

# Fall River County, SD HAZARD MITIGATION PLAN 2020

# MULTI-JURISDICTIONAL PLAN

Fall River County

City of Hot Springs

City of Edgemont

Town of Oelrichs

#### APPROVED:

Date

# 8/17/2020

PREPARED BY:

Fall River County Department of Emergency Management

## TECHNICAL ASSISTANCE PROVIDED BY:

Black Hills Council of Local Governments

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# **INTRODUCTION**

Fall River County is vulnerable to natural disasters that can impact infrastructure, the welfare and safety of its residents, and its business community. Past disasters have inflicted costly damages upon Fall River County. While these disasters cannot be eliminated, with careful planning the response and recovery time related to these events can be improved and the impacts to residents, businesses, and local governments can be reduced. Mitigation planning is the effort to make communities more resilient through sustained actions that reduce or eliminate long-term risks to people, property, and infrastructure. Mitigation planning efforts should help communities anticipate, withstand, and reduce risk from natural hazard events.

To be eligible for FEMA's Hazard Mitigation Assistance (HMA) grant programs, the Disaster Mitigation Act of 2000 (DMA 2000) requires that local governments have a FEMA-approved mitigation plan in place. In these mitigation plans, local jurisdictions must demonstrate that proposed mitigation projects have a basis in a solid planning process where the unique risks and capabilities of each community are assessed. Mitigation plans must be updated every five years to demonstrate that progress has been made toward meeting the community's mitigation goals and to ensure that the plan continues to be an effective mitigation tool that meets the needs of the community.

The 2020 Fall River County Hazard Mitigation Plan is a major update of the 2014 mitigation plan and establishes actions that consider changes that have occurred over the last five years in Fall River County, examines progress in meeting the mitigation goals set in the previous plan, re-evaluates hazard threats, and establishes new mitigation goals and activities that will lead to a more resilient Fall River County.

The 2020 Fall River County Hazard Mitigation Plan is a multi-jurisdictional plan that includes the unincorporated areas of Fall River County and the city of Hot Springs, city of Edgemont, and town of Oelrichs. The plan provides goals, objectives, and mitigation activities developed by the Mitigation Planning Team that will guide the county's disaster mitigation efforts over the next five years.

# PLANNING PROCESS

# **PLANNING TEAM**

A diverse group of emergency management professionals, local officials, and citizens participated in the hazard mitigation planning process. In the summer of 2019, Fall River County identified stakeholders to be included on the Mitigation Planning Team and invitations were sent out to those individuals and organizations.

The first meeting was held June 14, 2019. The Planning Team discussed projects identified in the current plan that had been completed and projects that were underway. The team also identified opportunities for public engagement and preferred outreach methods.

The second Planning Team meeting was held on July 18, 2019. The Planning Team reviewed the history of hazard threats in the county, changes in population characteristics, reviewed critical facilities and high threat areas, and assessed the potential for threats to critical facilities.

On September 10, 2019 a meeting was held with the Oelrichs Town Board. At this meeting, the Town Board reviewed projects that had been completed since the last plan update, reviewed potential hazard threats, reviewed critical facilities, high threat areas, and established actions to include in the plan update.

The third Planning Team meeting was held on September 20, 2019. The Planning Team reviewed the survey results and participated in an activity to set strategies and actions to include in the plan update.

A draft of the plan was sent out to the Mitigation Planning Team, and posted on the Fall River County Facebook on \_\_\_\_\_. In addition, the draft plan was also sent to the Emergency Managers in neighboring counties for review.<sup>1</sup>

The final draft of the plan was updated based on public comments and sent to the South Dakota Office of Emergency Management and FEMA

<sup>1</sup> Custer, Oglala Lakota, Dawes, Sioux, Niobrara, Oglala Sioux Tribe

# PLANNING TEAM

Frank Maynard, Fall River County Emergency Manager William Lukens, City of Hot Springs Council

Stacey Martin, Fall River County GIS

Logan Brown, South Dakota Wildland Fire Urban Interface Specialist

Jerry Dribble, Edgemont Mayor

Steve Esser, SD Wildland Fire Hot Springs District Office

Sally Park-Hageman, Fall River LEPC

Lyle Jensen, Fall River County Building Supervisor

Joe Messinio, Oelrichs Town Board President for review on \_\_\_\_. The plan was approved by FEMA on \_\_, and subsequently adopted by participating jurisdictions.

# **PUBLIC ENGAGEMENT**

All Mitigation Planning Team meetings were open to the public, and the Emergency Management Director provided regular updates at the Fall River County Commission meetings throughout the process.

An online community survey was conducted related to the mitigation plan update, and the survey was advertised multiple times via the County's Facebook page. The results of the survey were used by the Planning Team to help inform the mitigation strategies included in this plan.

# **COORDINATION WITH OTHER PLANS**

The Planning Team identified a list of existing plans and documents that were used to identify critical infrastructure and vulnerable populations or provided a means of implementing projects included in the Hazard Mitigation Plan.

The County's Pre-attack Map Book was used to identify the locations and relative risk of critical facilities and services as well as potentially hazardous sites. The map book was also used to identify areas with limited accessibility. The County's Hazardous Materials Plan and the Emergency Operations Plan were used to identify areas of concern, existing services, and potential projects.

The State's Department of Agriculture (SDDA) Wildland Fire Plan was used to identify current mitigation programs and projects as well as areas of concern that are not currently being addressed. The SDDA Wildland Fire Division and Plan provide an additional opportunity for mitigation project implementation.

# **RISK ASSESSMENT**

A step-by-step approach was utilized to identify potential hazard risks for Fall River County. Hazard risk is influenced by a community's assets—things like population characteristics, public services and infrastructure, the natural environment, and the local economy—and how those assets relate to hazard threats.<sup>2</sup> This section will describe Fall River County's assets, profile hazards, detail progress that has been made on previous mitigation goals, and analyze specific vulnerabilities for each participating jurisdiction.

Numerous resources were used to complete this risk assessment for Fall River County. The *State of South Dakota* 2016 Hazard Identification Risk Assessment was a major source of information on potential hazard risks. In addition, hazard histories were obtained from several sources, including the National Climatic Data Center, National Weather Service, Department of Agriculture-Division of Wildland Fire, Fall River County GIS, and the United States Geological Survey. In addition, the Mitigation Planning Team helped to identify and describe Fall River County's assets.

Figure 1: Fall River County, SD



<sup>2</sup> FEMA's Local Mitigation Planning Handbook. March 2013. Page 5-1

# **COUNTY PROFILE**

# **ENVIRONMENT**

Fall River County is in southwestern South Dakota. There are three incorporated communities in within the county: Hot Springs, Edgemont, and Oelrichs. Fall River County has a total area of 1,749 square miles and is bordered by Oglala Lakota County to the east, Custer County to the north, Wyoming to the west, and Nebraska to the south.

The map below shows the current land cover in Fall River County. Most land in the county is grassland used for rangeland, with some cultivated areas also present. The north-central portion of Fall River County is forestland.





There are no natural lakes within the county. There is one large reservoir, Angostura, and two smaller reservoirs, Cold Brook and Cottonwood. The Cheyenne River is the major river that runs through the county. There are five primary watersheds within Fall River County. The Angostura and Middle Cheyenne-Spring Watersheds make up the central and northern portions of the county. The Beaver Watershed covers the

northwest corner of the county. The Upper White Watershed covers the southeast corner of Fall River County and the Hat Watershed covers the southwest corner.

There are a wide range of elevations throughout Fall River County, with higher elevations generally in the northern portion of the county.





#### PEOPLE

Fall River County had a total population of 6,758 in 2018. The population decreased by 1 percent from 2013-2018. Hot Springs is the county seat as well as the largest city in the county. It is estimated that Hot Springs and the surrounding area (57747 zip code) accounts for 80 percent of the county's total population.

Figure 4 shows the age distribution for Fall River County and the changes in age cohorts between 2013 and 2018.<sup>3</sup> The county has a median age of 51, which is much older than the South Dakota median age of 37.<sup>4</sup>

#### Figure 4: Fall River County Age Distribution, EMSI



In terms of educational attainment, 17.8 percent of Fall River County residents possess a Bachelor's Degree (1.0 percent below the national average), and 10.4 percent hold an Associate's Degree (2.3 percent above the national average).<sup>5</sup>

Like the rest of the Black Hills region, median household income in the county lags that of the nation. The median household income in Fall River County is \$48,900, which is \$8,800 below the national median household income.

## ECONOMY

From 2014 to 2019, jobs increased by 3.0 percent in Fall River County from 2,982 to 3,070. As the number of jobs increased, the labor force participation rate increased from 52.6 percent to 55.7 percent during the same period. This change fell short of the national growth rate of 6.9 percent. Jobs in the county are expected to increase by 119 over the next five years.



Government employment is by far the largest source of jobs and economic activity in Fall River County. Government employment and spending accounts for slightly over \$100 million of annual gross regional product, the next largest industries are Health Care & Social Assistance (\$23.03 M) and Transportation & Warehousing (\$22.75 million). Figure 6 shows the total number of industry jobs in 2019, absolute job growth from 2014-2019, as well as the degree of specialization (LQ), and Gross Regional Product (GRP) for the industries in Fall River County.<sup>6</sup>

Figure 6: Industry Table

INDUSTRY	2014 JOBS	2019 JOBS	CHANGE IN JOBS	% CHANGE IN JOBS	2019 LQ	2019 EARNING/ WORKER	2018 GRP
Government	1,082	1,117	35	+3%	2.43	\$63,856	\$100.30m
Health care and social assistance	341	392	51	+15%	1.01	\$47,935	\$23.03m
Retail trade	275	298	23	+8%	0.97	\$30,115	\$19.50m
Accommodation and food services	328	279	-49	-15%	1.06	\$17,703	\$9.57m
Agriculture, forestry, fishing and hunting	163	166	3	+2%	4.68	\$54,264	\$15.86m
Construction	149	162	13	+9%	0.94	\$41,954	\$12.20m
Other services (except public administration)	129	137	8	+6%	0.94	\$21,244	\$5.39m

<sup>6</sup> Emsi Q4 2019 Data Set

Transportation and warehousing	162	131	-31	-19%	1.16	\$89,987	\$22.75m
Professional, scientific, and technical services	80	93	13	+16%	0.46	\$49,733	\$6.88m
Arts, entertainment, and recreation	71	82	11	+15%	1.53	\$25,424	\$3.85m
Administrative and support and waste Management and remediation Services	40	52	12	+30%	0.27	\$29,835	\$2.18m
Finance and insurance	52	48	-4	-8%	0.39	\$59,869	\$6.87m
Wholesale trade	26	30	4	+15%	0.27	\$88,552	\$10.25m

Finally, among the largest employers in Fall River County are the Veteran's Affairs (VA) Medical Center in Hot Springs, Fall River Hospital, and BNSF Railway.

