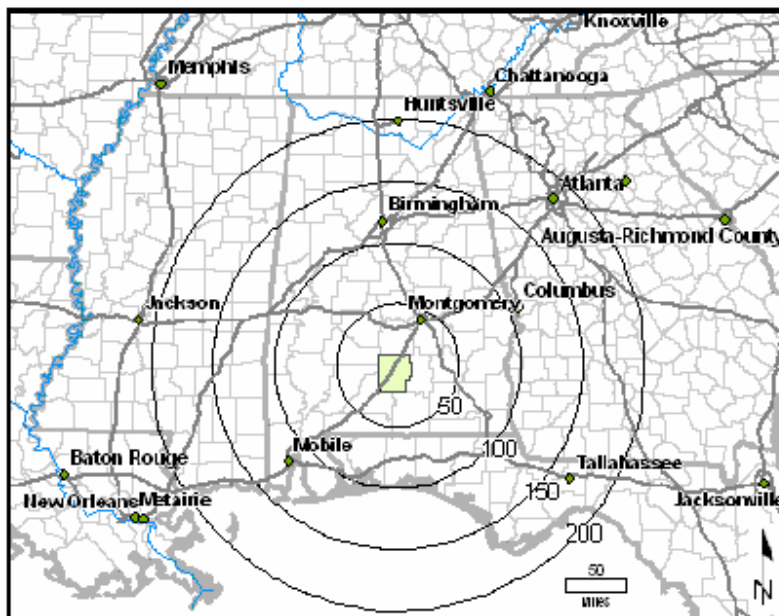
March 14, 2007	Kick off meeting with LEPC
June 5, 2007	LEPC meeting to review goals, strategies
August 3, 2007	LEPC meeting review
October 30, 2007	LEPC meeting
February 5, 2008	LEPC meeting on goals and recommendations
April 1, 2008	LEPC meeting
May 6, 2008	Public hearing on draft plan
June 14, 2008	County Commission preliminary approval of plan/public meeting
September 30, 2008	Meeting with EMA staff and Counties
March 2, 2010	Public meeting and approval by Georgiana Council
March 8, 2010	Public meeting and approval by Greenville Council
March 8, 2010	Public meeting and approval by Butler County Commission

CHAPTER 2 COMMUNITY PROFILE

During the 2009 update, there has been little revision to the community profile data. The 2000 census statistics still reflect the conditions of the county and magnitude of risk, allowing for inflation. There has been limited growth in the county overall. Growth in the Greenville area has been a long standing trend. This trend is hereby noted. Unlike many counties, Butler is experiencing limited growth outside the expansion of the Greenville area, which is still relatively limited.

Butler County, located in south central Alabama, is a primarily rural county with three incorporated municipalities; Georgiana, Greenville, and McKenzie. Greenville, located in the north central part of the county, is the county seat. Butler County is located within 50 miles of Montgomery, Troy, and Selma. Major Alabama cities within a 200-mile radius include

Figure 2 – Butler County Regional Location



Birmingham, Dothan, Huntsville, Mobile, and Tuscaloosa. Other cities within a 200-mile radius include Atlanta, Columbus, and Macon, Georgia; Meridian and Biloxi, Mississippi; and Fort

Walton, Panama City, Pensacola, and Tallahassee, Florida. Butler County encompasses 779 square miles of land and is accessed by Interstate 65, which bisects the county from its northeast corner to its southwest corner. Butler County also has regional access by U.S. Highway 31 and Alabama Highways 10, 106, 185, and 263. A CSX rail line also bisects the county, running virtually parallel with Interstate 65 and U.S. Highway 31. Another CSX rail line runs from McKenzie northwest to Georgiana.

Figure 3

Butler County Population, 2000		
Area	Population	% of Total Population
Butler County	21,399	100%
Georgiana	1,737	8%
Greenville	7,228	34%
McKenzie	644	3%
Unincorporated Area	11,790	55%

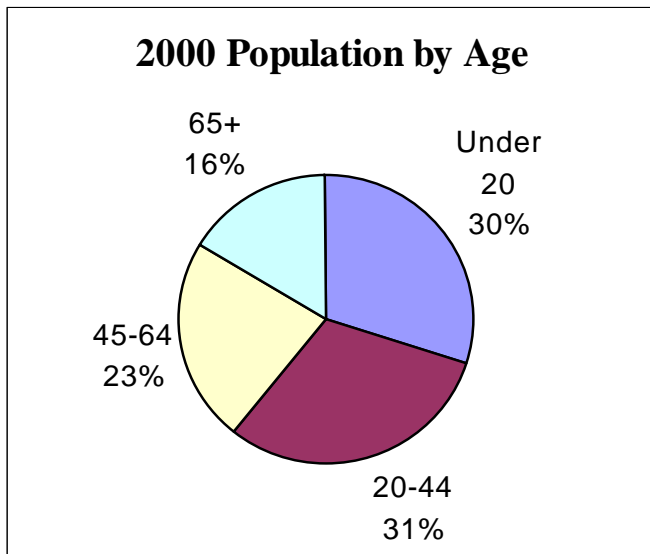
Source: U.S. Census Bureau, Census 2000

Butler County is fairly sparsely populated with a population density of 27.5 persons per square mile, as compared to the State of Alabama with 87.6 persons per square mile. Approximately a third of the county’s population lives in the City of Greenville.

DEMOGRAPHIC CHARACTERISTICS

Butler County has a population of 21,399 persons, according to the 2000 Census, of which nearly half, at 55 percent, live in the unincorporated areas of the county. Of the remaining 45 percent, 34 percent live in the City of Greenville; 8 percent live in the Town of Georgiana; and, 3 percent live in the Town of McKenzie. The majority of the population of Butler County is female, at 53

Figure 4



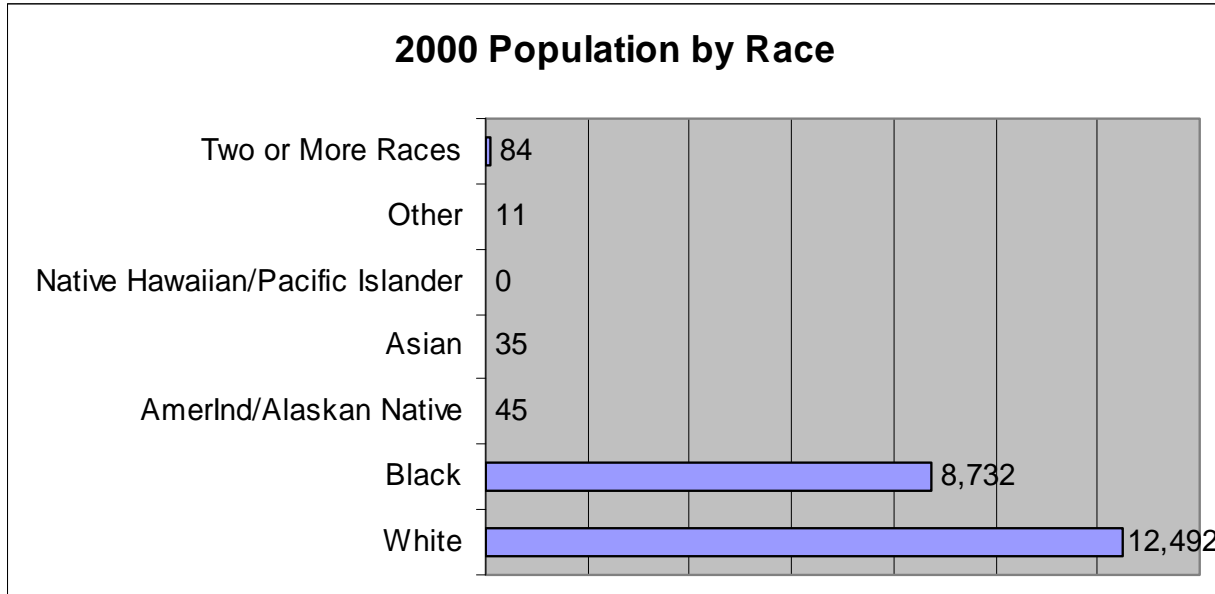
percent, and 47 percent are male. The female ratio of Butler County is slightly higher than that of the State, which is 51.7 percent.

The median age in Butler County is 37.7, which is older than the median age of the State, at 35.8. The median age of Greenville is 38.1, while the median age in the other municipalities is considerably older, at 40.1 in Georgiana and 40.6 in McKenzie. The majority of the county population, at 31 percent, is between 20-44 years of age, while the elderly population, age 65 and older, comprises only 16 percent. The remaining 53 percent of the population is

under the age of 20 (at 30 percent) or between the ages of 45 to 64 (at 23 percent).

According to the 2000 Census, 58.4 percent of the total county population is white; 40.8 percent is black/African-American. The racial composition of other races in Butler County is nearly negligible, with all other races combined only comprising 0.8 percent of the total population.

Figure 5



There are 9,957 housing units in Butler County, the majority of which, at 33.4 percent, are located in the City of Greenville. As shown in Figure 6, the north central part of the county in southern Greenville is, by far, the most densely populated portion of the county with the remainder of the county having 50 housing units or less per square mile. Of the total housing units in the county, 84.3 percent are occupied and 15.7 percent are vacant, of which 2.7 percent are for seasonal, recreational or occasional use. Of the total occupied housing, 76.2 are owner-occupied and 23.8 percent are renter-occupied. The majority of the housing units in Butler County, at 62.8 percent, are single unit unattached structures. Only 6.8 percent of the housing structures have four or more units. The portion of the housing structures that are mobile homes is 26.5 percent. A large portion of the county's housing stock, at 42 percent, is more than 30 years old having been built prior to 1970. Between 1995 and March 2000, 1,621 new housing units were constructed, comprising 16.2 percent of the existing housing stock.

Figure 6

Housing Units Per Square Mile

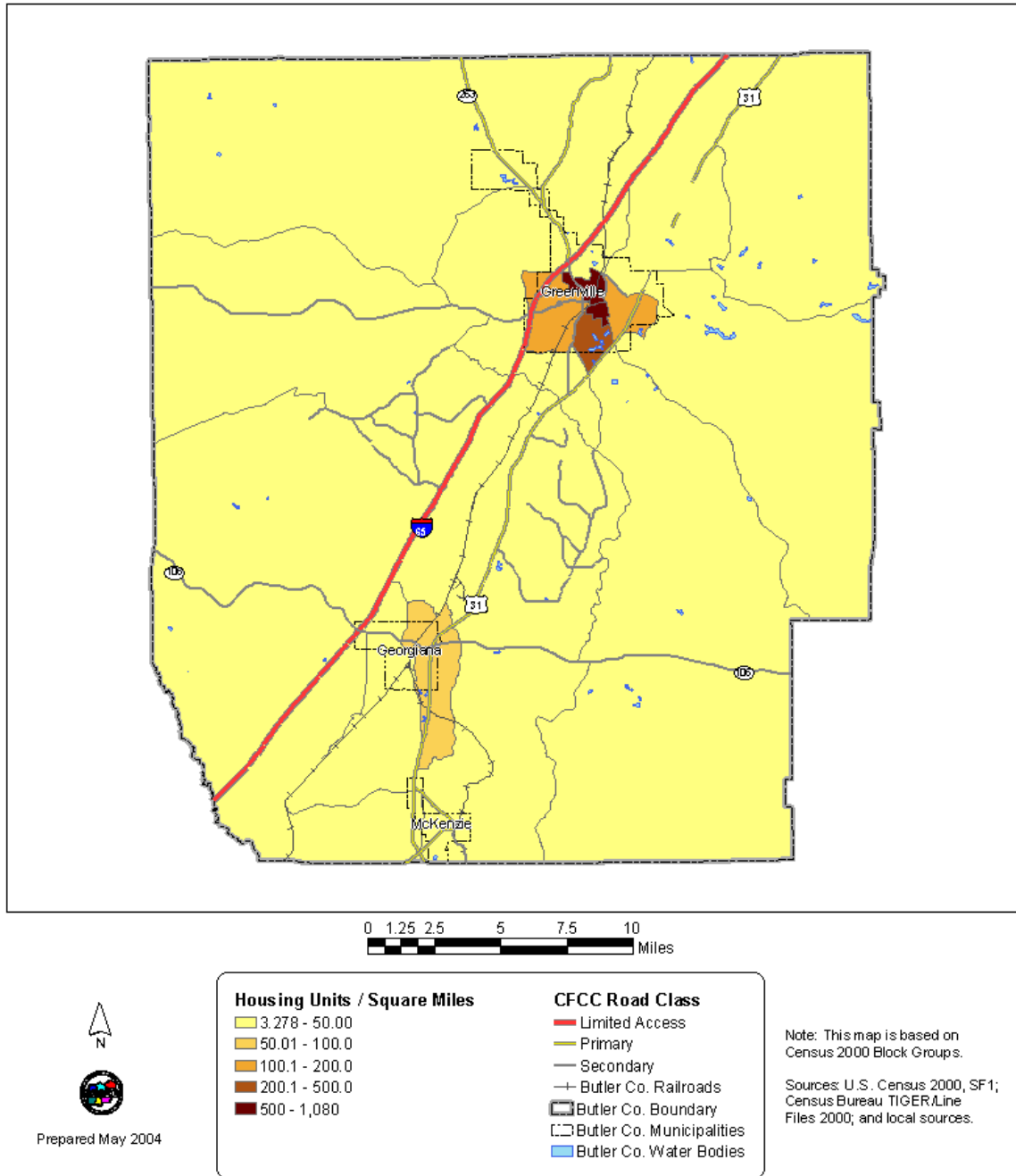
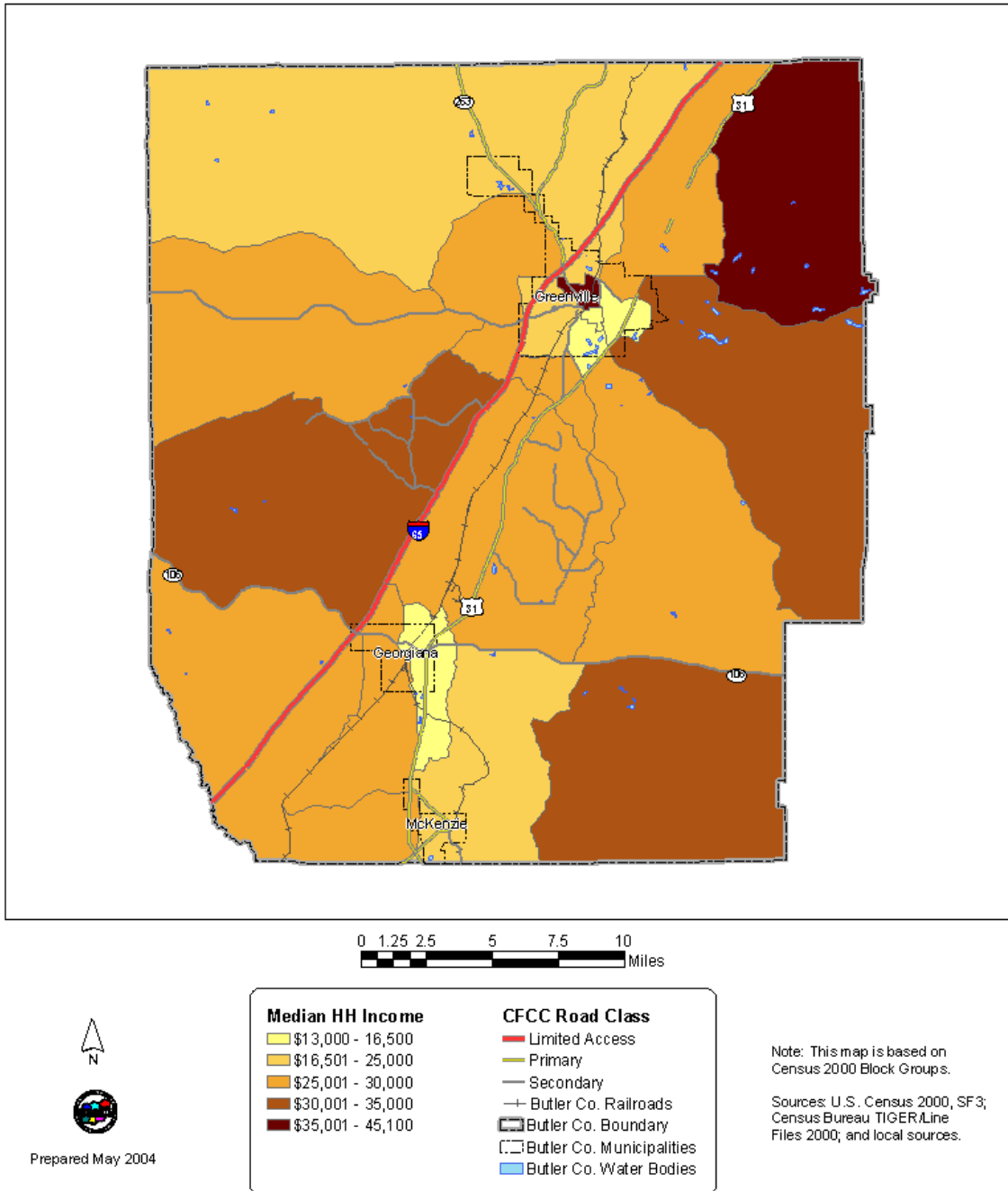


Figure 7

Median Household Income



Butler County, overall, has a per capita income of \$15,715 and a median household income of \$24,791, according to the 2000 Census. This is considerably less than that of the State, which has a 2000 per capital income of \$18,189 and 2000 median household income of \$34,135. Comparatively, the Town of Georgiana has a per capita income of \$10,166 and a median household income of \$17,014; the City of Greenville has a per capita income of \$17,439 and a median household income of \$22,106; and the Town of McKenzie has a per capita income of \$10,359 and a median household income of \$18,173. The portions of the county with the lowest median income, as shown in Figure 7, are in east Georgiana and southeast Greenville with a median income of less than \$16,000.

REGIONAL ACCESS AND LAND USE

The population base is located along the major transportation routes in the county when viewed from a geographical standpoint. As shown in Figure 8, regional access is focused on the central parts of the county, while the western and eastern extremes are comprised primarily of county roads.

General land use patterns (Figure 9) also follow the transportation system, with the majority of structural development being located along the Interstate 65/U.S. Highway 31 corridor, near or within Greenville. The growth of Greenville, from the I-65 interchange into Greenville is a continuing trend. There is some “suburban” development, however, for the most part, urban land uses are still concentrated near Greenville. Information on growth and future plans for Greenville have been reviewed in the 2008 Greenville Comprehensive Plan.

