

Chouteau County



2017-2022



Multi-Hazard Mitigation Plan

Previously created by Fire Logics / Revised by Chouteau County DES



FEMA

R8-MT

April 21, 2017

Board of County Commissioners
Choteau County
1308 Franklin Street
Fort Benton, Montana 59442

Dear County Commissioners:


We are pleased to announce the approval of the Choteau County Multi-Hazard Mitigation Plan as meeting the requirements of the Stafford Act and Title 44 Code of Federal Regulations §201.6 for a local hazard mitigation plan. The approval extends to Chouteau County and the Cities of Fort Benton, Big Sandy, and Geraldine.

The jurisdictions are hereby eligible for FEMA Hazard Mitigation Assistance grant programs. All requests for funding will be evaluated individually according to the specific eligibility and other requirements of the particular programs under which the application is submitted. Approved mitigation plans may also be eligible for points under the National Flood Insurance Program Community Rating System.

This plan is approved through April 20, 2022. A local jurisdiction must revise its plan and resubmit it for approval within five years to continue to be eligible for mitigation project grant funding. We have provided recommendations for the next plan update on the enclosed Plan Review Tool.

We wish to thank the jurisdictions for participating in the planning process and commend their continued commitment to reducing future disaster losses. Please contact Nadene Wadsworth, State Hazard Mitigation Officer, Montana Disaster and Emergency Services, nwadsworth@mt.gov or (406) 324-4785 with any questions on the plan approval or mitigation grant programs.

Sincerely,


Jeanine D. Petterson
Mitigation Division Director

Enclosure

cc: Nadene Wadsworth, State Hazard Mitigation Officer, Montana Disaster and Emergency Services

RESOLUTION 2017-06
CHOUTEAU COUNTY MULTI-HAZARD PRE-DISASTER MITIGATION PLAN

WHEREAS, all citizens and property within Chouteau County are at risk from a wide range of hazards such as, but not limited to: hazardous materials incidents, wildland and structure fires, severe weather, floods, contagious disease and agricultural related disasters.

WHEREAS, the County, pursuant to Section 322, Mitigation Planning, of the Robert T Stafford Disaster Relief and Emergency Assistance Act, enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390) and the Interim Final Rule published in the Federal Register on February 26, 2002 at 44 CFR Part 201, is required to have an approved Hazard Mitigation Plan in order to receive future federal disaster mitigation funds.

WHEREAS, a Hazard Mitigation Plan will guide the County in making decisions for pre-disaster and post-disaster mitigation projects.

NOW, THEREFORE, BE IT RESOLVED that Chouteau County, Montana, hereby adopts the "Multi-hazard Pre-disaster Mitigation Plan" dated 2017.

PASSED AND ADOPTED by Chouteau County Commissioners this 6th of March 2017.

ATTEST:



Lana K. Claassen
Lana K. Claassen, Clerk

BOARD OF COUNTY COMMISSIONERS:

Daren J. Schuster
DAREN J. SCHUSTER

Robert J. Pasha
ROBERT J. PASHA

Clay Riehl
CLAY RIEHL

Chouteau County & City of Fort Benton

Multi-hazard Pre-disaster Mitigation Plan

Resolution No. 1306

WHEREAS, all citizens and property within Chouteau County and the City of Fort Benton are at risk from a wide range of hazards such as, but not limited to: hazardous materials incidents, wildland and structure fires, severe weather, floods, contagious disease and agricultural related disasters.

WHEREAS, the City of Fort Benton, pursuant to Section 322, Mitigation Planning, of the Robert T Stafford Disaster Relief and Emergency Assistance Act, enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390) and the Interim Final Rule published in the Federal Register on February 26, 2002 at 44 CFR Part 201, is required to have an approved Hazard Mitigation Plan in order to receive future federal disaster mitigation funds.

WHEREAS, a Hazard Mitigation Plan will guide the County & City of Fort Benton in making decisions for pre-disaster and post-disaster mitigation projects.

NOW, THEREFORE, BE IT RESOLVED that the City of Fort Benton, Montana, hereby adopts the "Multi-hazard Pre-disaster Mitigation Plan" dated 2017.

PASSED AND ADOPTED by the Fort Benton City Council this 17 day of ^{April} ~~March~~, 2017.



Rick Morris
Mayor - Fort Benton

Attest:



Mary Heydon - Clerk



Chouteau County & Town of Geraldine
Multi-hazard Pre-disaster Mitigation Plan

Resolution No. 2017-500


WHEREAS, all citizens and property within Chouteau County and the Town of Geraldine are at risk from a wide range of hazards such as, but not limited to: hazardous materials incidents, wildland and structure fires, severe weather, floods, contagious disease and agricultural related disasters.

WHEREAS, the Town of Geraldine, pursuant to Section 322, Mitigation Planning, of the Robert T Stafford Disaster Relief and Emergency Assistance Act, enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390) and the Interim Final Rule published in the Federal Register on February 26, 2002 at 44 CFR Part 201, is required to have an approved Hazard Mitigation Plan in order to receive future federal disaster mitigation funds.

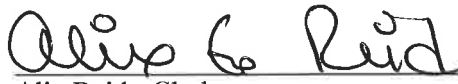
WHEREAS, a Hazard Mitigation Plan will guide the County & Town of Geraldine in making decisions for pre-disaster and post-disaster mitigation projects.

NOW, THEREFORE, BE IT RESOLVED that the Town of Geraldine, Montana, hereby adopts the "Multi-hazard Pre-disaster Mitigation Plan" dated 2017.

PASSED AND ADOPTED by the Geraldine Town Council this 11 day of April, 2017.


Perry Joyce Mayor - Geraldine

Attest:


Alix Reid - Clerk

Chouteau County & Town of Big Sandy

Multi-hazard Pre-disaster Mitigation Plan

Resolution No. 2017-09

WHEREAS, all citizens and property within Chouteau County and the Town of Big Sandy are at risk from a wide range of hazards such as, but not limited to: hazardous materials incidents, wildland and structure fires, severe weather, floods, contagious disease and agricultural related disasters.

WHEREAS, the Town of Big Sandy, pursuant to Section 322, Mitigation Planning, of the Robert T Stafford Disaster Relief and Emergency Assistance Act, enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390) and the Interim Final Rule published in the Federal Register on February 26, 2002 at 44 CFR Part 201, is required to have an approved Hazard Mitigation Plan in order to receive future federal disaster mitigation funds.

WHEREAS, a Hazard Mitigation Plan will guide the County & Town of Big Sandy in making decisions for pre-disaster and post-disaster mitigation projects.

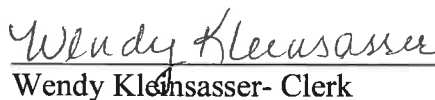
NOW, THEREFORE, BE IT RESOLVED that the Town of Big Sandy, Montana, hereby adopts the "Multi-hazard Pre-disaster Mitigation Plan" dated 2017.

PASSED AND ADOPTED by the Big Sandy Town Council this 6 day of ^{April}~~March~~ 2017.



Stephen Stiles Mayor - Big Sandy

Attest:



Wendy Kleusasser- Clerk

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1. Executive Summary

The primary purpose of hazard mitigation planning is to identify community policies, actions and tools for implementation over the long term that will result in a reduction in risk and potential for future losses county wide. The Chouteau County Multi-Hazard Plan identifies the hazards in the County, sets goals, identifies the appropriate mitigation strategies, and establishes actions to minimize the impacts of the hazards in the County. Historically, Chouteau County residents have dealt with floods, wildfires, extreme cold and blizzards, severe summer storms with damaging hail and wind as well as drought.

1.1. Problem Overview

Multi-hazard mitigation plans assist Chouteau County and its communities in identifying the hazards that could impact them, determining the vulnerability of the county and communities to these hazards, and identifying mitigation strategies to prevent or reduce the impacts these hazards pose to the County and/or community through a coordinated, multi-jurisdictional approach. The rising cost of responding to and recovering from natural disasters has resulted in a renewed interest in identifying effective ways to reduce the vulnerability to natural hazards and the disasters these hazards can create.

1.2. Process Overview

The Chouteau County Local Emergency Planning Committee (LEPC) served as the core planning committee for the multi-hazard mitigation plan. The planning process began in October 2005 with an initial meeting with the Chouteau County LEPC. Public input was solicited at the LEPC meeting, through the Chouteau County web site, and through public hearings.

1.3. Overall Goals

The overall goals of multi-hazard mitigation planning are to reduce the cost of disaster response and recovery to property owners and governments by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruption.

1.4. Methodology

The purpose of multi-hazard mitigation planning is to identify community policies, actions, and tools for implementation over the long-term that will result in a reduction in risk and potential future losses community-wide. This is accomplished by using a systematic process of learning about the hazards that can affect the community, setting clear goals, identifying appropriate actions, following through with an effective mitigation strategy, and keeping the plan current.

- Increase education and awareness around threats, hazards, and vulnerabilities;
- Build partnerships for risk reduction
- Identify long-term strategies for risk reduction that are agreed upon by stakeholders and the public;
- Identify cost effective mitigation actions, focusing resources on the greatest risks and vulnerabilities;

Ultimately, hazard mitigation planning enables action to reduce loss of life and property, lessening the impact of disasters.

1.5. Mitigation Strategy – The Mitigation Plan

Chapter 6 summarizes the specific actions that might be implemented by Chouteau County and its communities to reduce the impacts of natural and man-made hazards on Chouteau County and its communities.

“Benefits of Mitigation Planning”:

- Leads to cost-effective selection of risk reduction actions
- Builds partnerships
- Contributes to sustainable communities
- Establishes funding priorities

2. Introduction

2.1. Background and History

In the past, federal legislation has provided funding for disaster relief, recovery, and hazard mitigation planning. The Disaster Mitigation Act of 2000 is the latest legislation and reinforces the importance of mitigation planning and emphasizes planning for disasters *before* they occur.

The Disaster Mitigation Act is intended to facilitate cooperation between state and local authorities and to encourage coordinated efforts between jurisdictions. The Act encourages and rewards local and state pre-disaster planning and promotes sustainability as a strategy for disaster resistance.

The previous plan for Chouteau County Conservation District was created by Fire Logistics, Inc.

This plan has been updated by Chouteau County Disaster Emergency Services and with the help of Linda Williams, Debbie Gessaman and the LEPC. The goal for this plan is as follows:

Process includes:

- Develop a county Pre-Disaster Mitigation Plan (PDM) that meets FEMA standards for Chouteau County. Finished plans will conform to the Federal Disaster Mitigation Act of 2000, 44CFR Parts 201 and 206; Interim Final Rule. Guidance for FEMA compliance should be taken from FEMA’s *Multi-Hazard Mitigation Planning Guidance*, available at FEMA’s website <http://www.fema.gov/hazard-mitigation-planning>.
- This plan includes the following GIS layers including: Evacuation Routes, Fuels, Floodplain, Wildland-Urban-Rural Interface Boundary, Past Fire Occurrence, Fire Prone Landscapes (interpretation of fuels, topography, fire history etc.), Critical Infrastructure, etc. Fire occurrence data should include federal, state and county records. Working with local dispatch and rural fire districts will be necessary to insure completeness of the county fire records. See Attachment A for a list of currently existing GIS layers for Chouteau County. Additional existing GIS layers are available through state, BLM and USFS sources.
- Coordinate meetings with local committees, fire district personnel, local governments, state and federal agencies and keep them informed of activities of the countywide fire and all-hazard planning processes.
- Establish and maintain effective working relationships with federal, state, local governments, local fire districts and councils, corporate, and private landowners that will assist in the planning project.
- Prepare materials and make presentations, both orally and in writing, to individuals or groups about the fire and all-hazard mitigation plans.
- Prepare news releases, articles, and public service announcements for use by media to enhance public relations, inform the public of the fire mitigation plans.

- Conduct assessments of individual communities and develop a prioritized list (high, medium, low) of recommended mitigation projects including both private and public lands.
- Analyze and review the information collected and develop strategies to address fire and other hazards Chouteau County. The hazards to be analyzed in detail (in addition to wildland fire) for this county are flood-dam failure; severe weather and hazardous materials spill.
- Chouteau County has appointed a local contact person to facilitate setting up public meetings. Locations for public meetings will be determined by this facilitator.

2.2. Mission

Chouteau County’s Multi-Hazard Mitigation Plan has one over-arching mission: “To Protect Chouteau County’s Citizens, Property and the Environment from the Impact of Natural and Man-made Disasters” through the effective administration of pre-disaster mitigation grant programs, hazard risk assessments, wise and efficient mitigation efforts, and a coordinated approach to mitigation policy through federal, state, regional, and local planning efforts. Our combined prioritization will be the protection of people, structures, infrastructure, the economy, and unique ecosystems that contribute to our way of life and the sustainability of the local and regional economy.

2.3. Current Relevant Emergency Management Policies

A brief discussion of the relevant emergency management policies is provided to educate the leaders and residents of Chouteau County.

2.3.1 Federal Policies “Homeland Security -- A Better Prepared America”

This section briefly describes the relevant policies at the national level, which affect emergency management planning on the local level.

2.3.1.1 Disaster Mitigation Act 2000

Section 322 (Mitigation Planning) of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended by the Disaster Mitigation Act of 2000 requires all local governments to have an approved mitigation plan.

As defined by DMA 2000
hazard mitigation: any sustained action taken to reduce or eliminate long-term risk to human life and property from hazards.

Disaster Mitigation Act 2000 (DMA 2000) sets policies for “disaster mitigation plans”—plans designed to avoid disasters such as fires and floods. DMA 2000 requires 4 elements in these plans:

1. A planning process.
2. An assessment of risks.
3. A mitigation strategy (action plan)
4. A plan maintenance and updating process every 5 years.

2.3.1.2 National Response Framework

The *National Response Framework* is a guide to how the Nation conducts all-hazard response – from the smallest incident to the largest catastrophe. This key document establishes a comprehensive, national, all-hazard approach to domestic incident response. The *Framework* identifies the key response principles, roles and

structures that organize national response. It describes how communities, states, the Federal Government and private-sector and non-governmental partners apply these principles for a coordinated, effective national response. And, it describes special circumstances where the Federal Government exercises a larger role, including incidents where Federal interests are involved and catastrophic incidents where a State would require significant support. It allows first responders, decision-makers and supporting entities to provide a unified national response.

2.3.1.3 Fire Policies

See Chouteau County's Community Wildfire Protection Plan. This plan was updated this year.

2.3.2 State Policies

It is the policy of the State to complete Multi-Hazard mitigation plans in compliance with the Federal direction noted above.

On November 9, 2004, Governor Judy Martz signed Executive Order No. 17-04 "proclaiming the designation of the National Incident Management System (NIMS) as the basis for all incident management in the State of Montana."

2.3.3 Local Policies

The Chouteau County Growth Policy (2004) establishes goals and policies regarding:

- Economy and Population
- Housing
- Land Use
- Natural Resources
- Public Facilities, and Local Services

Several of the goals and policies are designed to protect Chouteau County's citizens, property and the environment.

Chouteau County and the cities of Fort Benton, Big Sandy and Geraldine adopted NIMS as Chouteau County's standard for incident management in 2005.

The Chouteau County Emergency Operations Plan (EOP), adopted in 2001 and amended in 2003, 2004, 2005, 2006, 2007 and 2015 establishes the county's goals for the EOP to:

- Reduce the vulnerability of county residents to disasters,
- Save as many lives as possible in the event of a disaster, and
- Provide for integrated emergency management.

2.4. Planning Area Boundaries

The Chouteau County Multi-Hazard Mitigation Plan encompasses all private and public lands within the boundaries of Chouteau County, including the Towns of Fort Benton, Big Sandy, and Geraldine.

2.5. Acknowledgements

Chouteau County DES would like to thank the following for their involvement in creating this plan: Chouteau County Conservation District, Chouteau County DES Coordinator Debbie Gessaman, Linda Williams (retired DES Coordinator), Glenda Tonne; Chouteau County Sheriff and Fire Warden Vern Burdick, Big Sandy Fire Department; Fort Benton Fire Department; Highwood Fire Department; Geraldine Fire Department; Chouteau County Planning Board; the City of Fort Benton staff; the Chouteau County Local Emergency Planning Committee, Chouteau County S-CAP Committee and Chouteau County Commission for their contributions to this plan.

3. Planning Process

The Chouteau County DES Coordinator will be responsible for managing the planning process. The DES Coordinator will submit the adopted Multi-Hazard Mitigation Plan to the State Hazard Mitigation Officer in Helena, Montana.

3.1. Stakeholders

The Chouteau County Local Emergency Planning Committee assisted in meeting the planning requirements and was charged with the following responsibilities:

- Identify PDM goals, hazards, vulnerabilities and projects.
- Ensure that the plan meets the requirements of the Disaster Mitigation Act of 2000.
- Assist in coordinating local efforts in gathering information for inclusion in the plan.
- Participate in the public involvement process at the local level.

The members of the Chouteau County Local Emergency Planning Committee (LEPC) include:

Kevin Arganbright – Carter Fire Chief

Roger Axtman- City of Fort Benton Council

Amber Beaudette – Big Sandy DON

Randy Beaudette - Big Sandy EMS & Fire

Rudi Birgenheier – Highwood Fire & QRU

Michael Birkeland- Memorial Ambulance Service Manager

Vicki Birkeland - EMS & Public Health

Kim Burdick - 9-1-1 & Dispatch Supervisor

Vern Burdick - Sheriff, Coroner & County Fire

Jodie Butler- QRU & Deputy DES

Kellie Butler- Deputy DES & Mapping Coordinator

Keith Dallum – Deputy, Search & Rescue

Rob & Holly Ebeling - Geraldine EMS & Fire

Steve Gannon - EMS & County Attorney

Deb Gessaman – EMS & DES Coordinator

Leah Grubb - Big Sandy Hospital Administrator

Alice Honrud- Chouteau County Planning

Pat Hultin - Fort Benton Fire

Angel Johnson - County Health Department

Wendy Kamm - Fort Benton EMS, S&R
 Tyler Lane – MSU Extension
 Kyle Meier - EMS
 Larry Ophus - Big Sandy Fire & EMS
 Bob Pasha – County Commissioner
 Kim Pimperton – Carter QRU
 Margaret Richter – Big Sandy EMS
 Dean Schuler – Knees Fire & QRU
 Bob Stevenson - Sanitarian
 Christina Taylor - Elim Fire & QRU
 Glenda Tonne – Fire, Mitigation Planning and City of Geraldine
 John Turner - Fort Benton Police Chief
 Donna Upham – Big Sandy EMS
 Wes Wellman – Fort Benton EMS
 Gar Wood - Loma Fire & QRU
 Janice Woodhouse – MRMC DON & Assistant Administrator

The Chouteau County LEPC meets quarterly throughout the year.

The LEPC recommended approval the Chouteau County Multi-Hazard Mitigation Plan to the Board of County Commissioners on _____.

The meetings provided regular opportunities to gather and share information, assess vulnerabilities, identify critical facilities, and assist in developing mitigation strategies. They also maintained continuity throughout the process to ensure that jurisdiction-specific natural hazards vulnerability information and mitigation strategies were incorporated into the plan.

3.2. Current Process and Plan Development

Initial work on the plan was started with a kick-off meeting in October 2005 with the County Planning Board. Fire Logistics, Inc. met with the Chouteau County LEPC on November 15, 2005, to conduct a preliminary vulnerability assessment. Chouteau County DES, along with the Local Emergency Planning Committee (LEPC) has worked on the current plan to create a more up to date plan that will provide the mitigation needed.

3.2.1 Avenues of Community and Public Input

January 2016	August 2013	November 2011
May 2016	May 2013	August 2011
May 2015	February 2013	
February 2015	November 2012	
November 2014	August 2012	
August 2014	May 2012	
May 2014	February 2012	

Public meetings held by the Chouteau County Local Emergency Planning Committee at which the Multi-Hazard Mitigation Plan was a topic of discussion were held on:

In addition to the Chouteau County LEPC, meeting where held with the Chouteau County Conservation District, the Chouteau County Planning Board, and the Chouteau County Commission. Membership on these

groups represents the County, and the town of Fort Benton, Geraldine and Big Sandy, as well as all public safety entities in the County. Input was solicited from the Chouteau County Fire Council and incorporated into the MHMP. The Forest Service, BLM and Montana DNRC have been kept apprised of plan developments and the DES Coordinator has letters on file indicating their review and support of the plan.

Public comments were solicited by placing the draft Multi-Hazard Mitigation Plan on the Chouteau County's web site. Historically the citizens of Chouteau have been involved in emergency preparedness and mitigation activities as demonstrated by their receiving a National Award from the CDC designating them a model community in August, 2007. Stated on the award plaque is the following:

“For establishing and implementing effective strategies that enhance collaboration and strengthen the relationship between public health and emergency care, thereby serving as an example to other communities to promote the improvement of daily operations and disaster preparedness nationwide.”

Meetings and hearings were publicized in manner normal to Chouteau County's policies. Agendas and minutes are in an attached appendix (See Tab 8).

Public comments received were reviewed by the LEPC and as appropriate, incorporated into the Multi-Hazard Mitigation Plan.

3.3. Review of Existing Plans, Studies, Reports, Technical Documents

The following documents were reviewed for impacts on the elements of the Multi-Hazard Plan:

- Chouteau County Comprehensive Growth Policy Plan; 2011.
- Fort Benton Planning Area Growth Policy; 2004.
- Mutual Aid Agreement between Chouteau County, Pondera County, Teton County, Toole County, Liberty County, Glacier County, Judith Basin County and Fergus County.
- Chouteau County Fire Council Mutual Aid Response Plan; 1993.
- Chouteau County Emergency Operations Plan; 2005.
- Subdivision Regulations of Chouteau County; updated periodically as issues arise.
- Chouteau County Development Regulations; updated periodically as issues arise.

3.4. Local Jurisdictional Involvement, Approval, Adoption

Public Involvement will be key to continue updating and improve on this plan. Representatives of the City of Fort Benton, Big Sandy and Geraldine, the Board of County Commissioners, fire and emergency services personnel, community members and businesses representatives all participated in the development of the Multi-Hazard Mitigation Plan through the Chouteau County LEPC.

Other avenue include education through Public Health, health fairs, speaking presentations at different public places and posting current plan on our county web page.

The Multi-Hazard Mitigation Plan was originally adopted by the Chouteau County Board of County Commissioners after a public hearing on November 17, 2008. Final Approval of that plan was October 2010.

4. County Profile

This section presents an overview of Chouteau County, the City of Fort Benton, the Town of Geraldine, and the Town of Big Sandy in 2015. It provides baseline information on the characteristics of the County, the towns, their citizens, economy and land use patterns, and presents the backdrop for this mitigation planning process.

4.1. General

Chouteau County is located in North Central Montana, about 100 miles south of the Canadian border. Established in 1865, it is one of the original nine counties of the Montana Territory. It was named in 1882 for Auguste & Pierre Chouteau, fur traders and owners of the original trading post Historic Old Fort Benton, from which the community of Fort Benton, today's county seat, took its name. Fort Benton, named for Senator Thomas H. Benton of Missouri, was once an important port on the Missouri River. Fur traders, gold seekers, and settlers came via steamboats to Fort Benton, the "Head of Navigation" on the Missouri River. Today, Fort Benton still retains much of its "steamboat days" character. Fort Benton, Big Sandy & Geraldine are the population centers with smaller communities in Loma, Carter, Floweree, Highwood, Shonkin, and Square Butte.



Chouteau County was once the largest county in the Montana Territory and the second largest in the United States. Chouteau County was subdivided repeatedly to form other counties until it reached its present size, an area of 3,936 square miles and a population of 5,738. It is home to the Chippewa-Cree tribe on the Rocky Boys Indian reservation in the Bear's Paw Mountains to the northeast, and contains part of the Lewis and Clark National Forest in the Highwood Mountains to the south.

4.1.1 Topography, Slope, Aspect, Elevation

The terrain is primarily gently rolling plains that are dissected in the central portion by the eastward flowing Missouri River. The land is a complex of uplands, valleys, coulees, and broad plains and two mountain ranges, the Bears Paw to the north and the Highwoods to the south. The primary surface water sources are the Missouri, Marias, and Teton Rivers. Streams of secondary importance are Highwood, Shonkin, Big Sandy and Arrow Creek. The elevations in the County range from 7,680 feet in the Highwoods to less than 2,300 where the Missouri River exits the County.

4.1.2 Meteorology, Climate, Precipitation

Chouteau County has a moderate, seasonal climate. The average daily high temperature in the County is between 80 and 90 degrees in the summer and between 20 and 40 degrees in the winter. The average daily low temperature in Chouteau County is between 40 and 55 in the summer season and between 10 and 25 in the winter. Chouteau County averages about 13 inches of rain per year with the vast majority of the precipitation occurring from April to September. Snowfall averages about 44 inches per year. Chinook winds can lead to rapid snow melt conditions which can lead to flooding of small streams and rivers. For a more discussion of the weather in Chouteau County see Section 5.7 Weather.

4.2. Population, Demographics

Population and demographics information was derived from the 2010 Census and the Chouteau County Growth Policy. The population for Chouteau County was 5,767 in 2015. The population in Chouteau County has stabilized since 2000. The population density for Chouteau County is 1.3 persons per square mile, thus making Chouteau County "Frontier". About 40% of the population of Chouteau County lives within the incorporated towns while the remaining 60% are dispersed among the agricultural areas and unincorporated towns. There are three incorporated communities in Chouteau County; Fort Benton, Big Sandy and Geraldine. The population of Fort Benton is 1,460, Big Sandy is 593 and Geraldine is 263. Headwaters Economics conducted "A Socioeconomic Profile" of Chouteau County in November of 2007. Their report indicates that there has been a general population decline over the last 35 years of 15%. Of the total population, 49.2% are male and 50.8% are female. In the county the population was spread out with 29% under the age of 19, 5% from 19 to 24, 19.7% from 25 to 44, 29% from 45 to 64, and 17.3% who were 65 years of age or older. According to the Profile, the population has gotten older since 1990.

4.3. Infrastructure: Roads, Utilities, Communication, Water Supply, Hospitals

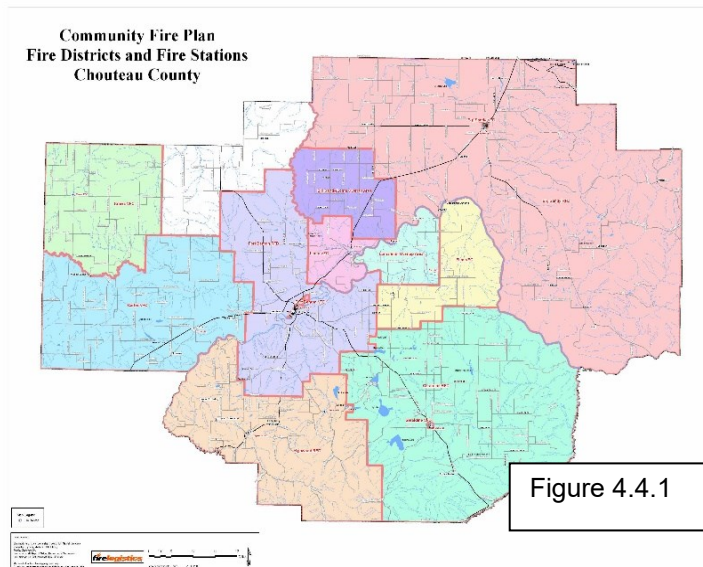
Highway 87 traverses Chouteau County from the southwest to the northeast. Montana Route 80 is a primary highway that extends southeast from Fort Benton to Stanford. Secondary Highways include Montana 228 that runs south to Highwood and Montana 223 running to the northwest to Chester. Chouteau County maintains an extensive network of graveled roads that can be utilized to provide access for fire suppression activities.

