WEST VIRGINIA REGION I HAZARD MITIGATION PLAN

Final | July 2022

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INTRODUCTION

1.1 Overview

With the 2016 West Virginia Region I Hazard Mitigation Plan set to expire in January of 2022, West Virginia Region I and its constituents are aiming to adopt a new, updated, hazard mitigation plan. As outlined in the Disaster Mitigation Act of 2000 (DMA2K), any local jurisdiction seeking funding from the Federal Emergency Management Agency (FEMA) must maintain an up-to-date disaster mitigation plan. This Plan meets the criteria as set forth by FEMA in the DMA2K and provides the region and its participating jurisdictions with a comprehensive guide for future mitigation efforts to combat the hazards that affect their communities.

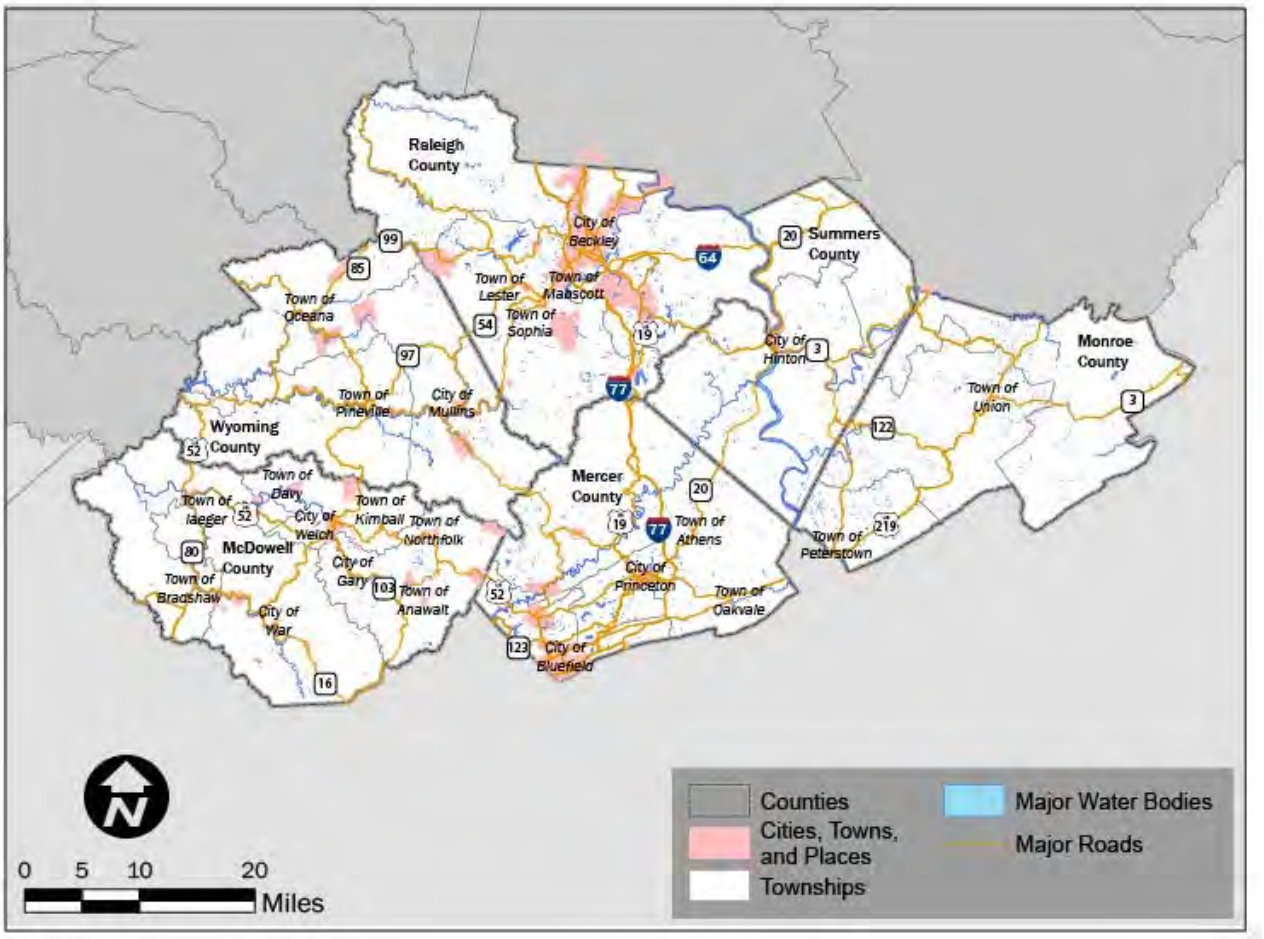
Natural, geological, and human-caused hazards pose a variety of risks to the lives, businesses, and properties within West Virginia Region I. As such, a Core Planning Committee within West Virginia Region I has been established with the goal of developing and implementing the 2022 West Virginia Region I Hazard Mitigation Plan. Through cooperative efforts between local, state, and federal government agencies, this Plan is designed to minimize the adverse effects of hazardous events on the lives and properties of residents of the Region.

The 2022 West Virginia Region I Hazard Mitigation Plan is a multi-jurisdictional plan which considers the impacts of hazards on incorporated areas (towns and cities), counties, and unincorporated areas (townships). West Virginia Region I's counties and incorporated areas are listed below in **Table 1.1.** These jurisdictions are also displayed in **Figure 1.1** on the following page. The Plan is designed for a five-year implementation period and describes the methods and procedures utilized in its development, provides the results of community involvement activities such as survey collection, identifies the mitigation activities determined to the be most important to the Region, and establishes a timeline for the implementation of the actions.

Table 1.1: Counties and Jurisdictions in West Virginia Region I

Jurisdictions					
McDowell County	**Mercer County**	**Monroe County**	**Raleigh County**	**Summers County**	**Wyoming County**
• City of Gary • City of Keystone • City of War • City of Welch • Town of Anawalt • Town of Bradshaw • Town of Davy • Town of Iaeger • Town of Kimball • Town of Northfork	• City of Bluefield • City of Princeton • Town of Athens • Town of Bramwell • *Town of Matoaka (dissolved)* • Town of Oakvale	• Town of Peterstown • Town of Union	• City of Beckley • Town of Lester • Town of Mabscott • *Town of Rhodell (dissolved)* • Town of Sophia	• City of Hinton	• City of Mullens • Town of Oceana • Town of Pineville

Figure 1.1: West Virginia Region I Jurisdictions Map



This Plan is comprised of six sections, which detail the methods, analysis, and discussion surrounding the various hazards that occur in West Virginia Region I, its counties, and its jurisdictions. These sections are as follows:

1. This section, Section1, **Introduction** provides a discussion about the general purpose and goals that West Virginia Region I wishes to achieve throughout the development and implementation of this Plan. This section also includes a summary of the Plan's contents.
2. Section 2, **History and Demographics**, includes a description of West Virginia Region I and each participating jurisdiction, including their history, population, and other general information.
3. The process for the development of this Plan is detailed in Section 3, **Planning Process**. This section includes details about the process used to develop this Plan, including a description of who participated, how the community was involved, which hazards were included in the Plan and why, as well as how the Plan was developed through public meetings, reviews, and evaluations. This section also details the review and incorporation of existing plans, studies, reports, and technical information.
4. Section 4 contains the **Hazard Identification and Risk Assessment (HIRA)**. This section provides detailed descriptions and a corresponding analysis for each hazard that could potentially affect West Virginia Region I. The nature, location, extent, historical impact, vulnerability, and likelihood of occurrence for each hazard are provided for each hazard. These analyses include the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; an estimate of the potential dollar losses to vulnerable

structures; and a general description of land uses and development trends within the community.

5. The goals, strategies, and actions for the region are outlined in Section 5, **Hazard Mitigation**. The proposed actions are presented in tables, categorized by the associated hazard and community, and then ranked from highest to lowest priority based on feedback received from the region's officials and participating jurisdictions and stakeholders. Excluded hazards are also documented in this section, along with the rationale for exclusion from the Plan.
6. The final section of this Plan, **Schedule and Maintenance**, provides a summary of the proposed Plan adoption, integration, and maintenance schedule. This section describes how the region will review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within five years in order to continue to be eligible for mitigation project grant funding.

The resulting West Virginia Region I Hazard Mitigation Plan will be submitted to the West Virginia Emergency Management Division (WVEMD) and subsequently to FEMA for their review. Following the agency review, the jurisdictions will then review the Plan for adoption. This hazard mitigation plan serves as a tool for citizens, policymakers, local businesses, and other local stakeholders who all share a public interest in keeping West Virginia Region I as safe and resilient as possible. As such, this Plan aims to:

- **Minimize property damage, economic loss, injury, and loss of human life** – to achieve the Plan's main goal of reducing the impact of natural and man-made hazards on the Region's economy and the well-being of its citizens.
- **Enhance public awareness and education** – to widen the public's understanding of natural and man-made hazards and how they might affect public health and safety, the environment, the local economy, and basic day-to-day operations.
- **Coordinate inter-jurisdictional preparedness measures** – to encourage and ensure multi-jurisdictional cooperation in Regionwide mitigation actions and programs so that they may be implemented efficiently and effectively.
- **Provide decision-making tools for interested stakeholders** – to formulate a comprehensive, updated analysis of West Virginia Region I's vulnerability to hazards so that decision-makers can better prepare for natural and man-made disasters.
- **Achieve regulatory compliance** – to ensure that the region and its political subdivisions meet state and federal mitigation planning requirements so that they may be eligible to participate in and receive funding from grant programs, policies, and regulations.

1.2 Setting

Located in the Appalachian Plateau, West Virginia Region I is in the southeastern region of West Virginia and has a total area of approximately 2,890 square miles. The Region contains six counties, nine cities, and 16 towns (**Table 1.1**). The City of Welch serves as McDowell County's seat, City of Princeton serves as Mercer County's seat, Town of Union serves as Monroe County's seat, City of Beckley serves as Raleigh County's seat, City of Hinton serves as Summers County's seat, and Town of Pineville serves as Wyoming County's seat.

West Virginia Region I is bounded by six other West Virginian counties: Counties of Mingo and Logan to the west, Counties of Boone, Kanawha, and Fayette to the north, and Greenbrier County to the northeast. The Region is bounded by the State of Virginia to the east and south.

There are seven land uses in West Virginia Region I, including residential, agriculture/farmland, industrial, commercial, utility and institutions (**Figure 1.2**). The most common land use in the Region is residential and agriculture/farmland. Land cover in West Virginia Region I is shown in **Figure 1.3**. Land

cover types include forests (evergreen and deciduous), developed land (open space and low to high intensity), open water, wetlands, cultivated crops, hay/pasture, barren land, shrub/scrub, and herbaceous land.

1.3 Region Features

1.3.1 Transportation

West Virginia Region I contains several major roadways, including Interstates (I), US Routes (US), and State Routes (SR). Major roadways in West Virginia Region I include: I-77, I-64, US-219, US-52, US-460, SR-83, SR-16, SR-97, SR-54, and SR-16.

A proposed highway will run through Mercer County, along the boundary of McDowell and Wyoming Counties, and continue into the neighboring Mingo County. No major updates are available at this time regarding this proposed highway.

West Virginia Region I contains 245.85 miles of US routes and 654.82 miles of state routes Additionally, the Region contains 186.31 miles of interstates, and 673.85 miles of municipal roads (Source: U.S. Census).

The Federal Aviation Administration Aeronautical Information Services (FAA-AIS) and the West Virginia Division of Highways (WVDOH) have a record of five operational airports and two heliports in West Virginia Region I, which are listed in **Table 1.2** below. Three of the five operational airports are public airports and the other two are private airports. One public airport in the City of Welch is closed indefinitely. Two medical facilities, the Bluefield Regional Medical Center and Princeton Community Hospital own/operate heliports.

Table 1.2: Aviation Facilities in West Virginia Region I

Facility Name	County	Location	Facility Type	Ownership/Use Type	Status
Raleigh County Memorial Airport	Raleigh County	City of Beckley	Airport	Public	Open
Mercer County Airport	Mercer County	City of Bluefield	Airport	Public	Open
Kee Field	Wyoming County	Town of Pineville	Airport	Public	Open
Mike Ferrell Field	Wyoming County	Community of Corrinne	Airport	Private	Open
Hinton-Alderson Airport	Summers County	Community of Pence Springs	Airport	Private	Open
Bluefield Regional Medical Center	Mercer County	City of Bluefield	Heliport (healthcare)	Private	N/A
Princeton Community Hospital	Mercer County	City of Princeton	Heliport (healthcare)	Private	N/A
Welch Muni	McDowell County	City of Welch	Airport	Public	Closed indefinitely

The WVDOH has record of three freight railroads that operate in West Virginia Region I, which are the Kanawha River Railroad (KNWA) operated by Watco, the Norfolk Southern (NS) operated by Norfolk Southern Corp., and the CSX Rail Network operated by CSX Transportation under the CSX Operating

Agreement that indicates areas within which CSX can operate through trackage rights beyond the CSX network. Amtrak's *Cardinal* route operates three days a week between Washington, DC and Chicago and is the only passenger railroad that passes throughout the southern part of the state with a stop in the City of Hinton in Summers County. In addition, West Virginia offers numerous tourist trains throughout the State. Autumn Colors Express operates the route of the former New River Train from Huntington and Charleston to Hinton through the New River Gorge.

1.3.2 Natural Features

Table 1.3 below lists the principal rivers and water bodies in Region I (Source: West Virginia Department of Environmental Protection).

Table 1.3: Rivers and Water Bodies in West Virginia Region I

Water Body	
Bluestone National Scenic River	Stephens Lake
Guyandotte River	Flat Top Lake
Tug Fork	Lake Shawnee
Big Coal River	Moncove Lake
New River	Bramwell Lake
Green Brier River	Sun Valley Lake
Bluestone Lake	Long Branch Lake

West Virginia Region I also has several parks and nature areas which are listed in **Table 1.4** below.

Table 1.4: Parks & Nature Areas in West Virginia Region I

Name	
Pinnacle Rock State Park, Mercer County	Pipestem Resort State Park, Summers County
Camp Creek State Park and Mash Fork Falls, Mercer County	Bluestone State Park & Recreation Area, Summers County
Brush Creek Falls, Mercer County	Twin Falls State Resort Park, Wyoming County
Berwind Lake, McDowell County	

Figure 1.2: West Virginia Region I Land Use Map

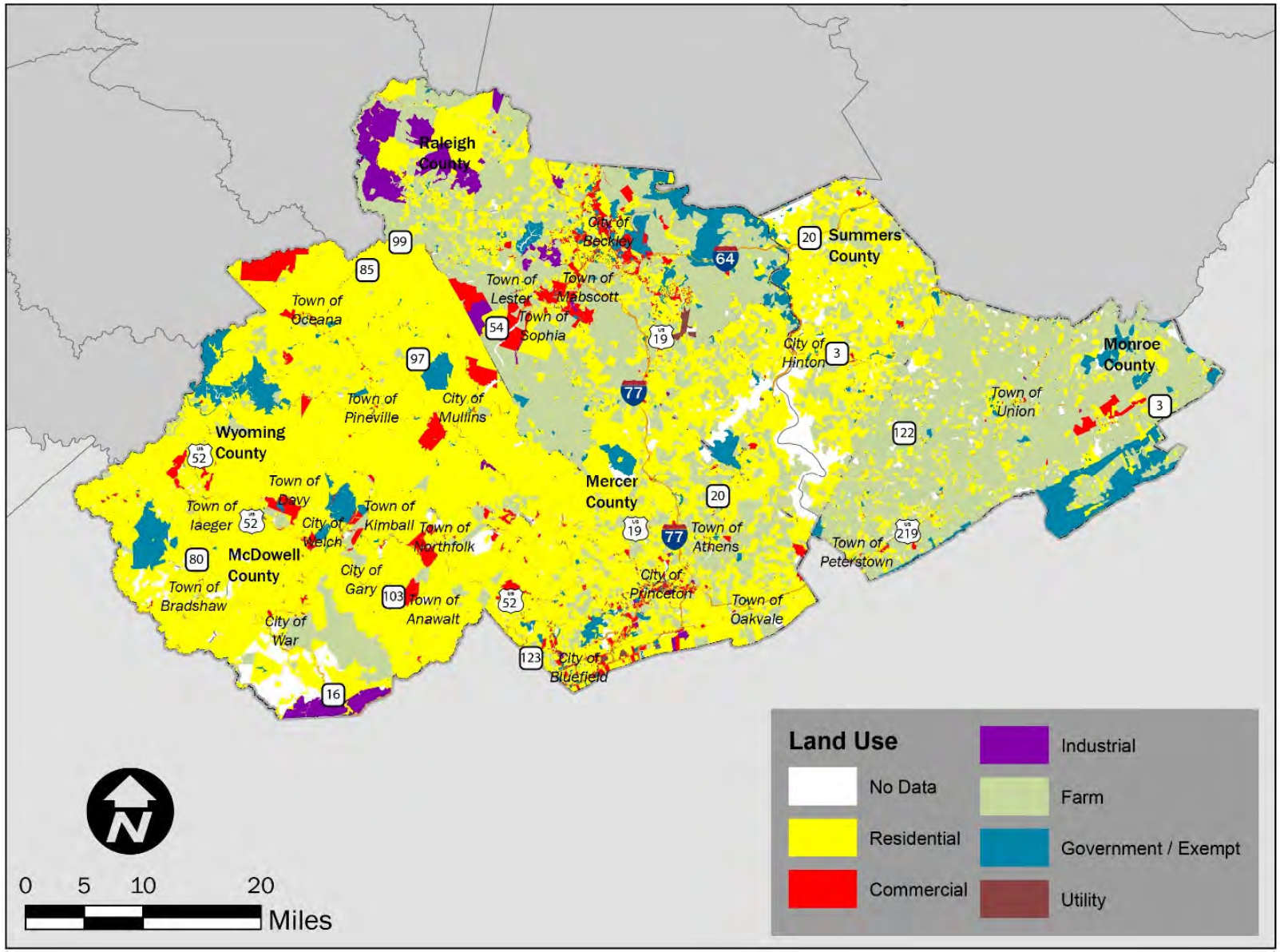
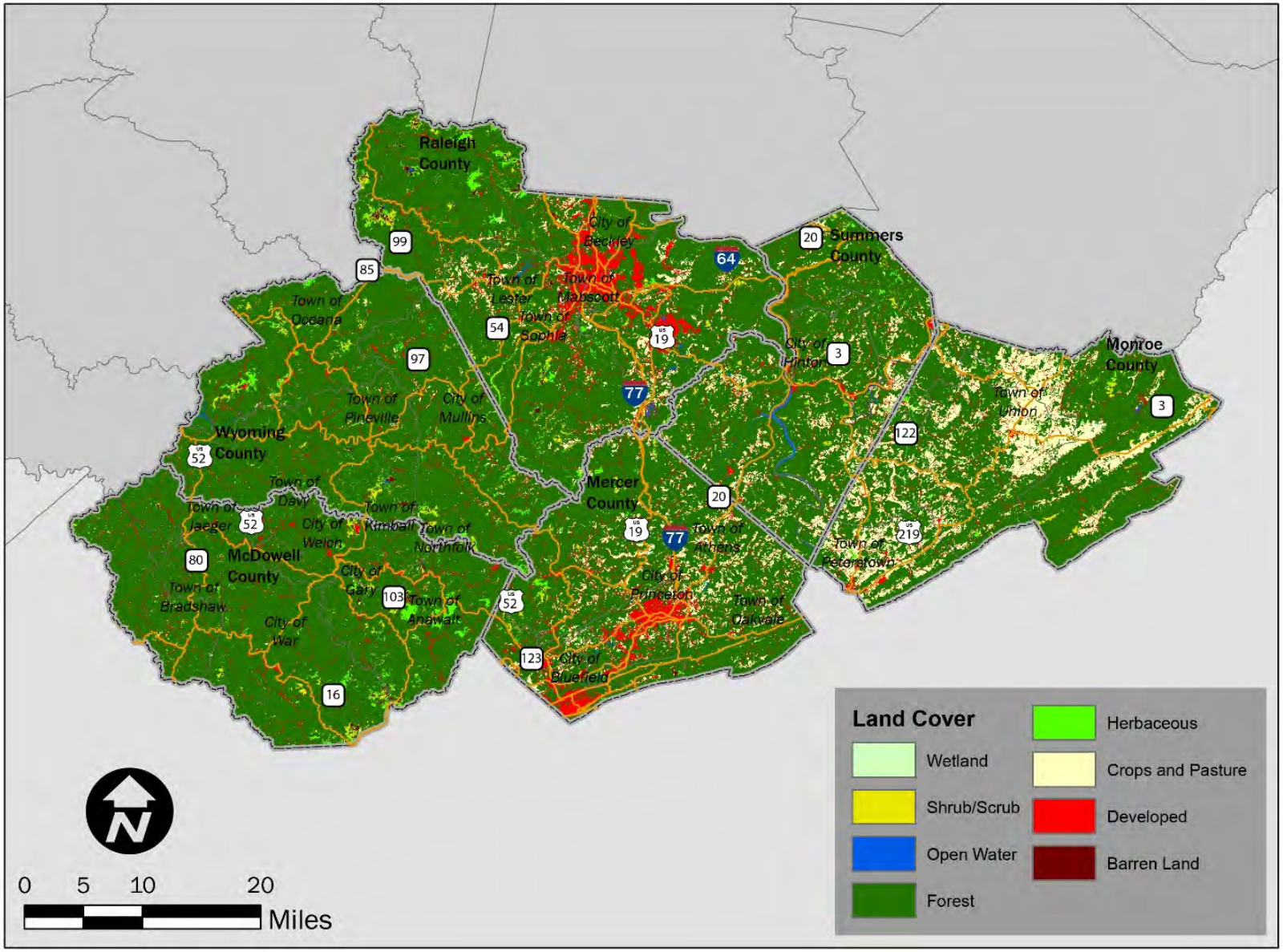


Figure 1.3: West Virginia Region I Land Cover Map



02 | History and Demographics

HISTORY AND DEMOGRAPHICS

2.1 History

West Virginia Region I is comprised of six counties: McDowell County, Mercer County, Monroe County, Raleigh County, Summers County, and Wyoming County. These counties were settled and established as early as 1790 and through the early 1870s, while Native American tribes had already called them home for decades. These counties were ideal places to settle due to coal mining opportunities, while the rugged and mountainous terrain simultaneously made for difficult living conditions. All counties, except for Monroe County, relied on the coal industry. Monroe County was unique due to its geography, with an economy focused on farming and timber harvesting, and, later, water-powered mills.

Figure 2.1: Kimball World War I Museum

Some key historical locations in West Virginia Region I that contribute to and/or commemorate the area's rich history and culture include:

- Camp Washington Carver
- Coal Heritage Trail Interpretive Center
- Historic Graham House
- Kimball World War I Memorial
- Upper Big Branch Miners Memorial

2.2 Communication Outlets

Primary Region I communication outlets including websites, television, and social media are listed in **Table 2.1**, below:

Table 2.1: Communication Outlets and Social Media in West Virginia Region I

Communication Type	Source
Website	West Virginia Region I: https://www.regiononepdc.org/ West Virginia State Police: https://www.wvsp.gov/Pages/default.aspx McDowell County: https://mcdowellcountycommission.com/ McDowell County First Responders: https://meetmcdowell.com/first-responders/ Mercer County: https://www.mercercountywv.org/ Mercer County Emergency Management: https://www.mercercountywvem.com/ Monroe County: https://www.monroecountywv.gov/ Monroe County OEM: https://www.monroecountywv.gov/911-center/911-services/117 Raleigh County: https://raleighcounty.org/ Summers County: https://www.summerscountywv.gov/ Wyoming County: https://www.wycowv.com/ Wyoming County 911: https://wyomingcounty911.com/

Communication Type	Source
Twitter	Mercer County Emergency Management: https://twitter.com/mercercountyoem?lang=en Raleigh County Commission: https://twitter.com/raleigh_county
Facebook	Beckley-Raleigh County Emergency Services: https://www.facebook.com/Beckley-Raleigh-County-Emergency-Services-185041154869585/ McDowell County: https://www.facebook.com/coalrules/ Mercer County: https://www.facebook.com/visitmercercounty/ Mercer County Health Department: https://www.facebook.com/Mercercountyhealthdepartment/ Monroe County Office of Emergency Services: https://www.facebook.com/MonroeCountyOfficeOfEmergencyServices/
News/Newspaper	Newsbreak: https://www.newsbreak.com/channels/anawalt-wv Bluefield Daily Telegraph: https://www.bdtonline.com/ Princeton Times: https://www.ptonline.net/ Register-Herald: https://www.register-herald.com/ The Welch News: https://www.welchnews.com/ WVBL 88.5 FM, Bluefield WPIB 91.1 FM, Bluefield WHAJ 104.5 FM, Bluefield WKEZ 1240 AM, Bluefield WHIS 1440 AM, Bluefield WMTD 102.3 FM, Hinton WHQX 107.7 FM, Gary WMTD 1380 AM, Hinton WWYO 970 AM, Pineville WAEY 1490 AM, Princeton

2.3 Demographics Overview

Table 2.2, below, provides a summary of the total population changes that have occurred in West Virginia Region I between the 2010 U.S. Census and the 2021 population projections developed by ESRI. According to the U.S. Census and ESRI, the population of West Virginia Region I declined by 4,531 people (2.11 percent) between 2010 and 2021. Additionally, counties experienced population decline. Mercer and Raleigh counties experienced the greatest decline of 3,025 people (4.86 percent) and 1,461 people (1.85 percent), respectively.

A more detailed description of population, housing, and income demographics for West Virginia Region I and each county within the Region are discussed on the following pages. Please note that 2019 American Community Survey (ACS) data is used where 2020 ACS data is not available.

Table 2.2: Region/County population estimates between 2010 Census and 2021 ESRI Projections

Region/County	Total Population 2010 Census	Total Population 2021 Projections	2010-2021	
			Population Change	Percent Change
West Virginia Region I	214,461	209,930	-4,531	-2.11
McDowell County	22,113	22,402	289	1.31
Mercer County	62,264	59,239	-3,025	-4.86
Monroe County	13,502	14,097	595	4.41
Raleigh County	78,859	77,398	-1,461	-1.85
Summers County	13,927	12,980	-947	-6.80
Wyoming County	23,796	23,814	18	0.07

2.4 West Virginia Region I

Tables 2.3 and 2.4 summarize the housing and income statistics of West Virginia Region I. The tables show that the region had a combined owned and rental housing vacancy rate of 10.9 percent.

Table 2.3: West Virginia Region I Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	95,943
Occupied Housing Units (Owned & Rented)	89.1%
Vacant Housing Units (Owned & Rented)	10.9%

Related to income, the largest percentage of households (16.27 percent) had an income between $50,000 and $74,999; approximately 16 percent of households had an annual income of less than $15,000.

Table 2.4: West Virginia Region I Income Statistics 2020 Estimate

Household Income Statistics	Percent of Households
Less than $15,000	16.00%
$15,000 to $24,999	15.11%
$25,000 to $34,999	11.64%
$35,000 to $49,999	14.93%
$50,000 to $74,999	16.27%
$75,000 to $99,999	13.56%
$100,000 to $149,999	8.99%
$150,000 to $199,999	1.52%
$200,000 or more	1.99%
Median Household Income	$39,895
Mean Household Income	$53,224

2.5 McDowell County

Tables 2.5 and 2.6 summarize McDowell County's housing and income statistics. The tables show that housing units in the County had a combined owned and rental housing vacancy rate of 19.9 percent. Related to income, the largest percentage of households (19.9 percent) had an income between $15,000 and $24,999; approximately 23.8 percent of households had an annual income of less than $15,000.

Table 2.5: McDowell County Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	9,344
Occupied Housing Units (Owned & Rented)	80.1%
Vacant Housing Units (Owned & Rented)	19.9%

Table 2.6: McDowell County Income Statistics 2020 Estimate

Household Income Statistics	Percent of Households
Less than $15,000	23.8%
$15,000 to $24,999	19.9%
$25,000 to $34,999	17.3%
$35,000 to $49,999	15.9%
$50,000 to $74,999	9.9%
$75,000 to $99,999	8.0%
$100,000 to $149,999	3.4%
$150,000 to $199,999	0.7%
$200,000 or more	1.2%
Median Household Income	$27,900
Mean Household Income	$40,462

2.5.1 City of Gary

Tables 2.7 to 2.9 summarize the City of Gary's population, housing statistics, and income statistics. The tables show that the City's population decreased by 263 people (25.4 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 26.5 percent. Related to income, the largest percentage of households (24.3 percent) had an income less than $10,000; approximately 28.9 percent of households had an annual income of less than $15,000.

Table 2.7: City of Gary Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	1,036
2013 ACS Estimate	830
2014 ACS Estimate	852
2015 ACS Estimate	722
2016 ACS Estimate	703
2017 ACS Estimate	695
2018 ACS Estimate	733
2019 ACS Estimate	628
2020 Census	773

Table 2.8: City of Gary Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	438
Occupied Housing Units (Owned & Rented)	73.5%
Vacant Housing Units (Owned & Rented)	26.5%

Table 2.9: City of Gary Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	24.3%
$10,000 to $14,999	4.6%
$15,000 to $24,999	20.4%
$25,000 to $34,999	14.6%
$35,000 to $49,999	15.4%
$50,000 to $74,999	10.0%
$75,000 to $99,999	3.6%
$100,000 to $149,999	5.7%
$150,000 to $199,999	1.4%
$200,000 or more	0.0%
Median Household Income	$25,385
Mean Household Income	$33,669

2.5.2 City of Keystone

Tables 2.10 to 2.12 summarize the City of Keystone's population, housing statistics, and income statistics. The tables show that the City's population decreased by 170 people (49.1 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 24.1 percent. Related to income, the largest percentage of households (31.3 percent) had an income between $15,000 and $24,999; approximately 20.8 percent of households had an annual income of less than $15,000.

Table 2.10: City of Keystone Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	346
2013 ACS Estimate	323
2014 ACS Estimate	246
2015 ACS Estimate	176
2016 ACS Estimate	129
2017 ACS Estimate	119
2018 ACS Estimate	115
2019 ACS Estimate	99
2020 Census	176

Table 2.11: City of Keystone Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	108
Occupied Housing Units (Owned & Rented)	75.9%
Vacant Housing Units (Owned & Rented)	24.1%

Table 2.12: City of Keystone Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	20.8%
$10,000 to $14,999	0.0%
$15,000 to $24,999	31.3%
$25,000 to $34,999	16.7%
$35,000 to $49,999	14.6%
$50,000 to $74,999	16.7%
$75,000 to $99,999	0.0%
$100,000 to $149,999	0.0%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$24,375
Mean Household Income	$29,942

2.5.3 City of War

Tables 2.13 to 2.15 summarize the City of War's population, housing statistics, and income statistics. The tables show that the City's population decreased by 314 people (33.5 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 22.4 percent. Related to income, the largest percentage of households (22.6 percent) had an income between $50,000 and $74,999; approximately 10.1 percent of households had an annual income of less than $15,000.

Table 2.13: City of War Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	937
2013 ACS Estimate	760
2014 ACS Estimate	779
2015 ACS Estimate	811
2016 ACS Estimate	1,044
2017 ACS Estimate	738
2018 ACS Estimate	825
2019 ACS Estimate	760
2020 Census	623

Table 2.14: City of War Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	370
Occupied Housing Units (Owned & Rented)	77.6%
Vacant Housing Units (Owned & Rented)	22.4%

Table 2.15: City of War Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	25.1%
$10,000 to $14,999	18.6%
$15,000 to $24,999	23.1%
$25,000 to $34,999	10.7%
$35,000 to $49,999	2.8%
$50,000 to $74,999	14.1%
$75,000 to $99,999	1.7%
$100,000 to $149,999	2,5%
$150,000 to $199,999	1.4%
$200,000 or more	0.0%
Median Household Income	$17,163
Mean Household Income	$28,314

2.5.4 City of Welch

Tables 2.16 to 2.18 summarize the City of Welch's population, housing statistics, and income statistics. The tables show that the City's population increased by 1,085 people (43.3 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 24.5 percent. Related to income, the largest percentage of households (23.9 percent) had an income between $35,000 and $49,999; approximately 19.3 percent of households had an annual income of less than $15,000.

Table 2.16: City of Welch Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	2,505
2013 ACS Estimate	2,697
2014 ACS Estimate	3,015
2015 ACS Estimate	3,021
2016 ACS Estimate	3,043
2017 ACS Estimate	3,217
2018 ACS Estimate	3,287
2019 ACS Estimate	2,966
2020 Census	3,590

Table 2.17: City of Welch Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	1,056
Occupied Housing Units (Owned & Rented)	75.5%
Vacant Housing Units (Owned & Rented)	24.5%

Table 2.18: City of Welch Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	15.0%
$10,000 to $14,999	4.3%
$15,000 to $24,999	15.0%
$25,000 to $34,999	10.7%
$35,000 to $49,999	23.9%
$50,000 to $74,999	10.9%
$75,000 to $99,999	13.2%
$100,000 to $149,999	4.6%
$150,000 to $199,999	0.6%
$200,000 or more	1.8%
Median Household Income	$37,841
Mean Household Income	$45,917

2.5.5 Town of Anawalt

Tables 2.19 to 2.21 summarize the Town of Anawalt's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 283 people (63.2 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 8.6 percent. Related to income, the largest percentage of households (31.7 percent) had an income between $15,000 and $24,999; approximately 17.5 percent of households had an annual income of less than $15,000.

Table 2.19: Town of Anawalt Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	448
2013 ACS Estimate	275
2014 ACS Estimate	212
2015 ACS Estimate	191
2016 ACS Estimate	162
2017 ACS Estimate	97
2018 ACS Estimate	100
2019 ACS Estimate	140
2020 Census	165

Table 2.20: Town of Anawalt Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	81
Occupied Housing Units (Owned & Rented)	91.4%
Vacant Housing Units (Owned & Rented)	8.6%

Table 2.21: Town of Anawalt Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	12.7%
$10,000 to $14,999	4.8%
$15,000 to $24,999	31.7%
$25,000 to $34,999	28.6%
$35,000 to $49,999	19.0%
$50,000 to $74,999	3.2%
$75,000 to $99,999	0.0%
$100,000 to $149,999	0.0%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$25,125
Mean Household Income	$26,289

2.5.6 Town of Bradshaw

Tables 2.22 to 2.24 summarize the Town of Bradshaw's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 221 people (51.6 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 17.5 percent. Related to income, the largest percentage of households (22.6 percent) had an income between $10,000 and $14,999; approximately 29.7 percent of households had an annual income of less than $15,000.

Table 2.22: Town of Bradshaw Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	428
2013 ACS Estimate	315
2014 ACS Estimate	281
2015 ACS Estimate	293
2016 ACS Estimate	265
2017 ACS Estimate	271
2018 ACS Estimate	230
2019 ACS Estimate	212
2020 Census	207

Table 2.23: Town of Bradshaw Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	97
Occupied Housing Units (Owned & Rented)	82.5%
Vacant Housing Units (Owned & Rented)	17.5%

Table 2.24: Town of Bradshaw Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	7.1%
$10,000 to $14,999	22.6%
$15,000 to $24,999	21.4%
$25,000 to $34,999	14.3%
$35,000 to $49,999	13.1%
$50,000 to $74,999	6.0%
$75,000 to $99,999	7.1%
$100,000 to $149,999	8.3%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$24,643
Mean Household Income	$35,851

2.5.7 Town of Davy

Tables 2.25 to 2.27 summarize the Town of Davy's population, housing statistics, and income statistics. The tables show that the Town's population increased by 29 people (10.98 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 15.7 percent. Related to income, the largest percentage of households (19.8 percent) had an income between $10,000 and $14,999 or an income between $50,000 and $74,999; approximately 38.8 percent of households had an annual income of less than $15,000.

Table 2.25: Town of Davy Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	264
2013 ACS Estimate	262
2014 ACS Estimate	257
2015 ACS Estimate	249
2016 ACS Estimate	259
2017 ACS Estimate	271
2018 ACS Estimate	248
2019 ACS Estimate	293
2020 Census	293

Table 2.26: Town of Davy Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	108
Occupied Housing Units (Owned & Rented)	84.3%
Vacant Housing Units (Owned & Rented)	15.7%

Table 2.27: Town of Davy Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	19.0%
$10,000 to $14,999	19.8%
$15,000 to $24,999	10.7%
$25,000 to $34,999	19.8%
$35,000 to $49,999	7.4%
$50,000 to $74,999	16.5%
$75,000 to $99,999	2.5%
$100,000 to $149,999	4.1%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$25,089
Mean Household Income	$31,005

2.5.8 Town of Iaeger

Tables 2.28 to 2.30 summarize the Town of Iaeger's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 66 people (20.4 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 36.6 percent. Related to income, the largest percentage of households (18.3 percent) had an income between $15,000 and $24,999; approximately 26.6 percent of households had an annual income of less than $15,000.

Table 2.28: Town of Iaeger Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	323
2013 ACS Estimate	329
2014 ACS Estimate	281
2015 ACS Estimate	241
2016 ACS Estimate	271
2017 ACS Estimate	307
2018 ACS Estimate	229
2019 ACS Estimate	264
2020 Census	257

Table 2.29: Town of Iaeger Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	134
Occupied Housing Units (Owned & Rented)	63.4%
Vacant Housing Units (Owned & Rented)	36.6%

Table 2.30: Town of Iaeger Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	12.8%
$10,000 to $14,999	13.8%
$15,000 to $24,999	18.3%
$25,000 to $34,999	14.7%
$35,000 to $49,999	16.5%
$50,000 to $74,999	9.2%
$75,000 to $99,999	10.1%
$100,000 to $149,999	4.6%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$27,813
Mean Household Income	$36,371

2.5.9 Town of Kimball

Tables 2.31 to 2.33 summarize the Town of Kimball's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 221 people (60.4 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 27.3 percent. Related to income, the largest percentage of households (29.8 percent) had an income between $50,000 and $74,999; approximately zero percent of households had an annual income of less than $15,000.

Table 2.31: Town of Kimball Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	366
2013 ACS Estimate	295
2014 ACS Estimate	201
2015 ACS Estimate	105
2016 ACS Estimate	115
2017 ACS Estimate	135
2018 ACS Estimate	130
2019 ACS Estimate	129
2020 Census	145

Table 2.32: Town of Kimball Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	77
Occupied Housing Units (Owned & Rented)	72.7%
Vacant Housing Units (Owned & Rented)	27.3%

Table 2.33: Town of Kimball Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	0.0%
$10,000 to $14,999	0.0%
$15,000 to $24,999	21.3%
$25,000 to $34,999	19.1%
$35,000 to $49,999	17.0%
$50,000 to $74,999	29.8%
$75,000 to $99,999	8.5%
$100,000 to $149,999	4.3%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$42,250
Mean Household Income	$47,785

2.5.10 Town of Northfork

Tables 2.34 to 2.36 summarize the Town of Northfork's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 396 people (63.2 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 42.9 percent. Related to income, the largest percentage of households (22.5 percent) had an income less than $10,000 or between $15,000 and $24,999; approximately 29.7 percent of households had an annual income of less than $15,000.

Table 2.34: Town of Northfork Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	627
2013 ACS Estimate	499
2014 ACS Estimate	358
2015 ACS Estimate	320
2016 ACS Estimate	258
2017 ACS Estimate	222
2018 ACS Estimate	291
2019 ACS Estimate	318
2020 Census	231

Table 2.35: Town of Northfork Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	191
Occupied Housing Units (Owned & Rented)	57.1%
Vacant Housing Units (Owned & Rented)	42.9%

Table 2.36: Town of Northfork Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	22.5%
$10,000 to $14,999	7.2%
$15,000 to $24,999	22.5%
$25,000 to $34,999	6.3%
$35,000 to $49,999	13.5%
$50,000 to $74,999	16.2%
$75,000 to $99,999	1.8%
$100,000 to $149,999	9.9%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$24,219
Mean Household Income	$37,169

2.6 Mercer County

Tables 2.37 and 2.38 summarize Mercer County's housing and income statistics. The tables show that the County had a combined owned and rental housing vacancy rate of 13.5 percent. Related to income, the largest percentage of households (20.0 percent) had an income between $50,000 and $74,999; approximately 16 percent of households had an annual income of less than $15,000.

Table 2.37 Mercer County Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	29,321
Occupied Housing Units (Owned & Rented)	86.5%
Vacant Housing Units (Owned & Rented)	13.5%

Table 2.38: Mercer County Income Statistics 2020 Estimate

Household Income Statistics	Percent of Households
Less than $15,000	16.0%
$15,000 to $24,999	12.2%
$25,000 to $34,999	10.4%
$35,000 to $49,999	18.0%
$50,000 to $74,999	20.0%
$75,000 to $99,999	10.7%
$100,000 to $149,999	9.2%
$150,000 to $199,999	2.0%
$200,000 or more	1.6%
Median Household Income	$43,222
Mean Household Income	$55,822

2.6.1. Town of Athens

Tables 2.39 to 2.41 summarize the Town of Athens' population, housing statistics, and income statistics. The tables show that the Town's population increased by 45 people (4.9 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 23.3 percent. Related to income, the largest percentage of households (28.6 percent) had an income between $50,000 and $74,999; approximately 16.8 percent of households had an annual income of less than $15,000.

Table 2.39: Town of Athens Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	917
2013 ACS Estimate	1,134
2014 ACS Estimate	1,062
2015 ACS Estimate	1,086
2016 ACS Estimate	1,070
2017 ACS Estimate	1,105
2018 ACS Estimate	1,043
2019 ACS Estimate	1,149
2020 Census	962

Table 2.40: Town of Athens Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	386
Occupied Housing Units (Owned & Rented)	76.7%
Vacant Housing Units (Owned & Rented)	23.3%

Table 2.41: Town of Athens Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	12.9%
$10,000 to $14,999	3.9%
$15,000 to $24,999	9.3%
$25,000 to $34,999	5.4%
$35,000 to $49,999	13.2%
$50,000 to $74,999	28.6%
$75,000 to $99,999	3.2%
$100,000 to $149,999	19.6%
$150,000 to $199,999	0.0%
$200,000 or more	3.9%
Median Household Income	$53,333
Mean Household Income	$63,897

2.6.2. City of Bluefield

Tables 2.42 to 2.44 summarize the City of Bluefield's population, housing statistics, and income statistics. The tables show that the City's population decreased by 828 people (7.9 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 19.4 percent. Related to income, the largest percentage of households (19.4 percent) had an income between $50,000 and $74,999; approximately 19.6 percent of households had an annual income of less than $15,000.

Table 2.42: City of Bluefield Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	10,486
2013 ACS Estimate	10,492
2014 ACS Estimate	10,465
2015 ACS Estimate	10,431
2016 ACS Estimate	10,366
2017 ACS Estimate	10,144
2018 ACS Estimate	10,022
2019 ACS Estimate	9,889
2020 Census	9,658

Table 2.43: City of Bluefield Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	5,198
Occupied Housing Units (Owned & Rented)	80.6%
Vacant Housing Units (Owned & Rented)	19.4%

Table 2.44: City of Bluefield Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	8.2%
$10,000 to $14,999	11.4%
$15,000 to $24,999	14.0%
$25,000 to $34,999	12.9%
$35,000 to $49,999	17.2%
$50,000 to $74,999	19.4%
$75,000 to $99,999	9.0%
$100,000 to $149,999	4.8%
$150,000 to $199,999	1.6%
$200,000 or more	1.4%
Median Household Income	$36,793
Mean Household Income	$48,145

2.6.3. Town of Bramwell

Tables 2.45 to 2.47 summarize the Town of Bramwell's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 249 people (47.4 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 28.2 percent. Related to income, the largest percentage of households (21.2 percent) had an income between $25,000 and $34,999; approximately 24.3 percent of households had an annual income of less than $15,000.

Table 2.45: Town of Bramwell Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	525
2013 ACS Estimate	472
2014 ACS Estimate	413
2015 ACS Estimate	293
2016 ACS Estimate	321
2017 ACS Estimate	347
2018 ACS Estimate	320
2019 ACS Estimate	312
2020 Census	276

Table 2.46: Town of Bramwell Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	163
Occupied Housing Units (Owned & Rented)	71.8%
Vacant Housing Units (Owned & Rented)	28.2%

Table 2.47: Town of Bramwell Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	13.2%
$10,000 to $14,999	11.1%
$15,000 to $24,999	4.8%
$25,000 to $34,999	21.2%
$35,000 to $49,999	10.6%
$50,000 to $74,999	13.2%
$75,000 to $99,999	20.1%
$100,000 to $149,999	0.0%
$150,000 to $199,999	4.2%
$200,000 or more	1.6%
Median Household Income	$34,844
Mean Household Income	$49,581

2.6.4. Town of Matoaka (dissolving)

Tables 2.48 to 2.50 summarize the Town of Matoaka's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 102 people (37.1 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 31.3 percent. Related to income, the largest percentage of households (44.2 percent) had an income between $35,000 and $49,999; approximately 5.2 percent of households had an annual income of less than $15,000.

Table 2.48: Town of Matoaka Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	275
2013 ACS Estimate	273
2014 ACS Estimate	252
2015 ACS Estimate	212
2016 ACS Estimate	172
2017 ACS Estimate	182
2018 ACS Estimate	188
2019 ACS Estimate	221
2020 Census	173

Table 2.49: Town of Matoaka Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	83
Occupied Housing Units (Owned & Rented)	68.7%
Vacant Housing Units (Owned & Rented)	31.3%

Table 2.50: Town of Matoaka Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	0.0%
$10,000 to $14,999	5.2%
$15,000 to $24,999	22.1%
$25,000 to $34,999	2.6%
$35,000 to $49,999	44.2%
$50,000 to $74,999	14.3%
$75,000 to $99,999	6.5%
$100,000 to $149,999	0.0%
$150,000 to $199,999	5.2%
$200,000 or more	0.0%
Median Household Income	$39,896
Mean Household Income	$46,319

2.6.5. Town of Oakvale

Tables 2.51 to 2.53 summarize the Town of Oakvale's population, housing statistics, and income statistics. The tables show that the Town's population increased by 17 people (14.7 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 5.7 percent. Related to income, the largest percentage of households (22.7 percent) had an income less than $10,000; approximately 29.5 percent of households had an annual income of less than $15,000.

Table 2.51: Town of Oakvale Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	116
2013 ACS Estimate	122
2014 ACS Estimate	151
2015 ACS Estimate	174
2016 ACS Estimate	192
2017 ACS Estimate	157
2018 ACS Estimate	127
2019 ACS Estimate	61
2020 Census	133

Table 2.52: Town of Oakvale Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	56
Occupied Housing Units (Owned & Rented)	94.3%
Vacant Housing Units (Owned & Rented)	5.7%

Table 2.53: Town of Oakvale Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	22.7%
$10,000 to $14,999	6.8%
$15,000 to $24,999	15.9%
$25,000 to $34,999	13.6%
$35,000 to $49,999	11.4%
$50,000 to $74,999	11.4%
$75,000 to $99,999	6.8%
$100,000 to $149,999	11.4%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$25,833
Mean Household Income	$44,534

2.6.6. City of Princeton

Tables 2.54 to 2.56 summarize the City of Princeton's population, housing statistics, and income statistics. The tables show that the City's population decreased by 555 people (8.6 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 13.8 percent. Related to income, the largest percentage of households (21 percent) had an income between $35,000 and $49,999; approximately 14.1 percent of households had an annual income of less than $15,000.

Table 2.54: City of Princeton Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	6,427
2013 ACS Estimate	6,454
2014 ACS Estimate	6,387
2015 ACS Estimate	6,082
2016 ACS Estimate	6,056
2017 ACS Estimate	5,967
2018 ACS Estimate	5,907
2019 ACS Estimate	5.831
2020 Census	5,872

Table 2.54: City of Princeton Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	3,091
Occupied Housing Units (Owned & Rented)	86.2%
Vacant Housing Units (Owned & Rented)	13.8%

Table 2.55: City of Princeton Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	8.1%
$10,000 to $14,999	6.0%
$15,000 to $24,999	18.8%
$25,000 to $34,999	9.3%
$35,000 to $49,999	21.0%
$50,000 to $74,999	18.5%
$75,000 to $99,999	11.4%
$100,000 to $149,999	4.7%
$150,000 to $199,999	0.4%
$200,000 or more	1.8%
Median Household Income	$42,025
Mean Household Income	$48,666

2.7 Monroe County

Tables 2.56 and 2.57 summarize Monroe County's housing and income statistics. The tables show that the County had a combined owned and rental housing vacancy rate of 17.5 percent. Related to income, the largest percentage of households (19.5 percent) had an income between $50,000 and $74,999; approximately 14 percent of households had an annual income of less than $15,000.

Table 2.56: Monroe County Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	6,219
Occupied Housing Units (Owned & Rented)	82.5%
Vacant Housing Units (Owned & Rented)	17.5%

Table 2.57: Monroe County Income Statistics 2020 Estimate

Household Income Statistics	Percent of Households
Less than $15,000	14.0%
$15,000 to $24,999	14.8%
$25,000 to $34,999	13.8%
$35,000 to $49,999	15.1%
$50,000 to $74,999	19.5%
$75,000 to $99,999	12.2%
$100,000 to $149,999	6.8%
$150,000 to $199,999	2.2%
$200,000 or more	1.6%
Median Household Income	$41,101
Mean Household Income	$54,730

2.7.1. Town of Peterstown

Tables 2.58 to 2.60 summarize the Town of Peterstown's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 133 people (22.9 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 12.4 percent. Related to income, the largest percentage of households (20.7 percent) had an income between $50,000 and $74,999; approximately 15.6 percent of households had an annual income of less than $15,000.

Table 2.58: Town of Peterstown Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	581
2013 ACS Estimate	555
2014 ACS Estimate	442
2015 ACS Estimate	473
2016 ACS Estimate	520
2017 ACS Estimate	444
2018 ACS Estimate	654
2019 ACS Estimate	693
2020 Census	448

Table 2.59: Town of Peterstown Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	233
Occupied Housing Units (Owned & Rented)	87.6%
Vacant Housing Units (Owned & Rented)	12.4%

Table 2.60: Town of Peterstown Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	5.2%
$10,000 to $14,999	10.4%
$15,000 to $24,999	12.4%
$25,000 to $34,999	18.3%
$35,000 to $49,999	9.2%
$50,000 to $74,999	20.7%
$75,000 to $99,999	11.2%
$100,000 to $149,999	8.4%
$150,000 to $199,999	4.4%
$200,000 or more	0.0%
Median Household Income	$43,750
Mean Household Income	$55,493

2.7.2. Town of Union

Tables 2.61 to 2.63 summarize the Town of Union's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 194 people (31.6 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 8.1 percent. Related to income, the largest percentage of households (18.2 percent) had an income between $15,000 and $24,999; approximately 32.8 percent of households had an annual income of less than $15,000.

Table 2.61: Town of Union Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	613
2013 ACS Estimate	653
2014 ACS Estimate	647
2015 ACS Estimate	548
2016 ACS Estimate	466
2017 ACS Estimate	459
2018 ACS Estimate	440
2019 ACS Estimate	428
2020 Census	419

Table 2.62: Town of Union Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	236
Occupied Housing Units (Owned & Rented)	91.9%
Vacant Housing Units (Owned & Rented)	8.1%

Table 2.63: Town of Union Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	17.8%
$10,000 to $14,999	15.0%
$15,000 to $24,999	18.2%
$25,000 to $34,999	11.9%
$35,000 to $49,999	10.3%
$50,000 to $74,999	13.4%
$75,000 to $99,999	7.1%
$100,000 to $149,999	5.1%
$150,000 to $199,999	1.2%
$200,000 or more	0.0%
Median Household Income	$24,554
Mean Household Income	$37,767

2.8 Raleigh County

Tables 2.64 and 2.65 summarize Raleigh County's housing and income statistics. The tables show that the County had a combined owned and rental housing vacancy rate of 12.3 percent. Related to income, the largest percentage of households (17.9 percent) had an income between $75,000 and $99,999; approximately 14.7 percent of households had an annual income of less than $15,000.