# HAZARD PROFILES

The 2014 Fall River County Pre-Disaster Mitigation Plan profiled a total of eight natural hazards and nine human-caused hazards. Based on disaster history and development trends in Fall River County, seven natural hazard profiles are included in this plan update, as human-caused hazards are covered under the County's other emergency management plan documents. In the previous plan, Landslides and Earthquakes were profiled individually. In this plan, they are combined under Geological Events.

Figure 7 details the Presidential Disaster Declaration history for Fall River County, and helps paint a picture of the most serious hazard threats facing the community.

DATE	TYPE	EVENT NAME	START DATE	END DATE
7/8/2007	Fire	ALABAUGH CANYON FIRE	7/7/2007	7/20/2007
8/13/2000	Fire	FLAGPOLE FIRE COMPLEX	8/11/2000	8/20/2000
8/12/2018	Fire	VINEYARD FIRE	8/11/2018	8/14/2018
9/10/2005	Coastal Storm	HURRICANE KATRINA EVACUATION	9/6/2005	10/1/2005
4/7/1997	Flood	SEVERE FLOODING, SEVER WINTER STORMS, HEAVY RAINS HIGH WINDS	2/3/1997	5/24/1997
9/23/2010	Severe Storm(s)	SEVERE STORMS AND FLOODING	7/21/2010	7/30/2010
7/30/2015	Severe Storm(s)	SEVERE STORMS, TORNADOES, STRAIGHT-LINE WINDS, AND FLOODING	6/17/2015	6/24/2015
2/1/2017	Severe Storm(s)	SEVERE WINTER STORM	12/24/2016	12/26/2016
5/19/2000	Severe Storm(s)	SEVERE WINTER STORM, FLOODING, LANDSLIDES AND MUDSLIDES	4/18/2000	4/20/2000
11/8/2013	Severe Storm(s)	SEVERE WINTER STORM, SNOWSTORM, AND FLOODING	10/3/2013	10/16/2013
1/10/1997	Severe Storm(s)	SEVERE WINTER STORMS AND BLIZZARD CONDITIONS	1/3/1997	1/31/1997
9/23/2019	Severe Storm(s)	SOUTH DAKOTA SEVERE STORMS AND FLOODING	5/21/2019	6/07/2019
6/7/2019	Severe Storm(s)	SOUTH DAKOTA SEVERE WINTER STORM, SNOWSTORM, AND FLOODING	3/13/2019	4/26/2019

Figure 7: Presidential Disaster Declarations

#### **FLOOD EVENTS**

The entire Black Hills region is vulnerable to floods, and especially flash floods. The cause of flash flooding in Fall River County is typically due to intense rainfall over a short period of time. According to the National Climatic Data Center's (NCDC) Storm Events Database, Fall River County has experienced 28 flood events since 2003. No injuries or deaths have been reported as a result of these events; however, the events accounted for \$570,000 in damages (\$35,000 in annualized losses).

Figure 8: Fall River County FEMA Flood Hazard Areas



Approximately two percent of Fall River County is in the floodplain, including 238 buildings. Due to this flood risk, it is estimated that there is the potential for 525 people to be displaced and short-term shelter is required for 250 people.<sup>7</sup> Also of note is the Hot Springs' levee system, which was constructed in 1949 within Fall River County. The system—Fall River Channel, East and West System—protects between 25-45 square miles within the county.<sup>8</sup>

<sup>7 2016</sup> State Hazard Identification Risk Assessment

<sup>&</sup>lt;sup>8</sup> 2016 State Hazard Identification Risk Assessment, Figure 3-8

Finally, Fall River County, Hot Springs, and Edgemont all participate in the National Flood Insurance Program.<sup>9</sup> The 2016 State of South Dakota State Hazard Risk Assessment shows that there are currently 22 Flood Insurance policies in Fall River County and there has been only one claim since 1978. The State Office of Emergency Management records show no repetitive loss properties within Fall River County.

FLOOD EVENTS	
Location of Hazard:	Extent of Hazard at the Location:
Countywide – Fall River County	Road and bridge damages
	Flooding of homes and businesses
Summary of Previous Occurrences within the County:	

In May 2019, a powerful storm system slowly moved from the Four Corners region northeastward through the Plains, leading to a prolonged period of precipitation across western South Dakota from May 20-22. This three-day period was among the coldest, wettest, and snowiest on record for late May, with several temperature and precipitation records set. Runoff from the rain and melting snow led to flooding of creeks, rivers, low-lying areas, and some roads across western and south-central South Dakota. Runoff from heavy rain caused overland flooding east of Hot Springs and south of Buffalo Gap, with flooding along Hat Creek around Ardmore and Horsehead Creek around Oelrichs. Several county roads west of Oelrichs and a road along Beaver Creek south of Buffalo Gap had to be closed.

On June 4, 2015, heavy rain over Fall River County and adjacent areas of Nebraska and Wyoming caused widespread flooding across most of southern Fall River County. Hat Creek, Horsehead Creek, and the Cheyenne River downstream of Angostura Reservoir and their tributaries flooded. Flooding in Oral occurred after runoff backed up at a plugged culvert along Sand Creek. East Oral Road was underwater, with several homes and businesses in Oral and north of East Oral Road inundated. Total property damage in those counties is estimated to be more than \$105,000.

On May 25, 2010, heavy rain caused flooding along Fall River, Horsehead Creek, Hat Creek, Beaver Creek, and other smaller creeks and streams in Fall River County. The low water crossings in Hot Springs at South Sixth Street and at Joplin Avenue were flooded as well as several county roads. The creeks and streams were so high that Angostura Reservoir filled up and over 5900 cfs was being released. This was the first time in 10 years that Angostura Reservoir was full. The saturated soil and gusty winds also helped to bring down several large trees in Hot Springs.

On June 1, 2008, between two and a half and three inches of rain fell over Shep's and Alabaugh Canyons southwest of Hot Springs. A section of Shep's Canyon Road was washed out, several culverts were damaged, and trees fell across roads near Angostura Reservoir. Significant flooding was reported near Cascade Springs.

Probability of a Future Hazard Event:

Based on historical data the county should plan for 1.75 flood events per year.

Vulnerability to a Future Hazard Event:

9 Current map date 12/18/2007

Based on the 2016 State of South Dakota State Hazard Risk Assessment, Fall River County is one of four South Dakota counties most at risk and most likely to have difficultly recovering from a flood event based on the percent of the total building inventory value that could be damaged from flooding in any given year.

#### WILDFIRE EVENTS

Wildfires pose a great risk to Fall River County. The county is covered with grasslands and heavily forested areas. As increased housing development occurs on the fringe of urban areas, situations are created where fire can easily move between vegetated areas and structures. Steep slopes and lack of adequate roadways also make fires more difficult to reach in Wildland Urban Interface areas throughout the county.

The South Dakota Department of Agriculture Wildland Fire Division's database identifies 450 wildfires in Fall River County since 1995. These fires burned over 65,000 acres of land. Most of the fires are caused by lightning. The human-caused fires are typically the result of equipment, debris burning, trains, campfires, or power lines. Based on historical data, Fall River County should plan for multiple wildfire events every year. Significant historic wildfire events in Fall River County include: Seven Sisters Fire (1985); Battle Mountain Fire (1987); Flagpole Fire (2000); Alabaugh Canyon Fire (2007); Coal Canyon (2011); White Draw (2012); and, Vineyard (2018).



Figure 9: Fall River County Wildfire Events, Fall River County GIS and SD Wildland Fire

As illustrated in Figure 9, fires occur more frequently in the northern half of the county, where ponderosa pine wood and shrub lands are more common. Woodlands provide more fuel for fires, causing the fires to burn

more intensely compared to the prairie and grassland fires of the southern part of the county. Fires in the ponderosa woodlands are not only more intense and difficult to control, but are also near more people and structures.

WILDFIRE EVENTS			
Location of Hazard:	Extent of Hazard at the Location:		
Countywide – Fall River County	• Risk of injury and death		
Northern Fall River County	Property damage		
	Damage to natural environment		
Summary of Previous Occurrences within the County:			

In August 2018, the Vineyard Fire burned 560 acres near Hot Springs. The fire threatened dense residential areas and a population of approximately 3,500 people. FEMA authorized the use of federal funds to assist with firefighting costs as the threats from the fire were very high. As a result, there were no injuries or structures destroyed.

In July 2007, the Alabaugh Fire burned 10,324 acres near Hot Springs in Fall River County. The fire was started by lightning on July 7th and was contained on July 12th. The fire killed one man and destroyed 33 homes. The fire forced the evacuation of about 600 residents and destroyed 33 homes. Fire suppression costs were estimated at \$2.7 million.

In August 2000, the Flagpole Fire Complex, started by lightning, burned 7,386 acres in Fall River County. The wildfire included three different starts, the Flagpole Mountain, Green Canyon, and Chilson II fires. The fire threatened 30 homes on the north, south, and east sides of the fire and prompted officials to call for voluntary evacuations in the Shep's Canyon area, where there was only one access road. One residence was lost on the north side of the fire.

Probability of a Future Hazard Event:

Based on historical occurrences, there is a 100 percent chance of wildland fires every year in Fall River County.

Vulnerability to a Future Hazard Event:

Based on the State Hazard Identification Risk Assessment, Fall River County has 5,264 people and 3,174 housing units are within Wildland Urban Interface (WUI) zones. This represents over \$400 million in housing and content replacement value. This assessment places Fall River County in the High Aggregate Wildland Fire Vulnerability category.<sup>10</sup>

#### WINTER STORM EVENTS

Fall River County is regularly impacted by winter storm events. The county is vulnerable to winter storms due to its rural nature, agricultural economy, and history of frequent events. The NCDC Storm Events Database lists 114 winter storm, heavy snow, and blizzard events since 1996 in Fall River County. A total of \$190,000 in damages were reported for these events; however, no deaths or injuries were reported.