Figure 8

Regional Access

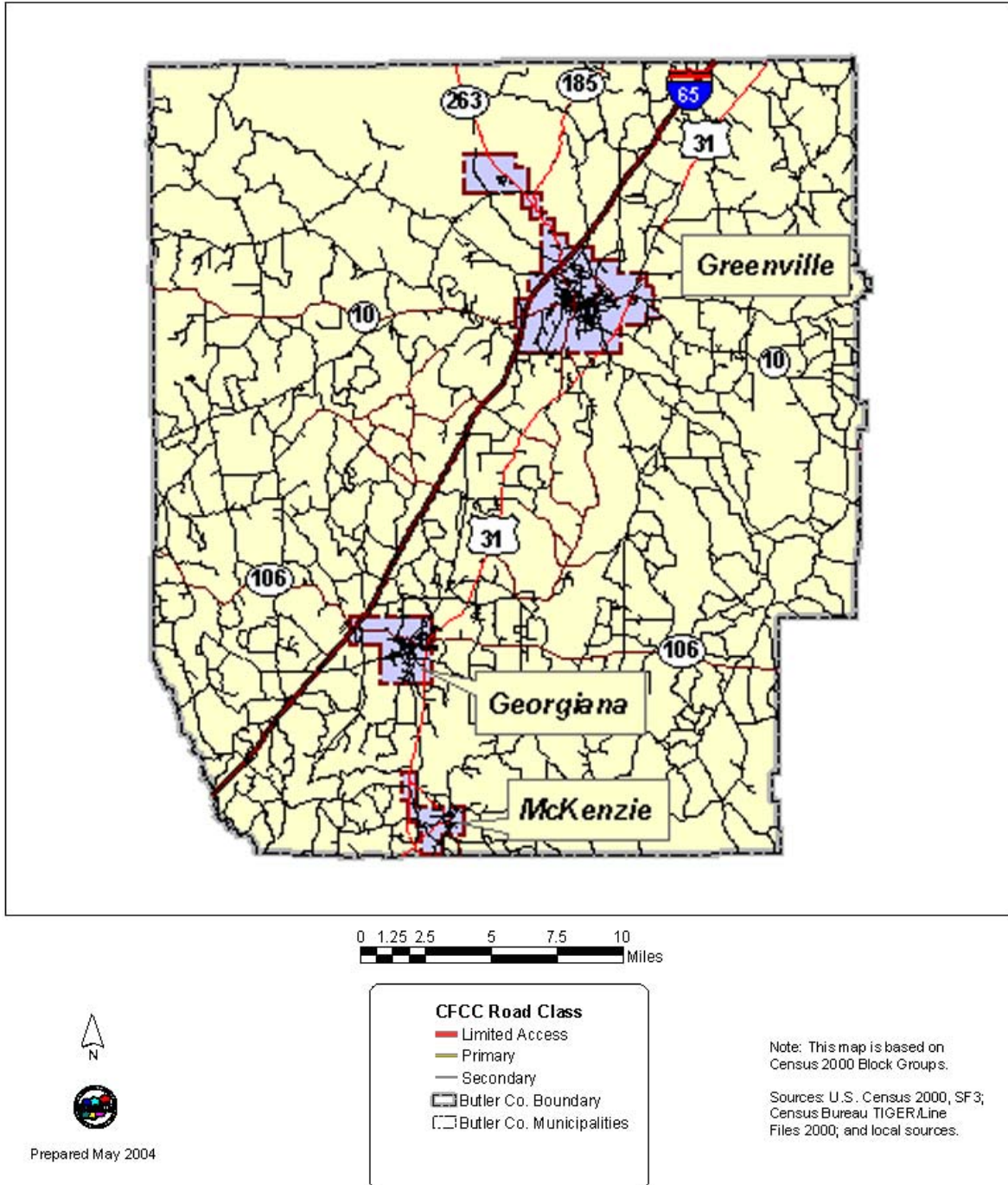
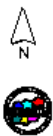
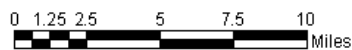
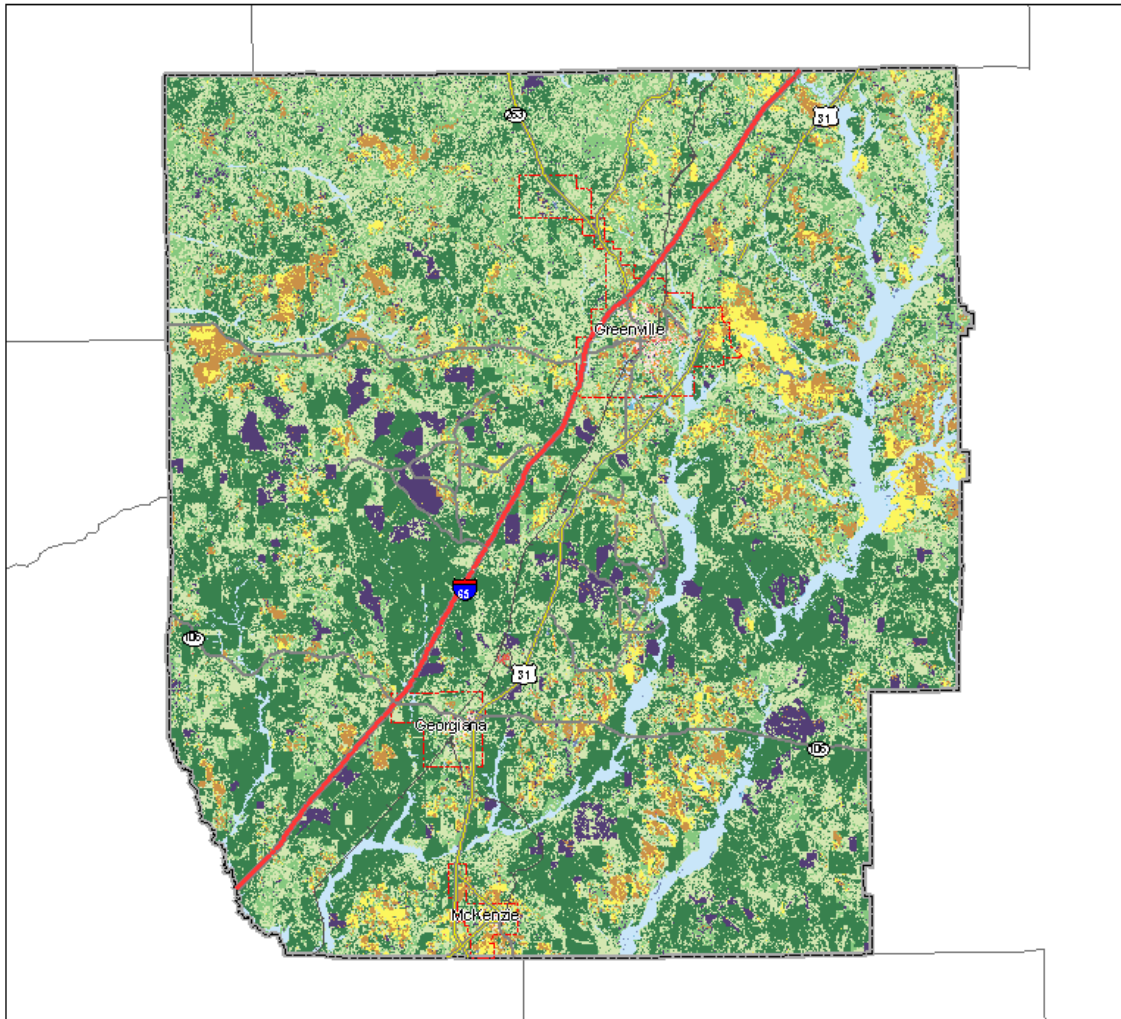


Figure 9

Land Use & Land Cover



Prepared May 2004

Land Cover VALUE Open Water Low Intensity Residential High Intensity Residential Commercial/Industrial/Transportation Bare Rock/Sand/Clay Quarries/Steep Mines/Crusher Pits	Transitional Deciduous Forest Evergreen Forest Mixed Forest Pasture/Ray Row Crops Small Crops Woody Wetlands Emergent Herbaceous Wetlands	CROC Road Class Limited Access Primary Secondary State Co. Roadway State Co. Roadway State Co. Municipality
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Sources: USGS, Alabama Land Cover Data Set, 1999; Census Bureau TIGER/Line Files 2000; and local sources.

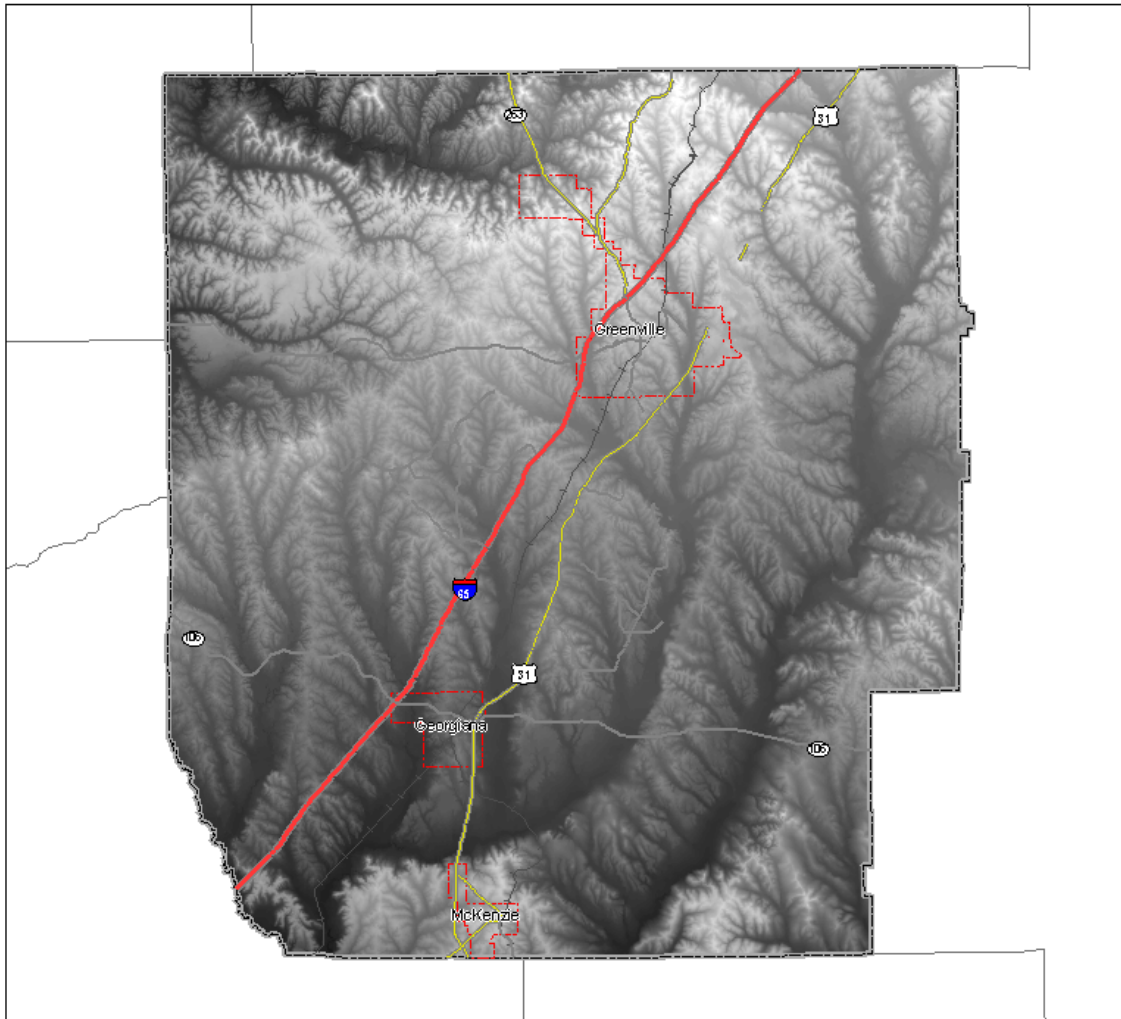
Residential land uses throughout Butler County tend to be low density single family housing, with a small percentage of medium and high density housing found in Greenville area. As stated earlier, 26.5 percent of the housing in the county is mobile homes, most of which (at 84.5 percent) are found in the unincorporated areas on single ownership lots or tracts of land. The land use/land cover map does not show any high intensity residential uses outside of the City of Greenville.

Agricultural uses in Butler County are primarily livestock and poultry and timberland. Of the total 498,650 acres in Butler County, 79 percent is in forestland and 20 percent is used for crops and livestock. Forested land is located throughout the county, but primarily in the southern half. The most concentrated areas in crop and pasture land uses are found in the northern half of the county.

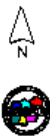
Butler County has a well developed system of natural drainage. The northwestern part of the county is in the Alabama River Basin, and the remainder of the county is in the Conecuh River Basin. The Sepulga River, Persimmon Creek, and Pigeon Creek are the principal streams. They are potential sources of large supplies of surface water. Other important streams include Long Creek, Panther Creek, Rocky Creek, Pine Barren Creek, Cedar Creek, and Wolf Creek. Sherling Lake is the largest area of open water in the county. Ground water is the source of most of the water for domestic and industrial uses in Butler County. The principal aquifers are sand beds in the Eutaw, Ripley, and Nanafalia Formations and limestone beds in the Clayton Formation. Floodplains are found primarily along the Long, Persimmon, and Pigeon Creeks and their tributaries. The existing floodplains are linear in nature and generally are not expansive in width, with the widest floodplains being approximately one to one and a half miles wide. There are a significant number of tributaries feeding the primary creeks in the county; however, floodplains along the tributaries are minimal in size.

Figure 10

Digital Elevation Model



0 1.25 2.5 5 7.5 10 Miles



Prepared May 2004

CFCC Road Class

- Limited Access
- Primary
- Secondary
- Butler Co. Railroads
- Butler Co. Boundary
- Butler Co. Municipalities

Sources: NASA, NIMA, German Aerospace Center, & Italian Space Agency, SRTM Elevation Dataset, 2002; Census Bureau TIGER/Line Files 2000; and local sources.

CHAPTER 3

HAZARD IDENTIFICATION

During the 2009 *Butler County Natural Hazard Mitigation Plan* Update, the LEPC reviewed the original plan and reviewed recent events, from 2005-2009 to re-confirm hazard identification. The tables and charts have been updated, in some cases. Specifically, the LEPC reviewed recent events, etc. in revising the hazard identification chart in Figure 15. It should be noted that the maps included in Figure 12-14 and Figure 16 are the same as maps from the original plan. New information was not available or determined as necessary since the impact remains unchanged since the last update.

Natural hazards that have the potential to impact Butler County were identified using a variety of resources. First, an overall list of natural hazards is utilized from Federal Emergency Management Agency Publication 386-2 which is a state and local mitigation planning how-to guide entitled: *Understanding Your Risks – Identifying Hazards and Estimating Losses*. Using the general list of natural hazards, research has been conducted into past disaster occurrences in Butler County and the physical characteristics of the county that lend themselves to natural hazard occurrences, along with a review of historical and existing plans and regulations in Butler County that identify the potential for natural hazards.

In an initial review of the list of natural hazards, five of the 19 listed hazards have been eliminated due to a lack of applicability in Butler County. The four hazards that were eliminated were avalanche, coastal erosion, tsunami, and volcano. The list of the remaining 15 hazards was then utilized to identify which hazards had a true potential to impact Butler County. The 15 hazards (some of which have been combined) that were researched include: dam failure, drought/extreme heat, earthquake, expansive soils, land subsidence and landslide, flood, hurricane/tropical storm, landslide, winter storm, tornado, wildfire, and severe thunderstorm/windstorm/hail/high winds. The review of past disaster declarations (available through FEMA) in Butler County, which continued to reveal that the most frequent declared natural disasters between 1957 and 2008, has been updated to indicate a high incidence of declarations for severe thunderstorms and hurricanes, each at 33 percent of all declared disasters. Other disaster declarations were for drought and a winter storm.

Of the disaster events during the 51-year period, all were federal declarations. The dates and types of occurrences are shown in Figure 11. In each of the six federal declarations, federal assistance was provided to Butler County in the following manner: both public and individual assistance was provided in six declarations; only public assistance was provided in two declarations; and, only individual assistance was provided in one declaration. Beyond financial assistance, federal assistance was provided in the form of crisis counseling, disaster housing, disaster unemployment assistance, and individual, and family grants.

Figure 11

**Past Declared Disasters, 1957 to 2008
51 Years**

Date	Hazard	Declaration
July 1977	Drought	Federal Declaration
March 1990	Severe Storm	Federal Declaration
March 1993	Winter Storm	Federal Declaration
October 1995	Hurricane – Opal	Federal Declaration
September 1998	Hurricane – Georges	Federal Declaration
December 2001	Severe Storm	Federal Declaration
September 2004	Hurricane – Ivan	Federal Declaration
July 2005	Hurricane – Dennis	Federal Declaration
August 2005	Hurricane – Katrina	Federal Declaration

Source: Federal Emergency Management Agency, April 2007

Information available through the National Climatic Data Center (NCDC) and the National Weather Service (NWS) – both agencies of the National Oceanographic and Atmospheric Administration (NOAA) – has been updated in the 2009 update showing that Butler County suffered a total of 138 weather events between January 1950 and December 2008, which is an average of 2.76 events per year. The data on events has been incorporated into tables in the remainder of this chapter to reflect events through 2007. Updated conclusions reflecting the revised data are reflected in the following statements. The most frequent weather event during the 58-year time period were severe thunderstorms/hail/wind storms, with 96 occurrences resulting in a total of \$858,500 in property damage. Thunderstorms and wind storms were followed by tornados, with 26 events resulting in over \$1,043,000 in property damage, two fatalities, and 14 injuries. Of the remaining weather events profiled by the NCDC during the same period, Butler County suffered 26 tornados, one winter storm, three heavy rains/ flash floods, two heat and one drought event, and three tropical cyclones. Although they occur less frequently, the NCDC information shows that Hurricanes Opal, Georges, Ivan, Dennis and Katrina and Tropical Storm Barry were, by far, the most costly to the county, resulting in an estimated \$2.7 billion and \$34 million in property and crop damages, respectively, and the loss of one life.

Flooding in Butler County is most likely to occur in the floodplain areas found along the three major streams. Butler County does not have a history of severe flooding. Local residents report

occasional flash flooding and road washing and erosion as a result of heavy rains and localized flash floods. Per NCDC data, eight flood events occurred in the county from 1997 through 2008 that resulted in \$824,500 in property damage. Floodplains in Butler County are shown in Figure 13. The floodplain areas tend to be narrow and linear in nature, following stream beds and to some degree larger tributaries of the Long, Persimmon, Pigeon, Cedar, and Rocky Creeks. The floodplains are not expansive, with the widest areas being approximately one and one half miles in width. Additional studies are ongoing to pinpoint isolated flooding locations. Of special concern is the potential for access to the hospital to be blocked by flooding. Flooding in isolated areas along Highway 83 has also been identified. In the 2006 amendments to the 2005 plan, which are included in this updated, roads and bridges were identified for ongoing repair and replacement. During the update process, the LEPC and EMA Director reviewed targeted areas susceptible to flooding. The conclusion is that these areas are very limited and storm water upgrades, etc are appropriate in these areas. GIS mapping and flood plain mapping is being updated. Future plan updates will include county-wide mapping of these very limited areas.

Information available from the Geological Survey of Alabama (GSA) shows that Butler County has never been impacted by an earthquake in their reporting period from 1916 through 2003. GSA information also reveals that Butler County has a low incidence probability of landslides occurring in the county, as shown in Figure 13. Additionally, there are outcrops of carbonite rocks in the northern third of Butler County, making the area susceptible to sinkholes, however, Butler County does not have currently have active sinkholes and land subsidence.

Eight tropical cyclones have traversed Butler County during the 150-year period from 1851 through 2001. As shown in Figure 14, six of the eight tracks of the tropical cyclones were minor tropical, extra-tropical, or subtropical storms or depressions. However, two H1 tropical hurricanes have occurred in the county in the referenced time period, and in addition, damage occurred from recent Hurricanes Ivan, Dennis, and Katrina.

A review of historical and existing plans and regulations for Butler County and its municipalities revealed that there remains limited current information that is directly related to hazard identification or natural hazard mitigation, outside the Hazard Mitigation Plan and Butler County Emergency Management Operations Plan Existing information does include limited police and fire protection services and needs; and statements as to the need for road and bridge improvements, and limitations to development in flood-prone areas. The review of past and existing plans shows that the potential for disaster events must have received some consideration in past growth and development planning for the county, which is evident in the relative lack of development that has occurred in the flood-prone areas of the county. This review also resulted in a short list of available tools that can be utilized to facilitate or complement current and future hazard mitigation activities. These tools include flood damage prevention ordinances, storm water management guidelines, subdivision regulations, zoning ordinances, capital improvement programs, and proposed dangerous buildings ordinances.

Recent regional studies are recommending land-use planning and rural transportation initiatives for the most heavily populated area of the county, Greenville, and adjoining properties. The city has updated its comprehensive plan, zoning and subdivision regulations. Coordination of the EMA, Hazard Mitigation and Health Department plans are very progressive in Butler County.

In addition to natural hazards, the LEPC has been very active in working on plans for the pandemic influenza and has made significant progress in coordination of mitigation planning and operations planning.

The LEPC is also aware of the man-made hazard impact from rail and tanker truck traffic that can result in hazardous chemical spills. Consideration of these man-made disasters will be incorporated into the next update.

