# **Gunnison County, Colorado**



# **All - Hazard Mitigation Plan 2003**

Approved by the

# **Gunnison County Board of Commissioners**

# Date

# Prepared with the assistance of the Gunnison County Local Emergency Planning Committee

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## **EXECUTIVE SUMMARY**

The Gunnison County Hazard Mitigation Mitigation Plan was compiled to assist Gunnison County in reducing and mitigating future losses from natural and man-made hazard events. The plan was developed by Gunnison County Emergency Services with input by the Gunnison County Local Emergency Planning Committee, and contains the tools necessary to identify specific hazards and aspects of existing and future mitigation efforts.

Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (the Act), enacted by Section 104 of the Disaster Mitigation Act of 2000 (DMA) (P.L. 106-390) provides new and revitalized approaches to mitigation planning. Section 322 emphasizes the need for State, local, and tribal entities to closely coordinate mitigation planning and implementation efforts. It continues the requirement for a State mitigation plan as a condition of disaster assistance, and creates incentives for increased coordination and integration of mitigation activities at the State level through the establishment of criteria for two different levels of State mitigation plans, "standard" and "enhanced." States that demonstrate an increased commitment to comprehensive mitigation planning and implementation through the development of an approved enhanced mitigation plan can increase the amount of funding available through the Hazard Mitigation Grant Program (HMGP). Section 322 also establishes a new requirement for local mitigation plans, and authorizes up to 7 percent of HMGP funds available to a State to be used for development of State, local, and tribal mitigation plans. [At this time, the Administration is considering changes to FEMA's mitigation programs that would become effective in October 2002. However, States and localities will still be required to have plans in effect, which meet the minimum requirements of Section 322, as a condition of receiving mitigation assistance after November 1, 2003.] As part of the process of implementing the DMA, FEMA prepared an Interim Final Rule (the Rule) to clearly establish the mitigation planning criteria for States and local communities. This Rule was published in the Federal Register on February 26, 2002, at 44 CFR Part 201. After an appropriate period of time, during which comments will be accepted on the Rule, and the utility and practicality of these criteria can be evaluated, FEMA may revise the Interim Final Rule and publish a Final Rule. However, until such time, the Rule will serve as the governing document for DMA planning implementation.

To further help States, local, and tribal governments meet the new DMA planning

requirements, FEMA has prepared this guidance, titled *State and Local Plan Interim Criteria Under the Disaster Mitigation Act of 2000.* This guidance was prepared with two major objectives in mind:

- To help federal and State reviewers evaluate mitigation plans from different jurisdictions in a fair and consistent manner; and
- To help states and local jurisdictions develop new mitigation plans or modify existing

ones in accordance with the criteria of Section 322. The *Plan Criteria* includes references to specific language in the Rule, descriptions of the relevant criteria, and sample plan text to illustrate differences between plan approaches that would and would not meet DMA criteria. In addition, this document provides references to a number of planning tools that FEMA has made available to assist States and localities in developing a comprehensive, multi-hazard approach to mitigation planning, and in preparing plans that will meet the requirements of the DMA. These tools include: *State and Local Mitigation Planning How-to Guides* – intended to help States and communities plan and implement practical, meaningful hazard mitigation measures (FEMA 386-1 to FEMA 386-7);

- Planning for a Sustainable Future (FEMA 364) and Rebuilding for a More Sustainable Future (FEMA 365) – two related volumes that provide guidance for integrating sustainable practices as part of pre- and post-disaster mitigation planning efforts; and
- FEMA Mitigation Resources for Success (FEMA 372) a compact disc with a compendium of FEMA resources related to mitigation practices and projects.

In addition, FEMA has prepared DMA 2000-related training and workshop materials for FEMA regional staff, States, and local communities based on the *Plan Criteria* and the reference material described above.

The following natural hazards are addressed:

- \* Flooding
- \* Wildfire
- \* Ice & snow events
- \* Mudslides
- \* Earthquake
- \* Drought

The following man-made hazards are addressed:

- \* Power outages
- \* Technological Hazards
- \* Transportation Accidents
- \* Terrorism

The list of critical facilities:

- \* Dams, Water Treatment, Water Storage
- \* Electric Power lines, sub-stations

- \* Telephone facilities
- \* Airports
- \* Fire stations and law enforcement facilities
- \* Schools and Universities
- \* Transportation Routes:
- \* Governmental buildings

The list of areas of concern include:

- \* Blue Mesa Dam, as the largest lake in Colorado and power plant
- \* Known flooding locations
- \* Urban/Forest interface for wildfire hazards
- \* Facilities storing gas, propane and chemicals
- \* Transportation routes such as airport and mountain passes.

The Gunnison County Hazard Mitigation Plan is considered a living document that should be revisited on a regular basis for updates and if priorities should change. Copies will be available for all governmental departments, schools, and all emergency responders.

## **CHAPTER 1. INTRODUCTION**

#### A. Background

The Colorado Office of Emergency Management (COEM) has a goal for all communities within the state of Colorado to establish local hazard mitigation plans as a means to reduce and mitigate future losses from natural or man-made hazard events. The COEM outlines a program whereby communities throughout the State may be eligible for grants and other assistance upon completion of a local hazard mitigation plan. COEM has been able to provide other plans for models to their communities to assist with building local plans.

The Gunnison County Hazard Mitigation Plan was prepared by participants of the Local Emergency Planning Committee. The Gunnison County Hazard Mitigation Plan serves as a strategic planning tool for use by Gunnison County, and the cities and towns within, in efforts to identify and mitigate the future impacts of natural and/or man-made hazard events. This plan does not constitute any section of the Gunnison County Master Plan or Land Use Resolutions.

#### B. Methodology

In September of 2002 the LEPC and other Emergency Responders reviewed and updated the Gunnison County Emergency Response Plan and started the initial planning of the Gunnison County

Hazard Mitigation Plan. Using the Merrimack, New Hampshire plan and the Northern Colorado plan as models, the LEPC met on a quarterly basis and were delivered copies of each section by e-mail to review. Changes were made according to outcome of the quarterly meetings and remarks submitted after reviewing the e--mail copies. A 10 step process was conducted to compile the Gunnison County Hazard Mitigation Plan.

1. Step 1 - Map the Hazards

Gunnison County Participants identified areas where damage from historic natural disasters have occurred and areas where critical man-made facilities and other features may be at risk in the future for loss of life, property damage, environmental pollution and other risk factors. We generated a set of base maps with GIS (Geographic Information Systems) that were used in the process of identifying past and future hazards.

2. Step 2 - Identify Critical Facilities and Areas of Concern

Participants then identified facilities and areas that were considered to be important to the community for emergency management purposes, for provision of utilities and community services, evacuation routes, and for recreational and social value. Using a GPS (Global Positioning System) the LEPC plotted the exact location of these sites on a map. Once these facilities and areas were identified, LEPC attempted to calculate the potential loss of each facility based on its assessed value.

3. Step 3 - Identifying Existing Mitigation Strategies

After collecting detailed information on each critical facility in Gunnison County the participants identified existing mitigation strategies relative to flooding, fires, ice and snow events, earthquakes, transportation accidents and terrorism.

4. Step 4 - Identifying the Gaps in Existing Mitigation Strategies

The existing strategies were then reviewed for coverage and effectiveness, as well as the need for improvement. The Gunnison County Emergency Management Plan was also referenced to avoid replication of existing protection measures.

5. Step 5 - Identify Potential Mitigation Strategies

A list was developed of additional hazard mitigation actions and strategies for

Gunnison County. Potential actions include improving emergency services (i.e. upgrading the communication system) and public information (EAS and cable access programs).

6. Step 6 - Prioritize and Develop the Action Plan

The proposed hazard mitigation actions and strategies were reviewed and each strategy was rated (good, average, or poor) for its effectiveness according to 7 factors (e.g.,technical and administrative applicability, political and social acceptability, legal authority, environmental impact, financial feasibility). Each factor was then scored and all scores were each totaled for each strategy. Strategies were ranked by overall score for preliminary prioritization then reviewed again under step 7.