Table 2.64: Raleigh County Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	34,581
Occupied Housing Units (Owned & Rented)	87.7%
Vacant Housing Units (Owned & Rented)	12.3%

Table 2.65: Raleigh County Income Statistics 2020 Estimate

Household Income Statistics	Percent of Households
Less than $15,000	14.7%
$15,000 to $24,999	16.0%
$25,000 to $34,999	10.6%
$35,000 to $49,999	11.4%
$50,000 to $74,999	14.1%
$75,000 to $99,999	17.9%
$100,000 to $149,999	11.0%
$150,000 to $199,999	1.3%
$200,000 or more	3.1%
Median Household Income	$45,601
Mean Household Income	$62,549

2.8.1. City of Beckley

Tables 2.66 to 2.68 summarize the City of Beckley's population, housing statistics, and income statistics. The tables show that the City's population decreased by 310 people (1.8 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 13.5 percent. Related to income, the largest percentage of households (16 percent) had an income between $50,000 and $74,999; approximately 17.7 percent of households had an annual income of less than $15,000.

Table 2.66: City of Beckley Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	17,596
2013 ACS Estimate	17,653
2014 ACS Estimate	17,529
2015 ACS Estimate	17,375
2016 ACS Estimate	17,348
2017 ACS Estimate	16,963
2018 ACS Estimate	16,697
2019 ACS Estimate	16,452
2020 Census	17,286

Table 2.67: City of Beckley Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	8,796
Occupied Housing Units (Owned & Rented)	86.5%
Vacant Housing Units (Owned & Rented)	13.5%

Table 2.68: City of Beckley Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	9.9%
$10,000 to $14,999	7.8%
$15,000 to $24,999	14.6%
$25,000 to $34,999	14.3%
$35,000 to $49,999	11.8%
$50,000 to $74,999	16.0%
$75,000 to $99,999	9.8%
$100,000 to $149,999	11.0%
$150,000 to $199,999	2.6%
$200,000 or more	2.2%
Median Household Income	$39,455
Mean Household Income	$57,219

2.8.2. Town of Lester

Tables 2.69 to 2.71 summarize the Town of Lester's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 1 person (0.29 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 22.4 percent. Related to income, the largest percentage of households (28.9 percent) had an income between $25,000 and $34,999; approximately 10.7 percent of households had an annual income of less than $15,000.

Table 2.69: Town of Lester Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	339
2013 ACS Estimate	312
2014 ACS Estimate	350
2015 ACS Estimate	334
2016 ACS Estimate	386
2017 ACS Estimate	561
2018 ACS Estimate	541
2019 ACS Estimate	454
2020 Census	338

Table 2.70: Town of Lester Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	165
Occupied Housing Units (Owned & Rented)	77.6%
Vacant Housing Units (Owned & Rented)	22.4%

Table 2.71: Town of Lester Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	6.9%
$10,000 to $14,999	3.8%
$15,000 to $24,999	18.2%
$25,000 to $34,999	28.9%
$35,000 to $49,999	8.2%
$50,000 to $74,999	8.8%
$75,000 to $99,999	16.4%
$100,000 to $149,999	7.5%
$150,000 to $199,999	1.3%
$200,000 or more	0.0%
Median Household Income	$31,172
Mean Household Income	$47,220

2.8.3. Town of Mabscott

Tables 2.72 to 2.74 summarize the Town of Mabscott's population, housing statistics, and income statistics. The tables show that the Town's population increased by 100 people (8.1 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 11.5 percent. Related to income, the largest percentage of households (20 percent) had an income between $25,000 and $34,999; approximately 10.2 percent of households had an annual income of less than $15,000.

Table 2.72: Town of Mabscott Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	1,241
2013 ACS Estimate	1,290
2014 ACS Estimate	1,395
2015 ACS Estimate	1,387
2016 ACS Estimate	1,295
2017 ACS Estimate	1,405
2018 ACS Estimate	1,466
2019 ACS Estimate	1,477
2020 Census	1,341

Table 2.73: Town of Mabscott Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	618
Occupied Housing Units (Owned & Rented)	88.5%
Vacant Housing Units (Owned & Rented)	11.5%

Table 2.74: Town of Mabscott Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	6.0%
$10,000 to $14,999	4.2%
$15,000 to $24,999	16.0%
$25,000 to $34,999	20.0%
$35,000 to $49,999	12.5%
$50,000 to $74,999	11.2%
$75,000 to $99,999	13.2%
$100,000 to $149,999	10.3%
$150,000 to $199,999	5.5%
$200,000 or more	1.1%
Median Household Income	$39,000
Mean Household Income	$57,646

2.8.4. Town of Rhodell (dissolving)

Tables 2.75 to 2.77 summarize the Town of Rhodell's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 96 people (40.5 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 6.8 percent. Related to income, the largest percentage of households (29.6 percent) had an income between $50,000 and $74,999; approximately 18.5 percent of households had an annual income of less than $15,000.

Table 2.75: Town of Rhodell Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	237
2013 ACS Estimate	211
2014 ACS Estimate	188
2015 ACS Estimate	212
2016 ACS Estimate	205
2017 ACS Estimate	153
2018 ACS Estimate	111
2019 ACS Estimate	111
2020 Census	141

Table 2.76: Town of Rhodell Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	59
Occupied Housing Units (Owned & Rented)	93.2%
Vacant Housing Units (Owned & Rented)	6.8%

Table 2.77: Town of Rhodell Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	14.8%
$10,000 to $14,999	3.7%
$15,000 to $24,999	18.5%
$25,000 to $34,999	18.5%
$35,000 to $49,999	1.9%
$50,000 to $74,999	29.6%
$75,000 to $99,999	9.3%
$100,000 to $149,999	3.7%
$150,000 to $199,999	0.0%
$200,000 or more	0.0%
Median Household Income	$32,500
Mean Household Income	$39,606

2.8.5. Town of Sophia

Tables 2.78 to 2.80 summarize the Town of Sophia's population, housing statistics, and income statistics. The tables show that the Town's population decreased by 62 people (5.2 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 11.2 percent. Related to income, the largest percentage of households (19 percent) had an income between $25,000 and $34,999; approximately 25.7 percent of households had an annual income of less than $15,000.

Table 2.78: Town of Sophia Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	1,192
2013 ACS Estimate	1,162
2014 ACS Estimate	1,337
2015 ACS Estimate	1,356
2016 ACS Estimate	1,267
2017 ACS Estimate	1,147
2018 ACS Estimate	1,220
2019 ACS Estimate	1,109
2020 Census	1,130

Table 2.79: Town of Sophia Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	572
Occupied Housing Units (Owned & Rented)	88.8%
Vacant Housing Units (Owned & Rented)	11.2%

Table 2.80: Town of Sophia Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	14.9%
$10,000 to $14,999	10.8%
$15,000 to $24,999	18.4%
$25,000 to $34,999	19.0%
$35,000 to $49,999	14.3%
$50,000 to $74,999	13.5%
$75,000 to $99,999	3.3%
$100,000 to $149,999	4.8%
$150,000 to $199,999	0.0%
$200,000 or more	1.0%
Median Household Income	$26,955
Mean Household Income	$38,550

2.9 Summers County

Tables 2.81 and 2.82 summarize Summers County's housing and income statistics. The tables show that the County had a combined owned and rental housing vacancy rate of 24.6 percent. Related to income, the largest percentage of households (17.9 percent) had an income between $35,000 and $49,999; approximately 14.8 percent of households had an annual income of less than $15,000.

Table 2.81: Summers County Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	6,529
Occupied Housing Units (Owned & Rented)	75.4%
Vacant Housing Units (Owned & Rented)	24.6%

Table 2.82: Summers County Income Statistics 2020 Estimate

Household Income Statistics	Percent of Households
Less than $15,000	14.8%
$15,000 to $24,999	16.3%
$25,000 to $34,999	13.0%
$35,000 to $49,999	17.9%
$50,000 to $74,999	16.9%
$75,000 to $99,999	12.0%
$100,000 to $149,999	6.1%
$150,000 to $199,999	2.0%
$200,000 or more	0.9%
Median Household Income	$38,766
Mean Household Income	$50,664

2.9.1. City of Hinton

Tables 2.83 to 2.85 summarize the City of Hinton's population, housing statistics, and income statistics. The tables show that the City's population decreased by 410 people (15.4 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 7.3 percent. Related to income, the largest percentage of households (20.8 percent) had an income between $15,000 and $24,999; approximately 18.2 percent of households had an annual income of less than $15,000.

Table 2.83: City of Hinton Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	2,655
2013 ACS Estimate	2,643
2014 ACS Estimate	2,615
2015 ACS Estimate	2,589
2016 ACS Estimate	2,661
2017 ACS Estimate	2,713
2018 ACS Estimate	2,768
2019 ACS Estimate	2,875
2020 Census	2,245

Table 2.84: City of Hinton Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	1,353
Occupied Housing Units (Owned & Rented)	79.2%
Vacant Housing Units (Owned & Rented)	20.8%

Table 2.85: City of Hinton Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	14.4%
$10,000 to $14,999	3.8%
$15,000 to $24,999	20.8%
$25,000 to $34,999	15.9%
$35,000 to $49,999	9.2%
$50,000 to $74,999	14.3%
$75,000 to $99,999	14.0%
$100,000 to $149,999	6.3%
$150,000 to $199,999	1.2%
$200,000 or more	0.0%
Median Household Income	$31,430
Mean Household Income	$43,386

2.10 Wyoming County

Tables 2.86 and 2.87 summarize Wyoming County's housing and income statistics. The tables show that the County had a combined owned and rental housing vacancy rate of 14.1 percent. Related to income, the largest percentage of households (17.3 percent) had an income between $50,000 and $74,999; approximately 14.6 percent of households had an annual income of less than $15,000.

Table 2.86: Wyoming County Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	9,949
Occupied Housing Units (Owned & Rented)	85.9%
Vacant Housing Units (Owned & Rented)	14.1%

Table 2.87: Wyoming County Income Statistics 2020 Estimate

Household Income Statistics	Percent of Households
Less than $15,000	14.6%
$15,000 to $24,999	15.0%
$25,000 to $34,999	10.8%
$35,000 to $49,999	15.8%
$50,000 to $74,999	17.3%
$75,000 to $99,999	13.9%
$100,000 to $149,999	10.1%
$150,000 to $199,999	1.1%
$200,000 or more	1.3%
Median Household Income	$42,777
Mean Household Income	$55,119

2.10.1. City of Mullens

Tables 2.88 to 2.90 summarize the City of Mullens' population, housing statistics, and income statistics. The tables show that the City's population decreased by 828 people (35.9 percent) from 2012 to 2020. For housing units, the City had a combined owned and rental housing vacancy rate of 24.5 percent. Related to income, the largest percentage of households (15.9 percent) had an income between $35,000 and $49,999; approximately 17.1 percent of households had an annual income of less than $15,000.

Table 2.88: City of Mullens Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	2,308
2013 ACS Estimate	2,184
2014 ACS Estimate	2,020
2015 ACS Estimate	1,993
2016 ACS Estimate	1,701
2017 ACS Estimate	1,675
2018 ACS Estimate	1,564
2019 ACS Estimate	1,435
2020 Census	1,480

Table 2.89: City of Mullens Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	787
Occupied Housing Units (Owned & Rented)	75.5%
Vacant Housing Units (Owned & Rented)	24.5%

Table 2.90: City of Mullens Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	9.1%
$10,000 to $14,999	8.0%
$15,000 to $24,999	8.6%
$25,000 to $34,999	12.9%
$35,000 to $49,999	15.9%
$50,000 to $74,999	15.1%
$75,000 to $99,999	13.9%
$100,000 to $149,999	14.6%
$150,000 to $199,999	1.0%
$200,000 or more	1.0%
Median Household Income	$44,688
Mean Household Income	$69,576

2.10.2. Town of Oceana

Tables 2.91 to 2.93 summarize the Town of Oceana population, housing statistics, and income statistics. The tables show that the Town's population decreased by 517 people (26.3 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 11.9 percent. Related to income, the largest percentage of households (21.1 percent) had an income between $15,000 and $24,999; approximately 20.9 percent of households had an annual income of less than $15,000.

Table 2.91: Town of Oceana Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	1,966
2013 ACS Estimate	1,908
2014 ACS Estimate	1,452
2015 ACS Estimate	1,172
2016 ACS Estimate	1,280
2017 ACS Estimate	1,313
2018 ACS Estimate	1,192
2019 ACS Estimate	1,192
2020 Census	1,449

Table 2.92: Town of Oceana Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	675
Occupied Housing Units (Owned & Rented)	88.1%
Vacant Housing Units (Owned & Rented)	11.9%

Table 2.93: Town of Oceana Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	13.2%
$10,000 to $14,999	7.7%
$15,000 to $24,999	21.1%
$25,000 to $34,999	5.0%
$35,000 to $49,999	15.0%
$50,000 to $74,999	19.5%
$75,000 to $99,999	10.9%
$100,000 to $149,999	5.9%
$150,000 to $199,999	1.8%
$200,000 or more	0.0%
Median Household Income	$37,361
Mean Household Income	$44,546

2.10.3. Town of Pineville

Tables 2.94 to 2.96 summarize the Town of Pineville population, housing statistics, and income statistics. The tables show that the Town's population decreased by 374 people (36.7 percent) from 2012 to 2020. For housing units, the Town had a combined owned and rental housing vacancy rate of 16.4 percent. Related to income, the largest percentage of households (23.5 percent) had an income between $25,000 and $34,999; approximately 14.2 percent of households had an annual income of less than $15,000.

Table 2.94: Town of Pineville Population Totals 2012-2020

Year & Source	Population Total
2012 ACS Estimate	1,019
2013 ACS Estimate	880
2014 ACS Estimate	692
2015 ACS Estimate	685
2016 ACS Estimate	557
2017 ACS Estimate	492
2018 ACS Estimate	736
2019 ACS Estimate	676
2020 Census	645

Table 2.95: Town of Pineville Housing Statistics 2020 Estimate

Housing Statistics	Value
Total Housing Units	323
Occupied Housing Units (Owned & Rented)	83.6%
Vacant Housing Units (Owned & Rented)	16.4%

Table 2.96: Town of Pineville Income Statistics 2019 Estimate

Household Income Statistics	Percent of Households
Less than $10,000	14.2%
$10,000 to $14,999	0.0%
$15,000 to $24,999	6.0%
$25,000 to $34,999	23.5%
$35,000 to $49,999	11.6%
$50,000 to $74,999	19.0%
$75,000 to $99,999	7.5%
$100,000 to $149,999	11.2%
$150,000 to $199,999	7.1%
$200,000 or more	0.0%
Median Household Income	$43,684
Mean Household Income	$59,658

03 | Planning Process

PLANNING PROCESS

3.1 Methodology

The Planning Process chapter describes the steps involved in the development of the 2022 West Virginia Region I Hazard Mitigation Plan, including details about who participated, how community involvement was organized and promoted throughout the community, what hazards were included in the Plan and why, as well as how stakeholder involvement played a critical role in the planning process.

This chapter also explains how the Core Planning Committee was formed and how member feedback contributed to the updating of the Region's Hazard Mitigation Plan. The Planning Process involved engagement of the general public as well as a Core Planning Committee of representatives of jurisdictions of West Virginia Region I and other entities across the Region.

3.2 Existing Plans and Regulations

West Virginia Region I, the State of West Virginia, and FEMA maintain several plans and tools that were pertinent to reference in the development of the 2022 Hazard Mitigation Plan as listed below. These are further listed by jurisdiction in **Table 3.1.**

- 2016 West Virginia Region I Hazard Mitigation Plan
- 2018 West Virginia Statewide Standard Hazard Mitigation Plan Update
- Fayette/Raleigh Metropolitan Planning Organization (FRMPO) 2040 Transportation Plan
- Local Source Water Protection Plans
- West Virginia Region I PDC Comprehensive Economic Development Strategy for 2019-2023
- West Virginia Region I Broadband Strategic Plan
- State of West Virginia Disaster Recovery Action Plan
- West Virginia Region I Coordinated Public Transit-Human Services Transportation Plan
- 2020-2024 State of West Virginia Consolidated Plan
- State of West Virginia Long Range Transportation Plan
- FEMA Hazard Mitigation How-To Guides
- FEMA Local Mitigation Planning Handbook
- FEMA Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards, January 2013

In addition to the following existing plans, McDowell County also has a Blueprint Communities plan, Contaminated Water plan, Land Use Master Plan, and a Floodplain Management Plan. The City of Bluefield also has the Norfolk Southern Facility Response Plan.

Table 3.1: Existing Plans in West Virginia Region I's Municipalities

Community	Comprehensive Plan	Capital Improvement Plan	Economic Development Plan	Emergency Operations Plan	Continuity of Operations Plan	Transportation Plan	Stormwater Management Plan	Wildfire Protection Plan
West Virginia Region I	X		X					
McDowell County	X		X	X				
Mercer County	X			X	X			X
Monroe County	X			X		X		X
Raleigh County	X			X	X	X		
Summers County	X			X	X			
Wyoming County	X		X	X	X			
City of Beckley	X			X				
City of Bluefield	X			X		X	X	X
City of Gary	X			X				
City of Hinton	X			X				
City of Keystone	X			X				
City of Mullens	X			X				
City of Princeton	X	X		X	X		X	
City of War	X			X				
City of Welch	X	X		X	X		X	
Town of Anawalt	X			X				
Town of Athens	X			X				
Town of Bradshaw	X			X				
Town of Bramwell	X			X				
Town of Davy	X			X				
Town of Iaeger	X			X				
Town of Kimball	X			X				
Town of Lester				X				
Town of Mabscott				X				
Town of Northfork	X			X				
Town of Oakvale	X			X				
Town of Oceana	X			X				
Town of Peterstown	X			X				
Town of Pineville	X			X				
Town of Sophia	X			X				
Town of Union	X			X				

3.3 West Virginia Region I Authority to Adopt Plan

The West Virginia Region I Planning and Development Council (PDC) is one of eleven Regional Planning & Development Councils created by West Virginia Code, Chapter 8, Article 25, to provide comprehensive planning of all types for the Region's service area, consisting of six counties and twenty-seven municipalities located within these counties. The Region is considered a public agency. Mayors, county commissioners, and up to 49 percent private sector appointees comprise Region I's Board of Directors. **Table 3.2** lists the existing authorities and regulations in place in West Virginia Region I and its municipalities. **Table 3.3** provides staffing & administrative capabilities in West Virginia Region I's Municipalities.

Table 3.2: Existing Authorities and Regulations in West Virginia Region I Municipalities

Community	Building Codes	Zoning Ordinances	Subdivision Ordinance	Floodplain Ordinance	Site Plan Review	Storm Ready Certification	Open Space Ordinance	Fire Department ISO
West Virginia Region I				X				
McDowell County	X		X	X			X	
Mercer County				X		X		
Monroe County				X		X		
Raleigh County				X	X			
Summers County	X	X		X	X			6
Wyoming County				X	X		X	
City of Beckley				X		X		
City of Bluefield	X	X	X	X	X		X	4
City of Gary				X				
City of Hinton				X				
City of Keystone				X				
City of Mullens				X				
City of Princeton	X	X	X	X	X		X	
City of War	X	X		X				
City of Welch			X	X	X			6 & 6/9
Town of Anawalt	X		X	X	X			
Town of Athens		X		X			X	4
Town of Bradshaw	X			X				
Town of Bramwell				X				
Town of Davy				X				
Town of Iaeger				X				
Town of Kimball				X				

Community	Building Codes	Zoning Ordinances	Subdivision Ordinance	Floodplain Ordinance	Site Plan Review	Storm Ready Certification	Open Space Ordinance	Fire Department ISO
Town of Lester				X				
Town of Mabscott				X				
Town of Northfork				X				X
Town of Oakvale				X			X	
Town of Oceana				X				
Town of Peterstown				X				
Town of Pineville				X				
Town of Sophia	X	X		X	X			6
Town of Union				X				

Table 3.3: Staffing & Administrative Capabilities in West Virginia Region I's Municipalities

Community	Planning Commission	Mitigation Planning Committee	Chief Building Official	Maintenance Programs	Mutual Aid Agreements	Community Planner	Civil Engineer
West Virginia Region I	X					X	
McDowell County			X				
Mercer County							
Monroe County	X			X	X		
Raleigh County					X		
Summers County				X			
Wyoming County	X						
City of Beckley							
City of Bluefield	X	X	X	X	X	X	X
City of Gary							
City of Hinton							
City of Keystone							
City of Mullens							
City of Princeton			X	X	X		
City of War	X		X	X			

Community	Planning Commission	Mitigation Planning Committee	Chief Building Official	Maintenance Programs	Mutual Aid Agreements	Community Planner	Civil Engineer
City of Welch				X	X		X
Town of Anawalt							
Town of Athens	X		X	X	X		
Town of Bradshaw			X				
Town of Bramwell							
Town of Davy							
Town of Iaeger							
Town of Kimball							
Town of Lester							
Town of Mabscott							
Town of Northfork				X			
Town of Oakvale							
Town of Oceana							
Town of Peterstown							
Town of Pineville							
Town of Sophia	X		X	X	X		
Town of Union							

3.4 Notification Process

The Core Planning Committee members were invited to participate at the beginning of the planning process through a Kickoff Meeting announcement which was sent out via email. It included both printable materials and links to the online versions of the surveys. Prior to each additional meeting, members of the Core Planning Committee were invited to participate via an email notification. Public notices of the meetings were made available on the WV Region I Planning & Development Council website.

Representatives from the following entities were invited to participate in the planning process. Members of the public were encouraged to schedule public meetings through flyers and online postings through the Region I Planning & Development Council. Each participating jurisdiction attended at least one meeting and completed the Previous Mitigation Actions Status Survey and Mitigation Actions Scoring Matrix surveys.

McDowell, Mercer, Monroe, Raleigh, Summers, and Wyoming Counties

- McDowell County Commission
- Mercer County Commission
- Monroe County Commission
- Raleigh County Commission
- Summers County Commission
- Wyoming County Commission

City and Town Members

- Town of Anawalt
- Town of Bradshaw
- Town of Davy
- City of Gary
- Town of Iaeger
- City of Keystone
- City of Kimball
- Town of Northfork
- City of War
- City of Welch
- Town of Athens
- City of Bluefield
- Town of Bramwell
- Town of Pineville
- Town of Matoaka (dissolving)
- Town of Oakvale
- City of Princeton
- Town of Peterstown
- Town of Union
- City of Beckley
- Town of Lester
- Town of Mabscott
- Town of Rhodell (dissolving)
- Town of Sophia
- City of Hinton
- City of Mullens
- Town of Oceana

Other Organizations

- FEMA Region III
- West Virginia Emergency Management Division

The public was invited to participate in several, regularly held public meetings held by the Region. Meeting minutes for these public meetings can be found in Appendix G.

3.5 Meetings

The following section details the meetings that took place during the planning process. **Table 3.4** lists the participating jurisdictions and representatives and how they participated. Documentation of each meeting, including newspaper postings, email announcements and attachments, meeting materials, and completed surveys, can be found in **Appendix G**.

Table 3.4: Participating Jurisdictions

Community/ Organization	Representative(s)	Surveys Completed					Meetings Attended		
		Goals	Hazard Priorities	Previous Mitigation Actions	New Mitigation Actions	NFIP Participation	1	2	Other
Counties									
McDowell County	Judy Heath, County Commissioner	✓	✓	✓	✓	✓	✓	✓	11/23/21
Mercer County	Keith Gunnoe, Emergency Management Director	✓	✓	✓	✓	✓	✓	✓	
Monroe County	Richard Miller, Emergency Management Director			✓	✓	✓	✓		12/22/21

Community/ Organization	Representative(s)	Surveys Completed					Meetings Attended		
		Goals	Hazard Priorities	Previous Mitigation Actions	New Mitigation Actions	NFIP Participation	1	2	Other
Raleigh County	Jay Quesenberry, County Administrator Detlef Ulfers, County Engineer			✓	✓	✓			11/29/21, 11/30/21
Summers County	Steve Lipscomb, Office of Emergency Management Director			✓	✓	✓	✓	✓	
Wyoming County	Dean Meadows, 911 / Office of Emergency Management Director / Floodplain Manager	✓	✓	✓	✓	✓	✓		12/16/21
Cities & Towns									
City of Beckley	Billie Trump, Chief Financial Officer			✓	✓				11/23/21
City of Bluefield	Kerry Stauffer, Engineering Services/Stormwater Director Chad Bailey, Fire Chief Dennis Dillow, Police Chief	✓	✓	✓	✓		✓	✓	
City of Gary	Tracy Allison, City Treasurer			✓	✓			✓	
City of Hinton	Cris Meadows, City Manager			✓	✓			✓	
City of Keystone	Vondelere Scott, Acting Mayor	✓	✓				✓		1/25/22
City of Mullens	Dean Meadows, 911 / Office of Emergency Management Director / Floodplain Manager								12/16/21
City of Princeton	Ty Smith, Rental Compliance/ Code Enforcement Officer Ben Love, Floodplain Manager Samuel Lusk, Economic Development Authority Director	✓	✓				✓		1/4/22
City of War	Robert Beavers, Mayor								1/24/22
City of Welch	Robin Lee, City Clerk Jason Grubb, Business Development Specialist	✓	✓				✓		1/12/22
Town of Anawalt	Dorothy Wilson, Mayor								1/25/22
Town of Athens	Charles Lilly, Council Member	✓	✓	✓	✓		✓	✓	
Town of Bradshaw	Brian T. Harrison, Mayor	✓	✓	✓	✓		✓	✓	
Town of Bramwell	Louise Stoker, Mayor								1/12/22
Town of Davy	Kenneth Gentry, Mayor								1/25/22

Community/ Organization	Representative(s)	Surveys Completed					Meetings Attended		
		Goals	Hazard Priorities	Previous Mitigation Actions	New Mitigation Actions	NFIP Participation	1	2	Other
Town of Iaeger	Joe Ford, Mayor								1/25/22
Town of Kimball	Adam Gianato, Mayor Jimmy Gianato, Firefighter	✓	✓	✓	✓		✓		11/23/21
Town of Lester	Detlef Ulfers, County Engineer								1/26/22
Town of Mabscott	Detlef Ulfers, County Engineer								1/26/22
Town of Northfork	Carol Sizemore, Mayor	✓	✓	✓	✓		✓	✓	
Town of Oakvale	Shenae Bailey, Town Recorder								1/4/22
Town of Oceana	Dean Meadows, 911 / Office of Emergency Management Director / Floodplain Manager								12/16/21
Town of Peterstown	Richard Miller, Emergency Management Director	✓	✓	✓	✓		✓	✓	
Town of Pineville	Dean Meadows, 911 / Office of Emergency Management Director / Floodplain Manager								12/16/21
Town of Sophia	Detlef Ulfers, County Engineer								1/26/22
Town of Union	Caroline Sparks, Mayor								12/16/21

If representatives were unable to attend the in-person Core Planning Committee meetings, they participated via "Other" formats, including direct calls and separately organized meetings, as documented in ***Appendix G****.*

3.5.1 Core Planning Committee Kick-off

A Kickoff Announcement was emailed to stakeholders on July 30, 2021, inviting them to participate in the 2022 West Virginia Region I update process as part of the Core Planning Committee. Stakeholders were provided an online link to schedule a time to participate in the Planning Meetings 1 and 2. All kickoff materials were provided to stakeholders before and during meetings. A project website was developed and published, as well (http://burtonplanning.com/west-virginia-region1-hazard-mitigation-plan/).

The Announcement outlined the following details regarding the planning process:

- Goals of the Hazard Mitigation Plan;
- A summary of who is involved in the planning process;
- Federal requirements of the hazard mitigation planning process;
- An overview of the hazard mitigation planning process;
- The proposed schedule for the West Virginia Region I Hazard Mitigation Plan update;
- The role of the Core Planning Committee in the update process;

- Contact information for both West Virginia Region I Planning and Development Council, Burton Planning Services, and Michael Baker International; and
- Dates, times, and links to schedule the individual meetings for the upcoming Core Planning Meetings.

3.5.2 Core Planning Committee Meeting 1

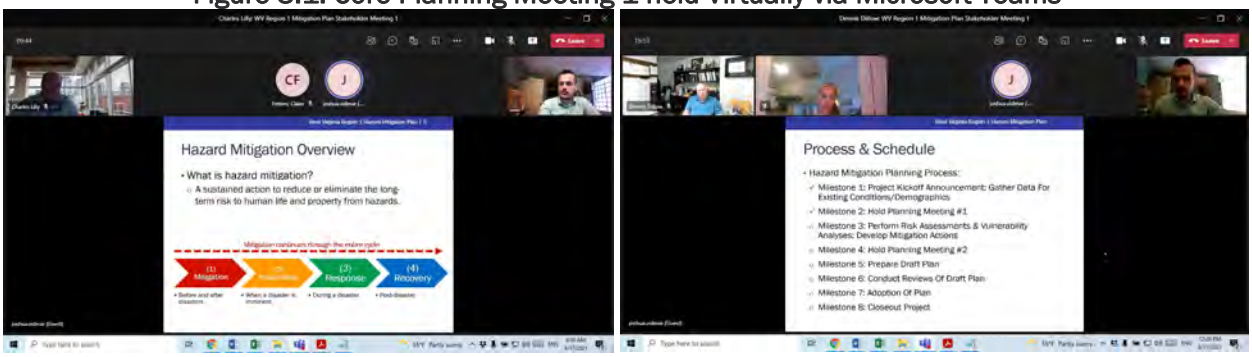
The first Core Planning Committee meetings took place during Tuesday, August 17, 2021, through Wednesday, August 18, 2021. Due to the COVID-19 Pandemic, this series of meetings were held virtually using Microsoft Teams (**Figure 3.1**). The jurisdictions of West Virginia Region I scheduled individual meetings for the planning process meetings to gather pertinent information. Members of the Core Planning Committee were invited to either attend their scheduled meeting using the Microsoft Teams app on their phone or desktop or call into the meeting using a phone number. A total of 13 jurisdictions participated in the first round of individual meetings.

Each individual meeting began with a brief introduction from Brett Morris, Resiliency Planner at Burton Planning Services. This introduction included a description of the virtual engagement process, including various capabilities of the online meeting platform, such as screen sharing, video and audio features, and direct chat to ask questions or provide comments during the presentation.

Josh Vidmar, Planner at Michael Baker International, then guided the attendees through a presentation which detailed the hazard mitigation planning process, including requirements of the planning process, potential hazards that could be addressed, benefits of hazard mitigation planning, and potential types of projects that could be federally funded as a result of the hazard mitigation plan. Mr. Vidmar also described the role that the Core Planning Committee would serve in the development of the 2022 West Virginia Region I Hazard Mitigation Plan.

Following the completion of the presentation, Mr. Morris guided the attendees through two surveys, detailed below. Each participant was provided multiple methods by which to complete the surveys, including a fillable PDF that could be completed on their computer, or an online SurveyMonkey version. Links to survey locations were provided prior to the meeting. Each individual meeting provided time for the jurisdictions to complete the surveys with Burton Planning Services and Michael Baker International.

Figure 3.1: Core Planning Meeting 1 held Virtually via Microsoft Teams



Goals Survey:

The purpose of this survey was to reflect on the goals included in the 2016 Hazard Mitigation Plan to determine if they were still relevant to the 2022 Plan. Each attendee reviewed the previous goals and determined if they were still applicable, provided comments or edits to the goals that needed changed, and generated new goals to potentially be included in the Plan. There was both a PDF printable and digital version of this survey to accommodate different needs.

Hazard Priority Survey:
The purpose of this survey was to review all hazards that could be included in the 2022 Hazard Mitigation Plan and prioritize them. As such, attendees were asked to rate each hazard on a scale of zero to five, with five meaning the hazard poses the greatest possible threat to the Region, County, or their community and zero meaning the hazard should not be included in the 2022 Plan. Attendees rated hazards that were included in the 2016 Hazard Mitigation Plan, as well as all potential hazards that could be included in the 2022 Plan. There was both a PDF printable and digital version of this survey to accommodate different needs.

Following the completion of these surveys, Mr. Morris provided next steps for each jurisdiction: ensuring that each jurisdiction was signed up for their individual Core Planning Committee Meeting 2, had access to the surveys that would be completed during the next round of meetings, and had the contact information for Burton Planning Services and Michael Baker International.

3.5.3 Core Planning Committee Meeting 2

The second Core Planning Committee meetings took place on Tuesday, October 12, 2021, through Friday, October 14, 2021. Due to the COVID-19 Pandemic, these meetings were held virtually using Microsoft Teams. The jurisdictions of West Virginia Region I scheduled individual meetings for the planning process meetings to gather pertinent information. Members of the Core Planning Committee were invited to either attend their scheduled meeting using the Microsoft Teams app on their phone or desktop or call into the meeting using a phone number. A total of 9 jurisdictions participated in the second round of individual meetings.

The meeting began with a brief introduction from Brett Morris, Resiliency Planner at Burton Planning Services. Josh Vidmar, Planner from Michael Baker International, then guided the attendees through a presentation which provided an update on the hazard mitigation planning process, including requirements of the planning process and results from the Hazard Priority Survey distributed at the previous meeting.

Participants were given an overview of the risk assessment information, including an overview of the West Virginia Flood Tool. A deeper look at individual hazard risk assessments was given when discussing particular problem statements. Total Exposure in Floodplain data was used as a reference, but not directly used in the planning process or the participation process.

Previous Mitigation Actions Status Survey
The purpose of the Previous Mitigation Actions Status Survey was to have attendees review the mitigation actions that were included in the 2016 Hazard Mitigation Plan, reflect on the status of each action, and determine if that action should be included in the 2022 Hazard Mitigation Plan. There was both a PDF printable and digital version of this survey to accommodate different needs.

Mitigation Actions Scoring Matrix
Following the completion of the presentation, Mr. Morris guided the attendees through the Mitigation Actions Scoring Matrix, which determines the mitigation actions attendees would like to see in their community to mitigate the impacts of hazards. Each jurisdiction was able to identify statements reflecting problems that the community faces. Then, mitigation actions were developed to alleviate the problems the community faces, thus becoming more resilient against hazard events. After developing potential mitigation actions, attendees were asked to score the mitigation action in five categories: cost effective, technically feasible, environmentally sound, immediate need, and total risk reduction. These scores will be used to determine the priority of all mitigation actions included in the 2022 West

Virginia Region I Hazard Mitigation Plan. There was both a PDF printable and digital version of this survey to accommodate different needs.

Please note, the public was invited to complete the surveys during 15-day public comment period and was notified through social media and the project website (see **Appendix G).**

3.5.4 Additional Individual Meetings

Additional individual meetings were held with jurisdictions following the first two rounds of meetings if the participation requirements had not yet been met. In each individual meeting, the jurisdictions were given a brief presentation of the hazard mitigation plan update process. Following the presentation, discussion was held regarding potential hazards that could affect the jurisdiction, any memorable previous hazard events, and identification of problem statements for the community. Then, the jurisdictions completed the **Previous Mitigation Actions Status Survey** and **Mitigation Actions Scoring Matrix**. The individual meetings began on November 23, 2021 and were held intermittently through January 26, 2022. Direct invitees were encouraged to invite additional staff or relevant stakeholders, such as economic development professionals, engineers, and others.

The exact date of when each jurisdiction completed their individual meeting can be found in **Table 3.4**. If representatives were unable to attend the in-person Core Planning Committee meetings, they participated via other formats, including additional individual meetings and online surveys, as documented in **Appendix G**. Dates of the individual meetings held with jurisdictions are listed in the "Other" column.

The towns of Matoaka and Rhodell were in the process of dissolving at the time of plan development. Mercer County and Raleigh County, respectively, acted as the points of contact for the two jurisdictions.

An additional survey was sent to each County regarding their participation in the National Flood Insurance Program (NFIP). Five of the six counties have adopted the most recent FIRM and support requests for map updates, while McDowell County is in the process of updating their ordinance. Raleigh and Monroe counties collect their own technical data and share that information with FEMA, while the other counties do not currently do so. Floodplain ordinance enforcement is coordinated for the floodplain manager in five of the six counties, either through coordination with law enforcement officials or through building codes and building permits. McDowell County does not currently their floodplain ordinance but are drafting a new ordinance to do so. Individual NFIP participation surveys can be found in **Appendix G** for more information.

3.6 Public Participation and Comment Period

The 2022 West Virginia Region I Hazard Mitigation Plan was available to the public and Core Planning Committee for review for a 15-day public comment period beginning February 2, 2022. Hard copies of the Hazard Mitigation Plan were made available for review in-person at the West Virginia Region I Planning & Development Council, and a digital Draft Plan was made available online. Digital surveys were to be provided to the public; however no public participation was received during the 15-day public comment period. Due to the expedited nature of the plan development, outside jurisdictions were not explicitly invited, but were not excluded from the planning process.

Public meetings were held by West Virginia Region I PDC on July 29, 2021, October 28, 2021, and January 27, 2022. Meeting minutes for all three meetings can be found in Appendix G. No members of the public participated during these meetings.

3.7 Planning Process

Stakeholder and public input were essential for determining the hazard prioritization, as well as which hazards were included or excluded from the Plan. Based on feedback from the Core Planning Committee, it was determined that hurricanes or tropical storms were not hazards of concern to West Virginia Region I and its communities. As such, these hazards were not included in the plan outright. If remnants of a hurricane or tropical storm were witnessed in the Region, those narratives are included in Severe storms. Other hazards, such as coastal erosion and coastal flooding, are not applicable to West Virginia Region I and have not been included in previous hazard mitigation plans, nor were they included in this Plan. More details about how survey feedback assisted in the determination of which hazards to exclude can be found in Chapter 5, Hazard Mitigation.

Chapter 4, Hazard Identification and Risk Assessment, follows this chapter. Please note that Chapter 4 is organized alphabetically and not in order of risk. The ranking of hazard priorities can be found in Chapter 5, Hazard Mitigation.

04 | Hazard Indentification & Risk Assessment

4.1 Dam Failure

4.1.1 Description

FEMA describes that the purpose of dams "is to retain or store water or other liquid-borne materials for any of several reasons, such as human water supply, irrigation, livestock water supply, energy generation, containment of mine tailings, recreation, and pollution or flood control." Types of dams include man-made dams, embankment dams, concrete dams, tailings dams, and ash impoundments. A majority of dams are privately owned but regulated by the State or Federal government.

Common dam-related terms include:

- **Spillway:** A structure that is part of a dam or found beside a dam which allows the controlled release of water from a reservoir.
- **Outlet works:** Used to regulate or release water flow from a dam. An outlet works is a device which consists of one or more pipes or tunnels which move water through the dam.
- **Auxiliary spillway:** Also known as an emergency spillway, the auxiliary spillway is a secondary spillway only designed to operate during periods of increased water inflow or high reservoir levels.
- **Structural failure:** Caused by foundation defects such as settlement and slope instability or earthquakes.
- **Mechanical failure:** Dam failure due to malfunctioning gates, conduits, or valves.
- **Hydraulic failure:** Occurs when water overtops the dam, usually causes by inadequate spillway design, blockages in spillways, or dam crest settlement.

Normally, water passes through a dam via the main spillway or outlet works. During periods of increased water inflow or high reservoir levels, water should pass through an auxiliary spillway. Dam failure or partial failures are typically caused by structural, mechanical, or hydraulic failures, rather than during extreme storm events.

According to the U.S. Army Corps of Engineers, dams can be classified by their hazard potential. The three hazard potential classes are:

- **High Hazard Potential:** During the event of a dam failure, loss of life is probable, which is the primary attribute for assigning this designation to a dam. Economic losses, environmental damages, and lifeline impacts are also likely, but are not required for this designation.
- **Significant Hazard Potential:** No loss of life is expected during a dam failure, but economic losses, environmental damages, and lifeline impacts are likely.
- **Low Hazard Potential:** No loss of life is expected during a dam failure and no lifeline impacts are expected. Environmental damages and economic losses are expected to be limited to the dam owner's property.

All dams have inherent risk, regardless of their hazard potential. The three categories of risk are:

- **Incremental Risk:** The risk (likelihood and consequences) to the pool area and downstream floodplain occupants that can be attributed to the presence of the dam should the dam breach prior or subsequent to overtopping, or undergo component malfunction or maloperation,

where the consequences considered are over and above those that would occur without dam breach. The consequences typically are due to downstream inundation, but loss of the pool can result in significant consequences in the pool area upstream of the dam.

- **Non-Breach Risk:** The risk in the reservoir pool area and affected downstream floodplain due to 'normal' dam operation of the dam (e.g., large spillway flows within the design capacity that exceed channel capacity) or 'overtopping of the dam without breaching' scenarios.
- **Residual Risk:** The risk that remains after all mitigation actions and risk reduction actions have been completed. With respect to dams, FEMA defines residual risk as "risk remaining at any time" (FEMA, 2015, p A-2). It is the risk that remains after decisions related to a specific dam safety issue are made and prudent actions have been taken to address the risk. It is the remote risk associated with a condition that was judged to not be a credible dam safety issue.

Emergency action planning is an important component of dam safety. FEMA describes an Emergency Action Plan (EAP) as a document which identifies hazardous conditions at a dam and outlines the actions to be followed to minimize property damage and loss of life. In addition to procedures for issuing early warning messages, the EAP also includes inundation maps which outline critical areas for action in case of a dam failure. The EAP should be updated at least every 5 years.

During the planning process, floodplain managers and other local officials relayed information about dam safety for dams within or near their jurisdictions. Due to the expedited nature of plan development, and restrictions in place due to the COVID-19 pandemic, it was not feasible to contact all dam safety personnel in the region. The West Virginia Department of Environmental Protection's Division of Water and Waste Management has a Dam Safety program that issues certificates (and monitors self-inspections for certificate extensions), inspects local non-coal related dams, engages in emergency response, monitors Emergency Action Plans, and maintains an inventory of dams for the state. This office is responsible for coordinating with local dam safety personnel to ensure state and federal regulations are met for the operation of their dams.

4.1.2 Location

Dam failure can occur throughout the Region where dams or reservoirs are located. Dam failure is more likely to occur if the dam is not maintained or operated correctly but can occur in other situations as well. **Table 4.1.1** lists all dams within the Region, organized first by county then by hazard potential. Hazard potential is determined and published by the Army Corps of Engineers.

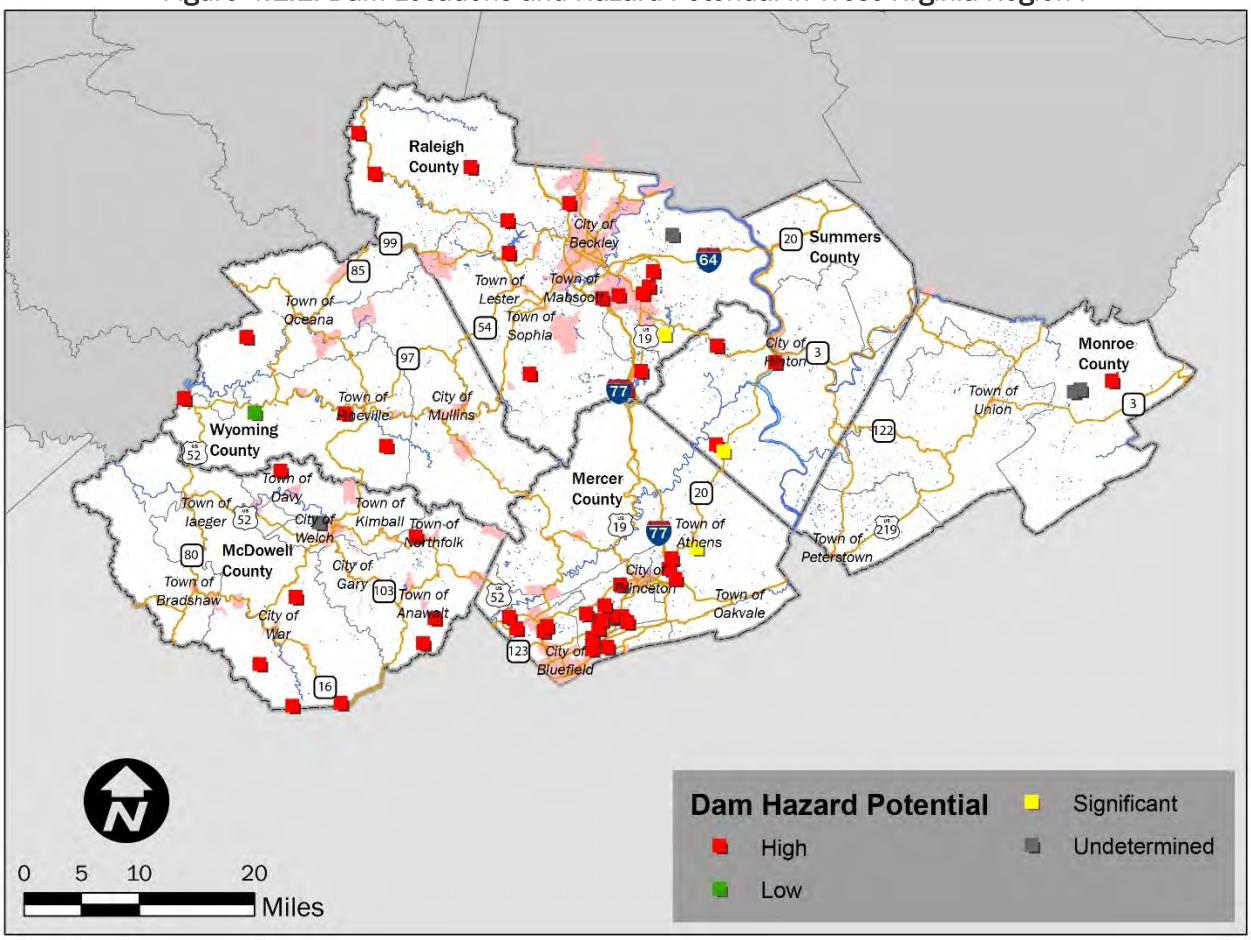
Table 4.1.1: Dam Locations in West Virginia Region I

Hazard Potential	Dam Name	Dam Type	Emergency Action Plan	EAP Revision	County
High	Berwind Lake	ERRE	Y	1/8/2018	McDowell
High	Belcher Branch Cr Dam	OT	N		McDowell
High	Ballard Harmon Branch Cr Dam	OT	N		McDowell
High	Clark Branch Dam	OT	N		McDowell
High	Dalton Branch Cr Dam	OT	N		McDowell
High	Twin Branch No.1 Dam	RE	Y	6/14/2016	McDowell
High	Dry Fork (Amonate) Slurry Dam	OT	N		McDowell
High	Lick Branch Slurry Dam		N		McDowell
High	Barrenshe Branch Cr Dam	OT	N		McDowell
High	Anawalt Lake Dam	RE	Y	7/18/2016	McDowell

Hazard Potential	Dam Name	Dam Type	Emergency Action Plan	EAP Revision	County
High	Amonate Slurry Impoundment	RE	Y		McDowell
High	Dalton Branch Slurry Impoundment	RE	Y		McDowell
High	Harmon Branch Refuse Disposal Facility	RE	Y		McDowell
High	Clark Branch Impoundment	RE	Y		McDowell
High	Barrenshe Branch Impoundment	RE	Y		McDowell
Undefined	Mod Branch #1 Dam	RE	Y	3/24/1995	McDowell
Undefined	Mod Branch Dam No.5	RE	N		McDowell
Undefined	Mod Branch Dam No.3	RE	N		McDowell
Undefined	Mod Branch Dam No.4	RE	N		McDowell
High	New Bramwell Dam	RE	Y	9/25/1996	Mercer
High	Brush Creek No.4	RE	Y	7/26/2012	Mercer
High	Brush Creek No.5	RE	Y	9/19/2016	Mercer
High	Brush Creek No.6	RE	Y	9/19/2016	Mercer
High	Brush Creek No.7A	RE	Y	7/26/2012	Mercer
High	Brush Creek No.9	RE	Y	2/3/2016	Mercer
High	Brush Creek No.10	RE	Y	7/26/2012	Mercer
High	Brush Creek No.12	RE	Y	7/26/2012	Mercer
High	Brush Creek No.14	RE	Y	2/3/2016	Mercer
High	Brush Creek No.15	RE	Y	2/3/2016	Mercer
High	Daves Fork No.1	RE	Y	9/19/2016	Mercer
High	Daves Fork No.2	RE	Y	7/26/2012	Mercer
High	Daves Fork No.3	RE	Y	11/18/2015	Mercer
High	Turkey Gap Cr Dam	OT	N		Mercer
High	Bluewell Water Supply Dam No.1	RE	Y	6/15/1999	Mercer
High	Bluewell Water Supply Dam No.2	RE	Y	6/15/1999	Mercer
High	Jimmy Lewis Dam	RE	Y	9/26/2016	Mercer
High	Ada Dam	RE	Y	3/18/2013	Mercer
High	Horton Dam	CBCN	Y	3/18/2013	Mercer
High	East Fork Of Crane Creek Dam		N		Mercer
High	Brush Creek No. 19A	RE	Y	3/13/2018	Mercer
Significant	Laurel Creek Dam	CN	N		Mercer
High	Moncove Lake	RE	Y	4/3/2017	Monroe
Undefined	Forest Run No. 1 Dam	RE	N		Monroe
Undefined	Forest Run No. 2 Dam	RE	N		Monroe
High	Flat Top Lake Dam	RE	Y	6/14/2016	Raleigh

Hazard Potential	Dam Name	Dam Type	Emergency Action Plan	EAP Revision	County
High	Lake Stephens Dam	ERRE	Y	3/13/2018	Raleigh
High	Collins Fork Cr Dam	OT	N		Raleigh
High	Mcgraw Fork Cr Dam	OT	N		Raleigh
High	Little Beaver Dam	MSST	Y	10/23/2017	Raleigh
High	Glade Creek Dam No. 1	CN	Y	3/28/2018	Raleigh
High	Lower Big Branch	OT	N		Raleigh
High	New Winterplace Dam	ERRE	Y	6/4/2015	Raleigh
High	C & O Dam	CN	Y	4/16/1992	Raleigh
High	South Sand Branch	RE	Y	3/13/2018	Raleigh
High	Bluejay Lake Dam	RE	N		Raleigh
High	Chatham Lake Dam	RE	Y	5/21/2018	Raleigh
High	Brushy Fork Impoundment	OT	N		Raleigh
High	Mallard Lake Dam	RE	Y	10/21/2015	Raleigh
High	Killarney Slurry Impoundment	RE	Y		Raleigh
High	Lower Big Branch Slurry Impoundment	RE	Y		Raleigh
High	Collins Fork Slurry Impoundment	RE	Y		Raleigh
High	Shumate Creek Slurry Impoundment	RE	Y		Raleigh
Significant	Glade Creek Dam No. 2	ERRE	Y	3/28/2018	Raleigh
Significant	Grandview Farm Lake	ERRE	N		Raleigh
Undefined	Slate Fork #1 Dam	RE	Y	10/4/2017	Raleigh
High	Bluestone Dam	PG	Y	1/30/2018	Summers
High	Pipestem Lake	RE	Y	9/22/2014	Summers
High	Mountain Valley Dam	RE	Y	8/22/2016	Summers
Significant	Sun Valley Lake Dam	RE	N		Summers
High	Mcdonald Fork Dam	OT	N		Wyoming
High	Elmore-Tralee Cr Dam	OT	N		Wyoming
High	Joe Branch Cr Dam	OT	N		Wyoming
High	Smith Branch Cr Dam	OT	N		Wyoming
High	Wallace Cabin Branch Cr Dam	OT	N		Wyoming
High	Mcdonald Fork Slurry Impoundment	RE	Y		Wyoming
High	Wallace Cabin Branch Slurry Impoundment	RE	Y		Wyoming
High	Smith Branch Slurry Impoundment	RE	Y		Wyoming
Low	Horse Creek Dam #1	RE	Y	7/18/2016	Wyoming

Figure 4.1.1: Dam Locations and Hazard Potential in West Virginia Region I



McDowell County

McDowell County has 19 total dams, 15 of which have high hazard potential. Six dams do not have an emergency action plan: Belcher Branch Dam, Ballard Harmon Branch Dam, Clark Branch Dam, Dry Fork Dam, Lick Branch Dam, Jacob's Fork Dam, and Barrenshe Branch Dam.