Figure 12

Floodplains

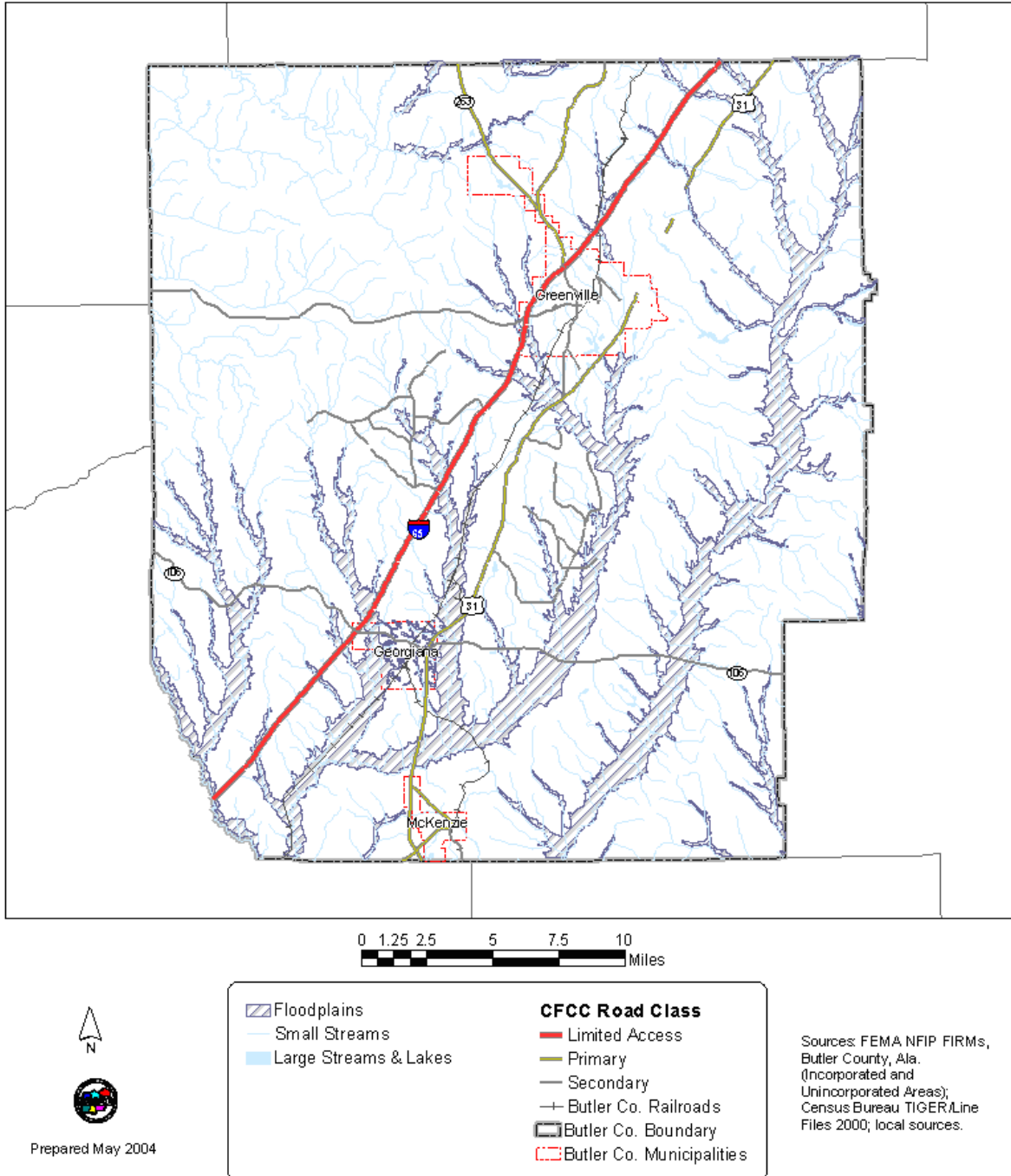


Figure 13

Landslide Potential

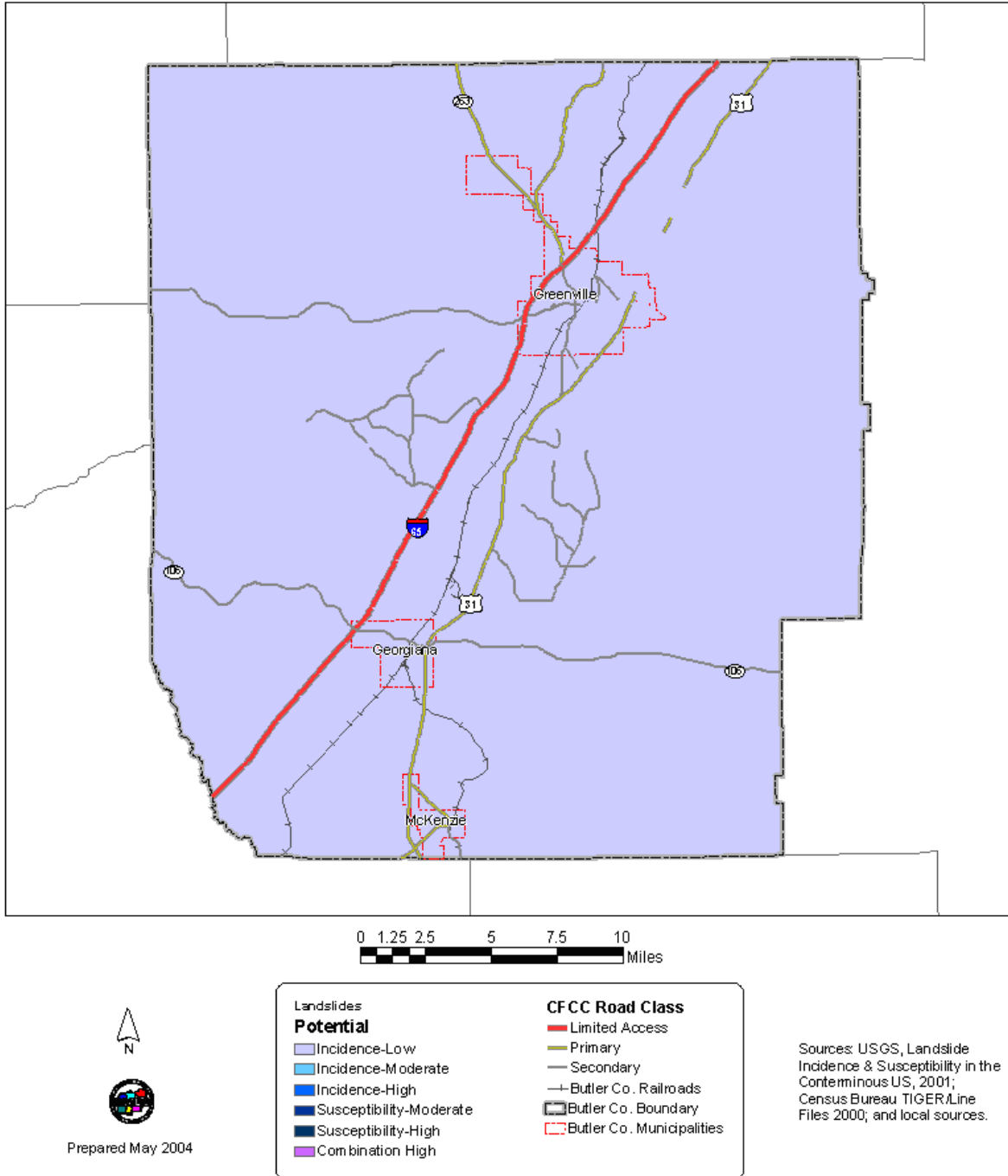
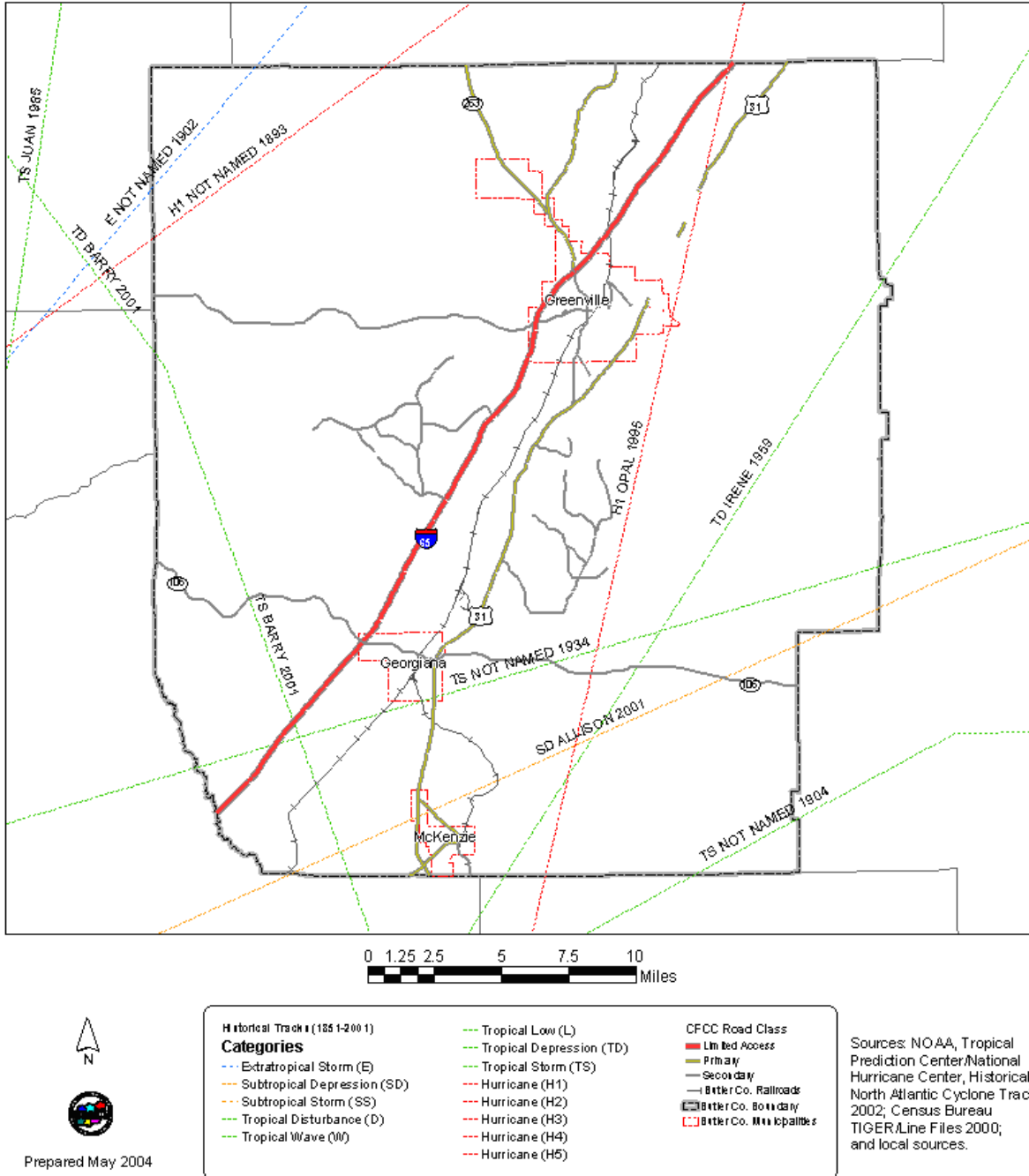


Figure 14

Tropical Cyclones



Historical plans that have been reviewed include: Alabama Economic Enhancement Strategy – Butler, Monroe, and Wilcox Counties, 1991; Areawide Plan: Fire Protection Study, 1974; Areawide: Fire Protection Study, 1974; Areawide Study; Environmental Assets, 1975; Areawide Plan: Rural Land Use Analysis, 1977; Areawide Study: Environmental Review Manual, 1977; Areawide Land Development Plan, 1978; Butler County Industrial Sites Location and Community Environment, 1975; Butler County Rural County Highway Developmental Plan, 1992; Georgiana Land Development Plan, 1973; Georgiana Community Facilities 1974; Greenville Land Development Plan, 1973; Greenville Community Facilities Plan, Public Improvements Program, 1973; Greenville Community Facilities Plan, Public Improvements Program, and Capital Improvements Budget, 1974; Flood Hazard Analyses – Greenville, Alabama, Persimmon and Stallings Creeks and Tributaries, 1977; Butler County Emergency Operations Plan; Butler County Industry and Community Data.

During 2008, the City of Greenville updated its Comprehensive Plan; the updating of the plan is a major update of land-use planning and growth management in the county. The county, in conjunction with the LEPC, has incorporated the plans for the pandemic flu and plans for continued cooperation. The county also adopted a flood plain ordinance and only Greenville and Georgiana are participating in the flood insurance program.

During the update period, a regional comprehensive economic development strategy and rural transportation plan were established which together recommend increased coordination of land-use, transportation and other planning.

With this information, the Butler County Local Emergency Planning Committee (LEPC) was able to update its priority hazards that have the most potential to impact Butler County and its municipalities. As a result of the committee discussions about the previous information and the data found in the next chapter, certain hazards were identified as Priority 1 hazards, meaning that they were the most likely to have the greatest and/or most frequent impact on Butler County and each of its municipalities. These certain Priority 1 hazards are severe thunderstorm/hail/winds, tornados, floods, hurricanes/tropical storms, winter storms, and wildfires. Natural hazards that were determined not to be applicable to Butler County and its municipalities include: avalanches, coastal erosion, tsunamis, and volcanoes. Priority 2 hazards include: extreme heat and drought/expansive soils/sinkholes; and, Priority 3 hazards include: landslides, earthquakes, and dam failures. The hazard identification and prioritization are shown in Figure 15.

Tornados were determined to be a Priority 1 hazard due to the history of past occurrences, the speed of the event, the severity of damage incurred, and the high potential for loss of life. Since 1950, tornados have caused over \$1 million in property damage alone. The agricultural character of Butler County, with a majority of the agriculture being timber production and livestock and poultry production, makes wildfire a significant hazard for residents of the county. The potential impact of wildfire is increasing as residents continue to build residential structures outside the corporate limits, expanding the urban interface area. According to the Alabama Forestry Commission, Butler County experienced 451 fire events between 1995 and 2003, which combined accounted for 2,800 acres of land burned.

Figure 15

**Hazard Identification and Prioritization for
Butler County and All Municipalities**

Hazard	Priority 1	Priority 2	Priority 3	Not Applicable
Avalanche				NA
Coastal Erosion				NA
Dam Failure			15	
Drought/ Extreme Heat		9/10		
Earthquake			14	
Expansive Soils/Sinkhole		11		
Flood	4			
Hurricane/Coastal/Tropical Storms	5/6			
Landslide/Land Subsidence			12/13	
Severe Thunderstorm/Wind/Hail	1/2			
Tornado	3			
Tsunami				NA
Volcano				NA
Wildfire	8			
Winter Storms	7			

Figure 15 refers to the 1,2 and 3 priority hazards. These priorities were determined by the LEPC. The numbers in the chart reflect the ranking of importance by the LEPC. Using these rankings, the LEPC put the hazards in priority 1, 2 and 3. Certain hazards from the list on page 23 have been combined in the chart in Figure 15. Figure 16 is a matrix representing the relative priority considered through the LEPC for jurisdictions in Butler County. The hazards are ranked high, moderate, or low risk for each geographic jurisdiction.

Of special note, due to climatic conditions of Butler County extreme heat and drought are combined and are considered Priority 2 hazards. The agricultural community is particularly at risk in terms of property and crop damage from extreme heat and related drought conditions. Also, the high percentage of the population with low income or living in poverty and those living in unincorporated areas without access to public water are particularly at risk due to dry wells and lack of financial resources for air conditioning to ward off the impact of extreme heat and drought. The LEPC discussed this issue recognized its importance and ultimately agreed to include extreme heat and drought as a priority 2 hazard. Although Butler County does not suffer from extreme property damage or loss of life due to flooding, the potential of flooding events makes it a Priority 1 hazard. The impact of flooding in Butler County is due more to crop damage and the interruption of services due to impassable roads and continued road and bridge improvements. Like flooding, it is the frequency of severe storms that make them a Priority 1 hazard. Of the past storm events, between 1950 and 2003, thunderstorms, windstorms, and hail storms were the most frequent hazard event with 82 occurrences during that time period.

Figure 16

**Hazard Identification and Prioritization for
Butler County and All Municipalities**

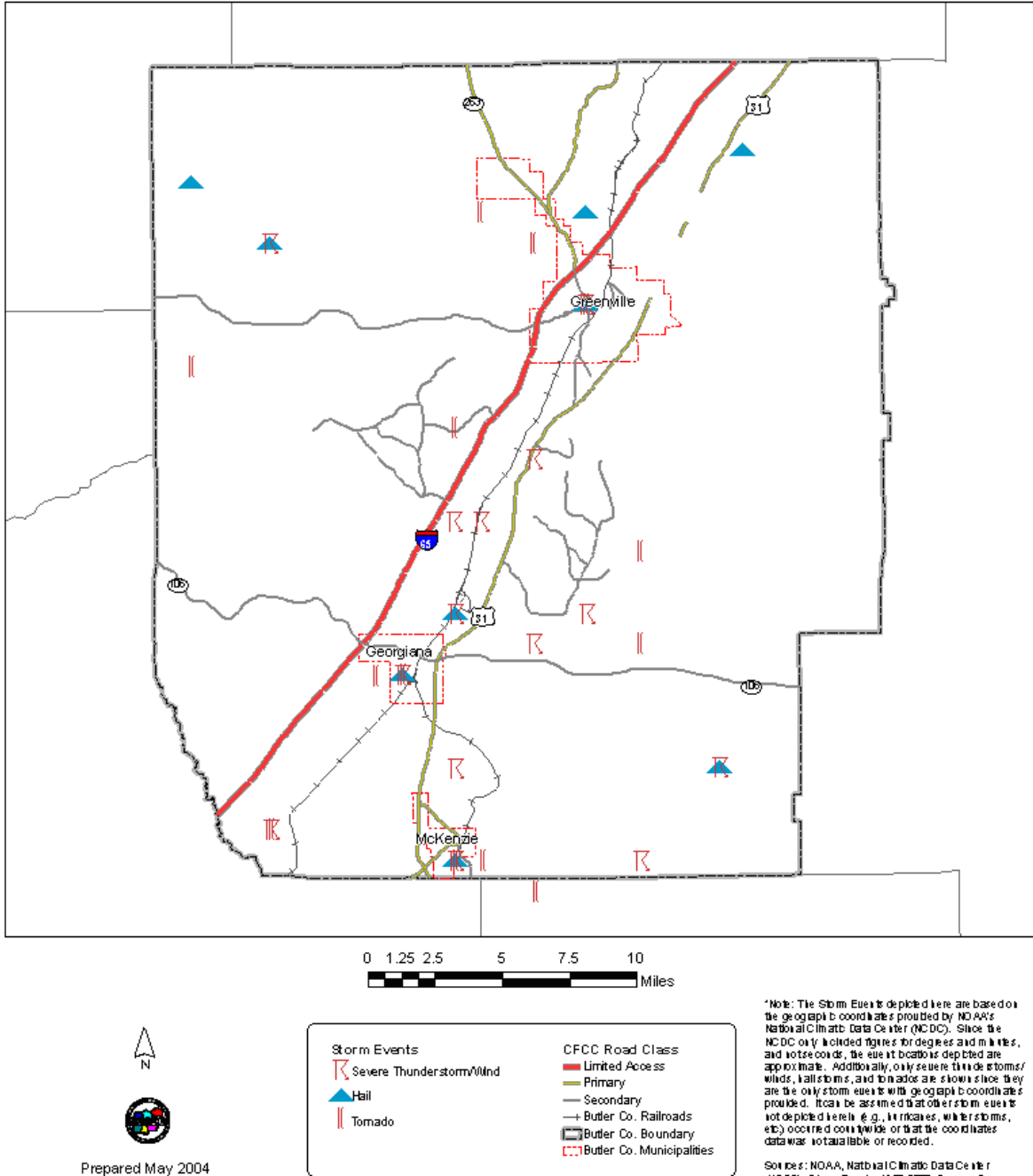
Hazard	Greenville	McKenzie	Georgiana	Other
Avalanche				N/A
Coastal Erosion				N/A
Dam Failure	Low	Low	Low	
Drought/ Extreme Heat	Moderate	Moderate	Moderate	
Earthquake	Low	Low	Low	
Expansive Soils	Moderate	Moderate	Moderate	
Flood	High	High	High	
Hurricane/Coastal/Tropical Storms	High	High	High	
Landslide/ Land subsidence	Low	Low	Low	
Severe Thunderstorm/Wind/Hail	High	High	High	
Tornado	High	High	High	
Tsunami				N/A
Volcano				N/A
Wildfire	Moderate	Moderate	Moderate	
Winter Storms	Moderate	Moderate	Moderate	

No other natural hazards were identified that were not included on the list of hazards outlined by the Federal Emergency Management Agency Publication 386-2, which is a state and local mitigation planning how-to-guide entitled: *Understanding Your Risks – Identifying Hazards and Estimating Losses*.