WINTER STORM EVENTS	
Location of Hazard:	Extent of Hazard at the Location:
Countywide – Fall River County	• Heavy snow and ice can down power lines, leading
	to electrical outages
	• Electrical outages can lead to interruptions in other
	utility services
	• Snow, blowing snow, and ice on roadways create
	hazardous driving conditions
	• Extreme cold can lead to both livestock and human
	deaths
	Snowmelt can lead to flooding

Summary of Previous Occurrences within the County:

On Christmas Day 2016, an intense storm system moved across the Northern Plains, producing snow and strong winds across much of western South Dakota. Areas of freezing rain, freezing drizzle, sleet, and snow developed over the area in the morning, before changing to snow. Snowfall was heaviest during the late afternoon and night. Four to eight inches of snow were reported across much of western South Dakota, with local amounts as much as a foot. Little or no snow fell across south central South Dakota, where temperatures were warm enough for mostly rain. Embedded thunder was also noted with the precipitation. Strong winds developed late in the day and continued into the next morning, with blizzard conditions across much of the western South Dakota plains. Interstate 90 was closed for a prolonged period from the Wyoming border to Chamberlain. Rural electric systems sustained significant damage to poles and wires due to the snow, ice, and wind.

Beginning on October 4, 2013, a historic blizzard pounded western South Dakota with record-setting snowfall and strong winds for almost 48 hours from the evening of October 3rd through the afternoon of October 5th. One to two feet of snow was reported over the plains of western South Dakota, with three to five feet of snow falling over the northern and central Black Hills. Wind gusts to 70 mph across the plains produced significant blowing and drifting snow, with visibilities near zero for much of the day on October 4th. The heavy wet snow and strong winds downed trees and power lines, causing prolonged outages and impassible highways. The roofs of several businesses, a middle school, and community center collapsed from the heavy snow. Thousands of livestock were killed from hypothermia, suffocation, or drowning. The South Dakota Animal Industry Board received reports of over 21,000 cattle; over 1300 sheep; 400 horses; and 40 bison deaths from the storm. Tree and debris removal costs were several million dollars.

On March 23, 2009, a powerful spring storm brought rain, snow, and very strong winds to western South Dakota. Precipitation started as rain, then changed to snow, and blizzard conditions developed. The heaviest snow fell over the northern Black Hills, where 18 to 48 inches of snow was measured. Ten to 20 inches of snow fell across far northwestern South Dakota, with drifts as high as ten feet. Most other locations received at least six inches of snow. Sustained winds of 30 to 55 mph, with gusts over 80 mph, were reported. Interstate 90 and other highways were closed for more than 24 hours. Tens of thousands of livestock perished.

Probability of a Future Hazard Event:

Based on historical occurrences, Fall River County should anticipate approximately five winter storm events every year. Vulnerability to a Future Hazard Event:

According to the 2016 State Hazard Identification Risk Assessment, Fall River County is Moderately vulnerable to winter storm events.

#### SUMMER STORM EVENTS

Severe summer storm events involve numerous threats like hail, lightning, high winds, and flooding. High winds and flooding related to thunderstorms are included under separate profiles in this plan, and the results of lightning strikes are detailed under the wildfire profile. Hail is a common byproduct of summer storms, and addressed in greater detail in this profile. Hail is formed when strong updrafts in a storm carry droplets of water above freezing level, where they grow larger until they can no longer be supported by wind.

Over 300 hail events have been recorded in Fall River County since 1959 according to the NCDC Storm Events Database. These events caused a total of \$2,715,250 in property damages. The database lists one lightning event that produced \$5,000 in property damages during the same timeframe in which lightning struck a business destroying a computer and damaging the phone and electrical systems.

SUMMER STORM EVENTS		
Location of Hazard:	Extent of Hazard at the Location:	
Countywide – Fall River County	Crop damage	
	Property damage	
	Utility outages	
	• Injury and loss of life	
	Wildfires	
Summary of Previous Occurrences within the County:		
On June 17, 2014, a severe thunderstorm moved northeastward from Wyoming across southwestern South Dakota.		

The storm produced large hail and strong wind gusts across Fall River County. Golf ball size hail was accompanied by 50 mph wind gusts and heavy rain.

On June 22, 2012, a severe thunderstorm tracked eastward from Wyoming across southern Fall River County. The storm produced enormous hail near Edgemont and a tornado between Edgemont and Ardmore. The tornado damaged buildings on a ranch north of Ardmore and blew down power poles and trees. The hail was reported as golf ball and softball size.

On June 19, 2010, a supercell thunderstorm produced large hail across northern Fall River County and caused damage around Hot Springs. Two-inch diameter hail caused extensive damage to automobiles and some buildings in Hot Springs.

Probability of a Future Hazard Event:

Based on historical occurrences, Fall River County can anticipate five hail events per year.

Vulnerability to a Future Hazard Event:

Based on prior occurrences and lost estimates, the county is Highly vulnerable to summer storm events.

## HIGH WIND & TORNADO EVENTS

Tornadoes are violently rotating columns of air extending from a thunderstorm to the ground. These events typically occur in May, June, and July. According to the NCDC Storm Events Database, there have been 30 recorded tornado events in Fall River County since 1967. Five of these events were rated EF2, which have estimated wind speeds of 113-157 mph and cause considerable damage, such as tearing roofs off frame houses, demolishing mobile homes, uprooting large trees, and lifting cars off the ground. These tornado events in Fall River County resulted in approximately \$1.5 million in property damages and three injuries.

High wind events are generally associated with thunderstorms, too, but have straight-line winds. Winds can exceed 100 mph and are responsible for the most extensive damage caused by thunderstorms. The NCDC Storms Events Database has recorded 43 high wind events in Fall River County since 1996, accounting for \$80,000 in property damages.

HIGH WIND & TORNADO EVENTS	
Location of Hazard:	Extent of Hazard at the Location:
Countywide – Fall River County	Crop damage
	Property damage
	Utility outages
	• Injury and loss of life
Summary of Provious Occurrences within the Country	

Summary of Previous Occurrences within the County:

On June 22, 2012, an EF2 tornado touched down just west of Edgemont Road. It moved eastward and caused damage at a ranch just east of Highway 71 north of Ardmore. A large wooden barn was destroyed; its walls and roof were blown more than 100 yards away. Two large sheds lost roofs and walls and smaller sheds were blown apart. The modular house on the property sustained minor damage.

On June 24, 1998, an F1 tornado touched down in the Hot Springs area. One person was injured when the porch of the mobile home he was standing on was destroyed. The mobile home was also destroyed. The roof of a nearby home was torn off by the same tornado as well as damaging two campers and a boat trailer. On July 1<sup>st</sup> of the same year another F1 tornado touched down in the Hot Springs area destroying a house and damaging other nearby homes.

Probability of a Future Hazard Event:

Based on historical occurrences, the probability of a tornado event in Fall River County every year is 57 percent and there is a 100 percent probability of a high wind event every year.

Vulnerability to a Future Hazard Event:

Based on the State Hazard Identification Risk Assessment, Fall River County is Moderately vulnerable to windstorm and tornado events.

#### **GEOLOGIC EVENTS**

Geologic events include both earthquakes and landslides. Fall River County is relatively geologically active compared to the rest of the Black Hills region. Fall River County has experienced six recorded earthquake events within its boundary. The highest recorded magnitude for events within the county was 4.0 on the Richter Scale. Earthquakes of less than 5.0 on the Richter Scale can be felt; however, cause minor damage and pose limited risk to public safety.

Figure 10: Fall River County Earthquake Events, USGS



Although earthquake events pose limited direct threat to safety and property, landslides caused by earthquakes can damage infrastructure or result in injury. Hot Springs and Edgemont are in areas of low incidence. Oelrichs is in an area of high susceptibility and low incidence. Although Hot Springs city limits are primarily within an area of low incidence, US Highway 18 to the southwest of Hot Springs crosses into the area of high incidence as shown in Figure 11.

Figure 11: Fall River County Landslide Susceptibility, USGS



GEOLOGIC EVENTS		
Location of Hazard:	Extent of Hazard at the Location:	
Countywide – Fall River County	Road damage	
• US Highway 18 SW of Hot Springs	• Utility damage	
Summary of Previous Occurrences within the County:		
There are six recorded earthquake events in Fall River County.		
Probability of a Future Hazard Event:		
It is unlikely that an earthquake of magnitude 5.0 or greater will occur in the foreseeable future. Fall River County has		
historically experienced numerous landslide events, and therefore, there is a high probability of future occurrences.		
Vulnerability to a Future Hazard Event:		
Based on the State Hazard Identification Risk Assessment's HAZUS Probabilistic Scenario, Fall River County's		
economic losses from a 2500-year earthquake are \$22,000.		

## **DROUGHT EVENTS**

Droughts occur over extended periods and can persist for multiple-year periods. Assigning a drought event to a single year and attributing losses and impacts to a specific event is difficult. Fall River County has experienced six periods of extreme drought since 2000. At least 80 percent of the county experienced extreme drought in these periods. The county experienced nearly consistent moderate to severe drought conditions from 2002 to 2008 with intermittent periods of extreme drought.<sup>11</sup>

Droughts pose a direct threat to the local agricultural economy, which accounts for \$15 million of annual gross regional product (GRP) for Fall River County. The agricultural, forestry, fishing, and hunting industry is the 5<sup>th</sup> largest industry by GRP in Fall River County. The *State Hazard Identification Risk Assessment* identifies over \$1.6 million in crop losses in the county in 2012 due to drought.

DROUGHT EVENTS			
Location of Hazard:	Extent of Hazard at the Location:		
Countywide – Fall River County	Agricultural economy and associated businesses		
	• Water systems		
	Increased wildland fire risk		
	• Increased risk of pests and agricultural disease		
Summary of Previous Occurrences within the County:			
The county experienced nearly consistent moderate to severe drought conditions from 2002 to 2008 with intermittent			
periods of extreme drought. <sup>12</sup>			
Probability of a Future Hazard Event:			
Based on historical data, it is highly likely that the county will be impacted by future drought cycles.			
Vulnerability to a Future Hazard Event:			
Based on the State Hazard Identification Risk Assessment, Fall River County has a Very High vulnerability to drought.			
13			

# **COMMUNITY VULNERABILITIES**

The following section details the specific assets, threats, and ultimately, the vulnerabilities for each jurisdiction covered under this mitigation plan.

# FALL RIVER COUNTY

Fall River County's demographic and economic profile is discussed in detail earlier in this Risk Assessment section. Fall River County has many assets that add to the community's resiliency. The County government coordinates the emergency management services and 911 services for the entire county. The County also has a very active GIS department that assists with documenting hazard histories and profiling potential threats. Fall River County maintains numerous miles of roads within its transportation network as well as bridges throughout the county.





The county is vulnerable to numerous hazard threats, as detailed previously in this document. Due to its economy, exposure, and history of previous events, Fall River County is highly vulnerable to Summer Storms, Flood, Wildfire, and Drought. Summer Storm events have inflicted costly damages upon property within the county, and due to its agricultural economy, the county is vulnerable to future events. As noted previously, while historically flood claims are low within Fall River County, flooding within the county has the potential to displace over 500 people.