Mercer County

Mercer County has 22 total dams, all of which have high or significant hazard potential. Two dams - Turkey Gap Dam and East Fork of Crane Creek Dam – are do not have emergency action plans.

Monroe County

Monroe County has 3 total dams; one of these dams, Moncove Lake Dam, has high hazard potential. Two dams – Forest Run #1 and Forest Run #2 Dam – do not have emergency action plans.

Raleigh County

Raleigh County has 21 total dams, 20 of which have high hazard potential. Six dams – C&O Dam, Bluejay Lake Dam, Killarney Slurry Impoundment, Lower Big Branch Impoundment, Collins Fork Impoundment, and Shumate Creek Slurry Impoundment - do not have emergency action plans.

Summers County

Summers county has 3 total dams, all of which have significant to high hazard potential. These dams are Bluestone Dam, Sun Valley Lake Dam, and Jumping Branch-Nimitz W S Dam.

Wyoming County
Wyoming County has 9 total dams, 8 of which have high hazard potential. Each of these dams has an emergency action plan.

4.1.3 Extent
Dams can fail in various ways. Two common causes of dam failures occur when water flows over the top of a dam (overtopping) and when water flows through the dam, causing erosion (seepage).

Overtopping occurs when a reservoir behind a dam overflows the dam itself. The overflow of water can cause erosion to the dam, its foundation, and the surrounding area. The spillway of a dam can also overflow which can contribute to water back up. Erosion caused by overtopping can contribute to a dam breach. Overtopping is the most common cause of dam failure.

Seepage is when water flows through a dam, causing erosion. Erosion can occur over time, weakening the structural integrity of a dam and its systems. If the flow of water is not addressed, internal erosion can lead to a partial or complete dam collapse. Animal burrows, cracks in the structure of the dam, or roots from nearby plant life can lead to internal erosion.

Dam failure impacts may be felt both upstream of the dam, and downstream from the spillway. Often dam failures are a result of other hazards occurring prior to or simultaneously. In West Virginia, topography may play a major role in dam failures, as the generally mountainous terrain is susceptible to flash flooding events from severe or slow-moving storm systems. Landslides are also common within the region, and the sudden addition of debris into a reservoir could cause a dam failure or overtopping. Areas with recent wildfires are at increased risk due to the burn scar being easily eroded and causing landslides.

Dam failures may impact multiple jurisdictions during a single event, which may cause significant economic, environmental, and societal issues. Relocation of residents along a river channel during an event may also impact communities not within the inundation boundary. Major dam failures are uncommon, but data from the West Virginia Flood Tool, combined with data from the state and national dam inventories can be used by local officials to determine the projected impact on their jurisdiction(s).

4.1.4 History
Dam failures have been reported in every state, however there is no complete list of dam failures in the United States. From January 2005 through June 2013, states have reported 173 dam failures and 587 incidents that could have led to a dam failure if they were not mitigated.

While there have been no known dam failures within West Virginia Region I, there has been a major dam failure in the nearby Logan County (northwest of Wyoming County).

Dam Failure in Buffalo Creek Valley, Logan County on February 26, 1972
A coal slurry impoundment dam failed four days after being inspected and declared to be in good condition. 132 million gallons of wastewater was unleashed, reaching as high as 30 feet. 125 people were killed, 1,121 were injured, and as many as 4,000 people were left homeless.

4.1.5 Probability
As dam failure is not a climatic event, no reliable, overall probability is difficult to provide. The United States Army Corps of Engineers does not list probability of failure, however emergency action plans can be requested through the appropriate County or State official. It is unlikely (less than 1% chance) that there will be a dam failure in the Region over the next five years.

The likelihood of dam failure will vary by the individual dam and this likelihood is influenced by the extent of monitoring. For example, regular inspections are necessary for all dams regardless of hazard potential to identify potential risks to the dam and devise a mitigation strategy if risks are found. After an incident or special event, a non-routine dam inspection could detect new risks, such as a spillway blockage, and a mitigation plan could lower the likelihood of dam failure.

For high hazard potential dams, evaluation studies and interim risk reduction measures, such as repair, removal, or other structural or non-structural rehabilitative actions could reduce the likelihood of dam failure. Advanced risk assessments should be scheduled for all high hazard potential dams to identify risks and justify remedial action. Overall, scheduled dam evaluations and action plans for risk mitigation and dam rehabilitation all contribute to lowering the probability of dam failure

4.1.6 Vulnerability Assessment

Individual dams will have different potential impacts. The discussion in the sections below is general, and assumes the dam has a high hazard potential classification.

Infrastructure Impact

Dam failure can impact roadways, including interstates and state routes, by blocking them due to high water or by filling them with debris. Water, sediment, and refuse materials from a dam failure can permanently damage or destroy homes and businesses.

Population Impact

Dam failure has caused damage to homes in the past by rapidly washing away properties. After dam failure events, shelter may need to be provided to those impacted by the event. Deaths and injuries are also possible during dam failure events.

Property Damage

During a dam failure, large amounts of water, sediment, and refuse materials can inundate communities downstream and cause permanent destruction to homes and buildings in the floodplain.

Loss of Life

Loss of life is possible during dam failure events, especially when the failure occurs unexpectedly or without warning, or when there is no evacuation protocol in place. A high hazard potential dam failure will likely cause loss of life. As the majority of dams in West Virginia Region I are high hazard potential, loss of life during a dam failure in the Region is likely.

Economic Losses

Dam failure floods can halt economic activity, block roadways, and destroy agricultural crops. Building contents are also likely to be lost during a failure event, especially for properties located downstream or within the floodplain.

4.1.7 Land Use and Development Trends

There has been no new development since the 2017 plan near areas at risk for dam failure. Any future development near dams should occur in coordination with floodplain managers and private dam owners or managers. While development is unlikely to cause dam failure, nearby development will be at risk if a dam failure occurs.

4.2 Drought

4.2.1 Description

A drought is a shortage in atmospheric moisture or precipitation over an extended period of time resulting in a water shortage for some activity, group, or environmental sector. Droughts are common throughout all climatic zones and can range in length from a couple weeks to multiple years or decades in some areas. According to the National Oceanic and Atmospheric Administration (NOAA), there are three common types of drought: (1) meteorological, (2) agricultural, and (3) hydrological. Each type of drought has different indicators and occur at different times after a prolonged absence of water.

Meteorological drought severity is calculated by the amount of the rainfall deficit (compared to annual averages) and the length of the dry period. Impacts of a meteorological drought may extend beyond the borders of the precipitation-deficient area.

Agricultural drought is based on the effects to agriculture by factors such as rainfall and soil water deficits or diminished groundwater/reservoir levels needed for irrigation. The volume of water available for agricultural use depends on prevailing weather conditions, biological characteristics of the specific crop, its stage of growth, and the physical and biological properties of the soil.

Hydrological drought is based on the effects of rainfall shortages on the water supply, such as stream flow, reservoir and lake levels, and groundwater table decline. Snowfall can also impact the water supply level. Hydrological droughts are often defined at the watershed or river basin scale, as deficiency in the hydrologic system can have negative impacts within hydrologic storage systems. Competition for water between hydrologic storage systems, such as reservoirs and rivers, can result in conflicts between water users.

4.2.2 Location

Drought is a regionwide hazard that can affect all locations and jurisdictions in West Virginia Region I. More specifically, this hazard typically occurs at a regional scale. Droughts most commonly occur in West Virginia from spring through autumn; however, they may occur at any time throughout the year.

4.2.3 Extent

Due to the regional nature of droughts, impacts may be noticed throughout the Region in both urbanized and rural areas. All jurisdictions with the Region may be affected in a single drought event. Droughts are often linked to prolonged periods of above average temperatures and little to no precipitation. West Virginia Region I will likely experience effects on agricultural production. As such, drought conditions are also likely to impact the economy.

Initial effects of drought can be noticed within a short period, as soils may dry out and plants may wither and die. When drought conditions persist over several weeks, months, or years, effects may be more pronounced with reductions in water levels of wells, lakes, reservoirs, streams, and rivers. Water supply issues for agriculture, commercial/industrial activities, and private consumption may arise if drought conditions persist over a long term.

The extent of the drought is determined by the Palmer Drought Severity Index (PDSI). In this way, the Index can be utilized as a tool to help define disaster areas and indicate the availability of irrigation water supplies, reservoir levels, range conditions, amount of stock water, and potential for forest fires. The PDSI depicts prolonged (in months or years) abnormal dryness or wetness and is slow to respond, changing little from week to week. It also reflects long-term moisture runoff, recharge, and deep percolation, as well as evapotranspiration.

The PDSI is a standardized index with values typically falling between -4.00 and +4.00, although extreme conditions can be greater in value (**Table 4.2.1**). Negative values indicate drought conditions while positive values represent wet conditions. Values around zero represent near-normal conditions.

Table 4.2.1: Palmer Drought Severity Index Classifications

Palmer Classifications	
4.0 or greater	Extremely Wet
3.0 to 3.99	Very Wet
2.0 to 2.99	Moderately Wet
1.0 to 1.99	Slightly Wet
0.5 to 0.99	Incipient Wet Spell
0.49 to -0.49	Near Normal
-0.5 to -0.99	Incipient Dry Spell
-1.0 to -1.99	Mild Drought
-2 to -2.99	Moderate Drought
-3.0 to -3.99	Severe Drought
-4.0 or less	Extreme Drought

4.2.4 History

According to the U.S. Drought Monitor (**Figure 4.2.1**), since 2000, the State of West Virginia has experienced primarily droughts designated as D0, or abnormally dry. During D0 conditions, crop and plant growth is stunted, danger of fires and wildfires increases, and there are potential damages to lawns and gardens.

Between 2000 and 2002, between 2007 and 2009, and in late 2010, the State experienced several periods of drought designated at D1, or moderate droughts. Moderate droughts are defined by decreased hay and grain yields, decreased honey production, and an increase in fires and wildfires.

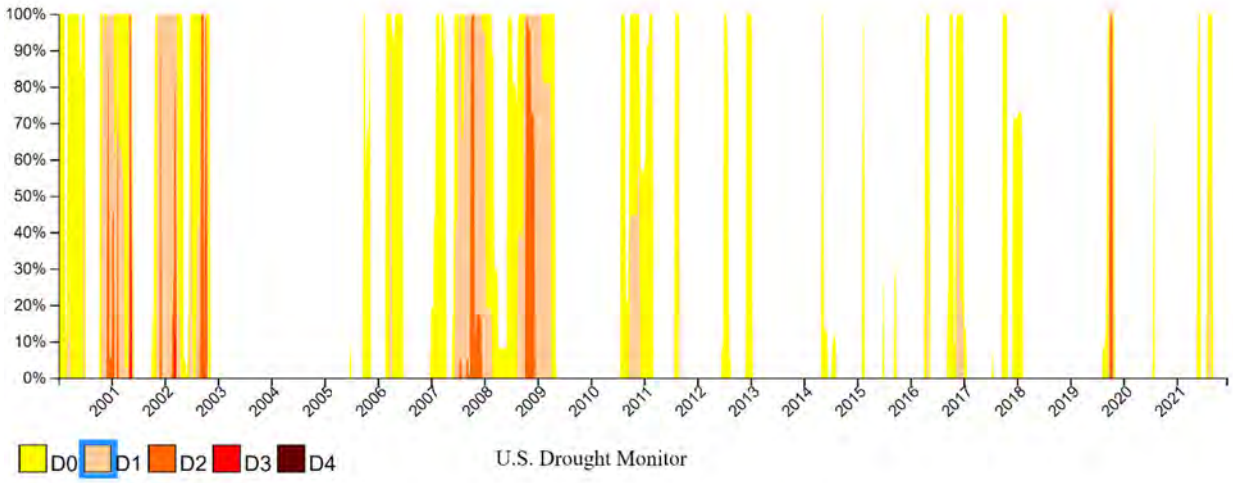
In late 2019, the State experienced a D2 designated drought, also known as a severe drought. During a severe drought, crops a generally impacted in both size and yield, hay prices are high and cattle feed supply is noticeably decreased, fires increase, and air quality decreases.

In 2001 and between 2007 and 2009, the State of West Virginia experienced several periods of D3 drought, also known as extreme drought. During an extreme drought, crop loss is widespread and dairy farms may experience difficulties, well drillers and water supplies may experience increased business, wildlife disease may spread, and water sports and hunting may undergo temporary modifications or regulations.

The State has not experienced a D4 drought, an exceptional drought, since 2000. Since West Virginia has not experienced such a drought, the impacts of a D4 drought in West Virginia are unknown.

Impacts from the various drought levels are pulled from historic impacts within West Virginia.

Figure 4.2.1: Drought in the State of West Virginia

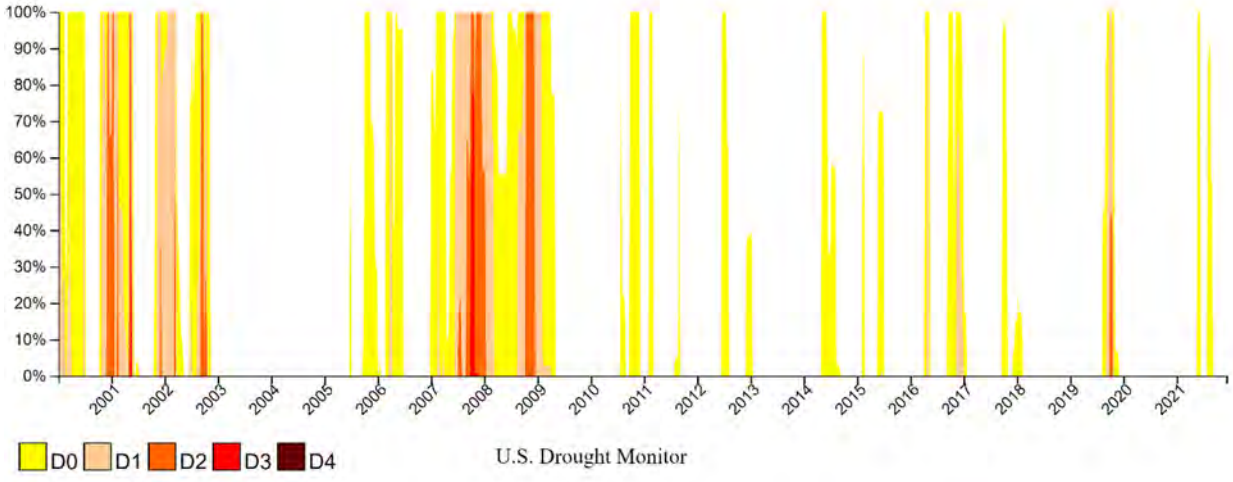


McDowell County

Since 2000, McDowell County has closely followed the State's drought conditions (**Figure 4.2.2**). Drought conditions have primarily been designated as D0, or abnormally dry. D1 conditions, or moderate droughts, and D2 conditions, or severe droughts, occurred primarily between 2000 and 2003, as well as between 2007 and 2009. McDowell County experienced two periods of D3 droughts, or extreme droughts, in 2001 and 2007.

November of 2021 was the County's 9th driest November over the past 127 years.

Figure 4.2.2: Drought in McDowell County

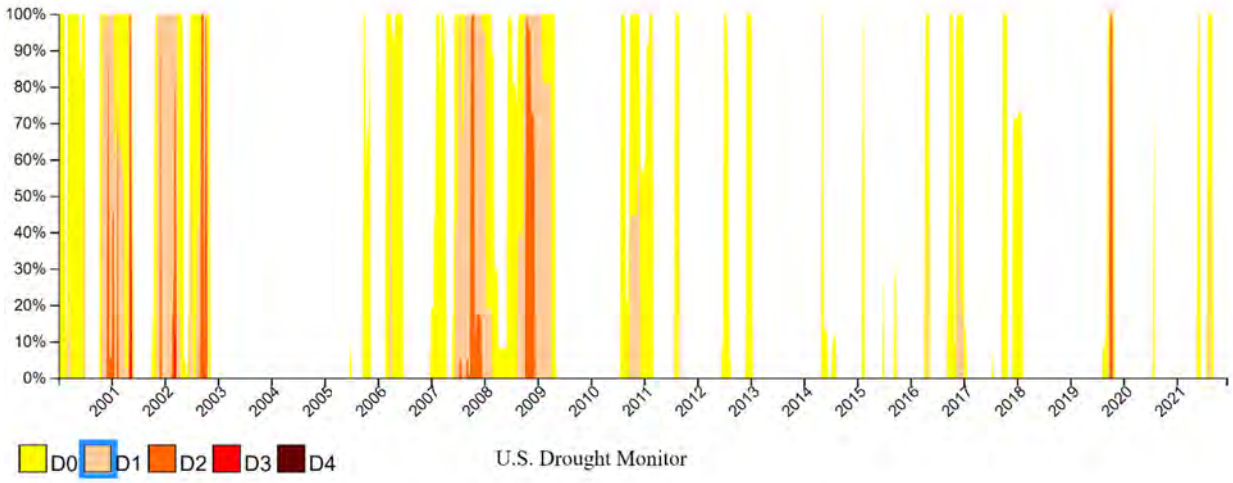


Mercer County

Mercer County's drought conditions followed closely with the State's drought conditions (**Figure 4.2.3**). An exception to this is the percent coverage or the D3 level droughts between the 2007 and 2009.

November of 2021 was the County's 6th driest November over the past 127 years.

Figure 4.2.3: Drought in Mercer County

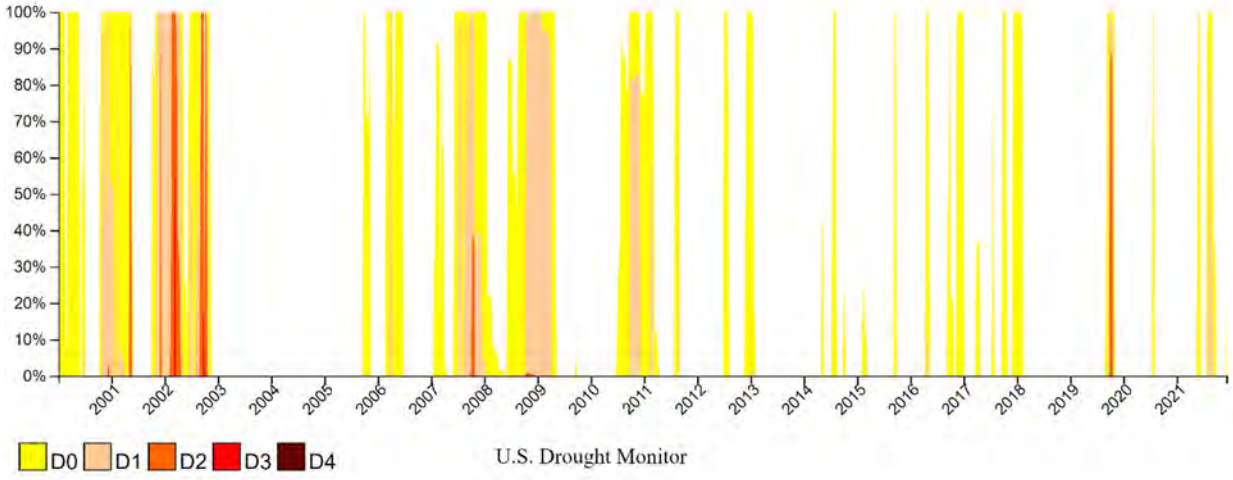


Monroe County

Monroe County closely follows the State's drought conditions (**Figure 4.2.3**). An exception is between the 2007 and 2009, drought conditions were closer to D1, moderate drought conditions, than to the State's D2 and D3 droughts.

November of 2021 was the County's 5th driest November over the past 127 years.

Figure 4.2.4: Drought in Monroe County

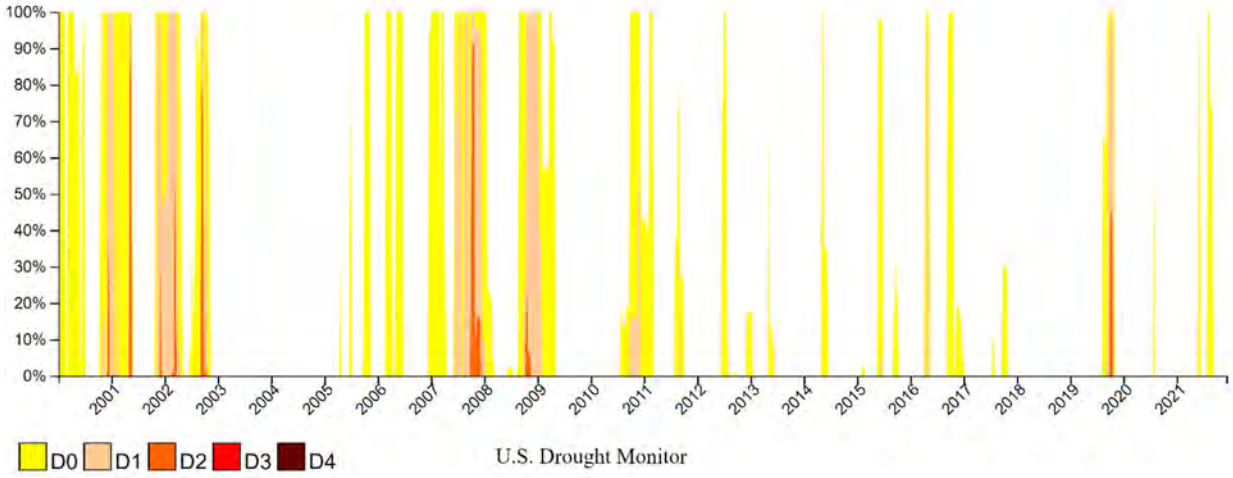


Raleigh County

Raleigh County closely follows the State's drought conditions (**Figure 4.2.4**). An exception is between the 2007 and 2009, drought conditions were closer to D1, moderate drought conditions, than to the State's D2 and D3 droughts.

November of 2021 was the County's 5th driest November over the past 127 years.

Figure 4.2.5: Drought in Raleigh County

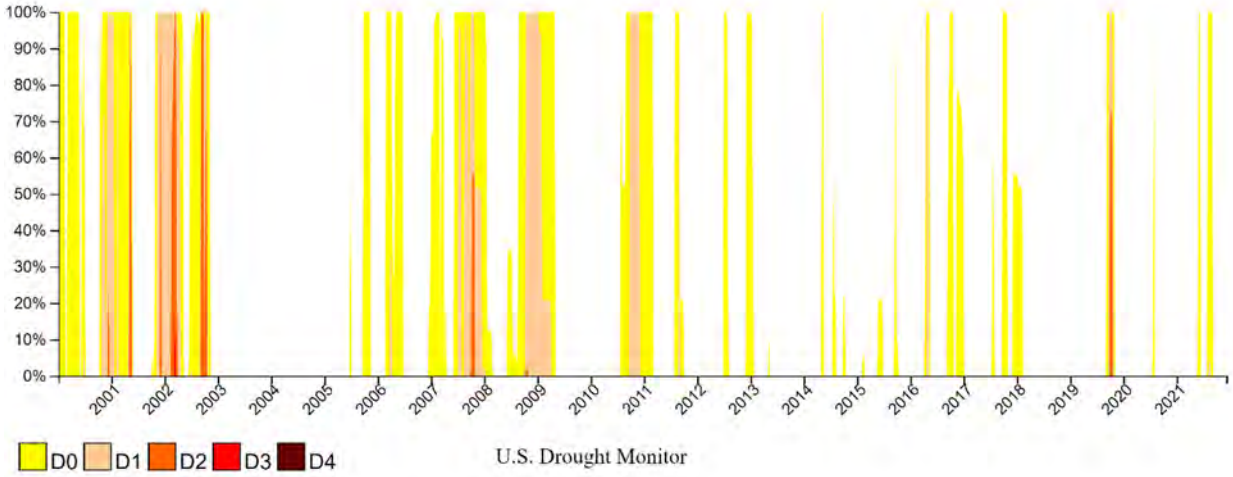


Summers County

Summers County closely follows the State's drought conditions (**Figure 4.2.5**). An exception is between the 2007 and 2009, drought conditions were closer to D1, moderate drought conditions, than to the State's D2 and D3 droughts.

November of 2021 was the County's 3rd driest November over the past 127 years.

Figure 4.2.6: Drought in Summers County

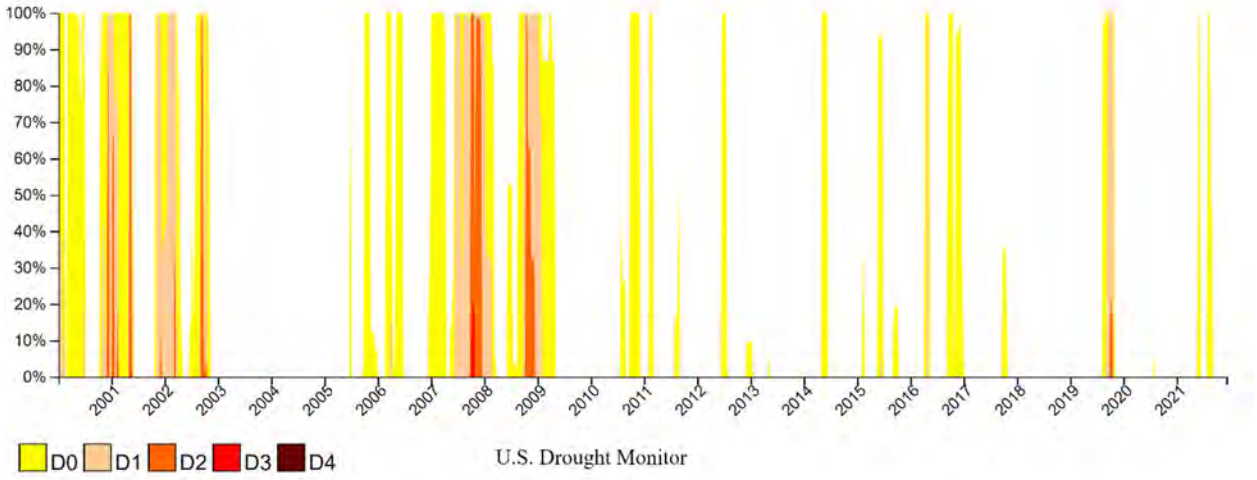


Wyoming County

Wyoming County's drought conditions followed closely with the State's drought conditions (**Figure 4.2.6**). An exception to this is the percent coverage or the D3 level droughts between the 2007 and 2009.

November of 2021 was the County's 5th driest November over the past 127 years.

Figure 4.2.7: Drought in Wyoming County



4.2.5 Probability

West Virginia Region I has experienced droughts in the past, and, based on historic patterns, it is very likely (90% or greater chance) that a drought will occur within the Region within the next five years. Seasons of drought have the potential to occur during any particular year when the necessary conditions are met, and they are most likely to occur from spring through autumn.

Based on current climate reports:

- Drought projections suggest that some regions of the U.S. will become drier and that most will have more extreme variations in precipitation.
- Even if current drought patterns remained unchanged, warmer temperatures will amplify drought effects.
- Drought and warmer temperatures may increase risks of large-scale insect outbreaks and wildfires.
- Drought and warmer temperature may accelerate tree and shrub death, changing habitats and ecosystems in favor of drought-tolerant species.
- Forest-based products and values, such as timber, water, habitat and recreation opportunities, may be negatively impacted.
- Forest and rangeland managers can mitigate some of these impacts and build resiliency in forests through appropriate management actions.

4.2.6 Vulnerability Assessment

Drought does have the potential for significant impacts to structures, businesses, and people, as well as critical infrastructure. Additionally, the greatest impacts of drought tend to be on agricultural interests, as crops may fail, and livestock may not have sufficient water resources.

Infrastructure Impact

Droughts are unlikely to directly impact infrastructure in the Region. Water systems may be indirectly impacted during more severe droughts due to increased water demand.

Population Impact
Droughts can have direct impacts on the population. Water shortages, extreme heat, and the increased risk of fire can all directly impact residents of the Region. West Virginia Region I also had a high social vulnerability index, according to the U.S. Drought Monitor. Some demographics considered in the social vulnerability index include age, poverty, access to vehicles, and crowded housing levels.

Property Damage
Droughts are unlikely to directly cause property damage. Fires and wildfires exacerbated by drought conditions may cause property damage.

Loss of Life
Loss of life is possible during droughts. Water shortages in extreme situations can lead to health problems and potentially death. Extreme heat conditions could cause heat strokes or other potentially fatal health issues.

Economic Losses
Droughts can cause severe economic losses in the form of crop and other agricultural losses. Other businesses may be shut down during extreme droughts, either due to heat warnings or water shortages, causing further losses.

4.2.7 Land Use and Development Trends
Drought is most likely to impact agriculture land uses; however, it can also have an economic impact that might result in changes to development plans. Due to population loss throughout the region, there are no major developments planned for the next five years that may encroach on the limited arable land in the region. Drought effects will be generally limited to the existing agricultural areas.

4.3 Earthquakes

4.3.1 Description

Earthquakes are sudden and rapid movements of the Earth's crust that are caused by the abrupt shifting of rocks deep underneath the earth's surface. These movements vary in length and may last from a few seconds to several minutes.

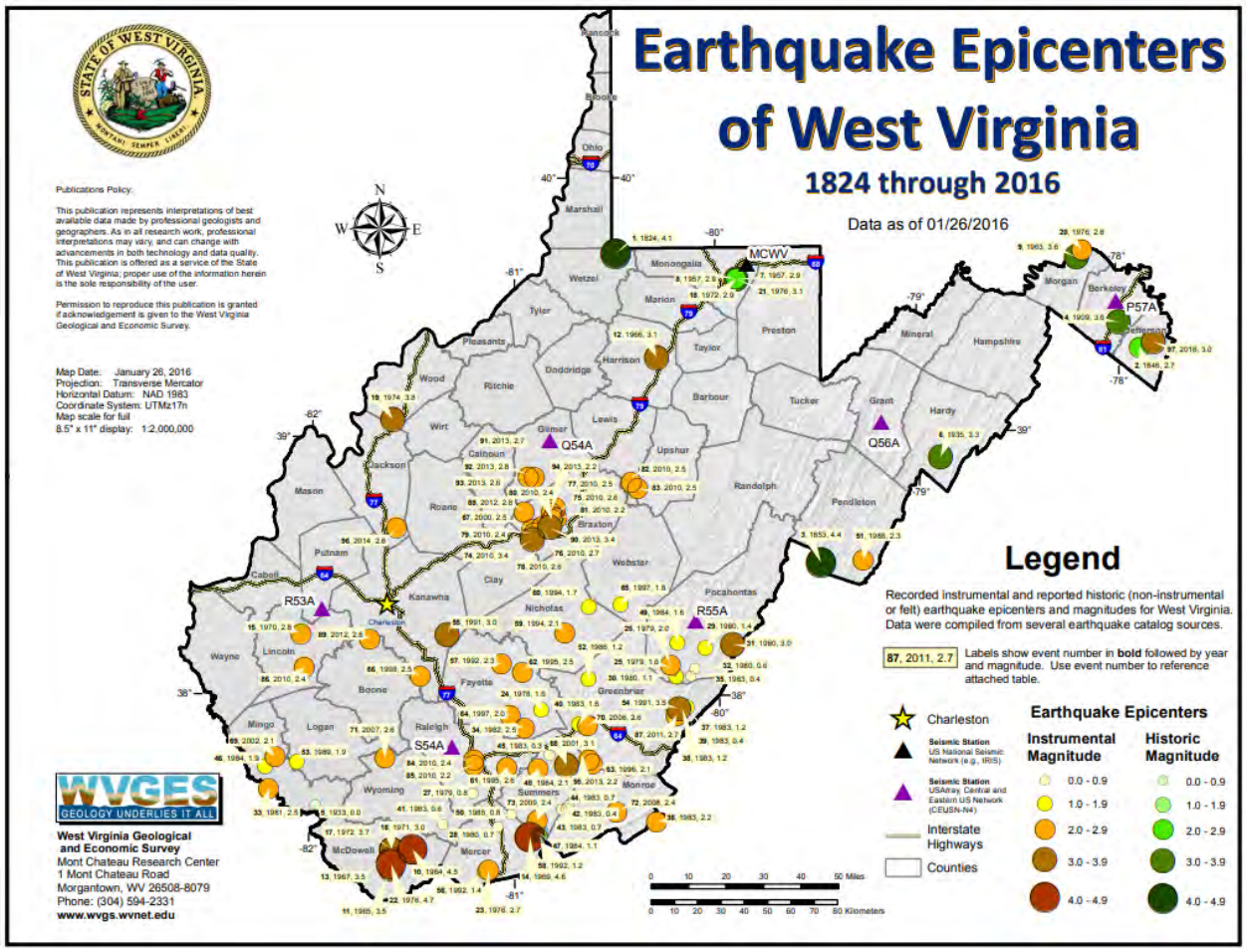
The seismicity, or seismic activity, of an area refers to the frequency, type, and size of earthquakes experienced over a period of time. Earthquakes are measured using observations from seismometers. The Moment Magnitude Scale (MMS), which was developed in the 1970s, is the most common scale on which earthquakes larger than approximately 5.0 in magnitude are reported for the entire world. Earthquakes smaller than magnitude 5.0, which are more numerous, are reported by national seismological observatories and measured most commonly on the local magnitude scale – also referred to as the Richter Scale. These two scales are numerically similar over their range of validity. Earthquakes of magnitude 3.0 or lower are often almost imperceptible or weak, while earthquakes of magnitude 7.0 or greater can potentially cause serious damage over larger areas.

Earthquakes can happen anywhere without warning; they are low-probability, high-consequence events. Most major earthquakes in the U.S. have occurred in California as well as in Alaska, Hawaii, Oregon, Puerto Rico, Washington, and the entire Mississippi River Valley. There have been low-magnitude earthquakes in West Virginia close to the Ohio River Valley and along the Appalachian Mountain system exceeding the 2.5 magnitude in the last 25 years.

4.3.2 Location

According to Jaime Toro, Professor of Geology at West Virginia University, West Virginia is generally tectonically stable as it is located far from the plate boundaries and far from major fault lines. This makes earthquakes rare in the State. However, when an earthquake occurs, it has the potential to affect all areas and jurisdictions within West Virginia Region I. **Figure 4.3.1** shows the locations of all earthquakes that have happened in the State between 1824 and 2016.

Figure 4.3.1: Earthquake Epicenters and Seismic Stations in West Virginia



Source: West Virginia Geological & Economic Survey (WVGES)

4.3.3 Extent

Earthquakes pose a risk to life and property depending on the severity. Earthquakes can be a result of the Earth's natural phenomena or man-made activities like fracking or mining. For instance, rock bursts are spontaneous, violent failure of rock that can occur in high-stress mines.

Small natural earthquakes can occur in the region when the Earth's surface is under some degree of stress. According to Jaime Toro, Professor of Geology at West Virginia University, in the past four decades there have only been about 25 earthquakes larger than 2.5 in magnitude in West Virginia. Of these, some events were likely man-made, associated with an injection well being used to dispose of gas-field brine. The depth and location of earthquake events can also suggest if they are occurring naturally or are man-made.

To monitor earthquakes, West Virginia has five stations operating within the Central and Eastern US Network (CEUSN) and one station under the Advanced National Seismic System (ANSS) (**Figure 4.3.2**). The mission of the Central and Eastern US Network (CEUSN) is to record data that enables researchers and Federal agencies alike to better understand the basic geologic questions, background rates of earthquake occurrence and distribution, seismic hazard potential, and associated societal risks of this region. The ANSS backbone is based on the core of the original US National Seismic Network. Completed in 2006, the ANSS Backbone consists of nearly 100 stations in the United States, many of them contributed by partner networks and organizations (Source: USGS).

The US MCWV Station in Mont Chateau, West Virginia is the only station under the ANSS network. This station has the capacity to provide the latest data in less than 10 minutes. The N4 S54A Station located in Beckley, Raleigh County, is the only one located in West Virginia Region I.

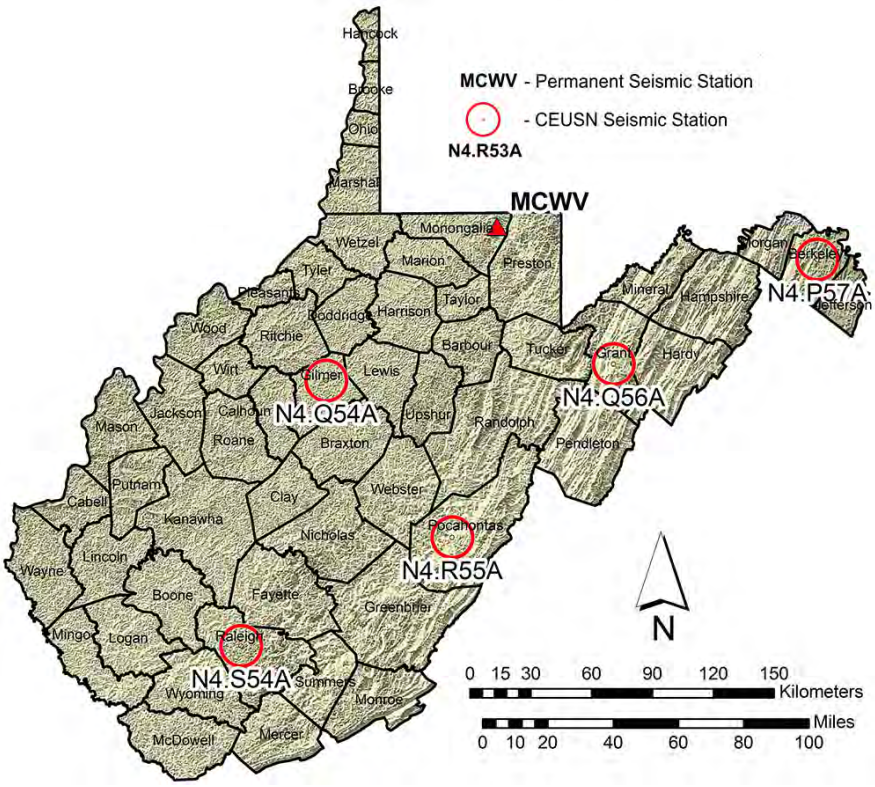
Damage from an earthquake also depends on the earthquake's depth in the Earth's crust. The shallower an earthquake's epicenter, the more damage it will cause to structures. Alternatively, an earthquake can also be measured by its intensity. The Modified Mercalli Intensity Scale (MMI) ranges in value I to XII, in roman numerals (**Table 4.3.1**).

Table 4.3.1: Modified Mercalli Intensity Scale

Modified Mercalli Intensity Scale		Magnitude
I	Detected only by sensitive instruments.	1.5
II	Felt by few persons at rest, especially on upper floors; delicately suspended objects may swing.	2
III	Felt noticeably indoors, but not always recognized as earthquake; standing autos rock slightly, vibrations like passing truck.	2.5
IV	Felt indoors by many, outdoors by few, at night some awaken; dishes, windows, doors disturbed; standing autos rock noticeably.	3
V	Felt by most people; some breakage of dishes, windows, and plaster; disturbance of tall objects.	3.5
VI	Felt by all, many frightened and run outdoors, falling plaster and chimneys, damage small.	4
VII	Everybody runs outdoors; damage to buildings varies depending on quality of construction; noticed by drivers of autos.	4.5
VIII	Panel walls thrown out of frames; walls, monuments, chimneys fall; sand and mud ejected; drivers of autos disturbed.	5
IX	Buildings shifted off foundations, cracked, thrown out of plumb; ground cracked; underground pipes broken.	5.5
X	Most masonry and frame structures destroyed; ground cracked, rails bent, landslides.	6
XI	Few structures remain standing; bridges destroyed, fissures in ground, pipes broken, landslides, rails bent.	6.5
XII	Damage total; waves seen on ground surface, lines of sight and level distorted, objects thrown up into air.	7 7.5 8

Source: USGS

Figure 4.3.2 Seismic Stations in West Virginia



Source: West Virginia Geological & Economic Survey (WVGES)

4.3.4 History

West Virginia Region I has experienced 28 earthquakes since 1964. Of these, eight events have been greater than 3 magnitude range with two of the eight events suspected of being man-made. Three earthquakes have happened over the 4.5 magnitude range. Some earthquakes that have originated in neighboring counties, as well as in Virginia, have been felt by residents of Region I. **Figure 4.3.1** displays epicenters of all historical earthquakes.

There have been no emergency or disaster declarations made in the region for earthquakes. The West Virginia Geological & Economic Survey (WVGES) and the United States Geological Survey (USGS) maintains a record of earthquake events. The description of earthquakes originating in West Virginia Region I counties over the magnitude of 4.5 are supplied below:

McDowell County

4.7 magnitude earthquake in McDowell County on Saturday, June 19, 1976

A 4.7 magnitude earthquake was felt in McDowell County on Saturday, June 19, 1976, at 12:54 AM EST. The epicenter of this event is located south of the City of Welch. It had a depth of about 3.1 miles (5km). There are no reported damages or losses from this event.

4.5 magnitude earthquake in McDowell County on Wednesday, November 25, 1964

A 4.5 magnitude earthquake was felt in McDowell County on November 25, 1964, at 9:50 PM EST. The epicenter of this event is located 7.4 miles southeast of City of Welch in McDowell County). This event is suspected to have been caused by a rock burst. There are no reported damages or losses from this event.

Mercer County and Summers County

4.5 magnitude earthquake in Summers County and Mercer County on Thursday, November 20, 1969

A 4.5 magnitude earthquake was felt on the borders of Summers County and Mercer County on November 20, 1969, at 8 PM EST. The epicenter of this event is located 5 miles east of Athens in Mercer County. It had a depth of about 1.9 miles (3km). There are no reported damages or losses from this event.

4.3.5 Probability

Figure 4.3.3 and **Figure 4.3.4** show the trend of naturally occurring earthquake events over time since 1959, the earliest year with complete data from the USGS. **Figure 4.3.3** plots events that have occurred only within West Virginia Region I whereas **Figure 4.3.4** plots events that have occurred in and around West Virginia Region I including those that originated in Virginia and were potentially felt in Region I counties. Since the impact of an earthquake is not entirely localized and tremors can be felt miles away, it is important to look at events occurring in neighboring areas as well.

From these plots we can see that while the trend of earthquake occurrences per year is mostly steady in West Virginia Region I, the surrounding areas may witness an increase over time, which means the region can expect to have more similar earthquake events in the near future. However, as we discussed in the previous sections, only a few of these earthquakes are of magnitude 4 or greater.

Figure 4.3.3: Probability of Earthquakes Originating in West Virginia Region I

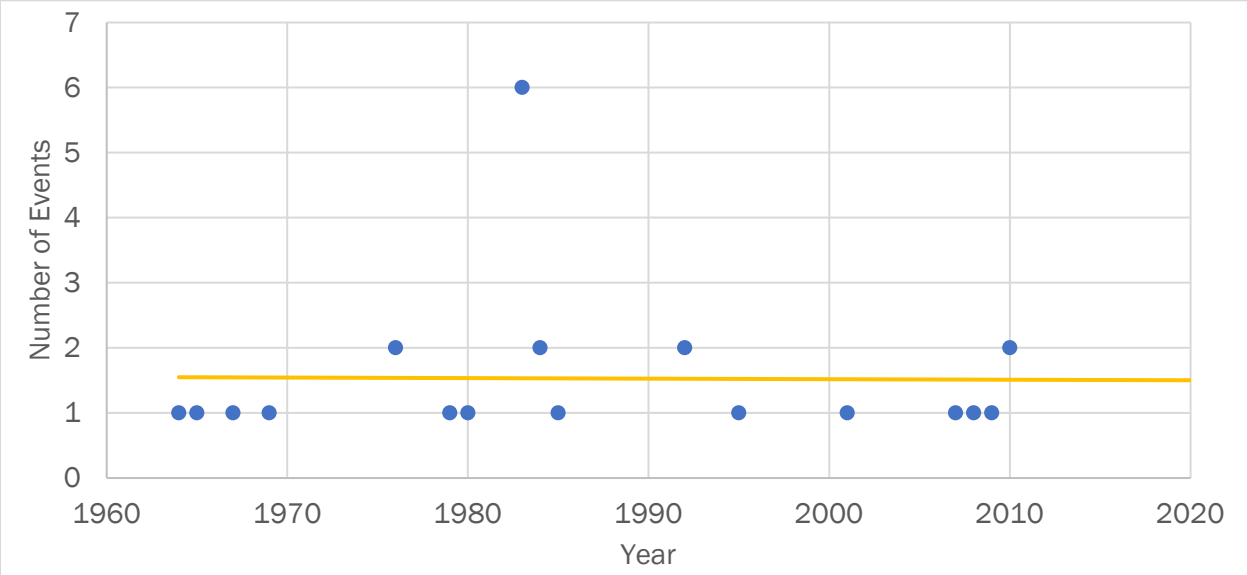
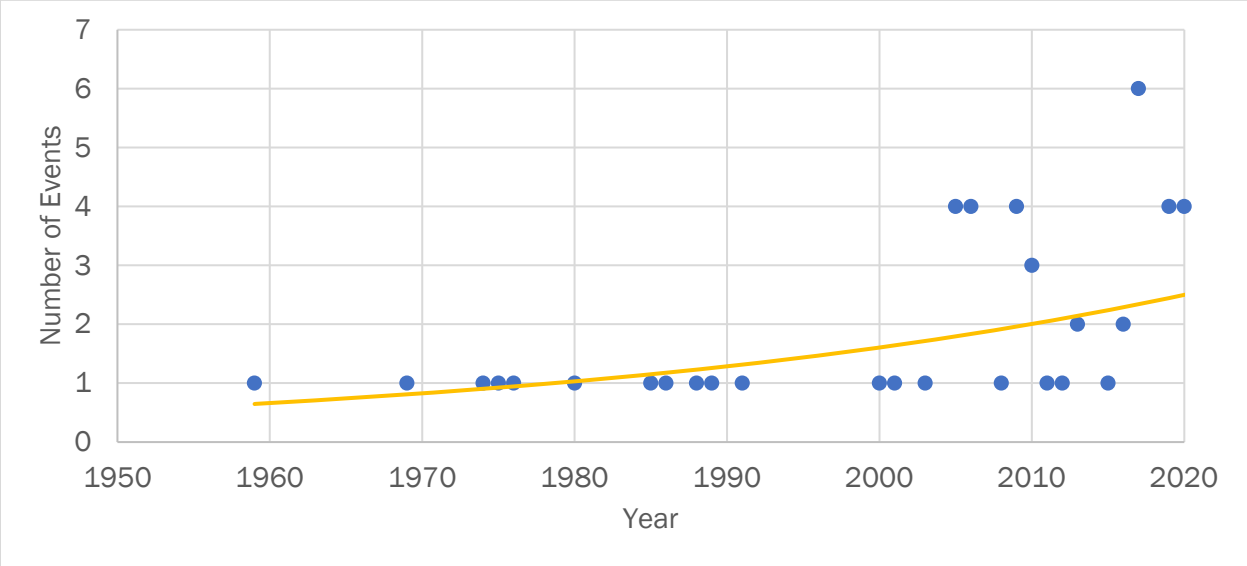


Figure 4.3.4: Probability of Earthquakes Originating in West Virginia Region I & Surrounding Areas

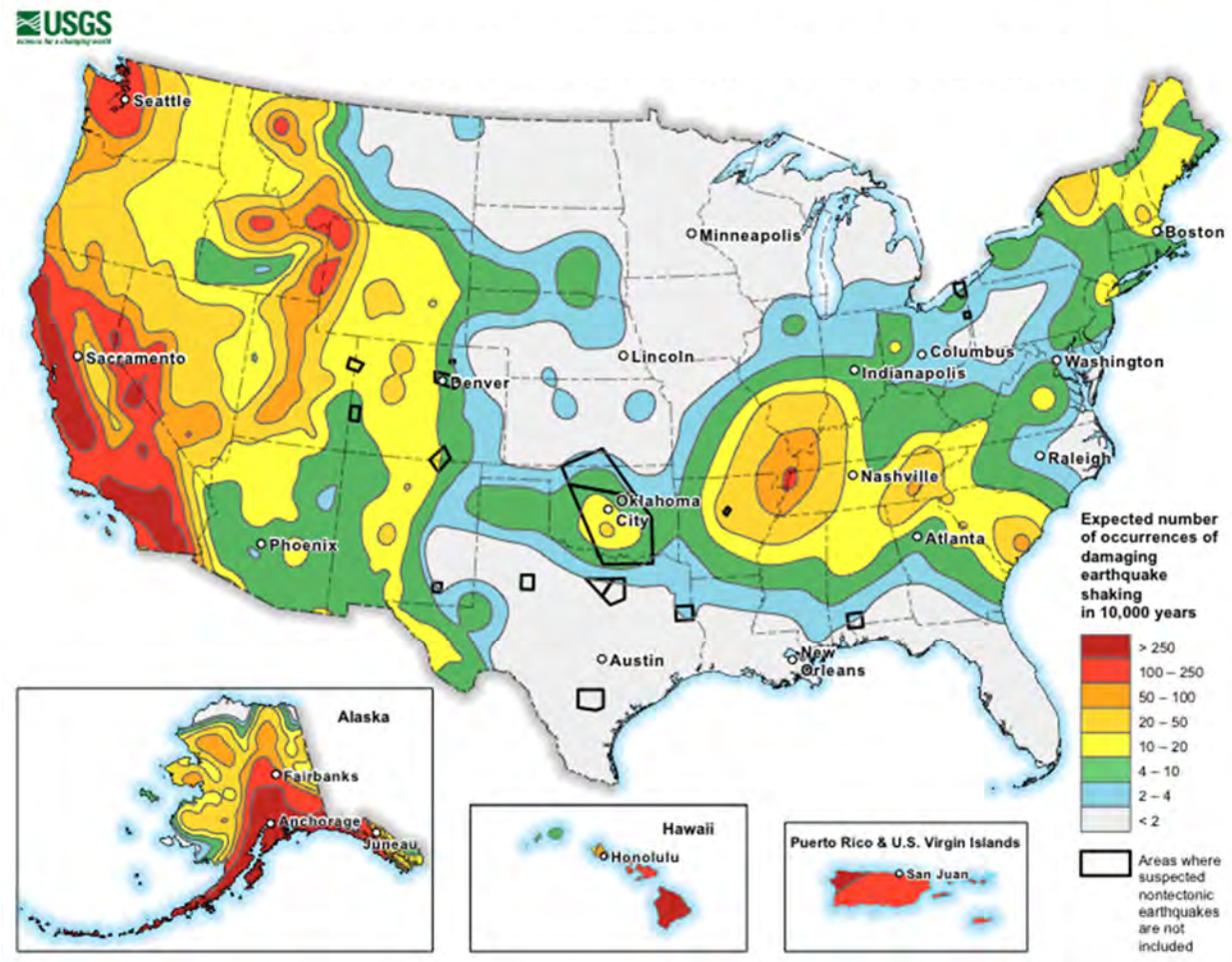


Between 1959 and 2020, Region I has experienced 26 naturally-occurring earthquakes, and felt as many as 55 earthquakes originating both within and outside of Region I. There is no information available on the resulting number of deaths and injuries, as well as any property damages.