7. Step 7 - Determine Priorities

The preliminary prioritization list was reviewed in order to make changes and determine a final prioritization for new hazard mitigation actions and existing protection strategy improvements identified in previous steps. LEPC also presented recommendations to be reviewed and prioritized by emergency responders and officials.

8. Step 8 - Develop Implementation Strategy

Using the chart provided under Step 9 in the process, an implementation strategy was created which included person(s) responsible for implementation (who), a time line for completion (when), and a funding source and/or technical assistance source (how) for each identified hazard mitigation action.

9. Step 9 - Adopt and Monitor the Plan

Gunnison County Emergency Services (GCES) compiled the results of Steps 1 to 8 in a draft document. The draft was reviewed by the following local agencies: Law Enforcement, Fire, EMS, Forest Service (State and US), Planning, and Public Works. After comments were received and noted a revised draft was presented to the Gunnison County Board of Commissioners.

10. Step 10 - Adoption After a public hearing the plan was adopted on \_\_\_\_\_\_

#### C. Hazard Mitigation Goals and Objectives of the State of Colorado

- 1. To improve upon the protection of the general population, the citizens of the County and guests, from all natural and man-made hazards.
- 2. To reduce the potential impact of natural and man-made disasters on the County's Critical Support Services.
- 3. To reduce the potential impact of natural and man-made disasters on Critical Facilities in the County.
- 4. To reduce the potential impact of natural and man-made disasters on the County's infrastructure.
- 5. To improve Emergency Preparedness.
- 6. Improve the County's Disaster Response and Recovery Capability.
- 7. To reduce the potential impact of natural and man-made disasters on private property.
- 8. To reduce the potential impact of natural and man-made disasters on the County's economy.
- 9. To reduce the potential impact of natural and man-made disasters on the County's natural environment.
- 10. To reduce the County's liability with respect to natural and man-made hazards generally.
- 11. To reduce the potential impact of natural and man-made disasters on the County's specific historic treasures and interests as well as other tangible and intangible characteristics which add to the quality of life of the citizens and guests of the County.
- 12. To identify and introduce and implement cost effective Hazard Mitigation measures so as to accomplish the County's Goals and Objectives and to raise the awareness of, and acceptance of Hazard Mitigation generally.

## D. Acknowledgments

Gunnison County Emergency Services extends special thanks to those that assisted in the development of this plan. Public involvement has been expressed through meetings with the Gunnison Communications Board, Gunnison Basin Wildfire Counsel, Gunnison EMS Counsel, Gunnison Housing Authority, Gunnison/Crested Butte Public Works Department. All of which have community representation including the Home Owner Associations in Gunnison County.

- \* Sheriff Richard L. Murdie
- \* John DeVore, Gunnison County Manager
- \* Dennis Spritzer, Gunnison Fire Marshall
- \* Jim Miles, Gunnison Fire Chief
- \* Rick Ems, Crested Butte Fire Chief
- \* Jim Keehne, Gunnison Chief of Police
- \* Hank Smith, Mt. Crested Butte Chief of Police
- \* Jack Crumpton, Crested Butte Marshall's Office
- \* Joel Stewart, Colorado State Forest Service
- \* Jerry Chonka, U.S. Forest Service
- \* Bryan Hess, EMS Director
- \* Marlene Crosby, Public Works Director
- \* Jeff Guy, Gunnison GIS
- \* Dave Michaelson, Long Range Planner
- \* L.C. Adams, Crested Butte Utilities Director
- \* Frank Glick, Mt. Crested Butte Water & Sanitation
- \* Carol Dawson, Gunnison Public Health
- \* Joanne Willliams, Gunnison County Planning
- \* Steve Denney, Colorado Office of Emergency Management
- \* Chuck Dotts, Gunnison Communications
- \* Gunnison Home Owner Associations
- \* Gunnison Communications Board
- \* Gunnison Basin Wildfire Counsel
- \* Gunnison EMS Counsel
- \* Gunnison Housing Authority
- \* Gunnison County Public Works Department
- \* Crested Butte Public Works Department



## CHAPTER II. COMMUNITY PROFILE

## A. Location, Topography and Environmental Features

#### **Elevation Profile**

Gunnison County is located in Southwestern Colorado, approximately 210 miles SW of Denver. Gunnison County is surrounded by 14,000 ' Mountains and is approximately 3300 square miles in size. Gunnison County sits just West of the Continental Divide and in fact the county boundary line is the Continental Divide.

Gunnison County is almost 80% federal land and is home to the largest body of water in Colorado which is Blue Mesa Reservoir with over 90 miles of shoreline. Gunnison County is home to over 14,000 people and shows peak season populations of almost 50,000. Those peak seasons have now increased to 3 months of summer tourism and seasonal residents, 4 months of hunting season (Colorado boasts the largest herd of elk in the nation) and 4 months of skiing season.

Gunnison County has a regional airport with daily commercial flights throughout the year and heavy jets during the ski season. The elevation of Gunnison's Regional Airport is 7665' but during the

summer months the density altitude exceeds 10,000' during the daylight hours. The runway is almost 10,000' in length.

Gunnison County includes one city (Gunnison) 4 towns (Crested Butte, Mt. Crested Butte, Marble, Pitkin) and several small unincorporated towns such as Tincup, White Pine, Ohio City, Parlin, and Sapinero, Somerset. Gunnison County is home to 144 subdivisions with many of those located against Wilderness Areas.

Gunnison County has over 800 miles of roads to maintain, not including several more miles of trails and bike paths. Gunnison County has over 2,900 miles of waterways and has a combined water storage of 1,229,171 in reservoirs and lakes.

Gunnison is historically the coldest place in the nation, with winter temperatures -30 - -40 and has temperatures in the low thirty degree range on summer nights.

Gunnison County has three major rivers, Taylor, East and Gunnison, and several smaller - Slate, Ohio, Tomichi, Cochetopa, Coal, and Muddy and even smaller are over 2900 hundred miles of streams and ditches.

In addition to Blue Mesa Reservoir - Gunnison also has Taylor, part of Morrow Point, Paonia, Meridian, Spring Creek Reservoirs and many smaller lakes.

Gunnison County's largest economic base is tourism, ranching, and recreation. Gunnison hosts one of the major ski areas in Colorado at Crested Butte. Western State College has a huge economic impact on Gunnison County with an enrollment of approximately 3,000 students, staff and maintenance.

Gunnison County has historically hosted events that bring thousands of visitors such as the Cattlemen's Days Rodeo, Ski Meets and events, Air Show, 4th of July fireworks display, Bike Races and runs, and a host of several other outdoor activities.

Reservoir	Storage in acre feet	Coordinates for Dams
Blue Mesa	941,000	N38 27" X W107 19"

Table 1.	Reservoirs	in Gunniso	n County
----------	------------	------------	----------

Morrow Point	121,000	N38 27" x W 107 32"
Taylor Park	106,000	N38 49" W 106 36"
Paonia Reservoir	18,000	N38 56" W 107 21
Spring Creek	1631.0	N38 51" W 106 42"
Meridian	100	N38 54" W 106 59"

## **B.** Current Development Trends

Of the 3,300 square miles of land contained within Gunnison County 78% of that is public lands controlled by either US Forest Service, Bureau of Land Management, Bureau of Reclamation, Colorado State Forest Service, or Division of Wildlife.

The climate of Gunnison is such that it attracts those who are interested in some type of outdoor recreation and those people who want to build seasonal homes. Some want those for ski seasons, some for hunting or fishing and others who enjoy the cooler temperatures in the summer.

Many of those build near the major highways within the county such as U.S. 50, Colorado 114 and 135 and Colorado 92. Others want to build in the most remote areas they can find which is generally against a Wilderness or Primitive Area.