FALL RIVER COUNTY COMMUNITY VULNERABILITY SUMMARY		
Hazard	Risk	Vulnerability
Winter Storm Events	High	Moderate
Flood Events	High	High
Summer Storm Events	High	High
Tornado & High Wind Events	High	Moderate
Wildfire Events	High	High
Drought Events	Moderate	High
Geologic Events	Moderate	Low

Wildfire events within Fall River County have been especially hazardous due to the vegetation, steep slopes, lack of adequate roadways, and the occurrence in urban interface areas. As shown on the map in Figure 12, there are multiple residential subdivisions with only one adequate egress that are in Wildland Urban Interface areas within the county making these residents highly vulnerable to future wildfire events. Finally, drought is a common occurrence within Fall River County. Drought exasperates the risk of wildfires, threatens the agricultural economy, and even increases the threat of agricultural pests and diseases.

#### HOT SPRINGS

Hot Springs is the county seat and largest city in Fall River County. According to the US Census Bureau, Hot Springs had a population of 3,519 in 2017. The population decreased by 8 percent from 4,129 in 2000 to 3,797 in 2010. The population continued to decrease from 2010-2017, losing 7 percent of the population. Hot Springs lost roughly 600 residents from 2000-2017.



Figure 13: Hot Springs Vulnerabilities, FEMA, USGS, Fall River GIS, SD Wildland Fire

Hot Springs has the largest concentration of critical services and infrastructure in the county. The city houses all of Fall River County's law enforcement agencies and offices. The community is served by two law enforcement agencies, an emergency medical service, four medical facilities, and a fire department. Hot Springs is also home to three schools, three nursing homes, and two licensed child care providers. Protecting the critical services in Hot Springs is crucial to providing continued emergency services to the rest of the county. All other communities in Fall River County are dependent on the medical, dispatch, and law enforcement services located in Hot Springs. In the last five years, the City of Hot Springs has been actively implementing the mitigation plan. The City has completed ground stabilization projects, made drainage improvements, and is in the process of replacing a bridge within the city.

HOT SPRINGS COMMUNITY VULNERABILITY SUMMARY		
Hazard	Risk	Vulnerability
Winter Storm Events	High	Moderate
Flood Events	Moderate	Moderate
Summer Storm Events	High	Moderate
Tornado & High Wind Events	High	High
Wildfire Events	High	High
Drought Events	Moderate	Moderate
Geologic Events	Low	Low

#### EDGEMONT

Edgemont is the second largest community in Fall River County with an estimated population of 806 people in 2017. Edgemont houses a local school, a nursing home, and a fire department. Although there are very few structures within Edgemont city limits located in floodplain, there are structures in the eastern portion of the city within a flood hazard area and at risk of flooding. There is also limited access to Cottonwood subdivision due to the floodway and the railway tracks that could block residents from town.

The City has completed mitigation projects over the last five years to help mitigate disaster events, such as back-up power for the city's water system



Figure 14: Edgemont Vulnerabilities, FEMA, USGS, Fall River GIS, SD Wildland Fire

Edgemont Community Vulnerability Summary		
Hazard	Risk	Vulnerability
Winter Storm Events	High	Moderate
Flood Events	Low	Low
Summer Storm Events	High	Moderate
Tornado & High Wind Events	High	High

Wildfire Events	High	Moderate
Drought Events	Moderate	Moderate
Geologic Events	Low	Low

## **OELRICHS**

Oelrichs is the smallest incorporated community in Fall River County. The town had an estimated population of 95 in 2017. According to the US Census Bureau, the population decreased by 8 percent from 2000-2010 and a further 29 percent from 2010-2017. The town lost an estimated 50 residents from 2000-2017.





Oelrichs is served by a local school district as well as a Volunteer Fire Department. There is a water tower, post office and a cell tower in Oelrichs. There are no other critical services or facilities in Oelrichs. Due to history of events, and the lack of adequate safe rooms, the town is highly vulnerable to tornadoes and high wind events.

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In the fast have years, the town of	and acquire back up		conter/ me u	partificint pananie.
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Oelrichs Community Vulnerability Summary		
Hazard	Risk	Vulnerability
Winter Storm Events	High	Moderate
Flood Events	Moderate	Moderate
Summer Storm Events	High	Moderate
Tornado & High Wind Events	High	High

Wildfire Events	Moderate	Moderate
Drought Events	High	Moderate
Geologic Events	Low	Low

# **MITIGATION PROGRESS**

The 2014 Fall River County Pre-Disaster Mitigation Plan identified numerous goals and projects for each jurisdiction. The table below identifies those goals and projects as well as the status of each.

FALL RIVER COUNTY		
Project	Status	
Uncontrolled Wildland Fire	Collaboration continues with all entities that provide fire	
	protection in Fall River County to help reduce the risk of	
	uncontrolled wildland fire.	
Backup Generator Battle Mountain	Completed	
Communication Site		
Backup Generator Cascade	Not Completed - Ongoing	
Communication Site		
Cold Brook Channel Restoration	Not Completed - Ongoing	
Fall River Drainage Clean Up	Not Completed - Ongoing	
Raise Road Grade and increase culvert	Completed	
Capacity County Road 20S & Black Banks		
Creek		
Raise Road Grade and increase culvert	Completed	
Capacity County Road 5I & Beef Creek		
Ground Stabilization (Cap Rocks above	Completed	
Road) Old Hwy 18		
Raise Road Grade and increase culvert	Not Completed - Ongoing	
Capacity County Road 79E & Horse Head		
Creek		
Raise Road Grade and increase culvert	Not Completed - Ongoing	
Capacity County Road 5A & Alkali Creek		
Raise Road Grade and increase culvert	Not Completed - Ongoing	
Capacity County Road 4S & Black Banks		
Creek		
Bridge Replacement Argentine Township	Completed	
& Beaver Creek		
Bridge Replacement Fort Igloo Road &	Not Completed – Ongoing – SD DOT Project	
Coal Creek		

Improve Culvert capacity County Road 471	Completed by SD DOT
& Plains Creek	
Bridge Replacement County Road 14C &	Not Completed - Ongoing
Irrigation Ditch	
Bridge Replacement Old Hwy 18 &	Not Completed - Ongoing - SD DOT Project
Mickelson Trail	
Cheyenne River Crossing Access Rocky	Not Completed - Ongoing
Ford	

# HOT SPRINGS

Project	Status
Uncontrolled Wildland Fire	Collaboration continues with landowners to help develop
	survivable space and promote fire resistant building materials
	and practices. Participation continues in the SDDA Wildland
	Fire Division's Hazardous Fuels Reduction program and in the
	Firewise USA program.
Hazardous Fuels Reduction Even's	Not Completed - Ongoing
Heights Area	
Hazardous Fuels Reduction South Garden	Not Completed - Ongoing
Street	
Backup Generator Mueller Civic Center	Not Completed - Ongoing
Backup Generator Sewage Treatment Plant	Not Completed - Ongoing
Backup Generator Hot Brook Pump	Not Completed - Ongoing
Station	
Backup Generator Hot Springs Municipal	Not Completed - Ongoing
Airport	
Warning Siren Hwy 18 Bypass	Not Completed – Code Red in place
Ground Stabilization Behind County Court	Completed
House	
Ground Stabilization-West side of Fall	In progress
River along N. River Street between	
Jennings and Minnekahta	
New Well for City Water Supply West of	Not completed - Ongoing
Golf Course	
Bridge Replacement Jennings Ave.	In progress
--	---
Bridge Replacement South 6th Street	Not completed
Improve Drainage & Street Surface	Completed
Hickory Street	
Improve Drainage & Street Surface Valley	Not completed
View Area	
Improve Drainage & Street Surface VA	Not completed – on Federal property
Road	
Municipal Water Line Exposed Hwy 385 &	Not completed
Red Ridge	
Sewer Line Exposed to Fall River West	Not completed
River & Garden Street	
Ground Stabilization University Avenue	Completed
Rip/Rap Stream Stabilization Freedom	Planned for 2021-2022
Trail	
Edgemont	
Project	Status
Project Uncontrolled Wildland Fire	Status           Collaboration continues with all entities that provide fire
Project Uncontrolled Wildland Fire	<b>Status</b> Collaboration continues with all entities that provide fire protection in the Edgemont Fire District to reduce the risk of
Project Uncontrolled Wildland Fire	<b>Status</b> Collaboration continues with all entities that provide fire protection in the Edgemont Fire District to reduce the risk of wildland fire.
Project Uncontrolled Wildland Fire Warning Siren	Status         Collaboration continues with all entities that provide fire         protection in the Edgemont Fire District to reduce the risk of         wildland fire.         Completed
Project Uncontrolled Wildland Fire Warning Siren Backup Generator at Municipal Well Pump	Status         Collaboration continues with all entities that provide fire         protection in the Edgemont Fire District to reduce the risk of         wildland fire.         Completed         Completed
Project         Uncontrolled Wildland Fire         Warning Siren         Backup Generator at Municipal Well Pump         Backup Generator at Edgemont School	Status         Collaboration continues with all entities that provide fire         protection in the Edgemont Fire District to reduce the risk of         wildland fire.         Completed         Completed         Not Completed – Portable Generator Available
Project         Uncontrolled Wildland Fire         Warning Siren         Backup Generator at Municipal Well Pump         Backup Generator at Edgemont School         Repair Well Casing at Municipal Well	Status         Collaboration continues with all entities that provide fire         protection in the Edgemont Fire District to reduce the risk of         wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress
Project         Uncontrolled Wildland Fire         Warning Siren         Backup Generator at Municipal Well Pump         Backup Generator at Edgemont School         Repair Well Casing at Municipal Well         Municipal Water Storage Tank	Status         Collaboration continues with all entities that provide fire         protection in the Edgemont Fire District to reduce the risk of         wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress         Completed
Project Uncontrolled Wildland Fire Warning Siren Backup Generator at Municipal Well Pump Backup Generator at Edgemont School Repair Well Casing at Municipal Well Municipal Water Storage Tank Backup Generator at Edgemont Fire	Status         Collaboration continues with all entities that provide fire         protection in the Edgemont Fire District to reduce the risk of         wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress         Completed         Not Completed
Project Uncontrolled Wildland Fire Warning Siren Backup Generator at Municipal Well Pump Backup Generator at Edgemont School Repair Well Casing at Municipal Well Municipal Water Storage Tank Backup Generator at Edgemont Fire Department	Status         Collaboration continues with all entities that provide fire protection in the Edgemont Fire District to reduce the risk of wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress         Completed         Not Completed
ProjectUncontrolled Wildland FireWarning SirenBackup Generator at Municipal Well PumpBackup Generator at Edgemont SchoolRepair Well Casing at Municipal WellMunicipal Water Storage TankBackup Generator at Edgemont FireDepartmentBackup Generator at Hill Crest	Status         Collaboration continues with all entities that provide fire protection in the Edgemont Fire District to reduce the risk of wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress         Completed         Not Completed         Not Completed         Not Completed         Not Completed
ProjectUncontrolled Wildland FireWarning SirenBackup Generator at Municipal Well PumpBackup Generator at Edgemont SchoolRepair Well Casing at Municipal WellMunicipal Water Storage TankBackup Generator at Edgemont FireDepartmentBackup Generator at Hill CrestIndependent Living	Status         Collaboration continues with all entities that provide fire protection in the Edgemont Fire District to reduce the risk of wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress         Completed         Not Completed         Not Completed         Not Completed
ProjectUncontrolled Wildland FireWarning SirenBackup Generator at Municipal Well PumpBackup Generator at Edgemont SchoolRepair Well Casing at Municipal WellMunicipal Water Storage TankBackup Generator at Edgemont FireDepartmentBackup Generator at Hill CrestIndependent LivingBackup Generator at Edgemont Municipal	Status         Collaboration continues with all entities that provide fire protection in the Edgemont Fire District to reduce the risk of wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress         Completed         Not Completed         Not Completed         Not Completed         Not Completed         Not Completed         Not Completed
ProjectUncontrolled Wildland FireWarning SirenBackup Generator at Municipal Well PumpBackup Generator at Edgemont SchoolRepair Well Casing at Municipal WellMunicipal Water Storage TankBackup Generator at Edgemont FireDepartmentBackup Generator at Hill CrestIndependent LivingBackup Generator at Edgemont MunicipalAirport for runway lights	Status         Collaboration continues with all entities that provide fire protection in the Edgemont Fire District to reduce the risk of wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress         Completed         Not Completed         Not Completed         Not Completed         Not Completed         Not Completed
ProjectUncontrolled Wildland FireWarning SirenBackup Generator at Municipal Well PumpBackup Generator at Edgemont SchoolRepair Well Casing at Municipal WellMunicipal Water Storage TankBackup Generator at Edgemont FireDepartmentBackup Generator at Hill CrestIndependent LivingBackup Generator at Edgemont MunicipalAirport for runway lights	Status         Collaboration continues with all entities that provide fire         protection in the Edgemont Fire District to reduce the risk of         wildland fire.         Completed         Completed         Not Completed – Portable Generator Available         In progress         Completed         Not Completed         Not Completed         Not Completed         Not Completed