The USGS has both long-term and short-term probabilistic seismic hazard forecasts. In the 2018 one-year probabilistic seismic hazard forecast, the United States Geological Survey estimates that there is a less than one percent chance of potentially minor-damage ground shaking in 2018 for West Virginia Region I. The USGS also determined the long-term hazard of earthquakes for the United States (**Figure 4.3.5**). The measurement used in this estimation is based on the chance of ground shaking – peak ground acceleration – as a percentage of the natural force of gravity over time. This map identifies that most of West Virginia Region I has the probability of experiencing an earthquake between four and ten times in 10,000 years.

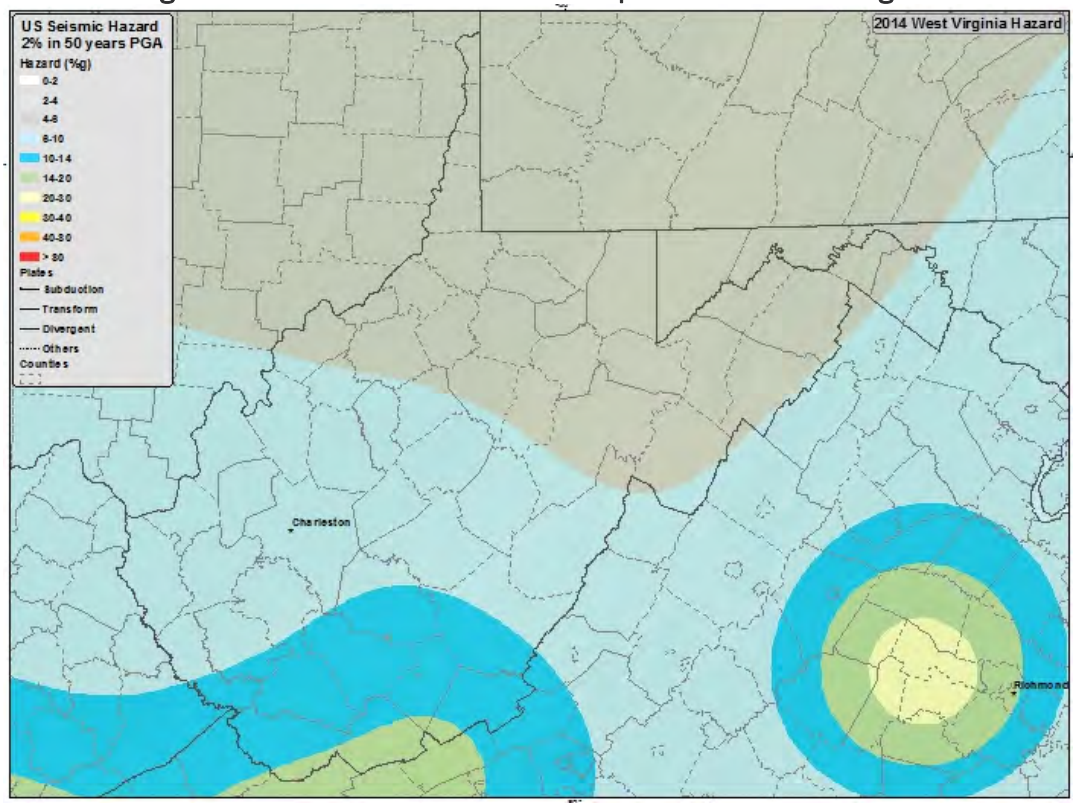
The USGS also prepared national seismic hazard maps (NSHMP) for the United States. These time-independent maps are shown for two (2) percent and 10 percent probability of earthquake ground-shaking exceedance levels at specified probabilities over a 50-year time period at several hundred thousand sites across the United States. The map (**Figure 4.3.6)** identifies that most of West Virginia Region I has 10 percent to 14 percent of peak ground acceleration for two (2) percent probability of exceedance in 50 years, while Mercer County and parts of McDowell and Monroe County have higher peak ground acceleration at 14 percent to 20 percent.

Figure 4.3.5: Probability of Earthquakes in the United States



Source: USGS

Figure 4.3.6: 2014 Seismic Hazard Map of State of West Virginia



Source: USGS

4.3.6 Vulnerability Assessment

Infrastructure Impact

Since there are no recent earthquake events with recorded damages, exact damages to infrastructure are unknown. Earthquakes can yield a variety of different outcomes. Buildings, roadways, and gas and power lines have the potential to be affected. Breaks in gas and power lines can result in fires. If soil liquefaction occurs --that is the mixing of sand and soil with groundwater --buildings can sink into the ground. Earthquakes also have the potential to rupture dams or levees along a river, resulting in flooding (see Dam Failure section). Earthquakes can cause landslides or avalanches in high-risk areas and can cause mines to subside. Since the probability of an earthquake occurring in West Virginia Region I is less than one percent, there is a low risk of impact to infrastructure as a result.

Population Impact

There is a low risk of earthquakes occurring in West Virginia Region I. Accordingly, there is low risk of impact to the population. If an earthquake would occur, the population could be impacted by loss of homes, and/or loss of utilities, as well as potential reduction of air quality. According to the USGS, if an earthquake of MMI 6 and above were to occur in Region I counties, it would be strong and would be felt by all. Some heavy furniture would be moved, with a few instances of fallen plaster. Slight damage would be witnessed.

Property Damage

With any earthquake event, there is potential for property damage to occur, as ground shaking can lead to damaged buildings. Due to the non-site-specific nature of this hazard, **Table 4.3.2** lists all structures within West Virginia Region I as having potential impacts from earthquakes. It also provides values for two worst-case scenarios valued at one percent damage and five percent damage.

Loss of Life

West Virginia Region I has no recorded earthquake events that have resulted in loss of life; however, in the event that an earthquake occurs, there is potential for loss of life. If there are more people and structures in an earthquake-prone location, there is likely to be more of an impact. Loss of life can be mitigated by educating the public on proper protection in the event of an earthquake. For example, the USGS resources on preparing for an Earthquake hazard (USGS Resources for Earthquake Preparedness), as well as the Ready Campaign (Ready.gov) which is a national public service campaign designed to educate and empower people to prepare for, respond to, and mitigate disasters, can be used as educational tools to help mitigate loss of life in the event of an earthquake.

Economic Losses

Earthquakes have the potential to damage infrastructure, resulting in economic burden of clean up and repairs. Potential economic losses and damages associated with West Virginia Region I structures and potential worst-case scenarios are recorded in **Table 4.3.2**, below. Compared with other hazards, earthquakes are relatively unlikely to occur in Region I, meaning there is low risk of economic loss as a result of an earthquake.

Table 4.3.2: Structure Vulnerability from Earthquakes

Structure Type	Number of Properties Exposed	Total Value of Structures	Damage for 1% Scenario	Damage for 5% Scenario
Residential	153,599	$6,267,343,300	$62,673,433	$313,367,165
Non-Residential	29,862	$4,201,612,800	$42,016,128	$210,080,640
Critical Facilities	820	$828,377,100	$8,283,771	$41,418,855
Total	**183,461**	**$10,468,956,100**	**$104,689,561**	**$523,447,805**

**Note: Critical Facilities are non-residential structures, and their value is incorporated into the non-residential totals as well. Calculated totals are determined by summing the residential and non-residential values.*

4.3.7 Land Use and Development Trends

While incidence and likelihood of naturally occurring earthquakes are low in West Virginia Region I, impacts can be felt from earthquakes originating in neighboring areas and from earthquakes caused due to man-made actions such as rock burst, dam building, mining, and/or fracking. By planning for and managing land use to accomplish social, ecological, and economic sustainability, communities can reduce the negative impacts caused by earthquakes.

This can be accomplished through comprehensive land-use plans, location and form-based codes and ordinances, supportive federal and state policies, building seismically resistant structural designs, and improving emergency preparedness.

4.4 Flooding

4.4.1 Description

FEMA describes a flood as "a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters [and] the unusual and rapid accumulation or runoff of surface waters from any source." Floods are typically riverine, coastal, or shallow. Flash floods are floods that occur quickly, even occurring without visible signs of precipitation.

Urban flooding is a type of flood that can occur in areas of development that have a high level of impervious surfaces such as concrete. The level of development and the level of stormwater management practices impact the severity of urban flooding.

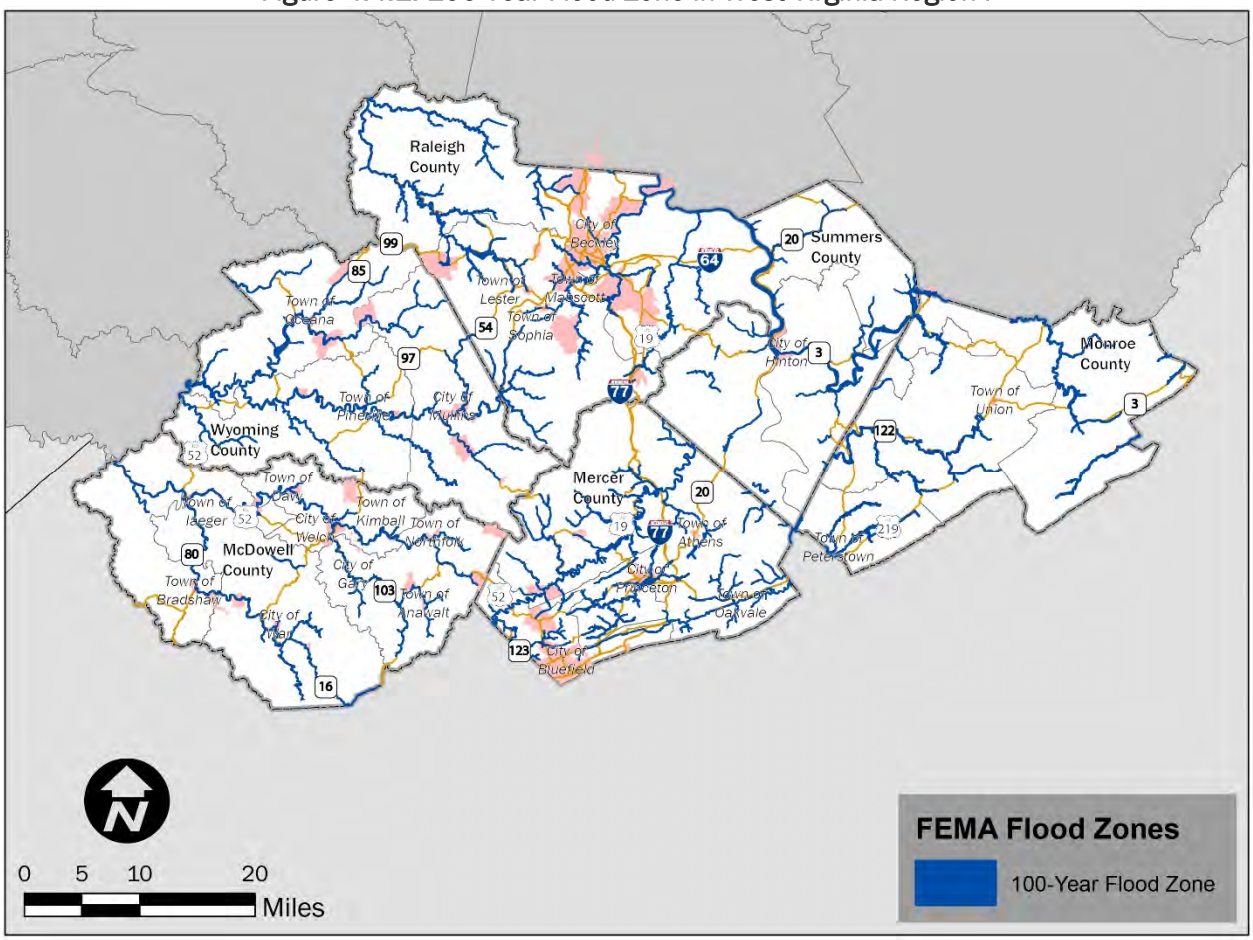
Common flood-related terms include:

- **100-Year Flood:** A flood that has a one percent chance to occur each year. The 100-year floodplain can be seen in **Figure 4.4.1: Flood Hazard Map**. The elevation of the water from the 100-year flood is called the Base Flood. Mitigation strategies should be based on the base flood elevation.
- **Floodplain:** An area that has the potential to flood from any source.
- **Floodway:** Sometimes referred to as a regulatory floodway. FEMA defines a floodway as "the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the Base Flood without cumulatively increasing the water surface elevation more than a designated height."
- **Flash flood:** Flash floods are typically caused by heavy rainfall over a short period of time. These floods are particularly dangerous because they can occur in minutes and can sometimes occur even without rainfall such as when an ice jam breaks or dissolves. Areas impacted by wildfires are particularly susceptible to flash floods. Flash floods can occur just about anywhere with enough rainfall and are not restricted to the 100-year floodplain. Development/restriction to drainage or increased impervious surfaces can contribute to flash flood frequency.

4.4.2 Location

Flooding can occur throughout the Region. Flash flooding is more likely to occur in developed areas but can occur in rural areas as well. **Figure 4.4.1** shows the location of the 100-year floodplain, where floods are more likely to occur. Floods can and do occur outside the FEMA defined 100-year flood zone. Sometimes very small watersheds are not included in the FEMA analyses, but floods can occur in smaller watersheds, as well.

Figure 4.4.1: 100-Year Flood Zone in West Virginia Region I



4.4.3 Extent

The flood insurance maps for all six counties in Region I can be found in **Appendix F**. All six counties and 27 jurisdictions participate in the National Flood Insurance Program (NFIP).

Nearly every community in West Virginia Region I has repetitive loss properties. The repetitive losses for the Region are detailed in **Table 4.4.1**. FEMA defines a repetitive loss property as an insurable building for which two or more claims of more than $1,000 were paid by the National Flood Insurance Program (NFIP) within any rolling ten-year period since 1978. FEMA defines a severe repetitive loss property as a single family property that is covered under flood insurance by the NFIP and has incurred flood-related damage for which four or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding $5,000 and with cumulative amount of such claims payments exceeding $20,000; or for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

Table 4.4.1: Repetitive Loss Properties

Community	Sum of Total Paid	Sum of Contents Payments	Sum of Cumulative Payments	Number of Losses	Number of Properties
McDowell County	**$1,001,508**	**$210,296**	**$791,212**	**79**	**38**
2-4 Family	$80,762	$17,524	$63,238	4	2
Other Non-residential	$168,334	$41,700	$126,634	6	3
Single Family	$752,413	$151,073	$601,340	69	33
Total	$1,001,508	**$210,296**	**$791,212**	**79**	**38**
City of Gary	**$11,779**	**$0**	**$11,779**	**3**	**1**
2-4 Family	$11,779	$0	$1,179	3	1
Total	**$11,779**	**$0**	**$1,179**	**3**	**1**
City of Keystone	**$45,336**	**$1,293**	**$44,043**	**4**	**2**
Single Family	$45,336	$1,293	$44,043	4	2
Total	**$45,336**	**$1,293**	**$44,043**	**4**	**2**
City of War	**$0**	**$0**	**$0**	**0**	**0**
Total	**$0**	**$0**	**$0**	**0**	**0**
City of Welch	**$932,690**	**$202,395**	**$730,295**	**74**	**32**
2-4 Family	$197,772	$42,691	$155,081	8	3
Family	$49,444	$0	$49,444	2	1
Other Non-Residential	$207,721	$75,284	$132,437	6	3
Single Family	$477,753	$84,421	$393,332	58	25
Total	**$932,690**	**$202,395**	**$730,295**	**74**	**32**
Town of Anawalt	**$18,080**	**$563**	**$17,516**	**4**	**2**
Single Family	$18,080	$563	$17,516	4	2
Total	**$18,080**	**$563**	**$17,516**	**4**	**2**
Town of Bradshaw	**$0**	**$0**	**$0**	**0**	**0**
Total	**$0**	**$0**	**$0**	**0**	**0**
Town of Davy	**$81,020**	**$21,891**	**$59,129**	**3**	**1**
Single Family	$81,020	$21,891	$59,129	3	1
Total	**$81,020**	**$21,891**	**$59,129**	**3**	**1**
Town of laeger	**$18,991**	**$15,940**	**$3,051**	**5**	**2**
Other Non-Residential	$15,875	$15,499	$376	3	1
Single Family	$3,116	$441	$2,675	2	1
Total	**$18,991**	**$15,940**	**$3,051**	**5**	**2**
Town of Kimball	**$297,997**	**$122,599**	**$175,398**	**16**	**7**
Other Non-Residential	$192,553	$85,497	$107,057	9	3
Single Family	$105,443	$37,102	$68,341	7	4
Total	**$297,997**	**$122,599**	**$175,398**	**16**	**7**
Town of Northfork	**$123,287**	**$4,504**	**$118,783**	**17**	**7**
Bus Non-Residential	$574,670	$0	$24,670	3	1
Single Family	$98,617	$4,504	$94,113	15	6

Community	Sum of Total Paid	Sum of Contents Payments	Sum of Cumulative Payments	Number of Losses	Number of Properties
Total	**$123,287**	**$4,504**	**$118,783**	**17**	**7**
Mercer County	**$1,054,058**	**$187,793**	**$866,265**	**105**	**44**
Commercial	$7,224	$7,224	$0	3	1
Other Residential	$56,585	$0	$56,585	2	1
Other Non-Residential	$275,184	$86,209	$188,975	17	7
Single Family	$715,065	$94,360	$620,705	83	35
Total	**$1,054,058**	**$187,793**	**$866,264**	**105**	**44**
Town of Athens	**$0**	**$0**	**$0**	**0**	**0**
Total	**$0**	**$0**	**$0**	**0**	**0**
City of Bluefield	**$56,038**	**$10,687**	**$45,352**	**11**	**4**
Single Family	$56,038	$10,687	$45,352	11	4
Total	**$56,038**	**$10,687**	**$45,355**	**11**	**4**
Town of Bramwell	**$22,400**	**$1,267**	**$21,133**	**4**	**2**
Single Family	$22,400	$1,267	$21,133	4	2
Total	**$22,400**	**$1,267**	**$21,133**	**4**	**2**
Town of Oakvale	**$38,804**	**$4,033**	**$34,770**	**5**	**2**
Other Residential	$29,553	$0	$29,553	3	1
Single Family	$9,250	$4,033	$5,217	2	1
Total	**$38,804**	**$4,033**	**$34,770**	**5**	**2**
City of Princeton	**$157,383**	**$204**	**$157,179**	**13**	**4**
Other Non-Residential	$105,169	$0	$105,169	5	2
Single Family	$52,214	$204	$52,010	8	2
Total	**$157,383**	**$204**	**$157,179**	**13**	**4**
Monroe County	**$219,634**	**$60,971**	**$158,663**	**2**	**1**
Single Family	$219,634	$60,971	$158,663	2	1
Total	**$219,634**	**$60,971**	**$158,663**	**2**	**1**
Town of Peterstown	**$0**	**$0**	**$0**	**0**	**0**
Total	**$0**	**$0**	**$0**	**0**	**0**
Town of Union	**$0**	**$0**	**$0**	**0**	**0**
Total	**$0**	**$0**	**$0**	**0**	**0**
Raleigh County	**$758,348**	**$125,065**	**$633,282**	**81**	**35**
Other Residential	$4,976	$0	$4,976	2	1
Other Non-Residential	$57,486	$40,576	$16,910	7	3
Single Family	$695,885	$84,489	$611,396	72	31
Total	**$758,348**	**$125,065**	**$633,282**	**81**	**35**
City of Beckley	**$192,657**	**$65,452**	**$127,205**	**12**	**5**
Business Non-Residential	$52,166	$52,166	$0	2	1
Single Family	$140,491	$13,286	$127,205	10	4
Total	**$192,566**	**$65,452**	**$127,205**	**12**	**5**

Community	Sum of Total Paid	Sum of Contents Payments	Sum of Cumulative Payments	Number of Losses	Number of Properties
Town of Lester	**$0**	**$0**	**$0**	**0**	**0**
Total	**$0**	**$0**	**$0**	**0**	**0**
Town of Mabscott	**$698,347**	**$377,120**	**$321,227**	**14**	**4**
Other Non-Residential	$698,347	$377,120	$321,227	14	4
Total	**$698,347**	**$377,120**	**$321,227**	**14**	**4**
Town of Rhodell	**$24,140**	**$2,914**	**$21,226**	**3**	**1**
Single Family	$24,140	$2,914	$21,226	3	1
Total	**$24,140**	**$2,914**	**$21,226**	**3**	**1**
Town of Sophia	**$29,056**	**$0**	**$29,056**	**4**	**1**
Single Family	$29,056	$0	$29,056	4	1
Total	**$29,056**	**$0**	**$29,056**	**4**	**1**
Summers County	**$2,068,220**	**$343,098**	**$1,725,122**	**77**	
Business Non-Residential	$54,191	$0	$54,191	2	
Other Non-Residential	$305,633	$59,494	$246,139	11	
Single Family	$1,708,397	$283,604	$1,424,793	64	
Total	**$2,068,220**	**$343,098**	**$1,725,122**	**72**	
City of Hinton	**$266,774**	**$57,027**	**$209,747**	**9**	**3**
Single Family	$266,774	$57,027	$209,747	9	3
Total	**$266,774**	**$57,027**	**$209,747**	**9**	**3**
Wyoming County	**$2,988,174**	**$510,529**	**$2,477,645**	**185**	**69**
Bus Non-Residential	$592,364	$63,335	$529,030	16	3
Other Non-Residential	$311,531	$54,550	$256,981	18	5
Single Family	$2,084,279	$392,645	$1,691,634	151	61
Total	**$2,988,174**	**$510,529**	**$2,477,645**	**185**	**69**
City of Mullens	**$2,801,977**	**$1,070,916**	**$1,731,061**	**61**	**21**
2-4 Family	$9,290	$0	$9,290	2	1
Bus Non-Residential	$159,759	$67,000	$92,759	2	1
Other Non-Residential	$2,271,656	$925,105	$1,346,551	39	10
Single Family	$361,272	$78,811	$282,462	18	9
Total	**$2,801,977**	**$1,070,916**	**$1,731,061**	**61**	**21**
Town of Oceana	**$164,765**	**$41,894**	**$122,871**	**15**	**7**
Bus Non-Residential					
Other Non-Residential	$21,111	$14,579	$6,533	2	1
Single Family	$143,654	$27,315	$116,339	13	6
Total	**$164,765**	**$41,894**	**$122,870**	**15**	**7**
Town of Pineville	**$361,505**	**$92,047**	**$869,458**	**14**	**7**
Bus Non-Residential	$169,688	$51,723	$117,965	2	1
Single Family	$191,817	$40,324	$151,493	12	6
Total	**$361,505**	**$92,047**	**$269,458**	**14**	**7**

4.4.4 History

There have been at least 254 recorded floods or flashfloods in West Virginia Region I between January 1996 and March 2021. These events have caused $284,758,700 in property damages, three injuries, and four deaths. Average annual damage from floods and flashfloods amounts to around $11,390,000. Described below are some of the most damaging events by loss of life, injuries, and property damage over the past two decades for the entire Region. Historic events of interest in each County are also described below. All events are listed individually in **Appendix A.**

McDowell County

From January 1996 to March 2021, McDowell County has experienced 43 flood or flash flood events. Floods and flash floods that have impacted McDowell County have caused at least three deaths.

Countywide Flooding in McDowell County on May 2, 2002

This event occurred countywide as well as in areas outside of the County. From CNN: *More than 4 inches of rain swamped McDowell County, about 90 miles south of the capital Charleston, on Thursday, as well as neighboring counties and several Virginia communities south of the West Virginia border. The intense storms and resulting floods cut off water service and electricity to thousands and forced authorities to close dozens of roads.*

Repetitive showers and thunderstorms moved rapidly across the southern coal fields, from the late morning hours to the early evening, on May 2, 2002. A few reports of large hail and gusty winds were received, but the major problem was the severe flash flooding in McDowell County. The heaviest rains were on the order of 2.5 to 5 inches, in a west to east corridor from northern Buchanan County, Virginia through central McDowell County. As a result, many streams in McDowell County were flooded

This event caused three deaths, two from a flooded vehicle, and $85,000,000 in property damage throughout all impacted areas.

Mercer County

From January 1996 to March 2021, Mercer County has experienced 69 flood or flash flood events. Flood or flash flood events have not caused any deaths within the county.

Flash flooding in Mercer County on July 8, 2001

This event occurred countywide in Mercer County as well as in other areas outside of the County. Also known as the 'Great Flood of 2001', a thunderstorm with heavy wind and rain affected southern Mercer County in the early morning of July 8, 2001 to July 9, 2001. Heavy thunderstorms caused flooding and mudslides, washing away power lines, homes, and businesses, and causing damage or closing numerous roads. A reported 2 to 5 inches of rain caused a state of emergency in eight counties in West Virginia, including Mercer County.

The event caused one death and $3,000,000 in property damage.

Flash Flooding in Mercer County on March 13, 2010

This event focused in Glenwood but occurred in other nearby counties as well. In the morning on March 13, 2010, a band of thunderstorms developed and moved into Southern West Virginia. Heavy rainfall, coupled with moist soil and snowpack, fell over Mercery County at the rate of 2.5 to 2 inches an hour. This caused flash flooding along Brush Creek which damaged several homes and evacuated residents in the Green Valley area.

This event caused one death and $1,800,000 in property damage.

Monroe County
From January 1996 to June 2020, Monroe County has experienced 40 flood or flash flood events. Flood or flash flood events have not caused any deaths within the county.

Flash flooding in Monroe County on June 28, 2011
This event began in Willow Bend and ended in Laurel Branch. On June 28, 2011, a cold front swept through the southern West Virginia region causing multiple clusters of storms. One of these storms produced large hail and another storm poured up to five inches in a 90-minute period over Zenith. Flash flooding inundated several roads and damaged some outbuildings and vehicles.

The event caused no deaths and $500,000 in property damage.

Raleigh County
From January 1996 to March 2021, Raleigh County has experienced 43 flood or flash flood events. Flood or flash flood events have caused four deaths within the county.

Flash flooding in Raleigh County on June 1, 1997
This event affected the western portion of Raleigh County. On June 1, 1997, concentrated storms moved over Raleigh County from southeast to northwest, causing 2.5 to 3.5 inches of rain fell over the course of three hours. Intense flooding in Clear Creek, Toney Fork, Workman Creek, White Oak Cree, and Clear Fork eroded stream banks and washed away portions of a county road.
This event caused $200,000 in property damage and the death of two pedestrians returning home from Sunday evening church services.

Flash flooding in Raleigh County on March 13, 2010
This event began in Besoco and ended in Pluto. From Register-Herald: *2.58 inches of rain fell in a six-hour period late Friday and early this morning at the Beckley-Raleigh County Memorial Airport, causing streams and creeks to overflow throughout the region.*

On March 13, 2010, heavy rainfall over terrain soggy from recent snow melt led to quick runoff. Rain accumulated over a short period of time through heavy showers and a few thunderstorms, causing the Kanawha and Coal Rivers to rise rapidly. Other flooded rivers included Piney, Beaver, and the headwaters of Dunloup Creek.

Flooding caused $4,000,000 in property damage and resulted in two deaths, one pedestrian and one firefighter.

Summers County
From January 1996 to March 2021, Summers County has experienced 26 flood or flash flood events. Flood or flash flood events have not caused any deaths in this county.

Flash Flooding in Summers County on June 23, 2016
This event occurred along the Greenbrier River and is one of the worst flash flood events in the history of West Virginia. On June 23, 2016, several strong thunderstorms moved over Summers County after two days of rain. In total, the region observed anywhere from 2 to 10 inches of rain over the course of 12 hours. The Greenbrier River crested at 22 feet, causing flash flooding and significant property damage; an estimate 190 homes and 150 camps/RV's/trailers were damaged or destroyed during the event.

Flash flooding caused $1,000,000 in property damage and resulted in 15 deaths in Greenbrier County.

Wyoming County
From January 1996 to March 2021, Wyoming County experienced 30 flood or flash flood events. Flood or flash flood events have caused two deaths within the county.

Flash Flooding in Wyoming County on July 8, 2001
From Fox News*: Six inches of rain fell in a three-hour period. The Guyandotte River, which flows through Wyoming County, peaked at 18 feet that Sunday. The water destroyed homes and businesses. Roads were washed away or blocked by debris. One person died. More than 300 homes were totally destroyed and 1,200 were substantially damaged.*

On January 8, 2001, a system of large thunderstorms moved from Ohio to West Virginia where they persisted for several hours, raining over 8 inches in some locations. Flooding occurred throughout Wyoming County, including Rockcastle Creek, Cabin Creek, the headwaters of Laurel Creek at Glen Rogers, and Slab Fork.

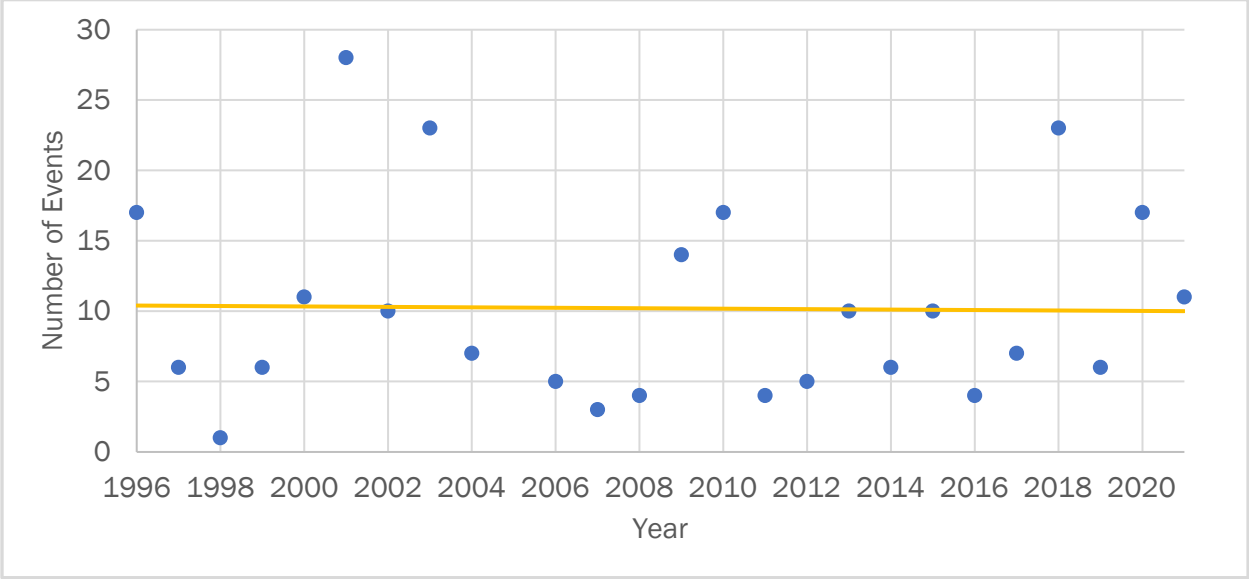
This event caused $60,000,000 in property damage and one death.

Flash Flooding in Wyoming County on May 31, 2004.
This event occurred in the northern portion of Wyoming County. In the morning of May 31, 2004, a stationary thunderstorm poured 2.5 to 6 inches of rain over northern Wyoming County, causing flooding to Huff Creek, Clear Fork, Trace Fork, and Laurel Fork. Major flash flooding occurred which destroyed 5 homes and damaged 6 others.

This event caused $500,000 in property damaged and one death by drowning.

4.4.5 Probability
Figure 4.4.3 shows the trend of flood events over time since January 1996, as this is the earliest year with complete data from the NCEI. The trend of flood occurrences per year remains steady over time, which means the Region can expect to have at least a similar amount of annual flood events in the near future.

Figure 4.4.2: Flood Probability



Between January 1996 and March 2021, the Region has experienced at least 256 flooding events, including both floods and flash floods. These events have resulted in at least nine deaths and two injuries, as well as $284,758,700 in property damage (Source: NCEI). Annually, this amounts to approximately ten floods or flash floods and approximately $11,390,000 in property damages.

4.4.6 Vulnerability Assessment

Infrastructure Impact

Floods can impact roadways, including interstates and state routes, by blocking them due to high water or by filling them with debris. In some areas of the Region, such as the Town of Peterstown, floods can block all entries into the jurisdiction. Mitigation actions have been drafted with the Town of Peterstown to mitigate this problem.

Population Impact

Floods and flash floods have caused damages to occupied homes in the past. During flood events, shelter may need to be provided to those impacted by flooding. Deaths and injuries are also possible during flood and flash floods. On average, persons aged 65 and older account for over 20% of the Region's population, according to the 2020 US Census; people of this age are less able to seek safety during a flash flood event. For example, during the July 8, 2001, flood which affected much of the region, residents were stranded on their rooftops, clinging to trees, or searching for higher ground in order to avoid the floodwaters. These locations are difficult to reach for elderly people.

Shelter requirements have been calculated for all counties as well as for the Region as a whole using Hazus.

McDowell County

The flood model for McDowell County estimates that 1,562 households, or 4,685 people will be displaced by a 100-year flood. Of those displaced by the 100-year flood, as many as 331 will need shelter.

Mercer County

The flood model for Mercer County estimates that 740 households, or 2,219 people will be displaced by a 100-year flood. Of those displaced by the 100-year flood, as many as 240 will need shelter.

Monroe County

The flood model for Monroe County estimates that 227 households, or 681 people will be displaced by a 100-year flood. Of those displaced by the 100-year flood, as many as 62 will need shelter.

Raleigh County

The flood model for Raleigh County estimates that 785 households, or 2,355 people will be displaced by a 100-year flood. Of those displaced by the 100-year flood, as many as 231 will need shelter.

Summers County

The flood model for Summers County estimates that 384 households, or 1,152 people will be displaced by a 100-year flood. Of those displaced by the 100-year flood, as many as 96 will need shelter.

Wyoming County

The flood model for Wyoming County estimates that 1,513 households or 4,539 people will be displaced by a 100-year flood. Of those displaced by the 100-year, as many as 384 will need shelter.

Property Damage

Property damage is likely during floods to both residential and non-residential properties. **Tables 4.4.2 – 4.4.7** lists the value of all the properties that are exposed to 100-year floods in each County. This data was compiled in GIS using FEMA floodplains and property data provided by West Virginia University, including Total Exposure in Flood Plain (TEIF data). In some areas of the Region, such as the Town of Mullensville and neighboring Town of Pineville, homes and small businesses along the riverfront are at risk of damage or destruction, including the fire house building.

Table 4.4.2 Structure Vulnerability from Flooding in McDowell County

Property Type	Building	Content Value	Count
Apartment	$ 53,400	$ 26,700	1
Commercial	$ 22,855,271	$ 22,814,962	320
Exempt	$ 52,017,595	$ 58,355,089	170
Farm	$ 484,400	$ 449,700	12
Industrial	$ -	$ -	0
Residential	$ 64,401,326	$ 36,600,882	3,165
Utility	$ 924,470	$ 1,214,585	12
Total	*$ 140,736,462*	*$ 119,461,917*	*3,680*

Table 4.4.3 Structure Vulnerability from Flooding in Mercer County

Property Type	Building	Content Value	Count
Apartment	$ -	$ -	0
Commercial	$ 75,917,280	$ 67,908,317	873
Exempt	$ 58,965,118	$ 60,344,212	77
Farm	$ 479,100	$ 239,550	9
Industrial	$ -	$ -	0
Residential	$ 58,655,506	$ 29,566,316	1,558
Utility	$ 395,656	$ 395,656	3
Total	*$ 194,412,660*	*$ 158,454,051*	*2,520*

Table 4.4.4 Structure Vulnerability from Flooding in Monroe County

Property Type	Building	Content Value	Count
Apartment	$ -	$ -	0
Commercial	$ 2,094,673	$ 2,102,310	41
Exempt	$ 5,626,185	$ 5,968,219	34
Farm	$ 5,966,644	$ 3,052,272	113
Industrial	$ -	$ -	0
Residential	$ 14,387,854	$ 7,384,854	318
Utility	$ 158,922	$ 158,922	1
Total	*$ 28,234,278*	*$ 18,666,577*	*507*

Table 4.4.5 Structure Vulnerability from Flooding in Raleigh County

Property Type	Building	Content Value	Count
Apartment	$ -	$ -	0
Commercial	$ 17,123,719	$ 16,422,604	191
Exempt	$ 24,399,862	$ 26,847,325	106
Farm	$ 3,324,572	$ 2,466,992	79
Industrial	$ -	$ -	0
Residential	$ 67,820,378	$ 36,665,628	2,084
Utility	$ 334,500	$ 334,500	5
Total	*$ 113,003,031*	*$ 82,737,048*	*2,465*

Table 4.4.6 Structure Vulnerability from Flooding in Summers County

Property Type	Building	Content Value	Count
Apartment	$ -	$ -	0
Commercial	$ 4,407,700	$ 4,181,750	33
Exempt	$ 3,142,940	$ 3,632,290	15
Farm	$ 858,410	$ 437,680	20
Industrial	$ -	$ -	0
Residential	$ 40,603,828	$ 21,384,804	902
Utility	$ -	$ -	0
Total	*$ 49,012,878*	*$ 29,636,524*	*970*

Table 4.4.7 Structure Vulnerability from Flooding in Wyoming County

Property Type	Building	Content Value	Count
Apartment	$ 404,000	$ 202,000	1
Commercial	$ 16,497,236	$ 15,984,236	263
Exempt	$ 52,028,034	$ 52,412,059	122
Farm	$ 141,020	$ 70,510	4
Industrial	$ -	$ -	0
Residential	$ 76,347,204	$ 39,578,172	2,436
Utility	$ 861,700	$ 861,700	2
Total	*$ 146,279,194*	*$ 109,108,676*	*2,828*

Loss of Life

There are nine reported deaths and two reported injuries from flood events throughout West Virginia Region I. Loss of life is possible in future floods or flashfloods.

Economic Losses

Floods can halt economic activity, block roadways, and destroy agricultural crops. Building contents are also likely to be lost during a flood event, especially for properties located within the 100-year flood zone. Over the past two decades, over $284,000,000 of property damage occurred as a result of flood or flash flood events.

4.4.7 Land Use and Development Trends

Any development that occurs in flood zones will be at risk. Development in these areas should be limited. Flash flooding is more likely to occur in areas with a high percentage of impervious surfaces. Future land use practices should limit the percentage of impervious surfaces. **Chapter 5** contains mitigation actions that address these issues. Most jurisdictions reported limiting development in flood-prone areas, and larger municipalities have been proactively removing dilapidated structures within these areas. Code enforcement is also used in larger municipalities to reduce the number of potential hazards located in floodplains/floodways.

4.5 Landslides

4.5.1 Description

The U.S. Geologic Survey defines a landslide as "the movement of a mass of rick, debris, or earth down a slope." Landslides encompass five types of slope movement: falls, topples, slides, spreads, and flows. These movements occur when force greater than the strength of the underlying material is exerted on a slope. Landslides are often caused by a variety of factors. Heavy rains, soil erosion, wildfires, or human activity may create conditions that make a slope unstable.

Common landslide-related terms include:

- **Scarp:** A steep surface on the undisturbed ground at the upper edge of the landslide, caused by movement of the displaced material away from the undisturbed ground. It is the visible part of the surface of rupture.
- **Crown:** The practically non-displaced material still in place and adjacent to the highest parts of the main scarp.
- **Rupture:** The surface that forms (or which has formed) the lower boundary of the displaced material below the original ground surface.
- **Head:** The upper parts of the landslide along the contact between the displaced material and the main scarp.
- **Toe:** The intersection (usually buried) between the lower part of the surface of rupture of a landslide and the original ground surface.
- **Foot:** The portion of the landslide that has moved beyond the toe of the surface of rupture and overlies the original ground surface.

The State of West Virginia has developed a robust, interactive tool to document historical and current landslides, as well as determining the susceptibility of the region to the threat of landslides. This tool was developed in coordination with the West Virginia GIS Technical Center, the West Virginia Emergency Management Division, West Virginia Department of Highways, West Virginia Geological & Economic Survey, and Federal Emergency Management Agency.

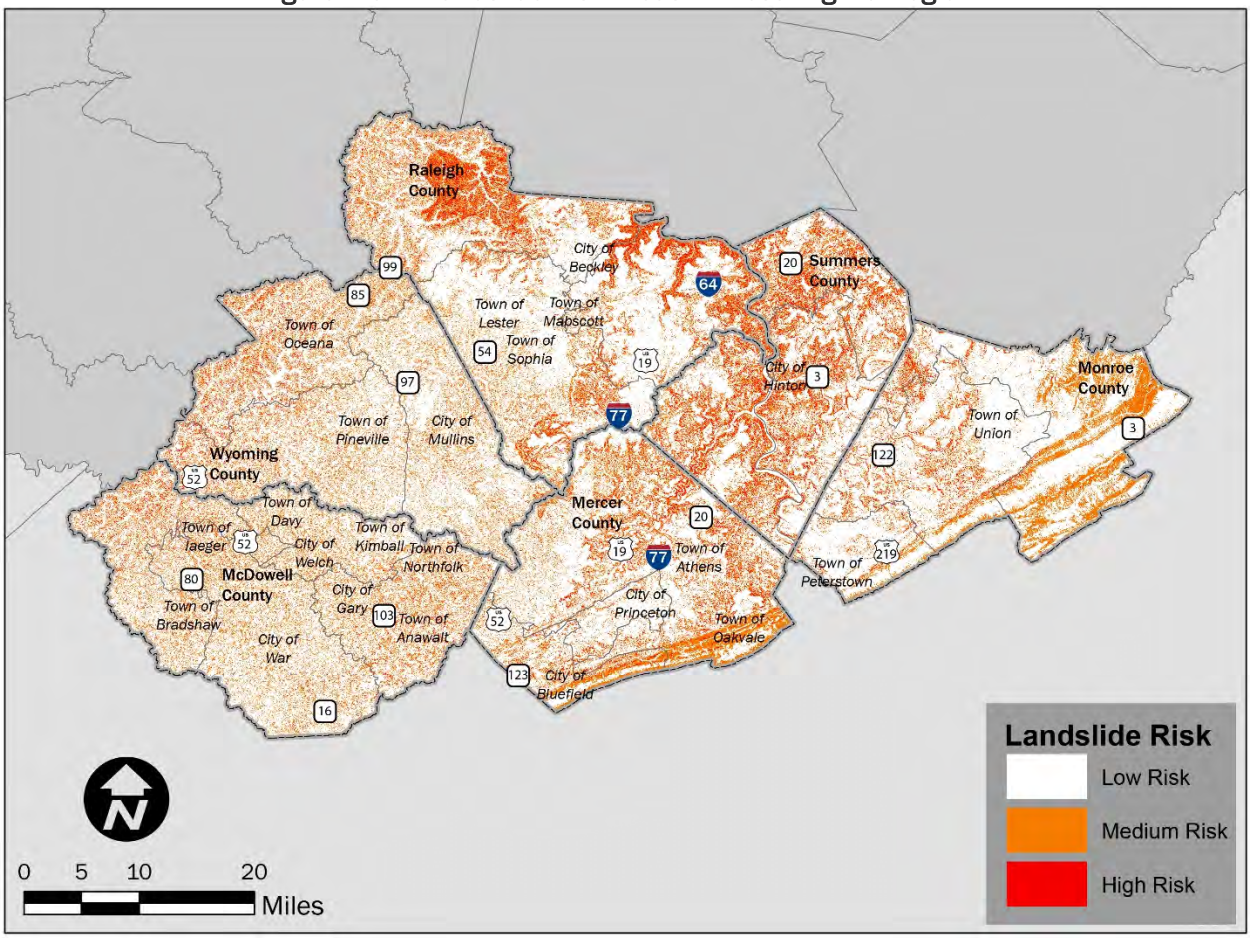
According to the information module on the West Virginia Landslide Tool web-based map viewer, "*The West Virginia Landslide Tool contains information on historical and LiDAR-identified landslides, hazard susceptibility modeling results, model inputs, and reference layers. Historical data is a compilation of landslides that have been identified on published maps. LiDAR-identified landslides were mapped by WVGISTC technicians. The interactive map lets users view information on landslide location, type of movement, source of mapped data, and hyperlinks to the source data. The web application also has the capability to add user-identified landslide incidence locations. The Model Input layers contain data that was used in landslide hazard susceptibility modeling. The Hazard Susceptibility layers show landslide susceptibility in West Virginia at the county scale. Model results should not be interpreted beyond the county scale. For site-specific hazard analysis, geotechnical and landslide experts should be consulted.*"

This tool is continually updated as events occur, and the link to access the tool is available at this URL: https://www.arcgis.com/apps/webappviewer/index.html?id=cb01c47cfa884309b4f38dcd7542f805 .

4.5.2 Location

Landslides can occur throughout the Region. Landslides may occur in both undeveloped and developed areas. According to information gathered from the West Virginia GIS Technical Center, reported landslides are prevalent along valleys used as transportation corridors. **Figure 4.5.1** shows the location of areas under risk for slope failure (landslides).

Figure 4.5.1: Landslide Risk Areas in West Virginia Region I



McDowell County
Sections of US 52, State Route 80 (Mountaineer Highway), areas near Community of Panther in the northwest, and areas in the southeastern third of the County have recorded higher concentrations of landslides.

Mercer County
Landslides have occurred throughout Mercer County. The highest density is along the Virginia-West Virginia border in southern Mercer County, owing largely to the steeper terrain near mountain ridges. Eastern portions and along the I-77 corridor have also reported clusters of landslides.

Monroe County
Reported landslides in Monroe County are clustered near the northern point, south of State Route 3. Areas around the Community of Greenville and north of the Community of Wayside are also prone to historical landslides.

Raleigh County
Northeast of the City of Beckley, between the City and New River Gorge, hosts the highest density of landslides in Raleigh County. Landslides have also been reported near I-64 to the east of the City of Beckley and between the Community of Colcord and Community of Rock Creek to the west.

Summers County
Landslides have occurred throughout Summers County. The highest density is south of I-64 and north of State Route 3. Portions along the State Route 20 corridor have also reported clusters of landslides.

Wyoming County
Areas near the Community of Cyclone in the northwest, west of the Community of Hanover, and east of the Community of Kopperston have higher densities of landslides, though landslides have been reported throughout the County.

4.5.3 Extent
All of West Virginia Region I is at risk of landslides. According to modeling provided within the West Virginia Landslide Tool, all areas are within a low-risk area, with significant number of medium and high-risk areas within each county. No area within the region has a zero percent risk of landslides. Medium and high-risk areas are highly correlated with mountain ridges and river valleys due to the massive change of topography within a short distance.

4.5.4 History
According to the West Virginia Landslide Tool, there have been 7,937 landslides identified in West Virginia Region I, which are summarized in **Table 4.5.1**. The landslides were identified through historical records and light detection and ranging (LiDAR) detection. The West Virginia Landslide Tool was collaboratively created by FEMA, the West Virginia Technical GIS Technical Center, West Virginia Emergency Management Division, West Virginia Geological & Economic Survey, and the West Virginia Division of Highways.

Landslides Near Town of Bradshaw in 2021
The Town of Bradshaw has two landslides impacting State Route 80. Based on information from the Mayor of Bradshaw, these events will continue for months and pose a major safety threat to local schools, residents, businesses, and passing motorists. Due to the local terrain, the alternative route is a windy, one-lane local road that is not accustomed to large trucks and other vehicles, such as school buses.

Landslides Near Town of Oakvale in 2019
Several news sources reported a large landslide along Route 112 near the Town of Oakvale. Photos from the scene showed a home had been moved downhill and the road was blocked by a large mass of debris. The area had received several days of rainfall ranging from 1 to 2.5 inches which was preceded by snow and mixed precipitation.

McDowell County
In McDowell County, there have been 1,305 landslides identified through historical or LiDAR detection. This represents over 16 percent of all landslides recorded in West Virginia Region I. These events are summarized in **Table 4.5.1**.

Mercer County
In Mercer County, there have been 1,620 landslides identified through historical or LiDAR detection. This represents slightly more than one fifth of all landslides recorded in West Virginia Region I. These events are summarized in **Table 4.5.1.**

Monroe County
In Monroe County, there have been 630 landslides identified through historical or LiDAR detection. This represents slightly more than nearly eight percent of all landslides recorded in West Virginia Region I. These events are summarized in **Table 4.5.1.**

Raleigh County
In Raleigh County, there have been 1,509 landslides identified through historical or LiDAR detection. This represents slightly less than one fifth of all landslides recorded in West Virginia Region I. These events are summarized in **Table 4.5.1.**

Summers County
In Summers County, there have been 2,042 landslides identified through historical or LiDAR detection. This represents slightly more than one quarter of all landslides recorded in West Virginia Region I. These events are summarized in **Table 4.5.1.**

Wyoming County
In Mercer County, there have been 831 landslides identified through historical or LiDAR detection. This represents slightly more than one tenth of all landslides recorded in West Virginia Region I. These events are summarized in **Table 4.5.1.**

Table 4.5.1: Landslide Events in West Virginia Region I and its Counties

Location	Number of Events	% Regional Total
West Virginia Region I	7,937	100%
McDowell County	1,305	16.4%
Mercer County	1,620	20.4%
Monroe County	630	7.9%
Raleigh County	1,509	19%
Summers County	2,042	25.7%
Wyoming County	831	10.5%

4.5.5 Probability
According to the 2018 update to the West Virginia State Hazard Mitigation Plan, nearly the entire State of West Virginia is in a high landslide incidence zone. The West Virginia Landslide Tool is a statewide database of landslide events. Due to the recent development of this tool, historical data has been added in large groupings, and have not been revised to make singular events searchable. Because the entire State ins in a high landslide incidence zone, it is very likely (90% or greater chance) that a landslide will occur within the Region within the next five years.

Increased precipitation rates, both during and winter months, will increasingly saturate the ground, resulting in reduced slope stability and reduced friction between geologic layers. These conditions increase the probability of a landslide occurring. Based on studies done by the U.S. Environmental Protection Agency (US EPA), West Virginia may experience more frequent heavy rainstorms and increased flooding, further elevating the risk of landslides throughout the region.

4.5.6 Vulnerability Assessment
Infrastructure Impact
Landslides can impact roadways, including interstates and state routes, by blocking them with mud and/or debris. In some areas of the Region, landslides have the potential to block all entries into the jurisdiction.

Population Impact
Landslides have caused damages to occupied homes and businesses in the past. During landslide events, people may need to evacuate the area, if there is time. Deaths and injuries are also possible during landslides.

Property Damage

Property damage is likely during floods to both residential and non-residential properties. **Table 4.5.2** lists the value of all the properties that are exposed to landslides.

Table 4.5.2 Structure Vulnerability from Landslides

Structure Type	Number of Properties Exposed	Value of Vulnerable Structures		
		Land	Building	Total
Residential	153,599	$1,543,031,800	$4,724,311,500	$6,267,343,300
Non-Residential	29,862	$1,174,538,600	$3,027,074,200	$4,201,612,800
Critical Facilities	820	$73,361,500	$755,015,600	$828,377,100
Total	**161,474**	**$2,717,570,400**	**$7,751,385,700**	**$10,468,956,100**

**Note: Critical Facilities are non-residential structures, and their value is incorporated into the non-residential totals as well. Calculated totals are determined by summing the residential and non-residential values.*

Loss of Life

Landslides can cause loss of life, especially when the event occurs in a more populated area. Loss of life may occur during the destruction of structures, or during the mud/debris flow that can bury or suffocate people.

Economic Losses

Landslides can halt economic activity, block roadways, and destroy buildings and agricultural crop lands. Structures and other properties can be significantly damaged or destroyed during landslides, resulting in significant losses for individuals and companies alike.

4.5.7 Land Use and Development Trends

Any development that occurs near hillsides will be at risk. Development in these areas should be limited, especially if the hillside has been cut into for transportation corridors, or if the hillside is steeper than surrounding areas. Future land use practices should limit modification of hillsides when possible. Care should be taken when retaining walls are used. **Chapter 5** contains mitigation actions that address these issues.