Gunnison is 65 miles from the nearest town of any size, and therefore serves as a hub for the smaller towns within the County. Gunnison has a U.S. Highway that runs through the lower ½ of the county which serves as the major transportation route for motorists and for freight. The regional airport shows an annual enplanements (2002-2003) of approximately 50,000 and deplanements of 50,000. Daily flights are provided to Denver on commuter airplanes and winter ski flights are on Boing 757 and 737 and are direct to Dallas, Tx. There is no railroad in the south part of Gunnison County. In the north half of Gunnison there are large coal mines and that coal is transported by rail.

There are almost 144 subdivisions in Gunnison County. A Land Use Resolution was adopted in 2002 to try to better manage the growth, and the impact that growth has on our lifestyle.

Although the temperatures are not conducive to growing produce, the valley does produce a lot of hay

which relies heavily on our water availability. There are still many large ranches in Gunnison County and hay is grown for the purpose of feeding the locally grown livestock. Left over hay is sold to other areas.

Gunnison water supplies vary from reservoir storage to wells. The city of Gunnison Water system is provided by wells located throughout the city. Some of the remote subdivisions are served by independent wells and others by central systems supplied by wells.

Crested Butte water supply comes from Coal Creek through a water treatment plant. Mt. Crested Butte water supply is the East River and springs. Meridian Lake has their own reservoir. All three of locations use a common sewer system. Crested Butte South has their own water supply through wells and springs and their own sewer disposal plant.

Gunnison County land is not zoned but controlled through the Land Use Resolution. Some towns and cities within the county use zoning.

Contamination from septic systems is controlled through a permit system that requires soil samples, test holes, perc tests and space available. The environmental health department also takes care of septic tank permits.

## CHAPTER III: HAZARDS IN GUNNISON COUNTY

A. What are the Hazards?

According to the evaluation system, the following hazards were determined to be of concern for Gunnison County.

Flooding Wildfire Ice & snow events/Avalanche Mud slides/Landslides Earthquake Drought Power outages Technological Hazards Transportation Accidents Terrorism

These are not necessarily listed in priority nor in the possibility in occurrence because



these will change from year to year due to related circumstances such as amount of moisture, temperatures, etc.

Hazard	Year	Location	Critical Facility or area Impacted	Remarks/Descrip tion
Flood	1957	Gunnison River	unknown	
Wildfire	1980	Taylor Park	Tourism Impact	Traffic & Smoke
Flood	1984	Gunnison/East/ Coal Creek/ Tomichi	nursing home/county roads/culverts	Presidential declaration for 17 counties
Wildfire	1984	Black Sage Pass		slurry bombers
Ice Jam	1985	Gunnison River	unknown	Dos Rios Island
Mine Cave In	4/18/1990	OC Coal Mine		
Crested Butte Bank Explosion	1990	Crested Butte	Financial Institution	Three Fatalities
Avalanche	1992	Mt. Crested Butte	Condo	1 fatal
Hazmat Spill	1994	Monarch Pass	highway 50	closed for 5 days
Hazmat Spill	1996	Highway 149	closed state highway	2 days
Hazmat Spill	11/21/1999	Highway 50 /Dillon Pinnacles	under bridge	could have contaminated Blue Mesa
Hazmat Spill	8/11/00	Lake Fork	Blue Mesa	1 week cleanup

## Table 2. Past Hazard Events within Gunnison County



Airplane Crash	5/11/01	Into Blue Mesa Lake	Marina and lake	took over 1 week to cleanup
Wildfire	6/23/02	Wiley Ridge	Subdivision/ Water Tank	evacuation of Antelope Heights
Wildfire	7/10/02	Steubon Creek	impacted recreation area and traffic on U.S. Highway	Burned for almost a month

Past Events in Gunnison County cont.

Flood 1996 Nursing Home

Wiley Ridge Fire June 2002

## C. Potential Hazards to Critical Facilities and Areas of Concern

After past events have been identified, the next step in the planning process is to determine where future hazards could potentially occur and what structures or areas could be affected. This requires determining which facilities and areas in the community are considered critical and why they are considered critical (i.e. is the facility in the flood plain? Storing Hazardous materials? A primary shelter?) Each critical facility was mapped, again using GIS. Table 3 represents the critical facilities and areas of concern identified by Gunnison County. Map 4 illustrates the locations of these facilities and areas in Gunnison County. Section IV will present an analysis of each of these facilities and areas in the community and their priority in case of an emergency.



Facility selected as highest hazard facility with Gunnison County is Blue Mesa Dam (pictured above) because of its vulnerability of man-made disasters, Bio-Terrorism Target, and potential failure due to earthquake. Breach of involvement with this Dam would effect the largest area, the most cities and towns and even have Multi State Impact.

Facility Name	Address	Facility Type	Generator (Y/N)	100 yr	500 yr	Size floors	Type of Hazard
Hospital	214 E. Denver	Med	У	n	n	72,400 2 flrs	
City Hall Police Station	201 W. Virginia	law	Y	n	n	20,000 3 flrs	

Table 3: Hazards to Critical Facilities and Areas of Concern in Gunnison County

Courthouse	200 E. Virginia	law/ govt	у	n	n	50,000 3 flrs	
Multi Purpose Building	201 S. Spruce	govt	n	n	n	20,000 2	
Gunnison Fire Station	2301 W. New York	Fire	n	n	n	6,000 1	
Airport	711 Rio Grande	Apt	n	n	n	55,000 2	Main Terminal
Gunnison County Shop	811 Rio Grande	mtnce	n	n	n	40,000 1	
Gunnison City Shop	11 W. Virginia	mtnce	n	n	n	10,000	
County Shop	Doyleville	mtnce	n	n	n	6,000	
County Shop	Crested Butte	mtnce	n	n	n	6,000	
County Shop	Marble	mtnce	n	n	n	6/000	
State Shop	S. 10th	mtnce	n	n	n	4000	
WSC 40 buildings	NE Corner of Gunnison	mtnce shelt food	n	n	n	130 Acres	
Water Tanks	College Hill	water supply	n	n	n	2 mil	1-1mil 2-500 thousand
Airport Fuel	1 Apt Rd	fuel	n	n	n	75,000g	
"W" Mtn	SE Gunnison	Comm	у	n	n	130 acres	comm repeaters
Nursing Home	W. Tomichi	health	У	n	20%	21,700	Health Care Elderly

Taylor Dam	C.R. 742	Water	у	n	n		Water Supply
Water Treatment	Ну 50	Water	n	n	У		Water Treatment
Sewer Treatment	CR 32	Treat	n	n	n		
Sweitzer Oil	!0th & Bidwell	Fuel	n	n	n	160,000 gal	

# CHAPTER IV: PRIORITIZING CRITICAL FACILITIES AND AREAS OF CONCERN

## A. Category 1: Emergency Response Services and Facilities

The County has identified the following emergency response services and facilities as the highest priority for protection from natural and man-made hazards.

- 1. Emergency Operations Center
  - \* Gunnison County Courthouse
  - \* Sheriff's Office
  - \* State Patrol Headquarters
  - \* BOCC and County Administration
- 2. Police Stations
  - \* Gunnison PD
  - \* Mt. CB PD
  - \* Crested Butte Marshall's Office
- 3. Hospitals and Clinics
  - \* Gunnison Valley Hospital
  - \* Crested Butte Medical Clinic
  - \* Gunnison Living Community
  - \* Gunnison County Public Health
  - \* Gunnison Valley Family Physicians
  - \* Gunnison Family Medical

- 4. Fire Stations
  - \* Gunnison Volunteer Fire Station
  - \* Crested Butte Fire Station
  - \* Mt. Crested Butte Fire Station
  - \* Arrowhead Fire
  - \* Pitkin Fire
  - \* Ohio City Fire
- 5. Public Works/Highway Garage
  - \* Gunnison County Shop
  - \* Gunnison City Shop