Project	Status
Uncontrolled Wildland Fire	Collaboration continues with all entities that provide fire protection in the Oelrichs Fire District in order to reduce the risk of wildland fire.
Generator Backup for Fire	Completed
Department/Community Hall	
Generator Backup for Oelrichs School	Not completed

#### **MITIGATION STRATEGIES**

The following tables detail the community's hazard mitigation priorities. The mitigation objectives and actions identified were established to accomplish the main goal of *Protecting People*; *Property, and the Economy* in Fall River County from natural hazard threats. These objectives and actions will guide the community's mitigation efforts over the next five years.

The mitigation actions under each objective were given a priority rating of *Low*, *Medium*, or *High* by the Planning Team. Mitigation actions that are most urgent will be implemented within the short term. In addition, responsible entities, a timeframe, estimated costs, and potential funding sources are identified for each mitigation action.

#### GOAL: PROTECT PEOPLE, PROPERTY, AND THE ECONOMY FROM NATURAL HAZARD THREATS

#### Objective

Implement activities that will protect people and property from wildfire hazards.

	Responsible	Duiouitar	·	Potential	Cost
Mitigation Actions	Entities	Priority	Imeframe	Funding	
	Fall River				
	County,				<b>&lt;\$5,</b> 000
	Edgemont, Hot				
Continue to participate in the Firewise USA Program.	Springs,				
	Oelrichs,	High	Ongoing	Local	
	Volunteer Fire				
	Departments,				
	SD Wildland				
	Fire				
	Fall River			Local	<\$5,000
Continue to establish hum hans during periods of drought to reduce the	County,	Madium	Ongoing		
vich of wildland fires	Edgemont, Hot				
risk of waaana fires.	Springs,	wiedium			
	Oelrichs,				
	Railroad				
Evaluate and secure funding for areas that would benefit from wildland					
fire mitigation activities such as combustible building material replacements	Fall Birror				
and fuel reduction activities. Specific projects include:	County			FEMA HMGP, PDM, SD Wildland Fire	>\$5,000
• Garden Street Fuels Mitigation– Hot Springs	Hot Springs SD	High	Short-term		
• Battle Mountain Fuels Mitigation – Hot Springs	Wildland Fire				
County Club Estates Fuels Mitigation	whenalici Plic				
Hot Brook Canyon Fuels Mitigation					

Vineyard Fuels Mitigation					
<ul> <li>Ensure secondary egress at residential subdivisions. Specific areas include:</li> <li>County Club Estates</li> <li>Cascade Subdivision</li> <li>Hot Brook Subdivision</li> <li>Eagle Valley Subdivision</li> </ul>	Fall River County, Hot Springs	High	Ongoing	FEMA HMGP, PDM, USDA- RD	>\$5,000
Add fire breaks to the Buffalo Gap National Grassland	Buffalo Gap National Grassland, SD Wildland Fire, SDGFP	High	2 years, ongoing	FEMA HMGP, SDOEM, Department of Ag	
Objective					[
Implement activities that will protect people and property in the event of set	vere storms.				
Mitigation Actions	Responsible Entities	Priority	Timeframe	Potential Funding	Cost
<ul> <li>Explore the addition of safe rooms and shelters to protect vulnerable populations during severe summer and winter storm events. Specific areas to consider:</li> <li>Oelrichs</li> <li>Hot Springs</li> <li>Angostura Reservoir</li> </ul>	Fall River County, Hot Springs, Oelrichs, SD Game, Fish & Parks	Medium	Long-term	FEMA HMGP, PDM, CDBG	>\$5,000
Ohiosti					

Implement activities that will protect people and property from flooding.							
Mitigation Actions	Responsible Entity	Priority	Timeframe	Potential Funding	Cost		
<ul> <li>Ensure secondary egress at residential subdivisions. Specific areas include:</li> <li>Cottonwood Subdivision – Edgemont</li> </ul>	Fall River County, Edgemont	High	Ongoing	FEMA HMGP, PDM, USDA- RD	>\$5,000		
Locate alternative shelter location for Hot Springs, as the facility is located near floodplain.	Fall River County, Hot Springs	High	Long-term	FEMA HMGP, PDM, CDBG	>\$5,000		
Explore opportunities for flood mitigation and floodplain structure relocation and property acquisition throughout the county.	Fall River County Emergency Management	Medium	Long-term	FEMA HMGP, PDM	>\$5,000		
Evaluate and correct storm water drainage issues throughout the county. Specific areas include: • Oelrichs • Culverts throughout the county	Fall River County Emergency Management, Oelrichs	Medium	Long-term	FEMA HMGP, PDM	>\$5,000		
Maintain detailed records of public infrastructure damage from flooding, including dates of occurrences, photos, and repair costs to prepare for future mitigation projects.	Fall River County Emergency Management	High	Ongoing	Local	<\$5,000		
Explore opportunities to map flood hazard areas throughout the county.	Fall River County	Medium	Long-term	FEMA HMGP, PDM	>\$5,000		

	Emergency				
	Management				
			<u> </u>		
Objective					
Ensure that early warnings reach the entire community.					
Misingtian Astigue	Responsible	Duinuita	'T':	Potential	Cont
Mitigation Actions	Entity	Priority	Timeframe	Funding	Cost
	Fall River				
Continue to identify locations where sirens are needed.	County	High	Ongoing	Local	<\$5,000
	Emergency	0	0 0		
	Management           Fall Dimon				
Secure funding for sirens at locations that lack access to early warning	County			FEMA HMGP,	
systems.	Emergency	High	Ongoing	PDM, Homeland	>\$5,000
	Management			Security	
Evaluate the effectiveness of community warning system products, such a	fall River				
web and mabile-thane delivery systems	County	High	Short term	Local	<\$5,000
web und moone-phone dedvery systems.	Emergency	Ingn	Short-term	Local	~ <del>\$</del> 3,000
	Management				
Objective					
Ensure that critical facilities are equipped with backup power.					
	Responsible			Potential	Cost
Mitigation Actions	Entity	Priority	Timeframe	Funding	
Secure back-up power for critical facilities throughout the county.				FEMA HMGP,	
Specific facilities include:	Fall Kiver County,	High	Short-term	PDM, Homeland	>\$5,000
Oelrichs School     Hat Springs Airbort	Hot Springs,	~		Security	
• 1101 Springs 2-101port					