Within municipalities, development codes are regularly enforced. Outside of the municipalities, individual landowners are responsible for the development of their parcel(s). County engineers issuing permits and assigning addresses may note potentially hazardous areas to landowners, but lack the enforcement capability to prohibit development.

4.6 Severe Storms

4.6.1 Description

Severe storm events may include severe thunderstorms and thunderstorm winds, hail, and lightning. High winds, tornadoes, and flooding may also be related to severe weather. Due to the potential threat of these events, they are each discussed in separate risk assessments. While tropical storms and hurricanes are also forms of severe storms, West Virginia Region I does not have any record of such events affecting the Region; therefore, the region has not deemed tropical storms and hurricanes to be a threat, and these specific types of weather will not be addressed further.

According to the National Weather Service (NWS), a severe thunderstorm is a thunderstorm that produces a tornado, winds of at least 58 MPH, and/or hail at least one inch in diameter. A Severe Thunderstorm Watch is issued by the NWS if conditions are favorable for the development of severe thunderstorms. A watch is usually in place for four to eight hours, during which time people should be prepared to move to a safe place if threatening weather approaches.

A Severe Thunderstorm Warning is issued if either the WSR-88D radar indicates a severe thunderstorm or if a spotter reports a storm producing hail or winds meeting the criteria outlined in the description above. The WSR-88D radar is an advanced Weather Surveillance Doppler Radar utilized by the NWS to generate a radar image. The NWS recommends that people in the affected area seek safe shelter immediately, as severe thunderstorms have the potential to produce tornadoes with little-to-no advance warning. Lightning frequency is not a criterion for issuing a severe thunderstorm warning. The warnings are usually issued for one hour and can be issued without a Severe Thunderstorm Watch already in effect. The National Weather Service Forecast Office in Charleston, West Virginia is responsible for issuing Severe Thunderstorm Watches and Warnings for McDowell, Wyoming, and Raleigh Counties. The National Weather Service Forecast Office in Blacksburg, Virginia (west of Roanoke) is responsible for issuing Severe Thunderstorm Watches and Warnings for Monroe, Summers, and Mercer Counties.

Lightning is caused by a rapid discharge of electrical energy that has built up in the atmosphere between clouds, the air, or the ground. Lightning strikes can be either direct or indirect. A direct strike is when lightning strikes a building or a specific area, which can result in fusion points melting holes of varying sizes at the point of impact of materials with high resistivity. An indirect lightning strike is when lightning causes power surges that disrupt electrical equipment.

Severe storms can also create strong winds – often called “straight-line” winds – to differentiate thunderstorm winds from tornadic winds. These winds, which have the potential to cause damage, are caused by an outflow generated by a thunderstorm downdraft.

Hail is a type of frozen precipitation that occurs when thunderstorm updrafts carry raindrops upward into extremely cold atmospheric zones where they freeze before falling to the ground. The resulting hailstones can fall at speeds greater than 100 MPH and range in size from smaller than 0.50 inches (the size of a pea) to 4.5 inches (the size of a softball) (Source: National Weather Service).

4.6.2 Location

Severe storms are a regionwide hazard; all of West Virginia Region I is susceptible to severe weather.

4.6.3 Extent

Severe storm events have the potential to create large-scale damage in West Virginia Region I. Specifically, lightning is responsible for approximately 50 deaths annually across the United States, as well as hundreds of injuries (Source: NOAA). Winds associated with severe storms have the potential to cause damage by bringing down tree limbs and generating widespread power outages. Additionally, hail can result in property damage. Severe storms can lead to flooding, downed trees and power lines, and other dangerous conditions.

4.6.4 History

According to the National Centers for Environmental Information (NCEI), there have been 476 thunderstorm wind events, 410 hail events, 51 heavy rain events, and 15 lightning events recorded in West Virginia Region I from January 1990 to August 2020. According to the Federal Emergency Management Agency, 18 of these events were declared federal disasters. These events resulted in $11.6 million in property damage and $5,500 in crop damage. These events were responsible for one death and 19 injuries. These events are summarized in **Table 4.6.1**, below:

Table 4.6.1: Thunderstorm-Related Events in West Virginia Region I since 1990

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages	Crop Damages
Thunderstorm Wind	476	5	1	$9,211,600	$200
Hail	410	0	0	$1,609,000	$5,300
Heavy Rain	51	2	0	$151,000	$0
Lightning	15	12	0	$636,500	$0
Total	952	19	1	$11,608,100	$5,500

West Virginia Region I has not been associated with any thunderstorm-related disaster declarations since the previous hazard mitigation plan. The events that resulted in the largest amounts of property damage due to summer storms in the Region's history are described below:

Severe Storm Event in Bradshaw on March 1, 2017

A National Weather Service storm survey team found considerable damage near Dan and Bradshaw in McDowell County. The damage was determined to be due to a microburst. Multiple businesses and power poles were damaged. Funneling through the terrain enhanced the winds, causing roof damage to numerous homes. A small travel trailer was flipped and suffered severe damage. The survey team estimated the path length of the microburst to be about half a mile, and the width to be about 500 yards.

Severe Storm Event in Region I on June 29, 2012

The June 2012 derecho, a long lived and widespread windstorm, was the single costliest summer weather event in Region I between January 1990 and December 2020. The derecho initiated in Iowa and continued through the Midwest and into West Virginia in the early evening hours. All counties were impacted. This derecho was responsible for $6,045,000 in property damage, no crop damage, no deaths, and one injury.

Severe Storm Event in Region I on February 11, 2009

Unseasonably warm air across southern West Virginia triggered severe thunderstorms as a cold front approached. These storms created winds over 58 MPH and caused one death in McDowell County. Note that this incident was not during the summer months, but it is included in this section due to the type of weather event.

Severe Storm Event in Region I on April 28, 2002
A strong cold front spawned a tornado outbreak between April 27, 2002, and April 28, 2002. Though no tornadoes were reported within the region, the storms produced the costliest hail event in Region I between January 1990 and December 2020. This hail event totaled $700,000 in property damages near the City of Beckley.

Severe Storm Event in Region I on June 2, 1997, in Raleigh County
19 structures (including mobile homes) were damaged during a severe thunderstorm due to high winds and heavy rain in Raleigh County. This storm was responsible for $75,000 in property damage and no crop damage.

McDowell County
According to the National Centers for Environmental Information (NCEI), there have been 77 thunderstorm wind events, 63 hail events, 10 heavy rain events, and one lightning event recorded in McDowell County from January 1990 to August 2020. These events resulted in $2 million in property damage and were responsible for one death. These events are summarized in **Table 4.6.2** below:

Table 4.6.2: Thunderstorm-Related Events in McDowell County since 1990

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages	Crop Damages
Thunderstorm Wind	77	0	1	$1,796,000	$0
Hail	63	0	0	$190,000	$0
Heavy Rain	10	0	0	$1,000	$0
Lightning	1	0	0	$20,000	$0
Total	151	0	1	$2,007,000	$0

Mercer County
According to the National Centers for Environmental Information (NCEI), there have been 81 thunderstorm wind events, 84 hail events, 12 heavy rain events, and six (6) lightning events recorded in Mercer County from January 1990 to August 2020. These events resulted in $1.14 million in property damage and $200 in crop damage. These events were responsible for three injuries. These events are summarized in **Table 4.6.3** below:

Table 4.6.3: Thunderstorm-Related Events in Mercer County since 1990

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages	Crop Damages
Thunderstorm Wind	81	0	0	$428,900	$200
Hail	84	0	0	$61,000	$0
Heavy Rain	12	2	0	$130,000	$0
Lightning	6	1	0	$519,500	$0
Total	183	3	0	$1,139,400	$200

Monroe County
According to the National Centers for Environmental Information (NCEI), there have been 67 thunderstorm wind events, 40 hail events, and two (2) heavy rain events recorded in Monroe County from January 1990 to August 2020. These events resulted in $1.07 million in property damage and $5,300 in crop damage. These events were responsible for two injuries. These events are summarized in **Table 4.6.4** below:

Table 4.6.4: Thunderstorm-Related Events in Monroe County since 1990

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages	Crop Damages
Thunderstorm Wind	67	2	0	$1,070,900	$0
Hail	40	0	0	$0	$5,300
Heavy Rain	2	0	0	$0	$0
Lightning	0	0	0	$0	$0
Total	109	2	0	$1,070,900	$5,300

Raleigh County

According to the National Centers for Environmental Information (NCEI), there have been 102 thunderstorm wind events, 99 hail events, 11 heavy rain events, and seven (7) lightning events recorded in Raleigh County from January 1990 to August 2020. These events resulted in $5.92 million in property damage. These events were responsible for 13 injuries. These events are summarized in **Table 4.6.5** below:

Table 4.6.5: Thunderstorm-Related Events in Raleigh County since 1990

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages	Crop Damages
Thunderstorm Wind	102	2	0	$4,651,000	$0
Hail	99	0	0	$1,178,000	$0
Heavy Rain	11	0	0	$20,000	$0
Lightning	7	11	0	$72,000	$0
Total	219	13	0	$5,921,000	$0

Summers County

According to the National Centers for Environmental Information (NCEI), there have been 72 thunderstorm wind events, 42 hail events, six (6) heavy rain events, and one (1) lightning event recorded in Summers County from January 1990 to August 2020. These events resulted in over $816,000 in property damage. These events were responsible for no deaths or injuries. These events are summarized in **Table 4.6.6** below:

Table 4.6.6: Thunderstorm-Related Events in Summers County since 1990

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages	Crop Damages
Thunderstorm Wind	72	0	0	$788,800	$0
Hail	42	0	0	$3,000	$0
Heavy Rain	6	0	0	$0	$0
Lightning	1	0	0	$25,000	$0
Total	121	0	0	$816,800	$0

Wyoming County

According to the National Centers for Environmental Information (NCEI), there have been 77 thunderstorm wind events, 82 hail events, and 10 heavy rain events recorded in Wyoming County from January 1990 to August 2020. These events resulted in over $653,000 in property damage. These events were responsible for one injury. These events are summarized in **Table 4.6.7** below:

Table 4.6.7: Thunderstorm-Related Events in Wyoming County since 1990

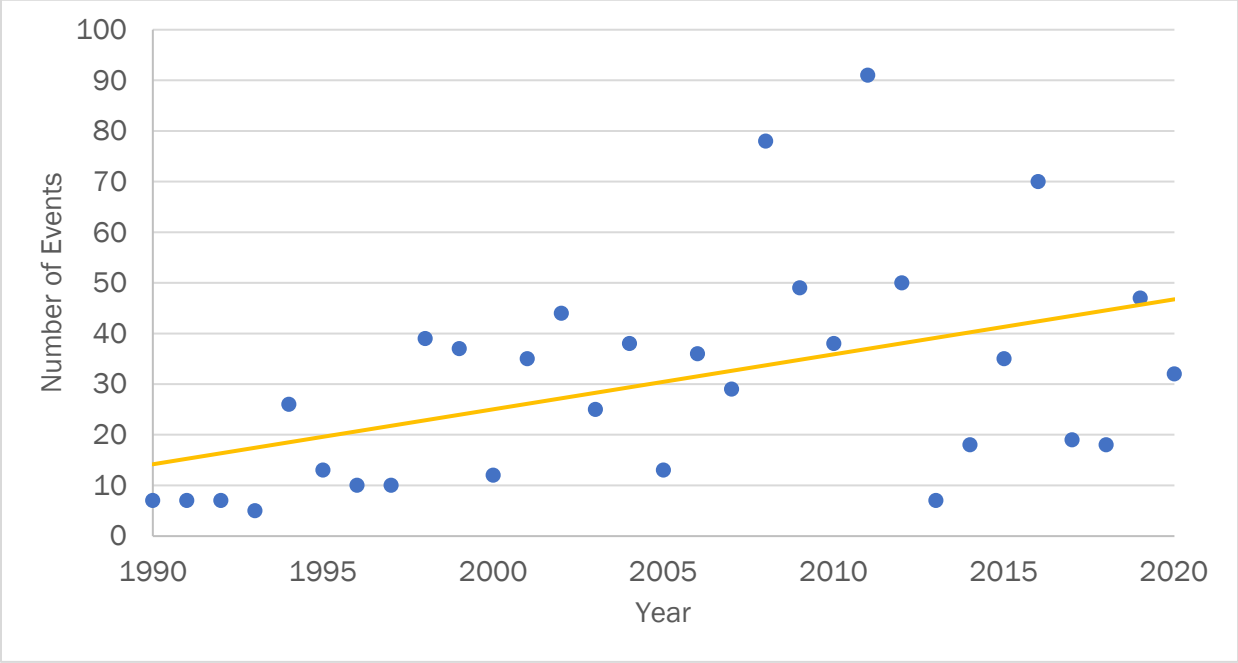
Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages	Crop Damages
Thunderstorm Wind	77	1	0	$476,000	$0
Hail	82	0	0	$177,000	$0
Heavy Rain	10	0	0	$0	$0
Lightning	0	0	0	$0	$0
Total	169	1	0	$653,100	$0

4.6.5 Probability

According to the NCEI, there have been 952 severe storm events reported in West Virginia Region I from January 1990 to August 2020 with total losses reaching more than $11.6 million in property damage and $5,500 in crop damage. This amounts to approximately 31 severe storm events annually with average annual damages of $387,000.

Furthermore, **Figure 4.6.2** below shows the trend in number of thunderstorm events per year since 1990. The trend line has a positive slope, which indicates that the number of severe storms has increased over the last 30 years and is projected to increase over the next five years, meaning that it is very likely (90% or greater chance) that there will be an annual average of at least 30 severe storm events over the next five years. Years prior to 1990 are excluded from the probability calculation due to missing and/or unreliable data reporting.

Figure 4.6.1: Severe Storm Probability



4.6.6 Vulnerability Assessment

Infrastructure Impact

Above-ground infrastructure is at risk for storm damage by wind and falling debris. For infrastructure, high winds and hail are the most damaging part of a severe storm. Thunderstorm winds can strip bark from trees and detach limbs. If large branches fall, they can damage buildings and supporting above-

ground infrastructure. In the most severe storms with high winds, large trees can be uprooted and have the potential to fall on buildings including houses, which can cause harm or death.

Utilities are at risk for damage by severe storms as well. Electrical lines are spread throughout the region connecting homes, businesses, and other facilities. Severe storms are likely to down tree limbs and generate other debris that can affect above-ground electrical lines causing power outages. Downed power lines that are still live are extremely hazardous and can cause death by electrocution.

Population Impact
Summer storms are random in nature and affect the entire area of the Region. Everyone within the region should be prepared during a storm event. Populations residing in mobile home parks are particularly vulnerable and should seek shelter.

Property Damage
As described above, these events have caused an average of $387,000 in property damages annually. Due to the non-site-specific nature of this hazard, **Table 4.6.8** lists all structures within West Virginia Region I as having potential impacts from severe storms.

Loss of Life
One fatality occurred during an unseasonably warm period in early February 2009. On February 11, a strong cold front advanced through the region triggering severe thunderstorms. In Davy (McDowell County), one person died during the severe thunderstorm due to the collapse of a gymnasium roof.

Economic Losses
Severe summer weather usually causes minor damage to structures, such as blowing shingles off roofs and downed branches breaking windows or falling onto buildings and above-ground infrastructure. More severe damage may also result. Of the 952 severe storm events since 1990, 105 events resulted in property damage of $10,000 or more. The costliest storm in the Region's history was a derecho event on April 28, 2002, which caused $6,045,000 in property damage.

Table 4.6.8: Structure Vulnerability from Severe Storms

Structure Type	Number of Properties Exposed	Value of Vulnerable Structures		
		Land	Building	Total
Residential	153,599	$1,543,031,800	$4,724,311,500	$6,267,343,300
Non-Residential	29,862	$1,174,538,600	$3,027,074,200	$4,201,612,800
Critical Facilities	820	$73,361,500	$755,015,600	$828,377,100
Total	**161,474**	**$2,630,865,000**	**$7,318,331,200**	**$9,949,196,200**

**Note: Critical Facilities are non-residential structures, and their value is incorporated into the non-residential totals as well. Calculated totals are determined by summing the residential and non-residential values.*

4.6.7 Land Use and Development Trends

Severe storms can occur anywhere. Any development that has occurred since the previous plan and any future development has the potential to be impacted by severe storms. Building codes are enforced (in areas where they exist), to require more resilient structures. Due to the age of structures, previous developed areas remain at a higher risk for storm damage.

4.7 Severe Winter Storms

4.7.1 Description

Severe winter weather includes winter storms, heavy snow, and extreme cold/wind chills. Winter storms are events that have snow, sleet, ice, or freezing rain as their primary type of precipitation. While the precipitation itself is typically not dangerous, frozen roads and exposure to cold can cause death and injury.

A winter storm forms under the right combination of three causes:

1. Below freezing temperatures in the clouds and near the ground, which are necessary to make snow and ice.
2. Lift, which raises the moist air from the clouds and causes precipitation. Warm air colliding with cold air and being forced to rise over the cold is an example of lift.
3. Moisture is needed to form clouds and precipitation. Air blowing across a body of water is a common source of moisture.

Winter storms are categorized by their type: blizzards, ice storms, lake effect storms, and snow squalls.

- **Blizzards** are winter storms that are a combination of blowing snow and wind which lead to very low visibility. Heavy snowfalls and severe cold often accompany blizzards, but this is not required. Ground blizzards occur when strong winds pick up snow that has already fallen.
- **Ice Storms** occur when at least a quarter inch of ice accumulates on exposed surfaces. Roads and sidewalks can become dangerously slick, and trees and powerlines can easily break under the weight of accumulated ice.
- **Snow Squalls** are brief, intense snow showers accompanied by strong winds. Impacts may be significant.

4.7.2 Location

Winter storms are typically large events that will impact the entire Region and have the potential to impact multiple counties at once.

4.7.3 Extent

The West Virginia Region 1 Hazard Mitigation Plan lists winter storms as the second highest threat hazards in the region. The average annual snowfall in West Virginia Region I is over 50 inches, with higher amounts along ridgetops. Snowfall typically occurs between November and March. January is the coldest month on average.

4.7.4 History

There have been at least 109 winter storm events and another 278 winter weather events including blizzards, heavy snow, extreme cold/wind chills, and ice storms in West Virginia Region I since January 1996. These events caused $17,655,000 in property damage, resulting in six injuries and three deaths according to the National Centers for Environmental Information (NCEI).

There have been two emergency declarations related to winter storms covering West Virginia Region I. The public assistance amount for each emergency declaration was divided between all jurisdictions impacted by the events including those outside of West Virginia Region I.

Table 4.7.1: Severe Winter Weather Events in West Virginia Region I since 1996

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages
Blizzard	6	0	0	$750,000
Extreme Cold/Wind Chill	24	0	0	$160,000
Heavy Snow	214	2	3	$13,017,000
Ice Storm	34	0	0	$215,000
Winter Storm	109	4	0	3,513,000
Total	387	6	3	$17,655,000

Severe Winter Storm in Region I on January 27-28, 1998

A heavy snow event impacted southern and eastern West Virginia, including most of Region I on January 27-28, 1998 (**Figure 4.7.1**). Due to the temperature gradient caused by upsloping winds, low-lying areas near Charleston received no snow, while areas near Beckley received over two feet of snow. This storm caused all three winter weather-related deaths.

Figure 4.7.1: January 1998 Snowstorm in West Virginia Region I

Severe Winter Weather in Princeton on February 3, 1998

Heavy rain and some wet snow in combination with the leftover heavy snowfall from the end of January resulted in the roof of a recycling center to collapse near Princeton. Two men were crushed to death when the roof fell on them.

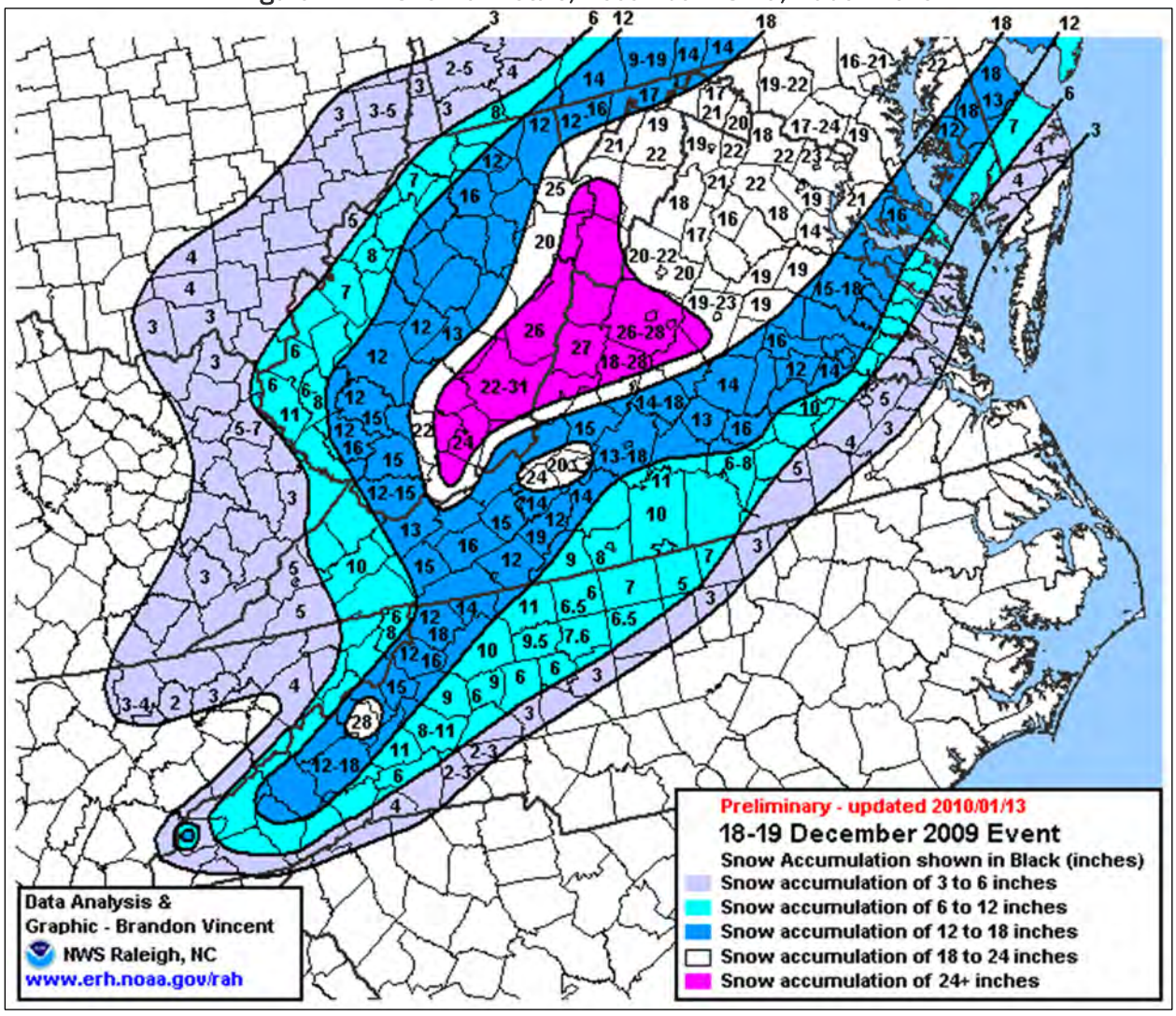
Severe Winter Storm in Region I on February 6, 1998

Approximately one week after the major January 1998 winter storm, another storm impacted the region. A storm intensified off the Mid-Atlantic coast and brought additional snow to the higher elevations of southern and eastern West Virginia, including most of West Virginia Region I. This storm caused over $4.8 million in damages, with Beckley/Raleigh County accounting for 75 percent of the total.

Severe Winter Storm in Region I on December 18, 2009

In December 2009, a major winter storm impacted the region. A storm intensified near the Mid-Atlantic coast and brought heavy snowfall to southern and eastern West Virginia, including all of West Virginia Region I (**Figure 4.7.2**). Snowfall totals between 18-26 inches were reported at various locations throughout the region. This storm caused over $1.85 million in damages in the region.

Figure 4.7.2: Snowfall Totals, December 18-19, 2009 Event



Source: National Weather Service, Raleigh NC, 2010

McDowell County

According to the National Centers for Environmental Information (NCEI), there have been 51 total severe winter weather events: six extreme cold/wind chill events, 37 heavy snow events, two ice storm events, and six winter storm events recorded in McDowell County from January 1996 to August 2020. These events resulted in $3.15 million in property damage.

A heavy snow event impacted southern and eastern West Virginia, including McDowell County, on January 27-28, 2009. Due to the temperature gradient caused by upsloping winds, low-lying areas near Charleston received no snow, while areas near Welch and nearby ridges received over two feet of snow. This storm caused the only injury related to severe winter weather. In December 2009, a major winter storm impacted the region. A storm intensified near the Mid-Atlantic coast and brought heavy snowfall to southern and eastern West Virginia, including all of West Virginia Region I. Snowfall totals between 18-26 inches were reported at various locations throughout the County. This storm caused over $750,000 in damages in McDowell County.

These events were responsible for one injury. These events are summarized in **Table 4.7.2**, below:

Table 4.7.2: Severe Winter Weather Events in McDowell County since 1996

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages
Blizzard	0	0	0	$0
Extreme Cold/Wind Chill	6	0	0	$45,000
Heavy Snow	37	1	0	$3,100,000
Ice Storm	2	0	0	$5,000
Winter Storm	6	0	0	$0
Total	51	1	0	$3,150,000

Mercer County

According to the National Centers for Environmental Information (NCEI), there have been 77 total severe winter weather events: two blizzards, two extreme cold/wind chill events, 35 heavy snow events, eight ice storm events, and 30 winter storm events recorded in Mercer County from January 1996 to August 2020. These events resulted in nearly $1 million in property damage. These events were responsible for one injury. These events are summarized in **Table 4.7.3**, below:

Table 4.7.3: Severe Winter Weather Events in Mercer County since 1996

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages
Blizzard	2	0	0	$0
Extreme Cold/Wind Chill	2	0	0	$0
Heavy Snow	35	0	0	$986,000
Ice Storm	8	0	0	$5,000
Winter Storm	30	0	0	$0
Total	77	0	0	$991,000

Monroe County

According to the National Centers for Environmental Information (NCEI), there have been 56 total severe winter weather events: one blizzard, one extreme cold/wind chill event, 24 heavy snow events, nine ice storm events, and 21 winter storm events recorded in Monroe County from January 1996 to August 2020. These events resulted in $3.15 million in property damage.

A heavy snow event impacted southern and eastern West Virginia, including Monroe County on January 27-28, 2009. Due to the temperature gradient caused by upsloping winds, low-lying areas near Charleston received no snow, while areas near Beckley and nearby ridges received over two feet of snow. This storm caused the injury and death attributed to severe winter weather.

These events were responsible for one injury and one death. These events are summarized in **Table 4.7.4**, below:

Table 4.7.4: Severe Winter Weather Events in Monroe County since 1996

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages
Blizzard	1	0	0	$0
Extreme Cold/Wind Chill	1	0	0	$0
Heavy Snow	24	1	1	$236,000
Ice Storm	9	0	0	$15,000
Winter Storm	21	0	0	$10,000
Total	56	1	1	$261,000

Raleigh County

According to the National Centers for Environmental Information (NCEI), there have been 84 total severe winter weather events: one blizzard, seven extreme cold/wind chill events, 51 heavy snow events, eight ice storm events, and 17 winter storm events recorded in Raleigh County from January 1996 to August 2020. These events resulted in over $11 million in property damage.

A heavy snow event impacted southern and eastern West Virginia, including Raleigh County on January 27-28, 2009. Due to the temperature gradient caused by upsloping winds, low-lying areas near Charleston received no snow, while areas near Beckley and nearby ridges received over two feet of snow. This storm caused both deaths attributed to severe winter weather. Approximately one week after the major January 1998 winter storm, another storm impacted the region. A storm intensified off the Mid-Atlantic coast and brought additional snow to the higher elevations of southern and eastern West Virginia, including of West Virginia Region I. This storm caused over $4.8 million in damages, with Beckley/Raleigh County accounting for 75 percent of the total. In December 2009, a major winter storm impacted the region. A storm intensified near the Mid-Atlantic coast and brought heavy snowfall to southern and eastern West Virginia, including all of West Virginia Region I. Snowfall totals between 18-26 inches were reported at various locations throughout the region. This storm caused over $700,000 in damages in the region.

These events were responsible for four injuries and two deaths. These events are summarized in **Table 4.7.5**, below:

Table 4.7.5: Severe Winter Weather Events in Raleigh County since 1996

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages
Blizzard	1	0	0	$750,000
Extreme Cold/Wind Chill	7	0	0	$70,000
Heavy Snow	51	0	2	$6,500,000
Ice Storm	8	0	0	$185,000
Winter Storm	17	4	0	$3,503,000
Total	84	4	2	$11,008,000

Summers County

According to the National Centers for Environmental Information (NCEI), there have been 65 total severe winter weather events: one blizzard, two extreme cold/wind chill events, 29 heavy snow events, five ice storm events, and 27 winter storm events recorded in Summers County from January 1996 to August 2020. These events resulted in $300,000 in property damage. These events were responsible for one injury. These events are summarized in **Table 4.7.6**, below:

Table 4.7.6: Severe Winter Weather Events in Summers County since 1996

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages
Blizzard	2	0	0	$0
Extreme Cold/Wind Chill	2	0	0	$0
Heavy Snow	29	0	0	$300,000
Ice Storm	5	0	0	$0
Winter Storm	27	0	0	$0
Total	65	0	0	$300,000

Wyoming County

According to the National Centers for Environmental Information (NCEI), there have been 54 total severe winter weather events: six extreme cold/wind chill events, 38 heavy snow events, two ice storm events, and eight winter storm events recorded in Wyoming County from January 1996 to August 2020. These events resulted in $1.9 million in property damage. These events were responsible for one injury.

In December 2009, a major winter storm impacted the region. A storm intensified near the Mid-Atlantic coast and brought heavy snowfall to southern and eastern West Virginia, including all of West Virginia Region I. Snowfall totals between 18-26 inches were reported at various locations throughout the region. This storm caused over $400,000 in damages in the County.

These events are summarized in **Table 4.7.7**, below:

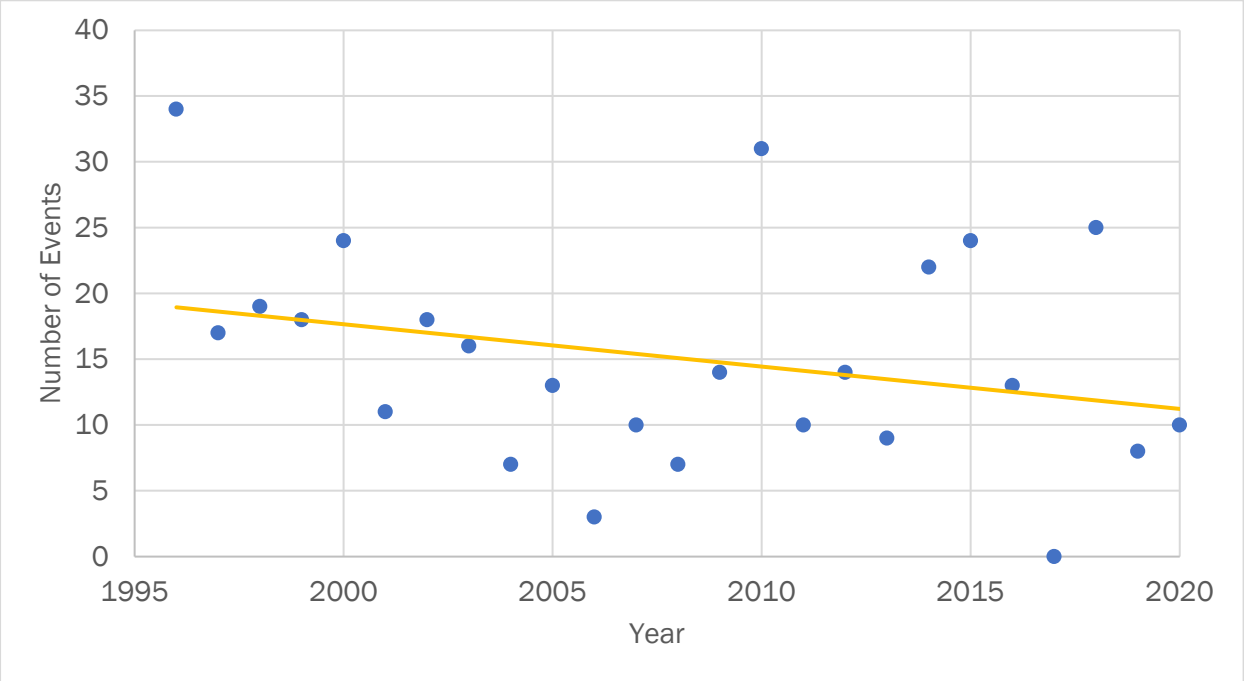
Table 4.7.7: Severe Winter Weather Events in Wyoming County since 1996

Severe Storm Event Type	Number of Events	Injuries	Deaths	Property Damages
Blizzard	0	0	0	$0
Extreme Cold/Wind Chill	6	0	0	$45,000
Heavy Snow	38	0	0	$1,895,000
Ice Storm	2	0	0	$5,000
Winter Storm	8	0	0	$0
Total	54	0	0	$1,945,000

4.7.5 Probability

According to the NCEI, there have been a total of 387 winter storm and winter weather events reported in West Virginia Region I from January of 1996 to December 2020, with total losses amounting to $17,655,000 in property damage. This amounts to approximately 16 winter storm events annually with average annual damages of $736,000. **Figure 4.7.2** shows the trend of severe winter weather events over time between January 1996 and March 2020. The trend line decreases over time showing that winter storm events are becoming less common each year.

Figure 4.7.3: Severe Winter Weather Probability



4.7.6 Vulnerability Assessment

Infrastructure Impact

Winter storms can cause damage to overhead utilities. Wires in particular can collapse under the weight of accumulated snow and ice. Debris can block roadways or damage property as tree limbs can also collapse under the weight of accumulated snow and ice. Water pipes can be frozen under extreme low temperatures that may accompany severe winter storms. Roads and sidewalks can be blocked by the accumulation of snow, as well as being iced over.

Population Impact

All residents of West Virginia Region I are expected to be impacted by severe winter storms. The elderly and children may be more severely impacted by extreme cold.

Property Damage

Property can be damaged by accumulated snow and ice, debris, and falling wires. Extreme low temperatures can also freeze the water in pipes which could cause them to explode. All buildings are in the Region are exposed and vulnerable to winter storms. The State of West Virginia Hazard Mitigation Plan 2019 estimates annual potential losses due to damage caused by winter storms in West Virginia Region I to be $54,884.65. **Table 4.7.8** summarizes the values of at-risk properties during a severe winter storm event.

Table 4.7.8: Structure Vulnerability from Severe Winter Storms

Structure Type	Number of Properties Exposed	Value of Vulnerable Structures		
		Land	Building	Total
Residential	153,599	$1,543,031,800	$4,724,311,500	$6,267,343,300
Non-Residential	29,862	$1,174,538,600	$3,027,074,200	$4,201,612,800
Critical Facilities	820	$73,361,500	$755,015,600	$828,377,100
Total	**161,474**	**$2,717,570,400**	**$7,751,385,700**	**$10,468,956,100**

**Note: Critical Facilities are non-residential structures, and their value is incorporated into the non-residential totals as well. Calculated totals are determined by summing the residential and non-residential values.*

Loss of Life

There are three reported direct or indirect deaths from severe winter weather events in West Virginia Region I. Two deaths were attributed to traffic accidents, and another from a man trapped in his remote rural house that was unable to make it to the hospital for treatment for a cardiac episode. Other likely causes of past deaths are from hypothermia from prolonged exposure to cold, and heart attacks from heavy snow shoveling.

Economic Losses

Economic losses can occur from businesses shutting down for potentially long periods of time. Economic activity can be completely halted during winter storms including transportation of goods. Electricity outages may lead to spoiled goods. Since winter storms occur during the winter season, damages to crops are unlikely.

4.7.7 Land Use and Development Trends

Winter storms can occur anywhere. Any development that has occurred since that previous plan and any future development has the potential to be impacted by winter storms. All land uses are equally impacted by severe winter weather.

4.8 Tornadoes

4.8.1 Description

FEMA defines a tornado as "a violently rotating column of air extending from a thunderstorm to the ground." Tornadoes can generate wind speeds of greater than 250 MPH. Tornado paths can be as large as one-mile-wide and 50 miles long. Nationally, there is an average of 800 tornadoes reported annually across all 50 states.

In general, the midsection of the United States experiences a higher rate of tornadoes than other parts of the country because of the recurrent collision of moist, warm air moving north from the Gulf of Mexico with colder fronts moving east from the Rocky Mountains. Supercells, which form from rotating thunderstorms, are the most destructive variety of tornado.

Tornado Warnings are issued when a tornado is indicated by the WSR-88D radar or sighted in person by spotters. The WSR-88D radar is an advanced Weather Surveillance Doppler Radar utilized by the NWS to generate a radar image. Once a warning has been issued, people in the warning area should seek shelter immediately. Warnings will include the location of the tornado, as well as what communities will be in its path. A tornado warning can be issued without a tornado watch, and they are typically issued for 30 minutes at a time. If the thunderstorm responsible for the formation of the tornado is also producing large volumes of rain, the tornado warning may be combined with a Flash Flood Warning. The NWS Office will follow up any Tornado Warnings with Severe Weather Statements to provide up-to-date information on the tornado and inform the public when the warning is no longer in effect (Source: NWS). The National Weather Service Forecast Office in Charleston, West Virginia is responsible for issuing Tornado Watches and Warnings for McDowell, Wyoming, and Raleigh Counties. The National Weather Service Forecast Office in Blacksburg, Virginia (west of Roanoke) is responsible for issuing Tornado Watches and Warnings for Monroe, Summers, and Mercer Counties.

4.8.2 Location

Tornadoes can occur anywhere in West Virginia Region I. All areas and jurisdictions should be considered at risk for a tornado.

4.8.3 Extent

Tornadoes are measured by damage scale for their winds with greater damage equating greater wind speed. The original Fujita Tornado Damage Scale (F-scale) was developed in 1971 without much consideration to a structure's integrity or condition as it relates to the wind speed required to damage it. The Enhanced Fujita-scale (EF-Scale) took effect on February 1, 2007. This scale starts with the original F-scale's F0-F5 ratings and classifies tornado damage across 28 different types of damage indicators. These indicators mostly involve building/structure type and are assessed at eight damage levels from 1-8. Therefore, construction types and their relative strengths and weaknesses are incorporated into the EF classification given to a particular tornado. The most intense damage within the tornado path will generally determine the EF scale given the tornado. **Table 4.8.1** lists the classifications under the EF- and F-scale. It should be noted that the wind speeds listed in this table are estimates based on damage rather than measurements.

There are no plans by the National Oceanic Atmospheric Administration (NOAA) or the National Weather Service to re-evaluate the historical tornado data using the enhanced scale. Therefore, this Plan and subsequent plans will reference both scales until a complete switchover is deemed necessary.

Table 4.8.1 Fujita and Enhanced Fujita Scale Classifications

Fujita Scale 3-Second Wind Gust (MPH)		Damage Levels	Enhanced Fujita Scale 3-Second Wind Gust (MPH)	
F0	45-78	**Light Damage**: Tree branches down.	**EF-0**	65-85
F1	79-117	**Moderate damage**: Roof damage.	**EF-1**	86-110
F2	118-161	**Considerable damage**: Houses damaged.	**EF-2**	111-135
F3	162-209	**Severe damage**: Buildings damaged.	**EF-3**	136-165
F4	210-261	**Devastating damage**: Structures leveled.	**EF-4**	166-200
F5	262-317	**Incredible damage**: Whole towns destroyed.	**EF-5**	Over 200

Source: National Weather Service

4.8.4 History

There have been 13 tornado events in West Virginia Region I between April 1959 and August 2021 resulting in over $700,000 in property damage. These events were responsible for one death and 56 injuries. Only two of these events occurred in the last ten years. Events with the highest recorded property damages, injuries, and fatalities are described below.

Tornadoes in Raleigh, Summers, and Wyoming Counties on April 4, 1974

A powerful springtime low pressure system developed across the North American Interior Plains on April 1. While moving into the Mississippi and Ohio Valley areas, a surge of very moist air intensified the storm further while there were sharp temperature contrasts between both sides of the system. Officials at NOAA and in the National Weather Service forecast offices were expecting a severe weather outbreak on April 3. Within 24 hours between April 3-4, 1974, a total of 148 tornadoes touched down across 13 U.S. states and the Canadian Province of Ontario. During this outbreak, a total of four tornadoes touched down in southern West Virginia. Raleigh, Summers, and Wyoming Counties all reported tornadoes. The strongest were two F3 tornadoes east of Beckley in Raleigh County. This event was responsible for the one reported death and 32 of the reported injuries. Locations of the tornadoes can be found in **Figure 4.8.1** (Source: NOAA).

Figure 4.8.1 Locations of Super Outbreak Tornadoes, 1974

Source: Dr. Theodore Fujita, University of Chicago, via NOAA

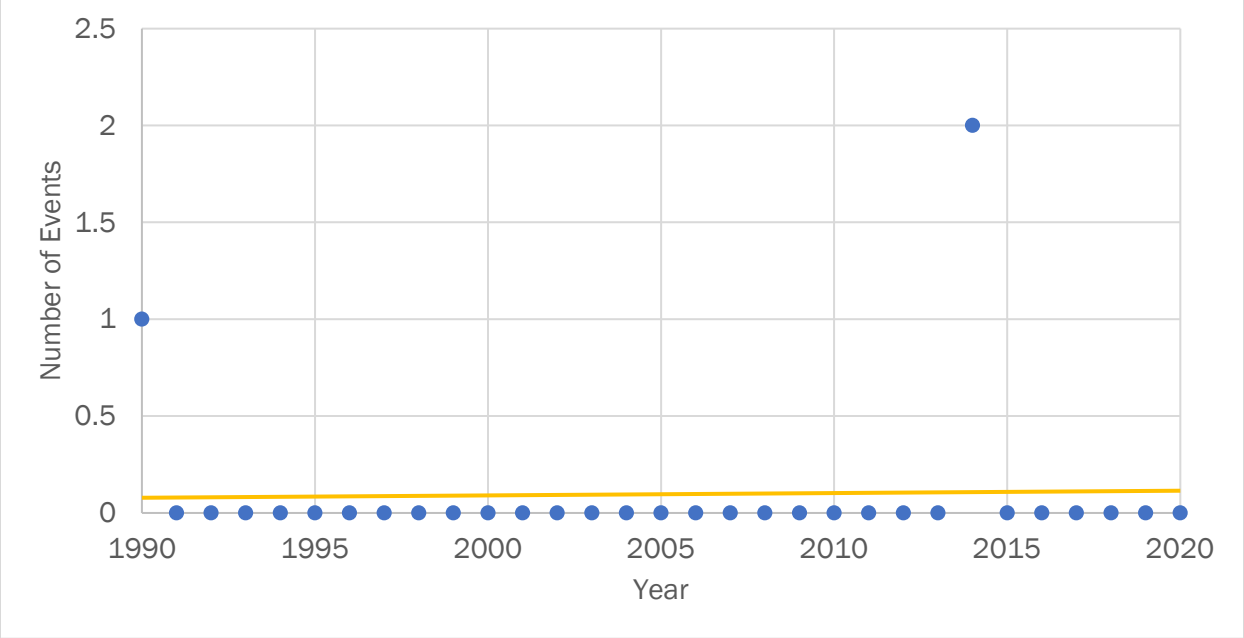
Tornado in Raleigh County on April 19, 1959
According to the Register-Herald, the local newspaper in Raleigh County, a tornado (later categorized as an F1) touched down outside of Beckley and damaged homes and businesses. This tornado was responsible for 12 injuries.

Tornadoes in Raleigh County and Mercer County on October 7, 2014
An EF2 tornado struck Raleigh County south of the City of Beckley and an EF1 tornado struck Mercer County northeast of Matoaka on October 7, 2014. According to the National Weather Service: "*a well-built garage or outbuilding was completely destroyed, about 10 to 20 houses sustained minor roof and porch damage, and a few barns and outbuildings were damaged. Numerous trees were snapped, sheared off, or felled, destroying at least two vehicles. A parked school bus had its front window broken and around 20 power poles were damaged, cutting power to several hundred customers"* in Raleigh County and "*numerous trees were snapped or downed, four homes and a shed sustained minor damage, and a mobile home was severely damaged*" in Mercer County.

4.8.5 Probability
There have been 13 tornado events in West Virginia Region I between April 1959 and August 2021 resulting in over $700,000 in property damage. As such, tornadoes are likely to occur within West Virginia Region I and result in an average of $11,290 in property annually. In the last ten years, there have been two reported tornado events.

The annual rate for tornadoes and severe wind events in West Virginia Region I is approximately one event every five years. However, when conditions are right, there may be multiple tornadoes in one year. This rate is displayed in **Figure 4.8.2** below, which shows the number of tornado or severe wind events each year since 1990. The slope is very slightly positive; however, the data sample is small. The number of tornado events is likely to remain similar in the Region over the next five years.

Figure 4.8.2: Probability of Tornado Events in West Virginia Region I



4.8.6 Vulnerability Assessment

Infrastructure Impact

Above-ground infrastructure can be damaged by tornadoes. Debris caught in the high winds as well as fallen trees can also cause damage to buildings and infrastructure including road closure. Above ground utility infrastructure can be damaged or destroyed, which can cause service outages.

Population Impact

Tornadoes are random in nature and have the potential to occur anywhere in the Region. Everyone within the Region should be prepared for a tornado and severe wind events. Residents in mobile home parks are particularly vulnerable and should have a plan in place.

Property Damage

Tornadoes can cause significant damage to buildings and properties. There have been 13 tornadoes in West Virginia Region I which have caused more than $700,000 in property damage. Annually, this amounts to $11,290 in damages, though the total for individual events is much greater, averaging $250,000 per event, for events where data is available (1990-2021). **Table 4.8.2** details the structural vulnerability for the entire Region since all properties in the Region are at risk from a tornado.

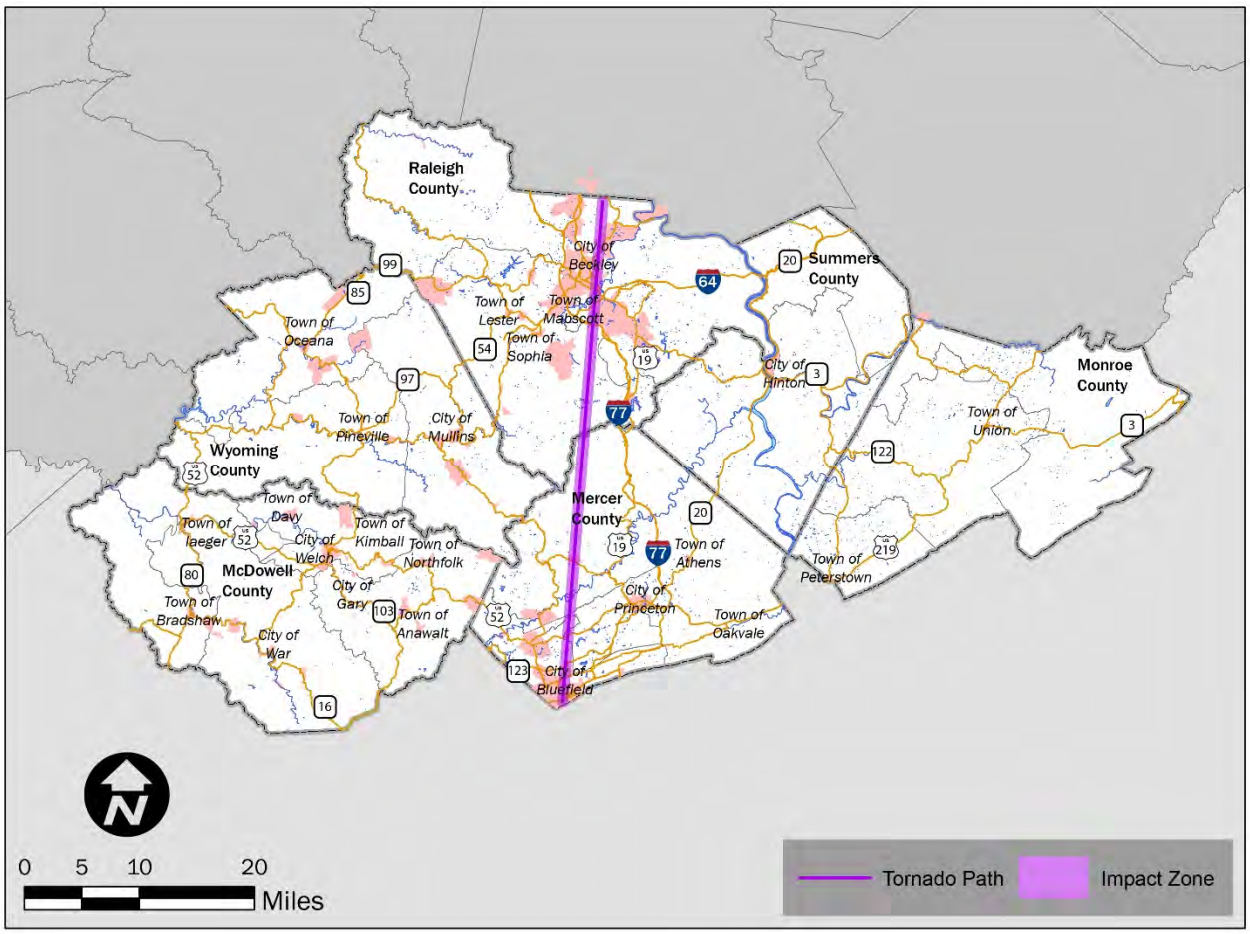
Figure 4.8.3 illustrates the worth-case tornado path, which would run through densely populated areas.

Table 4.8.2: Structure Vulnerability from Tornadoes

Structure Type	Number of Properties Exposed	Value of Vulnerable Structures		
		Land	Building	Total
Residential	153,599	$1,543,031,800	$4,724,311,500	$6,267,343,300
Non-Residential	29,862	$1,174,538,600	$3,027,074,200	$4,201,612,800
Critical Facilities	820	$73,361,500	$755,015,600	$828,377,100
Total	161,474	$2,717,570,400	$7,751,385,700	$10,468,956,100

**Note: Critical Facilities are non-residential structures, and their value is incorporated into the non-residential totals as well. Calculated totals are determined by summing the residential and non-residential values.*

Figure 4.8.3 Worst Case Scenario Tornado Path – West Virginia Region I



Loss of Life

At least one life has been lost as a result of a tornado in West Virginia Region I. There is potential for loss of life during any tornado event.

Economic Losses

Tornadoes and severe winds can cause major damage to structures and roads. Higher severity tornadoes have the potential to destroy structures. Debris also has the potential to cause damage to structures by breaking windows, damaging walls, or falling directly onto buildings and above-ground infrastructure.

Damages to utilities and roadways may also cause economic damage due to business closures, destruction of goods that require electricity, and halting economic activity.

4.8.7 Land Use and Development Trends

Tornadoes can occur anywhere. Any development that has occurred since the previous plan and any future development has the potential to be impacted by tornadoes. Building codes are enforced (where they exist), and new developments are generally more resilient, due to these newer codes. Previous developments may remain at a higher risk for storm damage due to the lack of retrofits.