Colorado DOT Crested Butte Mt. Crested Butte Doyleville Shop



6. Emerg

ency Fuel Stations \* Sweitzer Oil

\* Gunnison County Airport Fuel Farm



Fuel Farm

- 7. Emergency Shelters
  - \* Multi Purpose Building
  - \* Webster Hall

Sweitzer Bulk Plant

- \* Aspinall Wilson Center
- \* Schools

\* Church

## Multi-Purpose Building

- 8. Evacuation Routes
  - \* U.S. Highway 50 East & West
  - \* Colorado Highway 135 North
  - \* Colorado Highway 149 South to Lake

## City

\*Colorado Highway 114 South to Saguache

- \* Colorado Highway 92 North West to Crawford
- \* All other roads are seasonal
- 9.. Bridges Located on Evacuation Routes
  - \* Twin Bridges on West Highway 50
  - \* Iola Bridge to Lake City
  - \* Middle Bridge on West Highway 50
  - \* Lake Fork Bridge on West Highway
  - \* Bridges on Colorado 114
  - \* Bridges on Colorado 149
  - \* Blue Mesa Dam (also Bridge on
- orado 92) Lake Fork Bridge
  - Bridges over the Gunnison and East

Colorado 135



10. Communications Towers \* W Mountain

- \* Monarch Pass
- \* Crested Butte Mountain
- \* Round Mountain
- \* Reno
- n Repeater Site

\*

Baldy, Reno



## **B.** Category 2: Facilities and Areas to Protect in a Hazard Event.

- 1. Water Supplies
- 2. Water Treatment Plants
  - \* Dos Rios
  - \* Crested Butte
  - \* Somerset

## 3. Sewer Treatment Plants

- \* Gunnison Gunnison
- \* Crested Butte
- \* Somerset

## 4. Waste Removal

- \* Waste Management
- \* Golden Eagle
- 5. Grocery Stores
  - \* Safeway
  - \* City Market
  - \* McDills

One of the 9 wells that provide water to the City of

- 6. Electric Plants
  - \* Power Plant at Blue Mesa Dam
  - \* City of Gunnison
  - \* REA
  - \*

## 7. Elderly Housing

- \* Gunnison Assisted Care
- \* Mountain View Apartments



**Regional Airport** 

Main Terminal

11. Commercial - Economic Impact - Areas Largest Employees
 \* Crested Butte Mountain Resort

\* Wal-mart

## 12. Recreational Areas (capacity)

- \* Curicanti Recreation Area, 10 Campgrounds, (3770+)
- \* Taylor Park, including all 13 campgrounds( (5000+)
- \* Gunnison White Water Park, S. Of twin Bridge, (200+)
- \* Jorgenson Park , East Tomichi (400+)
- \* OTA Field S. Teller, (400+)
- \* Lake Irwin (200+)
- \* Legion Park (400+)
- \* Three Rivers Resort (200+)
- \* Tommy V Field, Between  $6^{\text{th}}$  &  $7^{\text{th}}$ , (200+)
- \* Pitsker Field, White Rock & Sopris, (200+)
- \* Gothic Field, Gothic &  $6^{th}$  (200+)
- \* Gate View Campground(200+)
- \* Red Bridge Campground (200+)
- \* One Mile Campground (200+)
- \* Black Mesa Lodge (150)+
- 13. Areas in the Flood Plain
  - \* Houses, Buildings, Dams, etc.
  - \* County Road 38
- 14. Power lines along ditches and waterways.
- 15. Problem Culverts or Roads near Beaver Ponds or Seasonal Drainage
  - \* Tomichi Heights
  - \* County road 25
  - \* Rainbow Acres
- 16. Roads and Highways in Avalanche Areas
  - \* Taylor Canyon Road

- \* Colorado 92 on Black Mesa
- 17. Schools
  - \* Western State College
  - \* Gunnison Community School
  - \* Gunnison High School
  - \* Crested Butte Community School
  - \* Marble Charter School

## C. Category 3: Potential Resources

- 1. Water Tanks
  - \* College Hill
  - \* Antelope Hills
  - \* Way Family
  - \* Crested Butte South
- 2. Potential Shelters
  - \* Multi Purpose Building
  - \* Webster Hall
  - \* Aspinall Wilson Center
  - \* Community Church
  - \* Bethany Baptist Church
  - \* First Baptist Church
  - \* Oh Be Joyful
  - \* Trinity Baptist
  - \* St. Peters Catholic Church
  - \* Queen of all Saints Catholic Church
  - \* Rocky Mountain Christian
  - \* Church of Christ
  - \* Church of the Good Samaritan
  - \* New Song Christian Fellowship

- \* Mount Calvary Lutheran Church
- \* Calvary Christian
- \* Seventh Day Adventist
- \* Gunnison Congregational Church
- \* Union Congregational Church
- \* ABC Motel
- \* Cinnamon Inn
- \* Columbine Victorian Hotel
- \* Comfort Inn
- \* Cristiana Guesthouse
- \* Grand Butte Hotel
- \* Sheraton Hotel
- \* Swiss Chalet
- \* Days Inn
- \* Elk Mountain Lodge
- \* Holiday Inn Express
- \* Hylander Motel
- \* The Inn at Crested Butte
- \* Long Holiday Motel
- \* Manor Lodge, CB
- \* Nordic Inn, CB
- \* Old Town Inn, CB
- \* Ramada Ltd.
- \* Ranch House Bed & Breakfast, Gunnison
- \* Ski History Inn, CB
- \* Super 8 Motel
- \* Tomichi Village Inn
- \* Water Wheel Inn
- \* Wildwood Motel

## Chapter V: Determining How much will be Affected

#### Identifying Vulnerable Facilities

It is important to determine which critical facilities are the most vulnerable and to estimate their potential loss. The first step is to identify the facilities most likely to be damaged in a hazard event. To do this, the location of critical facilities illustrated on Map 4 were compared to the location of various topographical elements, flood plains, roads, and water bodies. Vulnerable facilities were identified by comparing their location to possible hazard events. For example, all of the facilities within the 100-year flood plain were identified and used in conducting the potential loss analysis. Similarly, facilities located near steep slopes, earthquake sensitive areas, etc. were identified and included in the analysis.

#### B. Calculating the Potential loss

The next step in completing the loss estimation involved assessing the level of damage from a hazard event as a percentage of the facility's structural value. The Federal Emergency Management Agency (FEMA) has developed a process in which replacement values for structures located in the 100 and 500-year flood plains can be calculated according to the amount of damage suffered. In Gunnison County the assessed values were determined for every structure identified in the flood plain. The potential loss was then calculated by multiplying the assessed value of the structure by the percent of damage expected from a hazard event(i.e., 100-year, 4-foot flood, etc.). For example, FEMA estimated that in the event of a 100-year, 4-foot flood, structures in the 100-year flood plain would suffer 28% damage. Since the average assessed value for a single residential structure as of 1998, in Crested Butte was \$324,000, in Mt Crested Butte \$306,180, in Gunnison \$169,460, and in the outskirts of Gunnison County it was \$204,360. The total approximate cost for the damage from this flood event would be \$1,004,000.00. The following discussion summarizes the potential loss estimates to structures (residential and non-residential) due to natural or man-made hazard events.

#### Flash Flooding or Ice Jam Flooding

#### Low Risk

Considers eight foot flooding in 100 and 500-year flood plain areas and assumes that, on average, all structures receive 49% damage. The costs for repairing or replacing bridges, railroads, power lines, telephone lines, natural gas pipelines, the wastewater treatment plant, contents of structures and loss of crop land values are not included in this estimate. See map 4 for a depiction of potential at-risk building units affected if the Gunnison River, East River, Coal Creek, Tomichi Creek and Taylor River flooded. If flooding did occur the towns of Almont and Gunnison would be affected, with potential risk to Montrose and as far as Utah if a dam breach occurred from the flooding.

Residential damage: Non-Residential Damage:

Known flooding occurrences include: -In 1957 the Gunnison river flooded -In 1984 the Gunnison, east, Coal creek and Tomichi flooded -In 1992 the Gunnison river flooded -In 1996 the Gunnison river flooded

Medium Risk Considers a four foot flood in 100-year flood plain areas and assumes that, on average, all structures receive 28% damage.