- After flooding in 2010, 2011 & 2013, there were some repair work done to the roads, riprap & new culverts were also put in. Culvert work completed on the Judith Landing Rd.
- The town of Big Sandy completed work on a dike in 2010 in attempt to channel water around the town. After flooding in 2010 the dike was updated to channel the water better.
- There are access problems along the river corridors, where there is no access or access is limited to ferry crossings or significant travel times are required due to poor direct access routes.
- After flooding in 2010, 2011 & 2013, there was extensive bridge work completed. The bridges that were repaired or replaced were the Shonkin Bridge (repaired as part of flood response), Lehman Bridge (\$450,000), and the Shepherd Crossing Bridge. Some extensive road repair work, riprap & new culverts was done after flooding in 2010, 2011 & 2013, one replaced was the Judith Landing Rd culvert – \$20,000.
- In October of 2015, Chouteau County DES completed the work on the addition of a generator that was installed at the Chouteau County Courthouse. The Courthouse is designated as the main EOC.
- Burlington Northern Santa Fe Railroad tracks generally follow Highway 87 from Great Falls to Kershaw and from Havre to Big Sandy. With the recent update to the CHS Central Montana Coop Grain Elevator, the addition of the EGT Grain Elevator and the Agri Basics Fertilizer plant, and the Montana Flour and Grain Company, the rail traffic for transporting grain has increased and will increase the potential to start wildland fires from the sparks.
- Large propane tanks are located throughout Chouteau County at ranches, home sites and 2 tanks along Highway 87 that are being used for railroad purpose.
- Electric transmission lines and distribution power lines along with telephone lines and railroad signal lines are concentrated along Highway 87 and local distribution lines to some populated areas. Northwestern Energy, Sun River and Hill County Electric Cooperatives provide electrical power to the county.
- Qwest, Central Montana Communications, 3 Rivers, and Triangle Telephone Cooperative provide telephone service to Chouteau County.
- Fiber Optics was provided in 2008 for Fort Benton, Loma and Carter, and in 2015 there has been 3-4 hundred miles of fiber optics put down in Chouteau County. Fiber Optics have been provided also to Highwood and Geraldine by 3 Rivers.
- Cellular phone service is generally available; however, there are areas within the county that do not have cellular phone service. In the last 5 years there has been four new cell towers built. Cellular phone service is provided by Verizon, Alltel, and Chinook Wireless.
- There are municipal water systems serving the Towns of Fort Benton, Highwood, Geraldine, Loma and Big Sandy. Big Sandy Waste Water Treatment project, \$3.2 million, will be completed in 2015 – still working on some piping. Fort Benton Waste Water Treatment project - \$3,878,900 estimate. The Teton watershed serves the communities of Carter and Knees. In the County, there is no developed water supply and water tenders must transport fire protection water to the fire scene. Stock ponds and creeks are available at times for a water supply point, but during an extended drought, water is a premium to ranchers.

- Radio communication for Chouteau County Fire Departments is generally very good except for along the Missouri River Corridor.
- The hospitals facilities in Chouteau County include Missouri River Medical Center (MRMC) and Big Sandy Medical Center.

4.4. Emergency Services

Emergency services within Chouteau County include fire protection, emergency medical services including ambulance transportation and Quick Response Units (QRU's), law enforcement, Search & Rescue, and disaster and emergency preparedness.



4.4.1. Fire Protection

The Fort Benton Fire Department, Fort Benton Rural Fire District, Geraldine Rural Fire District, Highwood Rural Fire District, Big Sandy Rural Fire District, Carter Fire Department, Knees VFC and the Loma Fire Department provide community structural fire suppression and protection (See Figure 4.4.1).

Wildland fire protection is provided by all of the above fire entities plus the Elim VFC under the direction of the county fire warden with various fire suppression resources located throughout the County.

4.4.2. Law Enforcement

The Chouteau County Sheriff's Department and Fort Benton Police Department provide law enforcement and evacuation services.

4.4.3. Emergency Medical Services

Ambulance service is provided by Big Sandy Ambulance, Fort Benton Ambulance and Geraldine Ambulance services. Quick Response Units are established in Highwood, Carter, Loma, Knees, and Elim.

4.4.4. Emergency Management

County emergency preparedness comes under the office of the Chouteau County Disaster and Emergency Services. The Chouteau County DES Coordinator has been and continues to be significantly involved in responding to and mitigating wildland fires in the county.

4.5. Land Use/Development Trends

According to the Chouteau County Growth Policy, Chouteau County is the 10th largest county in land area in the State of Montana. Based on the continued projections for the population of Chouteau County to decline or remain the same, land use development is expected to be minimal. The majority of land use in Chouteau County is agricultural based. Agriculture and rangeland comprise of 81% of the county's land area. Of the agricultural land, cropland is the primary use consisting of about 56%, grazing being 42%. All future projections indicate that this trend will continue, with agricultural serving as the primary economic base for the county. Currently new land development is at a slow pace, with most development occurring primarily near Highwood, Fort Benton, Carter and Brady. However, subdivision development is occurring in Cascade County immediately adjacent to Chouteau County. New subdivisions in Chouteau County near the Highwood Mountains have been platted (but not all have been developed). The County Planning Board continues to review all future subdivision applications for compliance Chouteau County Regulations.

A process has been developed, by the County Planning Board, to share information regarding the subdivision applications with all emergency response entities to mitigate potential hazards to the development.

Of the agricultural land, cropland is the primary use consisting of about 56%, grazing being 42%. All future projections indicate that this trend will continue, with agricultural serving as the primary economic base for the county. Currently new land development is at a slow pace, with most development occurring primarily near Highwood, Fort Benton, Carter and Brady. However, subdivision development is occurring in Cascade County immediately adjacent to Chouteau County. New subdivisions in Chouteau County near the Highwood Mountains have been platted (but not all have been developed). The County Planning Board continues to review all future subdivision applications for compliance Chouteau County Regulations. A process has been developed, by the County Planning Board, to share information regarding the subdivision applications with all emergency response entities to mitigate potential hazards to the development.

The basis for recreational activities that would attract visitors and tourists to the county is focused primarily on the river during the summer and throughout the county during hunting seasons. The recreational activities are transitory and have no impacts on future development.

Based on data provided by the County Planning Board newest Growth Policy Plan, the following statistics are applicable to this PDM.

Housing Overview:

- The number of housing units in Chouteau County was stable between 2010 and 2013 with an estimated increase of only 16 units. Although new housing starts accounted for 42 new units between 2004 and 2009, there was demolition of older units that offset the new construction.
- According to the 2000 Census, almost 20% of housing units in Chouteau County are vacant and half of these are not even on the market for sale or rent. With the population declining, it is likely that the number of vacancies has increased in the county.
- There were 49 homes constructed from 2011 to 2015. Housing starts peaked in 2014 and 2015 with a high of 9 units in 2015. Housing starts is slowly increasing, possibly due to the return of younger family members to help run the family farms.

Population Overview:

- The population in Chouteau County increased by 1.4 % from 2010 to estimated 2014 Census. The population is projected to stabilize and then slowly decline over the next 20 years. Since 2011-2013, Chouteau County has experienced a negative natural increase in population (more deaths than births as well as people moving out of the area).
- The population of Chouteau County has a classification of 21.8% of American Indian, with the Chippewa Cree Reservation located near Big Sandy.

Conservation Easements:

- A conservation easement allows a landowner to maintain ownership and current use of the land while preventing subdivisions and preserving an economically viable agricultural operation and wildlife habitat.
- Chouteau County has 47,394 acres in conservation easements.
- Approximately 11,000 acres of new conservation easements have been created since 2010.

Based on the above factors, new development is expected to be minimal.

The county planning board has indicated that one of their goals is to “prepare land use maps and flood plain maps which will be of aid to future administrators, planner and developers.” The county planning board and county LEPC have limited data on which to adequately evaluate potential risks.

It is important to obtain reliable data to allow for a more thorough future risk assessment analysis. A composite loss map to locate high potential loss areas would be helpful along with population projection maps to use as an overlay with future land use maps. These goals have been added to the mitigation activities.

Few future expanded business development or structures are predicted for the county, but there is no expected increase in residential development in Big Sandy or Geraldine.

5.Risk Assessment

This section focuses on the array of natural hazards that has beset Chouteau County or may conceivably do so over time. It provides the overall context for multi-hazard mitigation planning by identifying the range of hazards, the risk they pose and relevant mitigation activities. For each natural hazard, there is a section with: a description of the nature and scope of the hazard; information on Chouteau County's history with the hazard; a description of mitigation activities by Chouteau County, other government agencies, or private, non-profit organizations, such as the Salvation Army; a vulnerability assessment of exposure to the hazard; and a set of proposed mitigation measures related to that hazard.

5.1. Identifying the Hazards

This section focuses on the array of natural and man-made hazards that have occurred or may occur in Chouteau County, Montana. On a yearly basis, the Chouteau County LEPC identifies the hazards and rates their relative risk to the County. Based on these yearly assessments in November 2015 they conduct more in depth analysis by using the vulnerability assessment form with provided an overall context for mitigation planning by identifying the range of hazards, the risk they pose to structures, vulnerable populations, critical facilities, economic and environmental assets.

The hazards identified by the Chouteau County LEPC are:

- Earthquake
- Flood
- Weather
- Wind Storms
- Winter Storms
- Tornados
- Drought
- Summer Storms
- Hail
- Agro-Emergencies (animal and/or crop)
- Invasive mussels
- Active Shooter
- Mass Casualty Incident (More than 3 serious)
- Conflagration – Structure Fire
- Dam Failure
- Contagious Disease and/or Pandemic
- Airplane Crash
- Tactical Law Enforcement Incident

- Hazmat Incident
- Transportation
- Fixed Sites

The County LEPC then ranked those risks based on:

- Probability of Occurrence
- Greatest Impact on People – possibility of death or injury
- Greatest Impact on Property – loss & damage to property or environment

The numeric ranking is: “5” – High through “1” – Low

RATING	LIKELIHOOD	DESCRIPTION
1	Very Low	Highly unlikely to occur. May occur in exceptional situations
2	Low	Most likely will not occur. Infrequent occurrences.
3	Moderate	Possible to occur.
4	High	Likely to occur. Has occurred in past.
5	Very High	Highly likely to occur. Has occurred in past and possibility of it occurring again exists.

HAZARD & VULNERABILITY ASSESSMENT 2015					
Probability of Occurrence		Human Impact		Property Impact	
Emergency	Ranking	Emergency	Ranking	Emergency	Ranking
Wildland Fires	5	Wildland Fire	5	Wildland Fire	5
Severe Weather	5	Severe Weather	5	Severe Weather	5
Agro-Disaster (animal or crop)	5	Flood	5	Agro-Disaster (animal or crop)	5
Flood	4	Agro-Disaster (animal or crop)	4	Flood	5
Contagious Disease	4	Earthquake	4	Earthquake	4
Mass Casualty	3	Contagious Disease	4	Contagious Disease	3
Earthquake	3	Mass Casualty	3	Mass Casualty	3
Structure Fire	2	Tactical Law Enforcement Incident – Active shooter	3	Dam Failure	3
Cyber Security	2	Airplane Crash	3	Structure Fire	3
Airplane Crash	2	Bomb Threat	3	Hazardous Materials	2
Dam Failure	2	Cyber Security	3	Airplane Crash	2
Hazardous Materials	2	Dam Failure	3	Bomb Threat	2
Bomb Threat	2	Hazardous Materials	2	Cyber Security	2
Tactical Law Enforcement Incident -Active Shooter	2	Structure Fire	2	Tactical Law Enforcement Incident -Active Shooter	2

Based on the Hazard & Vulnerability Assessment, the overall ranking of the hazards in Chouteau County is:

OVERALL RANK	
Emergency	Ranking
Wildland Fire	5
Severe Weather	5
Agro Disaster	4
Flood	4
Contagious Disease	3
Earthquake	3
Mass Casualty	3
Dam Failure	2
Bomb Threat	2
Cyber Security	2
Airplane Crash	2
Tactical Law Enforcement Incident	2
Structure Fire	2
Hazardous Materials	2

The following hazards were identified by the Chouteau County LEPC but due to their low risk and probability, they are not addressed in this Multi-Hazard Mitigation Plan:

- Bomb Threat
- Earthquake
- Airplane Crash
- Dam Failure (dam is the lowest risk in the County, since there is only one High Risk dam, i.e., Bonneau Dam which is located on the Rocky Boy Reservation is owned by DOI and the Rocky Boy Reservation is responsible for their own MHMP.)

Additional hazards identified in the State Hazard Mitigation Plan were not a concern to Chouteau County due to their lack of frequency of occurrence, lack of impact on the county, or inability by the county to mitigate the hazard. Historically the above ranking has been validated by the reviewing incidents within Chouteau County and the annual assessment of risks conducted by the Chouteau County LEPC. The County's Emergency Operations Plan is an all hazard plan designed to handle all risks and hazards since the response protocols are similar for all incidents even they are very rare.

Multi-Jurisdiction Risk Assessment

Jurisdiction	National Flood Plan	Wildland fire	Flood	Severe Weather	Agro Disaster	Contagious Disease	Earthquake	Bomb Threat	Cyber Security	Airplane crash	Tactical Law Enforcement Incident	Structure Fire	Hazardous Material
Fort Benton	X	X	X	X	X	X	X	X	X	X	X	X	X
Big Sandy		X		X	X	X	X	X	X	X	X	X	X
Geraldine		X	X	X	X	X	X	X	X	X	X	X	X
Highwood		X	X	X	X	X	X	X	X	X	X	X	X

In above chart Geraldine is listed as not at risk for flooding, while the town of Geraldine isn't at risk the outlying area can be. As in the Presidential Declaration of 1996, outlying areas of Geraldine had some major damage.

Chouteau County has been included in some Presidential Declarations and had other major incidents as shown below:

5.1.2 Disaster Declarations & Major Incidents for Chouteau County

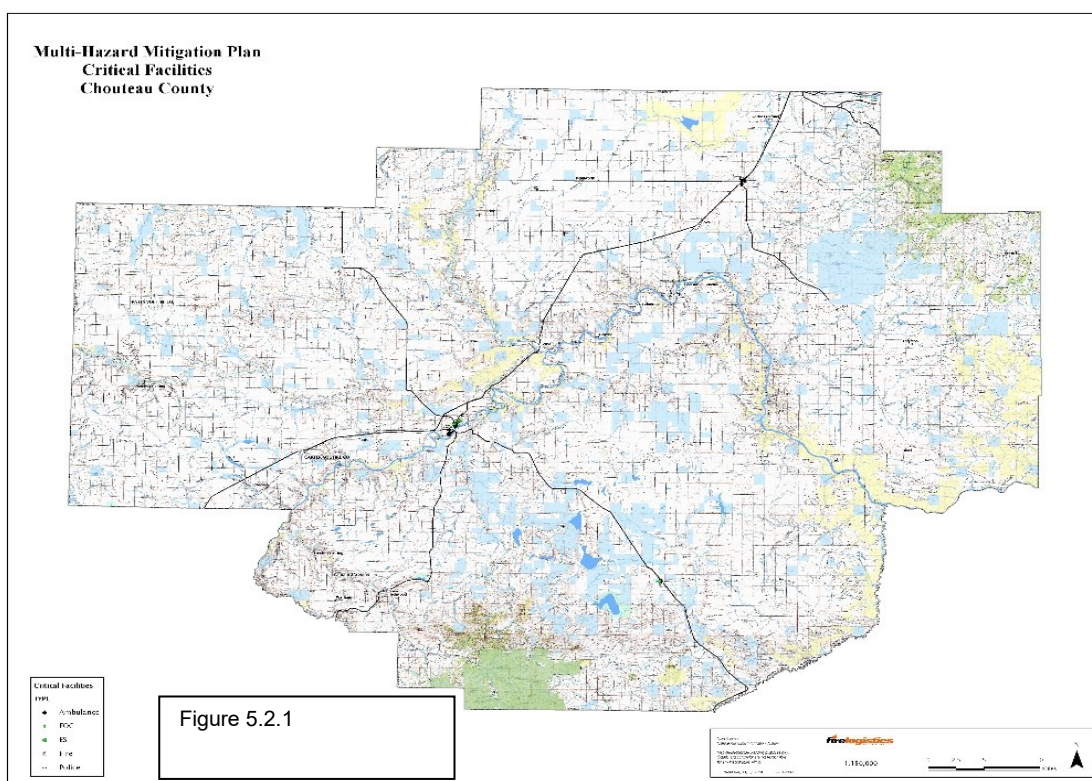
- June 2010 – Presidential Declaration (FEMA-1922-DR) – flooding Big Sandy, Highwood/Shonkin, and Geraldine area - \$183,500
- June 2011 – Presidential Declaration (FEMA-1996-DR) - flooding Big Sandy and Highwood/Shonkin and Geraldine - \$331,200 (Feb 15, 2011 – Pantou Coulee Reservoir east of Geraldine broke – washed out a road)
- March through June 2013 – flooding Big Sandy & some roads in District 2 (Carter, Knees) – County Declaration
- June 5, 2012 – tornado – Eagleton (Big Sandy area)
- Hail storms – July 2011 – cost structures -? & crops - \$70,500 (MT Dept. Ag)
- Hail storms – June 2012 – cost structures -? & crops - \$149,860 (MT Dept. Ag)
- Hail – July & Aug 2013 – cost structures -? & crops - \$1,122,070 (MT Dept. Ag)
- Hail – May 28, 2014 – destroyed Big Sandy hangar at airport, damage to crops - \$521,620 (MT Dept. Ag)
- Spring storm – downed power lines 4/29/2010
- Ice jams – minor flooding Fort Benton – Mar 2011 & Jan 2015
- Structure fire – Naeseth’s – 2/19/2011 – \$150,000
- Structure fire – Carter – Jan 23, 2013 – McKinlay
- Structure fire – Highwood – June 27, 2013 – Shane brothers
- (Fire Sept 2007) – Embletons – 2800 acres – old unoccupied trailer house, corral & outbuilding – pasture land and fences - \$200,000

- Widaman fire – 3/26/2010 – 120 acres - \$500,000
- Geraldine area fire – Hopkins Hill – March 29, 2012 – 2,864 acres
- Summer of 2012 – numerous fires – lightning & CRP (combine starts) – Gov Emergency Declaration – Aug 2012
- Andreason’s Fire (LaBarre Rd Fire) – Aug 6, 2012 (lightning) – 4000 acres – stubble & CRP – 5,000
- Protsman’s Fire – Aug 7, 2012 – 450 acres - started by combine – Combine burned & 7 outbuildings (Protsman residence was saved) – grass, stubble & wheat field - \$1 million
- Viminy Ridge – Nagamori – 2013 – July - \$20,000
- Kershaw Wildland Fire – July 27, 2014 – 569 acres – along 15-mile stretch of Highway 87; grassland, one unoccupied structure and power poles burned; \$400,000 damage to power poles
- Liscum Bottom Rd. Wildland Fire- July 25, 2015- 423 acres- caused by campfire.

5.2. Critical Facilities and Infrastructure

Critical facilities data was initially obtained from the Montana Department of Administration’s Critical Infrastructure Database, Chouteau County’s GIS data, and local government officials. Two local resource individuals were tasked with refining and expanding the list of critical facilities. The data was reviewed and modified during public LEPC meetings.

Critical facilities and target receptors are important during mitigation planning because they are essential to the health and welfare of the whole population and are especially important following incidents. Those facilities that are considered vital to the community such as law enforcement, fire services, ambulance services, health services, communications and other government services have been identified as critical facilities (See Figure 5.2.1). Lifeline Utility Systems such as potable water, wastewater, oil, natural gas, electric power, and communications systems are considered critical infrastructure. Target receptors are defined as those facilities that might be used to treat potential victims of a man-made or natural incident occurring in Chouteau County (Figure 5.2.2 pg. 23).



Multi-Hazard Mitigation Plan
Special Needs
Chouteau County

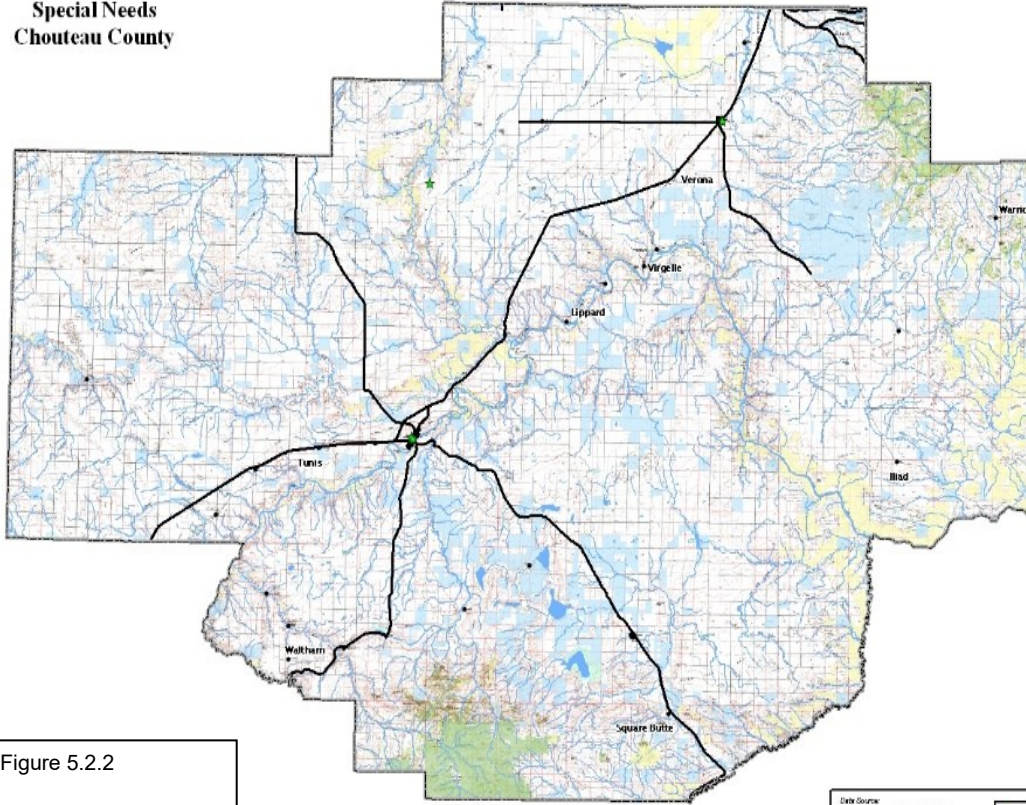


Figure 5.2.2

Date: 2-13-2008
Data Source: National Aeronautics and Space Administration
Map created for planning purposes only.
County and contributors are not responsible
for any inaccuracies in the data.
chouteau_special_needs_11x17.mxd 2-13-2008

Special Needs

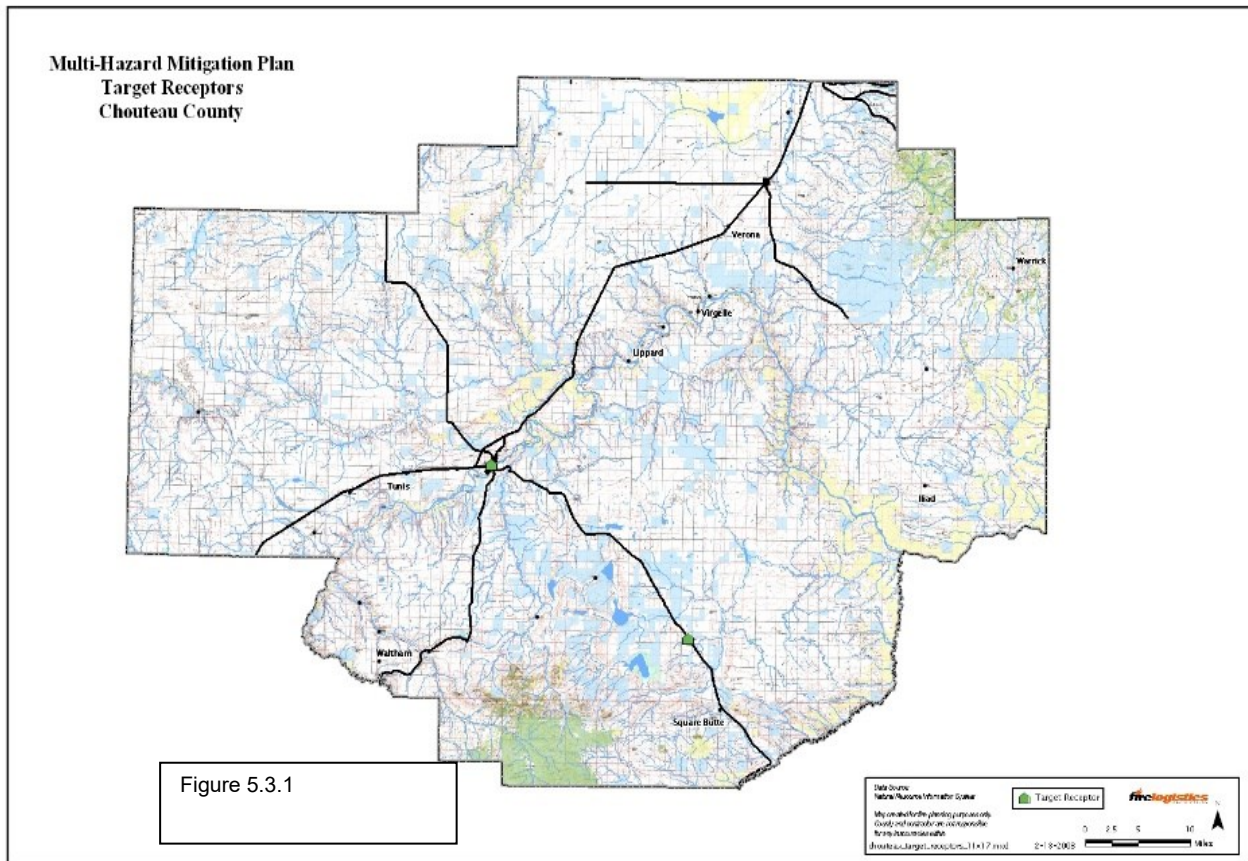
firelogistics

0 2.5 5 10 Miles

A full sized map showing the critical facility target receptor locations can be found in the Chouteau County Disaster and Emergency Services Office. (See Map Section–Tab7). The GPS coordinates of the critical infrastructure are included in a GIS layer in the County Dispatch Center.