4.9 Utility Failure

4.9.1 Description

Utility failure refers to the loss of electric power (blackouts), water, sewer, natural gas, and internet. These are primarily caused by system overload or lack of updated infrastructure. Power failures are generally caused by natural events such as severe storms, ice storms, tornadoes, and high winds. These power failures are common and cannot easily be predicted due to the random nature of storms; however, updates to infrastructure can reduce the amount and frequency of these power outages.

Internet outages and electricity outages were frequently brought up as a concern during the individual meetings with stakeholders.

The West Virginia Broadband Enhancement Council was created in 2017 with the task of expanding broadband service to unserved and underserved communities.

4.9.2 Location

Depending on the cause, utility failures can be isolated, countywide, or even regional under extreme conditions. Utility failures can occur in any area where the utility is provided.

4.9.3 Extent

Utility failures due to damaged infrastructure have the potential to impact large areas of the region through the loss of utilities that provide necessary services to the population. Loss of electric or gas can affect household temperatures, which can lead to severe dehydration or possibility of loss of life if outdoor temperatures are extreme. Additionally, utility failure affecting the water service has the potential to lead to contamination of the water supply and freezing of household pipes.

Furthermore, lack of utility access during a larger hazard event such as epidemic/pandemic, as seen with the COVID-19 pandemic, can result in an inability to perform work duties remotely. This has the potential to have negative economic impacts at both the individual and family levels, as well as at a larger scale.

In areas with poor internet coverage, remote work can be nearly impossible. For this reason, attendees to virtual meetings were given the option to call in by phone. According to Broadband Search, 83 percent of West Virginia residents have access to high-speed internet. West Virginia has some of the lowest rates of access to internet in the Country. 15.3 percent of residents have a choice between three or more internet service providers. 35.9 percent of residents in the State do not have access to internet.

4.9.4 History

There have been regular internet and power outages in the Region. McDowell County has experienced at least one widespread power outage as a result of a winter storm in 2020, as reported during McDowell County's stakeholder meetings.

4.9.5 Probability

Power outages, and internet outages in particular, appear to be common based on feedback from various jurisdictions in the Region.

4.9.6 Vulnerability Assessment

Infrastructure Impact

In the event of a utility failure caused by downed power lines, roads may be closed. Utility infrastructure may also suffer long-term damage because of such an event.

Population Impact

Extensive utility failures can threaten the health and safety of the public. During extreme temperature events, the impacts on residents are heightened. Loss of utilities that provide air conditioning or heat can create a safety and health hazard, especially for children and older populations. Counties and/or communities should have a plan in place for how to notify and assist residents in case of utility failures.

Property Damage

Direct damage to property may result directly from downed power lines. Fires may also occur because of downed power lines.

Loss of Life

Loss of life from the loss of electricity can occur under certain circumstances. Those who depend on electricity for necessary medical treatment are at a higher risk. Critical facilities such as hospitals and nursing homes should be prepared in the event of a utility failure, as they manage sensitive populations that may be reliant on uninterrupted utilities. Downed power lines can also lead to unsafe environments with live and exposed electric lines that have the potential to lead to loss of life.

Economic Losses

Blackouts are often caused by systems that are aging and deteriorating, and updates to these systems may require additional funds. Economic loss can occur because of reduced commercial activity. Goods that need electricity or other utilities for preservation may also be lost. If widespread blackouts occur, people may not be able to work, and wages or income may be lost as a result.

4.9.7 Land Use and Development Trends

Utility failure can impact any development. All development that has occurred since the previous plan and all development in the future can be impacted by utility failure. Microgrid and widespread generator use are not common in this region due to the lack of funding, lack of incentives, and challenging topography.

4.10 Wildfire

4.10.1 Description

A wildfire is an uncontrolled fire that burns in a natural area of combustible vegetation such as a forest, grassland, or prairie, and typically occurs in rural areas. Non-wilderness fires are uncontrolled burning in residential or commercial development that are out of the scope of this plan, however, it is important to note that non-wilderness fires often accidently cause wildfires. They can happen at any time, or anywhere, and more than half of the wildfires recorded have been started due to human activity. While wildfires can be caused by human activity or a natural phenomenon such as lightning, it is often the weather conditions that determine how much a wildfire grows.

The West Virginia Division of Forestry (WVDOF) identifies the State's wildfire season as occurring primarily in the spring (March, April, and May) before vegetation has "greened-up", and in the fall (October, November, and December) when leaf drop occurs. During these times, and especially when weather conditions are extremely dry such as drought, high temperatures, and during high winds, the risk of wildfires increases. Logging activity that leads to cured vegetation is particularly susceptible to burning. Dried out trees, shrubs, fallen leaves, and limbs become fuel to the fire. Topography plays a big part, too, wherein flames burn faster uphill than downhill. All of these factors (fuel, weather, topography) can combine to present an extreme danger to unwary civilians and firefighters in the path of a wildfire.

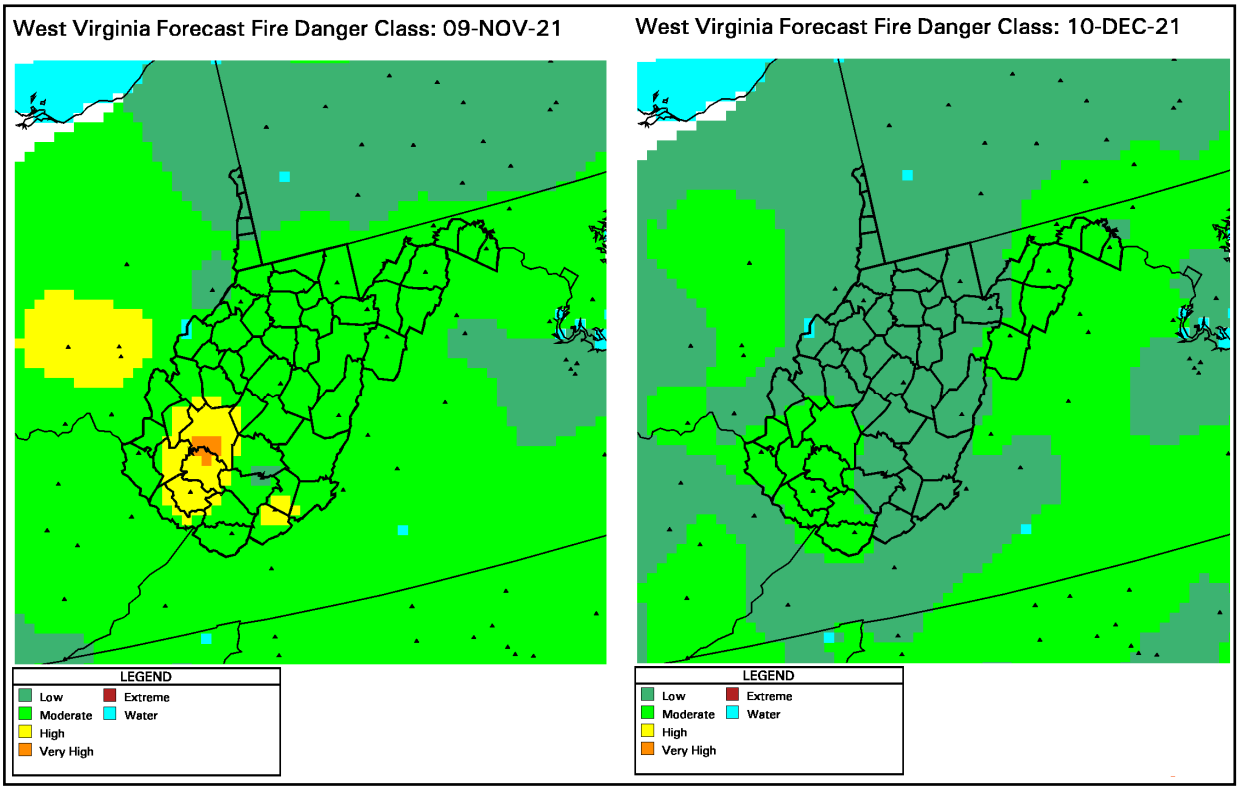
There are 52 fire departments in Region I that are listed in the National Fire Department Registry managed by U.S. Fire Administration (FEMA). Of these, two stations have 100 percent career firefighters, one station has mostly career firefighters (51 percent – 99 percent career firefighters), two stations have mostly volunteer firefighters (one percent – 50 percent career firefighters), and all the remaining have 100 percent volunteer firefighters.

4.10.2 Location

Wildfires occur in areas with forestland, and dry and hot conditions. Human-caused wildfires can be more common in areas with people living in the wild-urban interface areas. Fires originating in one area can have a wide-scale spatial impact. While the immediate residents of the place experience the impacts of fires first-hand, people living in other cities or even other states can experience indirect impacts. Smoke from wildfires has the potential to travel thousands of miles. West Virginia Region I counties have experienced a hazy cloud of smoke, as recent as July 2021, originating in California, Oregon, Montana, and even Canada.

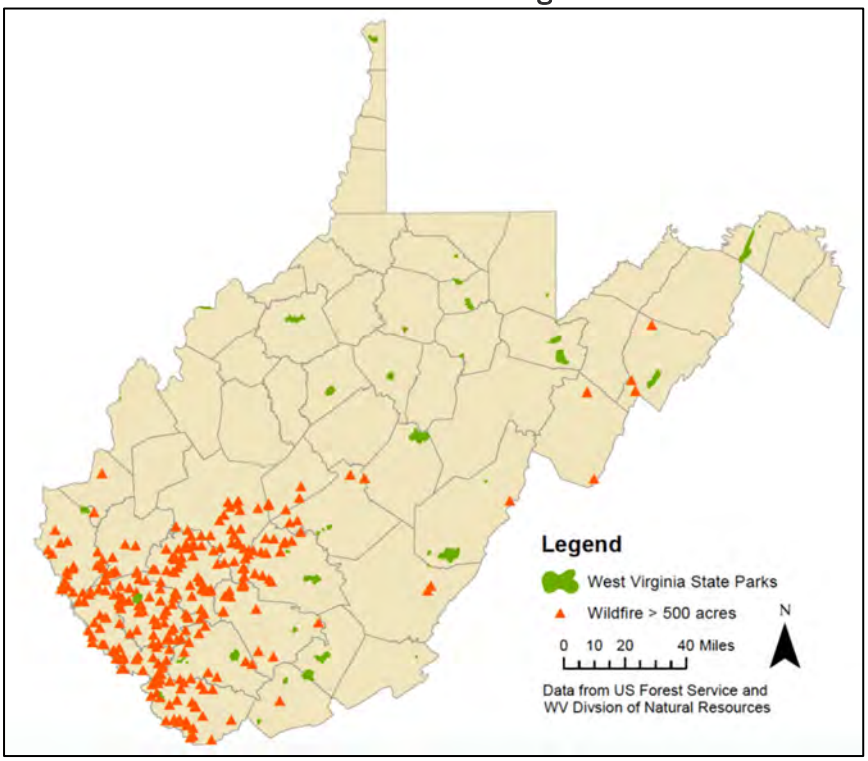
The West Virginia Division of Forestry provides a short-term Wildfire Danger Map that forecasts areas identified as unsafe for burning or prone to wildfires. The 2021 fall map is presented in **Figure 4.10.1** below. **Figure 4.10.2** provides locations of all fires originating in the State between 1984 to 2014. It is important to note that **Figure 4.10.2** includes wildfires occurring naturally as well as wildfires caused due to human activity such as logging, campfires, picnic fires, and incidental fires from cigarettes, matches or fireworks. Arson fires are major causes as well (**Figure 4.10.3**).

Figure 4.10.1: Wildfire Danger Map for the Fall Season of 2021



Map source: WFAS-MAPS National Interagency Fire Center, via WVDOF

Figure 4.10.2: Wildfires > 500 acres in West Virginia between 1984 and 2014



Map source: West Virginia Rivers

McDowell County

Figure 4.10.1 shows potential moderate wildfire activity in McDowell County in Fall, 2021. Historically, McDowell County has witnessed numerous wildfires that have burned over 500 acres of forestland as seen in Figure 4.10.2.

Mercer County

Generally, for wildfires originating within the State, the West Virginia State Hazard Mitigation Plan identifies Mercer County as high-risk for wildfires. Figure 4.10.1 shows potential high wildfire activity in the northern areas of Mercer County and 'moderate' wildfire activity in the rest of the County for the Fall season in 2021. Historically as seen in Figure 4.10.2, between 1984 and 2014, only one wildfire event has been recorded in Mercer County with damages spread over 500 acres of land or more.

Monroe County

For wildfires originating within the State, the West Virginia State Hazard Mitigation Plan identifies Monroe County as high-risk for wildfires. However, for Fall 2021, Figure 4.10.1 shows potential high wildfire activity only near the east end of the County between the Town of Peterstown and Mercer County. The rest of the County is identified to potentially have 'moderate' wildfire activity. Historically, no major events have been recorded in Monroe County.

Raleigh County

For the Fall season of 2021, Raleigh County may witness between low to high wildfire activity with low risk in the northern areas and high risk in the eastern areas. The rest of the County is identified to potentially have 'moderate' wildfire activity. This matches the region's wildfire history (Figure 4.10.2) as majority of the wildfire events are seen to have occurred in the eastern region that borders Boone and Kanawha counties.

Summers County

Summers County may witness wildfire events in the southern parts of the County where Bluestone and Pipestem Resort State Parks are located. Historically, no major events have been recorded in the County.

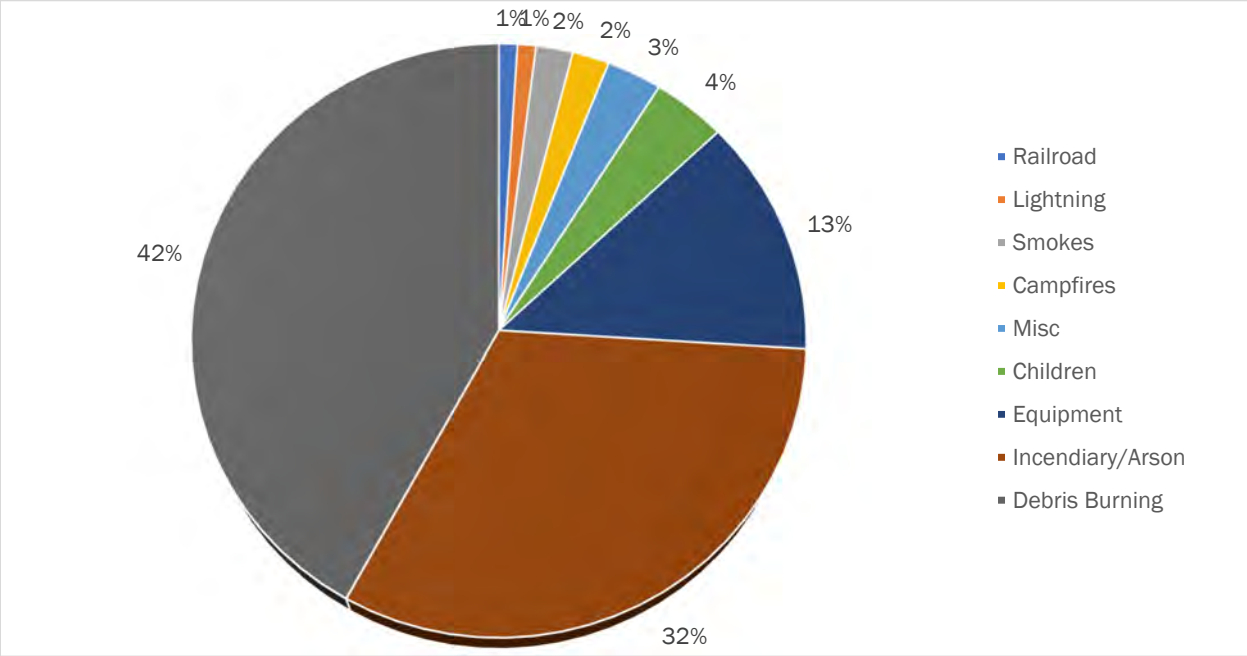
Wyoming County

For wildfires originating within the State, the West Virginia State Hazard Mitigation Plan identifies Wyoming County as high-risk for wildfires. Figure 4.10.1 shows potential 'high' wildfire activity in the eastern parts of Wyoming County mostly originating in Boone and Logan Counties. Rest of the County is identified to potentially have 'moderate' wildfire activity. This matches the counties wildfire history (Figure 4.10.2) as majority of the wildfire events are seen to have occurred in the neighboring Boone and Logan counties.

4.10.3 Extent

According to data available on leading categories that cause wildfires in the State, 99 percent are caused by human action. As such, many wildfires in the State burn in close proximity of homes and structures. In 2018, the main causes of wildfire included debris burning, incendiary (arson), equipment, children (playing with matches), smoking, campfires, lightning, and railroad, with lightning being the only naturally occurring cause for wildfires (Figure 4.10.3).

Figure 4.10.3: Causes of Wildfire in West Virginia in 2018



Source: West Virginia Rivers

Several factors can contribute to the escalation of a fire resulting in increased wildfire risks. These factors include the prevalence of forests and agricultural lands in close proximity to homes, residences, and structures, outdoor burning of debris or campfires during peak dry weather seasons or as declared by WVDOF. The distance between the fire and emergency management services also determines how soon a fire can be suppressed. If the fire occurs near a structure, it may cause a shift in focus of fire departments away from fire suppression and towards structure protection.

The Region has forested lands and grasslands and, as such, is susceptible to high wildfire risk. West Virginia is dominated by hardwood forests and is the third most heavily forested state in the country. The **Figure 1.3** in Chapter 1 identifies the major land cover types in the region and indicates that a large percentage of the area is covered by forests. Other factors to consider while assessing an area's susceptibility to wildfire are topography, drought-prone areas, high winds, humidity, and logging activity zones as discussed in the **Subsection 4.10.1** and **Section 4.2**. WVDOF provides Best Management Practice Training for Loggers on their website.

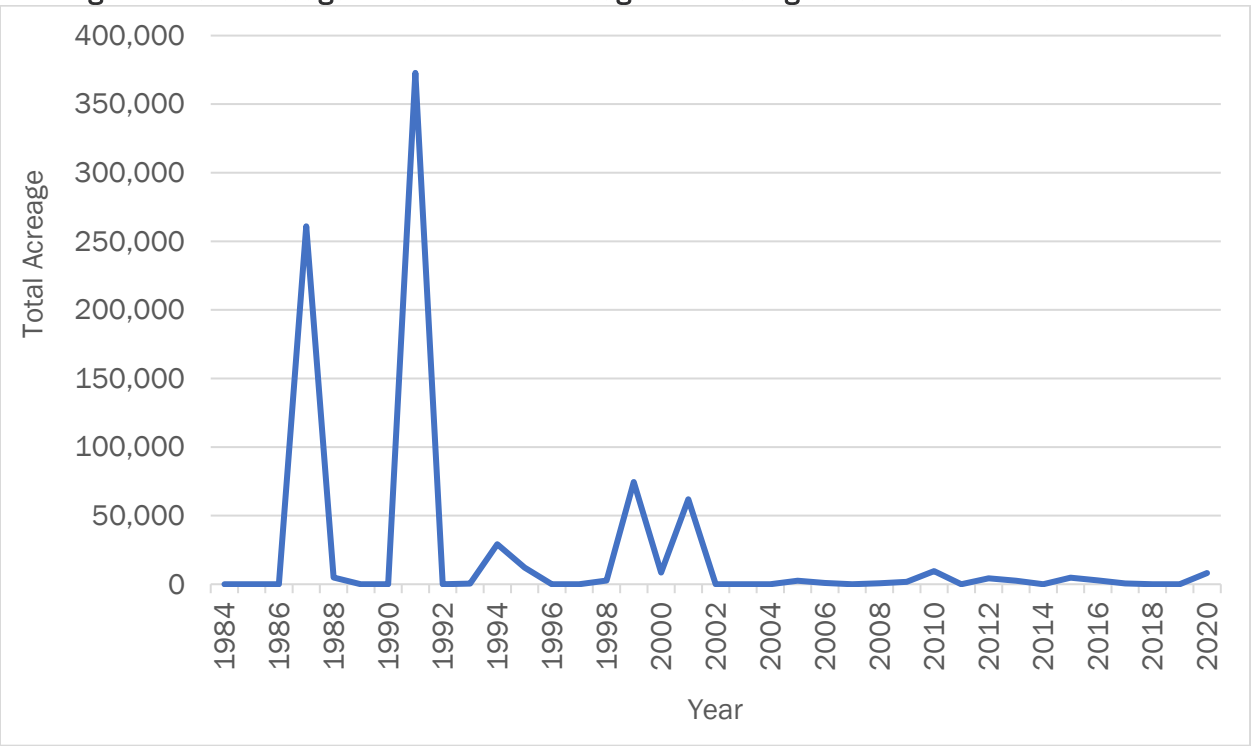
According to Jeremy Jones, Fire Staff Assistant with the West Virginia Division of Forestry, about 250 to 300 fires on an average are witnessed statewide during the fall season that burns about 3,000 to 4,000 acres. In the year 2020, West Virginia recorded 1,230 fires that burned 8,196 acres (Source: Insurance Information Institute).

4.10.4 History

Due to the post-Civil War building boom, extensive logging was seen in the State in the late 19th and early 20th centuries. Numerous wildfire events were caused by narrow gage rail Shay engines used to transport logs out of the mountains (Source: West Virginia State Hazard Mitigation Plan). In 1908, wildfires destroyed over 1.7 million acres of forests. As a result, the West Virginia Reform Law of 1909 was established to protect the States forests. Today, the WVDOF is responsible for protecting nearly 12 million acres of forestland across the State (Source: WVDOF).

Between 1984 and 2020, wildfires have destroyed about 866,857 acres of forestland in the State (Source: EPA). **Figure 4.10.4** provides the Average Annual Burned Acreage in West Virginia between 1984-2020* from which we observe that wildfires in West Virginia were at their highest peak in the 1980s to early 2000s.

Figure 4.10.4: Average Annual Burned Acreage in West Virginia between 1984 and 2020*



Source: EPA
**Data for 2019 unavailable*

Another data source **(Figure 4.10.2)** provides a map of wildfires that burned over at least 500 acres of forestland between 1984 to 2014. This includes wildfires occurring naturally, as well as wildfires caused due to human activity. Raleigh County has the highest number of fires recorded in Region I with scattered events seen in Mercer County and Summers County. There has been just one Federal Emergency Declaration for fire in the region as supplied below:

Southwest Complex Fire (FSA-2391-WV) on November 16, 2001.
Twelve counties, including McDowell County, Mercer County, Raleigh County, and Wyoming County, were included in Fire Management Assistance declaration for the West Virginia Southwest Complex Fire. Public Assistance Grants in the amount of $292,087was equally distributed among the impacted counties.

McDowell and Wyoming Counties have four wildfire events recorded in the State since 1995 by National Center for Environmental Information (NCEI). Raleigh County has three NCEI wildfire events recorded (Source: WV State Hazard Mitigation Plan). Detailed information about these events is not readily available, but some wildfires that have been reported on local media platforms are as follows:

Wildfire in McDowell County in November 2016
In November 2016, a fire broke out in the Bug Hurley Hollow area in McDowell County. The fire burned around 1,500 acres of land and was allegedly the result of arson. According to local authorities, about 16 different fires were intentionally set in the area. It took more than five days to control the fire.

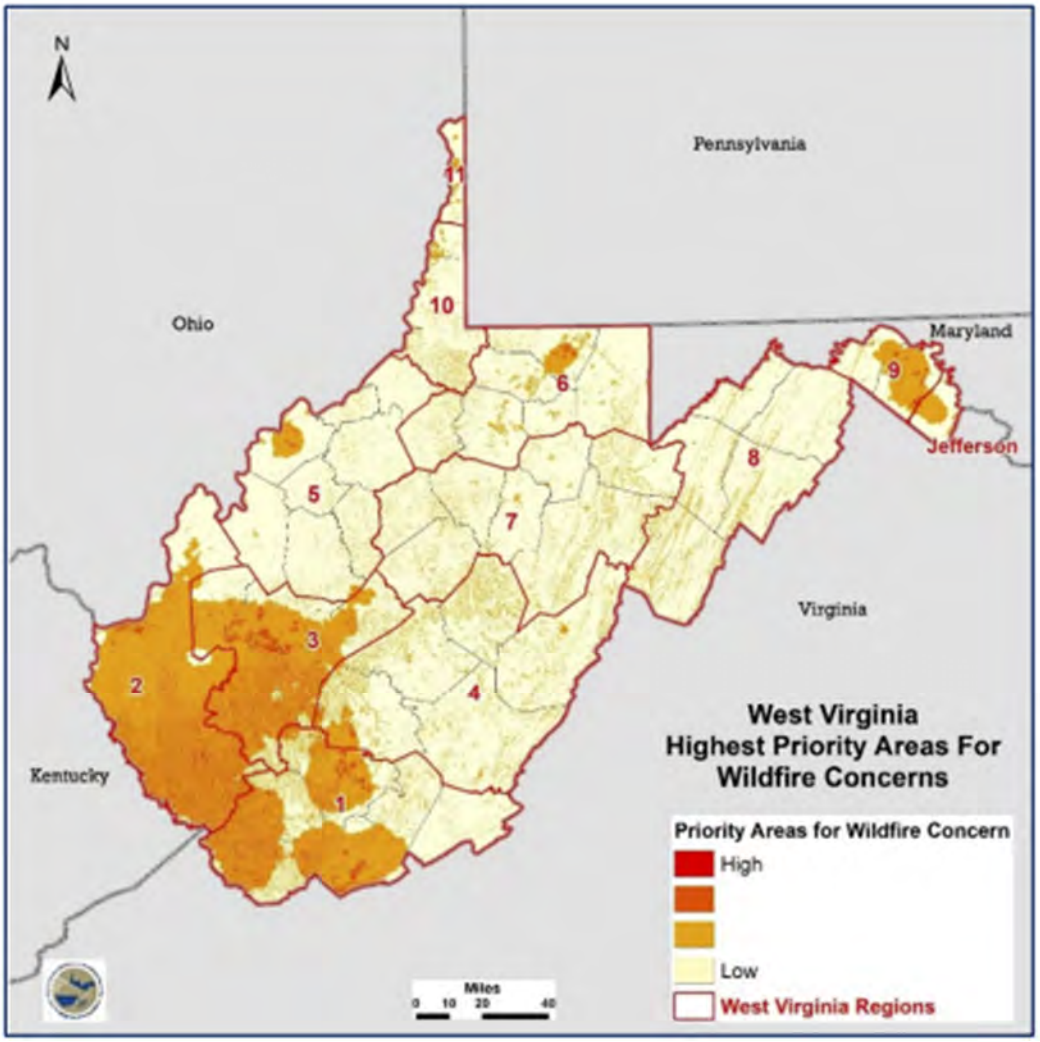
Wildfire in Raleigh County in January 2012
A controlled burn became out of control and turned into a small wildfire in Ghent, Raleigh County, in January 2012, as reported by the Raleigh County Emergency Operation Center. Ghent Fire Department and the National Park Service responded to the fire and suppressed it within one hour.

Estimated monetary losses associated with wildfires is not readily available information especially for small-scale fires occurring in open lands or fields. This lack of data may result in inconsistencies if an analysis was done based on reported monetary loss. As such, acres burned per fire event is a more consistent method of analysis for this hazard.

4.10.5 Probability
As per the priority areas identified for wildfire concerns (**Figure 4.10.5**) and areas of greatest fire occurrences in the past (**Figure 4.10.2**), the southwestern parts of the State have the highest probability for wildfires to occur. The West Virginia State Hazard Mitigation Plan provides a map created by WVDOF that identifies these areas, referred to as "hot counties of the southern coalfields" (**Figure 4.10.5**). West Virginia Region I has some intermediate priority areas for wildfire concerns. These "hot" areas represent the number of fire incidences and acres burned. Because there are portions of the Region in priority areas, there is a very likely chance (90% or greater) that a wildfire will occur within the Region within the next five years.

Growth and development in the wildlife-urban interface increase the probability of wildfires. On a global scale, the increase in annual average temperatures as well as periods of extreme heat due to human activity and global climate change is increasing the risk of wildfire occurrences. This can potentially have high direct or indirect impacts in West Virginia Region I as well.

Figure 4.10.5: Highest Priority Areas for Wildfires Concerns in West Virginia



Source: West Virginia State Hazard Mitigation Plan

4.10.6 Vulnerability Assessment

Infrastructure Impact

There is low risk that wildfire in Region I will impact infrastructure. Wildfire will most likely impact the region through property and crop damage.

Population Impact

There is a low probability of major wildfire events in Region I. Accordingly, there is a low risk of impact to the population. If wildfire would occur within the region, the population could be impacted by loss of homes and crops. Populations living in the wild-urban interface areas are most susceptible to impacts from fires. Indirect but long-term impacts on population include public health concerns due to an increase in pollutants in the air, such as carbon dioxide, carbon monoxide, and particulate matter, that can cause breathing respiratory and cardiovascular health issues.

Advanced evacuation warnings can reduce the likelihood of death as a result of wildfire. With consistent exposure to large quantities of pollutants, impacts may be fatal. Wildfires and living in unsafe and unhealthy conditions can also affect the mental health and psychosocial well-being of people.

Property Damage

As seen in **Figure 4.10.3**, debris burning, and incendiary/arson are observed to be leading causes of fire in the State. As such, many wildfires in the State burn in close proximity to homes and structures that can lead to property damage. Arson is direct and intentional damage to property that is seen as a major factor causing wildfires. Occasionally, in the event of a wildfire, fire engines belonging to local fire departments are damaged while suppressing wildfires. However, fire suppression has resulted in a great amount of personal property being saved by fire departments.

Due to the non-site-specific nature of this hazard, **Table 4.10.1** lists all structures within West Virginia Region I as having potential impacts from wildfires. It also provides values for two worst-case scenarios valued at one percent damage and five percent damage.

Loss of Life

West Virginia Region I has low to intermediate levels of risk from wildfire events. Because of this, it is unlikely that loss of life will result from wildfire; however, with any wildfire event, there is potential for loss of life including the loss of firefighters' life.

Economic Losses

Wildfire has the potential to damage to property, agricultural crops, tree plantations, and animals and livestock, which can result in economic losses. Potential economic losses and damages associated with West Virginia Region I structures, and potential worst-case scenarios are recorded in **Table 4.10.1**, below.

Table 4.10.1: Structure Vulnerability from Wildfires

Structure Type	Number of Properties Exposed	Value of Vulnerable Structures		
		Land	Building	Total
Residential	153,599	$1,543,031,800	$4,724,311,500	$6,267,343,300
Non-Residential	29,862	$1,174,538,600	$3,027,074,200	$4,201,612,800
Critical Facilities	820	$73,361,500	$755,015,600	$828,377,100
Total	**161,474**	**$2,717,570,400**	**$7,751,385,700**	**$10,468,956,100**

**Note: Critical Facilities are non-residential structures, and their value is incorporated into the non-residential totals as well. Calculated totals are determined by summing the residential and non-residential values.*

4.10.7 Land Use and Development Trends

Communities should monitor areas that are especially susceptible to wildfire such as wildlife-urban interface areas, forestland, and drought-prone areas. Communities should avoid development in such areas and ensure all new developments in the region implement fire protective measures to prevent home fires from becoming wildfires.

Additionally, land use planning should consider emergency access management for reliable responses to wildfires, as well as provide the necessary setbacks and land-use policies that are critical to reducing the initiation and acceleration of fires.

05 | Hazard Mitigation

HAZARD MITIGATION

5.1 Hazard Mitigation Strategy

Each potential hazard, including natural, geological, and human-caused hazards, were rated by members of the Core Planning Committee, which included representatives from each jurisdiction in West Virginia Region I. Each potential hazard was rated on a scale of zero to five, with zero indicating the hazard should not be studied and five indicating the most significant threat to the representative's community. **Table 5.1** displays the average of the representatives' ratings as a Priority Score for each hazard. The hazard that scored the highest (Flooding and Flash Flooding, 4.07), was given a Hazard Rank of one. The mitigation goals follow the ranking of hazards as established by the representatives of the participating jurisdictions.

Table 5.1: Hazard Priorities

Hazard	Priority Score	Hazard Rank
Flooding and Flash Flooding	4.07	1
Severe Winter Weather (includes Hailstorms)	3.71	2
Landslide and Land Subsidence	3.36	3
Hazardous Materials	2.86	-
Tornadoes and Damaging Winds	2.79	4
Severe Thunderstorms	2.79	5
Water System Issues (Water leaks, water tanks, towers, processing plant locations)	2.79	-
Hailstorm (included in Severe Winter Weather)	2.50	-
Terrorism (including cyberterrorism, attacks on infrastructure)	2.36	-
Utility Failure (phone coverage, internet, electricity)	2.36	6
Wildfire	2.29	7
Pandemic	2.29	-
Drought	2.21	8
Dam/Levee Failure	2.00	9
Mine Accidents (includes active and abandoned mines)	2.00	-
Earthquakes	1.71	10
Invasive Species	1.43	-

Coastal erosion and hurricanes/tropical storms are hazards that are not applicable to West Virginia Region I and were not assessed; however, if remnants of hurricanes or tropical storms were experienced as thunderstorms, thunderstorm winds, or high/severe winds, those events were included in the severe summer weather and/or severe wind and tornadoes assessments. Any non-natural hazards that were discussed during the planning meetings are not included in this plan, based on conversations with Jason Roberts from West Virginia Region I, with Utility Failures being the only exception. Non-natural hazards were seen as being out of the scope of this plan. Several new hazards were included in this Plan that were not included in the 2017 Plan. These hazards include drought, severe thunderstorms, and utility failure. Invasive species, pandemic, and any non-natural hazards were not included in this plan, based on feedback from the Region. These hazards were determined to be inappropriate for the scope of this plan, and may be included in future planning efforts by the Region.

Mitigation projects will only be implemented if the benefits outweigh the associated cost of the proposed project. The Core Planning Committee, in coordination with the West Virginia Region I Emergency Management Agency, performed a general assessment of each action that would require FEMA funding as part of the planning process. A detailed cost-benefit analysis of each mitigation action will be required during the project planning phase in order to determine the economic feasibility of each action. Projects will also be evaluated for social and environmental impact-related feasibility, as well as technical feasibility and any other criteria that evaluate project effectiveness. This evaluation of each project will be performed during the pre-application phase of a grant request. Project implementation will be subject to the availability of FEMA grants and other funding sources, as well as local resources.

Projects that are determined to be infeasible during this review process will be re-evaluated by members of the Core Planning Committee for re-scheduling or deletion.

5.2 Hazard Mitigation Goals

The goals of this Plan were discussed with the stakeholders during the planning process. The following general goals were discussed:

1. To reduce the risks to the lives of citizens and emergency personnel during and after a hazard event.
2. To acquire and maintain all necessary equipment for hazard mitigation, including immediately after an event.
3. To reduce the risks to property.
4. To increase public awareness of natural hazards.
5. To seek funding and encourage the acquisition, elevation, relocation, and mitigation reconstruction of properties susceptible to hazards.

5.3 Hazard Mitigation Action Priority

Members of the Core Planning Committee completed a Previous Mitigation Action Status survey, which indicated the status of mitigation actions included in the 2017 Hazard Mitigation Plan. This survey asked representatives to indicate whether the mitigation action from the previous plan was completed, deleted, deferred, unchanged, or ongoing. It also asked the representative if the action should be included in the updated Plan.

Once all mitigation actions from the previous plan were reviewed and their status indicated (**Appendix B**), all mitigation actions for the 2021 West Virginia Region I Hazard Mitigation Plan were reviewed and rated on a scale of one to five by members of the Core Planning Committee based on the several criteria, including whether the action was cost-effective, technically feasible, environmentally sound, needed immediately, and the action's total risk reduction.

All the surveys collected were tabulated to develop a single raw score for each individual mitigation action. These scores are indicated on the Hazard Mitigation Action Priority Table on the following pages. Overall, the score was determined by two factors:

1. The rankings of the hazard, as determined by the Hazard Priority Survey (**Table 5.1**, above).
2. The ratings received from the Core Planning Committee and the public on each of the mitigation actions.

The raw scores were then ranked, and each mitigation action was assigned a number to indicate the priority of that specific action, according to the survey responses. The lower the action priority, the higher the priority. For example, an action assigned a priority of "1" should be prioritized higher than an action assigned a priority score of "5". These actions were prioritized by jurisdiction.

Hazard Mitigation Action priorities are organized by jurisdiction in **Table 5.2**. The information used to develop the priorities can be found in the Matrix Score Spreadsheet, which is located in **Appendix C**. Comments from the jurisdictions responsible for each action can be found in **Appendix G**, along with all completed surveys that were used to make **Table 5.2**.