During the update process, the LEPC reviewed on two occasions, prior to completing the draft, the priority hazards, especially considering recent events. Recent coastal storms and hurricanes were discussed in detail and added to the table of declarations. Due to droughts in recent years, extreme heat and drought was discussed, however were identified as higher priorities.

Figure 17

Historical Storm Events*



CHAPTER 4

RISK ASSESSMENT AND VULNERABILITY ANALYSIS

The risk assessment and vulnerability analysis is based on the following seven priority one natural hazards as identified by the Butler County LEPC and described in the previous chapter: severe thunderstorm/lightning/hail/winds, tornados, floods, hurricanes/tropical storms, winter storms, extreme heat and drought, and wildfires. The State of Alabama Hazard Risk and Vulnerability Analysis, prepared by the Alabama Emergency Management Agency defines *risk* as the probability that damage to life and property will occur due to impacts from a particular natural hazard. This can include an analysis of: the **magnitude**, or how big or strong the event may be, the **duration**, or how long the event will last, the **frequency**, or how often the event may occur, and the **area affected**, or where and how much area may be impacted by an event. The same document defines **vulnerability** as the degree of **exposure** to a hazard – how susceptible on area is to a hazard and the losses likely to result from a disaster.

In this chapter, each of the eight Priority 1 hazard categories are assessed in terms of risk and vulnerability, as defined. Information provided for each category includes a definition of the hazard; the degree of risk as noted by the priority rating given to each hazard by the Butler County Local Emergency Planning Committee upon identification of the hazard; historical and financial loss data, as available; and the degree of impact (vulnerability) on Butler County and its residents, with comments regarding how the hazard might or could affect the county. The chapter is concluded with the identification of critical facilities that could be impacted by any of these hazard events.

During the update process, the profiles, degree and geographic location of various hazards were updated in narratives and tabled. Geographic information is still limited, however the updating of specific locations of vulnerable properties is a priority in future updates. A methodology to identify and update data by geographic latitude and longitude has been reviewed with the EMA Director.

4.1 SEVERE THUNDERSTORMS/WINDS/HAIL/LIGHTNING

Thunderstorms are generated by atmospheric imbalance due to the combination of unstable warm air rising rapidly into the atmosphere, sufficient moisture to form clouds and rain, and an upward lift of air currents caused by colliding waterfronts, sea breezes, or mountains. Thunderstorms can produce tornadoes and floods (both discussed in other portions of this plan), hail, high winds, and lightning.

Severe thunderstorms, wind, hail, and lightning have been a common event for Butler County and its municipalities in the past and will continue to be so in the future. Between 1950 and 2008, 96 severe thunderstorms, wind, and hail events have occurred in Butler County and its municipalities, causing an estimated \$858,500 in property and crop damages. In the past, there has been a minimal loss of critical facilities. However, the loss of critical facilities as a result of severe thunderstorms, wind, hail, and lightning are rare. In addition, there have been reports of minor property damage most being a result of lightning strikes or hail. Overall the impacts of severe thunderstorms, wind, hail, and lightning on Butler County have been negligible. As a result, it was determined that future impacts will most likely continue to be negligible meaning minor injuries may occur; critical facilities may be shut down for 24 hours or less, and less than ten percent of the property in the community would be damaged. Nonetheless, due to frequency in occurrence, the Butler County LEPC has ranked severe thunderstorms, wind, hail, and lightning as the number one natural hazard that has the greatest potential to impact Butler County. The LEPC determined the county’s vulnerability is high.

Figure 18

Profile of Severe Thunderstorms, Wind, Hail, & Lightning Events in Butler County & Municipalities, 1950-2008

Date	Location	Hail (H) or Thunderstorm/Wind	Magnitude*	Loss of Life	Injuries	Financial Loss
4/7/1973	County	T		0	0	\$ -
4/18/1978	County	T		0	0	\$ -
4/18/1978	County	T		0	0	\$ -
11/17/1978	County	T		0	0	\$ -
3/30/1981	County	T		0	0	\$ -
4/1/1981	County	T		0	0	\$ -
3/20/1983	County	T		0	0	\$ -
12/6/1983	County	T		0	0	\$ -
8/1/1984	County	T		0	0	\$ -
4/15/1985	County	H	0.75”	0	0	\$ -
4/15/1985	County	T		0	0	\$ -
8/24/1985	County	T		0	0	\$ -
2/10/1986	County	T		0	0	\$ -
7/25/1987	County	T		0	0	\$ -
5/24/1988	County	H	1”	0	0	\$ -
5/24/1988	County	H	0.75”	0	0	\$ -

6/5/1989	County	T		0	0	\$ -
9/2/1989	County	T		0	0	\$ -
9/2/1989	County	T		0	0	\$ -
1/25/1990	County	T		0	0	\$ -
2/10/1990	County	T		0	0	\$ -
2/16/1990	County	T		0	0	\$ -
4/1/1990	County	T		0	0	\$ -
4/28/1990	County	H	1.75"	0	0	\$ -
4/28/1990	County	H	1.75"	0	0	\$ -
12/3/1990	County	T		0	0	\$ -
3/1/1991	County	T		0	0	\$ -
4/29/1991	County	H	1.75"	0	0	\$ -
4/29/1991	County	H	1.75"	0	0	\$ -
4/29/1991	County	T		0	0	\$ -
1/13/1992	County	T		0	0	\$ -
4/20/1992	County	T		0	0	\$ -
4/20/1992	County	T		0	0	\$ -
5/26/1992	County	T		0	0	\$ -
11/4/1992	County	T		0	0	\$ -
4/15/1993	County	T		0	0	\$ -
7/22/1994	Greenville	T	50	0	0	\$ -
4/11/1995	County	H	1.75"	0	0	\$ -
4/23/1995	Georgiana	T	0.75"	0	0	\$ -
12/1/1996	Greenville	T	50	0	0	\$ 1,500
12/16/1996	Georgiana	T	50	0	0	\$ 1,500
1/24/1997	Georgiana	T	50	0	0	\$ 3,000
3/29/1997	Greenville	H	0.75"	0	0	\$ -
3/29/1997	Greenville	H	0.75"	0	0	\$ -
4/22/1997	Georgiana	H	0.75"	0	0	\$ -
4/22/1997	Georgiana	T	50	0	0	\$ 1,500
5/28/1997	McKenzie	T	50	0	0	\$ 1,500
11/21/1997	Greenville	T	50	0	0	\$ -
1/7/1998	Greenville	T	50	0	0	\$ 3,500
3/8/1998	Greenville	H	0.75"	0	0	\$ -
3/8/1998	Greenville	H	0.75"	0	0	\$ -
3/8/1998	Greenville	T	50	0	0	\$ 3,000
5/3/1998	McKenzie	H	1"	0	0	\$ -
5/3/1998	McKenzie	H	2.75"	0	0	\$ 10,000
5/3/1998	Greenville	T	75	0	0	\$ 15,000
6/6/1998	Georgiana	T	50	0	0	\$ 20,000
3/3/1999	McKenzie	T	50	0	0	\$ 10,000
5/18/1999	Georgiana	H	0.75"	0	0	\$ -
8/9/1999	McKenzie	T	50	0	0	\$ 2,000
2/13/2000	Greenville	H	0.75"	0	0	\$ -
2/13/2000	Greenville	T	50	0	0	\$ 5,000

3/19/2000	Greenville	T	60	0	0	\$ 10,000
7/20/2000	Greenville	T	55	0	0	\$ 5,000
8/27/2000	Georgiana	H	0.75"	0	0	\$ -
1/19/2001	County (Forest Home)	T	55	0	0	\$ 5,000
3/12/2001	County (Oakly Streak)	T	65	0	0	\$ 50,000
3/12/2001	County (Forest Home)	T	50	0	0	\$ 10,000
6/14/2001	Greenville	T	55	0	0	\$ 5,000
10/13/2001	Greenville	T	60	0	0	\$ 20,000
10/13/2001	Greenville	T	50	0	0	\$ 10,000
11/24/2001	Georgiana	H	1"	0	0	\$ -
10/29/2002	McKenzie	T	50	0	0	\$ 5,000
12/24/2002	County (Garland)	T	50	0	0	\$ 5,000
3/13/2003	County	H	1.75"	0	0	\$ 1,000
4/25/2003	County (Forest Home)	H	0.75"	0	0	\$ -
4/25/2003	Georgiana	H	0.75"	0	0	\$ -
5/2/2003	County (Forest Home)	H	0.75"	0	0	\$ -
5/2/2003	County (Oakly Streak)	H	0.75"	0	0	\$ -
5/2/2003	County (Monterey)	H	0.75"	0	0	\$ -
5/2/2003	Greenville	T	50	0	0	\$ 5,000
5/3/2003	Georgiana	H	0.75"	0	0	\$ -
8/6/2003	Greenville	T	50	0	0	\$ 8,000
4/8/2004	County (Chapman)	H	0.88"	0	0	\$ -
4/12/2004	Georgiana	H	1"	0	0	\$ -
4/30/2005	County (Chapman)	T	70	0	0	\$ 500,000
4/8/2006	Georgiana	H	0.75"	0	0	\$ -
4/21/2006	Greenville	T	50	0	0	\$ 10,000
5/25/2006	Greenville	H	0.88"	0	0	\$ -
1/7/2007	Greenville	T	50	0	0	\$ 12,000
3/1/2007	Greenville	H	1"	0	0	\$ -

6/12/2007	Greenville	T	50	0	0	\$ 10,000
7/7/2007	Greenville	T	50	0	0	\$ 25,000
8/17/2007	Greenville	T	50	0	0	\$ 12,000
10/23/2007	Georgiana	T	50	0	0	\$ 15,000
1/10/2008	Greenville	T	50	0	0	\$ 10,000
1/31/2008	Georgiana	T	50	0	0	\$ 10,000
2/6/2008	Greenville	T	50	0	0	\$ 25,000
2/26/2008	County (Forest Home)	T	50	0	0	\$ 15,000
TOTAL			96 events	0	0	\$858,500
JURISDICTIONAL SUMMARY						
Georgiana	15 events			0	0	\$51,000
Greenville	27 events			0	0	\$193,000
McKenzie	6 events			0	0	\$28,500
Unincorporated Areas	48 events			0	0	\$586,000
<i>Note: *Magnitude for hail events is depicted as the average diameter of hail stones. Magnitude for thunderstorm and wind events is expressed in knots.</i>						
<i>Source: Storm Events 1950-2008, National Climatic Data Center (NCDC), National Oceanographic and Atmospheric Administration (NOAA), 2004.</i>						

4.2 TORNADOS

As defined by the Federal Emergency Management Agency, a tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent of tornadoes are capable of tremendous destruction with wind speeds of 250 miles per hour or more. Damage paths can be in excess of one mile wide and 50 miles long. Tornadoes are the number two hazard risk for Butler County, not due to the frequency of events, but instead, due to the severity of destruction and the limited warning time for response. Butler County is located in Wind Zone III, which is associated with 200 miles per hour wind speeds. Tornado paths are not localized and have the potential to affect any portion of the entire county during a given event.

Figure 19

Profile of Tornado Events in Butler County & Municipalities, 1882 to 2008

Tornado					
Date	Location	Magnitude	Loss of Life	Injuries	Financial Loss
3/27/1882	County	F3	2	20	Unknown
12/23/1900	County	F2	0	3	Unknown
4/15/1910	County	F2	1	20	Unknown
2/27/1913	Greenville	F2	3	4	Unknown
4/30/1924	Greenville	F3	1	10	Unknown
1/30/1947	County	F3	3	30	Unknown
6/28/1957	County	F2	0	0	\$250,000

6/28/1957	County	F2	0	0	\$250,000
7/4/1960	County	F0	0	0	\$0
7/4/1960	County	F0	0	0	\$0
10/4/1964	County	F1	0	0	\$25,000
12/24/1964	County	F2	0	0	\$25,000
12/26/1964	County	F1	0	0	\$25,000
4/18/1969	County	F4	2	11	\$250,000
6/17/1973	County	F1	0	0	\$0
11/25/1979	County	F2	0	0	\$25,000
3/20/1983	County	F1	0	0	\$0
7/17/1995	County (Foster Flats)	F0	0	0	\$1,000
10/4/1995	Georgiana	F0	0	0	\$10,000
10/25/1997	County	F0	0	0	\$4,000
11/24/2001	Georgiana	F0	0	0	\$30,000
11/24/2001	McKenzie	F1	0	3	\$100,000
11/24/2001	County (Garland)	F0	0	0	\$8,000
11/5/2002	Georgiana	F0	0	0	\$0
3/1/2007	County (Industry)	F0	0	0	\$20,000
10/23/2007	Georgiana	F0	0	0	\$20,000
Total		26 events	12	101	\$1,043,000

JURISDICTIONAL SUMMARY				
<i>Georgiana</i>	4 events	0	0	\$60,000
<i>Greenville</i>	2 events	4	14	Unknown
<i>McKenzie</i>	1 event	0	3	\$100,000
<i>Unincorporated Areas</i>	19 events	8	84	\$883,000
<i>Sources: Storm Events 1950-2008, NCDC, NOAA, 2004; and Alabama Tornado Database, National Weather Service (NWS), NOAA, 2008.</i>				

With the available information as presented, the Butler County LEPC determined that Butler County is moderately to severely vulnerable to tornados. Potential impacts from tornados include loss of life and injury; severe property damage with frame, manufactured, and congregate housing being the most susceptible; water contamination and water shortage; blocked access and road deterioration; power outages, disruption of commerce. Butler County’s vulnerability can be increased due to a lack of available trained response personnel, slowed emergency response time, and an overload at existing medical facilities. Resulting secondary impacts of a tornado could include panic, anxiety, and depression; power outages; interruption in utility services (e.g., communications and water); loss of tax revenue and economic opportunities; spoilage of goods; decreased employer production; and loss of timber income.

4.3 FLOODING

As defined by the Federal Emergency Management Agency, a flood is a natural event for rivers and streams. Excess water from snowmelt, rainfall, or storm surge accumulates and overflows onto the banks and adjacent floodplains. Floodplains are lowlands, adjacent to rivers, lakes and oceans that are subject to recurring floods. Flooding is one of the most common hazards in the United States and kills an average of 150 people a year nationwide. While Butler County is not highly susceptible to severe inundation of flood waters, it is highly susceptible to the rapid occurrence of flash floods that make parts of the county inaccessible by road and interrupt the delivery of services and the ability to respond in an emergency. Flooding is number three in the list of natural hazards that have the greatest potential to impact Butler County.

Figure 20

**Profiles of Flooding Events in Butler
County & Municipalities, 1950 to 2008**

Flooding					
Date	Location	Type	Loss of Life	Injuries	Financial Loss
5/28/1997	County (Garland)	Flash Flood	0	0	\$1,500
3/8/1998	Countywide	Heavy Rain	0	0	\$800,000
9/28/1998	Countywide	Heavy Rain	0	0	\$0
6/27/1999	County (southern parts)	Flash Flood	0	0	\$3,000
3/3/2001	Countywide	Flash Flood	0	0	\$10,000
11/24/2001	Greenville	Flash Flood	0	0	\$10,000
7/10/2005	Countywide	Flash Flood	0	0	\$0
8/29/2005	Countywide	Flash Flood	0	0	\$0
Total	8 events		0	0	\$824,500
JURISDICTIONAL SUMMARY					
<i>Georgiana</i>	0 events		0	0	\$0
<i>Greenville</i>	1 event		0	0	\$10,000
<i>McKenzie</i>	0 events		0	0	\$0
<i>Unincorporated Areas</i>	7 events		0	0	\$814,500
<i>Sources: Storm Events 1950-2008, NCDC, NOAA, 2008.</i>					

With the available information, the Butler County LEPC determined that, while the flooding problem is recurring, the impact of flooding on Butler County is low. Potential impacts from flooding are surface and groundwater contamination, increased septic failure, increased stress and anxiety, increased road damage, threat to the rail system, increased agricultural loss for both crops and livestock, and loss of natural habitat. While there is a low threat to life safety and structural conditions, the repetitive losses and damages to the road system make flooding a significant hazard to Butler County.

4.4 TROPICAL CYCLONES (HURRICANES & TROPICAL STORMS)

As defined by the Federal Emergency Management Agency, a tropical cyclone is a generic term for a cyclonic, low-pressure system over tropical or subtropical waters. Hurricanes are intense tropical systems that generate winds in excess of 74 mph. These storms are generally

characterized by thunderstorms and defined surface wind circulation. They can produce high winds, heavy rains, erosion, flooding, and spawn tornados. Extra tropical storms generate similar effects but tend to occur in the fall or winter. Because tropical and extra tropical cyclones are large, moving storm systems, they can impact not only coastal areas, but inland areas as well. Hurricane Opal (1995), which traversed Butler County, is an excellent example of a tropical system having such a large impact inland. While Butler County is not necessarily susceptible to the full effects of a tropical cyclone making landfall along the coast, it is highly susceptible to the other events that occur or spawn off of the cyclonic system. Floods caused by the storm's rain can make parts of the county inaccessible by road and interrupt the delivery of services and the ability to respond in an emergency. Tornados spawned off of a hurricane can cause loss of life, injuries, and cause damage to buildings and infrastructure. Tropical cyclones are number four in the list of natural hazards that have the greatest potential to impact Butler County

Figure 21

**Profile of Tropical, Subtropical, & Extra tropical Cyclone Events in
Butler County & Municipalities,
1893 to 2003****

Cyclones					
Date	Name	Category	Loss of Life	Injuries	Financial Loss
10/3/1893	Not Named	H1	Unk.	Unk.	Unknown
10/11/1902	Not Named	E	Unk.	Unk.	Unknown
11/3/1904	Not Named	TS	Unk.	Unk.	Unknown
10/6/1934	Not Named	TS	Unk.	Unk.	Unknown
10/8/1959	Irene	TD	Unk.	Unk.	Unknown
10/3/1995	Opal	H1	0	0	\$52,000,000*
9/25/1998	Georges	TD	1	0	\$179,500,000*
6/12/2001	Allison	SD	Unk.	Unk.	Unknown
8/6/2001	Barry	TS	0	0	\$200,000*
9/13/2005	Ivan	H1	0	0	\$2,500,000,000*
Total	10 events		1	0	\$2,731,700,000*
<i>Notes: *Figures are from NCDC data and are statewide; figures not immediately available for Butler County.</i>					
<i>**With the exception of Opal, Georges, and Barry, the rest of the listed cyclones were those that directly traversed Butler County.</i>					
<i>Sources: Historical North Atlantic Tropical Cyclone Tracks, National Hurricane Center, NOAA, 2002; Storm Events 1950-2008, NCDC, NOAA, 2008.</i>					

4.5 WINTER STORMS

Winter storms can affect agriculture, transportation, utilities, businesses, and schools, and can pose great danger to the public. While the region and Butler County are generally unaccustomed to snow, ice, and extreme freezing temperatures, they do occur and can cause sever consequences. Wet snow and ice can accumulate on trees, utility lines, and power/utility poles and towers causing them to snap under the extra weight. Motorists in this region are typically unfamiliar with driving on slick and iced over roads and bridges, and traffic accidents increase.

Additionally, some buildings may not be adequately insulated or lack heat altogether, creating danger to the occupants. Crops can also be affected and a year's or season's entire yield could be damaged or lost. Since these occurrences are rare, local municipalities generally do not possess snow or ice removal and repairs resulting in higher maintenance costs and inaccessibility to some portions of the county; increased power and water usage resulting in higher payments and sometimes higher rates; increased fire potential; increased loss of vegetation and property damage with the most significant threat to agricultural production including crops, timber and livestock; an increased threat to the quantity and quality of water supplies; and increased anxiety in the population which can result in increased crime.