5.3 Vulnerable Populations

In disaster preparedness and response, the terms "vulnerable" or "functional needs" populations are often used to characterize groups (including children) whose needs are not fully addressed by traditional service providers. In the context of emergencies and disasters, this means members of our community with little or no ability to address their own preparedness, response and recovery and people whose life circumstance leave them needing more than what traditional emergency response agencies provide. This includes anything that prevents you or them from following emergency instructions or fully using traditional disaster preparedness and response services. Vulnerable populations can range from the entire population in general of Chouteau County to populations needing special or medical care, depending on the circumstances and magnitude of the incident (See Figure 5.3.1 pg. 24). Two local resource individuals were tasked with refining and expanding the list of vulnerable populations in Chouteau County. According to the Chouteau County Growth Policy, the Census data indicates that 10% of the population in Chouteau County had a disability. The GPS coordinates of the critical infrastructure are included in a GIS layer in the County Dispatch Center. (See Map Section –Tab 7).



5.4 Buildings

The Montana Department of Revenue CAMA (Computer Assisted Mass Appraisal) database was used to establish building value and type data, as well as the Montana Department of Housing, “Montana Housing Condition Study – Technical Appendix, Volume II”. Based on this data, in Chouteau County 40% of the homes were rated as having cheap, poor or low cost workmanship and quality. This is much higher than the state averages of 13.5% in these lower categories. For homes outside of Fort Benton, the percentage of poor/low cost is 46%.

Data from the United States Census indicates that the value of owner-occupied housing for Chouteau County is below the average for the State of Montana. The median value of owner occupied units throughout the county is \$115,100. Median value in the incorporated towns is as follows: Fort Benton - \$126,630, Big Sandy - \$76,577; and Geraldine - \$52,036. Those statistics indicate there are 2,294 total housing units in the county with Fort Benton having 725 units, Big Sandy having 337 units and Geraldine with 140 units. Approximately 45% of housing units are located within municipalities and 55% of the units are located in unincorporated areas. Most structures in the county are constructed of wood, concrete and/or brick. Mobile homes make up 13.6% of the housing, although that number decreased between 1990 and 2000.

Some of the critical infrastructure and emergency services are depicted on the maps that are attached to this plan. Other infrastructure has been compiled in the addressing database with addresses and locations noted. That information includes: airports, government buildings, utilities, cell phone towers, radio communication repeater sites, telephone sub-stations, anhydrous sites, Air Force missile sites, water treatment facilities and sewage lagoons. Some specific buildings, historic sites and approximate value are shown on the chart below. Estimated values are based on information provided by the Assessor’s office. Limited data has been compiled in one easy to access location on the businesses, homes and structures in the county. The best database is the one compiled for 9-1-1 emergency phone addressing. That data base also includes some structure information that could serve as a foundation for future mitigation work. The need for data collection, including construction characteristics and value is identified as an action item in the mitigation strategy.

RESOURCE NAME	RESOURCE TYPE	LOCATION	ESTIMATED VALUE
FORT BENTON			
Law Enforcement Facility	Jail, 9-1-1 Dispatch, Sheriff's offices & Public Health	Fort Benton	\$4 million
Grand Union	Historic Hotel	Fort Benton	\$1.2 million
Agricultural Center	Museum & meeting facility	Fort Benton	\$2 million
BLM Visitor Center	Visitor Center & offices	Fort Benton	\$2.9 million
County Courthouse	Courthouse	Fort Benton	\$1.5 million
Sunrise Bluffs	Retirement housing	Fort Benton	\$3 million
Missouri River Medical Center	Hospital and nursing home	Fort Benton	\$3 million
Fort Benton Schools	High School & Grade School	Fort Benton	\$3 million each
First Security Bank	Bank	Fort Benton	\$450,000
US Bank	Bank	Fort Benton	\$170,000
Dedman Foundation	Animal shelter	Fort Benton	\$170,000
Community Bible Center	Meeting Facility	Fort Benton	\$615,000
BIG SANDY			
Big Sandy Schools	High School & Grade School	Big Sandy	\$2.5 million each
Wells Fargo Bank	Bank	Big Sandy	\$130,000
Post Office	Post Office	Big Sandy	\$110,000
Big Sandy Medical Center	Hospital and nursing home	Big Sandy	\$1.5 million
GERALDINE			
Stockman Bank	Bank	Geraldine	\$110,000
Post Office	Post Office	Geraldine	\$120,000
Geraldine School	Combined High School & Grade School	Geraldine	\$2.5 million
ELEVATORS			
Upgrade to CHS Central Montana Coop Grain Elevator	Grain Storage, Sales	Kershaw	\$5,875,500
CHS Grain Elevator	Grain Storage, sales	Geraldine	\$624,000
EGT Grain Elevator	Grain Storage, sales	Kershaw	\$6,673,200
Agri Basics Fertilizer Plant	Sales, Fertilizer	Fort Benton	\$480,000
Montana Flour and Grain	Grain and flour sales	Fort Benton	\$937,000
Horizon's Organic Snacks	Sales	Big Sandy	
Bob Quinn's Oil Barn	Storage, sales	Big Sandy	
Hinrichs Trading Company	Pea storage, sales	Fort Benton	

This is just a partial listing of facilities in each incorporated town. Additionally, Fort Benton has many restored historic structures that are utilized as businesses. Each of them is valued from \$200,000 to \$300,000. The values of other businesses in each community vary greatly – from \$100,000 to \$500,000 - so rough estimates have been utilized to compile risk assessments. For example, when the Wilray manufacturing plant in Fort Benton burned there was \$500,000 of damage and estimates of \$700,000 to rebuild the facility.

New developments are as follows:

- Cellular Towers (Loma and Floweree)
- Airport Hanger in Big Sandy (has been completed 2016)
- Fiber optics is being installed in Highwood and Geraldine.
- Ambulance Barn for Geraldine Ambulance (completed 2016)
- Big Sandy Library (Completed Jan 2017)
- New pig barn at Twin Hills Colony
- New chicken barn at Sunny Brook Colony
- New building for Highwood Fire Dept.
- New cabins at the Farmers Union Camp
- Updated restaurant, convenience store and sleeping cabins in Loma.
- Updated bar with cold storage in Highwood
- Four new full service camp spots in Highwood.
- Corder's Storage Units located north part of town. These units are made of metal and are in a fenced in area. They are close to CRP which could put them in danger of wild fires.

The following are the potential future developments that could be impacted by each of the hazards this plan addresses.

- Proposed Cell Tower south of Carter and Geraldine
- New hospital in Fort Benton. If constructed this would likely be of concrete and brick construction and would be located on the west side of town on land that is far above all of the flood inundation markings. The main risk could be wildland fire since that area is against CRP fields.
- New Hotel, Condominiums, restaurant in Fort Benton. If constructed this would likely be of concrete and brick and would be located on the Missouri river in the central part of town.
- New residential homes in Fort Benton. Most new homes are being located in a sub-division along the north end of town. These homes are primarily wood structures. They are on lower ground within view of the river. They could be impacted by 100-year flood levels, but the river would have to rise 3 to 4 foot above flood levels. These homes are also bordering open fields and CRP, so could be impacted by wild-fire scenarios. A few other residential homes may be built to replace existing structures and infill current lots in Fort Benton.
- New homes in sub-divisions outside of Highwood. These homes are primarily wood structures and could be impacted by wildfire scenarios.
- Fish Food Plant
- Organic Fertilizer plant
- Chicken Barn for 30,000 chickens at Twin Hills Colony

Within Chouteau County there are two Hutterite colonies; Twin Hills Colony located in the southwest part of Chouteau County and Sunny Brook Colony which is located in the northeast part of Chouteau County. Hutterite Colonies are known for being self-sufficient; having their own supply of farm fresh vegetables, poultry, eggs, beef, milk and pork. The colonies own large amount of land and function as a collected unit which allow them to purchase more land. Twin Hills Colony has about 81 residents. This colony consists of pig barn, chicken barn, milk barn, kitchen, resident homes, school, scale house, large sewage storage tank, garden and a shop.

Sunny Brook Colony is still in the development stage. There has been some building activity but no residents yet. New construction on this colony is a chicken barn that holds up to 40,000 chickens.

Being self-sufficient; the residents have a large stock pile of food, fuel and other supplies. Being in the middle of the prairie they are at risk of wildland fire, hazardous material incidents, agriculture emergencies, and pandemic emergencies.

Based on the limited data available and the inability to predict the locations where each of the hazards identified could impact, the vulnerability charts that follow have to make some generalizations. All of our primary hazards could impact any part or the entire county, except for flooding. Therefore, the flooding chart has a few more specific details. The chart above and the critical facilities identified previously all form the basis of the vulnerability charts for each hazard identified.

The County Planning Board, along with the LEPC, will work with landowners and developers to mitigate risks and hazards to future development within their legal constraints.

5.5 Hazmat Incidents

A. Description

A hazardous material is any material that is capable of causing harm to humans, the environment, or property. These materials can be solid, liquid, or gas and are commonly used in, agriculture, medicine, industry and in consumer household goods. Examples would include acids, fertilizers, alkalis, radioactive material, petroleum products, and compressed gases, among others. The most common method of accidental release would be in a traffic accident where a large volume of material could release from a ruptured tank. Accidental releases would also occur at fixed facilities where hazardous materials are handled. The Montana Fire Services Training School has identified the most common hazardous materials encountered in Montana by frequency of reports of reportable quantity. They include:

- Gasoline
- Diesel
- Mixed/unknown Loads
- Propane
- Anhydrous Ammonia
- Sulfuric Acid
- Chlorine
- Carbon Dioxide
- Natural Gas

Chouteau County has large quantities of several of these chemicals either located throughout the county or passing through the county on the highway transportation system. With transportation related hazmat incidents it is important to evaluate the soil types in the county. The Natural Resources and Conservation service has detailed soil maps for the county. The majority of the soils are deep well-drained loam soils on glaciated plains. The other major influence on a hazardous material event would be wind conditions. The normal winds impacting all of Chouteau County are from the southwest and average 15 mph although it is not uncommon to have wind events of 20 – 40 mph.

The numbers of facilities in each town with hazardous materials are as follows:

Fort Benton – 28

Big Sandy – 21

Geraldine – 8

Balance of the county – 17.

Depending on the incident and winds involved, if the event occurs in an incorporated town the entire populace may be impacted in a worst case scenario. In a more likely scenario, a hazardous materials release from a fixed facility should not affect many individuals since most of the facilities are not located in residential areas.

Local History of Hazardous Materials Incidents

Over the past 11 years there have been 13 hazardous materials incidents reported to MT DES in Chouteau County, slightly more than one incident per year. These have primarily involved transportation related incidents and the magnitude is generally less than 30 gallons of fuel. Since they have not involved any population centers, the impact to people, structures or the environment has been negligible. During prior digging for fiber optic installation, there were numerous instances of broken gas lines in Fort Benton and Big Sandy. Much of the difficulty was due to poor background maps of pipeline locations in the communities. Meetings were held with contractors and utilities to refine and change protocols for the on-going project. These meetings greatly reduced the number of incidents, but the danger and magnitude of this potential risk is still very high.

A search of US EPA's web site www.epa.gov/triexplorer for chemical releases in Chouteau County revealed no data. The *TRI Explorer* provides access to the Toxics Release Inventory (TRI) data to help communities identify facilities and chemical disposal or other release patterns that warrant further study and analysis.

A search of the National Response Center database at www.nrc.uscg.mil reveals that 5 incidents have been reported to the NRC from 1993 to 2007, mainly oils and anhydrous ammonia.

Data Limitations

To fully understand the potential impacts of a hazardous materials incident on the populated areas of Chouteau County, one needs to do a comprehensive analysis of the potential release sites and hypothetical incidents to determine the overall impacts to the County and its citizens. Hazardous materials and substances pass through the County regularly on the transportation system and have no impact on the community. Using GIS technology would allow for a more detail analysis of the impacts of a release on surrounding areas. The data and analysis are limited by these factors.

In the event of a potential natural gas pipeline rupture and a resultant explosion in Fort Benton, Big Sandy or Geraldine there could be serious consequences to life and property. For example, an explosion in a typical one block area of downtown Fort Benton could impact ten businesses with potential value up to \$5 million.

B. Vulnerability Assessment

HAZMAT			
Location	Probability	Extent	Resources at Risk
<p>Generalized</p> <p>Jurisdictions: Chouteau County; Fort Benton; Big Sandy & Geraldine.</p>	<p>On a scale of 1-5, where 5 is a high probability of an incident, Hazmat scored 2.</p>	<p>Limited or water drainage-wide depending on the event. Limited magnitude for transportation incidents, unless one of the incorporated towns is involved. For a gasoline explosion event, in one of the incorporated towns the magnitude would be high. (See info under Structure column.) For a hazmat incident involving contamination of a stream or river the magnitude could be extensive since the nearest boom deployment capabilities are 45 miles away.</p>	<p>The principal threat of a hazardous materials incident is along the route of Highway 87, Highway 80 and fixed facilities in the County. A hazardous materials release in any of the major rivers in the County would have significant environmental consequences.</p>

B. Vulnerability Assessment

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
<p>Principally businesses or industry that utilized hazardous materials would be impacted from a release on their property. A significant release of a hazardous material in or near a residential area would impact residential structures.</p> <p>A hazardous materials release, depending on the chemical, can cause damage to buildings, homes and other property. Following are the residential structures based upon average number in a block that would potentially be involved in each community: Fort Benton - ten structures; Big Sandy – 8 structures; Geraldine – 8 structures.</p>	<p>Homeowners, renters, businesses, frail, homeless, elderly and/or disabled persons, children or functional needs people who live adjacent to where a release might occur would either need to be evacuated or sheltered-in-place depending on the circumstances of the incident.</p>	<p>Critical infrastructure adjacent to businesses or industries that utilize hazardous materials would be exposed during an incident.</p> <p>Water supply facilities could be out of service if they lose the ability to process water supplies. The transportation network will be interrupted by incidents occurring on or adjacent to the transportation network.</p>	<p>Structures ranging from homes, businesses including outbuildings are vulnerable.</p> <p>If the hazardous materials incident is long term, the economic health of the community will be impacted by loss of business, employment and reduced wages.</p> <p>Agricultural assets are vulnerable depending on the hazardous material.</p>	<p>Hazardous materials that are released into waterways can result in significant environment damage to wildlife, fish, and water quality. Air quality, depending on the incident, may be adversely affected.</p>

SUMMARY OF IMPACT ON EXPOSED ASSETS

Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
<p>Impact of a hazardous materials incident in the business districts of the following communities: Fort Benton downtown area could involve an entire block or up to ten businesses and estimated twenty people; Big Sandy a downtown area block could involve five businesses and estimated fifteen people; and Geraldine a downtown area block could involve three to five businesses and estimated ten people.</p> <p>With winds of 10 mph, the impact could easily affect eight to ten square blocks, which in each community would include residential and business structures. If the event does not involve an explosion, there would be no damage to the structures. If an explosion is involved, the building damages could easily be over a \$1 million.</p>				

5.6. Wildland Fire

A. Description

The wildland urban interface is defined as the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. Similar terms are wildland/residential interface and wildland urban intermix.

During the past several fire seasons of 2000, 2003, 2006, and 2007 it has become evident that wildland urban interface fire losses have increased throughout the Western United States. The expectation under the Federal Fire Policy is “that losses will increase in the future.” According to research conducted by Volker C. Radeloff, assistant professor at the University of Wisconsin at Madison, of the 13 million homes constructed in the 1990’s, 69% or 9 million homes were constructed in the wildland urban interface.

Local History of Wildland Fires

See Chouteau County’s Community Wildfire Protection Plan. Wildland Fire has been more thoroughly addressed in the Chouteau County Community Wildfire Protection Plan (See Fire History – page 44). The Fire History Map can be viewed in that plan and is also included in this document as an attachment along with other maps.

In the Federal Register the town of Geraldine has been identified as a “Community at Risk”. **Fort Benton and Big Sandy have also been identified at risk for rangeland or CRP fires. Both Fort Benton and Geraldine have been threatened in the last couple of years.** The community of **Square Butte** was threatened by a 20,000-acre fire on January 31, 2009 with winds gusting up to 70 mph. **Geraldine** was threatened by a 1,500-acre fire on November 12, 2007 with wind gusts up to 80 mph. **Fort Benton** was threatened by two fires: one on March 26, 2010 of 120 acres and winds up to 60 mph; and March 24, 2008 involving 560 acres and winds up to 80 mph.

B. Vulnerability Assessment

WILDLAND FIRE			
Location	Probability	Extent	Resources at Risk
Generalized Jurisdictions: Chouteau County; Fort Benton; Big Sandy & Geraldine.	On a scale of 1-5, where 5 is a high probability of an incident, Wildland Fire scored 5.	Limited or scattered throughout the county, depending on ignitions and the weather. Based on the history in the county, the magnitude of most fires in the county has been extensive with fires ranging from 50 acres to 20,000 acres. The magnitude is heightened for these fires since they commonly are combined with high wind events of 60 – 80 mph. Each community in the county is surrounded by wheat or CRP lands that have fire behavior properties as listed in the charts on the previous page. Even when structures are not involved the damage to agriculture and the economy is high.	All structures, populations and critical facilities are at risk, if they are not protected by asset protection zones (defensible space). Economic assets may be impacted by either the wildland fire or perhaps due to evacuations that occur due to the wildland fire.

Ibid.
Federal Fire Policy, 2001
Pomfret, John; *As Houses Rise in the Wild, So Do Fire Concerns*; Washington Post; 2006

SUMMARY OF IMPACT ON EXPOSED ASSETS

Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
<p>All structures in wildland areas may be threatened by a CRP, wildland or wildland urban interface fire.</p> <p>There are 13,722 parcels with some type of building on it in the county, worth in excess of \$147 million. They could all be at risk due to the significant amount of CRP lands in the County.</p>	<p>Homeowners, renters, businesses, frail, homeless, elderly and/or disabled persons, children and Hutterite colonies are vulnerable due to wildland fire activities, including evacuations.</p> <p>Recreationists can be caught unprepared when wildland fires occur suddenly during high winds.</p> <p>Farmers and ranchers must take necessary steps necessary to move livestock to locations away from the wildland fire activity.</p>	<p>Power lines in the wildland fire perimeter will be impacted by the fire.</p> <p>Some public safety communication sites may be vulnerable without adequate asset protection zones (defensible space).</p> <p>Watersheds could be vulnerable depending on the location of the wildland fire.</p> <p>The transportation network including roads, bridges and ferries could become impassable, or be closed due to fire activity.</p>	<p>Structures ranging from homes, businesses including outbuildings are vulnerable.</p> <p>Wildland fires can affect the general economic health of the community due to lost employment, reduced wages, and lowered economic output</p> <p>Agricultural interests are vulnerable with exposed fields, crops, grazing land and haystacks. Livestock must be moved from the critical areas.</p>	<p>The fire-flood cycle can adversely affect water quality.</p> <p>Air quality is affected by the smoke generated by wildland fires.</p>

5.7 Weather

5.7.1 The Seasons

Winter begins in the late fall usually in October and lasts until early spring sometime around the middle of March. This time frame can see significant snows in the mountains and modest amounts across the plains. Typical storm snow totals range from 6" – 18" in the mountains during significant events with 4" – 8" or more across the plains. These severe winter events occur three to six times during a typical winter with lesser amounts occurring more frequently. Accompanying these winter storm events are very cold temperatures of 10 below to 20 below zero that can last up to two weeks or so before moderating. These storms are often accompanied by strong gusty winds with typical speeds of 20 to 40 mph with gusts above 70 mph common. Precipitation in winter averages less than one inch per month but has been below normal the past several years. Temperatures are lowest in the winter with December and January being the coldest.

Spring begins by the middle of March and lasts until mid to late June. Late winter heavy snows are possible with considerable downed tree limbs and interrupted power and telecommunications. Thunderstorms are the dominant severe weather threat during this period. These storms typically bring heavy rains, strong outflow winds (sometimes called micro burst winds) and large hail. Occasionally tornados do occur with strong thunderstorms, but are rare in the Northern Rockies with usually less than a dozen tornados or less across all of Montana. Heavy rains combined with melting snow pack in the mountains can produce low land flooding that can last for weeks with small stream flooding lasting a few days to around a week. Monthly rainfall totals are the highest of the year during this period with 1.5" to 3.5" common. Wet years can see 3" to 6" per month during April and May. Temperatures warm into the 70's and 80's with occasional 90's in May and June.

Summer begins by mid to late June and lasts until early to mid-September. This time frame marks the period when spring rains taper off while high pressure begins to dominate the western United States. This marks the time when temperatures are warmest and humidity values are lowest. It is also the time when vegetation begins to cure with fuel moistures at their lowest values. The dominant severe weather threat during this period is from fires with lightning the primary fire producer and human caused fires in second place. Fires are weather and fuel dependent. Some factors to consider that produce large fires are fuel type, fuel moisture content, elevation, aspect, temperature, humidity values, and probability of wetting moisture in the near term to name a few. The Northern Rockies has endured drought conditions since the year 2000. This brought below normal moisture averaging 20% per year during that same time period. This translates into reduced snow pack, reduced stream flow, lower reservoir levels, and diminished crop yields. Vegetation has become stressed due to limited available moisture for growth and has left many species of tree vulnerable to disease and bug infestation. The area of diseased and bug infested trees has spread with trees standing dead at many locations aiding in available fuel for fire growth. Moisture during the summer diminishes markedly with dry thunderstorms becoming more pronounced. These dry thunderstorms produce little if any moisture but can produce numerous lightning strikes as well as strong outflow winds. Monthly precipitation totals average less than a half-inch during the summer while temperatures peak for the year in July and August with upper 80's to low 100's common.

Fall usually begins by mid-September with foliage drying, frost beginning, temperatures cooling and moisture amounts increasing. Winds become the dominant severe weather threat during this period with speeds of 30 to 50 mph and gusts over 70 mph common. Early winter snowstorms could occur in late September or early October. A rain event or two usually occurs in September that is followed by a mild weather period in late September and October while a killing frost helps cure fuels. The warm dry and mild weather combined with dry fuels sets up a good potential for late season fires as strong westerly Chinook winds develop along the East Slopes of the Rockies. This combination has the potential for large devastating fires that can rapidly grow to over 100,000 acres in just a few hours' time. Precipitation during the fall can range from a half inch to an inch and a half per month. Temperatures continue to cool with 60's and 70's in September and 30's and 40's by the end of October.

5.7.2. Severe Storms

A. Description

Severe natural hazards can occur in any season in Chouteau County. The vast majority of these hazards are typically from naturally occurring weather systems that are usually of short duration typically lasting hours for thunderstorms to a few days with winter storms. Local emergency response personnel with immediate resources can best manage hazards such as these. All emergency planning must include precautions for all reasonable severe weather potentials. These severe storms have the potential to bring life or death situations, loss of property including housing, adverse driving conditions, power outages and interrupted commerce.

Severe storms of all kinds are most common in the winter and spring to early summer. Winter storms can bring snow, possibly heavy, strong gusty winds, and bitter cold temperatures with possible ice jam flooding especially in late winter or early spring. These storms are most common from mid-October through March. Severe spring and early summer thunderstorms are usually strong and can bring any combination of strong gusty downdraft winds, heavy rains producing flooding, possible tornados, and hail. The summer severe storms are most common from May through August.

These storms can halt or seriously disrupt the areas utilities, telecommunications and the roadway system throughout the county and could bring search and rescue forces to action at any time. Damage from windstorms is typically related to the toppling of trees and limbs and consequent downing of utility power and communication lines with corresponding outages of power and telephone. Fallen limbs and uprooted trees can also block roadways disrupting the transportation network and can easily damage structures.

Severe winds can be defined as sustained winds of 30 to 50 mph with gusts of 70 mph or more. These strong winds can occur for several hours in the winter months and for an hour or so in the summer associated with the passage of thunderstorms or cold fronts. These winds can increase wildfire risks by fanning flames out of control and endanger fire fighters when winds shift suddenly. The winds can also lead to limited visibility from snow or dust that has caused motor vehicle accidents.

Tornados are a local atmospheric storm, generally of short duration, formed by winds rotating at a very high rate of speed. The vortex, which can be several hundred yards wide, is what is visible by observers being described as a twirling cloud like a whirlpool. Chouteau County has had a few in the last 10 years. In 2015 there was a tornado that hit the airport in Big Sandy causing major damage to one of the hangers.

Heavy snowfalls of 6 – 12 inches or more can cause closures of schools and businesses, close portions of the local and state roadways disrupting the flow of local and Intra-state freight and traffic. These storms can occur with little warning and can severely impact hunters and other outdoor enthusiasts as well as farmers and ranchers with livestock to feed and shelter. These events can create traffic congestion throughout the county and can bring numerous vehicular accidents.

Drought is a prolonged period of limited precipitation affecting the supply and quality of water. Chouteau County has had drought in previous years. The severity of drought progresses in stages; slightly dry, moderately dry, severely dry and extremely dry. Intensity of drought varies in Chouteau County during low moisture times. For example a drought which occurs in spring and summer can have major impact on crops and rivers and streams while drought in fall and winter has little impact of crops but has a big impact on rivers and streams if no snow to fill rivers, streams and ponds.

Hailstorms, which cause crop and property damage, are one of the most troublesome types of storms occurring in Montana. Hail sized $\frac{3}{4}$ " or more is the definition of severe hail. Hail this size or larger has been proven to bring the most significant damage to structures, cars as well as being dangerous to livestock and wildlife. Outdoor enthusiasts on the river have been caught in these sudden hail storms with resulting injuries and damage to their equipment.

Heavy rain in a short time can develop into a dangerous situation. Rain like this could over power storm drainages with considerable water backup endangering transportation and structures. This is also the time when urban and small stream flooding occurs with low land flooding the main threat with power and communications becoming interrupted while transportation can see a few days of altered travel due to roads and bridges becoming impassible.

Local History of Severe Weather Events.

The topography in Chouteau County influences the weather patterns. With the Highwood and Shonkin mountain ranges, along with the Missouri River corridor; the prevailing southwest winds tend to funnel severe weather events on a roughly identified path through the county as follows: starting at the Cascade/Chouteau county line travelling northeast along the Missouri River near Carter area; then toward the Highwood and Shonkin mountains; then turning more northerly to cross the Missouri River and toward southeast of Big Sandy and the Bears Paw Mountains.

Chouteau County has experienced numerous severe weather events NOAA’s National Environmental Satellite, Data and Information Service (NESDIS) lists 265 events involving Chouteau County. SHELDUS lists 10 events involving the County. On July 10, 1965 a “hail, tornado” severe weather event occurred that injured 5 people (SHELDUS). On July 5th 1988 there was a tornado in Chouteau County that injured two people (SHELDUS & NESDIS). SHELDUS lists \$1.8 million dollars in property damage and \$6.6 million in crop damage in Chouteau County.