• Edgemont Airport	Edgemont,				
Hot Brook Pump Station	Oelrichs				
• Hot Springs Wastewater Treatment Plant					
Mueller Center					
• Evans Pump Station					
• Edgemont City Hall					
• Edgemont School					
<ul> <li>Hot Springs Library</li> </ul>					
<ul> <li>Hillcrest Elderly Apartments – Hot Springs</li> </ul>					
Objective					
Stabilize erosion, subsidence, and landslide hazard areas.					
	Responsible			Potential	_
Mitigation Actions	Responsible Entity	Priority	Timeframe	Potential Funding	Cost
Mitigation Actions	Responsible Entity Fall River County	Priority	Timeframe	Potential Funding	Cost
Mitigation Actions Study and map areas prone to erosion, subsidence, and landslide	Responsible Entity Fall River County Emergency	Priority	Timeframe	Potential Funding	Cost
Mitigation Actions Study and map areas prone to erosion, subsidence, and landslide bazards.	Responsible Entity Fall River County Emergency Management, Fall	<b>Priority</b> Low	<b>Timeframe</b> Long-term	Potential Funding Local	<b>Cost</b> <\$5,000
Mitigation Actions Study and map areas prone to erosion, subsidence, and landslide hazards.	Responsible Entity Fall River County Emergency Management, Fall River County CIS	Priority	<b>Timeframe</b> Long-term	Potential Funding Local	<b>Cost</b> <\$5,000
Mitigation Actions Study and map areas prone to erosion, subsidence, and landslide hazards.	ResponsibleEntityFall River CountyEmergencyManagement, FallRiver County GIS	<b>Priority</b> Low	Timeframe Long-term	Potential Funding Local	<b>Cost</b> <\$5,000
Mitigation Actions Study and map areas prone to erosion, subsidence, and landslide hazards.	ResponsibleEntityFall River CountyEmergencyManagement, FallRiver County GISFall River County	<b>Priority</b> Low	Timeframe         Long-term	Potential Funding Local	<b>Cost</b> <\$5,000
Mitigation Actions         Study and map areas prone to erosion, subsidence, and landslide bazards.         Stabilize areas prone to erosion and landslides.	ResponsibleEntityFall River CountyEmergencyManagement, FallRiver County GISFall River CountyEmergency	Priority Low	Timeframe Long-term	Potential Funding Local	Cost <\$5,000
Mitigation Actions         Study and map areas prone to erosion, subsidence, and landslide hazards.         Stabilize areas prone to erosion and landslides.	ResponsibleEntityFall River CountyEmergencyManagement, FallRiver County GISFall River CountyEmergencyManagement, Sall	Priority Low	Timeframe         Long-term         Long-term	Potential Funding Local FEMA HMGP, PDM	Cost <\$5,000 >\$5,000
Mitigation Actions         Study and map areas prone to erosion, subsidence, and landslide hazards.         Stabilize areas prone to erosion and landslides.	ResponsibleEntityFall River CountyEmergencyManagement, FallRiver County GISFall River CountyEmergencyManagement,Hat Springs	Priority       Low       Medium	Timeframe         Long-term         Long-term	Potential Funding	Cost <\$5,000 >\$5,000
Mitigation Actions         Study and map areas prone to erosion, subsidence, and landslide hazards.         Stabilize areas prone to erosion and landslides.	ResponsibleEntityFall River CountyEmergencyManagement, FallRiver County GISFall River CountyEmergencyManagement,Hot Springs	Priority Low	Timeframe         Long-term         Long-term	Potential Funding Local FEMA HMGP, PDM	Cost <\$5,000 >\$5,000

Objective							
Reduce the impact of pandemics on local services, governments, and day to day operations of the residents of Fall River County							
Mitigation ActionsResponsible EntityPriorityTimeframePotential Funding					Cost		
Implement policies that discuss how to respond to pandemics, including	Fall River County						
office closures, working from home, identifying vital services, etc.	& Local Jurisdictions	High	Long-term	Local	<\$5,000		
	-						

Mitigation actions should be incorporated into the activities associated with comprehensive and capital improvements planning with consideration given to areas with the greatest vulnerability to natural hazards. Capital investments, whether for homes, roads, public utilities, pipelines, power plants, or public works, determine to a large extent the nature and degree of hazard vulnerability of a community. Once a capital facility is in place, very few opportunities will present themselves over the useful life of the facility to correct any errors in location or construction with respect to hazard vulnerability. It is for these reasons that zoning and other ordinances, which manage development in high vulnerability areas, and building codes, which ensure that new buildings and infrastructure are built to avoid or withstand the damaging forces of hazards, are often the most useful mitigation approaches local governments can implement.

The information provided below is from the Fall River County website under the tab for Planning and Zoning. It briefly describes each jurisdiction's existing authorities, policies, programs, and resources in regard to planning and zoning responsibilities.

#### Planning & Zoning

#### Within the city of Hot Springs contact City Hall for building permits and information City of Hot Springs 303 N. River St. Hto Springs, SD 57747 605-745-3135 www.hs-sd.org

#### Within the City of Edgemont contact City Hall for building permits and information City of Edgemont 412 2nd Ave Edgemont, SD 57735 605-662-7422 <u>city@gwtc.net</u> <u>cityofedgemont.com</u>

#### Outside of, but adjacent to the city of Hot Springs or the city of Edgemont

If you are platting land that is adjacent to the city boundary or if you are platting a lot(s) that exist in a subdivision adjacent to the city boundary your plat must be approved by both the county commissioners and the city. (See South Dakota Codified Law: <u>SDCL 11-3-6</u>)

List of Subdivisions adjacent to Hot Springs:

- Country Club Estates,
- Pine Haven Subdivision,

- Cascade Valley Development,
- Cedar Hills Subdivision,
- Cottage Grove Addn,
- Cold Brook Subdivision,
- Stoddard Addn,
- Red Ridge Estates,
- NewHouse Subdivision,
- Swett Subdivision

Also, read the information below regarding building in the county.

#### Outside of Edgemont and Hot Springs

There is no planning and zoning. However there are items for which you as the landowners should be aware and responsible.

**1.)** Building Permit: A permit is only required if your building lies within the flood plain (see #2 below). However, South Dakota Codified Law does require that you report changes in your property to the Director of Equalization. You can do this <u>online</u>, by phone (605-745-5136), or in person. Changes that should be reported include: building a new structure, adding an addition, moving a mobile home from one location to another, demolishing a structure, or major damages caused to a structure (by fire, weather, etc) that will not be repaired within the year.

2.) Flood Plain: A permit is required to build within the flood plain. To find out if your building site is within the flood plain contact the <u>GIS department</u> at: 605-745-5136 or gis.fallriver@gmail.com .

- Providing a GPS point of your building location will speed this process.
- If you do not have access to equipment to take a GPS point of your building site the GIS department can do this for you but this
  may take time if schedules are full.
- If you find that you are within the flood plain and you wish to contest the location of the flood plain you have the option to file a <u>LOMA (Letter of Map Amendment)</u> with FEMA.

**3.)** Septic Systems: Septic systems within the county must comply with State of South Dakota regulations. Contact the Department of Environment and Natural Resources, 1-800-438-3367. For general plumbing information see <a href="http://plumbing.sd.gov">http://plumbing.sd.gov</a>

**4.)** Addresses: 9-1-1 addresses are used by emergency responders (ambulance, fire, law enforcement) to quickly located properties. Contact the GIS department at: 605-745-5136 or gis.fallriver@gmail.com to receive an address. This process can take several days so please do not wait to the last moment. (Addresses are often required by the telephone, utility, insurance, and construction companies before work can begin so get your address early.)

- Addresses are needed for the following buildings: Inhabited dwellings (homes, cabins, mobile homes, hotels, etc), Commercial businesses, Any building with a landline phone, A building with power that is not next to an addressed structure (a barn with power next to a home does not need a separate address unless it has its own landline phone number.)
- Addresses are determined by where your driveway meets the 9-1-1 road, please do not move 9-1-1 signs, if your driveway location
  has changed your address may change as well.
- If it is necessary to name a road before your address can be assigned please allow a month or more for the naming and addressing process.
- Mail: After an address is assigned it is the responsibility of the owner to contact the local post office for information on mailbox placement.

5.) Driveway Approach: If you driveway exits directly onto a county road it is necessary to obtain an approach easement from the county highway superintendent. Permits and specifications can be found on the Fall River County website under highway department.

**6.) Commercial/Ag Structures**: If you are building a commercial structure with a value greater than \$30,000 or an agricultural structure with a value greater than \$10,000 please contact the <u>Director of Equalization</u>, 605-745-5136, as you will be eligible for the Commercial/Ag Discretionary which will make your building tax free for the first 5 years.

7.) Digging: Before digging remember to always call One Call for utility information. <u>www.sdonecall.com</u> or call 811 (in state) or 800-781-7474 (out of state)

8.) Emergency Responders: Make sure your driveway can accommodate emergency vehicles like the ambulance and fire engines. Having adequate gate widths, driveway slope, and turning radius on cutbacks are all important to ensure timely response to your structure in the event of an emergency.

While the *ability* to expand on and improve these existing policies and programs is limited (i.e. staff, time, resources), there are areas that could, and maybe should, be improved. One area that may be addressed in the future is the Hot Springs Comprehensive Plan. The City of Hot Springs has had preliminary discussions with Black Hills Council of Local Governments regarding a possible administrative contract to update their comprehensive plan. Additionally, the County does not have zoning, and does not currently have plans to adopt a zoning ordinance; however, if the climate of development changes or growth trends change, there may be a need to reconsider the current process and decide if improvements to the existing planning documents/policies can be made. One advantage of using the BHCLG for the mitigation plan update is that BHCLG is also one of the few entities in this regions that offers the service of updating comprehensive plans and writing zoning ordinances. When planning documents are drafted by the same author or entity, there's often the benefit of "institutional knowledge" which allows the plan author to ensure that all of the planning documents work together rather than having plans with competing goals or views that could hinder, rather than enhance, the existing planning mechanisms. Efficiencies can also be realized in the drafting process when a plan author has a deep understanding of the communities being represented in the plans.

There is currently no plan or process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvements plans. This is largely because there are not currently any changes being made to the existing planning documents. Additionally, planning and zoning in this part of the region does not share the same intricacies as larger, faster paced, developing areas in the Black Hills. Fall River County is not growing in population or development at the same pace or in the same way as other parts of the region. Fall River County does not have planning or zoning but does identify a process and a few requirements that must be met when new development occurs. There have not been many changes in development since the 2014 Plan was drafted, however the 2020 Plan is a complete rewrite so the entire plan is should be considered when reviewing the plan for requirement D1.

#### PLAN UPDATE, EVALUATION & IMPLEMENTATION

After the plan is reviewed and accepted by the Mitigation Planning Team and the local governing bodies, the Fall River County Director of Emergency Management is responsible for submitting the plan to the State Hazard Mitigation Management Officer at the South Dakota Department of Public Safety. The State Hazard Mitigation Officer will then submit the plan to the Federal Emergency Management Agency (FEMA) for review. This review will address the criteria outlined in FEMA Interim Final Rule 44 CFR Part 201. Upon approval by FEMA, Fall River County as well as Hot Springs, Edgemont, and Oelrichs will formally adopt the plan and will be eligible for Hazard Mitigation Assistance Grant Programs and other Federal mitigation grants.

The Fall River County Director of Emergency Management will maintain the plan and will take on the following roles and responsibilities:

- 1. Coordinate an annual Mitigation Planning Team meeting date, develop agendas, and notify members and the public via the media;
- 2. Document outcomes of the meetings;
- 3. Serve as the communication channel between the Mitigation Planning Team, County and City Departments, and other stakeholders; and,
- 4. Identify and seek funding sources for mitigation activities.
- 5. The Mitigation Planning Team will serve as the coordinating body for the Fall River County Hazard Mitigation Plan and will take on the following roles and responsibilities to ensure plan implementation and maintenance:
  - a. Meet on an annual basis to review the plan;
  - b. Serve as the local evaluation committee for funding programs;
  - c. Prioritize and recommend funding for hazard mitigation projects;
  - d. Evaluate the plan after hazard events;
  - e. Document mitigation activities and successes; and,
  - f. Evaluate and update the plan in accordance with the required maintenance schedule.