Figure 22

Profile of Major Storm Events in Butler County & Municipalities, 1950-2003

All Storm Events*									
Type									
Location**	ST	H	TR	F	HR	WS	Loss of Life	Injuries	Financial Loss***
Butler County (Countywide)				5	4	1	1	0	\$2,731,700,000
Butler County (Unincorporated Communities)	6	5	3	1			0	0	\$617,500
Butler County (Unknown)	29	9	16	0			8	84	\$855,000
Town of Georgiana	7	8	4	0			0	0	\$119,000
City of Greenville	21	7	2	1			4	14	\$277,500
Town of McKenzie	4	2	1	0			0	3	\$128,500
TOTALS	67	31	26	7	4	1	13	101	\$2,733,697,500
Key: ST = Severe Thunderstorms/Winds; H=Hail; TR=Tornados; F=Flooding; HR= Hurricanes/Tropical Storms; WS= Winter Storm									
Notes: *Does not include wildfires. **Countywide events are not counted under the municipalities. ***Hurricane/Tropical Storm Figures are from NCDC data and are statewide; figures not immediately available for Butler County.									
Sources: Storm Events 1950-2008, NCDC, NOAA, 2008; and Alabama Tornado Database NWS, NOAA, 2003.									

4.6 WILDFIRE

As defined by the Federal Emergency Management Agency, a wildfire is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. Wildfires often begin unnoticed and spread quickly and are usually signaled by dense smoke that fills the area for miles around. Naturally occurring and non-native species of grasses, brush, and trees fuel wildfires. Wildfires are the number two hazard in Butler County due, in large part, to the presence of forested land in the county. Of the total land in Butler County, 79 percent is in forested land – totaling almost 394,000 acres of forest land. Due to an expanding urban interface area, the threat of human danger from wildfires is steadily increasing in Butler County. Beyond loss of life, injury and property damage issues that arise from wildfires, Butler County’s dependence upon the timber industry means that the overall economic well being of the county is threatened by wildfires as well. The fact that the average annual value of stumpage timber sold in Butler County is over \$28 million illustrates the point.

Figure 23

Profile of Wildfire Events in Butler County, 1995 to 2003

Wildfires			
Fiscal Year	Number	Burned Acres	Avg. Size (Acres)
1995	38	139.6	3.7
1996	44	320.9	7.3
1997	35	189.0	5.4
1998	36	124.2	3.5
1999	27	116.5	4.3
2000	103	662.4	6.4
2001	54	384.9	7.1
2002	71	843.3	12.1
2003	43	93.9	2.2
2004			
2005			
2006			
2007			
Total	451 events	2,874.7	6.4

Source: Alabama Forestry Commission, 2004.

With the available information as presented, The Butler County LEPC determined that, while the risk is high, Butler County is moderately vulnerable to wildfires. Potential impacts from wildfires include loss of life and injury; severe property damage; injury to victims and response personnel; smoke inhalation and toxic fumes; decreased visibility for vehicular traffic leading to a documented increase in auto accidents; threats to utility lines and poles, phone boxes and fiber optic lines. Additionally, there is a high incidence of repetitive losses due to wildfires in Butler County.

Secondary impacts from wildfires include a loss of tax revenue due to a loss of timber; erosion which leads to road and bridge deterioration; loss of habitat and a threat to endangered species; threatened water quality and stream sedimentation. The risks and vulnerability associated with wildfire are only increasing with continued urban sprawl.

4.7 PRIORITY 2 AND 3 HAZARD PROFILES

Detailed profiles of the priority 2 and priority 3 hazards are not included. The LEPC confirmed these hazards are not significant when compared to priority one hazards or that data is not sufficient for such profiling. These priority 2 and 3 hazards include extreme heat/drought sinkholes, dam failures, earthquakes and landslides. Future updates will continue to review and update data on these hazards.

4.8 PROBABILITY

The following pages and tables reflect the probability of loss, due to priority hazards. The information contained in the tables was updated to reflect recent events and reviewed with the LEPC for discussion concerning priorities and eventual goals and actions.

The probability (%) that an identified hazard of Priority 1 status will occur on an annual basis was determined using the following formula:

$$\frac{\text{Number of historical or reported events in that time period}}{\text{Number of years Incidents occurred within}} = \text{Probability of a Future Annual Event}$$

A similar formula was used to determine an estimate of the expected damages from each event:

$$\frac{\text{Total amount of damages (in dollars) for each historical or reported event/}}{\text{Number of damage causing events within the time period}} = \text{Damage Expectations per Damaging Event}$$

Figure 24

Priority 1 Event Probability for Butler County & Municipalities			
Natural Hazard Events	Number of Historical Events	Probability of a Future Annual Event	Damage Expectations Per Damaging Event*
<i>County & Municipalities</i>			
Severe Thunderstorm/Wind/Lightning (1950-2008; 58)	67	>100%	\$12,649
Hail (1950-2008; 58)	31	53%	\$354
Tornado (1882-2008; 126)	26	20%	\$40,115
Flooding (1950-2008; 58)	7	12%	\$117,785
Hurricane/Tropical Storm (1893-2008; 115)**	4	3%	\$682,925,000
Winter Storm (1950-2008; 58)**	1	1%	Unknown
Wildfires (1995-2008; 13)**	451	>100%	Not available
<i>Georgiana</i>			
Severe Thunderstorm/Wind/Lightning (1950-2008; 58)	7	3%	\$7,285
Hail (1950-2008; 58)	8	15%	\$0
Tornado (1882-2008; 126)	4	3%	\$15,000
<i>Greenville</i>			
Severe Thunderstorm/Wind/Lightning (1950-2008; 58)	21	36%	\$9,190
Hail (1950-2008; 58)	7	12%	\$0
Tornado (1882-2008; 126)	2	1%	Unknown

Flooding (1950-2008; 58)	1	1%	\$10,000
McKenzie			
Severe Thunderstorm/Wind/Lightning (1950-2008; 58)	4	7%	\$4,625
Hail (1950-2008; 58)	2	3%	\$5,000
Tornado (1882-2008; 126)	1	<1%	\$100,000
Unincorporated Areas			
Severe Thunderstorm/Wind/Lightning (1950-2008; 58)	35	60%	\$16,714
Hail (1950-2008; 58)	14	24%	\$71
Tornado (1882-2008; 126)	19	15%	\$46,473
Flooding (1950-2008; 58)	7	10%	\$116,357
<i>Notes: *Some historical damage figures for certain types of events were unknown, not recorded, or not immediately available (esp. wildfires). ** These events occurred on a countywide basis and therefore not factored into the separate listings for each municipality.</i>			
<i>Sources: Storm Events 1950-2003, NCDC, NOAA, 2004; Alabama Tornado Database, NWS, NOAA, 2003; Historical North Atlantic Tropical Cyclone Tracks, National Hurricane Center, NOAA, 2002; and Alabama Forestry Commission, 2004.</i>			

4.9 STRUCTURAL ASSETS AND IMPACTS

An inventory of assets and critical facilities susceptible to the identified Priority 1 hazards within Butler County continues to be recognized as an important component to include in ongoing planning for hazard mitigation planning. A detailed inventory of this sort has not been completed. Values for the different types of buildings (i.e., residential, commercial, industrial, agricultural, institutional, governmental/education, and utilities) in Butler County has not been performed. During the 2009 update, the LEPC, EMA Director and SCADC updated the critical facilities inventory, which is included. The LEPC also discussed having the definition of critical facilities and their importance addressed to coordinate an upgrade of GIS mapping with the physical location of critical facilities by longitude and latitude. The Butler County EMA and LEPC intend to have this information collected and analyzed by the next five-year major update. Such an analysis should describe the vulnerability of the types and numbers of existing and potential future buildings, infrastructure, and critical facilities located in specific hazard areas. Building values should be obtained from the Butler County Tax Assessor’s Office and/or from each jurisdiction’s property insurance providers. Of the Priority 1 hazards, only flooding poses a localized risk to buildings and structures in certain areas – primarily in the built areas lying in or along the identified floodplains. Otherwise, all buildings and structures within Butler County are vulnerable to all natural hazards identified as being Priority 1.

4.10 IMPACTS ON POPULATION

As stated in the section above, the entire area of Butler County is vulnerable to all identified Priority 1 natural hazards with the exception of flooding. Flood plain mapping is not up to date, however, those located areas were reviewed with the EMA Director during the 2009 update. Those areas are limited and will be mapped in the next update. The plan reflects storm water improvements to reduce potential hazards within flood prone areas. Population figures and

number of households vulnerable to the identified Priority 1 hazards are included in Figure 24. It should be noted that these numbers have not changed since the original plan, primarily due to the fact that 2000 census statistics are still relatively valid and development has been relatively limited in Butler County, except around Greenville which is recognized.

Figure 25

Population Vulnerable to Hazards		
Priority 1 Hazard	Population	Households
<i>County & Municipalities</i>		
Severe Thunderstorm/Wind/Hail/Lightning	21,399	8,398
Tornado	21,399	8,398
Flooding	8,028*	3,080*
Hurricane/Tropical Storm	21,399	8,398
Winter Storm	21,399	8,398
Wildfire	21,399	8,398
<i>Georgiana</i>		
Severe Thunderstorm/Wind/Hail/Lightning	1,737	697
Tornado	1,737	697
Flooding	1,337*	530*
Hurricane/Tropical Storm	1,737	697
Winter Storm	1,737	697
Wildfire	1,737	697
<i>Greenville</i>		
Severe Thunderstorm/Wind/Hail/Lightning	7,228	2,919
Tornado	7,228	2,919
Flooding	378*	134*
Hurricane/Tropical Storm	7,228	2,919
Winter Storm	7,228	2,919
Wildfire	7,228	2,919
<i>McKenzie</i>		
Severe Thunderstorm/Wind/Hail/Lightning	644	284
Tornado	644	284
Flooding	0*	0*
Hurricane/Tropical Storm	644	284
Winter Storm	644	284
Wildfire	644	284
<i>Unincorporated Areas</i>		
Severe Thunderstorm/Wind/Hail/Lightning	11,790	10,336
Tornado	11,790	10,336
Flooding	6,313*	2,416*
Hurricane/Tropical Storm	11,790	10,336
Winter Storm	11,790	10,336
Wildfire	11,790	10,336

*Notes: *These values are estimates based on aggregate land areas (i.e., Census blocks falling into vulnerable regions (i.e., floodplains) assuming even population distribution across the enumeration units. Due to such, figures for all areas may be inflated.*

Source: U.S. Census Bureau, Census 2000.

4.11 CRITICAL FACILITIES

The process of determining Butler County’s risk and vulnerability to natural hazards enabled the Butler County LEPC to identify critical facilities that would be impacted in the event of a disaster event. The LEPC identified critical facilities located in Butler County, based on two types of criteria: (1) Buildings or locations vital to the response and recovery effort, such as police and fire stations and telephone exchanges; and (2) Buildings or locations that, if damaged, would create secondary disasters, such as hazardous materials facilities and nursing homes.

The SCADC and EMA staffed have consulted with the County Revenue Department on a methodology to determine potential losses from damage to the critical facilities. This methodology will allow the next update to include more specific estimates of losses to the critical facilities.

Figure 26

Butler County Critical Facilities

Continuity of Government

Butler County Courthouse
Butler County Courthouse Annex
Georgiana Town Hall
Greenville City Hall
McKenzie Town Hall

Law Enforcement

Butler County Sheriff's Office
Georgiana Police Department
Greenville Police Department
Butler County Jail

Disaster Coordination and Support

Agencies/Social Services

Butler Co. Emergency Mgmt. Agency
Butler Co. Dept. of Human Resources
Organized Community Action Program (OCAP)

Fire Protection

Bolling, Sandcut, & Wald VFD
Brushey/Mashey Creek VFD
Central VFD
McKenzie Fire
F.I.W. VFD
Forest Home VFD
Garland VFD
Georgiana VFD
Greenville Fire Department
Liberty VFD
McKenzie VFD
Midway-Damascus VFD
P&MP VFD
Pigeon Creek VFD
Searcy VFD
Shackleville VFD
Spring Creek VFD
Starlington VFD

Electric Power & Gas Utilities

Alabama Power Company
Pioneer Electric Cooperative
Alabama Electric Cooperative
South Alabama Propane
Dowdle Gas Company
Southeast Alabama Gas District

Water, Sewer, and Solid Waste Utilities

Butler County Water Authority
Georgiana Water Works & Sewer Board
Greenville Water Works & Sewer Board
McKenzie Water Board
BFI Waste Services of Greenville
Allied Waste Services

Water Sources

Aquifers: Eutaw, Ripley, and Nanafalia Formations

Telephone, Cable, & Communications

BellSouth
CenturyTel
Bright House Networks
Camellia Communications
Greenville Advocate
South Alabama News
Telecommunications Towers: Nextel, Southern
Link, Alltel
WKXN
WGYV
WQZX
Greenville Standard

Mass Care Shelters

All Public Schools
County Fairgrounds
Churches in Georgiana, First Baptist McKenzie
Community Center
Greenville Post Office
Georgiana Post Office
McKenzie Post Office
Lomax Hannah Community College

Adult & Child Daycare

Greenwood Church Daycare
Jack & Jill Day Care
Adult Centers in Greenville
Learning Bee
South Central Alabama Childcare Mgmt. Agency, Inc.
Lomax Child Care
Wonderland Day Care Center, Inc.
Fort Dale Academy
Fellowship Adult Day Care
YMCA Childcare
Tiny Prince
Georgiana Nutrition Center

Building & Farm Supplies

Greenville Cash & Carry/True Value
 Greenville Hardware Co.
 L&S Farm Services
 Lees Hardware Co.
 Marvin's
 Lowery Hardware
 Quality Co-Operative Inc.
 S&M Hardware
 Shep Pierce Timber Co.

Schools

LBW Community College – Greenville Campus
 Greenville Elementary School
 W.O. Palmer Elementary School
 Greenville Middle School
 Greenville High School
 McKenzie High School
 R.L. Austin Elementary School
 Georgiana High School
 Georgiana Head Start Center
 Greenville Head Start Center
 Camellia City Christian Academy
 Fort Dale Academy
 Butler County Board of Education

Hospitals/Health Care Agencies

L.V. Stabler Memorial Hospital (Greenville)
 Family Rural Medical Clinic (Georgiana)
 Georgiana Hospital
 Butler County Health Dept. (Greenville)
 Greenville Pediatrics
 Tri County Medical Center (McKenzie)
 Tri County Medical Center (Georgiana)
 Butler Day Treatment (Greenville)
 Biomedical Applications Camellia (Greenville)
 Dialysis Clinic, Inc. (Georgiana)
 Reliable Home Health (Georgiana)
 Comfort Care Hospice of Greenville
 Crowne Health Care of Greenville
 Georgiana Nursing Facility
 Homewood Greenville
 Pine Needle Place, Inc. (Greenville)
 South Central Alabama Mental Health Board
 (Greenville)
 Medical Needs Facilities

Other

CVS, Fred's (Georgiana), Wal-Mart, Medicine Shop Pharmacies
 Old High School / Center Office
 Funeral Homes in Greenville (6) and Georgiana (2)
 Multi-Family Housing and Mobile Home Parks
 Public Housing in all cities

Once again, in this update, a complete inventory of critical facilities susceptible to the identified Priority 1 hazards within Butler County has been updated; however, the detailed location of such facilities remains as a task to be completed in 2010. Exact locations and facility values are still being researched and assessed and as part of this plan update implementation, specific locations and value of critical facilities will be completed in 2010. With the exception of flooding, all of the critical facilities are vulnerable to all of the identified Priority 1 natural hazards. The appropriate utility companies and departments, and the local governments, have been asked for this information, and several are still researching this information. The Butler County EMA and LEPC intend to have this information collected and analyzed by the next five-year major update.

Figure 27

Estimated Loss Projections Resulting From Priority 1 Hazards

Hazard	Average Occurrences (per year)	Total Deaths	Total Injuries	Average Crop and Property Loss (per event/ per year)	Maximum Historical Property Loss (per event)
Severe Thunderstorm/ Wind/Lightning	1.15	0	0	\$12,649/ \$14,611	\$500,000
Hail	0.53	0	0	\$354/ \$189	\$10,000
Tornado	0.21	12	101	\$40,115/ \$8,277	\$250,000
Flooding	0.12	0	0	\$117,785/ \$14,215	\$800,000
Hurricane/Tropical Storm	0.03	1	0	*	*
Winter Storm	0.02	0	0	\$0/\$0	\$0
Wildfires	56.38	**	**	**	**

*Notes: *The potential for damages from hurricanes and other major cyclonic events does exist within Butler County. However, county specific damage estimates were not available. **The potential for wildfire damages within Butler County does exist. The figures for wildfire damages under these columns were not available at this time, however.*

Sources: Storm Events 1950-2008, NCDC, NOAA, 2008; Alabama Tornado Database, NWS, NOAA, 2008; Historical North Atlantic Tropical Cyclone Tracks, National Hurricane Center, NOAA, 2002; and Alabama Forestry Commission, 2004.

4.12 ESTIMATED LOSSES

The below table depicts general estimates of property damage that could result from each of the identified Priority 1 hazards based on historical data per event average in Butler County and all four municipalities. These are gross estimates of yearly damages and should only be interpreted as indicators of the degree of damage possible. The figures are based solely on past occurrences, as described in other parts of this plan. More accurate methods are available to assess damages, particularly the U.S. Army Corps of Engineers’ Flood Damage Assessment (HEC-FDA) model, FEMA’s Benefit-Cost Modules, and the HAZUS loss estimation software. The Butler County EMA and LEPC intend to conduct more detailed loss estimates by applying the latest version of HAZUS-MH for multi-hazard assessments, and have this information analyzed by the next five-year major update.

4.13 DEVELOPMENT PATTERNS

Butler County is centrally located in the State and is largely rural, with the primary land uses being farming and forestry. Greenville, the largest municipality, is located in the northern half of

the county, along Interstate 65. Other land uses in the county consist of: industrial areas, located primarily in Greenville; commercial located in each of the three municipalities, in downtown areas and along major roads; residential areas, mostly located throughout the three municipalities, and in very small pockets throughout the county; farmland, which is located throughout the county, but usually near streams and lower elevations; forests, located throughout the county, but especially in the southern two-thirds of the county; and various specialized lands uses (institutional, mixed, etc.) located in the three municipalities, but especially Greenville. Land uses within the municipalities are generally in conformance with current zoning and land use regulations, and are expected to remain in the current use for the foreseeable future.

Greenville is recently undergoing industrial development as several Hyundai automobile suppliers are constructing plants in the City over the past several years. A potential increase in residential and commercial development is expected to follow as employees to these plants and any “spin-off” businesses locate to the area. Based on the most recent land use plan for the City, Greenville appears to have enough room within its boundaries to expand and develop the aforementioned and other uses. The zoning for the currently undeveloped areas will permit any growth to occur in the near future, with no major zoning changes. Greenville, in 2008, adopted a new comprehensive plan with hazard mitigation and natural resource protection being a consideration as part of the plan. Planning support for Greenville Comprehensive Planning and County Hazard Mitigation planning should ensure continued coordination of planning efforts to address potential hazard impacts in the major developed centers of the county

The remainder of the county is not expected to undergo significant development pressure and there are not any anticipated changes in land use for the near future.

4.14 REPETITIVE LOSSES

The LEPC, EMA and SCADC discussed extensively the repetitive losses in Butler County as addressed the debris removal as a major repetitive loss from tropical storms, thunderstorms and high winds. The LEPC and EMA Director also reviewed flood areas and determined these areas were minor. Future plan updates will be updated to quantify repetitive losses. There are very small areas of the county that are periodically flooded, however, the number of units are very small and stormwater improvements are effective. Reviews of repetitive flood losses indicate no such losses in the county or any of the individual municipalities.

CHAPTER 5

HAZARD MITIGATION STRATEGY

During the 2009 plan update, the LEPC reviewed the strategy which has been adopted for Butler County. Revisions to the Hazard Mitigation Strategy have been incorporated into the 2009 plan update.