Representative severe weather incidents are listed in the following table:

Location	Date	Type	Magnitude	Damage
CHOUTEAU CO.	07/14/1957	Thunderstorm Wind	0 kts.	0.00K
CHOUTEAU CO.	06/27/1958	Hail	0.75 in.	
CHOUTEAU CO.	06/27/1958	Hail	0.75 in.	
CHOUTEAU CO.	06/29/1960	Tornado		0.25K
CHOUTEAU CO.	07/03/1963	Tornado		
CHOUTEAU CO.	07/10/1965	Tornado		2.500M
CHOUTEAU CO.	06/03/1966	Hail	1.00 in.	
CHOUTEAU CO.	06/03/1966	Hail	1.00 in.	
CHOUTEAU CO.	06/27/1970	Thunderstorm Wind	0 kts.	
CHOUTEAU CO.	06/03/1971	Hail	1.00 in.	
CHOUTEAU CO.	08/04/1973	Tornado	F0	25.00K
CHOUTEAU CO.	08/04/1973	Hail	0.75 in.	
CHOUTEAU CO.	08/04/1973	Thunderstorm Wind	0 kts.	
CHOUTEAU CO.	06/20/1974	Hail	1.75 in.	
CHOUTEAU CO.	06/20/1974	Hail	1.75 in.	
CHOUTEAU CO.	06/03/1976	Hail	1.00 in.	
CHOUTEAU CO.	06/30/1979	Thunderstorm Wind	0 kts.	
CHOUTEAU CO.	06/01/1980	Tornado	F1	
CHOUTEAU CO.	04/24/1983	Thunderstorm Wind	0 kts.	
CHOUTEAU CO.	08/27/1985	Hail	1.00 in.	
CHOUTEAU CO.	08/27/1985	Hail	1.50 in.	
CHOUTEAU CO.	08/27/1985	Thunderstorm Wind	0 kts.	

Location	Date	Type	Magnitude	Damage
CHOUTEAU CO.	06/07/1988	Hail	1.25 in.	
CHOUTEAU CO.	06/07/1988	Hail	0.75 in.	
CHOUTEAU CO.	07/05/1988	Hail	1.25 in.	
CHOUTEAU CO.	07/05/1988	Hail	2.75 in.	
CHOUTEAU CO.	07/05/1988	Tornado	F3	250.00K
CHOUTEAU CO.	07/05/1988	Tornado	F3	25.00K
CHOUTEAU CO.	07/05/1988	Tornado	F3	2.50K
CHOUTEAU CO.	07/05/1988	Tornado	F0	
CHOUTEAU CO.	08/20/1988	Thunderstorm Wind	60 kts.	
CHOUTEAU CO.	06/15/1989	Thunderstorm Wind	0 kts.	
CHOUTEAU CO.	07/20/1989	Thunderstorm Wind	0 kts.	
CHOUTEAU CO.	08/20/1989	Thunderstorm Wind	52 kts.	
CHOUTEAU CO.	07/02/1990	Thunderstorm Wind	0 kts.	
CHOUTEAU CO.	07/02/1990	Hail	1.25 in.	
CHOUTEAU CO.	07/02/1990	Hail	1.25 in.	
CHOUTEAU CO.	07/02/1990	Hail	1.25 in.	
CHOUTEAU CO.	07/05/1990	Tornado	F0	
CHOUTEAU CO.	07/06/1990	Hail	1.25 in.	
CHOUTEAU CO.	08/26/1990	Hail	1.25 in.	
CHOUTEAU CO.	05/20/1991	Hail	1.75 in.	
CHOUTEAU CO.	06/21/1991	Hail	1.75 in.	
CHOUTEAU CO.	08/13/1991	Hail	1.75 in.	
CHOUTEAU CO.	06/26/1992	Tornado	F0	
CHOUTEAU CO.	07/18/1992	Hail	1.00 in.	
CHOUTEAU CO.	07/23/1992	Hail	2.75 in.	

Location	Date	Type	Magnitude	Damage
Carter	05/16/1993	Thunderstorm Wind	70 kts.	5.00K
Fort Benton	05/16/1993	Thunderstorm Wind	0 kts.	5.00K
Geraldine	05/16/1993	Thunderstorm Wind	52 kts.	5.00K
Fort Benton	05/16/1993	Thunderstorm Wind	0 kts.	50.00K
Big Sandy	07/10/1994	Hail	0.75 in.	
Fort Benton	06/05/1995	Hail	1.75 in.	
Highwood	06/16/1995	Hail	1.75 in.	
HIGHWOOD	06/25/1996	Hail	1.75 in.	
BIG SANDY	06/25/1996	Hail	0.75 in.	
FT BENTON	07/18/1996	Thunderstorm Wind	50 kts.	
GERALDINE	06/06/1997	Hail	2.75 in.	
GERALDINE	06/06/1997	Hail	1.75 in.	
GERALDINE	06/06/1997	Hail	2.50 in.	
WARRICK	06/06/1997	Hail	0.75 in.	
GERALDINE	06/06/1997	Hail	1.75 in.	
ILIAD	06/06/1997	Hail	1.75 in.	
BIG SANDY	06/15/1997	Hail	0.75 in.	
SHONKIN	06/19/1998	Tornado	F1	50.00K
LOMA	07/03/1998	Thunderstorm Wind	52 kts.	
FLOWEREE	07/05/1998	Hail	1.75 in.	
CARTER	09/09/1998	Thunderstorm Wind	61 kts.	
BIG SANDY	09/09/1998	Thunderstorm Wind	61 kts.	
SQUARE BUTTE	07/07/1999	Tornado	F0	2.00K
ILIAD	07/21/1999	Hail	0.75 in.	
FT BENTON	07/21/1999	Hail	0.75 in.	
FT BENTON	07/21/1999	Hail	0.75 in.	
BIG SANDY	08/07/1999	Hail	1.00 in.	
BIG SANDY	09/10/1999	Thunderstorm Wind	52 kts.	
CARTER	06/05/2000	Thunderstorm Wind	55 kts. E	
FLOWEREE	07/02/2000	Hail	1.00 in.	
WARRICK	07/03/2000	Hail	0.88 in.	
GERALDINE	07/05/2000	Hail	1.75 in.	
GERALDINE	07/05/2000	Hail	2.75 in.	
ILIAD	07/05/2000	Hail	1.50 in.	

Location	Date	Type	Magnitude	Damage
GERALDINE	07/05/2000	Hail	2.00 in.	
FLOWEREE	07/08/2000	Hail	1.00 in.	
GERALDINE	07/08/2000	Hail	1.00 in.	
BIG SANDY	07/13/2000	Thunderstorm Wind	74 kts. M	2.00K
LOMA	08/11/2000	Hail	1.75 in.	
WARRICK	08/11/2000	Hail	0.88 in.	
BIG SANDY	09/04/2000	Hail	0.75 in.	
FT BENTON	09/04/2000	Hail	0.75 in.	
BIG SANDY	09/04/2000	Hail	0.75 in.	
HIGHWOOD	09/05/2000	Hail	1.75 in.	
SHONKIN	09/05/2000	Hail	1.25 in.	
GERALDINE	09/05/2000	Hail	1.00 in.	
GERALDINE	09/05/2000	Hail	1.00 in.	
GERALDINE	09/05/2000	Hail	1.00 in.	
BIG SANDY	05/28/2001	Thunderstorm Wind	51 kts. M	
BIG SANDY	06/27/2001	Thunderstorm Wind	57 kts. E	
CARTER	07/12/2001	Thunderstorm Wind	69 kts. E	
FT BENTON	07/12/2001	Thunderstorm Wind	53 kts. M	
GERALDINE	07/16/2001	Thunderstorm Wind	52 kts. E	
CARTER	07/16/2001	Thunderstorm Wind	52 kts. E	
ILIAD	07/21/2001	Hail	1.50 in.	
HIGHWOOD	07/28/2001	Thunderstorm Wind	56 kts. E	
GERALDINE	07/28/2001	Thunderstorm Wind	52 kts. E	
FT BENTON	07/28/2001	Thunderstorm Wind	52 kts. E	
HIGHWOOD	07/14/2002	Hail	0.75 in.	
FT BENTON	07/14/2002	Thunderstorm Wind	87 kts. E	
CARTER	07/17/2002	Hail	0.75 in.	

Location	Date	Type	Magnitude	Damage
HIGHWOOD	07/23/2002	Thunderstorm Wind	52 kts. E	
SQUARE BUTTE	08/05/2002	Hail	0.88 in.	
FT BENTON	08/05/2002	Hail	0.75 in.	
CARTER	04/12/2003	Hail	1.00 in.	
HIGHWOOD	05/25/2003	Hail	0.88 in.	
HIGHWOOD	05/25/2003	Hail	0.75 in.	
CARTER	05/25/2003	Thunderstorm Wind	52 kts. EG	
CARTER	06/10/2003	Hail	1.00 in.	
CARTER	06/10/2003	Hail	0.88 in.	
HIGHWOOD	06/10/2003	Hail	0.75 in.	
HIGHWOOD	06/10/2003	Thunderstorm Wind	52 kts. EG	
SHONKIN	06/10/2003	Hail	0.75 in.	
GERALDINE	06/10/2003	Thunderstorm Wind	52 kts. EG	
HIGHWOOD	06/10/2003	Thunderstorm Wind	52 kts. EG	
FT BENTON	06/20/2003	Hail	0.75 in.	
BIG SANDY	06/20/2003	Thunderstorm Wind	69 kts. EG	
GERALDINE	07/01/2003	Hail	0.75 in.	
CARTER	08/12/2003	Hail	1.00 in.	
BIG SANDY	06/05/2004	Thunderstorm Wind	59 kts. EG	
BIG SANDY	06/05/2004	Thunderstorm Wind	52 kts. MG	
BIG SANDY	08/04/2004	Hail	0.75 in.	
BIG SANDY	08/04/2004	Hail	0.75 in.	
SHONKIN	08/05/2004	Thunderstorm Wind	52 kts. MG	
FT BENTON	08/05/2004	Thunderstorm Wind	57 kts. EG	
GERALDINE	08/06/2004	Hail	0.88 in.	
FT BENTON	06/17/2005	Hail	0.75 in.	
FT BENTON	06/22/2005	Thunderstorm Wind	52 kts. MG	
GERALDINE	06/27/2005	Thunderstorm Wind	52 kts. MG	
GERALDINE	08/10/2005	Thunderstorm Wind	52 kts. MG	
BIG SANDY	08/10/2005	Hail	1.00 in.	
GERALDINE	05/20/2006	Hail	0.75 in.	

Location	Date	Type	Magnitude	Damage
FLOWEREE	06/04/2006	Thunderstorm Wind	52 kts. EG	
GERALDINE	06/04/2006	Thunderstorm Wind	52 kts. EG	
BIG SANDY	07/24/2006	Thunderstorm Wind	56 kts. EG	
CARTER	07/24/2006	Thunderstorm Wind	61 kts. EG	
LOMA	07/24/2006	Thunderstorm Wind	63 kts. MG	
FT BENTON	07/24/2006	Thunderstorm Wind	52 kts. EG	
BIG SANDY	05/17/2007	Thunderstorm Wind	61 kts. EG	
GERALDINE	05/19/2007	Hail	0.75 in.	
GERALDINE	06/24/2007	Hail	0.75 in.	
GERALDINE	06/24/2007	Hail	1.00 in.	
BIG SANDY	06/25/2007	Hail	1.00 in.	
FLOWEREE	06/29/2007	Hail	0.75 in.	
BIG SANDY	06/29/2007	Thunderstorm Wind	61 kts. EG	
LOMA	07/02/2007	Hail	1.75 in.	
GENOU	07/02/2007	Hail	1.75 in.	
CARTER	07/02/2007	Thunderstorm Wind	52 kts. EG	
CARTER	07/07/2007	Hail	0.75 in.	
FT BENTON	07/07/2007	Hail	1.00 in.	
BIG SANDY	07/20/2007	Hail	1.25 in.	
BIG SANDY	07/20/2007	Hail	0.88 in.	
WARRICK	07/20/2007	Hail	0.88 in.	
HIGHWOOD	07/23/2007	Hail	1.00 in.	
FT BENTON	07/23/2007	Thunderstorm Wind	52 kts. EG	
FT BENTON	08/19/2007	Thunderstorm Wind	52 kts. EG	
FT BENTON	08/19/2007	Thunderstorm Wind	52 kts. EG	
LOMA	04/29/2008	Thunderstorm Wind	56 kts. MG	
HIGHWOOD	05/20/2008	Thunderstorm Wind	52 kts. EG	
HIGHWOOD	05/20/2008	Thunderstorm Wind	52 kts. EG	
WARRICK	05/29/2008	Hail	0.75 in.	
ILIAD	05/30/2008	Thunderstorm Wind	52 kts. EG	
BIG SANDY	06/02/2008	Thunderstorm Wind	52 kts. EG	
ILIAD	06/02/2008	Thunderstorm Wind	61 kts. EG	
GERALDINE	07/04/2008	Hail	0.88 in.	
BIG SANDY	07/04/2008	Thunderstorm Wind	61 kts. EG	

Location	Date	Type	Magnitude	Damage
FT BENTON	07/27/2008	Hail	0.88 in.	
HIGHWOOD	08/07/2008	Thunderstorm Wind	52 kts. EG	
FT BENTON	08/07/2008	Thunderstorm Wind	56 kts. EG	
FT BENTON	08/08/2008	Thunderstorm Wind	52 kts. EG	
HIGHWOOD	08/09/2008	Thunderstorm Wind	56 kts. MG	
GERALDINE	06/25/2009	Thunderstorm Wind	52 kts. EG	
GERALDINE	07/02/2009	Hail	1.75 in.	
BIG SANDY	07/02/2009	Hail	1.75 in.	
FT BENTON	07/04/2009	Hail	1.25 in.	
FT BENTON	07/04/2009	Thunderstorm Wind	52 kts. EG	
FT BENTON	07/04/2009	Hail	1.25 in.	
FT BENTON	07/06/2009	Thunderstorm Wind	52 kts. MG	
GERALDINE	07/06/2009	Thunderstorm Wind	52 kts. EG	
FT BENTON	07/06/2009	Thunderstorm Wind	52 kts. EG	
FT BENTON	07/06/2009	Thunderstorm Wind	52 kts. EG	
FT BENTON	07/06/2009	Thunderstorm Wind	51 kts. MG	
BIG SANDY	07/06/2009	Thunderstorm Wind	74 kts. MG	
LOMA	07/12/2009	Thunderstorm Wind	50 kts. MG	
FLOWEREE	06/29/2010	Thunderstorm Wind	52 kts. EG	
FT BENTON	07/19/2010	Hail	1.75 in.	
CARTER	07/19/2010	Hail	1.00 in.	
BIG SANDY	08/02/2010	Hail	1.00 in.	
FLOWEREE	06/28/2011	Thunderstorm Wind	52 kts. EG	

Location	Date	Type	Magnitude	Damage
LOMA	06/28/2011	Thunderstorm Wind	56 kts. MG	
BIG SANDY	07/13/2011	Hail	1.00 in.	
FT BENTON	07/16/2011	Hail	1.00 in.	
CARTER	07/19/2011	Hail	1.25 in.	
BIG SANDY	07/19/2011	Thunderstorm Wind	56 kts. EG	
CARTER	06/04/2012	Hail	2.50 in.	
FT BENTON	06/04/2012	Hail	1.75 in.	
FLOWEREE	06/04/2012	Hail	2.75 in.	
CARTER	06/04/2012	Hail	2.00 in.	
LOMA	06/04/2012	Thunderstorm Wind	75 kts. EG	
GERALDINE	06/05/2012	Hail	1.00 in.	
EAGLETON	06/05/2012	Tornado	EF0	
BIG SANDY	06/05/2012	Hail	1.25 in.	
CARTER	06/26/2012	Hail	1.00 in.	
LOMA	06/26/2012	Thunderstorm Wind	52 kts. MG	
GERALDINE	07/07/2013	Hail	1.00 in.	
FT BENTON	07/08/2013	Hail	1.75 in.	
FT BENTON	07/08/2013	Hail	1.00 in.	
GERALDINE	07/08/2013	Hail	1.75 in.	
LOMA	08/05/2013	Hail	1.00 in.	
ILIAD	08/05/2013	Thunderstorm Wind	52 kts. MG	
CARTER	08/05/2013	Hail	1.00 in.	
BIG SANDY	08/29/2013	Thunderstorm Wind	58 kts. MG	
LOMA	08/29/2013	Thunderstorm Wind	52 kts. MG	
BIG SANDY	08/29/2013	Thunderstorm Wind	60 kts. MG	
BIG SANDY	08/30/2013	Thunderstorm Wind	60 kts. MG	
FLOWEREE	09/05/2013	Thunderstorm Wind	52 kts. EG	
HIGHWOOD	05/28/2014	Hail	1.00 in.	

Location	Date	Type	Magnitude	Damage
FT BENTON ARPT	05/28/2014	Hail	1.00 in.	
SHONKIN	05/28/2014	Hail	1.00 in.	
MONTAGUE	05/28/2014	Hail	1.75 in.	
MONTAGUE	05/28/2014	Hail	1.75 in.	
LOMA	05/28/2014	Thunderstorm Wind	52 kts. MG	
SQUARE BUTTE	05/28/2014	Hail	1.00 in.	
VIRGELLE	05/28/2014	Hail	2.00 in.	
BIG SANDY	05/28/2014	Hail	0.75 in.	
ILIAD	05/28/2014	Hail	0.88 in.	
FLOWEREE	07/03/2014	Hail	1.00 in.	
LOMA	07/03/2014	Hail	1.50 in.	
FT BENTON	07/23/2014	Thunderstorm Wind	56 kts. MG	
LOMA	07/23/2014	Thunderstorm Wind	55 kts. MG	
FT BENTON	08/03/2014	Thunderstorm Wind	57 kts. MG	
SQUARE BUTTE	08/03/2014	Thunderstorm Wind	56 kts. MG	
BIG SANDY	08/15/2014	Thunderstorm Wind	50 kts. MG	
VERONA	06/04/2015	Hail	0.88 in.	
TUNIS	07/01/2015	Thunderstorm Wind	56 kts. EG	
FT BENTON ARPT	07/01/2015	Thunderstorm Wind	56 kts. MG	
WARRICK	07/01/2015	Thunderstorm Wind	56 kts. EG	
GERALDINE	07/01/2015	Thunderstorm Wind	56 kts. EG	
BIG SANDY ARPT	07/04/2015	Thunderstorm Wind	79 kts. MG	
HIGHWOOD	08/29/2015	Thunderstorm Wind	54 kts. MG	
CHOUTEAU (ZONE)	11/17/2015	High Wind	55 kts. MG	
CHOUTEAU (ZONE)	12/09/2015	High Wind	62 kts. MG	
CHOUTEAU (ZONE)	12/13/2015	Winter Storm		
CHOUTEAU (ZONE)	02/06/2016	High Wind	55 kts. MG	

Location	Date	Type	Magnitude	Damage
CHOUTEAU (ZONE)	04/04/2016	High Wind	54 kts. MG	
CHOUTEAU (ZONE)	04/05/2016	High Wind	35 kts. MS	
HIGHWOOD	06/10/2016	Hail	1.75 in.	
HIGHWOOD	06/10/2016	Hail	1.75 in.	
GERALDINE	06/10/2016	Hail	1.00 in.	
GERALDINE	06/10/2016	Hail	1.00 in.	
SQUARE BUTTE	06/10/2016	Hail	2.00 in.	
SQUARE BUTTE	06/10/2016	Hail	2.00 in.	
BIG SANDY	06/30/2016	Thunderstorm Wind	51 kts. MG	
GERALDINE	08/09/2016	Hail	1.00 in.	

Based upon history, Chouteau County will experience one severe snow event about every five years and one severe summer storm every couple of years that will cause significant impact to at least one area of the county.

Drought conditions also severely impact Chouteau County. Since 1998, Chouteau County has been included in eight different Secretarial Designations for drought impact causing damages and loss of production.

Flooding in Chouteau County has had some big impact to the county road systems. (Also discussed in 5.10 on page 45) In 2010 and 2011, Chouteau County had a Presidential Declaration for flooding, Presidential Declaration 1992 and 1996. The damage was to some critical roadways in the county. In 2010, the flooding occurred in Big Sandy and caused damage to roads, some homes, bus routes and farmland. This flood also damaged some Reservation roads which had to also be repaired. In 2011 the flooding destroyed bridges in the Highwood Mountain and roads causing travel to detour to other roads. Some farms lost water pumps from flood water and filled basements with water.

Flooding in Chouteau County has been caused by different situations. Some floods are from too much rain coming down and causing snow pack to melt, which was the case for Big Sandy. The Highwood Mountains has had flash floods, which are hard to prepare for because of how fast it happens.

Data Limitations

Weather events are a difficult hazard for which to predict specific vulnerabilities. To be able to predict the impact on the county one need to know the magnitude of the weather event, when it is going to occur and specifically where it will impact the county. The data and analysis are limited by these factors.

B. Vulnerability Assessment

WINTER STORM			
Location	Probability	Extent	Resources at Risk
Generalized Jurisdictions: Chouteau County; Fort Benton; Big Sandy & Geraldine.	On a scale of 1-5, where 5 is a high probability of an incident, Weather scored 5.	Limited or County-wide depending on the event. The magnitude varies based on the severity of the event, but typically it is of short duration, such as a few hours - although it is not uncommon for an event to impact the power structure for a day or more.	High winds and heavy snow put all structures at risk. Physical impacts to all types of structures and utilities might occur when trees fall and block transportation systems. Power outages can impact operations of businesses and industries and the well-being of county residents.

SUMMARY OF IMPACT ON EXPOSED ASSETS

Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
<p>All structures of the city and county are potentially at risk. There are 2,858 housing units worth an estimated \$191 million dollars and more than 500 businesses with more than \$55 million dollars in sales potentially at risk in the county. The effects of severe weather can be felt across the entire county or in certain areas depending on the event.</p> <p>Winds and snow are the biggest threats especially in the event of the rare blizzard.</p>	<p>Frail, homeless, elderly and/or disabled persons whose well-being is dependent on electric powered assistive devices and utilities can be at risk if the power is unavailable for extended periods. Children at school when storms strike are vulnerable if the event is prolonged due to lack of physical comforts like food, water, blankets and power. Children at home can be vulnerable if they are home alone due to parents working.</p> <p>Hunters and outdoor enthusiasts can be caught unprepared when severe winter weather strikes forcing emergency personnel to affect their rescue. Farmers and ranchers must take necessary steps necessary to feed and shelter their livestock when heavy snow or blizzards occur.</p>	<p>Power and communications are especially at risk. Hospitals and other public safety facilities are vulnerable if the length of the power outage exceeds the capacity of their electrical backup systems. Water supply and sewage processing depends on electricity. Fallen trees and debris can disrupt the transportation network. High winds and excessive snow can disrupt airport operations.</p>	<p>Commercial and industrial enterprises may close with possible minor to significant economic impact. Strong winds can blow roofing material off commercial, public, and private buildings, warehouses, homes and garages. Snow loads in the winter can cause roofs and buildings to collapse. Icy conditions or white-outs could impair transportation of goods and services while vehicle accidents are a major concern.</p> <p>Weather events could have a significant impact on the agriculture aspects of the economy of Chouteau County. In 2012, there were 774 farms, totaling 2,071,771 acres, with an average value of \$1,674,522.00 per farm. The cash receipts for farming in 2012 were \$134,680.00 with \$14,611.00 in livestock and poultry sales.</p> <p>There were 37,062 cattle and 143 (2012) sheep in Chouteau County. This income and livestock could be severely impacted during severe weather events.</p>	<p>Wind-blown debris can be deposited in rivers, creeks and streams with resulting backups with flooding.</p>

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
Big Sandy				
All structure in the community are at risk of damage from severe weather. Big Sandy is close to Bears Paw Mountain and has sometime more severe storms with heavy snow fall. With this comes blizzards.	The residents of Big Sandy and surrounding areas include frail, sick elderly. With possibility of loosing power also comes the possibility of loosing heat and the ability to cook or obtain food. Big Sandy is a farming/ranching community , severe winter storms can affect the livelihood of this group.	Power and communication are especially at risk. Big Sandy has had numerous storms resulting in power outages. With this in mind the water system of Big Sandy could also be disrupted.	Businesses may have to close due to power outages, blizzards which will cause some economic loss. Winter weather can have a devastating impact on ranching.	Wind blown debris can cause power outages or block main infrastructures.

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
Geraldine				
All structure in the community are at risk of damage from severe weather.	The residents of Geraldine and surrounding areas include frail, sick elderly. With possibility of loosing power also comes the possibility of loosing heat and the ability to cook or obtain food. Geraldine is at least 30 miles from nearest hospital facility. Geraldine is a farming/ranching community , severe winter storms can affect the livelihood of this group.	Power and communication are especially at risk. Geraldine has had numerous storms resulting in power outages.	Businesses may have to close due to power outages, blizzards which will cause some economic loss. Winter weather can have a devastating impact on ranching.	Wind blown debris can cause power outages or block main infrastructures.

SUMMER STORM			
Location	Probability	Extent	Resources at Risk
Generalized Jurisdictions: Chouteau County; Fort Benton; Big Sandy & Geraldine.	On a scale of 1-5, where 5 is a high probability of an incident, Weather scored 5.	Limited or County-wide depending on the event	High winds put all structures at risk and increase the risk of wildland fires. Wildland fires occurring during these high wind events may rapidly spread out of control. Physical impacts to all types of structures and utilities might occur when trees fall and block transportation systems. Power outages can impact operations of businesses and industries and the well-being of county residents.

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
All structures of the city and county are potentially at risk. There are 2,858 housing units worth an estimated \$191 million dollars and more than 500 businesses with more than \$55 million dollars in sales potentially at risk in the county. The effects of severe weather can be felt across the entire county or in certain areas depending on the event.	Frail, homeless, elderly and/or disabled persons whose well-being is dependent on electric powered assistive devices and utilities can be at risk if the power is unavailable or when power usage is high such as when a prolonged heat spell occurs. Individual's outdoors when thunderstorms arrive are vulnerable to hail, strong winds, lightning and must seek shelter immediately. Lightning striking individuals is a rare event but should be considered a threat.	Power and communications are especially at risk. Microburst events can cause considerable damage to our power facilities. Electricity is essential for business and personal use as well as for the use of safety and public health facilities. Hospitals are vulnerable if the length of the power outage exceeds the capacity of their electrical backup systems. Power systems must be able to function when power is stretched thin such as in a prolonged heat spell. Water supply and sewage processing depends on electricity.	Commercial and industrial enterprises may close with some economic impact. Strong winds can blow roofing material off commercial, public, and private buildings, warehouses, homes and garages. Hail can damage buildings and vehicles with significant damage possible. Tornadoes while rare can and do occur in Montana. Precautions and emergency planning must take tornadoes into account into any planning. Micro Burst events are also possible and can result varying degrees of damage.	Wind-blown debris can be deposited in rivers, creeks and streams with resulting backups with flooding. Debris can be either localized or widespread depending on individual storms.