Table 5.2: Mitigation Actions Priority Table by Jurisdiction

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
McDowell County							
Previous Mitigation Actions							
1	Lobby for additional political support and funding to procure emergency response equipment.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/26	Ongoing
2	Distribute informational literature (to) public locations (schools, town halls, courthouse facilities, libraries, etc.).	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
3	Continue participation in Corps and FEMA mitigation programs.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time, FEMA	2/1/21-12/31/25	Ongoing
4	Participate in FEMA pre-disaster mitigation programs once available.	1	3	Mayors/ Administrators of Jurisdiction(s)	Hazardous Materials Emergency Planning Grant (HMEP), FEMA	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1:	Big Creek District and Sandy River area – experience flooding; some home damages, property damage.						
6	Clear tree debris from creeks and other waterways in the County.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
7	Repair identified embankments.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
8	Identify embankments in need of urgent repair.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
9	Acquire backhoe, bulldozer, dump trucks, an excavator, skid-steer loader, and other equipment necessary for debris clearing.	1	1	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	New
Problem Statement 2:		Winter storm – power outages lasted a couple of months					
10	Send out educational materials warning about the dangers of winter weather, especially for vulnerable populations (such as the elderly).	2	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
11	Work with Department of Highways to identify priority areas for snow removal outside of primary roads.	2	1	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	Ongoing
12	Equip community volunteer fire department with four-wheelers, snow removal vehicles.	2	3	Mayors & Administrators of Jurisdictions	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
13	Equip other first responders with four-wheelers, snow removal vehicles.	2	3	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
14	Create a system with police, fire, and/or other first responders to register special medical or safety needs before a hazard event.	2	2	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
15	Send out educational materials about preparing in advance for severe weather, such as having food and water on hand, generators, etc.	2	1	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	New
Problem Statement 3:		There are properties and structures within floodways throughout the County.					
16	Acquire backhoe, bulldozer, dump trucks, an excavator, skid-steer loader, and other equipment necessary for debris clearing.	1	1	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	New
17	Upgrade and relocate structures on properties that are partially within the floodway on the same property outside of floodway.	1	2	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	New
18	Purchase and demolish structures that are on properties that are fully within the floodway.	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants, FEMA	2/1/21-12/31/25	New
19	Coordinate with the Corps of Engineers and the National Resource Conservation Service to identify and purchase flood-prone structures.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
20	Identify properties outside of the floodplain where flood-prone properties and structures can be relocated.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Town of Bradshaw							
Previous Mitigation Actions							
21	Increase enforcement and implementation of stricter floodplain and building ordinances.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
22	Continue participation in HMGP programs (HMGP 1410 application unfunded due to inadequate funds).	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1:		Code enforcement and building upkeep throughout through-out the town is lacking. Vacant properties.					
23	Increase public education and participation in mitigation measures.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
24	Public awareness campaign about building upkeep and debris cleanup.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
25	Work with State and County for staffing assistance, particularly for code enforcement officers.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
26	Use social media (particularly Facebook) to emphasize the importance of building upkeep.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
27	Organize regular volunteer cleanups.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
28	Acquire and demolish or retrofit severely damaged properties.	1	2	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget, FEMA	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
29	Enact a vacant property tax.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
30	Map vacant properties in the town.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 2:		Communication infrastructure needs improved – poor/low quality cell and internet services.					
31	Install an emergency cell tower nearby to improve cell service.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budget	2/1/21-12/31/25	New
32	Work with West Virginia Region I to improve internet service.	1	1	West Virginia Region I PDC, Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Town of Davy							
Previous Mitigation Actions							
33	Distribute FEMA/OES literature at public locations such as schools, churches, libraries, town hall, etc.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
34	Adopt and update the McDowell County Emergency Response plan as needed.	1	-	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
35	Increase floodplain ordinance regulation.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
City of Gary							
Previous Mitigation Actions							
36	Establish work groups to remove debris from local streams/rivers.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
37	Increase maintenance/ reduce response time for highway maintenance during snowstorm events.	2	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
38	Increase floodplain regulation.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1:		Debris from trees after severe weather events					
39	Perform regular tree trimming throughout the City.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time, General Operating Budget	2/1/21-12/31/25	New
40	Perform regular clearing of debris from streams, creeks.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time, General Operating Budget	2/1/21-12/31/25	New
41	Department of Environmental – work with the department to develop a regular stream clearing program.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 2:		Sawmill Hollow Bridge – repeatedly damaged or washed away; Number 2 Bridge in the City of Gary; Tug Forks River (both bridges)					
42	Identify and mark (wayfinding) alternative routes.	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
43	Repair existing bridges.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
44	Raise bridges to reduce impacts of floods.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
45	Relocate bridges or construct alternative access points.	1	4	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Problem Statement 3:		Stormwater infrastructure is blocked and damaged by debris					
46	Implement regular clearing of stormwater infrastructure throughout the City.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time, General Operating Budget	2/1/21-12/31/25	New
47	Upgrade existing stormwater infrastructure to meet current standards.	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
48	Identify high priority areas for stormwater infrastructure repairs and upgrades.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 4:		City has one plow for snow removal – not sufficient coverage.					
49	Acquire additional vehicles for snow removal.	2	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
50	Hire additional staff for operating snow removal vehicles.	2	3	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	New
51	Send out educational materials (mailings, social media posts) warning about the health risks of shoveling/plowing snow. (Heart attacks, etc.).	2	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
Town of laeger							
Previous Mitigation Actions							
52	Continue participation in HMGP programs (HMGP 1410 application unfunded due to inadequate funds).	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
53	Distribute FEMA/OES literature at public locations such as schools, churches, libraries, town hall, etc.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
54	Increase floodplain regulation enforcement.	1	-	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
City of Keystone							
Previous Mitigation Actions							
55	Seek funding to acquire pipes to be used to alleviate runoff flooding.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
56	Form work groups to clear debris from streambeds and floodplains.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
57	Utilize local media sources to distribute information and advertise informational public meetings.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
58	Increase enforcement of floodplain regulations.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Town of Kimball							
Previous Mitigation Actions							
59	Increase enforcement of floodplain regulations.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Main Street section is regularly flooded (completely in floodway) – impacts economic development. Land use restrictions. Highway is shut down, however residents to the east of 52 are elevated. Stream work, blockage clearings have been completed it the past to limit the impacts of flooding. Area doesn't seem to be impacted by the 100-year flood zones. Coal and rail companies used to perform regular clearing.					
60	Work with the Army Corps of Engineers to update the flood zones and floodways within city limits, since work has been done to improve flow of nearby water bodies.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time, FEMA	2/1/21-12/31/25	New
61	Reduce flood regulations along Main Street after Army Corps of Engineers study, if appropriate.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
62	Work with County to maintain streams and creeks.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
63	Identify areas for future development outside of FEMA floodplains/ identified floodways.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 2		Occasional landslides / rockslides within the Town.					
64	Acquire equipment for debris clearing after a landslide.	3	3	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	New
65	Identify areas within town to install retaining walls to prevent landslide debris from reaching the roadway.	3	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
66	Work with the State and/or Region I to construct retaining walls in the identified areas.	3	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
67	Identify and map high risk areas for landslides with the Town.	3	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time, FEMA	2/1/21-12/31/25	New
Problem Statement 3		There are at least 90 known abandoned properties in the Town. Mapping work is nearly complete.					
68	Acquire, retrofit, or demolish abandoned properties within the Town.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets, FEMA	2/1/21-12/31/25	New
69	Acquire and sell abandoned properties to private entities where appropriate (example: outside of flood zone).	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Town of Northfork							
Previous Mitigation Actions							
70	Distribute FEMA/OES literature (in) public locations to increase community awareness of local hazards.	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
71	Participate in FEMA/OES and Corps mitigation programs.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		The town is not able to quickly remove snow after winter weather events. Department of Highways/Transportation is responsible for now removal in the town as well as the County.					
72	Acquire snow removal equipment.	2	1	Mayors/ Administrators of Jurisdiction(s)	General Operating Budget	2/1/21-12/31/25	New
73	Send out educational materials about the dangers of shoveling snow for vulnerable populations (ex: elderly populations).	2	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
74	Identify/Update high priority areas (outside of primary roads) for snow removal, including vulnerable population areas (elderly population areas, hospitals).	2	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
City of War							
Previous Mitigation Actions							
75	The City of War is working with the WV Office of Emergency Services to have FEMA acquire property damaged in the most recent flooding.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
76	The City will dredge the Dry Fork River to help prevent property damage to homes and businesses.	1	4	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
77	The City will develop and implement a public education and awareness program, which will be distributed to all citizens.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
78	The City of War will work with all emergency service entities to ensure compliance with county and local policies and procedures.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Flooding – all of Main Street lays below flood level (approx. 30%), gets worse every year. Losing vegetation upstream, lack of a filter.					
79	Removal of small or abandoned buildings that are in the floodplain that cannot be retrofitted. Retrofit the buildings that are able to be renovated to remain in the floodplain without further impacts during a flood.	1	3	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
80	Additional involvement from private civil engineering firms to purchase, retrofit, or demolish properties in the floodplain	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
81	Repair or replace retaining walls along Dry Fork River to protect the city's assets	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
Problem Statement 2		War Creek Bridge near the Fire Station – vulnerable to a washout. Should it fail, fire department could not respond to an event. On verge of shutting the bridge down.					
82	Replace the bridge with rust-resistant materials	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
City of Welch							
Previous Mitigation Actions							
83	Continue participation in FEMA/OES mitigation programs.	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
84	Continue enforcement of floodplain regulation ordinance.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
85	Encourage additional flood-proofing measures to all homes/ businesses located in flood hazard areas.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
86	Adopt stricter building codes to prohibit any development in flood hazard areas.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Train trestle, working on a bridge, when the underpass floods, patients cannot be taken to the hospital, used to have a road that went over top, but train tracks removed it. Difficult to gain access to the hospital for both patients and workers. Life hazard/financial hazard, school district lost 6 buses under the train tracks.					
87	Complete a flooding/bridge study	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
88	Seek funding for bridge construction over train tracks/flooding area.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 2		Flooding issue with underpass (Route 52/Route 16), talked to WV, plumbing issues/required solution					
89	Continued collaboration with the State of West Virginia to alleviate the flooding issues along Route 52 and Route 16.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 3		Hobart Street, located on the side of the mountain, long-term project. Street is starting to slide off the side of the mountain, homes are located. Water/sewer impacted.					
90	Relocation of homes that are located along Hobart Street	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Mercer County							
Previous Mitigation Actions							
91	Increase floodplain regulation enforcement. Seek additional funding for additional permit offices.	1	4	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
92	Participate in Hazard Mitigation Grant Program(s).	1	3	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
93	Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.	1	5	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
94	Regular removal of stream debris blockages.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
95	Explore possibilities of cooperation with Turnpike Commission for installation of retention ponds along major transportation routes.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
96	Seek additional funding to increase permit officer positions.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
97	Create emergency preparedness and shelter location brochures.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
98	Disseminate hazard safety information during the Mountain Festival, County Fair, or October Fest with information on emergency preparedness, health and safety and personal well-being during times of extreme weather.	2	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
99	Improve wv511.org by updating information more quickly. Highway closure information is improved by social media such as Facebook, Twitter, and internet connectivity to all smartphones.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Ancillary emergency shelters are not fully prepared (primary emergency shelter is Princeton Rescue Squad Emergency Shelter Facility, heavily relied upon)					
100	Hire staff for emergency shelters.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time, General Operating Budget	2/1/21-12/31/25	New
101	Coordinate with the Red Cross to staff shelters with volunteers.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
102	Install generators throughout all identified County shelters.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
103	Installation of green infrastructure facilities to combat flooding but also improving water quality for future use of streams and waterways in Mercer County	6	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Town of Athens							
Previous Mitigation Actions							
104	Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse offices, etc.).	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
105	Continue to seek additional funding for increased emergency response equipment.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Water / stormwater system needs to be updated to current standards					
106	Training current or incoming staff to use new equipment, techniques.	6	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
107	Identify leaks within both water systems (in town and out of town system).	6	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
108	Repair leaks within the water system (in town and out of town system).	6	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
109	Update water tower and water tanks to meet current standards.	6	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Problem Statement 2		Building code does not address vacancy issues and dilapidated buildings					
110	Hire a building code enforcement officer.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time, General Operating Budget	2/1/21-12/31/25	New
111	Form a building code committee to identify problems, improve code.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 3		Town Hall is not up to date, needs to be retrofitted to meet emergency operations center standards.					
112	Install a backup generator.	6	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
113	Update to meet ADA standards.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
114	Install weather-proof storage for local government documents.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
City of Bluefield							
Previous Mitigation Actions							
115	Apply for funding through Small Cities Block Grant and other programs to fund analysis.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
116	Seek funding assistance to refurbish/upgrade inadequate drainage structures.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
117	Utilize citywide topographic data (5-foot contours) to acquire comprehensive hydraulic and hydrologic mapping.	1	6	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
118	The stormwater board is assessing every culvert yearly and making repairs.	1	4	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
119	Removal of culvert debris to decrease drainage blockages.	1	5	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
120	Distribute literature from FEMA and the WV Office of Emergency Services.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Midway tunnel floods under heavy rain.					
121	Re-route traffic away from the tunnel.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
122	Improve alternative routes.	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
123	Utilize a mobile pump to remove flood water from the tunnel.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 2		Union Street – priority street for major projects. Flooding occurs along the street; stormwater infrastructure is ineffective.					
124	Tree planting along the streets listed in the problem statement.	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
125	Rain garden installation.	1	3	Mayors/ Administrators of Jurisdiction(s)	US EPA, WV DOH, General Operating Budget	2/1/21-12/31/25	New
126	Upgrade stormwater infrastructure along the streets listed in the problem statement to meet current standards.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
127	Replace old stormwater infrastructure along Union Street.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
128	Improve detention pond near Union Street.	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
129	Add detention pond near Union Street.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Problem Statement 3		City Hall is not currently prepared to serve as an emergency operations center.					
130	Equip City Hall with radio and communication systems.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
131	Equip City Hall with computers, screens for monitoring ongoing situations.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
132	Equip City Hall with a backup generator.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Problem Statement 4		City does not have a primary emergency shelter.					
133	Determine whether existing shelters meet criteria for primary emergency shelter designation.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
134	Retrofit existing shelter to meet emergency shelter Red Cross, Emer. Management criteria.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Problem Statement 5		Outdated fire trucks, fire truck equipment.					
135	Purchase new fire trucks.	7	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
136	Upgrade equipment on existing fire trucks.	7	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Problem Statement 6		Power system failure due to snowstorms, severe thunder/rainstorms					
137	Identify key government buildings, shelters for continuity of operations.	2	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
138	Install backup generators in key government buildings.	2	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
139	Install backup generators in City shelters.	2	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
140	Ensure City shelters have heating systems.	2	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Town of Bramwell							
Previous Mitigation Actions							
141	Seek additional funding sources to upgrade reservoir spillways to comply with federal safety regulations.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Town of Mataoka* *(municipality is dissolving)*							
Previous Mitigation Actions							
142	Participate in Hazard Mitigation Grant Program(s).	1	-	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
143	Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.	1	-	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
144	Increase floodplain regulation enforcement.	1	-	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
145	Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse offices, etc.).	1	-	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Town of Oakvale							
Previous Mitigation Actions							
146	Continue utilization of CASE workers to remove debris from stream beds and banks in order to reduce debris blockages.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
147	Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse offices, etc.).	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
148	Seek assistance from local machinery/mining corporations for donation of equipment for channelization.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		East River District - Creek goes behind multiple houses (Railroad Ave), Route 112. FEMA conducted some buyouts. Heavy rain/fast snowmelt causes flooding in basements in the homes near the creek (5 homes vulnerable)					
149	Continued stream and ditch maintenance for the creek to remove debris/blockages	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
150	Home buyouts for those located along the creek bed	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
151	Update and enforce new floodplain ordinance to ensure no new construction	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
City of Princeton							
Previous Mitigation Actions							
152	The City of Princeton has obtained the services of Stafford Consultants to perform pre-engineering and cost-estimation on proposed recommendations to improve the storm water systems on Stafford Drive and Rogers Street.	6	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
153	Approximately five years ago, the City worked with the Southern Soil Conservation District and Mercer County to have Brush Creek, Glady Fork, and Daves Fork dredged to their original elevation (City's cost: $60,000). The City also contributes $4,000 per year to a fund for annual maintenance that is conducted by the SCS.	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
154	The City also participated financially in a Corps of Engineers study for flood protection in Mercer County. The study recommended a floodwall in Princeton & a high-water warning system. This project is still in the development stage.	1	4	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
155	Working through the director of the Princeton Sanitary Board, the City worked with several WV municipalities to develop legal criteria for implementation of the Storm Water Management Act. Implementation is in the beginning stages.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Rogers Street area, flooding during heavy rains					
156	Develop a floodplain management plan to identify and implement projects	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
157	Continue partnership with State to maintain stormwater and drainage ditch areas along Rogers Street	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
158	Install a rain gauge at Clairmont Hills	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
159	Install a stream gauge on bridge from 460 to Ingleside Rd. Stream gauge. This will act as an early-warning system for our city hall.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
Problem Statement 2		Aging infrastructure for the water systems within the City of Princeton, water main breaks can cause water problems – occasionally severe damage to roadways and businesses located nearby.					
160	Annual cleaning of culverts and vents	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
161	Replacing water mains over time	6	1	Mayors/ Administrators of Jurisdiction(s)	State & grants, Capital Improvement Budgets	2/1/21-12/31/25	New
162	Develop a box cage/debris trap for inlets for street flooding & maintenance schedule	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
163	Replace impermeable surfaces, e.g. sidewalks, with permeable surfaces such as petrocrete.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
164	Implement rain gardens by the police station, Morrison Dr. and Courthouse Rd., 800 B. Street.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
165	Separate the warehouse at 800 B. Street. The back half of this is currently in a floodplain.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
166	Floodproof the back half of 800 B. Street.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Problem Statement 3		Culvert behind Princeton Primary (Tabor Avenue) is somewhat blocked, entire subdivision could be affected if flooding were to occur.					
167	Garden Oaks Homeowner's Association, behind Princeton Primary, Princeton Primary, & City of Princeton to create partnership to maintain culvert.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 4		There's a trailer by Dave's Fork that is not supposed to be there, which has numerous property violations. This acts as the low-point and is at potential risk.					
168	Remove the trailer that exists in Dave's Fork on Ira Avenue.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
169	Implement zoning for Dave's Fork to act as a spillway for flooding events. Possibly a greenspace agreement for flooding.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
170	Conduct a flood study to identify which areas flood first: Rogers Street, Stafford Drive, Morrison Dr., Lazenby Ave., Princeton Shopping Center and measures that can be taken to temporarily store water and lessen further flooding.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 5		In June 2016, one of the areas that got hit hard was at the beaver dam. At this dam, debris that had piled up. Currently, there is nothing in place for getting information in the right hands. There are significant barriers between responsible parties (state and local) that prevent timely response.					
171	Create mechanism to transfer information about flooding issues to the right people.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
172	Create Statewide mechanism for Reporting stream blockages to WV Call Center.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Problem Statement 6		Provide Public Access to Brush Creek create Water Trail Destination and improve education/information to area about water quality & improving such.					
173	Use green infrastructure to improve water quality of Dave's Fork (a tributary into Brush Creek) that will improve water quality of Brush Creek.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
174	Formulate a watershed Improvement Plan with Help of DEP Watershed Improvement Branch.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
175	Work with DNR and Army Corps of Engineers to formulate location of one public access point along Brush Creek for Public Access to the same and 2 walking bridges for Green Infrastructure Paths / Education Trails	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
176	Consult and start plan with US Fish and Wildlife for potential fish stocking and fishing points along Brush Creek.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 7		Brush Creek Stream Impairment					
177	Bio retention swale Green Infrastructure Site on Parcels 28-10-0016-0067-0000 and 28-10-0016-0266-000 Drainage area on Rogers Street	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
178	Bio retention swale Green Infrastructure Site on Parcels 28-10-0016-0120-0000, 28-10-0016-0123-0000, 28-10-0016-0124-0000, 28-10-0016-0125-0000, 28-10-0016-0126-0000, 28-10-0016-0127-0001 and 28-10-0016-0127-0000 Site stretches from Rogers Street to Dave's Fork (a tributary into Brush Creek).	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
179	Green Infrastructure site along right of way between 535 Rogers and 501 Rogers from Rogers Street to Dave's Fork (a tributary into Brush Creek) with walking path using filtering media and permeable surfaces.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
180	Green Infrastructure Site at end of lot at parcel 28-10-0016-0061-0001 next to Dave's Fork (a tributary into Brush Creek) to address run off from pavement into the same.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
Problem Statement 8		Education of Importance of Water Quality and Stream Impairment					
181	Rain Garden next to S Wickham Avenue on Parcel 28-10-0016-0060 to catch run off from road and bridge into Dave's Fork	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
182	Begin walking trail of Green Infrastructure with foot Bridge that crosses Dave's Fork from Parcel 28-10-0016-0061-0000 to Parcel 28-10-0016-0061-0000 and green infrastructure walking path with filtering media and permeable surfaces (improve) water quality.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
183	Green Infrastructure walking Path along Dave's Fork with filtering media and permeable surfaces from Parcel 28-10-0016-0060-0000 to Parcel 28-10-0016-0060-0001	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
184	Potential Green Infrastructure or Green Space park area next Dave's Fork at parcel 28-10-0016-0059-0001 with city right of way on 3 sides (parcel 28-10-0016-0060-0001 final side)	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
185	Potential Green Infrastructure or Green Space park next including Parcels 28-10-0016-0096-0000, 28-10-16-0095-0000, 28-10-0016-0091-0000, 28-10-0016-0097-0000, 28-10-0016-0098-0000, 28-10-0016-0099-0000, 28-10-0016-0100-0000, 28-10-0016-0101-0000, 28-10-0016-0100-0000, 28-10-0016-0101-0000 all attached to city right of way which could be utilized for the same.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
186	Green Infrastructure walking Path along Dave's Fork with filtering media and permeable surfaces attaches from Parcel 28-10-0016-0060-0001 to Parcel 28-10-0016-0270-0000 with city public right of way which could be utilized for the same.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
187	Continue walking trail of Green Infrastructure with foot Bridge that crosses Dave's Fork in City right of way next to from Parcel 28-10-0016-0270-0000 and Parcel 28-10-0016-0145-0000 and green infrastructure walking path with filtering media and permeable surfaces to improve water quality that stretches length of right of way to Rogers Street.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
Problem Statement 9		Provide Public Access to Brush Creek create Water Trail Destination					
188	Improve Water Quality of Brush Creek by implementing Green Infrastructure sites along Dave's Fork (a tributary to Brush Creek) to improve water quality of both streams.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New
189	Create Green Infrastructure sites at area where water drains into Brush Creek along Rogers Street and South Wickham Avenue that improve water quality.	1	1	Mayors/ Administrators of Jurisdiction(s)	State & Federal grants, Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Monroe County							
Previous Mitigation Actions							
190	Undertake stream maintenance along 2nd and Rock Camp Creeks. Also, near Green Valley Road, and along Indian Creek near Red Sulpher Springs.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
191	Promote awareness of FEMA regulations among the public and elected officials through media campaigns focused on consequences of living in a floodplain.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
192	Inform the public of cave-related hazard sites and risks.	1	3	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
193	Secure roadsides against snowslides and landslides or land subsidence using Gabion baskets or other materials as appropriate, especially along Route 219.	3	4	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		County adopted floodplain ordinance 2010. Permitting process/police officer to govern was never appointed by commissioners. Assessment provided to commissioners (conducted by WVU), lot of debris less than .25 mile away from highway. Flooding issue. Flooding is highest priority.					
194	Establish and enforce a permitting process in Monroe County based on the floodplain ordinance adopted in 2010.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Current Problem Statements & Mitigation Actions							
Problem Statement 2		Dead trees are taking out phone lines, power lines when strong winds blow through the area					
195	Maintain tree lines near major roadways, power/phone lines, and critical infrastructure.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Town of Peterstown							
Previous Mitigation Actions							
196	Undertake stream maintenance near the intersection of Rich Creek and Brush Creek.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
197	Secure roadsides against snowslides and landslides or land subsidence using Gabion baskets or other materials as appropriate, especially along Route 219.	3	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Flooding is the primary issue – Rich Creek and Brush Creek areas. Some businesses in the area have flooded					
198	Retrofit / flood proof properties within the flood risk areas near Rich Creek and Brush Creek.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
199	Purchase and relocate or demolish properties in the high-risk flood area, in coordination with property owners.	1	4	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets, FEMA	2/1/21-12/31/25	New
200	Raise berms in the area to reduce flooding impacts.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
201	Perform regular stream clearings (debris removal).	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 2		Two bridges flood – The bridge at the Baptist Church (includes a walkway), & Mill Street Bridge					
202	Mark alternative routes for both bridges, for use during flooding.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
203	Elevate bridges above flood levels (no clear alternative for relocation).	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
204	Construct elevated pedestrian bridges (Baptist Church Bridge has a walkway).	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
205	Repair and upgrade existing bridges to meet current standards.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Problem Statement 3		Town Hall is experiencing foundation issues, picnic rest area for the schools, visitors is in the flood zone.					
206	Flood proof or retrofit Town Hall, especially the basement.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
207	Relocate outdoor rest area outside of flood zone.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Town of Union							
Previous Mitigation Actions							
208	Improve ground slope around the Town Hall where rainwater frequently floods the basement.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Utility loss: lack of water sources and power loss from strong wind or mechanical failure – can lose access to fuel to run generators					
209	Locate 3 additional water sources that provide 30-40 gallons per minute for each source	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
210	Develop an emergency response plan or mutual aid agreement with the Department of Transportation to not lose access to a fuel source during a hazard event	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Raleigh County							
Previous Mitigation Actions							
211	Undertake stream maintenance along Creek Fork, Marsh Fork, and Tommy Creeks, as well as near Fairdale.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
212	Continue enforcement of current building codes in Ghent, Flat Top, and Shady Spring where hailstorm-caused roof damage is frequent.	2	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
213	Secure roadsides against snowslips and landslides along Rock and Slab Fork Creeks. Also, secure parts of State Route 99 and State Route 3. As was found during Profiling Hazard Events, one of the most troublesome parts has been Berry Branch near Helen. Here, heavy flooding has often resulted in landslides caused by an abandoned mine slate dump.	3	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
214	Monitor hazardous abandoned mine sites for possible reclamation, especially the site concentration near Beckley and Mabscott	3	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		High risk areas in the floodplain, inquiries from owners to be on buy-out list. Some areas more high-risk than others.					
215	Seek FEMA/HMGP/ BRIC funding for flood buy-outs in the towns of Beaver, Glen Morgan, Raleigh, Rhodell, Sullivan, Amigo, Fairdale, Glen Daniel, Dorothy	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time, FEMA	2/1/21-12/31/25	New
216	Support the Town of Mabscott with technical assistance in mitigation projects alleviating flooding impacts, such as buy-outs	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Current Problem Statements & Mitigation Actions							
Problem Statement 2		Room for improvement for networking/communications between local and county agencies prior to a disaster/disease outbreak					
217	Develop a coordination plan with the municipalities, county agencies, churches, and the 911 system in the event of an emergency	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
City of Beckley							
Current Problem Statements & Mitigation Actions							
Problem Statement 1		1) Hunter Street, Hartley Avenue area flash floods often. 2) Ewart Avenue and Robert C. Byrd flash floods often.					
218	Identify priority areas for stormwater infrastructure improvement.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
219	Upgrade stormwater infrastructure in the area to meet current standards.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Town of Lester							
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Areas in Town of Lester flood according to FIRM. Flooding potential not mapped adjacent to Virginia Street – more homes appear to be in SFHA					
220	Develop a Letter of Map Revision (or achieve an AE Flood Study) for Town of Lester to address potential flooding not previously mapped adjacent to Virginia Street	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
221	Partner with Raleigh County LEPC and West Virginia R1 PDC to develop a flooding evacuation plan	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Town of Mabscott							
Previous Mitigation Actions							
222	Undertake stream maintenance along White Stick Creek.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Town losses power often, elderly and young populations vulnerable during extreme weather events					
223	Obtaining back-up generator for critical facilities within the Town of Mabscott	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
224	Designating a public shelter for residents of the Town of Mabscott to utilize during extreme weather events	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
225	Coordinate with the Raleigh County LEPC, churches, 911 System, etc. to develop an Emergency Preparedness Plan	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 2		White Stick Creek – culverts that carry the flow of the creek underneath private property, significant constrictions of the stream, causes flooding issues in the Town of Mabscott					
226	Maintenance/ cleaning of the culverts to optimize the flow of the creek and remove debris	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
227	Complete buy-outs of the private properties located along White Stick Creek and remove the culverts	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Town of Sophia							
Previous Mitigation Actions							
228	Seek funding for acquisition of the residential properties along Riffe and Main Streets. These properties are located in the 100-year floodplain.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time, FEMA	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Town losses power often, elderly and young populations vulnerable during extreme weather events					
229	Obtaining back-up generator for critical facilities within the Town of Sophia	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
230	Designating a public shelter for residents of the Town of Sophia to utilize during extreme weather events	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
231	Coordinate with the Raleigh County LEPC, churches, 911 System, etc. to develop an Emergency Preparedness Plan	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Summers County							
Previous Mitigation Actions							
232	Acquire emergency generators for all county departments and shelters.	6	4	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
233	Establish emergency shelters throughout the County.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
234	Increase emergency responder/shelter operator training.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
235	Seek grant funding to increase emergency response equipment training.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
236	Increase participation in Hazard Mitigation Grant Programs.	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		There are residential buildings (full and part time) within the floodplain.					
237	Retrofit and elevate residential buildings in the floodplain.	1	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets, FEMA	2/1/21-12/31/25	New
238	Acquire a full-time floodplain administrator.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
Problem Statement 2		The County does not have enough emergency shelters.					
239	Identify ideal shelter locations throughout the county.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
240	Install backup generators in identified shelter locations.	6	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
241	Acquire supplies to operate emergency shelters (cots, toiletries, etc.).	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
242	Install heating and cooling systems in emergency shelters.	1	3	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
City of Hinton							
Previous Mitigation Actions							
243	Increase participation in Hazard Mitigation Grant Programs.	1	3	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
244	Distribute FEMA/Office of Emergency Services literatures at public locations to improve community awareness.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
245	Work with local school board and county commission to identify alternate access to points to Summers County High School.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Local high school can be impacted by flooding.					
246	Retrofit and/or flood proof the local high school.	1	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
Wyoming County							
Previous Mitigation Actions							
247	Protect the Glen Rogers PSD sewage treatment plant against flood.	1	4	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
248	Promote awareness of FEMA regulations among the public and elected officials through media campaigns focused on consequences of living in a floodplain.	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	Ongoing
249	Ease floodplain management through use of mapping technology. Note that the County is already a beneficiary of a related ESRI-NACO Software Grant.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
250	Link the building permitting process with complicate of floodplain regulations by requiring a Certificate of Occupancy.	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	Ongoing
251	Undertake steam maintenance along Lauren Creek near Matheny.	1	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
Current Problem Statements & Mitigation Actions							
Problem Statement 1		Flooding in the Coon Branch area of Matheny					
252	Stream maintenance in the area to alleviate flooding issues	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
253	Buyouts of the properties located near the area	1	2	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New
Problem Statement 2		Landslide issues county-wide					
254	Conduct a study to identify the most vulnerable locations within the county for landslides	1	1	Mayors/ Administrators of Jurisdiction(s)	Staff Time	2/1/21-12/31/25	New
255	Tree maintenance of trees that hang over the roadways throughout the county	2	2	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	New
Problem Statement 3		Drought problems in southwest portion of Wyoming County, portion of the County does not have a water system, depend on private wells					
256	Implement a water system for the southwest area of Wyoming County	8	1	Mayors/ Administrators of Jurisdiction(s)	Emergency Management Performance Grant (EMPG) Special Project Grants	2/1/21-12/31/25	New

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
City of Mullens							
Previous Mitigation Actions							
257	Repair and maintain the stormwater drain along Broadway Street. Note that the City has received FEMA Disaster Relief Funds from Disaster #1455 for partial improvement of this drain.	1	4	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
258	Seek approximately $500,000 in funding for the acquisition of 10 repetitive-loss residential properties along the Guyandotte and Woodland Avenues in south Mullens.	1	2	Mayors/ Administrators of Jurisdiction(s)	Staff Time, FEMA	2/1/21-12/31/25	Ongoing
259	Secure the following roadsides against snowslips and landslides using Gabion baskets or other materials as appropriate: Flood Road and Lusk Avenue.	3	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
260	Reclaim the three hazardous abandoned mine sites up on Parsons Road to check run-off to the low-lying neighborhood along Broadway Street.	3	4	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
261	Purchase a stand-by generator for the city hall for quick-restoration of power during a disaster event.	6	3	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing

#	Mitigation Action	Hazard Priority	Action Priority	Lead Agency	Funding Source	Start/ End	Status
Town of Oceana							
Previous Mitigation Actions							
262	Repair and maintain the stormwater drain along Chestnut Street.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing
Town of Pineville							
Previous Mitigation Actions							
263	Repair and maintain the stormwater drain along Sycamore Avenue, and at the intersection of Cedar and Oakwood Avenues.	1	1	Mayors/ Administrators of Jurisdiction(s)	Capital Improvement Budgets	2/1/21-12/31/25	Ongoing

06 | Schedule and Maintenance

SCHEDULE AND MAINTENANCE

6.1 Participation Overview

The 2022 West Virginia Region I Hazard Mitigation Plan will be adopted by all jurisdictions in West Virginia Region I, including the Region, all counties, townships, cities, and towns/villages. After the jurisdictions have adopted the plan, their signed resolutions or ordinances will be added to the plan as an Appendix.

6.2 Continued Public Involvement

The public will continue to be able to provide feedback on the Plan. Continued public involvement is vital to the success of the regional Hazard Mitigation Plan. The Plan will be available through the West Virginia Region I Planning and Development Council (PDC) and West Virginia Emergency Management Agency websites. The West Virginia Region I PDC will provide access to the Plan to all Region, county, municipality, township offices, citizens, and FEMA Region III, and will make the Plan available in hardcopy and electronic format as appropriate or upon request. The West Virginia Region I PDC Director will post notices to include the public in the updating process and for evaluating the Plan, using the feasible methods for posting meeting announcements in the Region. All meetings will be open to the general public. The West Virginia Region I PDC will publicly announce the mitigation action items that are slated for development in the current year, as well as any updates to the Plan as part of the annual review process.

6.3 Plan Integration and Annual Review

6.3.1 Previous Integration Efforts

The West Virginia Region I PDC and local governments have worked to integrate the previous Hazard Mitigation Plan into planning processes in the Region such as comprehensive or capital improvement plans. Members of the Core Planning Committee indicated that they are pursuing planning efforts associated with previous mitigation actions, such as developing localized policies for avoiding FEMA designated floodways, developing additional training opportunities for first responders and emergency management teams, creating educational materials for the public, coordinating with the Environmental Protection Agency (EPA), and updating zoning codes and floodplain maps. New development in the region has been aligned with the 2017 plan, and jurisdictions have been judicious in allowing new and modified land uses in areas subject to one or more of the hazards outlined in the previous plan.

6.3.2 Future Integration Efforts

Local government plays a major role in the execution and implementation of mitigation strategies. This happens in large part during the daily operations that guide the development of various communities in the Region. As such, County Commissioners and Mayors will be responsible for understanding which items they are accountable for implementing. A copy of the Hazard Mitigation Plan, once approved and adopted by both FEMA and the jurisdictions, will be provided to each county and its jurisdictions. Each county and jurisdiction will review the Hazard Mitigation Plan during the creation or update of their other planning processes, such as development of comprehensive plans or capital improvement plans and are strongly encouraged to incorporate appropriate goals and mitigation actions into such documents. This plan should be used as a tool to help guide future development, especially in areas at risk for one or more of the hazards outlined earlier in this document.

The Core Planning Committee may meet annually in order to monitor and evaluate the West Virginia Region I Hazard Mitigation Plan. During the annual meeting, a status update should be provided for each mitigation action by the responsible agency as well as for the integration of the Hazard Mitigation Plan into existing plans and programs. All participating jurisdictions will be encouraged to attend this yearly plan update meeting. The meeting will coincide with the budget process so that future funding sources can be determined and set aside for actions slated for that particular year. This meeting will also be available to the public.

Furthermore, the Region and its participating jurisdictions will make a concerted effort to integrate the hazard mitigation plans and its mitigation actions into existing plans and regulations, such as the subdivision regulations, zoning resolutions, zoning maps, parks and open space plans, and emergency operations plans. Additionally, participating jurisdictions may incorporate mitigation strategies into their local comprehensive plans, zoning codes, and subdivision regulations. **Table 3.1** and **Table 3.2** in the Planning Process Chapter provide a list of all existing plans and regulations in West Virginia Region I. It is important to note that several counties and jurisdictions do not currently have plans and regulations in place and are likely to begin these processes in the future. They are encouraged to incorporate appropriate goals and mitigation actions from the Hazard Mitigation Plan into such documents.

6.4 Updating the Plan

The Plan must be updated within five years and re-adopted by the Region and all participating jurisdictions to maintain compliance with federal regulations and ensure eligibility for certain federal mitigation grant funds. The West Virginia Region I PDC will identify any necessary modifications to the Plan, including changes in mitigation goals and actions that should be incorporated into the next update. The West Virginia Region I PDC Director and the County Commissioners will initiate the process of updating the plan in accordance with federal guidelines in sufficient time to meet state and federal deadlines.