Residential Damage: Non-Residential damage:

Low Risk

Considers one foot flooding in 100-year flood plain areas and assumes that, on average, all structures receive 15% damage.

Residential Damage: Non-Residential damage:

#### **Dam Breach**

Medium Risk

Blue Mesa Dam: N38degrees 27 minutes, W107degrees 19 minutes Storage of Blue Mesa is 941,000 and both dams are owned by the US Bureau of Reclamation within the Curicanti National Recreation Area. Class 1 Dam

Morrow Dam: N38 degrees 27.06 minutes, W107 degrees 32 minutes Storage of Morrow is 121,000 acre feet Class 1 Dam

Taylor Dam: N38degrees 49 minutes, W106degrees 36 minutes Storage is 106,000, and is owned by US Bureau of Reclamation Class 1 Dam

Spring Creek Dam: N38degrees 54 minutes, W106degrees 42 minutes Storage is 1631.9 acre feet, and is owned by the Colorado Division of Wildlife. Class 3 Dam

Meridian Dam: N38degrees 54 minutes, W106degrees 59 minutes Storage is 100 acre feet, and is owned by the Mt Crested Butte Water and Sanitation District. Class 1 Dam

Paonia Dam: N38degrees 56 minutes, W107degrees 21 minutes Storage is 18,110 acre feet. Class 1 Dam

#### Irwin Dam:

Storage is 786 acre feet, and is owned by the Colorado Division of Wildlife. Class 3 Dam

#### Highest impact areas are:

-If Blue Mesa breached it would impact everything down stream on the Gunnison and Colorado Rivers as far away as Moab Utah. Morrow and Crystal Dams would be impacted as well.

-If Taylor breached it would impact structures and populations in Almont into the city of Gunnison.

- -If Spring Creek breached it would impact Taylor canyon and Almont.
- -If Meridian Dam breached it would have an impact on structures and populations in the town of Crested Butte, Almont and Gunnison..

-If Paonia Dam breached it would have an impact structures and populations in the towns of Paonia, Hotchkiss and Austin.

#### Wildfires

High Risk

Large forest areas adjoining highways, campsites, and recreational activity/lodging are susceptible to lightning strikes, unsupervised controlled burns, and accidental fire activity resulting in wildfires. Additional causes for wild land fires in Gunnison County are increased drought conditions, additional subdivisions, increase in aircraft accidents, increase in outdoor activity, timber grouping, and reduction in quantity of water shed and run off. The board of county commissioners of Gunnison County, may prepare, adopt, and implement a county fire management plan that details individual county policies on fire management for prescribed burns, fuel management, or natural ignition burns on lands owned by the state or county. Gunnison County has done evaluations for 17 subdivisions using the Wildfire Evaluation System. The Wildfire Evaluation System included the rating of hazards, location of water supplies, heli-spots, evacuation routes, staging area and safe zones.

High Impact Areas

-Trappers Crossing -White Pine -Taylor Park -West Elk Wilderness -Spring Creek -Any wilderness urban interface

## Drought

High Risk

Drought is a condition of climatic dryness, which is severe enough to reduce soil moisture and water below the minimum necessary for sustaining plant, animal, and human life systems. Lack of annual precipitation and enforcement of strong conservation behavior could result in drought conditions. A number of secondary hazards are associated with drought. This will result in an increased fire danger in urban natural areas and the wildland/urban interface as well as wildland/open space areas. This also increases the risk to public safety personnel as they respond to these incidents. The reduction in vegetation cover will expose soil to wind and erosion. The quality of rivers and lake water will change and sediment transport regimes of streams will be altered. Deterioration in water quality is the result. This particular hazard affects the entire geographic area included in this plan.

Gunnison County is now going on to 3 years of drought. There are daily satellite measurements, and weekly wildfire meetings to stay ahead of the drought.

Frequency: Likely, 10%-100% in the next year, or at least one chance in the next 10 years.

Potential Magnitude: Catastrophic, more than 50%

Potential Speed of Onset: More than 24 hours warning

Geographical Area Affected: Populated areas of the communities and Gunnison County(domestic needs) and widespread areas of the county (agricultural needs).

Influencing Factors: Seasonal Patterns, temperature Patterns, precipitation Patterns, and Growth.

## Earthquakes

#### Medium Risk

The sudden movement on faults is responsible for large earthquakes. By studying the geologic characteristics of faults, geoscientists can often determine when the fault last moved and estimate the magnitude of the earthquake that produced the last movement. Because the occurrence of earthquakes is relatively infrequent in Colorado and the historical earthquake record is short, accurate estimations of magnitude, timing or location of future dangerous earthquakes in Colorado is impossible to estimate. However, geological research indicates that components (faults) of earthquakes are prevalent in Colorado. Damage and life loss from these types of hazards can be devastating to communities. Just last year , in 2002, Gunnison County had an earthquake that reached 5.1 on the rector scale.

Frequency: Possible, 1% and 10% probability in next year, or at least one chance in the next 100 years.

Potential Magnitude: Critical, 25%-50%

Geographical Area Affected: Gunnison County

Influencing Factors: Geologic studies indict over 100 active faults in Colorado

#### **Extreme Winter Weather**

#### High Risk

There are three types of winter events: blizzards, ice storms and extreme cold. All of these events are a threat to the community with sub-zero temperatures from extreme wind chill and storms causing low visibility for commuters. Snow storms are known to cause power outages, road closures, collapsed buildings, and avalanche danger. Because many of the passes are near or greater than 12,000 feet in elevation, there is a greater and extreme risk for traffic accidents to result in fatalities. In extreme weather such as temperatures of 20 degrees below zero or colder - it is estimated that a power loss of over 6 hours would result in freezing of water and sewer lines to more than 50% of the population. Those not impacted by this would be seasonal homes (that are drained down during the winter and those residences and businesses with alternate power or heating systems not dependent on power such as fireplaces, wood stoves, etc.)

#### Terrorism

#### High Risk

This is a relatively new threat that must be addressed through security and awareness. Also

training and equipping of local emergency response personnel in cooperation with state and federal agencies. We must consider the potential effects of terrorist activities on surrounding communities. Regional Mutual Aid Agreements specifically addressing terrorism are essential. After in depth calculations in conjunction with Weapons of Mass Destruction, it was concluded that Gunnison County is now at high risk because of Blue Mesa Dam. Not only does this dam create storage for more water than any other reservoir in Colorado it is also protecting a power house that supplies power to the Western United States.

Potential impact areas: -Blue Mesa Dam -Taylor Dam -Spring Creek Dam -Meridian Dam -Paonia Dam -Western State College of Colorado

## Mudslides/Landslides

High Risk

There are three major areas in Gunnison County that are considered to be conductive to landslide activity. Those three areas are Muddy Creek, Ohio Creek on county road 730, and Slate Creek in Marble. The potential impact areas would be dirt roads and highways. Potential impact for residential areas are not listed because the majority of impact would be on transportation routes.

#### **Hazardous Material Incidents**

High Risk

The Emergency Management Team separates these incidents into two categories, Fixed Facilities and Transportation. Fixed facilities include companies that store hazardous waste at their facility and also all hazardous waste sites. According to the Material Safety Data Sheets(MSDS), there are a few facilities in Gunnison County that hold hazardous materials although none of them exceed the threshold amount. Transportation of hazardous materials are common in Gunnison County especially on Highway 50, a major State Highway, and sometimes the only accessible route to hazmat transporters. Since Gunnison County is surrounded by mountains and diverse terrain, transportation of hazmat materials are limited on high mountain passes with severe weather conditions, and ice, wildlife and debris on road ways. Hazmat transportation incidents have occurred on highway 50, highway 114, highway

135, and highway 149, all highways leading in and out of Gunnison county, and making Gunnison County high risk for hazardous material incidents.