The Hazard Mitigation Strategy has been updated to reflect progress that has been made to actions and to include separate sections for each jurisdiction. The Hazard Mitigation Strategy outlines methods, or action steps, for implementation of the *Butler County Natural Hazard Mitigation Plan* over a five year time period. The strategy includes goals and objectives that were developed to guide the development of the plan and the subsequent mitigation efforts. The goals and objectives are followed by specific mitigation action steps to be implemented. The list of action steps includes an estimated cost per item and designates who the responsible agency or agencies should be. The final portion of the mitigation strategy is a five-year time schedule and cost breakdown per year for implementation. The five year timeline has been updated in the 2009 plan update. In some cases, the costs have been updated; however, since the projects were included just two years ago the costs remain relatively the same. With input by from the governments and non-governmental organizations represented on the LEPC, and from public input received at the public meetings, the following goals and objectives were established by the LEPC to guide hazard mitigation efforts on an on-going basis beyond the five-year time frame of the implementation strategy. These goals and objectives have been established for the County and all of its municipalities. It should be noted that the LEPC reviewed the goals and objectives in the plan and determined that the goals and objectives remained basically the same as the original plan.

With regard to individual jurisdictions, the county plan elements have been reflected in separate sections for each jurisdiction. Geographic beneficiaries and jurisdiction are illustrated in tables. No specific projects have been separated out by jurisdiction. This format will be used for future updates.

Mitigation Goal

Goal A: Promote natural hazard mitigation as a means to decrease loss of life, property damage and economic loss during a disaster occurrence.

- Objective A-1: Establish a full warning system for notification of impending disasters throughout Butler County.
- Objective A-2: Ensure that adequate protection shelters are available for use during disaster occurrences.
- Objective A-3: Develop and adopt, or amend, and enforce land use regulations and ordinances and modern building codes that support natural hazard mitigation efforts throughout Butler County.
- Objective A-4: Implement fire protection measures to decrease potential for loss of life and property damage.
- Objective A-5: Limit impact of heat and drought on human health, property damage, and agricultural losses.
- Objective A-6: Improve infrastructure facilities and remove at-risk commercial and residential buildings to limit the impact of natural hazard events.
- Objective A-7: Investigate, prepare, and provide for mitigation and emergency services and activities before, during, and after a disaster event.

Communication/Coordination Goal

Goal B: Provide on-going support of the Butler County Emergency Management efforts to make Butler County less vulnerable to natural disasters.

- Objective B-1: Ensure that the Butler County Hazard Mitigation Plan remains current and is implemented; incorporate strategies and actions to be taken by specific jurisdictions into the future plan updates.
- Objective B-2: Improve coordination and communication between emergency response organizations and highly vulnerable entities; coordinate natural hazard mitigation strategies and planning with man-made hazards or disasters, such as pandemic flu, chemical spills, etc.
- Objective B-3: Enhance the County's and municipalities' capability to conduct further hazard risk assessments, better demonstrate funding needs, and track mitigation activities throughout the County.
- Objective B-4: Coordinate natural hazard mitigation planning with plans for pandemic influenza.

Education Goal

Goal C: Educate general population about natural hazards and hazard mitigation options.

Objective C-1: Establish and implement hazard mitigation public awareness programs.

Objective C-2: Establish and promote disaster prevention education programs, utilizing all forms of media (e.g., print, TV, internet websites – government and related non-governmental) to help distribute information and materials.

Progress toward Plan Objectives

Recent progress toward plan objectives is reflected in revisions to the following update of plan objectives and actions.

In general, projects implemented since 2004 include:

- Completion of eleven steel safe room projects – nine underground and two above ground.
- Completion of a buyout project that eliminated the danger to three homes from substandard soil conditions.
- Installation of storm warning siren in Greenville.

The jurisdictions within Butler County will also use the individual action items in the following sections to monitor their progress.

Comprehensive Range of Mitigation Actions

The action plans that follows includes a comprehensive range of mitigation actions addressing existing buildings and infrastructure and new existing buildings and infrastructure. These actions include prevention; property protection; public education and awareness; natural resource protection; and, structural projects.

Flood Mitigation Actions – National Flood Insurance Program

Butler County participates in the National Flood Insurance Program as do the jurisdictions of Greenville and Georgiana. The plan recommends such participation in the NFIP. Maintaining participation in the NPIP program remains an objective and action as part of the action plan and ongoing plan maintenance.

Cost Benefit Coordination

The LEPC considered the cost and feasibility of the various action recommended and included those considerations in the finalizing the action items. In future updates the LEPC intends to adopt a more detailed cost-benefit analysis as part of its consideration.

Actions Completed or Unchanged

In reviewing progress toward completion of actions from the 2006 plan, the LEPC found, in the 2009 update, that actions remain from the 2006 plan, uncompleted, due primarily to funding limitations. This does not mean that some progress was not made; however, progress is limited on larger, more costly projects. Greater progress is being made in education, awareness and smaller fundable projects such as shelters, etc.

Incorporation into Other Planning Mechanisms

Analysis, goals, action items will be incorporated into other planning mechanisms including:

- Consideration in preparation and updating SCADC Regional Plans, such as the Comprehensive Economic Development Strategies (CEDS), Rural Transportation Plans and Programs, etc.
- Incorporation of action items, goals, etc. into County EMA and Pandemic Plans, including operational plans.
- Continued cooperation of all jurisdictions, with the county, the National Flood Insurance Program.
- Incorporation of goals, recommendations into Comprehensive Plans, Zoning, etc. for Greenville and other municipalities.

5.1 Butler County Hazard Mitigation Action Steps

Goal A: Promote natural hazard mitigation as a means to decrease loss of life, property damage and economic loss during a disaster occurrence.

Objective A-1: Establish a full warning system for notification of impending disasters throughout Butler County.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Develop a warning plan to install approximately 45 sirens at targeted sites to adequately cover population pockets in Butler County.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Sirens have been added in recent years with others applied for.</p>	\$585,000	Federal, State, Municipal, Butler Co. EMA/Hurricanes, Tornados, Storms, Existing Buildings
<p>b. Designate a volunteer central emergency coordinator in each municipality and community to better facilitate communications with the Butler County Emergency Management Agency.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> County, Unincorporated Communities (based on VFDs) and All Municipalities</p> <p><i>Progress:</i> Discussions of volunteer structure are underway</p>	\$20,000	County, All Municipal/All hazards, existing buildings
<p>c. Construct warning signage for limited visibility due to forest fires on major roads in targeted areas; especially needs to be done during controlled burns</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$20,000	Federal, State, County, County Road Dept./ All hazard, existing buildings
<p>d. Investigate use of phone messaging system to provide warning of all impending hazardous conditions; currently under consideration</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Currently under consideration, additional radios have been purchased and being considered for future funding applications.</p>	\$0	County, Municipal, Butler Co. EMA/ All hazards, existing buildings
<p>e. Equip fire departments with emergency radios</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> County, Unincorporated Communities (based on VFDs) and All Municipalities</p>	\$0	County, State/All hazards, existing buildings
Total	\$605,000	

Goal A: Promote natural hazard mitigation as a means to decrease loss of life, property damage and economic loss during a disaster occurrence.

Objective A-2: Ensure that adequate protection shelters are available for use during disaster occurrences.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Maintain and expand existing shelter facilities to provide adequate pre-disaster care and space, as needed; add additional generators; need to include shelter training and communication/shelter training</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Ongoing training is underway and being coordinated with EMA coop.</p>	\$3,000	Federal, State, County, Municipal, Shelter Operations/Tornados, Hurricanes, Existing Buildings
<p>b. Designate and upgrade/retrofit, as necessary, existing public facilities to provide shelter in areas of Butler County where there currently are no shelters, primarily targeting schools and community centers, at a rate of one site every two years; include the consideration of community colleges for additional shelters; consider coordinating with a medical needs shelter and comfort care facility with Health Dept.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$37,500	Federal, State, County, Municipal, EMA, Shelter Operators, Dept. of Public Health/Tornados, Hurricanes, Storms, Existing Buildings
<p>c. Investigate construction of new public shelter facilities in those areas of the county with no shelter facilities as long-term and low-priority task; consider shelter in McKenzie, consider ADECA/ADSS model</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$0	ADECA, FEMA, Butler Co. EMA/Tornados, Hurricanes, Storms, Existing Buildings
<p>d. Secure funds to continue efforts to assist citizens in constructing private shelters on their land at a rate of seven shelters per year. (Approx. \$5,000 per shelter) FEMA funds up to \$3500</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Funding proposals for such shelters has been submitted.</p>	\$175,000	Federal, Butler Co. EMA, Private/Tornados, Hurricanes, Storms, Existing Buildings
<p>e. Work with developers, homebuilders and contractors to promote construction of a safe room in all new residential development.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$0	County, All Municipalities, Butler Co. EMA, Building/Planning Officials/Tornados, Hurricanes, Storms, Existing Buildings

f. Publicize information on locations of existing public shelters and when to use them.	\$2,500	County, All Municipalities, Red Cross, Butler Co. EMA, DHR/ Tornados, Hurricanes, Storms, Existing Buildings
<i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities		
<i>Progress:</i> EMA has worked with Red Cross to prepare and distribute such information		
Total	\$218,000	

Goal A: Promote natural hazard mitigation as a means to decrease loss of life, property damage and economic loss during a disaster occurrence.

Objective A-3: Develop and adopt, or amend, and enforce land use regulations and ordinances and modern building codes that support natural hazard mitigation efforts throughout Butler County.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Incorporate and enforce flood management provisions in all county and municipal land use and zoning ordinances and regulations; implement flood management program in McKenzie; Georgiana doesn't have building code.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> According to last records, all jurisdictions are participating in flood insurance program.</p>	\$0	County, All Municipalities, Building/Planning Officials/Flooding Hazard, Future Buildings
<p>b. Ensure that future land use and growth plans do not extend into flood plain areas;</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Greenville has adopted a new comprehensive plan, flood plain maps are being updated by ADECA.</p>	\$0	County, All Municipalities, ADECA, Building/Planning Officials/Flooding Hazard, Future Buildings
<p>c. Develop long-range growth and development plan for Butler County to address permitting and construction process in unincorporated areas; need building permitting and subdivision regulations.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide Unincorporated Communities</p> <p><i>Progress:</i> Greenville has updated all provisions and is the most developed part of the county.</p>	\$40,000	Federal, State, County, County Engineer/Planning Official/Funding Hazard, Future Buildings
<p>d. Adopt and enforce modern building codes (e.g., the 2003 International Building Code or the NFPA 5000) at the county and municipal levels.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Greenville is updating codes.</p>	\$0	County, All Municipalities, Building/Planning Officials/Flooding Hazard, Future Buildings
<p>e. Ensure that the Butler County Emergency Management Agency is involved in the review of all local future growth and development plans; EMA staff needs to be involved in land use plans, comprehensive plans, etc.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Greenville Comprehensive Plan is available to Butler Co. EMA through SCADC.</p>	\$12,500	County, All Municipalities, Building/Planning Officials, SCADC/Flooding, Future Buildings

f. Identify and obtain properties in floodplains to be used for greenways, open spaces, parks, trails, and other recreational activities; county has participated in flood buy-outs.	\$25,000	Federal, State, County, All Municipalities, All Municipal Recreation and Planning Officials, ADECA/Flooding Hazard, Future & Existing Buildings
<i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities		
<i>Progress:</i> Areas have been reviewed by EMA Director with plans to coordinate with GIS and flood plain update; will be coordinated with county trail plans.		
g. Promote and encourage the County and municipalities that are located in known floodplains, and that are not participating in and/or are sanctioned by FEMA's National Flood Insurance Program, to join/rejoin the NFIP	\$0	County & Municipal/Flooding Hazard, Future Buildings
Total	\$77,500	

Goal A: Promote natural hazard mitigation as a means to decrease loss of life, property damage and economic loss during a disaster occurrence.

Objective A-4: Implement fire protection measures to decrease potential for loss of life and property damage.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Develop and utilize zoning ordinances to manage development in urban fringe areas; Greenville, other cities should participate.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> All Municipalities</p>	\$0	Federal, State, County, Municipal, All Municipal Building/Planning Officials/Wildfires, Future Buildings
<p>b. Establish education program to provide information on methods to construct buffers and fire breaks on private property in wildland interface areas.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$0	Federal, State, County, Municipal, Butler Co. EMA, All County & Municipal Fire Protection Authorities/Wildfires, Existing Buildings
<p>c. Support Alabama Forestry Commission efforts to help educate private landowners to protect their own and other's property through construction of fire lanes and fire breaks on forested property, making landowners aware of both their responsibility and liability.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$0	County, Municipal, Butler Co. EMA, All Municipal Fire Protection Authorities, All Municipal Building/Planning Officials/Wildfires, Existing Buildings
Total	\$0	

Goal A: Promote natural hazard mitigation as a means to decrease loss of life, property damage and economic loss during a disaster occurrence.

Objective A-5: Limit impact of heat and drought on human health, property damage and agricultural losses	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Work with the County and municipalities to implement public awareness and education efforts about water conservation and water quality;</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Drilling for additional well is underway.</p>	\$0	County, Municipal, Butler Co. EMA, Water Suppliers/Heat-Drought, Existing Buildings
<p>b. Work with Butler County medical providers to develop emergency supplies and education program.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Hospital currently doing this.</p>	\$0	County, Municipal, Butler Co. EMA, County Health Dept., Medical Providers/Heat-Drought, Existing Buildings
<p>c. Work with Butler County Farm Service Agency and County Extension Service to establish a drought information center.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Information being published by Extension office.</p>	\$0	Federal, State, County, Municipal/Heat-Drought, Existing Buildings
<p>d. Develop a drought and heat indicator plan and warning system that includes a response strategy.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$0	State, County, Municipal Butler Co. EMA, Butler County Farm Service Agency, County Extension Service/Heat-Drought, Existing Buildings
<p>e. Develop print public service announcements; public service/announcements need to be consistent.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> This is being worked on as recommendation under Action A-5-c</p>	\$2,500	State, County, Municipal Butler Co. EMA, Butler County Farm Service Agency, County Extension Service/Heat-Drought, Existing Buildings
Total	\$2,500	

Goal A: Promote natural hazard mitigation as a means to decrease loss of life, property damage and economic loss during a disaster occurrence.

Objective A-6: Improve infrastructural facilities and remove at-risk commercial and residential buildings to limit the impact of natural hazard events.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Identify roads that require elevation and paving, and that have a high potential for flooding and/or washing during flood events, to provide access and limit erosion and sedimentation; needs to include flood control; the county has initiated a program.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> As reflected in the 2006 amendment to the Hazard Mitigation Plan</p>	\$0	State, County, Municipal, All Municipal Road Depts./Flood Hazard, Existing Buildings
<p>b. Continue bridge inspection and improvement efforts to prevent washing and/or failure during flood events.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> The county has ongoing routine maintenance program and Butler County is participating in Rural Transportation Plan.</p>	\$7,000,000	Federal, State, County, Municipal, All Municipal Road Depts./All Hazards, Existing Buildings
<p>c. Maintain all county and municipal roads and roadways to allow constant access for emergency response, recovery and repair, and continuity of delivery services at eight roads per year; include state bridge funds. (see appendix to this plan update)</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> County Unincorporated Communities</p>	\$5,000,000	Federal, State, County, State and County Road Depts./All Hazards, Existing Buildings
<p>d. Utilize AEMA Flood Relocation Program and other appropriate FEMA and/or AEMA programs to remove at-risk commercial and residential structures from flood prone and other natural hazard areas, if necessary in the future.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$500,000	Federal, State, County, Municipal, Butler Co. EMA, All Municipal Engineers/All Hazards, Existing Buildings
Total	\$12,500,000	

Goal A: Promote natural hazard mitigation as a means to decrease loss of life, property damage and economic loss during a disaster occurrence.

Objective A-7: Investigate, prepare, and provide for mitigation and emergency services and activities before, during, and after a disaster event.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazards
<p>a. Investigate need for emergency water supply during disaster events; purchase additional generators.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Additional well is being added to the water system.</p>	\$0	State, County, Municipal, Water Suppliers, Butler Co. EMA/All Hazards, Existing Buildings
<p>b. Limit non-critical water consumption during severe drought conditions; need additional water capacity to include fire fighting.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>		
<p>c. Conduct inventory of the county’s emergency response services to identify any existing needs or shortfalls in terms of personnel, equipment, or required resources.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> This is being coordinated with EMA Operations, planning and pandemic flu planning.</p>	\$0	County, Municipal, Butler Co. EMA, All Emergency Services Agencies In County/ All Hazards, Existing Buildings
<p>d. Coordinate hazard mitigation with pandemic and health department provisions for emergency preparedness</p> <p><i>Progress:</i> Such coordination is already on going.</p>		

Goal B: Provide on-going support of the Butler County Emergency Management efforts to make Butler County less vulnerable to natural disasters

Objective B-1: Ensure that the Butler County Hazard Mitigation Plan remains current and is implemented.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Update the Butler County Hazard Mitigation Plan every five years as required by regulations; include updated strategies and actions for specific jurisdictions.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$7,000	Federal, State, County, Butler Co. EMA, LEPC/All hazards, Existing Buildings
<p>b. Communicate with the general public at least annually to provide a status report of the plan and any project or programs that are a result of the plan and its implementation.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Ongoing broad based communication through EMA operations is accomplishing part of this.</p>	\$13,500	County, Butler Co. EMA/All hazards, existing buildings
<p>c. Municipalities should provide local human resources or other resources, such as materials and supplies, to assist in implementation of the Butler County Hazard Mitigation Plan and its regular update.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> This is being partly addressed through regular LEPC meetings.</p>	\$25,000	All Municipalities/All hazards, existing buildings
<p>d. Investigate the need and feasibility of establishing a local reserve fund for repairing and/or incorporating hazard mitigation measures for public and private facilities and infrastructure that are at risk of being damaged or have been damaged by natural hazards.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$0	County, Municipal, County Commission, All Municipal Councils, Private/All hazards, existing buildings
<p>e. Continue to research and provide hazard mitigation, emergency preparedness, and disaster recovery grant writing and/or administration services for available grant and loan programs (e.g., AFGP, FMA, HMGP, PDM, etc).</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$0	County, Municipal, Butler Co. EMA, County Commission/All hazards, existing buildings
<p>f. Investigate the need for and acquire emergency electrical power generation equipment to provide back-up emergency electrical power to critical facilities; consider FEMA fire fighting grants; standby ---- Wilson and see what he is going to do; add pure water system for the city.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$150,000	Federal, State, County, Municipal, Butler Co. EMA, County Commission/All hazards, existing buildings
Total	\$194,500	

Goal B: Provide on-going support of the Butler County Emergency Management efforts to make Butler County less vulnerable to natural disasters

Objective B-2: Improve coordination and communication between emergency response organizations and highly vulnerable entities.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Designate a central emergency coordinator in each municipality and community to better facilitate communications with the Butler County Emergency Management Agency.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> Discussions are ongoing, with emphasis on volunteer coordination.</p>	\$0	County, Municipal, County Commission, All Municipal Councils/Mayors/All hazards, Existing Buildings
<p>b. Provide for incident command training for the local emergency coordinators and other responders.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$2,000	Federal, State, County, Municipal, Butler Co. EMA/All hazards, Existing Buildings
<p>c. Develop an on-going cycle to provide regular updates to the Butler County Commission, municipal councils, fire protection and law enforcement officials, utility boards, and other emergency responders.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> This being partly accomplished through regular LEPC meetings.</p>	\$7,500	County, Butler Co. EMA/All hazards, existing buildings
<p>d. Continue to include coordination of hazard mitigation planning with pandemic and other Health Department planning through LEPC.</p>	\$0	Butler Co. EMPA, LEPC, Health Department/ All hazards, existing builds
Total	\$9,500	

Goal B: Provide on-going support of the Butler County Emergency Management efforts to make Butler County less vulnerable to natural disasters

Objective B-3: Enhance the County’s and municipalities’ capability to conduct further hazard risk assessments, better demonstrate funding needs, and track mitigation activities throughout the county.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Continue to identify the County’s most at-risk critical facilities, and evaluate the potential mitigation techniques and activities for protecting each facility to the maximum extent possible.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$0	County, Municipal, All Utilities, Butler Co. EMA, LEPC, All County Depts., All Municipal Depts./ All hazards, existing buildings
<p>b. Incorporate (or continue) development of a Geographic Information System (GIS) to maintain current cadastral and spatial data for purposes of inventorying critical facilities and infrastructure, conducting more detailed hazard risk assessments, and for tracking permitting and land use patterns; coordinate with Revenue Departments new mapping, including Virtual Alabama; map updates by Department of Revenue; Pandemic planning in progress</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>		
Total	\$176,000	

Goal C: Educate general population about natural hazards and hazard mitigation options.