SUMMARY OF IMPACT ON EXPOSED ASSETS

Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
	<p>Outdoor enthusiasts and river outfitters can be caught unprepared when severe summer weather strikes forcing emergency personnel to affect their rescue</p>	<p>Fallen trees and debris can disrupt the transportation network. High winds can disrupt airport operations. Hail can accumulate into large drifts making travel hazardous as well as damaging vehicles and buildings especially windows</p>	<p>Weather events could have a significant impact on the agriculture aspects of the economy of Chouteau County. In 2002, there were 787 farms, totaling 2,301,376 acres, with an average value of \$1,265,042.00 per farm. The cash receipts for farming in 2002 were \$55,644,000.00 with \$13,727,000.00 in livestock and poultry sales.</p> <p>There were 33,650 cattle, 7,323 hogs, and 1,003 (2002) sheep in Chouteau County. This income and livestock could be severely impacted during severe weather events.</p>	

SUMMARY OF IMPACT ON EXPOSED ASSETS

Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
Big Sandy				
<p>All structures of the city of Big Sandy are potentially at risk.. The effects of severe weather can be felt across the entire county or in certain areas depending on the event.</p>	<p>Frail, homeless, elderly and/or disabled persons whose well-being is dependent on electric powered assistive devices and utilities can be at risk if the power is unavailable or when power usage is high such as when a prolonged heat spell occurs.</p> <p>Individual’s outdoors when thunderstorms arrive are vulnerable to hail, strong winds, lightning and must seek shelter immediately.</p> <p>Lightning striking individuals is a rare event but should be considered a threat.</p> <p>Residents in the city pool are at risk and should be considered a threat.</p> <p>The Missouri river has many visitors through the summer months and these visitors can be caught out unprepared causing emergency responders to be at risk.</p>	<p>Power and communications are especially at risk. Microburst events can cause considerable damage to our power facilities. Electricity is essential for business and personal use as well as for the use of safety and public health facilities. Hospitals are vulnerable if the length of the power outage exceeds the capacity of their electrical backup systems. Power systems must be able to function when power is stretched thin such as in a prolonged heat spell. Big Sandy’s water supply and sewage processing depends on electricity.</p> <p>Debris from storms, as well as hail, can cause disruption of valuable transportation resources.</p>	<p>Commercial and industrial enterprises may close with some economic impact. Strong winds can blow roofing material off commercial, public, and private buildings, warehouses, homes and garages. Big Sandy recently built a new hanger at the airport because of damage from high winds. Hail can damage buildings and vehicles with significant damage possible. Tornadoes while rare can and do occur in Montana. Precautions and emergency planning must take tornadoes into account into any planning. Micro Burst events are also possible and can result varying degrees of damage.</p>	<p>Wind-blown debris can be deposited in rivers, creeks and streams with resulting backups with flooding. Debris can be either localized or widespread depending on individual storms.</p> <p>Big Sandy is an agriculture/ranching community. A summer storm can cause damaging winds and hail to which can be devastating to the economy.</p>

SUMMARY OF IMPACT ON EXPOSED ASSETS

Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
Geraldine				
<p>All structures of the town of Geraldine are potentially at risk.. The effects of severe weather can be felt across the entire county or in certain areas depending on the event.</p>	<p>Frail, homeless, elderly and/or disabled persons whose well-being is dependent on electric powered assistive devices and utilities can be at risk if the power is unavailable or when power usage is high such as when a prolonged heat spell occurs. Geraldine is about 30 miles from the nearest medical facility.</p> <p>Individual’s outdoors when thunderstorms arrive are vulnerable to hail, strong winds, lightning and must seek shelter immediately.</p> <p>Lightning striking individuals is a rare event but should be considered a threat.</p> <p>Residents in the city pool are at risk and should be considered a threat.</p>	<p>Power and communications are especially at risk. Microburst events can cause considerable damage to our power facilities. Electricity is essential for business and personal use as well as for the use of safety and public health facilities. Hospitals are vulnerable if the length of the power outage exceeds the capacity of their electrical backup systems. Power systems must be able to function when power is stretched thin such as in a prolonged heat spell.</p> <p>Debris from storms, as well as hail, can cause disruption of valuable transportation resources.</p>	<p>Commercial and industrial enterprises may close with some economic impact. Strong winds can blow roofing material off commercial, public, and private buildings, warehouses, homes and garages and elevators. Tornadoes while rare can and do occur in Montana. Precautions and emergency planning must take tornadoes into account into any planning. Micro Burst events are also possible and can result varying degrees of damage.</p>	<p>Wind-blown debris can be deposited in rivers, creeks and streams with resulting backups with flooding. Debris can be either localized or widespread depending on individual storms.</p> <p>Geraldine is an agriculture/ranching community. A summer storm can cause damaging winds and hail to which can be devastating to the economy.</p>

5.8. Agro-Security Emergencies

A. Description

Agro-security is an ongoing process and that is implemented through a set of actions and technologies designed to protect livestock, crops, facilities, data, and other assets. Agro-security is the practice of protecting and isolating animals, plants, and various input products from biological agents that could cause disease and could be a part of controlling the spread of disease to humans or other vectors.

Chouteau County's economic base is dependent upon agriculture. Chouteau County is number one County in wheat production in Montana. The county encompasses 3,997 square miles. Crop, pasture and rangeland comprise of 81% of the county's land area, with grazing use estimated 42% of that land. Chouteau County's agricultural related businesses within the county. Because of this, the economic impact of a biosecurity event in Chouteau County could be devastating.

An agriculture emergency may threaten public health, animal nutrition, food production, aquaculture, livestock production, wildlife, soils, rangelands and agricultural water supplies. The county's resources can rapidly deplete if the outbreak or disaster includes more than one premises or a large area.

Local History of Agro-Security

AGRO-SECURITY EMERGENCY				
Location	Probability	Extent	Resources at Risk	
Generalized Jurisdictions: Chouteau County; Fort Benton; Big Sandy & Geraldine.	On a scale of 1-5, where 5 is a high probability of an incident, Agro-Security Emergency scored 4	Limited or County-wide depending on the event	Widespread Agro-Security disaster. All livestock resources including horses, cattle, sheep, hogs, poultry and crops in the county are at risk for diseases. A disease such as West Nile Virus could severely impact the horse population.	
SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
No impacts	The entire population (5,738) of Chouteau County is at risk depending on the disease outbreak. If disease is zoonotic, (contagious from animals to humans), the number of fatalities in the county would depend on the mortality rate and the percentage of the population affected.	Agriculture has been recognized as a critical national infrastructure by the Dept. of Homeland Security. Critical agricultural operations in Chouteau County would be severely impacted by an animal or plant disease outbreak.	Commercial and industrial enterprises may close due to the reliance on income from the agriculture industry. Possible minor to significant economic impact could occur. The livestock & agriculture industry is vital to Chouteau County with many producers already trying to operate on a very tight budget.	No Impact.

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
No impacts	The ability to control the spread of the disease outbreak would be dependent on the contagiousness of the disease, movement of the population, and the warning time involved.	Agriculture has been recognized as a critical national infrastructure by the Dept. of Homeland Security. Critical agricultural operations in Chouteau County would be severely impacted by an animal or plant disease outbreak.	Any animal or plant disease outbreak would severely impact the entire economic base of the county; as well as impact the future of the industry.	No Impact.

5.9. Conflagration – Structure Fire

A. Description

The National Fire Protection Association defines a conflagration as a fire with major building-to-building flame spread over some distance. While they define a group fire as a fire where there is building to building fire spread within a complex of buildings or adjacent buildings. A fire conflagration expands uncontrollably beyond its original fire building and engulfs adjoining properties. A conflagration can have many causes, including:

- Criminal acts (arson, acts of terrorism, civil unrest)
- Accidental fire causes (improper use of electrical and heating appliances, improper storage or use of flammable liquids, grease fires, improper disposal of ashes)
- Industrial accidents (hazardous materials incidents, explosions)
- Acts of nature (lightning, ignitions following a large earthquake)

In addition, wind and extremely dry weather can contribute to a conflagration. Communities with buildings constructed prior to modern building codes have significant potential for these types of fires due to the lack of fire walls and other fire barriers.

As already mentioned in “Section 5.4 Buildings”, the majority of construction in each of the communities is concrete and wood.

Local History of Conflagrations

The City of Fort Benton and the Towns of Geraldine and Big Sandy do not have a history of conflagrations within the City and Towns. Fires within these communities have for the most part been quickly contained.

The most recent fire that might have been the beginning of a conflagration was the grain elevator fire in Geraldine in 2004, however, it did not spread to other properties within the community. A more serious incident was the Wilray Fire which occurred on 4/16/2004, causing \$500,000.00 in damage and spreading onto the adjacent Taylor Chevrolet lot where it damaged cars and started spot fires downwind.

CONFLAGRATION – STRUCTURE FIRE			
Location	Probability	Extent	Resources at Risk
<p>” Urban Core of Fort Benton”</p> <p>Highwood</p> <p>Geraldine</p> <p>Big Sandy</p>	<p>On a scale of 1-5, where 5 is a high probability of an incident, Conflagration – Structure Fire scored 2.</p>	<p>Limited to a group of buildings depending on the event</p>	<p>Communities with older construction, i.e., constructed before modern building codes are vulnerable to structure fires that evolve to a conflagration. Significant fires in groups of buildings tend to expose large portions of the remainder of the community; vulnerable populations will be threatened, critical facilities may be at risk; and economic assets will be lost.</p>

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
<p>Groups or blocks of structures are vulnerable, especially if constructed without fire walls and groups of buildings in a complex have wood shake roof coverings. Grain elevators are particularly at risk due to the amount of dust generated.</p> <p>In the historic area of downtown Fort Benton where a conflagration most likely would occur, there is \$8.9 million of residential and commercial property at risk.</p>	<p>Homeowners, renters, and businesses can be at risk if the fire involves the buildings which they occupy.</p>	<p>Unless a critical facility is located in a downtown core, they would likely not be involved.</p>	<p>Structures ranging from homes, businesses are vulnerable.</p> <p>Fire damaged businesses or grain elevators will affect the general economic health of the community due to lost employment, reduced wages and lowered economic output</p>	<p>Not affected unless hazardous materials are involved.</p>

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
Big Sandy				
<p>Groups or blocks of structures are vulnerable, especially if constructed without fire walls and groups of buildings in a complex have wood shake roof coverings. Grain elevators are particularly at risk due to the amount of dust generated.</p> <p>In Big Sandy, there would be some critical facilities involved. Some of those facilities are: hospital, bank and grocery store.</p>	Homeowners, renters, and businesses can be at risk if the fire involves the buildings which they occupy.	Unless a critical facility is located in a downtown core, they would likely not be involved.	<p>Structures ranging from homes, businesses are vulnerable.</p> <p>Fire damaged businesses or grain elevators will affect the general economic health of the community due to lost employment, reduced wages and lowered economic output</p>	Not affected unless hazardous materials are involved.

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
Geraldine				
<p>Groups or blocks of structures are vulnerable, especially if constructed without fire walls and groups of buildings in a complex have wood shake roof coverings. Grain elevators are particularly at risk due to the amount of dust generated.</p> <p>In Geraldine there are few structures that would be affected. Those facilities are: Ambulance barn, school and bank.</p>	Homeowners, renters, and businesses can be at risk if the fire involves the buildings which they occupy.	Unless a critical facility is located in a downtown core, they would likely not be involved.	<p>Structures ranging from homes, businesses are vulnerable.</p> <p>Fire damaged businesses or grain elevators will affect the general economic health of the community due to lost employment, reduced wages and lowered economic output</p>	Not affected unless hazardous materials are involved.

5.10. Flooding

A. Description

Flooding can occur for many reasons. There are various types of flooding; 1) Flash flood, which is a rapid flooding of low-lying areas; washes, rivers, dry lakes and basins. It can be caused by a severe thunderstorm, meltwater from ice or snow flowing over ice sheets or snowfields. 2) Riverine Flooding. Riverine flooding is river flooding. When a river reaches flood stage, water can then rise and spill over the banks of the river. 3) Ice jam flooding. Ice Jam flooding is an accumulation of ice in the river which restricts the flow of water and then causing backwater to flood low-lying areas upstream from the jam. Downstream areas also can be flooded when the ice jam releases. Ice Jams are the more common types of flooding in Fort Benton.

Winter months can have a prolonged period when rivers and streams freeze over. Late winter or early spring can be a vulnerable period. Sudden warming causes snow pack to melt rapidly or direct heavy rains aid in melting snow rapidly to produce ice jam flooding. This flooding affects mostly low lying areas in rural areas and floodplains in urban and suburban areas. These floods can threaten public health, safety, and welfare by destroying or isolating structures, disrupting transportation systems, polluting water supplies, and destroying basic public facilities, such as sewer and electric services.

Local History of Flooding Incidents

For the Missouri River at Fort Benton (122 years of record), 1908 greatly exceeds all other floods with a flow of 140,000 cfs.

There have been 3 Presidential Disaster Declarations involving flooding and Chouteau County including the 1964 Flood, and flooding events in 2010 & 2011. Research of the SHELDUS and NWS databases includes additional flooding incidents.

Flooding in Chouteau County has had some big impact to the county road systems. In 2010 and 2011, Chouteau County had a Presidential Declaration for flooding, Presidential Declaration 1992 and 1996. The Montana flooding of 2011 was unique, both spatially and temporally. The flooding for 2011 was primed with summer and autumn 2010 precipitation, which increased the soil moisture content. Through a series of events, flooding eventually hit all corners of the state at some time during winter, spring or summer. The damage was to some critical roadways in the county. In 2010, the flooding occurred in Big Sandy and caused damage to roads, some homes, bus routes and farmland. This flood also damaged some Reservation roads which had to also be repaired. There were roads and bridges damaged in the Highwood and Geraldine area. In 2011 the flooding destroyed bridges in the Highwood Mountain and roads causing travel to detour to other roads. Some farms lost water pumps from flood water and filled basements with water.

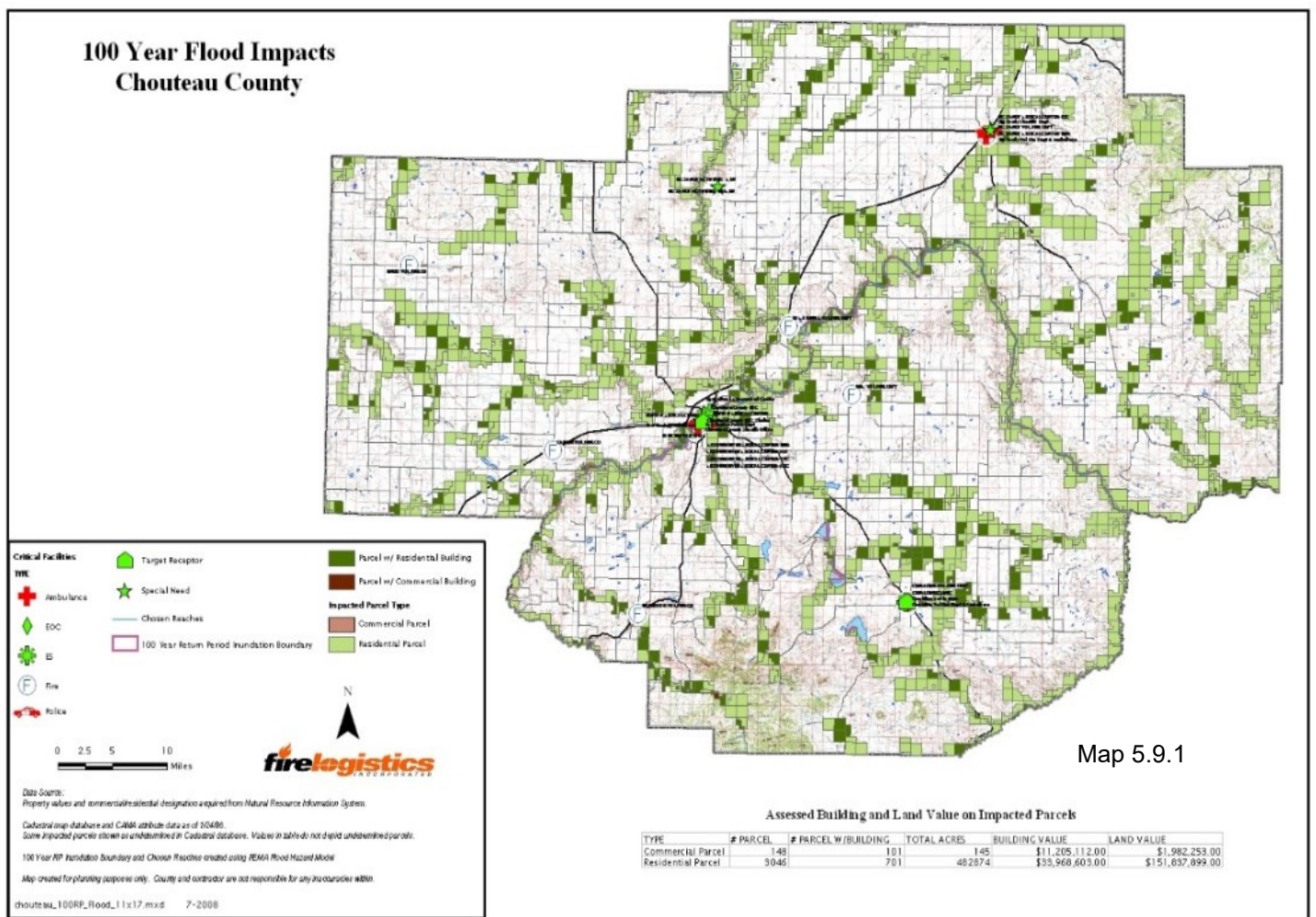
Flooding in Chouteau County has been caused by different situations. Some floods are from too much rain coming down and causing snow pack to melt, which was the case for Big Sandy. The Highwood Mountains has had flash floods, which are hard to prepare for because of how fast it happens.

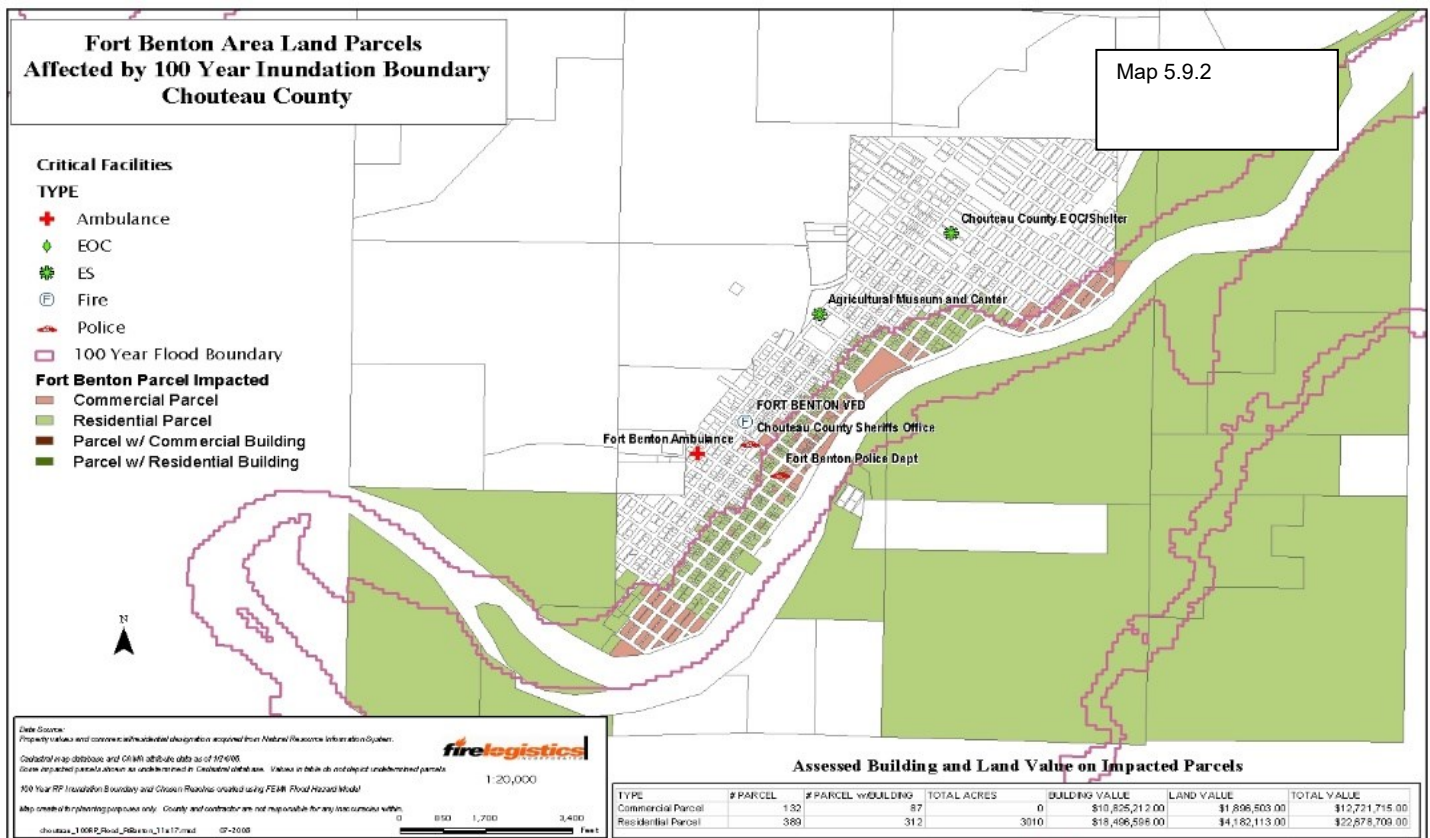
FLOODING INCIDENTS – CHOUTEAU COUNTY					
Date	Location	Type	Magnitude	Damage/Injuries	Source
9/25/1986	Chouteau Co	Flooding		\$769 K	SHELDUS
3/11/1996	Chouteau Co	Flooding	-	\$166K	SHELDUS
6/10/2002	Chouteau Co	Flooding Fort Benton	-	–	NESDIS

FLOODING INCIDENTS – CHOUTEAU COUNTY

Date	Location	Type	Magnitude	Damage/Injuries	Source
6/3/2005	Chouteau Co	Flooding	-	\$115K	SHELDUS
2010	Chouteau Co	Flooding- Big Sandy		121K	
2011	Chouteau Co	Flooding- Geraldine & Highwood		259K	

A 100-year flood was modeled to determine its impacts on Chouteau County and its communities. Map 5.9.1 represents the impact to Chouteau County as a whole and Map 5.9.2 represents the impact to the City of Fort Benton (See Map Section – Tab 7).





Even though FEMA considers Fort Benton to be a NSFHA, where there is a low to moderate risk of flooding, during a 100 year modeled flood there are risks to structures, critical infrastructure and vulnerable populations. The BLM Visitor Center in Fort Benton is in a potential flood area, but during construction the building site was elevated quite a few feet to mitigate any flood impact.

Chouteau County does not and is not currently contemplating joining the National Flood Insurance Program.

Big Sandy and Geraldine do not participate in the National Flood Insurance Program since neither of them has been identified with Special Flood Hazard Areas (SFHA.).

The City of Fort Benton is a participant in the National Flood Insurance Program. FEMA has determined that the community is in compliance with regulations for NFIP and that there are no special flood hazard areas currently in existence in the community. FEMA has maps of the floodplains and floodways in communities. Areas that are outside these areas are mapped as Zone C and are not subject to any special floodplain restrictions. The entire community of Fort Benton is classified as Zone C. Occasional ice jams can cause some storm sewer back-ups and result in flooding.

The City of Fort Benton does not participate in the National Flood Insurance Program's Community Rating System. The Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements.

As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three goals of the CRS:

1. Reduce flood losses;
2. Facilitate accurate insurance rating; and
3. Promote the awareness of flood insurance.

For CRS participating communities, flood insurance premium rates are discounted in increments of 5%; i.e., a Class 1 community would receive a 45% premium discount, while a Class 9 community would receive a 5% discount (a Class 10 is not participating in the CRS and receives no discount). The CRS classes for local communities are based on 18 creditable activities, organized under four categories:

1. Public Information,
2. Mapping and Regulations,
3. Flood Damage Reduction, and
4. Flood Preparedness.

B. Vulnerability Assessment

FLOODING			
Location	Probability	Extent	Resources at Risk
Generalized Jurisdictions: Chouteau County & Fort Benton.	On a scale of 1-5, where 5 is a high probability of an incident, Flooding scored 4.	Limited or County-wide depending on the event	Use the GIS generated maps to determine residences and businesses within each 100 -year flood d zones. Some residents could be disabled or bedridden making evacuation more difficult. Areas within the flood plain may have limited road access making for difficult rescue efforts.

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
All structures in flood plains are vulnerable. This includes homes, businesses, apartment buildings, mobile homes, gas stations, public facilities, public utilities to include power and all types of communications. For the County during a 100-year flood, at least \$45 million of commercial and residential buildings are at risk. Based upon its location on the Missouri River, the	Homeowners, renters, businesses, frail, homeless, elderly and/or disabled persons whose well-being is dependent on electric powered assistive devices and utilities can be at risk if the power is unavailable for extended periods due to elevated flood waters. Hunters and outdoor enthusiasts can be caught unprepared when flooding occurs forcing emergency personnel to affect their rescue	High-tension power lines near and over flooded areas. All public safety facilities are vulnerable if the water forces evacuation. Water supply and sewage facilities could backup with fouling of the waters. The transportation network including roads, bridges and ferries could become impassable, or destroyed,	Structures ranging from homes, businesses including outbuildings are vulnerable. Flooded businesses will affect the general economic health of the community due to lost employment and reduced wages lowered economic output Agricultural interests are vulnerable with exposed fields, feedlots, and haystacks.	Debris left over from the flood can be deposited in rivers, creeks and streams with resulting significant affects for aquatic life. Damage to wildlife habitat including brooding areas could have a significant impact on numbers of waterfowl. Sewage can overflow causing pollution affecting ground and surface water. Well water contamination possible.

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
<p>City of Fort Benton has the greatest risk for structural damage from flooding.</p> <p>For the City of Fort Benton, there is in excess of \$39 million of homes, businesses and infrastructure at risk.</p> <p>There are no repetitive flood loss properties in Chouteau County.</p>	<p>Farmers and ranchers must take necessary steps to move livestock to locations away from the flooded areas.</p> <p>During a 100-year flood event, Sunrise Bluffs Estates is at risk.</p>	<p>threatening safety and welfare of those trapped in the flooded areas.</p> <p>During a 100-year flood, the City of Fort Benton Police Department Fort Benton City, BLM Visitor Center, Fort Benton Water Treatment Plant are at risk. As a result of the last flood in the City of Fort Benton, mitigation measures were taken to protect the lift station which included a concrete barrier.</p>	<p>Livestock must be moved from the critical areas.</p>	

5.11. Contagious Disease

A. Description

Epidemics are outbreaks of infectious or contagious disease that spread rapidly through a localized community to a broader and more extensive population. Understanding how and why a particular communicable disease spreads requires a multi-disciplinary study of biology, culture, society, economics, environment and technology. Communicable diseases are caused by viruses, bacteria or protozoa, which infect humans in a variety of ways. Some are water borne, some air borne, others food borne, and yet others are transmitted via interpersonal contact or contact with a vector, such as a mosquito or tick. While animal-specific pathogens may yield catastrophic economic effects, a zoonotic disease may also impact human health yielding sickness and possibly death. Many important infectious diseases are zoonotic, thus public health and animal health concerns intersect. Examples of zoonotic disease include West Nile Virus, Hanta Virus, Anthrax, Brucellosis, Tuberculosis, Tularemia, Rabies, Avian Influenza, Plague, various hemorrhagic fever viruses, and various forms of encephalitis to name a few.