## **Chapter VI**: Existing Hazard Mitigation Programs

The following information identifies existing mitigation strategies for the hazards likely to effect Gunnison County and evaluates the effectiveness of those strategies. This section outlines programs and recommends improvements and changes to these programs to ensure the highest quality emergency service possible. In November 1971, the first Gunnison County Emergency Management Plan was developed and put into effect. The development of this plan was a result of a traffic accident that occurred on Monarch Pass killing eight Gunnison High School students and one football coach. After this tragedy a local doctor, Dr. Mason Light, Junior High Principal John Towles, and Search Coordinator Jo Ann Stone, put the plan together. The plan currently describes the preparation and emergency response necessary by the county to react to emergency situations that require the counties resources. The plan also provides information on the Emergency Response Teams, it's members, and their responsibilities in the case of an emergency. The remainder of the plan contains the procedure for specific hazards unique to Gunnison County and the responsibilities of each department in the event of each hazard. In addition, Gunnison County has a variety of other mitigation programs. Table 4 outlines the existing hazard mitigation programs in Gunnison County, the responsible party, the areas of the county these programs protect, and suggested improvements or changes to these programs.

Existing Protection program	Description	Area Covered	Enforcement Department	Effectiveness	Improvements or Changes Needed
Upper Gunnison River Conservancy District	Protects & develops water resources	Upper Gunnison basin	Seventh Judicial District Court Judge	Moderate	
US Soil Conservation	Protects and develops soil resources	All of Gunnison County	USDA	Moderate	

#### **Table 4: Existing Mitigation Strategies and Proposed Improvements**

Redundant Communication Center	A backup communications center is funded and will be installed at the Gunnison Municipal building.	All of Gunnison County	Communication/ 911 Board	High	
Gunnison Weed Control	Control over foreign and excessive weeds in our county	All of Gunnison County	The State of Colorado gave Gunnison County the authority to enforce the Colorado Weed Act. Other enforcers include United States Forest Service, and the Gunnison National Forest.	High	
Jubilee House/Secure Location	Designed to give a safe shelter to abused, and assaulted men, women and shelter.	All of Gunnison County	Police Department, and Law Enforcement Advocates.	High	
Neighborhood Services	services and protection of the public and enforcement of regulations and policies implemented for Gunnison municipal laws.	The City of Gunnison	Police Department	High	
Building Codes	Designed to ensure structural stability in all weather conditions.	All of Gunnison County	Community Development Building Inspector	High	

Gunnison Legacy	Nature and Environmental preservation and conservation	All of Gunnison County	State of Colorado/ Private	Moderate	
Emergency Generators	Contracts have been made by Gunnison County for emergency generators to be brought into service on a 12 hour notice. There are existing generators located in Government buildings etc.	Water treatment, and sewer plant in Crested Butte, Grand Butte Hotel, and the Mt Crested Butte Sewer plant in Mt Crested Butte. Generators may also be available through American Concrete and Gravel, Rental Service Cooperation, and Schmalz Construction.	Gunnison County	High	
Crime Stoppers/DARE	Prevention of criminal activity and drug activity	All of Gunnison County	Police Department	High	
USD A/Brand Inspector	Inspections and control of livestock and ownership	All of Gunnison County	USDA	High	
Public Health Department	Water quality, Disease control, unwanted pregnancy control, & cancer prevention	All of Gunnison County	State of Colorado	High	

## Chapter VII: Action Plan and Implementation Schedule

## **Potential Mitigation Strategies**

The action plan was developed by analyzing the existing county programs, the proposed improvements and changes to these programs. Additional programs were also identified as potential mitigation strategies. These potential mitigation strategies were ranked in five categories according to how they accomplished each item.

-Prevention -Property Protection -Structural Protection -Emergency Services -Public Information and Involvement

**Prevention** measures: include planning, zoning, open space preservation, flood plain and wetland development regulations, storm water management, best management practices, communication systems with rail companies, communication with land owners regarding hazardous materials.

**Property Protection** includes: utility relocation/burying or flood proofing, lightning protection for elevated structures, identifying all water sources in recreational facilities, sewer backup protection, insurance and minimization actions.

**Structural Protection** includes: placement of anemometers, evacuation plans for each building, enclosing hazardous facilities, detention/retention basins, larger culverts and higher flood standards for construction projects.

**Emergency Services** include: mutual aid agreements, protection of critical facilities, health and safety maintenance, inventory of all assets in the county.

**Public Information and Involvement measures** include: providing map information, informational mailings or workshops, real estate disclosure of flood hazards, environmental education, and public announcements on Cable Access channel which provides instantaneous updates on emergency situations in the county.

Hazard	Prevention	Property Protection	Structural Protection	Emergency Services	Public Information and Involvement
Bomb Threat	Evacuation plan for schools, Government buildings etc.	Evacuation routes designated for safe and non destructive action.	Gunnison Fire department and Hazmat controlling structure damage.	Designate what departments are responsible for action	Public education on evacuation and regular drills
Flooding	Early identification of failing culverts, bridges, extreme high water levels.	No new buildings built in the 100 year flood plain, and progressed development of culverts an bridges engineered not to effect homes, buildings or the property they are built on.	Require all culvert replacement and other road projects to be conducted in accordance with state and national standards.	Know which routes would potentially be blocked in various flood events and plan accordingly.	Educate community about potentially flooded routes and encourage to avoid those in storm events. Use Emergency Alerting System.
Fires	Evacuation plan for all involved. Identify nearest water source.	Coordination among Gunnison fire department, all other involved agencies, and the public.	Determine the stability and the capacity of structures (if any) at the locations and make appropriate upgrades.	Designate what departments are responsible for action.	Public education of safety and procedures. Imply the do's and the dont's.
Ice & Snow Events/Avalanc he	Plan for all disasters while incorporating evacuation, property and structural damage.	Coordination plan for all emergency services to protect all involved property and rebuilding after destruction.	Determine the stability and the capacity of structures and make appropriate upgrades.	Designate what departments are responsible for action.	Public education on safety and procedures in order to prepare for disasters.

## Table 5: Potential Mitigation Strategies

Mud slides/Landslid es	Monitoring weather and ground moisture throughout the year and making adjustments to any activity that may be involved in a mudslide or the cause.	State and federal equipment available if needed and trained operators to protect any destruction of any property.	Determine the potential damage and make adjustments to protect structures from damage.	Coordinate emergency services to keep emergency vehicles out of the hazard zone and structure for any recoveries and incorporate denied access.	Provide public information on procedures and the what if's.
Earthquake		Building Codes	Building codes	Incident Command and possible triage with an organized emergency service crew with acceptable responsiveness.	Education on public safety and steps to be taken as a citizen in time of an earthquake.
Power Outages	Back up sources of electricity	proper underground electrical system.	Building codes, inspection of wiring within structures.	Electric companies identified and included in emergency plans.	Public education about electrical hazards.
Techno-logical hazards	Increased the hazmat team, conducted a commodity flow study with vehicles, conducted a household chemical study, Department of justice funds to equip our hazmat, law enforcement, fire, and EMS departments.	Local Chemical collections, School chemical inspections	Inspections of schools, and households.	Inter communication and relations practicing organized skills and procedures at hazmat training's, the School bus safety program, and other disaster training's.	Newspaper articles educating the public on awareness, and posters introducing chemical collections.

Transportation Accidents	Enforced speed and driving under the influence laws, road maintenance, defensive driving courses and education.	Guard rails, fences, and safe placement of landscape.	Inspection of structures and the stability of structures.	Organized responsiveness by emergency services and additional extrication assistance if needed. Good communication between emergency dispatch and emergency services.	Driving education for the public as well as safe and defensive driving education.
Terrorist Activity	Additional Law Enforcement patrol and restricted areas.	Early Identification of all available resources and services that could be needed or involved.	Early identification of all available resources. Building codes and inspection of stabilization of any structures involved.	Identify responsibilities of each department and response to terrorist activity with safe activity.	Education for the public through tv, radio, newspaper, and public meetings.