Objective C-1: Establish and implement hazard mitigation public awareness program.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/Hazard
<p>a. Cooperate and coordinate with various agencies and entities to assist with distribution of information and materials, including the Greenville Area Chamber of Commerce, LBW Community College, DHR, Butler County Board of Education, churches, municipalities, etc.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p> <p><i>Progress:</i> County currently implementing in all school classes and masters in disaster grant.</p>	\$2,500	County, Municipal, Butler Co. EMA, Private, Listed entities/All hazards, existing buildings
<p>b. Develop a portable information booth for display at local fairs and public events to distribute materials.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide</p> <p><i>Progress:</i> EMA is using an internal display for this purpose.</p>	\$5,500	County, Municipal, Butler Co. EMA/ All hazards, existing buildings
<p>c. Create and distribute magnets that list all emergency contact information of local responding agencies; coordinate with Red Cross; magnets, buttons distributed through Red Cross.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide</p>	\$2,500	County, Municipal, Butler Co. EMA, Private/ All hazards, existing buildings
Total	\$10,500	

Goal C: Educate general population about natural hazards and hazard mitigation options.

Objective C-2: Establish and promote disaster prevention education programs, utilizing all forms of media (e.g., print, TV, internet websites – government and related non-governmental) to help distribute information and materials.	Estimated Cost Over 5 Years	Funding Source
		Responsible Agency/ Hazard
<p>a. Investigate working with Butler County Extension System to develop adult training/certification courses on land management (best management practices) to decrease property damage during natural disaster events.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>		County, USDA, Butler Co. EMA/ All hazards, Existing buildings
<p>b. Develop broadcast public service announcements for airing on local television</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$15,000	County, Municipal, Butler Co. EMA/ All hazards, existing buildings
<p>c. Develop print public service announcements for publication in local newspaper and agency newsletters.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$2,500	County, Municipal, Butler Co. EMA/ All hazards, existing buildings
<p>d. Develop information website with links from Butler County Commission and municipal websites; coordinate with Economic Development web-site.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$4,400	County, Municipal, Butler Co. EMA, Private/ All hazards, existing buildings
<p>e. Incorporate hazard awareness and mitigation into the curricula of local schools.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$7,000	State, County, Butler Co. Board of Education/ All hazards, existing buildings
<p>f. Develop coloring and activity books at four appropriate age levels for widespread annual distribution.</p> <p><i>Geographic Beneficiaries & Jurisdictions:</i> Countywide and All Municipalities</p>	\$6,500	Federal, State, County, Municipal, Butler Co. EMA, Butler Co. Board of Education / All hazards, existing buildings
Total	\$35,400	

Butler County Hazard Mitigation Plan Five-Year Cost Summary

The cost summary of Hazard Mitigation Plan actions has been upgraded and updated to 2009. The following chart reflects current costs for the next five year period.

Mitigation Objective	FY 08-09	FY 09-10	FY 10-11	FY 11-12	FY 12-13
A-1.Establish full warning system.	\$109,000	\$124,000	\$124,000	\$124,000	\$124,000
A-2 Ensure adequate protection shelters	\$44,000	\$43,500	\$43,500	\$43,500	\$43,500
A-3 Regulations to support hazard mitigation	\$27,500	\$27,500	\$7,500	\$ 7,500	\$7,500
A-4 Fire protection measures	\$0	\$0	\$0	\$0	\$0
A-5. Limit impact of heat and drought	\$500	\$500	\$500	\$500	\$500
A-6 Improve Infrastructure/ Remove buildings	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000	\$2,500,000
A-7 Emergency services	\$0	\$0	\$0	\$0	\$0
B-1 Implementation of Hazard Mitigation Plan	\$75,000	\$75,000	\$15,000	\$15,000	\$15,000
B-2 Coordination/ Communication among emergency agencies	\$1,900	\$1,900	\$1,900	\$1,900	\$1,900
B-3 Assessment Capability	\$40,000	\$34,000	\$34,000	\$34,000	\$34,000
C-1 Public awareness program	\$1,000	\$1,000	\$1,000	\$6,000	\$1,500
C-2 Disaster prevention education programs	\$1,400	\$4,000	\$11,000	\$9,000	\$10,000
Total	\$2,800,300	\$2,811,400	\$2,738,400	\$2,741,400	\$2,737,900.0
Grand Total					\$13,829,400

**Note: Amounts need to be updated in next update, based on new number and inflation..*

5.2 BUTLER COUNTY HAZARD MITIGATION PLAN ACTION PRIORITIZATION

The priorities for mitigation plan implementation have been reviewed with the LEPC and the following chart has been updated to 2009. The LEPC specifically reviewed the priorities outlined in the original plan and considered (1) new information and hazard events (2) updated progress since the last plan (3) ongoing planning in the county and jurisdictions and (4) the general costs associated with the various actions.

In considering the appropriate precedence of mitigation activities to undertake, the Butler County LEPC reviewed the hazard profiles and prioritization, and the hazard risk assessment and vulnerability analysis. Though no formal cost-benefit analyses were conducted for each of the proposed mitigation actions, the LEPC did consider a variety of factors such as social impact, technical feasibility, financial costs, administrative capabilities, possible political and legal effects, as well as other issues. It was determined by the LEPC that all of the proposed actions would benefit citizens of Butler County and each of its municipalities. It was also decided that formal cost-benefit evaluations for specific actions should be completed when and if required (e.g., when applying for certain FEMA grant funds). Following this review and discussion, the following prioritization proposal was completed by the LEPC in order to assist the jurisdictions with the implementation of the Plan. Please note the status column indications the targeted completion date for the action. The designation of continuous indicated the actions is ongoing.

Mitigation Objective & Action	Hazard	Priority	Status
A-1. Establish full warning system			
A-1-a. Installation of warning sirens	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-1-b. Designate a central emergency coordinator in each community	All	High	July 1, 2009
A-1-c. Warning signage for forest fires.	All	High	October 1, 2010
A-1-d. Investigate phone messaging system.	All	High	January 1, 2010
A-2. Ensure adequate protection shelters			
A-2-a. Maintain & expand existing shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-b. Designate and upgrade/retrofit existing public facilities to shelter capability	Tornados, Hurricanes/Tropical Storms, Severe Storms	Moderate	Ongoing
A-2-c. Investigate Construction of new shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	Low	Continuous
A-2-d. Secure funds for private shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-e. Work with builders to promote safe rooms	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-f. Publicize shelters	All	High	Continuous

A-3 Regulations to support hazard mitigation			
A-3-a. Incorporate and enforce flood management provisions in all county and municipal regulations and ordinances	Flooding	High	Continuous
A-3-b. Ensure future land use plans do not extend into floodplains.	Flooding	High	Continuous
A-3-c. Develop long-range plan to address permitting and construction in unincorporated areas	All	Moderate	October 1, 2010
A-3-d. Adopt and enforce modern building codes	All	High	October 1, 2011
A-3-e. Butler Co. EMA involvement in future development plans	All	Moderate	Continuous
A-3-f. Acquisition of properties in floodplains	Flooding	High	Continuous
A-4. Fire protection measures			
A-4-a. Develop and utilize zoning ordinances in urban fringe areas	Wildfires	High	Continuous
A-4-b. Education program on fire buffers and breaks	Wildfires	Moderate	Continuous
A-4-c. Support Alabama Forestry Commission education efforts	Wildfires	Moderate	Continuous
A-5. Limit impact of heat and drought			
A-5-a. Implement water conservation and water quality education	Extreme Heat/Drought	Moderate	Continuous
A-5-b. Work with medical providers to develop emergency supplies and education program	Extreme Heat/Drought, All	High	October 1, 2009
A-5-c. Work with Butler Co. Farm Agency and County Ext. Svc. To est. a drought information center	Extreme Heat/Drought	High	October 1, 2009
A-5-d. Develop a drought plan and warning system	Extreme Heat/Drought	High	October 1, 2010
A-5-e. Develop print PSAs	Extreme Heat/Drought	Moderate	Continuous

A-6 Improve infrastructure			
A-6-a. Identify roads that are at risk of flood damage	Flooding	Moderate	Continuous
A-6-b. Continue bridge inspections and improvements	All	High	Continuous
A-6-c. Maintain all county roads for emergency services	All	High	Continuous
A-6-d. Buy-out and relocation activities	All	High	Continuous
A-7 Emergency services			
A-7-a. Investigate need for emergency water supply during disasters	All	Moderate	Continuous
A-7-b. Limit non-critical water consumption during droughts	Extreme Heat/Drought	Moderate	Continuous
A-7-c. Inventory emergency response services and assess needs	All	High	October 1, 2009
A-7-d. Establish local reserve funds	All	High	October 1, 2010
A-7-e. Provide grant services	All	Moderate	Continuous
A-7-f. Assess need for and acquire emergency generators	All	High	Continuous
B-1. Implementation of Hazard Mitigation Plan			
B-1-a. Update Butler Co. Haz. Mit. Plan every five years	All	Moderate	October 1, 2010
B-1-b. Provide annual public reports on the status of the Plan's implementations	All	Moderate	Continuous
B-1-c. Municipalities to provide assistance for implementing Plan	All	High	Continuous
B-2 Coordination/Communication among emergency agencies			
B-2-a. Designate a central emergency coordinator in each community	All	High	July 1, 2009
B-2-b. Provide for incident command training	All	High	Continuous
B-2-c. Develop a system of providing regular updates to appropriate entities in the County	All	Moderate	Continuous

B-3 Assessment Capability			
B-3-a. Continue identifying critical facilities and evaluate mitigation techniques for each	All	High	Continuous
B-3-b. Incorporate/develop a GIS	All	High	Continuous
C-1 Public awareness program			
C-1-a. Coordinate with other entities to distribute information	All	Moderate	Continuous
C-1-b. Develop information booth	All	Moderate	June 1, 2010
C-1-c. Create and distribute magnets	All	Moderate	Continuous
C-2 Disaster prevention education programs			
C-2-a. Develop land management course/training with the County Ext. Sys.	All	Moderate	June 1, 2010
C-2-b. Develop broadcast PSAs	All	Moderate	June 1, 2010
C-2-c. Develop print PSAs	All	Moderate	June 1, 2010
C-2-d. Butler Co. EMA website	All	Moderate	June 1, 2010
C-2-e. Incorporate hazard mitigation into local schools	All	Moderate	June 1, 2010
C-2-f. Coloring and activity books	All	Low	June 1, 2010

5.3 GREENVILLE ACTION ITEMS

Mitigation Objective & Action	Hazard	Priority	Status
A-1, Establish full warning system			
A-1-a. Installation of warning sirens	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	October 1, 2010
A-1-b. Designate a central emergency coordinator in each community	All	High	June 1, 2010
A-1-c. Warning signage for forest fires.	All	High	October 1, 2010
A-1-d. Investigate phone messaging system.	All	High	June 1, 2010
A-2. Ensure adequate protection shelters			
A-2-a. Maintain & expand existing shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-b. Designate and upgrade/retrofit existing public facilities to shelter capability	Tornados, Hurricanes/Tropical Storms, Severe Storms	Moderate	Continuous
A-2-c. Investigate Construction of new shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	Low	June 1, 2010
A-2-d. Secure funds for private shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-e. Work with builders to promote safe rooms	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-f. Publicize shelters	All	High	June 1, 2010
A-3 Regulations to support hazard mitigation			
A-3-a. Incorporate and enforce flood management provisions in all municipal regulations and ordinances	Flooding	High	Continuous
A-3-b. Ensure future land use plans do not extend into floodplains.	Flooding	High	Continuous
A-3-c. Develop long-range plan to address permitting and construction in unincorporated areas	All	Moderate	October 1, 2010
A-3-d. Adopt and enforce modern building codes	All	High	June 1, 2010
A-3-e. Acquisition of properties in floodplains	Flooding	High	Continuous

A-4. Fire protection measures			
A-4-a. Develop and utilize zoning ordinances in urban fringe areas	Wildfires	High	October 1, 2010
A-4-b. Education program on fire buffers and breaks	Wildfires	Moderate	Continuous
A-4-c. Support Alabama Forestry Commission education efforts	Wildfires	Moderate	Continuous
A-5. Limit impact of heat and drought			
A-5-a. Implement water conservation and water quality education	Extreme Heat/Drought	Moderate	October 1, 2010
A-5-b. Work with medical providers to develop emergency supplies and education program	Extreme Heat/Drought, All	High	October 1, 2010
A-6 Improve infrastructure			
A-6-a. Identify roads that are at risk of flood damage	Flooding	Moderate	October 1, 2010
A-6-b. Continue bridge inspections and improvements	All	High	October 1, 2010
A-7 Emergency services			
A-7-a. Investigate need for emergency water supply during disasters	All	Moderate	October 1, 2010
A-7-b. Limit non-critical water consumption during droughts	Extreme Heat/Drought	Moderate	Continuous
A-7-c. Inventory emergency response services and assess needs	All	High	October 1, 2010
A-7-d. Establish local reserve funds	All	High	Continuous
A-7-e. Provide grant services	All	Moderate	October 1, 2010
A-7-f. Assess need for and acquire emergency generators	All	High	October 1, 2010

B-1. Implementation of Hazard Mitigation Plan			
B-1-a. Provide assistance for implementing Plan	All	High	Continuous
B-2 Coordination/Communication among emergency agencies			
B-2-a. Designate a central emergency coordinator	All	High	June 1, 2010
B-2-b. Provide for incident command training	All	High	Continuous
B-2-c. Develop a system of providing regular updates to appropriate entities in the County	All	Moderate	June 1, 2010
B-3 Assessment Capability			
B-3-a. Continue identifying critical facilities and evaluate mitigation techniques for each	All	High	Continuous
B-3-b. Incorporate/develop a GIS	All	High	Continuous
C-1 Public awareness program			
C-1-a. Coordinate with other entities to distribute information	All	Moderate	Continuous
C-2 Disaster prevention education programs			
C-2-a. Develop land management course/training with the County Ext. Sys.	All	Moderate	Continuous
C-2-b. Develop broadcast PSAs	All	Moderate	June 1, 2010
C-2-c. Develop print PSAs	All	Moderate	June 1, 2010
C-2-d. Incorporate hazard mitigation into local schools	All	Moderate	October 1, 2010
C-2-e. Coloring and activity books	All	Low	October 1, 2010

5.4 MCKENZIE ACTION ITEMS

Mitigation Objective & Action	Hazard	Priority	Status
A-1, Establish full warning system			
A-1-a. Installation of warning sirens	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-1-b. Designate a central emergency coordinator in each community	All	High	June 1, 2010
A-1-c. Warning signage for forest fires.	All	High	October 1, 2010
A-1-d. Investigate phone messaging system.	All	High	June 1, 2010
A-2. Ensure adequate protection shelters			
A-2-a. Maintain & expand existing shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-b. Designate and upgrade/retrofit existing public facilities to shelter capability	Tornados, Hurricanes/Tropical Storms, Severe Storms	Moderate	Continuous
A-2-c. Investigate Construction of new shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	Low	Continuous
A-2-d. Secure funds for private shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-e. Work with builders to promote safe rooms	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	October 1, 2010
A-2-f. Publicize shelters	All	High	June 1, 2010
A-3 Regulations to support hazard mitigation			
A-3-a. Incorporate and enforce flood management provisions in municipal regulations and ordinances	Flooding	High	Continuous
A-3-b. Ensure future land use plans do not extend into floodplains.	Flooding	High	Continuous
A-3-c. Develop long-range plan to address permitting and construction	All	Moderate	June 1, 2010
A-3-d. Adopt and enforce modern building codes	All	High	June 1, 2010
A-3-e. Acquisition of properties in floodplains	Flooding	High	Continuous

A-4. Fire protection measures			
A-4-a. Develop and utilize zoning ordinance in urban fringe areas	Wildfires	High	October 1, 2010
A-4-b. Education program on fire buffers and breaks	Wildfires	Moderate	June 1, 2010
A-4-c. Support Alabama Forestry Commission education efforts	Wildfires	Moderate	Continuous
A-5. Limit impact of heat and drought			
A-5-a. Implement water conservation and water quality education	Extreme Heat/Drought	Moderate	Continuous
A-5-b. Work with medical providers to develop emergency supplies and education program	Extreme Heat/Drought, All	High	Continuous
A-5-c. Work with Butler Co. Farm Agency and County Ext. Svc. To est. a drought information center	Extreme Heat/Drought	High	October 1, 2010
A-5-d. Develop a drought plan and warning system	Extreme Heat/Drought	High	June 1, 2010
A-5-e. Develop print PSAs	Extreme Heat/Drought	Moderate	June 1, 2010
A-6 Improve infrastructure			
A-6-a. Identify roads that are at risk of flood damage	Flooding	Moderate	October 1, 2010
A-6-b. Continue bridge inspections and improvements	All	High	Continuous
A-6-c. Buy-out and relocation activities	All	High	Continuous
A-7 Emergency services			
A-7-a. Investigate need for emergency water supply during disasters	All	Moderate	October 1, 2010
A-7-b. Limit non-critical water consumption during droughts	Extreme Heat/Drought	Moderate	October 1, 2010
A-7-c. Inventory emergency response services and assess needs	All	High	October 1, 2010
A-7-d. Establish local reserve funds	All	High	October 1, 2010
A-7-e. Provide grant services	All	Moderate	Continuous
A-7-f. Assess need for and acquire emergency generators	All	High	June 1, 2010

B-1. Implementation of Hazard Mitigation Plan			
B-1-a. Provide assistance for implementing Plan	All	High	Continuous
B-2 Coordination/Communication among emergency agencies			
B-2-a. Designate a central emergency coordinator	All	High	June 1, 2010
B-2-b. Provide for incident command training	All	High	Continuous
B-2-c. Develop a system of providing regular updates to appropriate entities in the County	All	Moderate	June 1, 2010
B-3 Assessment Capability			
B-3-a. Continue identifying critical facilities and evaluate mitigation techniques for each	All	High	Continuous
B-3-b. Incorporate/develop a GIS	All	High	October 1, 2010
C-1 Public awareness program			
C-1-a. Coordinate with other entities to distribute information	All	Moderate	October 1, 2010
C-2 Disaster prevention education programs			
C-2-a. Develop land management course/training with the County Ext. Sys.	All	Moderate	Continuous
C-2-b. Develop broadcast PSAs	All	Moderate	June 1, 2010
C-2-c. Develop print PSAs	All	Moderate	June 1, 2010

5.5 GEORGIANA ACTION ITEMS

Mitigation Objective & Action	Hazard	Priority	Status
A-1, Establish full warning system			
A-1-a. Installation of warning sirens	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-1-b. Designate a central emergency coordinator in each community	All	High	June 1, 2010
A-1-c. Warning signage for forest fires.	All	High	October 1, 2010
A-1-d. Investigate phone messaging system.	All	High	June 1, 2010
A-2. Ensure adequate protection shelters			
A-2-a. Maintain & expand existing shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-b. Designate and upgrade/retrofit existing public facilities to shelter capability	Tornados, Hurricanes/Tropical Storms, Severe Storms	Moderate	Continuous
A-2-c. Investigate Construction of new shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	Low	Continuous
A-2-d. Secure funds for private shelters	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	Continuous
A-2-e. Work with builders to promote safe rooms	Tornados, Hurricanes/Tropical Storms, Severe Storms	High	October 1, 2010
A-2-f. Publicize shelters	All	High	June 1, 2010
A-3 Regulations to support hazard mitigation			
A-3-a. Incorporate and enforce flood management provisions in all municipal regulations and ordinances	Flooding	High	October 1, 2010
A-3-b. Ensure future land use plans do not extend into floodplains.	Flooding	High	Continuous
A-3-c. Develop long-range plan to address permitting and construction	All	Moderate	October 1, 2010
A-3-d. Adopt and enforce modern building codes	All	High	October 1, 2010
A-3-e. Acquisition of properties in floodplains	Flooding	High	Continuous