Local History of Contagious Disease

Chouteau County and the City of Fort Benton and the Towns of Geraldine and Big Sandy do not have a significant history of contagious disease.

Data Limitations

Disease is a difficult hazard for which to predict specific vulnerabilities. For a disease to have a major impact, it first has to enter a community and then spread. The eventual outcome of a contagious disease outbreak in Chouteau County will be determined by the initial location of the disease outbreak, how the disease spreads and mitigation actions taken. The data and analysis are limited by these factor.

CONTAGIOUS DISEASE			
Location	Probability	Extent	Resources at Risk
Generalized Jurisdictions: Chouteau County; Fort Benton; Big Sandy & Geraldine.	On a scale of 1-5, where 5 is a high probability of an incident, Contagious Disease scored 3	Limited or County-wide depending on the event	Widespread communicable disease outbreaks will impact critical facility operations, businesses and the general population. All livestock resources including horses, cattle, sheep, hogs and poultry in the county are at risk for diseases. A disease such as West Nile Virus could severely impact the horse population.

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
No impacts	<p>The entire population (5,738) of Chouteau County is at risk depending on the disease outbreak. Especially those that have immunodeficiency already.</p> <p>The number of fatalities in the county would depend on the mortality rate and the percentage of the population affected. The ability to control the spread of the disease outbreak would be dependent on the contagiousness of the disease, movement of the population, and the warning time involved.</p>	<p>The operation of critical facilities will certainly be impacted by employees not reporting to work to due to sickness.</p> <p>Agriculture has also been recognized as a critical national infrastructure by the Dept. of Homeland Security. Critical agricultural operations in Chouteau County would be severely impacted by an animal disease outbreak.</p>	<p>Commercial and industrial enterprises may close due to employees not reporting to work with possible minor to significant economic impact.</p> <p>The livestock & agriculture industry is vital to Chouteau County with many producers already trying to operate on a very tight budget. Any animal disease outbreak would severely impact the entire economic base of the county; as well as impact the future of the industry.</p>	No Impact.

5.12 Mass Casualty Incidents

A. Description

Natural and man-made hazard to the citizens of Chouteau County have the potential to generate large numbers of casualties. The definition of a mass casualty or major EMS incident is not based on the type of incident but rather, whether or not it overwhelms existing personnel, facilities, equipment, and capabilities of the responding agency(s) (Chouteau County EOP--Mass Casualty, 2003). Specifically, in the Chouteau County EOP examples are used to define a mass casualty incident:

- a. Any situation requiring more than 2 ambulance units for adequate field treatment and transport.
- b. Any situation involving an aircraft or bus accident.
- c. Any situation where multiple victims are affected by hazardous materials.

Local History of Mass Casualty Incidents

Chouteau County and the City of Fort Benton and the Towns of Geraldine and Big Sandy do not have a significant history of mass casualty incidents. However as with all communities, they have significant potential to have them occur. The Chouteau County EOP has a specific annex dealing with Mass Casualty Incidents.

MASS CASUALTY			
Location	Probability	Extent	Resources at Risk
Generalized, but could occur along any principal roadways or any facility where large groups gather Jurisdictions: Chouteau County; Fort Benton; Big Sandy & Geraldine.	On a scale of 1-5, where 5 is a high probability of an incident, Mass Casualty scored 3.	Limited to the accident scene	Mass casualty incidents by their nature are a great threat to the lives of those involved. A greater number of deaths could be expected without a coordinated and efficient method of casualty extrication, treatment and transportation as outlined in the Chouteau County Mass Casualty Plan.

SUMMARY OF IMPACT ON EXPOSED ASSETS				
Structures	Vulnerable Populations	Critical Facilities	Economic Assets	Environmental Assets
Structures would not be affected unless the incident occurred within or near a structure.	Anyone could be affected by traffic accidents on a highway; students on school buses or athletes on sports buses. Participants at large gatherings.	Critical facilities that host large gatherings have the potential to be impacted if the incident occurred at the facility.	Minimal impact	Minimal Impact.

5.13 Summary – Risk Assessment

The risk assessment as described provides the probability and vulnerabilities to Chouteau County and its communities from the identified hazards. As with any assessment involving multi-hazard planning, all potential incidents may not be represented in this document and an actual incident may occur in a different manner than described in this report. The foregoing assessment will allow Chouteau County and its communities to design mitigation strategies to minimize damage and impacts from the various multi-hazards facing Chouteau County.

6. Mitigation Strategy -- The Mitigation Plan

This Chapter provides the steps that are being taken or should be taken in Chouteau County to reduce and mitigate the multi-hazard threats to the structures, vulnerable populations, critical facilities, economic and environment assets facing Chouteau County and its communities.

The LEPC representing Chouteau County, the City of Fort Benton, and the Towns of Big Sandy and Geraldine using the previously discussed Risk Assessment as the basis; completed the following process to develop the mitigation measures and Action Plan for this MHMP:

- Establish over-arching mitigation goals
- Brainstorm mitigation measures
- Priority Ranking
- Developed & update Mitigation Action Plan Matrix

6.1. Benefits of Hazard Mitigation

The benefits of multi-hazard mitigation planning are to:

Save lives and property

Chouteau County and its communities can save lives and reduce property damage from natural hazards through mitigation actions, such as moving families and their homes out of harm's way, limiting development, and/or regulating the type of construction or structures allowed in certain areas.

Reduce vulnerability to future hazards.

By having a mitigation strategy in place, Chouteau County and its communities will be better prepared to take proper steps that will permanently reduce the risk of future losses.

Facilitate post-disaster funding.

By identifying mitigation strategies and projects before the next disaster, Chouteau County and its communities will be in a better position to obtain post-disaster funding because much of the background work necessary for funding assistance will already be in place.

Speed recovery.

By developing a mitigation strategy, Chouteau County and its communities can identify post-disaster mitigation opportunities in advance of a disaster. Further, Chouteau County and its communities can develop recovery plans and policies to minimize the number of decisions that must be made while under the stress of responding to and recovering from a disaster.

Demonstrate commitment to improving community health and safety.

Developing a mitigation strategy demonstrates Chouteau County and its communities' commitment to safeguarding their citizens and protecting their economic and environmental well-being.

Demonstrate accountability and regional coordination.

Each jurisdiction is responsible for mitigation projects within their scope and boundaries. This includes identifying, prioritizing, funding, completing and evaluating mitigation projects.

Each of the jurisdictions also has an ongoing commitment to acting cooperatively within the county to the greatest extent possible. This allows for problem-solving at the county level and gaining maximum benefit from potential funding sources.

6.2. Mitigation Goal:

Chouteau County's Multi-Hazard Mitigation Plan Goals are:

- Prevent personal injury, loss of life and damage to property and the environment from natural and technological hazards.
- Document hazards, risk assessments, and vulnerabilities and rate those hazards based on probability and potential impact to the County.
- Encourage public participation in preparedness and mitigation activities, by promoting public awareness and an understanding of natural and technological hazards; as well as the risk those hazards potentially present to quality of life and economic vitality.
- Continue to form partnerships with private and public sector agencies, businesses and organizations to further comprehensive planning and implementation of mitigation measures.
- Continue updating the Continuity of Government plan for the County and assist private and public sector agencies and businesses to prepare Continuity of Operations plans.
- Establish a framework for reducing future losses from technological and natural disasters.
- Prepare for, mitigate, avoid, reduce and minimize the disruption, damage and losses that occur from a disaster and facilitate post-disaster funding.
- Sustain existing public safety programs by assessing current emergency services capabilities and identifying future needs.

Enhance public safety, by improving the capabilities of emergency services to respond to and recover from the effects of hazards on people, property and the environment.

Since wildfire has historically proven to be a high risk in Chouteau County based upon number of occurrences and values at risk, a separate CWPP has been developed. Parts of that CWPP are repeated in this document in order to summarize the information. Following are the specific mitigation goals related to wildfire taken from that document:

- Identify, designate and map areas of wildland-urban interface in the county.
- Evaluate, upgrade and/or maintain community wildland and structural fire preparation and response facilities, water supplies, and equipment to suppress and mitigate wildland fire risks with financial assistance through competitive grant program administered by the MT DNRC.

- Prevent threats to and destruction of property from wildland fire by adopting subdivision regulations, which include access, water supply, asset protection zones, and fire stations.
- Develop and maintain regulations to ensure asset protection zones are created and maintained around structures and improvements in the county.
- Educate community members to prepare for and respond to wildland fire and to mitigate wildland fire damage.
- Improve training and qualifications of fire personnel to more efficiently manage incidents and to effectively interface with incoming Incident Management Teams deployed in the county.
- Work as a partner to identify, coordinate and implement fuels reduction projects between private landowners, the Lewistown Field Office of the Bureau of Land Management, the Lewis & Clark NF, the Bureau of Indian Affairs, and the Rocky Boy Indian Reservation.
- Position fire protection agencies, county leaders, rural communities, residents, and forest owners and managers to be better prepared to protect the County's residents and its natural resources from the potentially devastating impacts of wildland and wildland-urban interface fires.
- To identify economic development opportunities for fuel reduction enterprises.
- Decrease the chances of a wildland fire spreading from federal lands onto private lands while, correspondingly, decreasing the risk of a wildland fire spreading from private lands onto federal lands within the county.
- Reduce wildland fuel loads in and around our neighborhoods and communities, create fuel breaks in appropriate locations in Conservation Reserve Program lands and promote healthy forest and range-land ecosystems by reduction of hazardous fuels.
- Implement the Chouteau County CWPP with ongoing monitoring and evaluation.

The mitigation measures from the CWPP have also been summarized in the chart in the next section – 6.3 – Mitigation & Preparedness Measures.

That chart combines mitigation priorities as well as preparedness and response priority activities. Since the LEPC and other planning groups were devoting this much time to a plan, they felt it would be more cost effective and efficient to simultaneously review all aspects for emergency management. Chouteau County is classified as “frontier” based upon a population of 1.5 persons per square mile. With such a sparse population and limited resources, it is difficult to identify only mitigation related actions for natural hazards separately from all emergency management needs for both man-made and natural hazards related risks.

In order to arrive at a final rating of qualifying mitigation actions to incorporate in the Mitigation Action Plan, another list – 6.3.2 - was developed and included following the table. These are listed separately for clarity. This list includes items mentioned in the graph as well some additional items strictly related to land use planning that would encompass multi-hazards and risks.

6.2.1 Pre-Mitigation Actions from last PDM:

Action	Description	Responsible Department	Actions Taken/or
Wildland Fires	Prepare a strategic water source plan & GPS map for the county, which shows the most efficient sources of water needed to support wildland firefighting efforts.	Chouteau County, Fort Benton, Big Sandy & Geraldine – DES & County Fire Council	Tablets were bought and Chouteau County Map downloaded on the tablets. Our goal now is to continue updating and mapping to show emergency access roads to various water sources to allow firefighters with quick access.
Conflagration	Promote fire safety through community groups	Chouteau County, Fort Benton, Big Sandy & Geraldine - Fire Departments and Community Groups	A sustained fire safety outreach program will help build and support community wide to enable the residents to prevent, prepare for, respond to and recover from fires.
	Support the fire mutual aid response system	Fort Benton, Big Sandy, Geraldine, Carter, Highway & Loma - Fire Departments	This is an ongoing action. Continue support of the mutual aid response system.
Flood	Develop mitigation and preparedness data and measures for critical public infrastructure and facilities located in flood hazard areas.	Chouteau County & Fort Benton – DES & City/County Planning Board	Ongoing process

Action	Description	Responsible Department	Actions Taken/or Not completed
Multi-Hazard	Collect data on critical structures, values and location in one easy to access database to utilize for future planning efforts.	Chouteau County, Fort Benton, Big Sandy & Geraldine – LEPC & County Planning Board	Updating the Chouteau County critical structures and locations on a daily basis or as information comes in. Updating is for all of Chouteau County.
	Prepare land use maps and flood plain map which will be of aid to future administrators, planners and developers	Chouteau County, Fort Benton, Big Sandy & Geraldine – DES & County Planning Board	Ongoing process
	As future subdivisions or critical infrastructure are developed, review the hazards and risks associated with the development.	Chouteau County, Fort Benton, Big Sandy & Geraldine – DES & County Planning Board	When new development, builders and owners are educated about the insurance and given the option to get the insurance. This is ongoing.
	Identify specific mitigation related criteria to be incorporated into the land use planning process.	Chouteau County, Fort Benton, Big Sandy & Geraldine – DES & County Planning Board	
	Continue educating and encouraging registration of cell phones to utilize the use of the Emergency Notification Program, to effectively notify Chouteau County residents about impending disasters, evacuations, & etc.	Chouteau County, Fort Benton, Big Sandy & Geraldine - 911 Advisory Board	Continue to work with County Dispatch and public to utilize the Emergency Notification Program. Educating public by sending information out via social media and at different community events. Possibility of reviewing new program for this in future. This will be on going.
	Maintain the Chouteau County LEPC to facilitate implementation, monitoring and evaluation of Chouteau County mitigation projects.	Chouteau County, Fort Benton, Big Sandy & Geraldine - BOCC, DES	Chouteau County has an active LEPC with significant participation of the community members and intends to keep the LEPC as the focal point for the MHMP activities. Work is in place to continually send out information to public and business owners to come join this group. This is ongoing.

Action	Description	Responsible Department	Actions Taken/or
Multi-Hazard	Continue developing SOP's & EOC checklists for the operation of the County's Emergency Coordination Center	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC	Ensuring an effective efficient Emergency Operations Center allows the County to deliver responsive emergency services. Updating our current primary EOC, which is the Courthouse, to make it useable with emergencies in mind.
	Work with the NGO & Faith Based network to assess the adequacy of service delivery in all areas of the County	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC, NGO's	Utilization of volunteers for the county is a cost effective solution to service delivery. At this point our list of these networks are out dated but goal for next few years is to get new information to update our lists. Meet with them and educate them on how they can help.
	Continue updating the Continuity of Operations Plan for Chouteau County. Educating and encouraging people and businesses to prepare a plan	Fort Benton, Big Sandy & Geraldine -DES, LEPC, Businesses	Development of continuity of operations plans for the County's businesses ensure a rapid recovery from emergency incidents. There has been some information sent to business owners but haven't gotten a big acceptance of creating COG. There will be more information and meetings to help educate the people.
Hazmat	Continue training the emergency responders in Chouteau County to operations level response capability.	Chouteau County, Fort Benton, Big Sandy & Geraldine - LEPC	As shown in the risk assessment, a hazardous materials incident is likely incident to occur in Chouteau County. Chouteau County and its emergency service agencies train all first responders to the operation level; because they rely heavily on volunteers, this is a continual need.
	Work with farmers and ranchers to ensure they understand the necessary precautions to take when using farm chemicals in their operations. Providing information, whether through social media or other forms, on how to dispose of their farm chemicals the proper way.	Chouteau County rural residents - County Extension	County Extension is mandated to provide services in support of the agriculture community in Chouteau County. If programs are developed to ensure that farmers and ranchers in the county utilize and store farm chemicals in a safe manner preventing a hazardous materials incident will be highly cost-effective. This will be an ongoing project.

Action	Description	Responsible Department	Actions Taken/or Not completed
Storm	Develop and maintain a plan for clearing debris from priority routes to maintain access to critical facilities	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES	During flooding in Big Sandy and Highwood/Geraldine areas, increasing culvert size, building new bridges and cleaning up dead trees and debris were completed.
	Encourage the purchase of portable electric generators for temporary power usage. Educating the public on how to properly use them.	Chouteau County, Fort Benton, Big Sandy & Geraldine - LEPC	Due to long term power outages due to weather events, residents should be encouraged to purchase generators to supply power to their homes, farms and ranches. Most farmers and ranchers already have generators, we need to work with schools and our critical shelter places to get grants to acquire generators.
Disease	Develop a resource list of personnel, supplies and equipment relative to response to a public health emergency	Chouteau County, Fort Benton, Big Sandy & Geraldine – County Health Department	This program will enable the Health Department to more efficiently and effectively respond to public health emergencies. As with all resource lists, they need to be updated regularly as people change.
	Continue to educate the public, county staff on contagious disease prevention.	Chouteau County, Fort Benton, Big Sandy & Geraldine – BOH, Public Health	A sustained mitigation outreach program for communicable disease will help build and support community capacity to enable the public to prepare for, respond to and recover from a communicable disease outbreak. Information of different diseases is posted on social media and in local businesses.
	Continue to work with the Health Department and medical providers to quickly disseminate information should a communicable disease be diagnosed to prevent the spread of the disease.	Chouteau County, Fort Benton, Big Sandy & Geraldine – County Health Department	To better inform our communities, if needed an Emergency will be sent out informing the public what is happening and what to do in this kind of a situation.

Action	Description	Responsible Department	Actions Taken/or Not completed
Disease Continued	Continue to educate the public on the resources available on the county web-site - public health & DES pages. Encourage them to utilize that site to obtain information related to public health issues, preparedness techniques, current disease outbreaks and appropriate individual response mechanisms.	Chouteau County, Fort Benton, Big Sandy & Geraldine - County Health Department, DES, LEPC	A sustained mitigation outreach program utilizing the County's web site for communicable disease will allow citizens to effectively inform themselves and to obtain information related to public health issues, preparedness techniques, current disease outbreaks and appropriate individual response mechanisms. We are in the process of redoing our website but most information can reach more people by social media.
	Continue to develop exercises that will test the public health protocols, educate the public and train the responders to appropriately handle a public health emergency.	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES	Effective utilization and exercising of public health protocols will ensure a rapid efficient response during a public health emergency. Future exercises are being planned.
	Review yearly & update as needed the Public Health annex and Public Health operating protocols.	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC, Health Care Facilities, BOH	Reviews & up-dates of the Public Health Annex and protocols ensures a safe, efficient delivery of services. Public Health has recently updated their protocols. This is a project that updated frequently as needed.
	Educate the public and train emergency responders on the POD concept.	Chouteau County, Fort Benton, Big Sandy & Geraldine – County Health Department	Utilizing the POD concept for delivering immunization.
Mass Casualty	Continue training all emergency personnel on Chouteau County's Mass Casualty Plan.	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, EMS, Fire, Law Enforcement, Hospitals	Highly trained personnel allow the County to deliver rapid efficient safe emergency services; because the County relies heavily on volunteers, this is a continual need.
	Continue to develop exercises that will test the mass casualty protocols, educate the public and train the responders to appropriately handle a mass casualty emergency.	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC, EMS, Health Care Providers	Effective utilization and exercising of mass casualty response protocols will ensure a rapid efficient response during a mass casualty incident. Every year the Sheriff's department has done an active shooter exercise in Big Sandy which helps different responders train, this last year we had one in Fort Benton. Plans are to have more of these exercises to encourage training together.

Action	Description	Responsible Department	Actions Taken/or Not completed
	Ensure that all appropriate emergency personnel have completed a minimum of ICS 100, 200, 700 & 800.	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, EMS, Fire, Law Enforcement, Hospitals	Highly trained personnel allow the County to deliver rapid efficient safe emergency services; because the County relies heavily on volunteers, this is a continual need. Encouraging other entities, like school officials to complete at least the 100 and 200.
Agro Security	Educate first responders to more familiar with special considerations of an animal security emergency. Encouraging them to take NIMS courses IS-10a, IS-11a or IS-111a.	Chouteau County, Fort Benton, Big Sandy & Geraldine EMS, Fire, Law Enforcement, DES	Incorporating Agro Security in with exercises encouraged ranchers and responders to think outside their box in the Rolling Cow exercise.
	Maintain partnership with S-CAP. Continue working with group to update ESF-11.	Chouteau County -DES, LEPC, Extension	Continued partnership with S-CAP will allow Chouteau County to be more effective when there is an Agro-Security incident. Proceed with quarterly meetings if possible.

6.3. Mitigation & Preparedness Measures

Mitigation measures are actions taken to reduce the vulnerability of people and resources to the impact of multi-hazards or disasters. They can take many forms, some target a specific issue of vulnerability; others have broad implications for the county’s ability to protect itself or recover from a disaster.

The multi-hazard mitigation and preparedness measures presented in this section respond to mitigation needs that go beyond dealing with any one particular hazard. They present broad strategies and actions that are useful no matter what disaster may strike. Some measures speak to the maintenance and administration of the mitigation plan. Others focus on the need for further developing and sharing information on multi-hazards.

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Multi Hazards				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Maintain Public and private partnerships to foster multi-hazard program coordination and collaboration within Chouteau County.	S	H	LEPC	•	•	•	•	•	•	•	•	•
Continue to periodically update the County's Emergency Operations Plan, linking emergency services with multi-hazard mitigation programs and enhancing public education.	S	M	LEPC	•	•	•	•	•	•	•	•	•
Continue making the Chouteau County Multi-Hazard Mitigation Plan available to the public by placing it on the County's website and through the public library	S	M	DES			•						•
Continue educating all Chouteau County families to have provisions on hand to all of them to be self-sufficient for at least 72 hr. Encouraging families to have a plan in place for emergencies.	S	M	DES, BOH, LEPC, BOCC	•	•	•	•		•	•	•	•

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters									
Multi Hazards				Goals									
Mitigation & Preparedness Measures	Long Term	Short Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Maintain the Chouteau County LEPC to facilitate implementation, monitoring and evaluation of Chouteau County mitigation projects	S		M	BOCC, DES	•	•	•	•	•	•	•	•	•
Continue developing and updating SOP's & EOC checklists for the operation of the County's Emergency Coordination Center.	S		M	DES, LEPC	•		•	•	•	•	•	•	•
Establish a framework for reducing future losses from technological and natural disasters	S		M	DES, BOCC, LEPC	•		•	•	•	•	•		•
Continue updating the Continuity of Operations Plan for Chouteau County. Educating and encouraging people and businesses to prepare a plan. Encourage the businesses to think about those that have functional needs.	S		M	DES, LEPC, BOCC	•	•	•	•	•	•	•	•	•
Continue ICS training, meeting Homeland Security requirements for all first responders and all public officials.	S		M	DES, Fire, LEPC, Law Enforcement, Schools, EMS, BOH, Health Care facilities	•	•	•	•	•	•	•	•	•
Increase Knowledge of the hazards and mitigation strategies in Chouteau County and adjust policies and programs based on this knowledge.	L		M	DES, LEPC, BOC C, County Planning Board, Roads	•	•	•	•	•	•	•	•	•

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters									
Multi Hazards				Goals									
Mitigation & Preparedness Measures	Long Term	Short Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Continue to create and maintain a system to support populations with functional needs (adults and children) within Chouteau County. Including evaluation and special sheltering needs.	L		L	LEPC, DES, NGO's, Law Enforcement, Health Department, Health Care facilities	•	•	•	•	•	•	•	•	•
Create a more efficient Emergency Operations Center. Educating the necessary entities on what the Emergency Operations Center is and how it functions.	L		L	DES, Law Enforcement, BOCC, LEPC	•	•	•	•	•	•	•	•	•
Continue to improve public awareness & provide citizens with specific steps to reduce their risks to natural and man-made hazards. Provide information on social media as needed.	L		L	DES, Fire, Law Enforcement, EMS, Public Health	•	•	•	•	•	•	•	•	•
Continue to refine the Critical Facilities List capable of offering safe haven to the citizens of Chouteau County during a disaster event.	L		M	DES, LEPC, Public Health	•	•	•	•	•	•	•	•	•
Work with the NGO & Faith Based network to assess the adequacy of service delivery in all areas of the County. Encourage the involvement in exercises.	L		L	DES, LEPC, NGO's	•	•	•	•	•	•	•	•	•
Continue educating and encouraging the use of the Emergency Notification Program to effectively notify Chouteau County residents about impending disasters, evacuations, & etc.	L		H	Sheriff, DES, Fire, 911 Advisory Board	•	•	•	•	•	•	•	•	•

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters									
Multi Hazards				Goals									
Mitigation & Preparedness Measures	Long Term	Short Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Sustain existing public safety programs by assessing current emergency services capabilities and identifying future needs.	L		M	DES, LEPC, EMS, Fire	•	•		•	•	•	•	•	•

Big Sandy				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters									
Multi Hazards				Goals									
Mitigation & Preparedness Measures	Long Term	Short Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Continue to create and maintain a system to support populations with functional needs (adults and children) within Chouteau County. Including evaluation and special sheltering needs.	L		L	LEPC, DES, NGO's, Law Enforcement, Health Department, Health Care facilities	•	•	•	•	•	•	•	•	•
Continue making the Chouteau County Multi-Hazard Mitigation Plan available to the public by placing it on the County's website and through the public library	S		M	DES			•						•
Continue to improve public awareness & provide citizens of Big Sandy with specific steps to reduce their risks to natural and man-made hazards.	L		L	DES, Fire, Law Enforcement, EMS, Public Health	•	•	•	•		•	•		•
Continue to refine the Critical Facilities List capable of offering safe haven to the citizens of Big Sandy during a disaster event.	L		M	DES, LEPC, Public Health	•	•	•	•	•	•	•	•	•
Work with the NGO & Faith Based network to assess the adequacy of service delivery in Big Sandy. Encouraging the participation in exercises.	L		L	DES, LEPC, NGO's	•	•	•	•	•	•	•	•	•
Continue educating and encouraging the use of the Emergency Notification Program to effectively notify Big Sandy residents about impending disasters, evacuations, & etc.	L		H	Sheriff, DES, Fire, 911 Advisory Board	•		•	•	•	•	•	•	•

Big Sandy				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters									
Multi Hazards				Goals									
Mitigation & Preparedness Measures	Long Term	Short Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Maintain the Chouteau County LEPC to facilitate implementation, monitoring and evaluation of Chouteau County mitigation projects.	S		M	BOCC, DES	•	•	•	•	•	•	•	•	•
Continue updating the Continuity of Operations Plan for Big Sandy. Educating and encouraging people and businesses to prepare a plan.	S		M	DES, LEPC, BOCC	•	•	•	•	•	•	•	•	•
Continue ICS training, meeting Homeland Security requirements for all first responders and all public officials.	S		M	DES, Fire, LEPC, Law Enforcement, Schools, EMS, BOH, Health Care facilities	•	•	•	•	•	•	•	•	•
Continue to create and maintain a system to support populations with functional needs (adults and children) within Big Sandy. Including evaluation and special sheltering needs.	L		L	LEPC, DES, NGO's, Law Enforcement, Health Department, Health Care facilities	•	•	•	•	•	•	•	•	•
Continue working with Big Sandy to create an EOP for their drinking water.	L		H	DES, BOCC, City of Big Sandy	•	•		•	•	•	•	•	•

Hazardous Material Incidents:

Mitigation measures for Hazardous Materials Incidents are presented in the following table. They reflect the importance of public awareness and continuity of business operations.