The 2020 Fall River County Hazard Mitigation Plan establishes numerous mitigation activities that will reduce the community's exposure to future losses from natural hazards. There is the potential for the mitigation activities to be implemented through existing policies.

This 2020 Fall River County Hazard Mitigation Plan will be updated every five years in accordance with the requirements of the Disaster Mitigation Act of 2000. A regular annual review of the plan by the Core Planning Group will occur each year on the anniversary month of the adoption of the plan. In the fourth year after plan adoption, the planning update process will commence. The plan update will be submitted to the State Hazard Mitigation Management Officer at the South Dakota Department of Public Safety no later than four (4) years and six (6) months from the day of adoption to ensure that a lapse does not occur.

Fall River County will continue to involve the public in the review and updating of the 2020 Fall River County Hazard Mitigation Plan. The Mitigation Planning Team meetings will be open to the public, and the community will have the opportunity to provide input about the plan.

#### PLAN ADOPTION

Fall River County, South Dakota

Resolution #\_\_\_\_

A resolution of the Fall River County Commission Declaring Support and Adoption of the Fall River County Hazard Mitigation Plan, 2020.

WHEREAS, the Fall River County Board of Commissioners supports the contents of the Fall River County Hazard Mitigation Plan, 2020; and

WHEREAS, the Fall River County Hazard Mitigation Plan, 2020 will be utilized as a guide for planning related to FEMA Pre-Disaster Mitigation and other purposes as deemed appropriate by the Fall River County Board of Commissioners.

NOW THEREFORE IT BE RESOLVED, that the Fall River County Board of Commissioners hereby adopts, supports, and will facilitate the Fall River County Hazard Mitigation Plan, 2020 implementation.

Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Chairman

#### City of Hot Springs, South Dakota

#### Resolution #\_\_\_\_

A resolution of the Hot Springs City Council Declaring Support and Adoption of the Fall River County Hazard Mitigation Plan, 2020.

WHEREAS, the Hot Springs City Council supports the contents of the Fall River County Hazard Mitigation Plan, 2020; and

WHEREAS, the Fall River County Hazard Mitigation Plan, 2020 will be utilized as a guide for planning related to FEMA Pre-Disaster Mitigation and other purposes as deemed appropriate by the Hot Springs City Council.

NOW THEREFORE IT BE RESOLVED, that the Hot Springs City Council hereby adopts, supports, and will facilitate the Fall River County Hazard Mitigation Plan, 2020 implementation.

Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Mayor

#### City of Edgemont, South Dakota

Resolution #\_\_\_\_

A resolution of the Edgemont City Council Declaring Support and Adoption of the Fall River County Hazard Mitigation Plan, 2020.

WHEREAS, the Edgemont City Council supports the contents of the Fall River County Hazard Mitigation Plan, 2020; and

WHEREAS, the Fall River County Hazard Mitigation Plan, 2020 will be utilized as a guide for planning related to FEMA Pre-Disaster Mitigation and other purposes as deemed appropriate by the Edgemont City Council.

NOW THEREFORE IT BE RESOLVED, that the Edgemont City Council hereby adopts, supports, and will facilitate the Fall River County Hazard Mitigation Plan, 2020 implementation.

Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Mayor

#### Town of Oelrichs, South Dakota

Resolution #\_\_\_\_

A resolution of the Oelrichs Town Board Declaring Support and Adoption of the Fall River County Hazard Mitigation Plan, 2020.

WHEREAS, the Oelrichs Town Board supports the contents of the Fall River County Hazard Mitigation Plan, 2020; and

WHEREAS, the Fall River County Hazard Mitigation Plan, 2020 will be utilized as a guide for planning related to FEMA Pre-Disaster Mitigation and other purposes as deemed appropriate by the Oelrichs Town Board.

NOW THEREFORE IT BE RESOLVED, that the Oelrichs Town Board hereby adopts, supports, and will facilitate the Fall River County Hazard Mitigation Plan, 2020 implementation.

Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2020.

Mayor

# Fall River County Pre-Disaster Mitigation Plan Update

Planning Meeting 1 - June 14, 2019



# **TODAY'S AGENDA**

- 1. Introductions
- 2. Purpose of the Pre-Disaster/Hazard Mitigation Plan
- 3. Project Examples
- 4. Planning Process
- 5. Elements of the Plan
- 6. Role of the Planning Team
- 7. Review of Current Plan
- 8. Discussion



### **PURPOSE OF THE PLAN**

- 1. Fulfills the requirements of the Disaster Mitigation Act of 2000
  - FEMA-approved plan must be in place and updated every 5 years in order to qualify for Hazard Mitigation Assistance grant programs
- 2. Mitigate losses from hazards
  - Reduce the threat to public health & safety
  - Reduce losses to property, infrastructure, the economy, and the environment



## **EXAMPLES OF HMA PROJECTS**

- Acquiring and relocating structures from hazard-prone areas
- Retrofitting structures to protect them from floods, high winds, and other natural hazards
- Constructing minor and localized flood control projects
- Constructing safe rooms
- Wildfire mitigation activities



### **PLANNING PROCESS**





## **PLAN ELEMENTS**



### **ROLE OF PLANNING TEAM**

- Provide information and feedback specific to your community or organization
- Assist in developing new goals and mitigation activities
- Get the word out about mitigation planning
- Implement the plan



### HAZARD RISKS - CURRENT PLAN

- 1. Heavy snows with rapid melt or heavy rains may cause rapid onset or flash flooding of streams, rivers and tributaries in Fall River County.
- 2. Severe weather during the winter will regularly cause winter storms and blizzards. These can result in livestock deaths, negatively affecting the agricultural industry and Fall River County infrastructure. Further loss of electricity is possible and closing of roads for several days. The loss of human life is also possible.
- 3. Severe weather during the spring, summer and fall regularly results in high straightline winds, down drafts, large hail, lightning and tornadoes, again damaging crops and livestock, causing property damage and possibly death.
- 4. Urban and wildland urban interface fires will occur in Fall River County, possibly damaging life, property and resources.
- 5. Flash flooding especially after a wildland fire, may pose a high risk for mudslides or landsides.
- 6. Because of the number of communities many special events occur in Fall River County annually, the potential for a mass casualty incident is a possibility.
- 7. Earthquakes while weak are likely to occur every 20 years or so, possibly causing minor damage to foundations and infrastructure.
- 8. Hazardous Material incidents related to transportation may occur.
- 9. Terrorism or criminal activities are a possible occurrence.
- 10. The potential for ammunition to be found by the Igloo Army Depot is also a possibility.



# DISCUSSION

- What has been accomplished?
- What do you believe are the greatest hazard risks facing Fall River County today?
- What types of mitigation projects would have the greatest impact?



# Fall River County Pre-Disaster Mitigation Plan Update

Planning Meeting 2 – July 18, 2019



# **TODAY'S AGENDA**

- 1. Review of June meeting
- 2. What are the threats?
  - History of hazard events in the county
- 3. Who do we need to protect?
  - Population characteristics
- 4. Activity: What do we need to protect?



# JUNE MEETING TAKE-AWAYS

#### •What has been accomplished?

• Ground stabilization work, drainage, wildfire mitigation, back-up power

#### •What projects are most urgent?

• Back-up power needs, fuels reduction activities, access points (forest service roads, bridges and residential areas), hydrology studies



# WHAT ARE THE THREATS?

FALL RIVER COUNTY PRESIDENTIAL DISASTER DECLARATIONS					
Date	Туре	Event Name	Start Date	End Date	
7/8/2007	Fire	ALABAUGH CANYON FIRE	7/7/2007	7/20/2007	
8/13/2000	Fire	FLAGPOLE FIRE COMPLEX	8/11/2000	8/20/2000	
9/10/2005	Coastal Storm	HURRICANE KATRINA EVACUATION	9/6/2005	10/1/2005	
4/7/1997	Flood	SEVERE FLOODING, SEVERE WINTER STORMS,HEAVY RAINS HIGH WINDS	2/3/1997	5/24/1997	
9/23/2010	Severe Storm(s)	SEVERE STORMS AND FLOODING	7/21/2010	7/30/2010	
7/30/2015	Severe Storm(s)	SEVERE STORMS, TORNADOES, STRAIGHT-LINE WINDS, AND FLOODING	6/17/2015	6/24/2015	
2/1/2017	Severe Storm(s)	SEVERE WINTER STORM	12/24/2016	12/26/2016	
5/19/2000	Severe Storm(s)	SEVERE WINTER STORM, FLOODING, LANDSLIDES AND MUDSLIDES	4/18/2000	4/20/2000	
11/8/2013	Severe Storm(s)	SEVERE WINTER STORM, SNOWSTORM, AND FLOODING	10/3/2013	10/16/2013	
1/10/1997	Severe Storm(s)	SEVERE WINTER STORMS AND BLIZZARD CONDITIONS	1/3/1997	1/31/1997	

# WHAT ARE THE THREATS?

#### Hazard Events (since 1985)

- Floods
  - 27 events
  - \$300,000 in property damages
    - \$9,000/year
- Winter Storms
  - 98 events
  - \$190,000 in property damages
    - \$5,700/year
- High Wind & Tornados
  - 185 events
  - \$3,157,000 in property damages
    - \$95,000/year

- Summer Storms
  - 246 events
  - \$2,715,000 in property damages
    - \$82,000/year
- Geological Events
  - 6 earthquakes
  - Landslide susceptibility
- Wildfires
  - 206 wildfire events
  - Majority are a result of natural causes
- Drought
  - 6 periods of extreme drought since 2000

# WHO DO WE NEED TO PROTECT?

- 6% population decrease since 2010
- Aging population



# WHAT DO WE NEED TO PROTECT?

MAPPING ACTIVITY:

- Where are the critical areas and facilities?
- Where are the threats the greatest?