Other mitigation measures are practiced in Gunnison:

**Flooding**: Water and snow levels are monitored prior to spring thaw. Those levels are reviewed and if it is determined we may be in for high water with the spring run-off the following steps are taken -

- 1. Public Awareness
- 2. Evaluation flights on water ways to see where those trouble spots may be so they may be fixed or planned for. Special attention to those spots with history of problems.
- 3. Ensure the storage of adequate numbers of sand bags.
- 4. Ensure evacuation points are ready and stocked with MRE.'s (meals ready to eat)
- 5. Alert property owners to the need of flood insurance in advance.
- 6. Alert private property owners of need for safe storage of valuables, stocking up on necessities, notification lists, etc.
- 7. Activate water monitors to call in levels.

Wildfires: Extreme drought conditions monitored and the following steps taken:

- 1. Alerts to both private and public entities.
- 2. Literature on clear spaces and other protective measures.

- 3. Burn Bans.
- 4. Wildfire orientation meetings with all assisting agencies with resources checked.

#### **Terrorism:**

Checking daily threat levels with COEM (Colorado Office of Emergency Management)

- 1. Sharing those threat levels with other government officials and law enforcement.
- 2. Check on Events planned.
- 3. Reminders to report suspicious activities.
- 4. Regional exercises with adjoining counties.

## Chapter VIII: Feasibility and Prioritization of Proposed Mitigation Strategies

The goal of each strategy is reduction or prevention of damage from a hazard event. In order to determine their effectiveness in accomplishing this goal, a set of criteria was applied to each proposed strategy. The STAPLEE method analyzes the Social, Technical, Administrative, Political, Legal, Economic and Environmental aspects of a project and is commonly used by public administration officials and planners for making planning decisions. The following questions were asked about the proposed mitigation strategies and discussed in Table 6:

-Social: Is the proposed strategy socially acceptable to the community? Are there equity issues involved that would mean that one segment of the community is treated unfairly?

-**Technical**: Will the proposed strategy work? Will it create more problems than it solves?

-Administrative: Can the community implement the strategy? Is there someone to coordinate and lead the effort?

-**Political**: Is the strategy politically acceptable? Is there public support both to implement and to maintain the project?

-Legal: Is the community authorized to implement the proposed strategy? Is there a clear legal basis or precedent for this activity?

-Economic: What are the costs and benefits of this strategy? Does the cost seem reasonable for the size of the problem and the likely benefits?

-**Environmental**: How will the strategy impact the environment? Will the strategy need environmental regulatory approvals?

\*Each proposed mitigation strategy was evaluated and assigned a score(Good=3, Average=2, Poor=1) based on the above criteria. An evaluation chart with total scores for each strategy can be found in the collection of individual tables under Table 6.

## Table 6: STAPLEE Analyses of Proposed Mitigation Strategies

Criteria	Evaluation	Score
Is it Socially acceptable?	Partially it is acceptable by 50% of the population within the community but it is not by 50%.	1
Is it Technically feasible and potentially successful?	Yes, it is feasible, it would work to keep	2
Is it Administratively workable?	Yes, Emergency services would be responsible for Administrative involvement.	3
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	Yes	3
Is it Economically beneficial?	Yes	2
Is it Environmentally beneficial?	Could be depending on the terrorist act	1
Final Score		14

Mitigation Action: Terrorism preparation

Mitigation Action: Wildfire prevention, and preparation for wildfires

Criteria	Evaluation	Score
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Is it Socially acceptable?	Yes, it benefits everyone equally.	2
Is it Technically feasible and potentially successful?	Yes, The plan works to identify actions necessary to plan for wildfires, destruction resulting from wildfires, which are common in Gunnison County.	3
Is it Administratively workable?	Yes, This plan is structured, organized, and updated by the Gunnison Basin Wildfire Council. This administration directly involves the State and National Forest Service, Law Enforcement, Fire districts, Fire Chiefs, Emergency management and planning, and elected officials.	3
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	Yes, Under Colorado Law, the county Sheriff has been given authority to act as fire warden for the county. Federal fire agencies also have authority in addition to the Sheriff.	3
Is it Economically beneficial?	Yes, the funds used for the wildfire prevention and preparation come out of the Gunnison County Emergency funds. If Presidential declaration occurs, funds could be excepted out of FEMA.	2
Is it Environmentally beneficial?	Yes, actions such as controlled burns, monitoring moisture, and observation of precipitation. Also replanting and recovering areas are popular.	3
Final Score		18

# Mitigation Action: Flooding preparation and awareness

Criteria	Evaluation	Score
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Is it Socially acceptable?	Yes, it benefits everyone equally.	2
Is it Technically feasible and potentially successful?	Yes, it will ensure protection and preparation for a flood in Gunnison county.	2
Is it Administratively workable?	Yes	2
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	No	1
Is it Economically beneficial?	Yes	2
Is it Environmentally beneficial?	yes	2
Final Score		13

Mitigation Action: Preparation of Airplane crashes both rural and in populated areas.

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes, this plan benefits the entire community and ensures safety and save lives.	2
Is it Technically feasible and potentially successful?	Yes, this plan will work to identify actions necessary to plan for an airplane crash.	3
Is it Administratively workable?	Yes	2
Is it politically acceptable?	Yes	2
Is there Legal authority to implement?	Yes	2
Is it Economically beneficial?	No	1
Is it Environmentally beneficial?	No	1
Final Score		13

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes	3
Is it Technically feasible and potentially successful?	Yes	3
Is it Administratively workable?	Yes	2
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	No	1
Is it Economically beneficial?	Yes	2
Is it Environmentally beneficial?	No	2
Final Score		15

## Mitigation Action: Preparation for extreme winter weather.

## Mitigation Action: Emergency Operations Center

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes	3
Is it Technically feasible and potentially successful?	Yes	3
Is it Administratively workable?	Yes	3
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	Yes	3
Is it Economically beneficial?	Yes	3
Is it Environmentally beneficial?	No, there are no environmental impacts.	2

Final Score	19

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes, this benefits all sections of the community, and actually works to reach out to those that may not have access to a phone, television and are in remote areas.	3
Is it Technically feasible and potentially successful?	Yes, there is currently a Mobile incident command vehicle and has been put to use and has been successful.	3
Is it Administratively workable?	Yes	3
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	Yes	3
Is it Economically beneficial?	Yes	3
Is it Environmentally beneficial?	No, there are no environmental impacts.	1
Final Score		18

## Mitigation Action: Mobile incident command vehicle

## Mitigation Action: Remote Incident Command Post at the Airport

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes	2
Is it Technically feasible and potentially successful?	Yes	3

Is it Administratively workable?	Yes	3
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	Yes	2
Is it Economically beneficial?	Yes	2
Is it Environmentally beneficial?	No environmental impacts	1
Final Score		15

## Mitigation Action: New Facility and Additional Staff for the Communication Center

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes	3
Is it Technically feasible and potentially successful?	Yes	3
Is it Administratively workable?	Yes	3
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	Yes	3
Is it Economically beneficial?	Yes	3
Is it Environmentally beneficial?	No environmental impacts	1
Final Score		18

Mitigation Action: Mutual Aid Agreements

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes, it benefits everyone equally.	3
Is it Technically feasible and potentially successful?	There are mutual aid agreements currently in the Region. Terrorism should be addressed amongst the participants.	3
Is it Administratively workable?	Yes	3
Is it Politically acceptable?	Yes	3
Is there Legal authority to implement?	Yes, the agencies involved implement and structure their agreements.	3
Is it Economically beneficial?	Yes	3
Is it Environmentally beneficial?	No environmental impacts	1
Final Score		19

Mitigation Action: Evacuation Plan for Gunnison County

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes, It benefits everyone equally.	3
Is it Technically feasible and potentially successful?	Yes, this plan proposes a safe evacuation route from Gunnison and eliminate future problems with traffic jams, roads issues, etc.	3
Is it Administratively workable?	Yes	3
Is it Politically acceptable?	Yes	2
Is there Legal authority to implement?	Yes, Emergency management has the authority.	3
Is it Economically beneficial?	Yes, the costs are mostly covered by pre- approved grants and the benefit is a safe evacuation plan in case of a severe emergency.	3