A-4. Fire protection measures			
A-4-a. Develop and utilize zoning ordinances in urban fringe areas	Wildfires	High	October 1, 2010
A-4-b. Education program on fire buffers and breaks	Wildfires	Moderate	June 1, 2010
A-4-c. Support Alabama Forestry Commission education efforts	Wildfires	Moderate	Continuous
A-5. Limit impact of heat and drought			
A-5-a. Implement water conservation and water quality education	Extreme Heat/Drought	Moderate	Continuous
A-5-b. Work with medical providers to develop emergency supplies and education program	Extreme Heat/Drought, All	High	Continuous
A-5-c. Work with Butler Co. Farm Agency and County Ext. Svc. To est. a drought information center	Extreme Heat/Drought	High	June 1, 2010
A-5-d. Develop a drought plan and warning system	Extreme Heat/Drought	High	June 1, 2010
A-5-e. Develop print PSAs	Extreme Heat/Drought	Moderate	June 1, 2010
A-6 Improve infrastructure			
A-6-a. Identify roads that are at risk of flood damage	Flooding	Moderate	October 1, 2010
A-6-b. Continue bridge inspections and improvements	All	High	Continuous
A-7 Emergency services			
A-7-a. Investigate need for emergency water supply during disasters	All	Moderate	October 1, 2010
A-7-b. Limit non-critical water consumption during droughts	Extreme Heat/Drought	Moderate	October 1, 2010
A-7-c. Inventory emergency response services and assess needs	All	High	October 1, 2010
A-7-d. Establish local reserve funds	All	High	October 1, 2010
A-7-e. Provide grant services	All	Moderate	Continuous
A-7-f. Assess need for and acquire emergency generators	All	High	October 1, 2010

B-1. Implementation of Hazard Mitigation Plan			
B-1-a. Provide assistance for implementing Plan	All	High	Continuous
B-2 Coordination/Communication among emergency agencies			
B-2-a. Designate a central emergency coordinator	All	High	June 1, 2010
B-2-b. Provide for incident command training	All	High	Continuous
B-3 Assessment Capability			
B-3-a. Continue identifying critical facilities and evaluate mitigation techniques for each	All	High	October 1, 2010
B-3-b. Incorporate/develop a GIS program	All	High	October 1, 2010
C-1 Public awareness program			
C-1-a. Coordinate with other entities to distribute information	All	Moderate	Continuous
C-2 Disaster prevention education programs			
C-2-a. Develop land management course/training with the County Ext. Sys.	All	Moderate	Continuous
C-2-b. Develop broadcast PSAs	All	Moderate	June 1, 2010
C-2-c. Develop print PSAs	All	Moderate	June 1, 2010

CHAPTER 6

PLAN MAINTENANCE AND REVIEW

The *Butler County Natural Hazard Mitigation Plan* was developed with the guidance of the Butler County Local Emergency Planning Committee so that the committee would be aware of the plan and its contents and, therefore, could ensure its ongoing implementation, review and amendment, as necessary. The Butler County LEPC is a standing committee comprised of members representing each of the local governments located in Butler County, along with public and private representatives that have a vital stake in emergency management. The Butler County LEPC will meet on a regular basis for other emergency management matters. The continued review and update of the *Butler County Natural Hazard Mitigation Plan* shall become an additional responsibility of the Butler County LEPC.

The plan is developed on a five-year time frame. It is intended to be reviewed on an annual basis for any necessary amendments, and to undergo a major review and update every five years. In this way, Butler County will have an ongoing mitigation plan and process.

The Butler County EMA staff will continue to serve as the LEPC's facilitator responsible for holding regularly scheduled meetings, assigning specific tasks necessary to monitor and update the plan to Committee members, and serving as the Committee's liaison with those assigned implementation responsibilities. The facilitator will also serve as the Committee's liaison with participating municipalities and the County Commission. New committee members may be nominated by the EMA Director and then approved by the entire committee.

After the initial *Butler County Natural Hazard Mitigation Plan* is finalized and adopted, the LEPC shall meet at least once per year to review and update the plan, as necessary.

- Each member or a designated alternate must attend at least one meeting a year.
- A list of completed and ongoing mitigation projects will be reviewed at each meeting.
- Previously implemented mitigation actions will be evaluated for effectiveness.
- There will be an update on the status of current mitigation projects.
- Changing land use patterns and new developments will be addressed.
- Any additions or changes in risk assessment and/or risk vulnerability will be identified.
- Any other concerns will be addressed, possible future mitigation plans discussed, and any new projects will be adopted by signed resolution.

The facilitator will schedule the meetings at a time and location convenient to all of the LEPC members. All meetings will be advertised in the local newspaper and open to the public for their comments and suggestions.

In the event that modifications to the plan are required, the LEPC will oversee, recommend, and/or approve all revisions and amendments to the Butler County Natural Hazards Mitigation Plan. The LEPC will then submit all revisions, except for mitigation projects or activities not of a countywide nature, for adoption (via signed resolutions) by all of the jurisdictions. Any new projects (developed and/or proposed prior to the first five-year and between subsequent five-year major updates), not of a countywide nature, will be added to the Butler County Natural Hazards Mitigation Plan upon recommendation of the LEPC and adoption (via signed resolution) by the appropriate governing body where the proposed project is to be located. A copy of and/or access to any and all adopted plan revisions will be provided to all LEPC members, the County Commission, and each of the municipalities.

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 Federal planning criteria in effect at the time of the update. The updated plan will again be submitted to the AEMA and FEMA for approval.

Implementation of the plan will be the responsibility of a number of local governments and agencies. For this reason, two public workshops were held to inform citizens about the contents of the plan. For each mitigation action item, a responsible agency has been identified. Furthermore, the implementation of the action items was outlined by year for the first five years. The Butler County Emergency Management Agency will coordinate implementation efforts with each of the local governments and with other agencies as necessary.

A critical part of maintaining an effective and relevant natural hazard mitigation plan is ongoing public review and comment. The LEPC is dedicated to direct involvement of its citizens in providing input on the plan throughout the five-year implementation cycle.

A hard copy of the plan will be available for viewing at all appropriate agencies throughout Butler County, at minimum to include: the Butler County Emergency Management Agency office, the Butler County Clerk's office, the offices of the Clerks of each municipality, and County or municipal government websites, if available. 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 LEPC. The public will be able to express their ideas, concerns, and opinions at the meetings. At a minimum, two 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.

If deemed appropriate by the Coordinator of the Butler County Emergency Management Agency and once adopted, this plan shall be considered as an Annex to the Butler County Emergency Operations Plan, which is administered through the Butler County Emergency Management

Agency office. In addition to adopting the Butler County Natural Hazards Mitigation Plan in its entirety, it is recommended that each adopting jurisdiction incorporate this plan or its elements into their own respective existing or future planning documents, if and when appropriate. Examples of such existing or future planning documents may include, but are not limited to: countywide or municipal comprehensive and/or land use plans and regulations/ordinances; countywide or municipal floodplain management plans; countywide or municipal capital improvement plans and budgets; and any other county or municipal disaster, readiness, and/or contingency plans. The process and/or procedure used by each jurisdiction in adopting and incorporating the Butler County Natural Hazards Mitigation Plan or its elements into their own planning documents shall be the same as that delineated in the Code of Alabama and any applicable local ordinances and regulations. The Butler County EMA staff and/or the planning staff of the South Central Alabama Development Commission will provide technical assistance when requested.

The Plan Maintenance and Review chapter of the *Butler County Natural Hazard Mitigation Plan* (as found in the last FEMA approved version dated March 2005) is hereby amended to include the following language:

“In the event that emergency modifications to the plan are required **and** if Butler county and/or any of the jurisdiction located therein are involved in an active disaster declaration at the time emergency modifications are needed, and if the LEPC is unable to meet in a timely fashion and prior to any AEMA and/or FEMA deadlines in order to conduct the revision and amendment process outlined in the immediately preceding paragraph above, then the Butler County EMA Coordinator may recommend revisions and amendments to the Butler County Natural Hazards Mitigation Plan. The Butler County EMA Coordinator will then submit any emergency revisions, except for mitigation projects or activities not of a countywide nature, for written approval of the Butler County Commission. The written approval of just the Chairperson of the Butler County Commission is acceptable if (1) the membership of the County Commission is unable to meet in a timely fashion and prior to any AEMA and/or FEMA deadlines, **and** (2) assuming that proposed revisions do not require or involve local financial commitments or expenditures. Any emergency projects or activities, not of a countywide nature, will be added to the *Butler County Natural Hazard Mitigation Plan* upon recommendation of the Butler County EMA Coordinator and written approval by the appropriate municipal council where the proposed project or activity is to be located. The written approval of just the mayor of the municipality is acceptable if (1) the membership of the respective municipal council is unable to meet in a timely fashion and prior to any AEMA and/or FEMA deadlines, **and** (2) assuming that the proposed revisions do not require or involve any local financial commitments or expenditures. If any emergency modifications to the plan are required and are adopted or approved without the express approval (either via signed resolutions or letters of approval) of the memberships of the appropriate governing bodies, the said governing bodies may reserve the right to express their approval and adoption via a later vote.”

6.1 SUMMARY OF ACTION ITEMS BY JURISDICTION

Mitigation Objective & Action	Butler County	Greenville	Georgiana	McKenzie
A-1, Establish full warning system				
A-1-a. Installation of warning sirens	X			
A-1-b. Designate a central emergency coordinator in each community	X	X	X	X
A-1-c. Warning signage for forest fires.	X			
A-1-d. Investigate phone messaging system.	X			
A-2. Ensure adequate protection shelters				
A-2-a. Maintain & expand existing shelters	X	X	X	X
A-2-b. Designate and upgrade/retrofit existing public facilities to shelter capability	X	X	X	X
A-2-c. Investigate Construction of new shelters	X	X	X	X
A-2-d. Secure funds for private shelters	X			
A-2-e. Work with builders to promote safe rooms	X	X	X	X
A-2-f. Publicize shelters	X			
A-3 Regulations to support hazard mitigation				
A-3-a. Incorporate and enforce flood management provisions in all county and municipal regulations and ordinances	X	X	X	X
A-3-b. Ensure future land use plans do not extend into floodplains.	X	X	X	X
A-3-c. Develop long-range plan to address permitting and construction in unincorporated and unincorporated areas	X	X	X	X
A-3-d. Adopt and enforce modern building codes	X	X	X	X
A-3-e. Butler Co. EMA involvement in future development plans	X	X	X	X
A-3-f. Acquisition of properties in floodplains	X			

Mitigation Objective & Action	Butler County	Greenville	Georgiana	McKenzie
A-4. Fire protection measures				
A-4-a. Develop and utilize zoning ordinances in urban fringe areas	X	X	X	X
A-4-b. Education program on fire buffers and breaks	X			
A-4-c. Support Alabama Forestry Commission education efforts	X			
A-5. Limit impact of heat and drought				
A-5-a. Implement water conservation and water quality education	X	X	X	X
A-5-b. Work with medical providers to develop emergency supplies and education program	X			
A-5-c. Work with Butler Co. Farm Agency and County Ext. Svc. To est. a drought information center	X			
A-5-d. Develop a drought plan and warning system	X			
A-5-e. Develop print PSAs	X			
A-6 Improve infrastructure				
A-6-a. Identify roads that are at risk of flood damage	X	X	X	X
A-6-b. Continue bridge inspections and improvements	X	X	X	X
A-6-c. Maintain all county roads for emergency services	X			
A-6-d. Buy-out and relocation activities	X			
A-7 Emergency services				
A-7-a. Investigate need for emergency water supply during disasters	X			
A-7-b. Limit non-critical water consumption during droughts	X	X	X	X
A-7-c. Inventory emergency response services and assess needs	X			
A-7-d. Establish local reserve funds	X	X	X	X
A-7-e. Provide grant services	X			
A-7-f. Assess need for and acquire emergency generators	X			

Mitigation Objective & Action	Butler County	Greenville	Georgiana	McKenzie
B-1. Implementation of Hazard Mitigation Plan				
B-1-a. Update Butler Co. Haz. Mit. Plan every five years	X			
B-1-b. Provide annual public reports on the status of the Plan's implementations	X			
B-1-c. Municipalities to provide assistance for implementing Plan		X	X	X
B-2 Coordination/Communication among emergency agencies				
B-2-a. Designate a central emergency coordinator in each community		X	X	X
B-2-b. Provide for incident command training	X			
B-2-c. Develop a system of providing regular updates to appropriate entities in the County	X			
B-3 Assessment Capability				
B-3-a. Continue identifying critical facilities and evaluate mitigation techniques for each	X	X	X	X
B-3-b. Incorporate/develop a GIS program	X	X	X	X
C-1 Public awareness program				
C-1-a. Coordinate with other entities to distribute information	X			
C-1-b. Develop information booth	X			
C-1-c. Create and distribute magnets	X			
C-2 Disaster prevention education programs				
C-2-a. Develop land management course/training with the County Ext. Sys.	X			
C-2-b. Develop broadcast PSAs	X			
C-2-c. Develop print PSAs	X			
C-2-d. Butler Co. EMA website	X			
C-2-e. Incorporate hazard mitigation into local schools	X			
C-2-f. Coloring and activity books	X			

APPENDIX A HAZARD MITIGATION STRATEGY APPENDIX

The Butler County Road Department and the Greenville Public Works Department identified, as an interim update, several roads that are frequently subject to flooding and/or washing, erosion and sedimentation that are caused by flood events. Such roads are in need of repair and/or enhancements that would help minimize or eliminate the adverse impacts of flooding and ensure access for emergency response, recover and repair, and continuity of delivery services. The identified roads are hereby added to the Hazard Mitigation Strategy Appendix of the *Butler County Natural Hazard Mitigation Plan* as subparts of Action Step A-6-c. The costs were established in the previous update. These costs have not been updated, however, the relative order of magnitude remains an accurate description of these costs. The non-prioritized list is as follows:

Identified Roads & Roadways				
Item #	Primary Name(s)	Alternate Name(s)	Location	Est. Improvement Costs
1	Ashely Road	County Road 24	County (approx. 8 miles S. of Greenville)	\$300,000
2	Cook’s Bridge Road	N/A	County (approx. 8 ESE of Georgiana)	\$200,000
3	Mill Street	County Road 16	County (W. of Georgiana)	\$200,000
4	North Garland Road	County Road 8	County (Garland Community)	\$500,000
5	Rocky Street & Rocky Lane	N/A	County & Georgiana	\$200,000
6	Tulip Road	N/A	County (approx. 2 miles SW of Greenville)	\$20,000
7	Whittle Bridge Road	N/A	County (approx 5.5 miles E. of McKenzie)	\$200,000
8	West Commerce Street @ Magnolia Cemetery	Alabama Highway 10	Greenville	TBD
9	Stanfield Street	N/A	Greenville	TBD
10	Woodland Drive	N/A	Greenville	TBD
11	Overlook Road	N/A	Greenville	TBD
12	Milner Street & Herbert Street	N/A	Greenville	TBD
13	Greenville County Club Drainage Ditch	N/A	Greenville	TBD
Total:				\$1,620,000

In accordance with the current action step A-6-b, the Butler County Road Department has identified several bridges that are frequently subject to flooding and/or scouring. The bridges are in need of repair and/or other enhancements that would help minimize or eliminate the adverse impacts of flooding and ensure access for emergency response, recover and repair, and continuity of delivery services. The identified bridges are hereby added to the Hazard Mitigation Strategy Appendix of the *Butler County Natural Hazard Mitigation Plan* as subparts to action step A-6-b. The non-prioritized list is as follows:

Identified Bridges						
Item #	Primary Name(s)	Alternate Name(s)	Location	County Street #	Problem	Est. Improvement Costs
1	Ashley Road	County Road 24	County (approx. 8 miles S. of Greenville)	86 & 86	Flooding	\$1,000,000
2	Bowden Bridge Road	N/A	County (approx. 7.5 miles ENE of Greenville)	53	Flooding	\$300,000
3	Cook's Bridge Road	N/A	County (approx. 8 ESE of Georgiana)	101	Flooding	\$500,000
4	Duck Creek Road	N/A	County (approx. 8 miles WSE of Georgiana)	74	Flooding	\$200,000
5	Mill Street	County Road 16	County (W. of Georgiana)	76 & 77	Flooding	\$500,000
6	North Garland Road	County Road 8	County (Garland Community)	28 & 29	Flooding	\$2,000,000
7	Steiner Store Road	County Road 62	County (approx. 5 miles ENE of Greenville)	11 & 12	Flooding	\$50,000
8	Tulip Road	N/A	County (approx. 2 miles SW of Greenville)	64	Flooding	\$300,000
9	Whittle Bridge Road	N/A	County (approx. 5.5 miles E of McKenzie)	100	Flooding	\$500,000
Total:						\$5,350,000

Source: Butler County Road Department, April 20, 2006.

APPENDIX B

**DOCUMENTATION OF JURISDICTIONAL ADOPTION
AND PLANNING AND PUBLIC INVOLVEMENT
PROCESS**

Butler County Hazard Mitigation Plan Meetings:

January 30, 2007	Convene LEPC, LEPC Review of previous plans, scope of plan update, LEPC membership, LEPC recent activities
March 14, 2007	LEPC review of extent of hazards, LEPC review land-use/code updates
June 5, 2007	LEPC review draft risk assessment, etc.
July 2007	Public Hearing
April 1, 2008	Review goals, strategies
July 2008	Public Meeting
July-August-September 2008	Preliminary County approval, subject to final draft, made available to communities.
May 6, 2008	Public Hearing by LEPC

Resolution

Whereas, the Local Emergency Planning Committee, working with the Butler County Emergency Agency and South Central Alabama Development Commission, has reviewed a preliminary draft Plan for the 2008 Update to the Butler County Natural Hazard Mitigation Plan; and

Whereas, the Local Emergency Planning Committee has recommended that the Butler County Commission authorize the submission of the draft 2008 Update to the Butler County Plan for Natural Hazard Mitigation, subject to further revisions, to Ala EMA and FEMA, as appropriate, for comment;

Now, There It Be Resolved, that the Butler County Commission hereby authorizes the Butler County EMA and SCADC to submit the Draft 2008 Update to the Butler County Plan for Natural Hazard Mitigation, subject to revisions, as needed, to comply with FEMA requirements and revisions the LEPC has agreed to, to the Ala EMA and FEMA, as appropriate for comments; and

That, after comments, a final plan by submitted to the Butler County Commission and municipalities of Greenville, McKenzie and Georgiana, for consideration and adoption.

Done July 14, 2008 in minutes.

**A RESOLUTION TO ADOPT
THE BUTLER COUNTY NATURAL HAZARD MITIGATION PLAN**

WHEREAS, the Butler County Emergency Management Agency has engaged in extensive studies of the natural hazards facing Butler County; and,

WHEREAS, the Butler County Emergency Management Agency, with guidance from the Butler County Local Emergency Planning Committee, has prepared a Natural Hazard Mitigation Plan; and,

WHEREAS, the City of Greenville is formally represented by a delegation on the Butler County Local Emergency Planning Committee; and,

WHEREAS, the goals of this plan are to reduce the loss of life, decrease repetitive property losses due to disasters, and provide leadership and coordination to encourage all levels of government and public and private organizations in Butler County to undertake mitigation in minimizing potential disasters and to employ mitigation in the recovery following disasters; and,

WHEREAS, the strategies of this plan are to identify and characterize hazards, assess risk, prioritize and implement mitigation measures; and,

WHEREAS, the adoption of the Butler County Natural Hazard Mitigation Plan would be in the best interest and protection of the Citizens of the City of Greenville; and,

NOW THEREFORE BE IT RESOLVED by The City Council of the City of Greenville, Alabama that the document entitled the Butler County Natural Hazard Mitigation Plan and all official maps pertaining thereto are hereby adopted this ___ day of _____, 2009.

ADOPTED and APPROVED by the City Council of the City of Greenville, Alabama on the _____ of _____, 2009.

Delivered to and approved by the Mayor on this _____ day of _____, 2009.

Dexter McLendon, Mayor Date

Attest:

Sue R. Arnold, Clerk Date