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
HAZMAT			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Educate the public about how to limit their exposure to hazardous materials incidents	S	M	County Extension, LEPC	•		•	•		•	•	•	•
Continue training the emergency responders in Chouteau County to operations level response capability	S	H	LEPC	•		•	•	•	•	•	•	•
Support the regional hazardous material teams and utilize them on incidents exceeding Chouteau County's capability	S	H	LEPC, Fire, DES	•	•	•	•	•	•	•	•	•
Work with fixed site hazardous materials facilities to develop plans to reduce risks of environmental pollution and life safety risks making the sites more disaster resistant.	L	H	LEPC, Businesses, County Extension	•	•	•	•	•	•	•	•	•
Ensure hazardous materials plans, (keeping record of these plans) are in place for businesses that handle hazardous materials and ensure all are in compliance with State and Federal regulations.	L	M	LEPC, Businesses, County Extension	•	•	•	•	•	•	•	•	•
Work with farmers and ranchers to ensure they understand necessary precautions to take when using farm chemicals in their operations. Providing information, whether through social media or other forms, on how to dispose of their farm chemicals the proper way.	L	H	LEPC, Farmers, Ranchers, County Extension	•	•	•	•	•	•	•	•	•

Big Sandy				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
HAZMAT			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Work with fixed site hazardous materials facilities to develop plans to reduce risks of environmental pollution and life safety risks making the sites more disaster resistant.	L	H	LEPC, Businesses, County Extension	•	•	•	•	•	•	•	•	•
Work with farmers and ranchers to ensure they understand necessary precautions to take when using farm chemicals in their operations. Providing information, whether through social media or other forms, on how to dispose of their farm chemicals the proper way.	L	H	LEPC, Farmers, Ranchers, County Extension	•	•	•	•	•	•	•	•	•

Geraldine				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
HAZMAT			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Work with fixed site hazardous materials facilities to develop plans to reduce risks of environmental pollution and life safety risks making the sites more disaster resistant.	L	H	LEPC, Businesses, County Extension	•	•	•	•	•	•	•	•	•
Work with farmers and ranchers to ensure they understand necessary precautions to take when using farm chemicals in their operations. Providing information, whether through social media or other forms, on how to dispose of their farm chemicals the proper way.	L	H	LEPC, Farmers, Ranchers, County Extension	•	•	•	•	•	•	•	•	•

Mitigation measures for Storms are presented in the following table. They reflect the importance of public awareness and continuity of electric power.

			MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters									
Severe Storms			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Maintain partnership with the National Weather Service and local media to help educate public on preparedness and what to do when a storm warning goes off.	S	M	LEPC, NWS, Local Newspaper		•	•	•	•	•	•	•	•
Encourage the use of portable warning devices such as radios with severe weather warning alarms in critical facilities.	S	M	LEPC, NWS, DES		•	•	•	•	•	•	•	•
Develop a public education program for outdoor enthusiasts, river traveler, and river outfitters. Adding information to the local welcoming booklet handed out to visitors and new residents. Encourage people to participate in the National Weather Service severe weather spotter training program.	S	M	BLM, City Council, LEPC, River Outfitters, FWP, NWS	•	•	•		•	•	•	•	•

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Severe Storms			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Encourage the purchase of portable generators for temporary power outages. Educate public on how to properly use them.	L	H	LEPC		•	•	•	•		•		•
Encourage and Support the concept of removal/replacement for trees that threaten or pose a risk to utilities and structures.	L	L	DES, LEPC, City Government, Utilities			•			•		•	•
Support and Encourage the construction of underground utilities when and where feasible.	L	L	DES, Utilities			•		•				•
Develop and maintain a plan for clearing debris from priority routes.	L	H	DES, LEPC, Road Crew	•	•	•	•	•	•	•	•	
Develop and implement programs to reduce risks to public infrastructure.	L	M	DES, BOCC	•			•	•	•	•	•	

Big Sandy				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Severe Storms			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Encourage the use of portable warning devices such as radios with severe weather warning alarms in critical facilities.	S	H	LEPC, NWS, DES		•	•	•	•	•	•	•	•
Develop a public education program for outdoor enthusiasts, river traveler, and river outfitters. Adding information to the local welcoming booklet handed out to visitors and new residents. Encourage people to participate in the National Weather Service severe weather spotter training program.	S	M	BLM, City Council, LEPC, River Outfitters, FWP, NWS	•	•	•		•	•	•	•	•
Develop and maintain a plan for clearing debris from priority routes	L	H	DES, LEPC, Road Crew	•	•	•	•	•	•	•	•	
Develop and implement programs to reduce risks to public infrastructure. Looking at past history to create a more permanent solutions.	L	M	DES, BOCC	•			•	•	•	•	•	

Geraldine				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Severe Storms				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Encourage the use of portable warning devices such as radios with severe weather warning alarms in critical facilities.	S	H	LEPC, NWS, DES		•	•	•	•	•	•	•	•
Encourage people to participate in the National Weather Service severe weather spotter training program.	S	M	BLM, City Council, LEPC, River Outfitters, FWP, NWS	•	•	•		•	•	•	•	•
Develop and maintain a plan for clearing debris from priority routes	L	H	DES, LEPC, Road Crew	•	•	•	•	•	•	•	•	
Develop and implement programs to reduce risks to public infrastructure. Looking at past history to create a more permanent solution.	L	M	DES, BOCC	•			•	•	•	•	•	

CONFLAGRATION-STRUCTURE FIRES:

Mitigation measures for Structure Fires - Conflagrations are presented in the following table. They reflect the importance of public awareness, fire prevention and built in suppression components.

			MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters									
Conflagrations-Fire			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Promote fire safety through community groups.	S	H	Fire Departments & Community groups	•	•	•	•	•	•	•	•	•
Retain and recruit adequate volunteer fire fighters	S		Fire Departments	•	•	•	•	•	•	•	•	•
Support the fire mutual aid response system	S	H	Fire Departments	•	•	•	•	•	•	•	•	•
Maintain fire flows and hydrant maintenance	S	H	Fire Departments, Water Departments	•	•	•	•	•	•	•	•	•
Promote fire sprinkler systems in older community structures.	L	L	Fire Departments	•	•	•	•	•	•	•	•	•
Ensure there are adequate water supplies in areas of communities subject to large fires.	L	M	Fire Departments, Water Departments, City Government	•	•	•	•	•	•	•	•	•

Big Sandy		MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters										
Conflagrations-Fire			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Promote fire safety through Big Sandy community groups.	S	H	Fire Departments & Community groups	•	•	•	•	•	•	•	•	•
Retain and recruit adequate volunteer fire fighters for Big Sandy	S	H	Fire Departments	•	•	•	•	•	•	•	•	•
Support the fire mutual aid response system	S	H	Fire Departments	•	•	•	•	•	•	•	•	•
Promote fire sprinkler systems in older community structures.	L	L	Fire Departments	•	•	•	•	•	•	•	•	•

Geraldine		MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters										
Conflagrations-Fire			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Retain and recruit adequate volunteer fire fighters for Geraldine	S	H	Fire Departments	•	•	•	•	•	•	•	•	•
Support the fire mutual aid response system	S	H	Fire Departments	•	•	•	•	•	•	•	•	•
Promote fire sprinkler systems in older community structures.	L	L	Fire Departments	•	•	•	•	•	•	•	•	•

FLOODS:

Mitigation measures for Floods are presented in the following table. They reflect the importance of public awareness and avoiding developing in the floodplain.

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Flooding				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Provide education to households and businesses on flood hazards.	S	M	DES, LEPC	•	•	•	•	•	•	•	•	•
Educate the public about purchasing National Flood Insurance or basement backup insurance.	S	H	City of Fort Benton, LEPC,	•	•	•	•	•	•	•	•	•
Update applicable City codes to improve risk reduction and prevention of flood impacts.	S	M	City of Fort Benton	•	•	•	•	•	•	•	•	•
Create planning and zoning regulations for development within the floodplain	L	L	County Planning Board, LEPC, City Council, BOCC	•	•	•	•	•	•	•	•	•
Develop and maintain mitigation and preparedness measures for critical public infrastructure and facilities located in flood hazard areas.	L	M	DES, LEPC, BOCC, City Council	•	•	•	•	•	•	•	•	•
Encourage mitigation projects that would upgrade undersized culverts and bridges to become more flood resistant.	L	H	DES, LEPC, BOCC, Road Crew	•		•	•	•	•	•	•	•

Big Sandy				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Flooding				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Provide education to households and businesses in Big Sandy on flood hazards.	S	M	DES, LEPC	•	•	•	•	•	•	•	•	•
Develop and maintain mitigation and preparedness measures for critical public infrastructure and facilities located in flood hazard areas.	L	H	DES, LEPC, BOCC, City Council	•	•	•	•	•	•	•	•	•
Encourage mitigation projects that would upgrade undersized culverts and bridges to become more flood resistant. Looking at past history as to where the more trouble places are.	L	H	DES, LEPC, BOCC, Road Crew	•		•	•	•	•	•	•	•

Geraldine				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Flooding				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Develop and maintain mitigation and preparedness measures for critical public infrastructure and facilities located in flood hazard areas.	L	H	DES, LEPC, BOCC, City Council	•	•	•	•	•	•	•	•	•
Encourage mitigation projects that would upgrade undersized culverts and bridges to become more flood resistant. Looking at past history as to where the more trouble places are.	L	H	DES, LEPC, BOCC, Road Crew	•		•	•	•	•	•	•	•

CONTAGIOUS DISEASE:

Mitigation measures for Contagious Disease are presented in the following table. They reflect the importance of public awareness, prevention and containment of disease outbreaks.

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Contagious Disease				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Continue building and utilizing the Faith-based network of volunteers	S	H	DES, LEPC, PH	•		•	•		•	•	•	•
Educate the public and train the emergency responders on the POD concept.	S	H	DES, PH	•		•	•	•	•	•	•	•
Review yearly & update as needed the Public Health annex and Public Health operating protocols	L	H	DES, LEPC, PH, BOH	•		•	•	•	•	•	•	•
Maintain contact with MT DPHHS to regularly monitor the threat of communicable disease in Chouteau County.	L	H	PH, DES	•	•		•		•	•	•	•
Increase the vaccination rate for Chouteau County residents; especially amongst the younger age groups, in schools and for emergency providers	L	H	PH	•		•	•			•	•	•
Develop a resource list of personnel, supplies and equipment relative to response to a public health emergency.	L	M	LEPC, DES, Health Care facilities, PH	•			•	•	•	•	•	

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Contagious Disease				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Research options and/or sources for medications in case of a wide-spread epidemic or pandemic when the SNS becomes short or we aren't able to obtain meds by the normal route.	L	H	BOH	•	•		•	•	•	•	•	•
Work with the Hospitals to continue to address issues dealing with surge capacity.	L	M	Health Care Facilities, PH	•	•		•	•	•	•	•	•
Continue updating the County EOP relative to Animal Diseases	L	M	Extension, BOH, DES & Veterinarian, S-CAP Committee	•	•		•			•	•	•

Big Sandy		MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters										
Contagious Disease				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Educate the people of Big Sandy and train the emergency responders on the POD concept.	S	H	DES, PH	•		•	•	•	•	•	•	•
Develop a resource list of personnel, supplies and equipment relative to response to a public health emergency.	L	H	LEPC, DES, Health Care facilities, PH	•			•	•	•	•	•	
Work with the Hospitals to continue to address issues dealing with surge capacity.	L	L	Health Care Facilities, PH	•	•		•	•	•	•	•	•

Geraldine		MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters										
Contagious Disease				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Educate the People of Geraldine and train the emergency responders on the POD concept.	S	H	DES, PH	•		•	•	•	•	•	•	•
Update Geraldine's resource list of personnel, supplies and equipment relative to response to a public health emergency.	L	H	LEPC, DES, Health Care facilities, PH	•			•	•	•	•	•	

MASS CASUALTY:

Mitigation measures for Mass Casualty Incidents Disease are presented in the following table. They reflect the importance of continuing education and training.

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Mass Casualty				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Continue training all emergency personnel on Chouteau County's Mass Casualty Plan	S	H	DES, Law Enforcement, Fire, EMS, Hospitals	•			•	•	•	•	•	•
Continue to offer critical incident stress debriefing as necessary in the event of multiple Casualty incidents	S	H	DES, EMS			•	•		•	•	•	
Continue to utilize and develop Faith-based network of volunteers to assist in the event of an extended response to a mass Casualty.	S	H	DES, LEPC, BOH	•		•	•	•	•	•	•	•
Continue to develop exercises that will test the mass Casualty protocols, educate the public and train the Responders to appropriately handle a mass Casualty	S	H	DES, LEPC, EMS, Health Care Providers	•		•	•	•	•	•	•	•

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters									
Mass Casualty				Goals									
Mitigation & Preparedness Measures	Short Term Term	Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Review and update yearly as needed the Mass casualty annex to the County EOP	L		H	DES, LEPC, BOH, Health Care Facilities, Coroner	•	•	•	•	•	•	•	•	•
Continue to review and update personnel and equipment lists on a yearly basis.	L		H	DES, LEPC, Health Care Facilities	•			•		•	•	•	•
Work with hospitals to continue addressing issues dealing with surge capacity.	L		L	LEPC, Health Care Facilities	•	•		•	•	•	•	•	•

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Mass Casualty				Goals								
Mitigation & Preparedness Measures	Short Term Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Working with DPHHS develop alternate standard of care protocols and any necessary legislation.	L	M	Health Care Facilities, EMS, PH	•	•		•		•	•	•	•
Continue working on a more comprehensive protocol related to morgue guidelines and capacity issues.	L	M	BOH, Coroner	•	•		•		•	•	•	•
Continue to identify alternate treatment and care sites in the county and test these sites to check feasibility of the locations.	L	M	DES, LEPC, BOH	•	•	•	•	•	•	•	•	•
Ensure that all appropriate emergency personnel have completed a minimum of ICS 100, 200, 700, 800	L	H	DES, EMS, Fire, Law Enforcement, Hospital	•			•		•	•	•	•

Big Sandy				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Mass Casualty				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Continue training all emergency personnel in Big Sandy on Chouteau County's Mass Casualty Plan	S	H	DES, Law Enforcement, Fire, EMS, Hospitals	•			•	•	•	•	•	•
Continue to develop exercises with Big Sandy that will test the mass Casualty protocols, educate the public and train the Responders to appropriately handle a mass Casualty	S	H	DES, LEPC, EMS, Health Care Providers	•		•	•	•	•	•	•	•
Continue to review and update personnel and equipment lists on a yearly basis.	L	H	DES, LEPC, Health Care Facilities, Road Crew	•			•		•	•	•	•
Ensure that all appropriate emergency personnel have completed a minimum of ICS 100, 200, 700, 800	L	H	DES, EMS, Fire, Law Enforcement, Hospital	•			•		•	•	•	•

Geraldine		MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters										
Mass Casualty			Goals									
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Continue training all emergency personnel in Geraldine on Chouteau County's Mass Casualty Plan	S	H	DES, Law Enforcement, Fire, EMS, Hospitals	•			•	•	•	•	•	•
Continue to develop exercises with Geraldine that will test the mass Casualty protocols, educate the public and train the Responders to appropriately handle a mass Casualty	S	H	DES, LEPC, EMS, Health Care Providers	•		•	•	•	•	•	•	•
Continue to review and update personnel and equipment lists on a yearly basis.	L	H	DES, LEPC, Health Care Facilities, Road Crew	•			•		•	•	•	•
Ensure that all appropriate emergency personnel have completed a minimum of ICS 100, 200, 700, 800	L	H	DES, EMS, Fire, Law Enforcement, Hospital	•			•		•	•	•	•

AGRO-SECURITY:

Mitigation measures for Agro-Security Incidents are presented in the following table. They reflect the importance of continuing education and training

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Agro-Security				Goals								
Mitigation & Preparedness Measures	Short Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
	Long Term											
Maintain partnership with S-CAP (Strengthening Community Agro-security Planning) Continue working with the group to update ESF 11	L	H	DES, LEPC, Extension	•		•	•		•	•		•
Implement and maintain risk informed physical protections, countermeasures, and policies protecting people, structures, materials, products, and systems associated with key operational activities and critical infrastructure sectors including pets, livestock and cropland.	L	M	DES, LEPC, S-CAP	•		•	•			•		
Maintain resource directory, updating yearly or as needed for all of Chouteau County	L	H	DES			•	•	•		•		•

				MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters								
Agro-Security				Goals								
Mitigation & Preparedness Measures	Short Term Long Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
Educate public about Agro-Security and preparedness measures. Creating an exercise to simulate an emergency to help educate the public.	S	L	DES, Extension,	•		•	•			•		•
Maintain list of possible buildings and/or livestock yards to use for pet evacuation and also a shelter that companion animals can be with their owners. Update MOUs as needed to include these new places.	S	M	DES, Local Vets, S-CAP			•	•			•		•
Educate first responders to be more familiar with special considerations of an animal security emergency. Encouraging them to take the NIMS course for animal security.	L	H	DES, EMS, Law Enforcement, Extension	•		•	•			•		•

Big Sandy		MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters										
		Agro-Security		Goals								
Mitigation & Preparedness Measures	Short Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
	Long Term											
Educate Big Sandy public about Agro-Security and preparedness measures. Creating an exercise to simulate an emergency to help educate the public.	S	M	DES, Extension,	•		•	•			•		•
Maintain list of possible buildings and/or livestock yards to use for pet evacuation and also a shelter that companion animals can be with their owners. Update MOUs as needed to include these new places. Visit with Big Sandy Vet to encourage a working relationship.	S	M	DES, Local Vets, S-CAP			•	•			•		•
Educate first responders to be more familiar with special considerations of an animal security emergency. Encouraging them to take the NIMS course for animal security.	L	H	DES, EMS, Law Enforcement, Extension	•		•	•			•		•
Encourage key members of Big Sandy to be part of the S-CAP committee.	L	H	DES, S-CAP									

Geraldine		MISSION: To Protect Chouteau County's Citizens, Property and the Environment from the impact of Natural and Man-Made Disasters										
		Agro-Security		Goals								
Mitigation & Preparedness Measures	Short Term	Priority	Responsible agencies	Preventing Injury & Damage	Document & Rate Hazards	Public participation & Awareness	Partnerships	COOP & Business Continuity	Framework	Prepare, Mitigate, Avoid	Sustain Public Safety	Enhance Public Safety
	Long Term											
Educate Geraldine public about Agro-Security and preparedness measures. Including residents to be part of exercises	S	M	DES, Extension,	•		•	•			•		•
Maintain list of possible buildings and/or livestock yards to use for pet evacuation and also a shelter that companion animals can be with their owners. Update MOUs as needed to include these new places.	S	M	DES, Local Vets, S-CAP			•	•			•		•
Educate first responders to be more familiar with special considerations of an animal security emergency. Encouraging them to take the NIMS course for animal security.	L	H	DES, EMS, Law Enforcement, Extension	•		•	•			•		•
Encourage key members of Geraldine to be part of the S-CAP committee.	L	H	DES, S-CAP									

6.3.2 Mitigation Actions for Natural Disasters

In order to arrive at a final rating of qualifying mitigation actions to incorporate in this Mitigation Action Plan, this list – 6.3.2 - was developed. These mitigation items are listed separately for clarity. This list includes items mentioned in the graph above, as well some additional items strictly related to land use planning that would encompass multi-hazards and risks.

List 6.3.2 – Mitigation Actions for Natural Disasters

Multi-hazard:

- Increase knowledge of the hazards and mitigation strategies that would apply in Chouteau County and adjust policies and programs based on that knowledge.
- Initiate a review of County's radio system to create a more efficient and effective radio system for the responders.
- Create and maintain a system and plan to support populations with functional needs, adults and children, within Chouteau County, including evacuation and shelter.
- Create disaster related educational programs to be used through the school system.
- Improve public awareness & provide citizens with specific steps to reduce their risks to natural hazards.
- Develop a long-term recovery plan for Chouteau County, including data and cost estimates for structures, contents and function losses for critical infrastructure from the effects of a catastrophic disaster.
- Continue to refine the list of Critical Facilities capable of offering safe haven to the citizens of Chouteau County during a disaster and evaluate their location relative to known hazardous or high risk areas.
- Identify specific mitigation related criteria to be incorporated into the land use planning process, e.g., prohibiting development in high hazard areas, etc.
- As future subdivisions or critical infrastructure are developed, review the hazards and risks associated with the development.
- Update current County map to include new infrastructures, new buildings and/or remove ones no longer there.

Severe Storms:

- Support the concept of a removal/replacement for trees that threaten or pose a risk to utilities and structures.
- Support the construction of underground utilities when and where practical.
- Develop a plan for clearing debris from priority routes to maintain access to critical facilities.
- Develop and implement programs to reduce risks to public infrastructure.
- Develop a list of resources for homeowners to use when building new structures to aid in a more storm ready home.

Flood:

- Educate the public about purchasing National Flood Insurance or basement backup insurance.
- Update Applicable City codes to improve risk reduction and prevention of flood impacts.
- Continue participation in the NFIP and consider joining the Community Rating System (CRS).
- Create planning and zoning regulations for development within the floodplain.
- Develop mitigation and preparedness data and measures for critical public infrastructure and facilities located in flood hazard areas.
- Pursue public acquisition to preserve open space in the floodplain.

Contagious Disease:

- Increase the vaccination rate for Chouteau County residents; especially amongst the younger age groups, in the schools and for emergency providers. Continue to provide public awareness on Communicable disease prevention.

Wildfire:

- Remove vegetation and combustible materials around structures.
- When county planning board reviews new subdivisions incorporate fuel breaks and safety zone areas into the planning process as well as requirements for roofing with fire resistant materials.
- Prepare a strategic water source plan for the county, which shows the most efficient sources of water needed to support wildland firefighting efforts. It may be necessary to develop new sources in some isolated dry locations in order to reduce refill times. Explore opportunities to use dry hydrants and stored water facilities. GPS the location of water supply points to develop a water supply map for Chouteau County.
- Complete wildfire hazard rating forms for the “Wildland Urban Interface” areas of the county.

Land Use Planning:

- Prepare land use maps and flood plain maps which will be of aid to future administrators, planners and developers.
- Obtain data to allow for more thorough and improved future risk assessment analysis efforts.
- Collect updated data on critical structures, values and location in one easy to access database to utilize for future planning efforts.

6.4 Evaluating and Prioritizing Mitigation Actions

Once a list of mitigation actions had been approved, the Chouteau County LEPC evaluated and prioritized each of the mitigation actions to determine which actions would be included in the MHMP Action Plan, which represents mitigation projects and programs to be implemented throughout the entire county through the cooperation of multiple entities. To complete this task, the Chouteau County LEPC reviewed the simplified STAPLEE evaluation criteria (shown in Table 6.4.1) and the Benefit-Cost Analysis Fact Sheet (Appendix 5) to consider the opportunities and constraints of implementing each particular mitigation action.

Table 6.4.1 Evaluation Criteria for Mitigation Actions

Evaluation Category	Discussion “It is important to consider...”	Considerations
Social	The public support for the overall mitigation strategy and specific mitigation actions.	Community acceptance Adversely affects population
Technical	If the mitigation action is technically feasible and if it is the whole or partial solution.	Technical feasibility Long-term solutions Secondary impacts
Administrative	If the community has the personnel and administrative capabilities necessary to implement the action or whether outside help will be necessary.	Staffing Funding allocation Maintenance/operations
Political	What the community and its members feel about issues related to the environment, economic development, safety, and emergency management.	Local champion Public support Political support
Legal	Whether the community has the legal authority to implement the action, or whether the community must pass new regulations.	Local, State, and Federal authority Potential legal challenge

Evaluation Category	Discussion “It is important to consider...”	Considerations
Economic	If the action can be funded with current or future internal and external sources, if the costs seem reasonable for the size of the project, and if enough information is available to complete a FEMA Benefit-Cost Analysis.	Benefit/cost of action Contributes to other economic goals Outside funding required FEMA Benefit-Cost Analysis
Environmental	The impact on the environment because of public desire for a sustainable and environmentally healthy community.	Effect on local flora and fauna Consistent with community environmental goals Consistent with local, State, and Federal laws

Upon review, the Chouteau County LEPC assigned a high priority ranking to actions that best fulfill the goals of the MHMP and are appropriate and feasible for Chouteau County and towns to implement during the 5-year lifespan of this version of the MHMP. As such, the Chouteau County LEPC determined that only the mitigation actions that received a high priority ranking would be included in the Countywide MHMP Action Plan.

IMPLEMENTING AN ACTION PLAN

As a result of reviewing all of the action plan items, the Chouteau County LEPC prioritized them and determined the majority of priority action items were related to emergency management preparedness, training and response issues. Since these items were so important to the overall welfare of the population, that matrix titled “Emergency Management Action Plan Matrix” is included in this PDM as Table 6.4.3.

The committee then discussed the priorities for natural hazard mitigation action items. Looking at those action items separately, what immediately became apparent was the lack of data and maps. Compounding this problem is the overall decline in population, building and economy. In order to prioritize and move forward with specific projects, the committee felt it would be advantageous to limit the number of formal recommendations of mitigation action items at this time. Based on that analysis, the following six (6) data collection efforts were identified as priorities for the next five years.

Table 6.4.2 MHMP ACTION PLAN

Hazard	Action Item	Affected Jurisdiction/ Administering Department	Potential Funding	Time frame
Wildland fires	Prepare a strategic water source plan & GPS map for the county, which shows the most efficient sources of water needed to support wildland firefighting efforts.	Chouteau County, Fort Benton, Big Sandy & Geraldine – DES & County Fire Council	EMPG & PDM	1 – 5 years
Flood	Develop mitigation and preparedness data and measures for critical public infrastructure and facilities located in flood hazard areas.	Chouteau County & Fort Benton – DES & City/County Planning Board	PDM	2 – 5 years
Multi-hazard	Collect data on critical structures, values and location in one easy to access database to utilize for future planning efforts. Updating as needed	Chouteau County, Fort Benton, Big Sandy & Geraldine – LEPC & County Planning Board	PDM & 9-1-1 Addressing	2 – 5 years
Multi-hazard	Prepare land use maps and flood plain maps which will be of aid to future administrators, planners and developers.	Chouteau County, Fort Benton, Big Sandy & Geraldine – DES & County Planning Board	PDM	1 – 5 years
Multi-hazard	As future subdivisions or critical infrastructure are developed, review the hazards and risks associated with the development.	Chouteau County, Fort Benton, Big Sandy & Geraldine – DES & County Planning Board	Existing resources	On-going
Multi-hazard	Identify specific mitigation related criteria to be incorporated into the land use planning process.	Chouteau County, Fort Benton, Big Sandy & Geraldine – DES & County Planning Board	PDM	On-going
Cyber-Security	Collect information on different vendors that would be suitable for our County.	Chouteau County, DES, LEPC	Existing Resources	1- 3 years

Table 6.4.3 (next page) shows the Chouteau County Emergency Management Action Plan matrix that describes how the emergency actions were prioritized, how the overall benefits-costs were taken into consideration, and how each action will be implemented and administered by Chouteau County, the cities and towns. All items listed in both of the action plans apply to the entire County unless specifically noted otherwise under the Administering Department column.