# Fall River County Pre-Disaster Mitigation Plan Update

Planning Meeting 3 – September 20, 2019



### **TODAY'S AGENDA**

#### 1. September 20, 2019 Meeting

- 1. Review of July meeting and Oelrich's meeting
- 2. Review of survey results
- 3. Goals and Strategies activity


## **MEETING REVIEW**

- Hazard threats
  - High wind events, summer storms = most \$
  - Wildfires = high number, high vulnerability, terrain
  - Flood = inundation areas, unmapped areas, storm water
- Critical facilities
  - Facilities critical to the function of the community, or that house vulnerable populations



## **SURVEY REVIEW**

- 29 Responses (72% Hot Springs, 10% Edgemont)
- Concerns with wildland fires, winter storms, summer storms
- Priorities with protecting critical facilities & strengthening emergency services
- Social media is the most effective way to receive information



# **SETTING MITIGATION GOALS**

- What does the community seek to achieve through the mitigation plan?
  - Eliminate the long-term risk to people, property, and the economy from hazards and their impacts.
- How do we do this?
  - Mitigation actions activity



## Fall River County PDM Plan

Planning Meeting - June 14, 2019

	Name	Organization	Phone Number	Email Address
1	Stace, Martin	Fall River Courty Grs	745-7584	gis. fillrivere gmailicon
2	William Lukens	City of Hot Springs	832-695-8911	wlokens@hs-sd.org
3	Logan Brown	SD wildland Fire	394-2584	logan.brown @ Skte. sd. us
4	Jerry Dibble	city of Edgement	840-2587	dibble, jerry e yahoo.co
5	Frank Maynard	Fall River Co EM	745-7562 890-7245	frem@quote.net
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## Fall River County PDM Plan

Planning Meeting – July 18, 2019

	Name	Organization	Phone Number	Email Address
1	Logan Brown	50 wildland Fire	605-381-2521	Lugan brown Ostate. sd. us.
2	Steve Esser	50 wildlund Fine	605-745-5820	steve, 255000
3	Jerry Dibble	City of Edsemont	605 890-2587	
4	Lyle Jeuson	Full Bive Cont	605 890 0372	hyle FAC & ghroit con
5	Sally Peck-Haceman	EKC. LEPC	605-745-3802	wshage an equite. not
6	Frank Maynard	Fall River Em	605 89D-7245	frem@gwte.net
7	Stacey Martin	Foll River GIS	665-745-7584	gis.fullriver egno.lica
8	BillLuKons	Hatsprings	832-695-8911	Wlukens ehs-sdorg
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### Fall River County PDM Update

September 10, 2019 - Oelrichs

Sign-in Sheet

1. Michael Carson 2. JOR MESSINIS 3. Anita Cope 4. VIALARIE GRAF 5. Susan Damilton 6. Roy E. Merdanian M. 7. Kertie Merdanian 8. Vince Logue 9. Pat Logue 10. 11. 12. 13. 14. 15.

### Fall River County PDM Update

September 20, 2019 Meeting

Sign-in Sheet

1. William Lukens 2. Jerry Dibble 3. Steve Esser steve, esser@state, 5d. us 4. Logan Brown 5. Frank Maynark 6. Stacey Martin 7. 8.

11. 12.

9.

10.

13.

14.

15.

# Q1 How concerned are you about the following natural hazards impacting Fall River County?



	NOT AT ALL CONCERNED	NOT VERY CONCERNED	SOMEWHAT CONCERNED	VERY CONCERNED	TOTAL
Drought	6.90% 2	17.24% 5	58.62% 17	17.24% 5	29
Flooding	6.90% 2	20.69% 6	51.72% 15	20.69% 6	29
Wildland Fires	3.45% 1	3.45% 1	20.69% 6	72.41% 21	29
Severe Summer Storms (Hail, Thunderstorms & Tornados)	3.45% 1	10.34% 3	41.38% 12	44.83% 13	29
Severe Winter Storms (Blizzards, Heavy Snow & Extreme Cold)	3.45% 1	17.24% 5	27.59% 8	51.72% 15	29
Earthquakes	58.62% 17	31.03% 9	6.90% 2	3.45% 1	29
High Wind Events	13.79% 4	27.59% 8	48.28% 14	10.34% 3	29

#	OTHER (PLEASE SPECIFY)	DATE
1	Mosquito & tick borne diseases, CWD, pine beetle	8/13/2019 12:40 PM
2	There's a road cut below my house that keeps eroding.	6/27/2019 5:15 PM
3	Road maintenance	6/21/2019 8:00 AM

Q2 Natural hazards can have significant impacts on a community, but planning for these events can help reduce these impacts. The following statements will help us determine citizen priorities regarding planning for natural hazards in Fall River County. Please tell us how important each one is to you.



	NOT AT ALL IMPORTANT	NOT VERY IMPORTANT	SOMEWHAT IMPORTANT	VERY IMPORTANT	TOTAL
Protecting private property	3.45% 1	0.00% 0	27.59% 8	68.97% 20	29
Protecting critical facilities (e.g. clinics, streets, bridges, fire stations, etc.)	3.45% 1	0.00% 0	10.34% 3	86.21% 25	29
Regulating development in hazard areas	3.45% 1	10.34% 3	48.28% 14	37.93% 11	29
Enhancing the function of natural features (e.g. wetlands, streams)	6.90% 2	10.34% 3	48.28% 14	34.48% 10	29
Protecting historical resources	3.57% 1	0.00% 0	60.71% 17	35.71% 10	28
Protecting and reducing damage to utilities	3.45% 1	0.00% 0	31.03% 9	65.52% 19	29

Fall River County Hazard Mitigation Plan Community Survey

SurveyMonkey

Strengthening emergency services (e.g. police, fire, ambulance)	3.45% 1	6.90% 2	10.34% 3	79.31% 23	29
Promoting cooperation among public agencies, citizens, nonprofit organizations, and businesses	3.57% 1	10.71% 3	35.71% 10	50.00% 14	28

### Q3 In your opinion, what is the most effective way to receive information about how to make your home and community safer from natural hazards? Check all that apply.

Answered: 29 Skipped: 0

SurveyMonkey

#### Fall River County Hazard Mitigation Plan Community Survey



ANSWER CHOICES	RESPONSES	
Newspaper stories	55.17% 16	;
Newspaper ads	10.34%	;
Television news	24.14%	,
Television ads	10.34%	;
Radio news	13.79%	
Radio ads	13.79%	ŀ

#### Fall River County Hazard Mitigation Plan Community Survey

Email newsletters	41.38%	12
Online news outlets	34.48%	10
Facebook	75.86%	22
Twitter	10.34%	3
Schools	17.24%	5
Billboards	3.45%	1
Mail	37.93%	11
Public workshops	44.83%	13
Other (please specify)	10.34%	3
Total Respondents: 29		

#	OTHER (PLEASE SPECIFY)	DATE
1	Push notifications on cell phones	7/30/2019 1:54 AM
2	Emergency Apps like Code Red	7/29/2019 9:51 AM
3	Simple, concise, well designed mailings.	6/27/2019 5:21 PM

### Q4 Have you, or has someone in your household? Check all that apply.



Answered: 29 Skipped: 0

#### Fall River County Hazard Mitigation Plan Community Survey

SurveyMonkey

ANSWER CHOICES	RESPONSES	
Attended meetings or received written information on natural disasters or emergency preparedness	44.83%	13
Talked with members of your household about what to do in the case of a natural disaster	58.62%	17
Developed a household/family emergency plan	37.93%	11
Prepared a disaster supply kit	37.93%	11
Completed CPR training	68.97%	20
Prepared your home by having smoke detectors on each level of the house	82.76%	24
Discussed or created a utility shutoff procedure in the event of a natural disaster	34.48%	10
Protected your home from wildland fires by creating defensive space on your property	41.38%	12
Other (please specify)	6.90%	2
Total Respondents: 29		

#	OTHER (PLEASE SPECIFY)	DATE
1	We need more education on what to do in the event of a disaster	6/27/2019 5:24 PM
2	Attended CERT training	6/23/2019 8:33 PM

### Q5 What is your zip code?

Answered: 29 Skipped: 0

#	RESPONSES	DATE
1	57747-2218	8/13/2019 12:45 PM
2	57747	7/31/2019 7:43 AM
3	57747	7/31/2019 5:16 AM
4	57766	7/30/2019 1:54 AM
5	57747	7/29/2019 3:22 PM
6	57747	7/29/2019 2:16 PM
7	57747	7/29/2019 2:02 PM
8	57747	7/29/2019 12:37 PM
9	57747	7/29/2019 12:20 PM
10	57747	7/29/2019 10:24 AM
11	57747	7/29/2019 10:13 AM
12	57747	7/29/2019 9:56 AM
13	57747	7/29/2019 9:52 AM
14	57747	7/29/2019 9:51 AM
15	57747	7/29/2019 9:47 AM
16	57747	7/29/2019 9:47 AM
17	57747	7/29/2019 9:41 AM
18	57735	7/18/2019 5:32 AM
19	57747-2218	6/27/2019 5:25 PM

SurveyMonkey

#### Fall River County Hazard Mitigation Plan Community Survey

20	57747	6/23/2019 8:33 PM
21	57766	6/22/2019 2:08 AM
22	57747	6/21/2019 1:47 PM
23	57747	6/21/2019 10:33 AM
24	57735	6/21/2019 9:58 AM
25	57735	6/21/2019 8:04 AM
26	57747	6/21/2019 7:51 AM
27	57702	6/21/2019 7:16 AM
28	57747	6/21/2019 4:14 AM
29	57747	6/21/2019 4:09 AM

# Q6 Is there anything else that you would like to tell us about hazard mitigation in Fall River County?

Answered: 7 Skipped: 22

#	RESPONSES	DATE
1	Generators at shelters are important	7/31/2019 5:16 AM
2	Telling people they need to keep the weeds down, they may create more fuel for wildfires. I mean residential areas. Even out by Maverick Junction	7/29/2019 12:22 PM
3	We better start working on rural county culverts and bridges so we can reach those in time of need!	7/29/2019 10:14 AM
4	Nope	7/29/2019 9:52 AM
5	I think Hot Springs is pretty safe but maybe I'm missing something. Community education would be nice to have. In CA I attended a several-week disaster preparedness training but it's so easy to forget without periods re-training.	6/27/2019 5:30 PM
6	Might be nice to have a couple CERT teams in the area.	6/23/2019 8:34 PM
7	I'm a member of Red Cross. Their shelter is the Mueller Center. It's pretty good but it needs a propane generator and a stove in the kitchen. Even better would be an emergency water supply and long dated food supply.	6/21/2019 4:17 AM

#### Ali DeMersseman

From:	Ali DeMersseman
Sent:	Thursday, February 27, 2020 12:46 PM
То:	mcarter@custercountysd.com; niobraraem@gmail.com; Steve Wilson; reg23ema@bbc.net
Cc:	frem@gwtc.net
Subject:	Fall River County Draft Mitigation Plan Review
Attachments:	fall river county hazard mitigation plan 2020_draft_2.pdf

Hello, All:

Please find attached a copy of the current draft of the Fall River County Hazard Mitigation Plan for your review. If you have any questions or comments please let me know.

Thank you,

Ali

Ali DeMersseman, Executive Director

West River Business Service Center Black Hills Council of Local Governments 730 East Watertown Street, Rapid City, SD 57701 Main: (605) 394-2681 ext. 1244 Direct: (605) 721-6135