Is it Environmentally beneficial?	There are no environmental impacts.	1
Final Score		18

Criteria	Evaluation	Score
Is it Socially acceptable?	Yes, this project benefits everyone in the community equally as it helps to clarify evacuation routes during an emergency.	3
Is it Technically feasible and potentially successful?	Yes, it is feasible, negotiation and discussion with FAA has been accomplished.	3
Is it Administratively workable?	Yes, the Gunnison County Airport Manager works with the FAA to develop and implement the plan. According to FAA Certification, Gunnison County Airport has assigned traffic patterns and UNICOM that is manned during daylight hours. An enhanced UNICOM is available for use in emergency measures.	3
Is it Politically acceptable?	Yes, there is public support, because it is in the best interest of providing a safe and secure evacuation route, or other emergency air space needed.	3
Is there Legal authority to implement?	Yes, the FAA has authority	3
Is it Economically beneficial?	Yes	3
Is it Environmentally beneficial?	No environmental impact	1
Final Score		19

## Mitigation Action: FAA Requirement for Airports

Mitigation Action: Regional Hazmat Response

Criteria	Evaluation	Score
Is it Socially Acceptable?	Yes, it benefits everyone equally	3
Is it Technically feasible and potentially successful?	Yes, Gunnison County was influential in changing the State Hazmat Laws and implementing Hazmat response.	3
Is it Administratively workable?	Yes	3
Is it Politically acceptable?	Yes	3
Is there Legal authority to implement?	Yes, the Gunnison Hazmat team operates under NFPA and OSHA standards, and rules created by EPA.	3
Is it Economically beneficial?	Yes	2
Is it Environmentally beneficial?	Yes	3
Final Score		20

## Chapter IX: Implementation Schedule for Priority Mitigation Strategies

This step involves developing an action plan that outlines who is responsible for implementing each of the prioritized strategies determined in the previous step, as well as when and how the actions will be implemented. The following questions were asked to develop an implementation schedule for the identified priority mitigation strategies.

**Who?** Who will lead the implementation efforts? Who will put together funding requests and applications?

When? When will these actions be implemented, and in what order?

**How?** How will the community fund these projects? How will the community implement these projects? What resources will be needed to implement these projects?

Table 7 is the Action Plan. In addition to the prioritized mitigation projects, Table 7 includes the responsible party (WHO), how the project will be supported (HOW), and what the time frame is for implementation of the project (WHEN).

Project	Responsibility/ Oversight	Funding/Support	Time-frame
Terrorism preparation	Emergency Management	FEMA grants, DOJ grants, State, and local.	Ongoing, updated by 2004
Wildfire Prevention, and preparation for Wildfires	Emergency Management	Local, State, Gunnison was one of the counties that received funding from the presidential declaration on wild fires, in 2002.	Ongoing, updated by 2004
Flooding preparation and awareness	Emergency Management, County Manager	Local, State	Ongoing, updated by 2004
Preparation of Airplane crashes, rural and populated areas	Emergency Management, FAA, Airport Manager	FEMA grants, State, Local,	Ongoing, updated by 2004
Preparation for extreme winter weather	Emergency Management	FEMA grants, Local,	Implemented by 2004
Emergency Operations Center	Emergency Management	State, Local,	Ongoing, updated by 2004
Mobile incident Command Vehicle	Emergency Management	State, Local,	Ongoing, updated by 2004
Remote incident Command Post at the Airport	Airport manager, Emergency Management	State, Local,	implemented and reviewed yearly
New facility and Additional staff for the Communications Center	Emergency Management, City Manager, Communication board	User agencies, 911 authority, Local	New office is implemented, updates will be ongoing, additional staff has been approved and will is being implemented this year.

## **Table 7: Prioritized Mitigation Projects and Action plan**

Mutual Aid Agreements	Emergency Management	State, Local	Will be implemented by 2004, updated and reviewed yearly.
Evacuation Plan for Gunnison County	Emergency Management	Local	Presently implemented, reviewed and updated yearly
Regional Hazmat response	Emergency Management, Fire Marshall	Adjoining county funds	Will be in effect by 2004
FAA requirement for Air Space needs	Emergency Management, Airport Manager	Federal grants, Local	Presently implemented updated by 2004

#### **Chapter X:** Monitoring, Evaluating, and Updating the Plan

Recognizing that many mitigation projects are ongoing, and that while in the implementation stage communities may suffer budget cuts, experience staff turnover, or projects may fail altogether, a good plan needs to provide for periodic monitoring and evaluation of it's successes and failures and allow for updates of the Plan where necessary.

In order to track progress and update the Mitigation Strategies identified in the Action Plan (Table 7), it is recommended that the county revisit the Gunnison County Hazard Mitigation plan annually, or after a hazard event. The Emergency Management Director/Coordinator is responsible for initiating this review and needs to consult with members of the Emergency Management Team. Changes should be made to the plan to accommodate for projects that have failed or are not considered feasible after a review for their consistency with STAPLEE, the time frame, the community's priorities, and funding resources. Priorities that were not ranked high, but identified as potential mitigation strategies, should be reviewed as well during the monitoring and update of this plan to determine feasibility of future implementation. In keeping with the process of adopting the Gunnison County Hazard Mitigation Plan, a public hearing to receive public comment on plan maintenance and updating should be held during the annual review period, and the final product adopted by the Board of selectmen appropriately.

## **Chapter XI:** Recommendations

The following recommendations have been provided to assist Gunnison County in adopting

additional mitigation strategies.

Recommendations are recorded quarterly from the LEPC (Local Emergency Planning Committee). Some recommendations associated with the following plans and actions include mapping, radios, computers, EAS(Emergency Alerting System), system/TV, EPN( Emergency Preparedness Network ), from all members of LEPC. Authorized by State guidelines, FEMA guidelines, and involved entities.

#### A. Evacuation plans

- 1. Evacuation plan for Gunnison County
- 2. Evacuation for floods, fires etc.

#### B. Man-made Disasters

- 1. Terrorism Preparation
- 2. Wildfire

#### C. Airport Concern

- 1. Preparation of airplane crashes both rural and populated areas
- 2. FAA requirement for air space needs
- 3. Remote incident command post at the Airport
- 4. Emergency Operations center

#### D. Combined Agency Operations

- 1. Emergency Operations Center
- 2. Mobile Incident Command Vehicle
- 3. Mutual Aid agreements

#### E. Communication

1. New facility and additional staff for the Communications Center

- F. Natural Hazards
  - 1. Preparation for extreme winter weather, wildfires, and floods.

July 16, 2003

Dear Jeff:

We have made some of the recommended changes to our mitigation plan. The Board of County Commissioners have signed off on this plan and have no problem with minor or language changes but want to leave resources and Incident Command as part of the plan. We have changed Somerset to reflect the proper status. We have put landslides/mudslide together because there is not real difference in impact from these two events.

The public involvement not listed is as follows: Each committee - EMS, Comm Board, Wildfire Council, Trails, etc does have public seats. This plan has been circulated to all of these committees and councils. The plan has been placed in the public halls with the preparedness notices, wildfire announcements, mitigation news inserts, etc. Several comments have been made and integrated. These are listed in acknowledgments.

Letters have been written to the City of Gunnison, Towns of Crested Butte, Mt. Crested Butte and Pitkin to see if they want to adopt this plan or write their own. They were each involved with the writing of this. This will take a little time to be approved by each of them and then we will send letters to attach to this plan.

The mitigation plan for Gunnison has to be a plan that works for us and one that is wanted by those who will be involved so some of these things that are unchanged are for a reason.

On specific mitigation plans - we already have several projects underway and until those are completed (some with federal or state funds) we will not know what else is impacted so that we may move our concentration. Some of these projects underway are - trails, sewer system, road changes, airport runway changes, truck escape routes, water parks, sage grouse mitigation, wildfire mitigation as in subdivision evaluations

Sincerely