Table 6.4.3 Emergency Management Action Plan Matrix

Action	Description	Ranking/ Prioritization	Affected Jurisdiction / Administering Department	Potential Funding	Timeframe	Benefit-costs/ Technical Feasibility
Multi-Hazards	Maintain Public and private partnerships –LEPC- to foster multi –hazard program coordination and collaborations within Chouteau County	High Priority	Fort Benton, Big Sandy, Geraldine, Carter, Highwood, Loma-LEPC	Existing Resources	On-going	Allows partnerships to work together in any hazard
	Continue educating and encouraging the use of the Emergency Notification Program to effectively notify Chouteau County Residents about impending disasters, evacuations & etc.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine– 911 Advisory Board	Existing 911 funding	On-going	Allow the 911 Center and the County, City or Towns to effectively notify residents of emergency incidents and evacuation requirement.
Big Sandy Multi-Hazards	Continue working with Town of Big Sandy to create, update an EOP for the existing water system.	High Priority	DES, BOCC, Town of Big Sandy	Existing funds	On-going	Allows the Town of Big Sandy to have a plan for their system if ever a hazard happens
	Develop SOP’s & EOC Checklists for the operation of the County’s Emergency Coordination Center	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC	Pre-disaster Mitigation (PDM) Program	1-3 years	Ensuring an effective efficient Emergency Operations Center allows the County to deliver responsive emergency services
	Work with the NGO & Faith Based network to assess the adequacy of service delivery in all areas of the County	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC, NGO’s	Existing Funds	1-4 years	Utilization of volunteers for the county is a cost effective solution to service delivery.

Table 6.4.3 Emergency Management Action Plan Matrix

Action	Description	Ranking/ Prioritization	Affected Jurisdiction / Administering Department	Potential Funding	Timeframe	Benefit-costs/ Technical Feasibility
Multi-Hazards	Continue work with businesses to develop a business continuity of operations plan	High Priority	Fort Benton, Big Sandy & Geraldine -DES, LEPC, Businesses	Existing Resources	1-3 Years	Development of continuity of operations plans for the County's businesses ensure a rapid recovery from emergency
	Established a Continuity of Operations Plan for Chouteau County	Medium-High Priority	Chouteau County - DES	Emergency Management Performance Grant	1-4 Years	Development of continuity of operations plans for the County's businesses ensure a rapid recovery from emergency
Hazmat	Continue training the emergency responders in Chouteau County to operations level response capability.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - LEPC	Existing Resources	On-going	As shown in the risk assessment, a hazardous materials incident is the most likely incident to occur in Chouteau County. Chouteau County and its emergency service agencies train all first responders to the operation level; because they rely heavily on volunteers, this is a con-

Table 6.4.3 Emergency Management Action Plan Matrix

Action	Description	Ranking/ Prioritization	Affected Jurisdiction / Administering De-	Potential Funding	Timeframe	Benefit-costs/ Technical Fea- sibility
Hazmat	Support the regional hazardous materials teams and utilize them on incidents exceeding the County’s capability.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - LEPC	Existing Resources	On-going	The county supports the regional hazardous materials team based in Great Falls and intends to utilize them on incidents exceeding the county’s capability.
	Work with farmers and ranchers to ensure they understand the necessary precautions to take when using farm chemicals in their operations.	High Priority	Chouteau County rural residents - County Extension	State Emergency Response Commission, Superfund Amendments & Reauthorization Act	1-3 Years	County Extension is mandated to provide services in support of the agriculture community in Chouteau County. If programs are developed to ensure that farmers and ranchers in the county utilize and store farm chemicals in a safe manner preventing a hazardous materials incident will be highly cost-effective.
Severe Storms	Develop a plan for clearing debris from priority routes to maintain access to critical facilities	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES	Pre-disaster Mitigation (PDM) Program	1-4 Years	This plan will ensure that travel routes to and from critical facilities such as fire stations, hospitals, 911 Dispatch are the priority routes opened when blocked by storm debris.

Table 6.4.3 Emergency Management Action Plan Matrix

Action	Description	Ranking/ Prioritization	Affected Jurisdiction / Administering Department	Potential Funding	Timeframe	Benefit-costs/ Technical Feasibility
Severe Storms	Encourage the purchase of portable electric generators for temporary power usage. Educating the public on how to properly use them.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - LEPC	Existing Resources	1-2Years	Due to long term power outages due to weather events, residents should be encouraged to purchase generators to supply power to their homes, farms and
Conflagration	Promote Fire Safety through community groups	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - Fire Departments and Community Groups	Existing Resources	On-going	A sustained fire safety outreach program will help build and support community wide to enable the residents to prevent, prepare for, respond to and recover
	Maintain Fire Flows and hydrant maintenance	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - Fire Departments & Water Departments	Existing Resources	On-going	The program enables the fire departments and water departments to ensure adequate fire flows are available for fire suppression
Flood	Educate the public about purchasing National Flood Insurance or basement backup insurance	High Priority	City of Fort Benton	Existing Resources	On-going	A sustained mitigation outreach program will help build and support city wide capacity to enable the public to prepare for, respond to and recover from floods.

Table 6.4.3 Emergency Management Action Plan Matrix

Action	Description	Ranking/ Prioritiza- tion	Affected Jurisdic- tion /Administering Department	Potential Funding	Timeframe	Benefit-costs/ Technical Fea- sibility
Flood	Encourage mitigation projects that would upgrade undersized culverts and bridges to become more flood resistant	High Priority	DES, LEPC, BOCC, Road Crew	Existing Resources	On-going	Continued updating old or damaged culverts will allow a more stable infrastructure when there is an influx of rain or melting snow.
Contagious Disease	Continue to educate the public, county staff on contagious disease prevention.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - BOH	Existing Resources	On-going	A sustained mitigation outreach program for communicable disease will help build and support community capacity to enable the public to prepare for, respond to and recover from a communicable disease outbreak.
	Continue to work with the Health Department and medical providers to quickly disseminate information should a communicable disease be diagnosed to prevent the spread of the disease.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine – County Health Department	Existing Resources	On-going	This program will allow the Health Department to try to effectively contain an outbreak of a communicable disease.
	Continue to educate the public on the resources available on the county web-site - public health & DES pages. Encourage them to utilize that site to obtain information related to public health issues, preparedness techniques, current disease outbreaks and appropriate individual response mechanisms.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - County Health Department, DES, LEPC	Existing Resources	On-going	A sustained mitigation outreach program utilizing the County’s web site for communicable disease will allow citizens to effectively inform themselves and to obtain information related to public health issues, preparedness techniques, current disease outbreaks and appropriate individual response mechanisms.

Table 6.4.3 Emergency Management Action Plan Matrix

Action	Description	Ranking/ Prioritiza- tion	Affected Jurisdic- tion /Administering Department	Potential Funding	Timeframe	Benefit-costs/ Technical Fea- sibility
Contagious Disease	Continue to develop exercises that will test the public health protocols, educate the public and train the responders to appropriately handle a public health emergency	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES	DPHHS	On-going	Effective utilization and exercising of public health protocols will ensure a rapid efficient response during a public health emergency
	Continue to develop and utilize the Faith-based network of volunteers	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, Health Department, LEPC	Existing Resources	On-going	Utilization of volunteers for the county is a cost effective solution to service delivery.
	Review yearly & update as needed the Public Health annex and Public Health operating protocols.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC, Health Care Facilities, BOH	Homeland Security	On-going	Reviews & updates of the Public Health Annex and protocols ensures a safe, efficient delivery of services.
Mass Casualty	Continue to offer critical incident stress debriefings as necessary in the event of multiple casualty incidents.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES	Existing resources	On-going	The county's EMS system routinely implements critical incident stress debriefings and will continue to do so.
	Continue training all emergency personnel on Chouteau County's Mass Casualty Plan.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, EMS, Fire, Law Enforcement, Hospitals	Existing Resources	On-going	Highly trained personnel allow the County to deliver rapid efficient safe emergency services; because the County relies heavily on volunteers, this is a continual need.
	Continue to develop and utilize the Faith-based network of volunteers to assist in the event of an extended response to a mass casualty	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC, BOH	Existing Resources	On-going	Utilization of volunteers for the county is a cost effective solution to service delivery.

Table 6.4.3 Emergency Management Action Plan Matrix

Action	Description	Ranking/ Prioritiza- tion	Affected Jurisdic- tion /Administering Department	Potential Funding	Timeframe	Benefit-costs/ Technical Fea- sibility
Mass Casualty	Continue to develop ex- ercises that will test the mass casualty protocols, educate the public and train the responders to appropriately handle a mass casualty emergen- cy.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, LEPC, EMS, Health Care Providers	DPHHS	On-going	Effective utiliza- tion and exercis- ing of mass casu- alty response pro- tocols will ensure a rapid efficient response during a mass casualty incident.
	Ensure that all appropri- ate emergency personnel have completed a mini- mum of ICS 100, 200, 700 & 800	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine - DES, EMS, Fire, Law Enforce- ment, Hospitals	Existing Resources	On-going	Highly trained personnel allow the County to deliver rapid effi- cient safe emer- gency services; because the Coun- ty relies heavily on volunteers, this is a continual need.
Agro- Security	Educate first responders to more familiar with special considerations of an animal security emer- gency. Encouraging them to take NIMS courses IS-10a, IS-11a or IS-111a.	High Priority	Chouteau County, Fort Benton, Big Sandy & Geraldine EMS, Fire, Law Enforcement, DES	Existing Resources	1-4 years	First responder's knowledge of the different consider- ations of an ani- mal security emergency allows the County to deliver efficient, safe emergency services respond- ing to such emer- gencies.
	Maintain partnership with S-CAP. Continue working with group to update ESF-11.		Chouteau County - DES, LEPC, Extension	Emergency Management Performance Grant	1-4 years	Continued part- nership with S- CAP will allow Chouteau County to be more effec- tive when there is an Agro-Security incident.

7. Plan Monitoring, Review and Maintenance

This section describes a formal plan maintenance process to ensure the Chouteau County MHMP remains an active and applicable document. It includes an explanation of how Chouteau County DES and the Chouteau County LEPC intend to organize their efforts to ensure that improvements and revisions to the Chouteau County MHMP occur in a well-ordered, efficient and coordinated manner.

The following three process steps are addressed in detail below:

- Monitoring, Evaluating and Updating the MHMP
- Implementation through existing planning mechanisms
- Continued public involvement
-

7.1. Monitoring, Evaluating and Updating the Plan

The Chouteau County LEPC will champion and review progress on implementing the plan's mitigation measures/action items and maintain the partnerships that are essential for the multi-hazard mitigation plan to retain its viability.

To build upon previous hazard mitigation planning efforts and successes, Chouteau County DES will use the Chouteau County LEPC to monitor, evaluate, and update the Chouteau County MHMP. Each participating jurisdiction and participant will be responsible for implementing the Action Plan. Debbie Gessaman, Chouteau County DES, will serve as the primary point of contact and will coordinate all local efforts to monitor, evaluate, and revise the Chouteau County MHMP.

Each member of the Chouteau County LEPC, or representative from each participating jurisdiction, will conduct an annual review to monitor the progress in implementing the Chouteau MHMP, particularly the specific mitigation measures identified in the Action Plan. The annual review will provide the basis for possible changes in the overall Chouteau County MHMP or by refocusing on new or more threatening hazards, adjusting to changes to or increases in resource allocations, and engaging additional support for the Chouteau County MHMP implementation. The annual review should include an evaluation of the following:

- Participation of each jurisdiction and others in the Chouteau County MHMP implementation.
- Notable changes in the county's risk of natural or human-caused hazards.
- Impacts of land development activities on hazards and hazard mitigation.
- Progress made with the implementation of the Action Plan.
- The adequacy of local and county resources for implementation of the Chouteau County MHMP

In addition to the annual review, the Chouteau County MHMP will be evaluated and updated on a five-year cycle to determine the effectiveness of mitigation programs, projects, or other related activities and reflect changes in land development or programs that may affect mitigation priorities and/or strategies. To ensure that this update occurs, in the fourth year following adoption of the Chouteau County MHMP, the Chouteau County LEPC will undertake the following activities:

- Thoroughly analyze and update the risk of natural and human-made hazards.
- Conduct an annual review, plus the three previous reviews
- Provide a detailed review and revision of the mitigation goals.
- Prepare a new Action Plan for the County and other participating jurisdictions.
- Prepare a new draft Chouteau County MHMP and submit it to the governing bodies for adoption.
- Submit an updated Chouteau County MHMP to Montana DES and FEMA for approval.

7.2 Implementation Through Existing Programs

The Chouteau County MHMP is required to include a process through which the planned mitigation measures are incorporated into other planning mechanisms available to the County and cities and towns. These include the County Growth Policy Plan's goals, policies, and implementation strategies, Development Regulation, Subdivision Regulations, Zoning District requirements, and the capital improvement program. The Chouteau County MHMP provides recommended mitigation measures that are often closely related to these planning programs, and which can and will be incorporated into them as appropriate.

There are certain sections of the Growth Policy Plan that address issues related to natural hazards. These include the "Natural Resources" and "Land Use" sections; the various primary utilities (water, sewer, storm drainage, transportation) of the "Public Facilities" section; the "Local Services" section; and the "Housing" Section. The Growth Policy Plan is periodically reviewed and updated. The planned mitigation measures will be considered and incorporated when appropriate into future revisions of the goals, policies, and implementation strategies of the Growth Policy Plan. These are used to develop implementing regulations and in review of new development.

The planned mitigation measures will also be considered and incorporated as appropriate into future revisions of the Regulations and Codes when updated by Chouteau County and the City of Fort Benton and Towns of Big Sandy and Geraldine. The sections most likely to be affected include the Subdivision Regulations, Development Regulation, and Zoning Regulations and sections pertaining to public improvements and emergency management. Revisions or additions to the Growth Policy Plan's goals, policies, and implementation strategies are often accompanied by revisions of the Subdivision Regulations needed to implement them. The planned mitigation measures will also be considered in the development of the Chouteau County's and the City and Town's Capital Improvement Programs and the updating of the Chouteau County Emergency Operations Plan. When the County considers new technology in data collection and mapping for utilization, its application to hazard assessment and mitigation will be taken into account.

7.3 Continued Public Involvement

Chouteau County, the City of Fort Benton and the Towns of Big Sandy and Geraldine are dedicated to involving the public directly in the continual reshaping and updating of the Chouteau County MHMP.

Copies of the plan will be placed on the County's website and maintained at the County Courthouse. The County's website will also contain an email address and phone number to which citizens can direct their comments or concerns regarding the Chouteau County MHMP. Any comments received will be considered during future Chouteau County MHMP updates.

The Chouteau County LEPC will also identify opportunities to raise community awareness about the Chouteau County MHMP and the hazards that affect the County and its communities. This effort could include attendance and providing materials at county, city or town sponsored event, outreach programs, and public mailings.

Appendices

Appendix 1 — Bibliography

The following documents have been utilized in the development of the Chouteau County MHMP

- Chouteau County Growth Policy Plan; 2004 & Updated portions of 2016.
- Fort Benton Planning Area Growth Policy; 2004.
- Mutual Aid Agreement between Chouteau County, Pondera County, Teton County, Toole County, Liberty County, Glacier County, Judith Basin County and Fergus County.
- Chouteau County Fire Council Mutual Aid Response Plan; 1993.
- Chouteau County Emergency Operations Plan; 2005.
- Subdivision Regulations of Chouteau County; 2005.
- Chouteau County Development Regulations; 1997.
- A Socio Economic Profile; Headwaters Economics; 2007.
- CRS Report for Congress; Agro-terrorism: Threats and Preparedness; August 2004.
- Mitigation Planning Workshop, Student Manual; FEMA; September 2005.
- Profiting through Disaster Preparedness; The Workshop; www.swfrpc.org.
- Federal Guidelines for Dam Safety; Emergency Action Planning for Dam Owners; April 2004.
- State and Local Mitigation Planning; How to Guides:
 - ◊ Getting Started; FEMA 386-1
 - ◊ Understanding Your Risks; FEMA386-2
 - ◊ Developing the Mitigation Plan; FEMA 386-3
 - ◊ Bringing the Plan to Life; FEMA 386-4
 - ◊ Using Benefit-Cost Review in Mitigation Planning; FEMA; August 2005
 - ◊ Integrating Historic Property and Cultural Resources Considerations into Hazard Mitigation Planning; FEMA 386-6; May 2006
 - ◊ Integrating Manmade Hazards Into Mitigation Planning; FEMA 386-7; September 2003
 - ◊ Multi-Jurisdictional Mitigation Planning; FEMA386-8; August 2006
- Guide for All-Hazard Emergency Operations Planning; FEMA; September 2006
- If Disaster Strikes Will You Be Covered? A Homeowners Insurance Guide to National Disasters; The Actuarial Foundation and Federal Alliance for Safe Homes; 2006
- Emergency Management Guide for Business and Industry; FEMA 141; October 1993
- Storm Ready; Organization and Operations Manual; NWS; September 2004
- National Flood Insurance Program; <http://www.fema.gov/business/nfip/index.shtm>
- Community Rating System; <http://www.fema.gov/business/nfip/crs.shtm>
- Open for Business; Institute for Business and Home Safety; 2006
- Are We Planning Safe Communities, Results of a National Survey of Community Planners and Natural Disasters; Institute for Business and Home Safety; 2002

Appendix 2 — Multi-Hazard Planning Alphabet Soup

BCR	Benefit Cost Results
BLM	Bureau of Land Management (DOI)
BOCC	Board of County Commissioners
BOH	Board of Health
CDC	Center for Disease Control
CRP	Conservation Reserve Program
CWPP	Community Wildfire Protection Plan
DES	Disaster & Emergency Services
DHS	Department of Homeland Security
DMA	Disaster Mitigation Act 2000 (FEMA)
DOI	Department of Interior
DON	Director of Nursing
DPHHS	Department of Public Health & Human Services
EMAC	Emergency Management Assistance Compact
EMS	Emergency Medical Services
EOP	Emergency Operations Plan
FEMA	Federal Emergency Management Agency
FMA	Flood Management Assistance
FWP	Department of Fish, Wildlife & Parks
GIS	Geographic Information System
HMGP	Hazard Mitigation Grant Program of FEMA
HSPD	Homeland Security Presidential Directive
LEPC	Local Emergency Planning Committee
ICS	Incident Command System
MHMP	Multi-Hazard Mitigation Plan
MRMC	Missouri River Medical Center
NGO	Non-Governmental Organization
NIMS	National Incident Management System
NRC	National Response Center
NSFHA	Non-Special Flood Hazard Area
NWS	National Weather Service
PDM	Pre-Disaster Mitigation
PH	Public Health
POD	Point of Dispensing
QRU	Quick Response Unit
S-CAP	Strengthening Community Agro-Security Planning
TRI	Toxic Release Inventory
VFC	Volunteer Fire Company
WUI	Wildland Urban Interface

Appendix 3 — Evaluation & Prioritization Matrix

Hazard Mitigation Name & Number	Social	Technical	Administrative	Political	Legal	Economic	Environmental
Short-term Multi-Hazard #1	M	H	L	M	H	H	H
Short-term Multi-Hazard #2	H	H	L	M	H	H	H
Short-term Multi-Hazard #3	M	H	L	M	H	M	H
Short-term Multi-Hazard #4	H	H	M	M	H	N/A	N/A
Short-term Multi-Hazard #5	H	H	M	H	H	H	M
Short-term Multi-Hazard #6	H	M	H	H	H	H	H
Short-term Multi-Hazard #7	H	H	M	H	H	H	M
Short-term Multi-Hazard #8	H	H	M	H	H	H	M
Short-term Multi-Hazard #9	M	H	M	M	H	M	N/A
Long-Term Multi-Hazard #1	L	M	L	M	H	H	H
Long-Term Multi-Hazard #2	H	M	L	M	H	H	N/A
Long-Term Multi-Hazard #3	H	H	H	H	H	L	N/A
Long-Term Multi-Hazard #4	H	H	L	M	H	H	H
Long-Term Multi-Hazard #5	H	M	M	H	H	H	N/A
Long-Term Multi-Hazard #6	H	H	M	M	M	L	N/A
Long-Term Multi-Hazard #7	H	H	M	M	H	H	N/A
Long-Term Multi-Hazard #8	M	L	L	M	H	M	N/A
Long-Term Big Sandy Multi-Hazard #9	L	H	H	H	H	H	H
Short-Term Hazmat #1	M	H	L	M	H	H	H
Short-Term Hazmat #2	H	H	M	H	H	H	H
Short-Term Hazmat #3	M	H	H	H	H	H	H
Long-Term Hazmat #1	H	L	L	H	H	H	H

Hazard Mitigation Name & Number	Social	Technical	Administrative	Political	Legal	Economic	Environmental
Long-Term Hazmat #2	M	H	L	M	H	H	H
Long-Term Hazmat #3	H	M	L	H	H	H	H
Long-Term Conflagrations-Fire #2	H	M	L	H	M	H	H
Short-Term Flood #1	H	H	H	H	H	H	H
Short-Term Flood #3	L	H	L	L	H	H	N/A
Long-Term Flood #1	M	H	L	M	H	H	H
Long-Term Flood #2	H	H	L	H	H	H	H
Long-Term Flood #3	L	H	L	H	M	L	M
Short-Term Disease #1	H	H	M	H	H	H	H
Short-Term Disease #2	H	H	M	H	H	M	N/A
Long-Term Disease #1	H	M	M	H	H	H	N/A
Long-Term Disease #2	M	M	M	H	M	H	N/A
Long-Term Disease #3	H	H	M	H	H	M	N/A
Long-Term Disease #4	M	H	H	H	H	L	N/A
Short-Term Mass Casualty #1	H	H	M	H	H	H	N/A
Short-Term Mass Casualty #2	H	H	H	H	H	M	N/A
Short-Term Mass Casualty #3	H	H	M	H	H	M	N/A
Short-Term Mass Casualty #4	H	H	M	H	H	H	N/A
Long-Term Mass Casualty #1	M	H	M	M	H	M	N/A
Long-Term Mass Casualty #2	M	M	M	L	H	M	N/A
Long-Term Mass Casualty #3	H	M	M	H	H	H	N/A
Long-Term Mass Casualty #4	H	H	H	H	H	L	N/A
Long-Term Agro-Security #1	H	H	H	M	M	M	N/A
Long-Term Agro-Security #2	M	H	H	M	M	M	N/A

Hazard Mitigation Name & Number	Social	Technical	Administrative	Political	Legal	Economic	Environmental
Long-Term Agro-Security #3	H	H	H	H	M	L	N/A

Appendix 4 — Benefit–Cost Analysis Fact Sheet

Benefit-Cost Analysis Fact Sheet

Hazard mitigation projects are specifically aimed at reducing or eliminating future damages. Although hazard mitigation projects may sometimes be implemented in conjunction with the repair of damages from a declared disaster, the focus of hazard mitigation projects is on strengthening, elevating, relocating, or otherwise improving buildings, infrastructure, or other facilities to enhance their ability to withstand the damaging impacts of future disasters. In some cases, hazard mitigation projects may also include training or public-education programs if such programs can be demonstrated to reduce future expected damages.

A Benefit-Cost Analysis (BCA) provides an estimate of the “benefits” and “costs” of a proposed hazard mitigation project. The benefits considered are avoided future damages and losses that are expected to accrue as a result of the mitigation project. In other words, benefits are the reduction in expected future damages and losses (i.e., the difference in expected future damages before and after the mitigation project). The costs considered are those necessary to implement the specific mitigation project under evaluation. Costs are generally well determined for specific projects for which engineering design studies have been completed. Benefits, however, must be estimated probabilistically because they depend on the improved performance of the building or facility in future hazard events, the timing and severity of which must be estimated probabilistically.

All Benefit-Costs must be:

- Credible and well documented
- Prepared in accordance with accepted BCA practices
- Cost-effective ($BCR \geq 1.0$)

General Data Requirements:

- All data entries (other than Federal Emergency Management Agency [FEMA] standard or default values) **MUST** be documented in the application.
- Data **MUST** be from a credible source.
- Provide complete copies of reports and engineering analyses.
- Detailed cost estimate.
- Identify the hazard (flood, wind, seismic, etc.).
- Discuss how the proposed measure will mitigate against future damages.
- Document the Project Useful Life.
- Document the proposed Level of Protection.
- The Very Limited Data (VLD) BCA module cannot be used to support cost-effectiveness (screening purposes only).
- Alternative BCA software **MUST** be approved in writing by FEMA HQ and the Region prior to submittal of the application.

Damage and Benefit Data

- Well documented for each damage event.
- Include estimated frequency and method of determination per damage event.
- Data used in place of FEMA standard or default values **MUST** be documented and justified.
- The Level of Protection **MUST** be documented and readily apparent.
- When using the Limited Data (LD) BCA module, users cannot extrapolate data for higher frequency events for unknown lower frequency events.

Building Data

- Should include FEMA Elevation Certificates for elevation projects or projects using First Floor Elevations (FFE).
- Include data for building type (tax records or photos).
- Contents claims that exceed 30 percent of building replacement value (BRV) MUST be fully documented.
- Method for determining BRVs MUST be documented. BRVs based on tax records MUST include the multiplier from the County Tax Assessor.
- Identify the amount of damage that will result in demolition of the structure (FEMA standard is 50 percent of pre-damage structure value).

Include the site location (i.e., miles inland) for the Hurricane module.

Use Correct Occupancy Data

- *Design occupancy* for Hurricane shelter portion of Tornado module.
- *Average occupancy per hour* for the Tornado shelter portion of the Tornado module.
- *Average occupancy* for Seismic modules.

Questions to Be Answered

- Has the level of risk been identified?
- Are all hazards identified?
- Is the BCA fully documented and accompanied by technical support data?
- Will residual risk occur after the mitigation project is implemented?

Common Shortcomings

- Incomplete documentation.
- Inconsistencies among data in the application, BCA module runs, and the technical support data.
- Lack of technical support data.
- Lack of a detailed cost estimate.
- Use of discount rate other than FEMA-required amount of 7 percent.
- Overriding FEMA default values without providing documentation and justification.
- Lack of information on building type, size, number of stories, and value.
- Lack of documentation and credibility for FFEs.
- Use of incorrect Project Useful Life (not every mitigation measure = 100 years).