Appendices

Appendix A: Historical Hazard Events

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Drought	Drought	2/1/1997	0	0	$0	$0
Drought	Drought	2/1/1997	0	0	$0	$0
Drought	Drought	2/1/1997	0	0	$0	$0
Drought	Drought	10/1/1998	0	0	$0	$50,000
Drought	Drought	10/1/1998	0	0	$0	$90,000
Drought	Drought	10/1/1998	0	0	$0	$70,000
Drought	Drought	11/1/1998	0	0	$0	$8,000
Drought	Drought	11/1/1998	0	0	$0	$8,000
Drought	Drought	11/1/1998	0	0	$0	$5,000
Drought	Drought	5/1/1999	0	0	$0	$0
Drought	Drought	6/1/1999	0	0	$0	$0
Drought	Drought	6/1/1999	0	0	$0	$0
Drought	Drought	6/1/1999	0	0	$0	$0
Drought	Drought	6/1/1999	0	0	$0	$0
Drought	Drought	6/1/1999	0	0	$0	$0
Drought	Drought	6/1/1999	0	0	$0	$0
Drought	Drought	7/1/1999	0	0	$0	$0
Drought	Drought	7/1/1999	0	0	$0	$0
Drought	Drought	7/1/1999	0	0	$0	$0
Drought	Drought	7/1/1999	0	0	$0	$0
Drought	Drought	7/1/1999	0	0	$0	$0
Drought	Drought	7/1/1999	0	0	$0	$0
Drought	Drought	8/1/1999	0	0	$0	$0
Drought	Drought	8/1/1999	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Drought	Drought	8/1/1999	0	0	$0	$0
Drought	Drought	8/1/1999	0	0	$0	$0
Drought	Drought	8/1/1999	0	0	$0	$0
Drought	Drought	8/1/1999	0	0	$0	$0
Drought	Drought	9/1/1999	0	0	$0	$0
Drought	Drought	9/1/1999	0	0	$0	$0
Drought	Drought	9/1/1999	0	0	$0	$0
Drought	Drought	9/1/1999	0	0	$0	$0
Drought	Drought	9/1/1999	0	0	$0	$0
Drought	Drought	9/1/1999	0	0	$0	$0
Drought	Drought	10/1/1999	0	0	$0	$0
Drought	Drought	10/1/1999	0	0	$0	$0
Drought	Drought	10/1/1999	0	0	$0	$0
Drought	Drought	9/1/2002	0	0	$0	$0
Drought	Drought	9/1/2002	0	0	$0	$0
Drought	Drought	9/1/2002	0	0	$0	$0
Drought	Drought	9/1/2005	0	0	$0	$0
Drought	Drought	10/1/2005	0	0	$0	$0
Drought	Drought	9/1/2007	0	0	$0	$0
Drought	Drought	9/1/2007	0	0	$0	$0
Drought	Drought	9/1/2007	0	0	$0	$0
Drought	Drought	10/1/2007	0	0	$0	$0
Drought	Drought	10/1/2007	0	0	$0	$0
Drought	Drought	10/1/2007	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Drought	Drought	10/2/2007	0	0	$0	$0
Drought	Drought	10/9/2007	0	0	$0	$0
Drought	Drought	10/9/2007	0	0	$0	$0
Drought	Drought	11/1/2007	0	0	$0	$0
Drought	Drought	11/1/2007	0	0	$0	$0
Drought	Drought	11/1/2007	0	0	$0	$0
Drought	Drought	11/6/2007	0	0	$0	$0
Drought	Drought	12/1/2007	0	0	$0	$0
Drought	Drought	10/14/2008	0	0	$0	$0
Drought	Drought	11/1/2008	0	0	$0	$0
Drought	Drought	12/1/2008	0	0	$0	$0
Drought	Drought	10/1/2019	0	0	$0	$2,320,000
Drought	Drought	10/1/2019	0	0	$0	$275,000
Drought	Drought	10/1/2019	0	0	$0	$400,000
Drought	Excessive Heat	1/2/2000	0	0	$0	$0
Drought	Excessive Heat	1/2/2000	0	0	$0	$0
Drought	Excessive Heat	1/2/2000	0	0	$0	$0
Drought	Excessive Heat	2/25/2000	0	0	$0	$0
Drought	Excessive Heat	2/25/2000	0	0	$0	$0
Drought	Excessive Heat	2/26/2000	0	0	$0	$0
Drought	Excessive Heat	2/26/2000	0	0	$0	$0
Drought	Excessive Heat	2/26/2000	0	0	$0	$0
Drought	Excessive Heat	3/8/2000	0	0	$0	$0
Drought	Excessive Heat	3/8/2000	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Drought	Excessive Heat	3/8/2000	0	0	$0	$0
Drought	Excessive Heat	2/9/2001	0	0	$0	$0
Drought	Excessive Heat	2/9/2001	0	0	$0	$0
Drought	Excessive Heat	2/9/2001	0	0	$0	$0
Drought	Excessive Heat	1/28/2002	0	0	$0	$0
Drought	Excessive Heat	1/28/2002	0	0	$0	$0
Drought	Excessive Heat	1/28/2002	0	0	$0	$0
Drought	Excessive Heat	1/31/2002	0	0	$0	$0
Drought	Excessive Heat	1/31/2002	0	0	$0	$0
Drought	Excessive Heat	1/31/2002	0	0	$0	$0
Drought	Excessive Heat	4/16/2002	0	0	$0	$0
Drought	Excessive Heat	4/16/2002	0	0	$0	$0
Drought	Excessive Heat	4/16/2002	0	0	$0	$0
Drought	Excessive Heat	8/16/2007	0	0	$0	$0
Drought	Excessive Heat	8/16/2007	0	0	$0	$0
Drought	Excessive Heat	8/16/2007	0	0	$0	$0
Drought	Heat	2/27/1996	0	0	$0	$0
Drought	Heat	2/27/1996	0	0	$0	$0
Drought	Heat	2/27/1996	0	0	$0	$0
Drought	Heat	1/1/1997	0	0	$0	$0
Drought	Heat	1/1/1997	0	0	$0	$0
Drought	Heat	1/1/1997	0	0	$0	$0
Drought	Heat	2/21/1997	0	0	$0	$0
Drought	Heat	2/21/1997	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Drought	Heat	2/21/1997	0	0	$0	$0
Drought	Heat	10/8/1997	0	0	$0	$0
Drought	Heat	3/26/1998	0	0	$0	$0
Drought	Heat	3/26/1998	0	0	$0	$0
Drought	Heat	3/26/1998	0	0	$0	$0
Drought	Heat	9/14/1998	0	0	$0	$0
Drought	Heat	9/14/1998	0	0	$0	$0
Drought	Heat	9/14/1998	0	0	$0	$0
Drought	Heat	10/17/1998	0	0	$0	$0
Drought	Heat	11/30/1998	0	0	$0	$0
Drought	Heat	12/6/1998	0	0	$0	$0
Drought	Heat	12/6/1998	0	0	$0	$0
Drought	Heat	12/6/1998	0	0	$0	$0
Drought	Heat	1/22/1999	0	0	$0	$0
Drought	Heat	1/22/1999	0	0	$0	$0
Drought	Heat	1/22/1999	0	0	$0	$0
Drought	Heat	2/11/1999	0	0	$0	$0
Drought	Heat	2/11/1999	0	0	$0	$0
Drought	Heat	2/11/1999	0	0	$0	$0
Drought	Heat	10/29/1999	0	0	$0	$0
Drought	Heat	12/1/2001	0	0	$0	$0
Drought	Heat	12/1/2001	0	0	$0	$0
Drought	Heat	12/1/2001	0	0	$0	$0
Drought	Heat	7/20/2011	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Drought	Heat	7/20/2011	0	0	$0	$0
Drought	Heat	7/28/2011	0	0	$0	$0
Drought	Heat	7/28/2011	0	0	$0	$0
Flood	Debris Flow	7/5/2015	0	0	$0	$0
Flood	Debris Flow	2/12/2021	0	0	$0	$0
Flood	Debris Flow	2/27/2021	0	0	$0	$0
Flood	Flash Flood	1/19/1996	0	0	$280,000	$0
Flood	Flash Flood	1/19/1996	0	0	$400,000	$0
Flood	Flash Flood	1/19/1996	0	0	$5,000	$0
Flood	Flash Flood	1/27/1996	0	0	$150,000	$0
Flood	Flash Flood	1/27/1996	0	0	$0	$0
Flood	Flash Flood	2/8/1996	0	0	$0	$0
Flood	Flash Flood	5/15/1996	0	0	$400,000	$0
Flood	Flash Flood	5/15/1996	0	0	$50,000	$0
Flood	Flash Flood	5/15/1996	0	0	$300,000	$0
Flood	Flash Flood	5/16/1996	0	0	$800,000	$0
Flood	Flash Flood	8/26/1996	0	0	$8,000	$0
Flood	Flash Flood	6/1/1997	2	0	$200,000	$0
Flood	Flash Flood	6/1/1997	0	0	$450,000	$0
Flood	Flash Flood	6/1/1997	0	0	$10,000	$0
Flood	Flash Flood	7/2/1997	0	0	$20,000	$0
Flood	Flash Flood	3/20/1998	0	0	$15,000	$0
Flood	Flash Flood	5/18/1999	0	0	$0	$0
Flood	Flash Flood	5/18/1999	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flash Flood	7/24/1999	0	0	$0	$0
Flood	Flash Flood	8/20/1999	0	0	$0	$0
Flood	Flash Flood	8/20/1999	0	0	$0	$0
Flood	Flash Flood	8/20/1999	0	0	$0	$0
Flood	Flash Flood	7/5/2000	0	0	$0	$0
Flood	Flash Flood	7/5/2000	0	0	$0	$0
Flood	Flash Flood	7/5/2000	0	0	$0	$0
Flood	Flash Flood	7/5/2000	0	0	$0	$0
Flood	Flash Flood	7/5/2000	0	0	$0	$0
Flood	Flash Flood	7/30/2000	0	0	$2,000	$0
Flood	Flash Flood	7/30/2000	0	0	$15,000	$0
Flood	Flash Flood	8/1/2000	0	0	$20,000	$0
Flood	Flash Flood	8/27/2000	0	0	$25,000	$0
Flood	Flash Flood	9/2/2000	0	0	$0	$0
Flood	Flash Flood	9/2/2000	0	0	$150,000	$0
Flood	Flash Flood	5/17/2001	0	2	$250,000	$0
Flood	Flash Flood	5/17/2001	0	0	$700,000	$0
Flood	Flash Flood	5/17/2001	0	0	$125,000	$0
Flood	Flash Flood	5/17/2001	0	0	$50,000	$0
Flood	Flash Flood	5/18/2001	0	0	$0	$0
Flood	Flash Flood	5/19/2001	0	0	$5,000	$0
Flood	Flash Flood	5/22/2001	0	0	$25,000	$0
Flood	Flash Flood	5/22/2001	0	0	$15,000	$0
Flood	Flash Flood	5/22/2001	0	0	$5,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flash Flood	5/22/2001	0	0	$0	$0
Flood	Flash Flood	5/22/2001	0	0	$10,000	$0
Flood	Flash Flood	5/22/2001	0	0	$0	$0
Flood	Flash Flood	6/5/2001	0	0	$10,000	$0
Flood	Flash Flood	7/8/2001	0	0	#########	$0
Flood	Flash Flood	7/8/2001	0	0	$3,000,000	$0
Flood	Flash Flood	7/8/2001	1	0	#########	$0
Flood	Flash Flood	7/8/2001	0	0	$500,000	$0
Flood	Flash Flood	7/8/2001	0	0	#########	$0
Flood	Flash Flood	7/19/2001	0	0	$5,000	$0
Flood	Flash Flood	7/19/2001	0	0	$5,000	$0
Flood	Flash Flood	7/26/2001	0	0	$500,000	$0
Flood	Flash Flood	7/29/2001	1	0	$150,000	$0
Flood	Flash Flood	7/29/2001	0	0	$50,000	$0
Flood	Flash Flood	7/29/2001	0	0	$100,000	$0
Flood	Flash Flood	7/29/2001	0	0	$25,000	$0
Flood	Flash Flood	7/29/2001	0	0	$0	$0
Flood	Flash Flood	7/29/2001	0	0	$0	$0
Flood	Flash Flood	7/29/2001	0	0	$0	$0
Flood	Flash Flood	5/2/2002	0	0	$10,000	$0
Flood	Flash Flood	5/2/2002	0	0	$0	$0
Flood	Flash Flood	5/2/2002	0	0	$0	$0
Flood	Flash Flood	5/2/2002	2	0	#########	$0
Flood	Flash Flood	5/2/2002	0	0	$1,000,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flash Flood	5/2/2002	0	0	$0	$0
Flood	Flash Flood	5/2/2002	0	0	$0	$0
Flood	Flash Flood	6/1/2002	0	0	$5,000	$0
Flood	Flash Flood	7/2/2002	0	0	$5,000	$0
Flood	Flash Flood	8/18/2002	0	0	$0	$0
Flood	Flash Flood	7/7/2003	0	0	$10,000	$0
Flood	Flash Flood	8/7/2003	0	0	$10,000	$0
Flood	Flash Flood	8/16/2003	0	0	$5,000	$0
Flood	Flash Flood	11/19/2003	0	0	$1,000,000	$0
Flood	Flash Flood	11/19/2003	0	0	$100,000	$0
Flood	Flash Flood	11/19/2003	0	0	$250,000	$0
Flood	Flash Flood	5/31/2004	1	0	$500,000	$0
Flood	Flash Flood	6/12/2004	0	0	$0	$0
Flood	Flash Flood	6/12/2004	0	0	$0	$0
Flood	Flash Flood	6/12/2004	0	0	$0	$0
Flood	Flash Flood	7/3/2004	0	0	$0	$0
Flood	Flash Flood	6/26/2006	0	0	$2,000	$0
Flood	Flash Flood	8/7/2006	0	0	$1,000	$0
Flood	Flash Flood	8/11/2006	0	0	$50,000	$0
Flood	Flash Flood	8/11/2006	0	0	$1,000	$0
Flood	Flash Flood	11/16/2006	0	0	$0	$0
Flood	Flash Flood	3/4/2008	0	0	$750,000	$0
Flood	Flash Flood	7/6/2008	0	0	$100,000	$0
Flood	Flash Flood	8/13/2008	0	0	$50,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flash Flood	12/11/2008	0	0	$2,000	$0
Flood	Flash Flood	5/8/2009	0	0	$20,000	$0
Flood	Flash Flood	5/9/2009	0	0	$5,000	$0
Flood	Flash Flood	5/9/2009	0	0	$5,000	$0
Flood	Flash Flood	5/9/2009	0	0	$3,000	$0
Flood	Flash Flood	5/9/2009	0	0	$20,000	$0
Flood	Flash Flood	5/9/2009	0	0	$5,000	$0
Flood	Flash Flood	5/9/2009	0	0	$5,000	$0
Flood	Flash Flood	7/9/2009	0	0	$20,000	$0
Flood	Flash Flood	7/12/2009	0	0	$25,000	$0
Flood	Flash Flood	8/5/2009	0	0	$10,000	$0
Flood	Flash Flood	8/5/2009	0	0	$7,000	$0
Flood	Flash Flood	3/13/2010	0	0	$5,000	$0
Flood	Flash Flood	3/13/2010	0	0	$1,800,000	$0
Flood	Flash Flood	3/13/2010	0	0	$1,800,000	$0
Flood	Flash Flood	3/13/2010	0	0	$0	$0
Flood	Flash Flood	3/13/2010	0	0	$0	$0
Flood	Flash Flood	5/16/2010	0	0	$25,000	$0
Flood	Flash Flood	5/16/2010	0	0	$500,000	$0
Flood	Flash Flood	5/28/2010	0	0	$100,000	$0
Flood	Flash Flood	6/12/2010	0	0	$2,000,000	$0
Flood	Flash Flood	6/12/2010	0	0	$200	$0
Flood	Flash Flood	6/12/2010	0	0	$1,500,000	$0
Flood	Flash Flood	6/13/2010	0	0	$2,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flash Flood	8/11/2010	0	0	$200,000	$0
Flood	Flash Flood	8/11/2010	0	0	$5,000	$0
Flood	Flash Flood	11/30/2010	0	0	$0	$0
Flood	Flash Flood	5/13/2011	0	0	$0	$0
Flood	Flash Flood	6/21/2011	0	0	$0	$0
Flood	Flash Flood	6/28/2011	0	0	$500,000	$0
Flood	Flash Flood	9/4/2011	0	0	$2,000	$0
Flood	Flash Flood	4/3/2012	0	0	$175,000	$0
Flood	Flash Flood	4/26/2012	0	0	$10,000	$0
Flood	Flash Flood	5/22/2012	0	0	$5,000	$0
Flood	Flash Flood	7/31/2012	0	0	$25,000	$0
Flood	Flash Flood	8/1/2012	0	0	$1,000	$0
Flood	Flash Flood	1/30/2013	0	0	$0	$0
Flood	Flash Flood	1/30/2013	0	0	$0	$0
Flood	Flash Flood	1/30/2013	0	0	$0	$0
Flood	Flash Flood	5/20/2013	0	0	$5,000	$0
Flood	Flash Flood	6/17/2013	0	0	$90,000	$0
Flood	Flash Flood	7/17/2013	0	0	$5,000	$0
Flood	Flash Flood	7/19/2013	0	0	$0	$0
Flood	Flash Flood	8/8/2013	0	0	$5,000	$0
Flood	Flash Flood	6/5/2014	0	0	$475,000	$0
Flood	Flash Flood	6/12/2014	0	0	$25,000	$0
Flood	Flash Flood	8/9/2014	0	0	$5,000	$0
Flood	Flash Flood	8/9/2014	0	0	$10,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flash Flood	9/2/2014	0	0	$5,000	$0
Flood	Flash Flood	9/4/2014	0	0	$10,000	$0
Flood	Flash Flood	7/5/2015	0	0	$25,000	$0
Flood	Flash Flood	7/5/2015	0	0	$100,000	$0
Flood	Flash Flood	7/5/2015	0	0	$10,000	$0
Flood	Flash Flood	7/5/2015	0	0	$0	$0
Flood	Flash Flood	7/14/2015	0	0	$10,000	$0
Flood	Flash Flood	5/2/2016	0	0	$5,000	$0
Flood	Flash Flood	6/21/2016	0	0	$125,000	$0
Flood	Flash Flood	6/23/2016	0	0	$1,000,000	$0
Flood	Flash Flood	7/6/2016	0	0	$10,000	$0
Flood	Flash Flood	5/20/2017	0	0	$1,000	$0
Flood	Flash Flood	10/23/2017	0	0	$0	$0
Flood	Flash Flood	5/17/2018	0	0	$150,000	$0
Flood	Flash Flood	5/17/2018	0	0	$0	$0
Flood	Flash Flood	5/27/2018	0	0	$5,000	$0
Flood	Flash Flood	5/27/2018	0	0	$250,000	$0
Flood	Flash Flood	5/27/2018	0	0	$0	$0
Flood	Flash Flood	7/29/2018	0	0	$300,000	$0
Flood	Flash Flood	8/30/2018	0	0	$0	$0
Flood	Flash Flood	8/30/2018	0	0	$0	$0
Flood	Flash Flood	9/7/2018	0	0	$1,000	$0
Flood	Flash Flood	9/22/2018	0	0	$75,000	$0
Flood	Flash Flood	7/3/2019	0	0	$50,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flash Flood	3/13/2020	0	0	$4,000	$0
Flood	Flash Flood	3/13/2020	0	0	$20,000	$0
Flood	Flash Flood	6/5/2020	0	0	$20,000	$0
Flood	Flash Flood	6/14/2020	0	0	$3,000	$0
Flood	Flash Flood	6/18/2020	0	0	$0	$0
Flood	Flash Flood	6/19/2020	0	0	$400,000	$0
Flood	Flash Flood	6/21/2020	0	0	$0	$0
Flood	Flash Flood	7/30/2020	0	0	$250,000	$0
Flood	Flood	1/19/1996	0	0	$20,000	$0
Flood	Flood	1/19/1996	0	0	$100,000	$0
Flood	Flood	5/17/1996	0	0	$0	$0
Flood	Flood	5/17/1996	0	0	$0	$0
Flood	Flood	12/1/1996	0	0	$0	$0
Flood	Flood	12/1/1996	0	0	$0	$0
Flood	Flood	3/4/1997	0	0	$0	$0
Flood	Flood	3/4/1997	0	0	$0	$0
Flood	Flood	2/15/2003	0	0	$200,000	$0
Flood	Flood	2/15/2003	0	0	$300,000	$0
Flood	Flood	2/15/2003	0	0	$100,000	$0
Flood	Flood	2/15/2003	0	0	$0	$0
Flood	Flood	2/15/2003	0	0	$0	$0
Flood	Flood	2/22/2003	0	0	$0	$0
Flood	Flood	2/22/2003	0	0	$0	$0
Flood	Flood	2/22/2003	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flood	2/22/2003	0	0	$0	$0
Flood	Flood	2/22/2003	0	0	$0	$0
Flood	Flood	2/22/2003	0	0	$0	$0
Flood	Flood	2/22/2003	0	0	$0	$0
Flood	Flood	9/4/2003	0	0	$20,000	$0
Flood	Flood	9/4/2003	0	0	$15,000	$0
Flood	Flood	11/19/2003	0	0	$750,000	$0
Flood	Flood	11/19/2003	0	0	$800,000	$0
Flood	Flood	11/19/2003	0	0	$500,000	$0
Flood	Flood	5/31/2004	0	0	$150,000	$0
Flood	Flood	5/31/2004	0	0	$0	$0
Flood	Flood	4/15/2007	0	0	$50,000	$0
Flood	Flood	4/15/2007	0	0	$50,000	$0
Flood	Flood	4/15/2007	0	0	$25,000	$0
Flood	Flood	5/9/2009	0	0	#########	$0
Flood	Flood	5/9/2009	0	0	$4,000,000	$0
Flood	Flood	5/9/2009	0	0	$2,000,000	$0
Flood	Flood	3/13/2010	2	0	$4,000,000	$0
Flood	Flood	3/13/2010	0	0	$25,000	$0
Flood	Flood	1/30/2013	0	0	$10,000	$0
Flood	Flood	1/30/2013	0	0	$5,000	$0
Flood	Flood	3/4/2015	0	0	$340,000	$0
Flood	Flood	3/4/2015	0	0	$350,000	$0
Flood	Flood	3/4/2015	0	0	$200,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flood	3/4/2015	0	0	$0	$0
Flood	Flood	3/4/2015	0	0	$600,000	$0
Flood	Flood	1/23/2017	0	0	$0	$0
Flood	Flood	4/23/2017	0	0	$10,000	$0
Flood	Flood	4/24/2017	0	0	$0	$0
Flood	Flood	5/12/2017	0	0	$0	$0
Flood	Flood	6/5/2017	0	0	$5,000	$0
Flood	Flood	2/10/2018	0	0	$5,000	$0
Flood	Flood	2/10/2018	0	0	$10,000	$0
Flood	Flood	2/10/2018	0	0	$10,000	$0
Flood	Flood	2/10/2018	0	0	$0	$0
Flood	Flood	2/11/2018	0	0	$0	$0
Flood	Flood	4/15/2018	0	0	$50,000	$0
Flood	Flood	4/15/2018	0	0	$10,000	$0
Flood	Flood	4/16/2018	0	0	$0	$0
Flood	Flood	5/5/2018	0	0	$0	$0
Flood	Flood	5/6/2018	0	0	$0	$0
Flood	Flood	9/27/2018	0	0	$1,000	$0
Flood	Flood	9/27/2018	0	0	$0	$0
Flood	Flood	12/22/2018	0	0	$1,000	$0
Flood	Flood	1/19/2019	0	0	$0	$0
Flood	Flood	2/20/2019	0	0	$2,000	$0
Flood	Flood	2/20/2019	0	0	$0	$0
Flood	Flood	2/23/2019	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Flood	Flood	2/23/2019	0	0	$10,000	$0
Flood	Flood	2/6/2020	0	0	$50,000	$0
Flood	Flood	2/6/2020	0	0	$500	$0
Flood	Flood	2/6/2020	0	0	$30,000	$0
Flood	Flood	2/6/2020	0	0	$0	$0
Flood	Flood	2/6/2020	0	0	$0	$0
Flood	Flood	2/6/2020	0	0	$0	$0
Flood	Flood	4/13/2020	0	0	$5,000	$0
Flood	Flood	4/13/2020	0	0	$0	$0
Flood	Flood	6/17/2020	0	0	$0	$0
Flood	Flood	1/26/2021	0	0	$2,000	$0
Flood	Flood	1/26/2021	0	0	$10,000	$0
Flood	Flood	2/27/2021	0	0	$0	$0
Flood	Flood	2/27/2021	0	0	$0	$0
Flood	Flood	3/1/2021	0	0	$10,000	$0
Flood	Flood	3/1/2021	0	0	$3,000	$0
Flood	Flood	3/1/2021	0	0	$0	$0
Flood	Flood	3/1/2021	0	0	$8,000	$0
Flood	Flood	3/1/2021	0	0	$3,000	$0
Flood	Flood	3/1/2021	0	0	$3,000	$0
Flood	Flood	3/1/2021	0	0	$0	$0
Severe Summer Weather	Hail	7/1/1990	0	0	$0	$0
Severe Summer Weather	Hail	7/1/1990	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	9/11/1990	0	0	$0	$0
Severe Summer Weather	Hail	6/1/1991	0	0	$0	$0
Severe Summer Weather	Hail	4/24/1992	0	0	$0	$0
Severe Summer Weather	Hail	4/24/1992	0	0	$0	$0
Severe Summer Weather	Hail	4/24/1992	0	0	$0	$0
Severe Summer Weather	Hail	7/9/1992	0	0	$0	$0
Severe Summer Weather	Hail	9/10/1992	0	0	$0	$0
Severe Summer Weather	Hail	2/21/1993	0	0	$0	$0
Severe Summer Weather	Hail	2/21/1993	0	0	$0	$0
Severe Summer Weather	Hail	4/27/1994	0	0	$0	$0
Severe Summer Weather	Hail	4/27/1994	0	0	$0	$0
Severe Summer Weather	Hail	4/27/1994	0	0	$0	$0
Severe Summer Weather	Hail	4/27/1994	0	0	$0	$0
Severe Summer Weather	Hail	5/25/1994	0	0	$0	$0
Severe Summer Weather	Hail	5/25/1994	0	0	$0	$0
Severe Summer Weather	Hail	6/11/1994	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	6/11/1994	0	0	$0	$0
Severe Summer Weather	Hail	6/11/1994	0	0	$0	$0
Severe Summer Weather	Hail	6/11/1994	0	0	$0	$0
Severe Summer Weather	Hail	6/12/1994	0	0	$0	$0
Severe Summer Weather	Hail	6/19/1994	0	0	$0	$0
Severe Summer Weather	Hail	7/29/1994	0	0	$0	$0
Severe Summer Weather	Hail	7/29/1994	0	0	$0	$0
Severe Summer Weather	Hail	8/19/1994	0	0	$0	$0
Severe Summer Weather	Hail	8/19/1994	0	0	$0	$0
Severe Summer Weather	Hail	5/18/1995	0	0	$0	$0
Severe Summer Weather	Hail	6/11/1995	0	0	$0	$0
Severe Summer Weather	Hail	6/16/1995	0	0	$0	$0
Severe Summer Weather	Hail	5/5/1996	0	0	$0	$0
Severe Summer Weather	Hail	5/5/1996	0	0	$0	$0
Severe Summer Weather	Hail	5/24/1996	0	0	$10,000	$0
Severe Summer Weather	Hail	6/24/1996	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	8/4/1997	0	0	$0	$0
Severe Summer Weather	Hail	8/17/1997	0	0	$0	$0
Severe Summer Weather	Hail	5/3/1998	0	0	$0	$0
Severe Summer Weather	Hail	5/7/1998	0	0	$0	$0
Severe Summer Weather	Hail	5/24/1998	0	0	$0	$0
Severe Summer Weather	Hail	5/24/1998	0	0	$0	$0
Severe Summer Weather	Hail	5/24/1998	0	0	$0	$0
Severe Summer Weather	Hail	5/24/1998	0	0	$0	$0
Severe Summer Weather	Hail	5/24/1998	0	0	$0	$0
Severe Summer Weather	Hail	5/24/1998	0	0	$75,000	$0
Severe Summer Weather	Hail	5/25/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/2/1998	0	0	$100,000	$0
Severe Summer Weather	Hail	6/2/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/2/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/2/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/2/1998	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	6/16/1998	0	0	$15,000	$0
Severe Summer Weather	Hail	6/16/1998	0	0	$10,000	$0
Severe Summer Weather	Hail	6/16/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/16/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/16/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/16/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/16/1998	0	0	$0	$0
Severe Summer Weather	Hail	6/16/1998	0	0	$0	$0
Severe Summer Weather	Hail	4/23/1999	0	0	$100,000	$0
Severe Summer Weather	Hail	4/23/1999	0	0	$0	$0
Severe Summer Weather	Hail	4/23/1999	0	0	$0	$0
Severe Summer Weather	Hail	4/23/1999	0	0	$0	$0
Severe Summer Weather	Hail	4/23/1999	0	0	$0	$0
Severe Summer Weather	Hail	4/23/1999	0	0	$0	$0
Severe Summer Weather	Hail	7/24/1999	0	0	$0	$0
Severe Summer Weather	Hail	8/13/1999	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	8/13/1999	0	0	$0	$0
Severe Summer Weather	Hail	8/13/1999	0	0	$0	$0
Severe Summer Weather	Hail	8/13/1999	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2000	0	0	$0	$0
Severe Summer Weather	Hail	7/28/2000	0	0	$0	$0
Severe Summer Weather	Hail	7/28/2000	0	0	$0	$0
Severe Summer Weather	Hail	4/10/2001	0	0	$0	$0
Severe Summer Weather	Hail	4/10/2001	0	0	$0	$0
Severe Summer Weather	Hail	5/17/2001	0	0	$0	$0
Severe Summer Weather	Hail	5/22/2001	0	0	$0	$0
Severe Summer Weather	Hail	6/5/2001	0	0	$0	$0
Severe Summer Weather	Hail	6/5/2001	0	0	$0	$0
Severe Summer Weather	Hail	8/23/2001	0	0	$0	$0
Severe Summer Weather	Hail	8/23/2001	0	0	$0	$0
Severe Summer Weather	Hail	8/23/2001	0	0	$0	$0
Severe Summer Weather	Hail	8/23/2001	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	8/23/2001	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$700,000	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$5,000	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$5,000	$0
Severe Summer Weather	Hail	4/28/2002	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2002	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2002	0	0	$0	$0
Severe Summer Weather	Hail	6/4/2002	0	0	$0	$0
Severe Summer Weather	Hail	7/2/2002	0	0	$0	$0
Severe Summer Weather	Hail	7/2/2002	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	7/2/2002	0	0	$0	$0
Severe Summer Weather	Hail	7/2/2002	0	0	$0	$0
Severe Summer Weather	Hail	7/2/2002	0	0	$0	$0
Severe Summer Weather	Hail	7/3/2002	0	0	$0	$0
Severe Summer Weather	Hail	7/3/2002	0	0	$0	$0
Severe Summer Weather	Hail	5/10/2003	0	0	$2,000	$0
Severe Summer Weather	Hail	5/10/2003	0	0	$0	$0
Severe Summer Weather	Hail	5/10/2003	0	0	$0	$0
Severe Summer Weather	Hail	5/10/2003	0	0	$0	$0
Severe Summer Weather	Hail	5/10/2003	0	0	$0	$0
Severe Summer Weather	Hail	6/28/2003	0	0	$0	$0
Severe Summer Weather	Hail	6/28/2003	0	0	$0	$0
Severe Summer Weather	Hail	4/13/2004	0	0	$0	$0
Severe Summer Weather	Hail	4/13/2004	0	0	$0	$0
Severe Summer Weather	Hail	4/13/2004	0	0	$0	$0
Severe Summer Weather	Hail	4/13/2004	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	5/21/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/25/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/25/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/25/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/25/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/25/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/25/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/25/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/25/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/30/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/30/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/31/2004	0	0	$0	$0
Severe Summer Weather	Hail	5/31/2004	0	0	$0	$0
Severe Summer Weather	Hail	3/23/2005	0	0	$0	$0
Severe Summer Weather	Hail	7/3/2005	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	7/28/2005	0	0	$0	$0
Severe Summer Weather	Hail	8/16/2005	0	0	$0	$0
Severe Summer Weather	Hail	4/3/2006	0	0	$0	$0
Severe Summer Weather	Hail	4/7/2006	0	0	$0	$0
Severe Summer Weather	Hail	4/7/2006	0	0	$250,000	$0
Severe Summer Weather	Hail	4/7/2006	0	0	$5,000	$0
Severe Summer Weather	Hail	4/7/2006	0	0	$15,000	$0
Severe Summer Weather	Hail	4/14/2006	0	0	$0	$0
Severe Summer Weather	Hail	4/14/2006	0	0	$0	$0
Severe Summer Weather	Hail	4/20/2006	0	0	$0	$0
Severe Summer Weather	Hail	5/14/2006	0	0	$0	$0
Severe Summer Weather	Hail	5/14/2006	0	0	$0	$0
Severe Summer Weather	Hail	5/31/2006	0	0	$0	$0
Severe Summer Weather	Hail	6/4/2006	0	0	$0	$0
Severe Summer Weather	Hail	6/4/2006	0	0	$0	$0
Severe Summer Weather	Hail	6/4/2006	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	6/4/2006	0	0	$0	$0
Severe Summer Weather	Hail	6/4/2006	0	0	$0	$0
Severe Summer Weather	Hail	6/4/2006	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2006	0	0	$0	$0
Severe Summer Weather	Hail	6/29/2006	0	0	$0	$0
Severe Summer Weather	Hail	7/4/2006	0	0	$0	$0
Severe Summer Weather	Hail	7/18/2006	0	0	$0	$0
Severe Summer Weather	Hail	7/19/2006	0	0	$0	$0
Severe Summer Weather	Hail	5/22/2007	0	0	$0	$0
Severe Summer Weather	Hail	5/23/2007	0	0	$0	$0
Severe Summer Weather	Hail	6/14/2007	0	0	$0	$0
Severe Summer Weather	Hail	6/14/2007	0	0	$1,500	$0
Severe Summer Weather	Hail	6/19/2007	0	0	$0	$0
Severe Summer Weather	Hail	6/24/2007	0	0	$0	$0
Severe Summer Weather	Hail	6/24/2007	0	0	$1,500	$0
Severe Summer Weather	Hail	6/24/2007	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	6/24/2007	0	0	$0	$0
Severe Summer Weather	Hail	7/23/2007	0	0	$0	$5,300
Severe Summer Weather	Hail	7/26/2007	0	0	$0	$0
Severe Summer Weather	Hail	7/26/2007	0	0	$0	$0
Severe Summer Weather	Hail	7/30/2007	0	0	$0	$0
Severe Summer Weather	Hail	7/31/2007	0	0	$0	$0
Severe Summer Weather	Hail	8/24/2007	0	0	$0	$0
Severe Summer Weather	Hail	8/24/2007	0	0	$0	$0
Severe Summer Weather	Hail	8/24/2007	0	0	$0	$0
Severe Summer Weather	Hail	4/19/2008	0	0	$0	$0
Severe Summer Weather	Hail	4/19/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/11/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/18/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/1/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/9/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/10/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/10/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/10/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$1,000	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	6/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	7/22/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/2/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/2/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2008	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2008	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2009	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	5/28/2009	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2009	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2009	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2009	0	0	$0	$0
Severe Summer Weather	Hail	5/29/2009	0	0	$0	$0
Severe Summer Weather	Hail	6/2/2009	0	0	$0	$0
Severe Summer Weather	Hail	6/2/2009	0	0	$0	$0
Severe Summer Weather	Hail	6/3/2009	0	0	$0	$0
Severe Summer Weather	Hail	6/8/2009	0	0	$0	$0
Severe Summer Weather	Hail	7/9/2009	0	0	$3,000	$0
Severe Summer Weather	Hail	7/9/2009	0	0	$0	$0
Severe Summer Weather	Hail	7/9/2009	0	0	$0	$0
Severe Summer Weather	Hail	7/25/2009	0	0	$0	$0
Severe Summer Weather	Hail	4/5/2010	0	0	$0	$0
Severe Summer Weather	Hail	4/5/2010	0	0	$0	$0
Severe Summer Weather	Hail	4/5/2010	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	5/1/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/14/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/14/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/14/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/14/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/14/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/17/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/17/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2010	0	0	$0	$0
Severe Summer Weather	Hail	5/28/2010	0	0	$0	$0
Severe Summer Weather	Hail	2/28/2011	0	0	$0	$0
Severe Summer Weather	Hail	2/28/2011	0	0	$0	$0
Severe Summer Weather	Hail	3/23/2011	0	0	$20,000	$0
Severe Summer Weather	Hail	3/23/2011	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	3/23/2011	0	0	$5,000	$0
Severe Summer Weather	Hail	3/23/2011	0	0	$0	$0
Severe Summer Weather	Hail	3/23/2011	0	0	$0	$0
Severe Summer Weather	Hail	3/23/2011	0	0	$0	$0
Severe Summer Weather	Hail	3/23/2011	0	0	$0	$0
Severe Summer Weather	Hail	3/23/2011	0	0	$5,000	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$5,000	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/9/2011	0	0	$10,000	$0
Severe Summer Weather	Hail	4/25/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/27/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/27/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/27/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/27/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/27/2011	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/10/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/10/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/10/2011	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	5/12/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/12/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/12/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/12/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	5/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	6/9/2011	0	0	$0	$0
Severe Summer Weather	Hail	6/28/2011	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	7/22/2011	0	0	$0	$0
Severe Summer Weather	Hail	8/25/2011	0	0	$0	$0
Severe Summer Weather	Hail	9/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	9/26/2011	0	0	$0	$0
Severe Summer Weather	Hail	3/24/2012	0	0	$0	$0
Severe Summer Weather	Hail	4/26/2012	0	0	$0	$0
Severe Summer Weather	Hail	4/26/2012	0	0	$0	$0
Severe Summer Weather	Hail	4/26/2012	0	0	$5,000	$0
Severe Summer Weather	Hail	4/26/2012	0	0	$0	$0
Severe Summer Weather	Hail	4/26/2012	0	0	$0	$0
Severe Summer Weather	Hail	4/26/2012	0	0	$0	$0
Severe Summer Weather	Hail	4/26/2012	0	0	$0	$0
Severe Summer Weather	Hail	4/26/2012	0	0	$0	$0
Severe Summer Weather	Hail	6/30/2012	0	0	$0	$0
Severe Summer Weather	Hail	6/30/2012	0	0	$0	$0
Severe Summer Weather	Hail	7/27/2012	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	6/13/2013	0	0	$0	$0
Severe Summer Weather	Hail	6/13/2013	0	0	$0	$0
Severe Summer Weather	Hail	7/19/2013	0	0	$0	$0
Severe Summer Weather	Hail	8/31/2013	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2014	0	0	$0	$0
Severe Summer Weather	Hail	4/28/2014	0	0	$0	$0
Severe Summer Weather	Hail	5/13/2014	0	0	$0	$0
Severe Summer Weather	Hail	6/4/2014	0	0	$0	$0
Severe Summer Weather	Hail	6/4/2014	0	0	$0	$0
Severe Summer Weather	Hail	6/11/2014	0	0	$0	$0
Severe Summer Weather	Hail	6/11/2014	0	0	$0	$0
Severe Summer Weather	Hail	6/11/2014	0	0	$0	$0
Severe Summer Weather	Hail	6/11/2014	0	0	$0	$0
Severe Summer Weather	Hail	8/21/2014	0	0	$0	$0
Severe Summer Weather	Hail	10/7/2014	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2015	0	0	$5,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	4/8/2015	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2015	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2015	0	0	$10,000	$0
Severe Summer Weather	Hail	4/25/2015	0	0	$0	$0
Severe Summer Weather	Hail	4/25/2015	0	0	$0	$0
Severe Summer Weather	Hail	4/25/2015	0	0	$0	$0
Severe Summer Weather	Hail	4/25/2015	0	0	$0	$0
Severe Summer Weather	Hail	6/1/2015	0	0	$0	$0
Severe Summer Weather	Hail	6/21/2015	0	0	$0	$0
Severe Summer Weather	Hail	6/23/2015	0	0	$0	$0
Severe Summer Weather	Hail	6/23/2015	0	0	$0	$0
Severe Summer Weather	Hail	6/30/2015	0	0	$0	$0
Severe Summer Weather	Hail	4/26/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/1/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/1/2016	0	0	$5,000	$0
Severe Summer Weather	Hail	5/1/2016	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	5/1/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$50,000	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$50,000	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$75,000	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$0	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$5,000	$0
Severe Summer Weather	Hail	5/2/2016	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2016	0	0	$0	$0
Severe Summer Weather	Hail	6/23/2016	0	0	$0	$0
Severe Summer Weather	Hail	7/8/2016	0	0	$0	$0
Severe Summer Weather	Hail	9/29/2016	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	9/29/2016	0	0	$0	$0
Severe Summer Weather	Hail	9/29/2016	0	0	$0	$0
Severe Summer Weather	Hail	9/29/2016	0	0	$0	$0
Severe Summer Weather	Hail	9/29/2016	0	0	$0	$0
Severe Summer Weather	Hail	3/27/2017	0	0	$0	$0
Severe Summer Weather	Hail	3/27/2017	0	0	$0	$0
Severe Summer Weather	Hail	3/27/2017	0	0	$0	$0
Severe Summer Weather	Hail	3/17/2018	0	0	$0	$0
Severe Summer Weather	Hail	5/5/2018	0	0	$0	$0
Severe Summer Weather	Hail	5/5/2018	0	0	$0	$0
Severe Summer Weather	Hail	5/5/2018	0	0	$0	$0
Severe Summer Weather	Hail	5/5/2018	0	0	$0	$0
Severe Summer Weather	Hail	8/13/2018	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2019	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2019	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2019	0	0	$50,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	4/8/2019	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2019	0	0	$0	$0
Severe Summer Weather	Hail	5/17/2019	0	0	$0	$0
Severe Summer Weather	Hail	5/29/2019	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2019	0	0	$0	$0
Severe Summer Weather	Hail	6/16/2019	0	0	$0	$0
Severe Summer Weather	Hail	7/31/2019	0	0	$0	$0
Severe Summer Weather	Hail	8/9/2019	0	0	$0	$0
Severe Summer Weather	Hail	8/18/2019	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2020	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2020	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2020	0	0	$0	$0
Severe Summer Weather	Hail	4/8/2020	0	0	$0	$0
Severe Summer Weather	Hail	4/9/2020	0	0	$0	$0
Severe Summer Weather	Hail	4/9/2020	0	0	$0	$0
Severe Summer Weather	Hail	6/21/2020	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Hail	8/6/2020	0	0	$0	$0
Severe Summer Weather	Hail	8/6/2020	0	0	$0	$0
Severe Summer Weather	Hail	3/18/2021	0	0	$0	$0
Severe Summer Weather	Hail	3/18/2021	0	0	$10,000	$0
Severe Summer Weather	Hail	3/18/2021	0	0	$0	$0
Severe Summer Weather	Hail	3/18/2021	0	0	$0	$0
Severe Summer Weather	Hail	3/18/2021	0	0	$0	$0
Severe Summer Weather	Hail	3/18/2021	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/3/1998	2	0	$80,000	$0
Severe Summer Weather	Heavy Rain	10/1/1998	0	0	$0	$0
Severe Summer Weather	Heavy Rain	10/1/1998	0	0	$0	$0
Severe Summer Weather	Heavy Rain	11/1/1998	0	0	$0	$0
Severe Summer Weather	Heavy Rain	1/1/1999	0	0	$0	$0
Severe Summer Weather	Heavy Rain	1/1/1999	0	0	$0	$0
Severe Summer Weather	Heavy Rain	1/1/1999	0	0	$0	$0
Severe Summer Weather	Heavy Rain	10/1/2000	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Heavy Rain	10/1/2000	0	0	$0	$0
Severe Summer Weather	Heavy Rain	10/1/2000	0	0	$0	$0
Severe Summer Weather	Heavy Rain	1/18/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	1/18/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	1/18/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	5/1/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	5/1/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	9/1/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	10/1/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	10/1/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	11/1/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	11/1/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	11/1/2001	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/1/2002	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/1/2002	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/1/2002	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Heavy Rain	8/1/2002	0	0	$0	$0
Severe Summer Weather	Heavy Rain	8/1/2002	0	0	$0	$0
Severe Summer Weather	Heavy Rain	8/1/2002	0	0	$0	$0
Severe Summer Weather	Heavy Rain	10/1/2002	0	0	$0	$0
Severe Summer Weather	Heavy Rain	10/1/2002	0	0	$0	$0
Severe Summer Weather	Heavy Rain	10/1/2002	0	0	$0	$0
Severe Summer Weather	Heavy Rain	6/1/2015	0	0	$20,000	$0
Severe Summer Weather	Heavy Rain	2/10/2018	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/10/2018	0	0	$0	$0
Severe Summer Weather	Heavy Rain	7/29/2018	0	0	$0	$0
Severe Summer Weather	Heavy Rain	8/30/2018	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/20/2019	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/22/2019	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/23/2019	0	0	$50,000	$0
Severe Summer Weather	Heavy Rain	2/5/2020	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/5/2020	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Heavy Rain	2/5/2020	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/6/2020	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/6/2020	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/6/2020	0	0	$1,000	$0
Severe Summer Weather	Heavy Rain	4/12/2020	0	0	$0	$0
Severe Summer Weather	Heavy Rain	6/19/2020	0	0	$0	$0
Severe Summer Weather	Heavy Rain	6/19/2020	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/27/2021	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/27/2021	0	0	$0	$0
Severe Summer Weather	Heavy Rain	2/27/2021	0	0	$0	$0
Severe Summer Weather	Heavy Rain	3/1/2021	0	0	$0	$0
Severe Summer Weather	High Wind	1/19/1996	0	0	$0	$0
Severe Summer Weather	High Wind	1/19/1996	0	0	$30,000	$0
Severe Summer Weather	High Wind	2/17/1998	0	0	$20,000	$0
Severe Summer Weather	High Wind	1/10/2000	0	0	$0	$0
Severe Summer Weather	High Wind	1/10/2000	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	High Wind	1/10/2000	0	0	$0	$0
Severe Summer Weather	High Wind	1/11/2000	0	0	$0	$0
Severe Summer Weather	High Wind	1/11/2000	0	0	$0	$0
Severe Summer Weather	High Wind	1/11/2000	0	0	$0	$0
Severe Summer Weather	High Wind	1/13/2000	0	0	$0	$0
Severe Summer Weather	High Wind	1/13/2000	0	0	$0	$0
Severe Summer Weather	High Wind	1/13/2000	0	0	$0	$0
Severe Summer Weather	High Wind	11/9/2000	0	0	$0	$0
Severe Summer Weather	High Wind	11/9/2000	0	0	$0	$0
Severe Summer Weather	High Wind	11/9/2000	0	0	$0	$0
Severe Summer Weather	High Wind	12/11/2000	0	0	$0	$0
Severe Summer Weather	High Wind	12/11/2000	0	0	$0	$0
Severe Summer Weather	High Wind	12/11/2000	0	0	$0	$0
Severe Summer Weather	High Wind	2/9/2001	0	0	$0	$0
Severe Summer Weather	High Wind	2/9/2001	0	0	$0	$0
Severe Summer Weather	High Wind	2/9/2001	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	High Wind	2/25/2001	0	0	$0	$0
Severe Summer Weather	High Wind	2/25/2001	0	0	$0	$0
Severe Summer Weather	High Wind	2/25/2001	0	0	$0	$0
Severe Summer Weather	High Wind	3/13/2001	0	0	$3,000	$0
Severe Summer Weather	High Wind	12/14/2001	0	0	$0	$0
Severe Summer Weather	High Wind	12/14/2001	0	0	$0	$0
Severe Summer Weather	High Wind	12/14/2001	0	0	$0	$0
Severe Summer Weather	High Wind	5/13/2002	0	0	$0	$0
Severe Summer Weather	High Wind	2/22/2003	0	0	$0	$0
Severe Summer Weather	High Wind	10/17/2006	0	0	$175,000	$0
Severe Summer Weather	High Wind	12/1/2006	0	0	$10,000	$0
Severe Summer Weather	High Wind	12/1/2006	0	0	$8,000	$0
Severe Summer Weather	High Wind	12/1/2006	0	0	$5,000	$0
Severe Summer Weather	High Wind	2/14/2007	0	0	$3,000	$0
Severe Summer Weather	High Wind	12/23/2007	0	0	$10,000	$0
Severe Summer Weather	High Wind	2/10/2008	0	0	$10,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	High Wind	2/10/2008	0	0	$5,000	$0
Severe Summer Weather	High Wind	2/10/2008	0	0	$5,000	$0
Severe Summer Weather	High Wind	12/19/2008	0	0	$1,000	$0
Severe Summer Weather	High Wind	1/28/2009	0	0	$900	$0
Severe Summer Weather	High Wind	1/28/2009	0	0	$900	$0
Severe Summer Weather	High Wind	1/28/2009	0	0	$900	$0
Severe Summer Weather	High Wind	2/11/2009	0	0	$0	$0
Severe Summer Weather	High Wind	2/11/2009	0	0	$0	$0
Severe Summer Weather	High Wind	12/2/2009	0	0	$0	$0
Severe Summer Weather	High Wind	12/9/2009	0	0	$500	$0
Severe Summer Weather	High Wind	12/9/2009	0	0	$50,000	$0
Severe Summer Weather	High Wind	12/9/2009	0	0	$20,000	$0
Severe Summer Weather	High Wind	12/9/2009	0	0	$15,000	$0
Severe Summer Weather	High Wind	12/9/2009	0	0	$0	$0
Severe Summer Weather	High Wind	12/9/2009	0	0	$0	$0
Severe Summer Weather	High Wind	12/25/2009	0	0	$5,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	High Wind	12/25/2009	0	0	$15,000	$0
Severe Summer Weather	High Wind	12/25/2009	0	0	$3,000	$0
Severe Summer Weather	High Wind	1/24/2010	0	0	$900	$0
Severe Summer Weather	High Wind	2/2/2011	0	0	$0	$0
Severe Summer Weather	High Wind	3/9/2011	0	0	$0	$0
Severe Summer Weather	High Wind	4/15/2011	0	0	$8,000	$0
Severe Summer Weather	High Wind	11/29/2011	0	0	$600	$0
Severe Summer Weather	High Wind	10/30/2012	0	0	$20,000	$0
Severe Summer Weather	High Wind	10/30/2012	0	0	$2,000	$0
Severe Summer Weather	High Wind	10/30/2012	0	0	$10,000	$0
Severe Summer Weather	High Wind	12/27/2012	0	0	$5,000	$0
Severe Summer Weather	High Wind	1/3/2014	0	0	$1,000	$0
Severe Summer Weather	High Wind	3/12/2014	0	0	$10,000	$0
Severe Summer Weather	High Wind	3/12/2014	0	0	$200	$0
Severe Summer Weather	High Wind	10/14/2014	0	0	$5,000	$0
Severe Summer Weather	High Wind	4/2/2016	0	0	$10,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	High Wind	4/2/2016	0	0	$5,500	$0
Severe Summer Weather	High Wind	4/2/2016	0	0	$5,000	$0
Severe Summer Weather	High Wind	3/2/2018	0	0	$16,000	$0
Severe Summer Weather	High Wind	3/2/2018	0	0	$8,000	$0
Severe Summer Weather	High Wind	2/24/2019	0	0	$500	$0
Severe Summer Weather	High Wind	2/24/2019	0	0	$30,000	$0
Severe Summer Weather	High Wind	2/24/2019	0	0	$20,000	$0
Severe Summer Weather	High Wind	11/27/2019	0	0	$1,000	$0
Severe Summer Weather	High Wind	11/27/2019	0	0	$0	$0
Severe Summer Weather	High Wind	11/27/2019	0	0	$10,000	$0
Severe Summer Weather	High Wind	4/13/2020	0	0	$0	$0
Severe Summer Weather	Lightning	8/21/1996	0	0	$3,000	$0
Severe Summer Weather	Lightning	5/24/1998	0	0	$500,000	$0
Severe Summer Weather	Lightning	8/11/2001	0	9	$0	$0
Severe Summer Weather	Lightning	6/16/2002	0	0	$500	$0
Severe Summer Weather	Lightning	3/28/2006	0	0	$15,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Lightning	6/28/2010	0	0	$2,000	$0
Severe Summer Weather	Lightning	6/29/2012	0	0	$20,000	$0
Severe Summer Weather	Lightning	7/23/2012	0	0	$30,000	$0
Severe Summer Weather	Lightning	8/2/2014	0	0	$5,000	$0
Severe Summer Weather	Lightning	5/11/2016	0	0	$20,000	$0
Severe Summer Weather	Lightning	6/15/2016	0	0	$25,000	$0
Severe Summer Weather	Lightning	8/15/2016	0	0	$5,000	$0
Severe Summer Weather	Lightning	2/28/2017	0	2	$0	$0
Severe Summer Weather	Lightning	6/24/2019	0	1	$10,000	$0
Severe Summer Weather	Lightning	9/28/2019	0	0	$1,000	$0
Severe Summer Weather	Strong Wind	4/16/1999	0	0	$0	$0
Severe Summer Weather	Strong Wind	4/16/1999	0	0	$0	$0
Severe Summer Weather	Strong Wind	4/16/1999	0	0	$0	$0
Severe Summer Weather	Strong Wind	2/10/2008	0	0	$5,000	$0
Severe Summer Weather	Strong Wind	2/26/2013	0	0	$5,000	$0
Severe Summer Weather	Strong Wind	3/12/2014	0	0	$20,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Strong Wind	3/12/2014	0	0	$25,000	$0
Severe Summer Weather	Strong Wind	11/1/2014	0	0	$2,000	$0
Severe Summer Weather	Strong Wind	11/1/2014	0	0	$2,000	$0
Severe Summer Weather	Strong Wind	11/1/2014	0	0	$5,000	$0
Severe Summer Weather	Strong Wind	10/28/2015	0	0	$5,000	$0
Severe Summer Weather	Strong Wind	11/18/2015	0	0	$5,000	$0
Severe Summer Weather	Strong Wind	4/2/2016	0	0	$25,000	$0
Severe Summer Weather	Strong Wind	4/2/2016	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	4/2/2016	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	4/23/2018	0	0	$1,000	$0
Severe Summer Weather	Strong Wind	4/23/2018	0	0	$1,000	$0
Severe Summer Weather	Strong Wind	10/20/2018	0	0	$25,000	$0
Severe Summer Weather	Strong Wind	10/20/2018	0	0	$25,000	$0
Severe Summer Weather	Strong Wind	2/24/2019	0	0	$50,000	$0
Severe Summer Weather	Strong Wind	2/24/2019	0	0	$50,000	$0
Severe Summer Weather	Strong Wind	2/24/2019	0	0	$50,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Strong Wind	2/24/2019	0	0	$50,000	$0
Severe Summer Weather	Strong Wind	11/27/2019	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	11/27/2019	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	1/11/2020	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	1/11/2020	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	1/11/2020	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	1/11/2020	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	4/9/2020	0	0	$10,000	$0
Severe Summer Weather	Strong Wind	4/12/2020	0	0	$5,000	$0
Severe Summer Weather	Strong Wind	4/12/2020	0	0	$15,000	$0
Severe Summer Weather	Strong Wind	4/21/2020	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	6/22/1990	0	1	$0	$0
Severe Summer Weather	Thunderstorm Wind	9/9/1990	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	9/9/1990	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	9/9/1990	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/9/1991	0	1	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	4/9/1991	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/9/1991	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/24/1992	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/24/1992	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/18/1993	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	11/17/1993	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	11/17/1993	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	4/27/1994	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	4/27/1994	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/25/1994	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/25/1994	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/25/1994	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/11/1994	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	6/11/1994	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/11/1994	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/19/1994	0	0	$5,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/29/1994	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/18/1995	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	5/18/1995	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	5/18/1995	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	5/18/1995	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	6/8/1995	0	0	$20,000	$0
Severe Summer Weather	Thunderstorm Wind	6/8/1995	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/8/1995	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/8/1995	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/25/1995	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	9/1/1995	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	1/19/1996	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/5/1996	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	7/2/1996	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/2/1996	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	11/8/1996	0	0	$15,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/2/1997	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/2/1997	0	0	$75,000	$0
Severe Summer Weather	Thunderstorm Wind	7/2/1997	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/28/1997	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/28/1997	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/17/1997	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	8/17/1997	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	8/17/1997	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	2/17/1998	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	2/17/1998	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	4/9/1998	0	0	$8,000	$0
Severe Summer Weather	Thunderstorm Wind	5/7/1998	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	5/20/1998	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	5/23/1998	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/2/1998	0	0	$15,000	$0
Severe Summer Weather	Thunderstorm Wind	6/13/1998	0	0	$60,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	6/15/1998	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/16/1998	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/19/1998	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/28/1998	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	6/2/1999	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/2/1999	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/2/1999	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/2/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/24/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/24/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/25/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/25/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/28/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/28/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/28/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/28/1999	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/28/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/28/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/13/1999	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/13/1999	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	8/13/1999	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	8/13/1999	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	8/13/1999	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/13/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/19/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/19/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/20/1999	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/10/2000	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	7/10/2000	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	7/28/2000	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/28/2000	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/9/2000	0	0	$5,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	8/9/2000	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/17/2001	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/22/2001	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/22/2001	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/22/2001	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/13/2001	0	0	$30,000	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2001	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/23/2001	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/23/2001	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	8/23/2001	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	8/23/2001	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/23/2001	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	10/25/2001	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	4/28/2002	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/28/2002	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/28/2002	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	4/28/2002	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/2/2002	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/2/2002	0	1	$20,000	$0
Severe Summer Weather	Thunderstorm Wind	5/13/2002	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/13/2002	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/13/2002	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/13/2002	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/2/2002	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/3/2002	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/3/2002	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	9/18/2002	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/10/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/23/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/11/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/17/2003	0	0	$30,000	$0
Severe Summer Weather	Thunderstorm Wind	11/12/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	11/12/2003	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	11/12/2003	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	5/11/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/21/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/26/2004	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	5/28/2004	0	0	$50,000	$0
Severe Summer Weather	Thunderstorm Wind	5/30/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/11/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/11/2004	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	6/12/2004	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/7/2005	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/25/2005	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/25/2005	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	8/5/2005	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/16/2005	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/16/2005	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/16/2005	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/16/2005	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	11/16/2005	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/3/2006	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/3/2006	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/7/2006	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/7/2006	0	0	$30,000	$0
Severe Summer Weather	Thunderstorm Wind	4/7/2006	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	4/7/2006	0	0	$100,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	4/7/2006	0	0	$300,000	$0
Severe Summer Weather	Thunderstorm Wind	4/17/2006	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	6/26/2006	0	0	$1,800	$0
Severe Summer Weather	Thunderstorm Wind	7/18/2006	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	7/19/2006	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/19/2006	0	0	$20,000	$0
Severe Summer Weather	Thunderstorm Wind	9/28/2006	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/23/2007	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/5/2007	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/5/2007	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	6/8/2007	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/14/2007	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/14/2007	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/19/2007	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/24/2007	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/10/2007	0	0	$5,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/26/2007	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/24/2007	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	8/24/2007	0	0	$4,000	$0
Severe Summer Weather	Thunderstorm Wind	3/4/2008	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	4/11/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/11/2008	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/11/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2008	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/12/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/12/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/16/2008	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/28/2008	0	0	$1,500	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2008	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	7/20/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/22/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/22/2008	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/22/2008	0	0	$900	$0
Severe Summer Weather	Thunderstorm Wind	7/22/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/22/2008	0	0	$900	$0
Severe Summer Weather	Thunderstorm Wind	7/22/2008	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/23/2008	0	0	$4,000	$0
Severe Summer Weather	Thunderstorm Wind	7/23/2008	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/23/2008	0	0	$700	$0
Severe Summer Weather	Thunderstorm Wind	7/23/2008	0	0	$700	$0
Severe Summer Weather	Thunderstorm Wind	8/2/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/13/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	9/9/2008	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	2/11/2009	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	2/11/2009	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	2/11/2009	1	0	$250,000	$0
Severe Summer Weather	Thunderstorm Wind	2/11/2009	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	2/11/2009	0	0	$4,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	2/11/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	2/11/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	2/11/2009	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	4/6/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/8/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/8/2009	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	5/28/2009	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	5/28/2009	0	0	$15,000	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2009	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/31/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/2/2009	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	6/3/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/3/2009	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/25/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/25/2009	0	0	$4,500	$0
Severe Summer Weather	Thunderstorm Wind	7/25/2009	0	0	$900	$0
Severe Summer Weather	Thunderstorm Wind	7/25/2009	0	0	$4,500	$0
Severe Summer Weather	Thunderstorm Wind	7/25/2009	0	0	$4,500	$0
Severe Summer Weather	Thunderstorm Wind	7/25/2009	0	0	$4,500	$0
Severe Summer Weather	Thunderstorm Wind	8/10/2009	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	8/10/2009	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	8/10/2009	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/10/2009	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	10/9/2009	0	0	$15,000	$0
Severe Summer Weather	Thunderstorm Wind	10/9/2009	0	0	$15,000	$0
Severe Summer Weather	Thunderstorm Wind	10/9/2009	0	0	$15,000	$0
Severe Summer Weather	Thunderstorm Wind	10/9/2009	0	0	$400	$0
Severe Summer Weather	Thunderstorm Wind	4/5/2010	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/12/2010	0	0	$4,500	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	6/14/2010	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/14/2010	0	0	$900	$0
Severe Summer Weather	Thunderstorm Wind	6/22/2010	0	0	$900	$0
Severe Summer Weather	Thunderstorm Wind	6/28/2010	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/25/2010	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	8/4/2010	0	0	$10,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	8/5/2010	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	8/5/2010	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/5/2010	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	8/5/2010	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	2/28/2011	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	2/28/2011	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	4/4/2011	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	4/8/2011	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	4/25/2011	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	4/25/2011	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	4/25/2011	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	4/25/2011	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	4/27/2011	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	4/27/2011	0	0	$100,000	$0
Severe Summer Weather	Thunderstorm Wind	4/27/2011	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	4/27/2011	0	0	$2,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	4/28/2011	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/26/2011	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	5/26/2011	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	5/26/2011	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	5/26/2011	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/7/2011	0	0	$4,500	$0
Severe Summer Weather	Thunderstorm Wind	6/7/2011	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/9/2011	0	0	$1,800	$0
Severe Summer Weather	Thunderstorm Wind	6/9/2011	0	0	$900	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2011	0	0	$4,500	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2011	0	0	$9,000	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2011	0	0	$9,000	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2011	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2011	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2011	0	0	$50,000	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2011	0	0	$2,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/4/2011	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2011	0	0	$15,000	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2011	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/22/2011	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/25/2011	0	0	$600	$0
Severe Summer Weather	Thunderstorm Wind	9/3/2011	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	9/3/2011	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	1/27/2012	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	2/29/2012	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	2/29/2012	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	2/29/2012	0	0	$4,000	$0
Severe Summer Weather	Thunderstorm Wind	2/29/2012	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2012	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2012	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$3,500,000	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$250,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$500,000	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$225,000	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$750,000	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	1	$500,000	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	6/29/2012	0	0	$250,000	$0
Severe Summer Weather	Thunderstorm Wind	6/30/2012	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	7/1/2012	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	7/1/2012	0	0	$50,000	$0
Severe Summer Weather	Thunderstorm Wind	7/1/2012	0	0	$15,000	$0
Severe Summer Weather	Thunderstorm Wind	7/1/2012	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/1/2012	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/1/2012	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/3/2012	0	0	$3,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/5/2012	0	1	$30,000	$0
Severe Summer Weather	Thunderstorm Wind	7/5/2012	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	7/5/2012	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/5/2012	0	0	$20,000	$0
Severe Summer Weather	Thunderstorm Wind	7/5/2012	0	0	$20,000	$0
Severe Summer Weather	Thunderstorm Wind	7/5/2012	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	7/5/2012	0	0	$900	$0
Severe Summer Weather	Thunderstorm Wind	7/27/2012	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	7/27/2012	0	0	$300	$0
Severe Summer Weather	Thunderstorm Wind	7/27/2012	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	8/24/2012	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/13/2013	0	0	$50,000	$0
Severe Summer Weather	Thunderstorm Wind	6/13/2013	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	6/13/2013	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/4/2014	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/10/2014	0	0	$1,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/8/2014	0	0	$4,000	$0
Severe Summer Weather	Thunderstorm Wind	8/21/2014	0	0	$6,500	$0
Severe Summer Weather	Thunderstorm Wind	9/2/2014	0	0	$3,500	$0
Severe Summer Weather	Thunderstorm Wind	10/7/2014	0	0	$9,000	$0
Severe Summer Weather	Thunderstorm Wind	4/3/2015	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/11/2015	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/1/2015	0	0	$2,500	$0
Severe Summer Weather	Thunderstorm Wind	6/8/2015	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/18/2015	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2015	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2015	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/9/2015	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/13/2015	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/13/2015	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/13/2015	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/13/2015	0	0	$2,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/13/2015	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/13/2015	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	7/13/2015	0	0	$75,000	$0
Severe Summer Weather	Thunderstorm Wind	7/13/2015	0	0	$1,500	$0
Severe Summer Weather	Thunderstorm Wind	7/14/2015	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/14/2015	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	7/14/2015	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	7/14/2015	0	0	$7,500	$0
Severe Summer Weather	Thunderstorm Wind	7/14/2015	0	0	$7,500	$0
Severe Summer Weather	Thunderstorm Wind	5/1/2016	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/1/2016	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	6/4/2016	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	6/4/2016	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2016	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2016	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2016	0	0	$500	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	6/22/2016	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$2,500	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$2,500	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$10,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	6/23/2016	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2016	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2016	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	7/4/2016	0	0	$4,000	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$0	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$25,000	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$10,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/8/2016	0	0	$50,000	$0
Severe Summer Weather	Thunderstorm Wind	8/14/2016	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	8/14/2016	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	8/16/2016	0	0	$1,500	$200
Severe Summer Weather	Thunderstorm Wind	3/1/2017	0	0	$60,000	$0
Severe Summer Weather	Thunderstorm Wind	3/1/2017	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	3/1/2017	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	3/1/2017	0	0	$30,000	$0
Severe Summer Weather	Thunderstorm Wind	3/1/2017	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	3/1/2017	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	3/1/2017	0	0	$2,500	$0
Severe Summer Weather	Thunderstorm Wind	3/27/2017	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/20/2017	0	0	$2,500	$0
Severe Summer Weather	Thunderstorm Wind	5/20/2017	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	6/13/2017	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	6/23/2017	0	0	$500	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/18/2017	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	10/23/2017	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	11/18/2017	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	4/4/2018	0	0	$4,000	$0
Severe Summer Weather	Thunderstorm Wind	4/4/2018	0	0	$4,000	$0
Severe Summer Weather	Thunderstorm Wind	4/4/2018	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	4/4/2018	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	4/15/2018	0	0	$45,000	$0
Severe Summer Weather	Thunderstorm Wind	6/19/2018	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2018	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	6/22/2018	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	4/14/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	4/14/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	4/14/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	4/14/2019	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	4/14/2019	0	0	$500	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	4/14/2019	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	5/19/2019	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	5/19/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/19/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/26/2019	0	0	$4,000	$0
Severe Summer Weather	Thunderstorm Wind	5/26/2019	0	0	$50,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$100,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$125,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$500	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$50,000	$0
Severe Summer Weather	Thunderstorm Wind	5/29/2019	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	7/31/2019	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/18/2019	0	0	$10,000	$0
Severe Summer Weather	Thunderstorm Wind	10/31/2019	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	10/31/2019	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	10/31/2019	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	10/31/2019	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	10/31/2019	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	1/11/2020	0	0	$80,000	$0
Severe Summer Weather	Thunderstorm Wind	4/8/2020	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	4/8/2020	0	0	$1,000	$0
Severe Summer Weather	Thunderstorm Wind	4/8/2020	0	0	$15,000	$0
Severe Summer Weather	Thunderstorm Wind	4/9/2020	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	4/9/2020	0	0	$3,000	$0
Severe Summer Weather	Thunderstorm Wind	6/21/2020	0	0	$10,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Summer Weather	Thunderstorm Wind	7/22/2020	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	8/1/2020	0	0	$5,000	$0
Severe Summer Weather	Thunderstorm Wind	8/6/2020	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	8/6/2020	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	8/6/2020	0	0	$500	$0
Severe Summer Weather	Thunderstorm Wind	8/25/2020	0	0	$2,000	$0
Severe Summer Weather	Thunderstorm Wind	8/25/2020	0	0	$2,000	$0
Severe Winter Weather	Avalanche	2/21/2015	0	0	$0	$0
Severe Winter Weather	Blizzard	12/18/2009	0	0	$0	$0
Severe Winter Weather	Blizzard	12/18/2009	0	0	$0	$0
Severe Winter Weather	Blizzard	12/18/2009	0	0	$0	$0
Severe Winter Weather	Blizzard	1/26/2011	0	0	$0	$0
Severe Winter Weather	Blizzard	1/26/2011	0	0	$0	$0
Severe Winter Weather	Blizzard	10/29/2012	0	0	$750,000	$0
Severe Winter Weather	Cold/Wind Chill	2/3/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	2/3/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	2/3/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	2/4/1996	0	0	$15,000	$0
Severe Winter Weather	Cold/Wind Chill	2/4/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	2/4/1996	0	0	$15,000	$0
Severe Winter Weather	Cold/Wind Chill	3/8/1996	0	0	$0	$5,000

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Cold/Wind Chill	3/8/1996	0	0	$0	$5,000
Severe Winter Weather	Cold/Wind Chill	3/8/1996	0	0	$0	$5,000
Severe Winter Weather	Cold/Wind Chill	3/10/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/10/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/10/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/13/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/13/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/13/1996	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	1/16/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	1/16/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	1/16/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	4/1/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	4/1/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	4/1/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/1/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/1/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/7/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/11/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/11/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	5/22/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	9/4/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	9/4/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	9/4/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	10/23/1997	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Cold/Wind Chill	10/23/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	10/23/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	11/1/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	11/1/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	11/1/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	11/18/1997	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/10/1998	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/10/1998	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/10/1998	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/1/1999	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/1/1999	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/1/1999	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	10/8/2000	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	10/8/2000	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	10/8/2000	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	12/1/2000	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	12/1/2000	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	12/1/2000	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/1/2001	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/1/2001	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/1/2001	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	10/8/2001	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	10/8/2001	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	10/8/2001	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Cold/Wind Chill	1/14/2003	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	1/14/2003	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	1/14/2003	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	1/23/2005	1	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	2/14/2015	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	2/14/2015	0	0	$0	$0
Severe Winter Weather	Cold/Wind Chill	3/6/2015	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/28/2000	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/28/2000	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/28/2000	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	11/21/2000	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	11/21/2000	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	11/21/2000	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	5/19/2002	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	5/19/2002	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	5/19/2002	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/6/2014	0	0	$20,000	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/6/2014	0	0	$20,000	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Extreme Cold/Wind Chill	1/6/2014	0	0	$20,000	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/7/2014	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/7/2014	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/7/2014	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/27/2014	0	0	$25,000	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/27/2014	0	0	$50,000	$0
Severe Winter Weather	Extreme Cold/Wind Chill	1/27/2014	0	0	$25,000	$0
Severe Winter Weather	Extreme Cold/Wind Chill	2/14/2015	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	2/15/2015	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	2/18/2015	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	2/18/2015	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	2/18/2015	0	0	$0	$0
Severe Winter Weather	Extreme Cold/Wind Chill	2/19/2015	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	10/3/2003	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	10/3/2003	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	10/3/2003	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	4/28/2004	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	5/4/2004	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Frost/Freeze	5/4/2004	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	5/4/2004	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	10/12/2006	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	10/13/2006	0	0	$0	$0
Severe Winter Weather	Frost/Freeze	10/13/2006	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/1/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/1/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/1/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/1996	0	0	$100,000	$0
Severe Winter Weather	Heavy Snow	2/1/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/1/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/1/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/2/1996	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	2/2/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/2/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/2/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/2/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/2/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/16/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/16/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/16/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/19/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/19/1996	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/19/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/8/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/5/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/5/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/5/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/27/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/27/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/27/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/29/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/29/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/29/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/29/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/29/1997	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/29/1997	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	1/27/1998	0	1	$2,000,000	$0
Severe Winter Weather	Heavy Snow	1/27/1998	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/27/1998	1	1	$30,000	$0
Severe Winter Weather	Heavy Snow	1/27/1998	0	0	$60,000	$0
Severe Winter Weather	Heavy Snow	1/27/1998	2	0	$5,000,000	$0
Severe Winter Weather	Heavy Snow	1/27/1998	0	0	$1,000,000	$0
Severe Winter Weather	Heavy Snow	2/6/1998	0	0	$200,000	$0
Severe Winter Weather	Heavy Snow	2/6/1998	0	0	$900,000	$0
Severe Winter Weather	Heavy Snow	2/6/1998	0	0	$200,000	$0
Severe Winter Weather	Heavy Snow	3/3/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/3/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/3/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/9/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/9/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/15/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/15/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/15/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/15/1999	0	0	$1,000	$0
Severe Winter Weather	Heavy Snow	3/15/1999	0	0	$1,000	$0
Severe Winter Weather	Heavy Snow	3/15/1999	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/18/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/18/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/18/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/19/2000	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	1/19/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/19/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/26/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/4/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/4/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/4/2000	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/22/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/22/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/22/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/5/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/5/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/5/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/5/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/5/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/20/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/20/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	4/17/2001	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/2002	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/2002	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/2002	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/19/2002	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/19/2002	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/2/2002	0	0	$0	$0
Severe Winter Weather	Heavy Snow	4/6/2002	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	12/25/2002	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/25/2002	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/5/2003	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/2003	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/6/2003	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/16/2003	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/16/2003	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/16/2003	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/30/2003	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/30/2003	0	0	$5,000	$0
Severe Winter Weather	Heavy Snow	3/30/2003	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/27/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/27/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/27/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/28/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/28/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/28/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/1/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/1/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/1/2005	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/12/2006	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/12/2006	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/12/2006	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/6/2007	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	2/6/2007	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/7/2007	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/17/2007	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/17/2007	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/1/2008	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/26/2008	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/26/2008	0	0	$0	$0
Severe Winter Weather	Heavy Snow	11/17/2008	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/3/2009	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/3/2009	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/3/2009	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/3/2009	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/3/2009	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/22/2009	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/5/2009	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/5/2009	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/18/2009	0	0	$750,000	$0
Severe Winter Weather	Heavy Snow	12/18/2009	0	0	$700,000	$0
Severe Winter Weather	Heavy Snow	12/18/2009	0	0	$400,000	$0
Severe Winter Weather	Heavy Snow	1/29/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/29/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/29/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/29/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/29/2010	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	1/29/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/2/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/9/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/24/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/4/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/12/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/12/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/12/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/16/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/16/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/16/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/25/2010	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/7/2011	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/7/2011	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/2011	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/2011	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/2011	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/2011	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/11/2011	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/26/2011	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/19/2012	0	0	$400,000	$0
Severe Winter Weather	Heavy Snow	2/19/2012	0	0	$75,000	$0
Severe Winter Weather	Heavy Snow	2/19/2012	0	0	$100,000	$0
Severe Winter Weather	Heavy Snow	3/5/2012	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	3/5/2012	0	0	$0	$0
Severe Winter Weather	Heavy Snow	10/29/2012	0	0	$250,000	$0
Severe Winter Weather	Heavy Snow	10/29/2012	0	0	$400,000	$0
Severe Winter Weather	Heavy Snow	12/21/2012	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/17/2013	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/17/2013	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/17/2013	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/17/2013	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/2/2013	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/21/2014	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/12/2014	0	0	$25,000	$0
Severe Winter Weather	Heavy Snow	2/12/2014	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/12/2014	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/12/2014	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/12/2014	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/12/2014	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/16/2015	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/16/2015	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/16/2015	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/21/2015	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/21/2015	0	0	$20,000	$0
Severe Winter Weather	Heavy Snow	2/21/2015	0	0	$400,000	$0
Severe Winter Weather	Heavy Snow	3/5/2015	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/5/2015	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	3/5/2015	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/5/2015	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/22/2016	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/22/2016	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/22/2016	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/22/2016	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/22/2016	0	0	$0	$0
Severe Winter Weather	Heavy Snow	1/22/2016	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/14/2016	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/14/2016	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/1/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/12/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/12/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/12/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/12/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/21/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/24/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	3/24/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/9/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/9/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/9/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/9/2018	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/24/2020	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/24/2020	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Heavy Snow	12/24/2020	0	0	$0	$0
Severe Winter Weather	Heavy Snow	12/24/2020	0	0	$0	$0
Severe Winter Weather	Heavy Snow	2/7/2021	0	0	$0	$0
Severe Winter Weather	Ice Storm	1/8/1997	0	0	$5,000	$0
Severe Winter Weather	Ice Storm	1/8/1997	0	0	$5,000	$0
Severe Winter Weather	Ice Storm	1/8/1997	0	0	$5,000	$0
Severe Winter Weather	Ice Storm	1/15/1998	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/23/1998	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/23/1998	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/23/1998	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/23/1998	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/23/1998	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/23/1998	0	0	$0	$0
Severe Winter Weather	Ice Storm	2/1/1999	0	0	$0	$0
Severe Winter Weather	Ice Storm	2/17/2000	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/13/2000	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/13/2000	0	0	$0	$0
Severe Winter Weather	Ice Storm	2/5/2004	0	0	$50,000	$0
Severe Winter Weather	Ice Storm	2/5/2004	0	0	$0	$0
Severe Winter Weather	Ice Storm	2/5/2004	0	0	$0	$0
Severe Winter Weather	Ice Storm	2/5/2004	0	0	$0	$0
Severe Winter Weather	Ice Storm	1/29/2005	0	0	$0	$0
Severe Winter Weather	Ice Storm	1/29/2005	0	0	$0	$0
Severe Winter Weather	Ice Storm	1/29/2005	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Ice Storm	1/21/2007	0	0	$5,000	$0
Severe Winter Weather	Ice Storm	1/21/2007	0	0	$0	$0
Severe Winter Weather	Ice Storm	1/21/2007	0	0	$5,000	$0
Severe Winter Weather	Ice Storm	2/13/2007	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/15/2007	0	0	$10,000	$0
Severe Winter Weather	Ice Storm	1/21/2010	0	0	$0	$0
Severe Winter Weather	Ice Storm	1/21/2010	0	0	$0	$0
Severe Winter Weather	Ice Storm	1/21/2010	0	0	$0	$0
Severe Winter Weather	Ice Storm	12/8/2013	0	0	$75,000	$0
Severe Winter Weather	Ice Storm	11/14/2018	0	0	$0	$0
Severe Winter Weather	Ice Storm	11/14/2018	0	0	$5,000	$0
Severe Winter Weather	Ice Storm	11/14/2018	0	0	$0	$0
Severe Winter Weather	Ice Storm	11/15/2018	0	0	$50,000	$0
Severe Winter Weather	Winter Storm	1/5/1996	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/6/1996	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/6/1996	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/17/1996	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/19/1996	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/3/1998	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/3/1998	0	4	$3,500,000	$0
Severe Winter Weather	Winter Storm	2/3/1998	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/2/1999	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/2/1999	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/2/1999	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Storm	3/3/1999	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/3/1999	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/3/1999	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/29/2000	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/29/2000	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/29/2000	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/29/2000	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/13/2000	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/19/2002	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/4/2002	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/4/2002	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/4/2002	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/4/2002	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/4/2002	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/15/2003	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/15/2003	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/15/2003	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/16/2003	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/16/2003	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/16/2003	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/18/2003	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/25/2004	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/25/2004	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/25/2004	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Storm	12/9/2005	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/17/2008	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/17/2008	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/17/2008	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/5/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/5/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/5/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/5/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/9/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/9/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/15/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/24/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/16/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/16/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/16/2010	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/19/2012	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/19/2012	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/19/2012	0	0	$0	$0
Severe Winter Weather	Winter Storm	10/28/2012	0	0	$0	$0
Severe Winter Weather	Winter Storm	10/28/2012	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/8/2013	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/8/2013	0	0	$2,000	$0
Severe Winter Weather	Winter Storm	12/8/2013	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/21/2014	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Storm	1/21/2014	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/21/2014	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/2/2014	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/2/2014	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/2/2014	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/16/2015	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/16/2015	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/16/2015	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/21/2015	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/21/2015	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/21/2015	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/5/2015	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/5/2015	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/8/2016	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/14/2016	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/14/2016	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/14/2016	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/14/2016	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/20/2018	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/20/2018	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/20/2018	0	0	$8,000	$0
Severe Winter Weather	Winter Storm	3/24/2018	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/24/2018	0	0	$0	$0
Severe Winter Weather	Winter Storm	3/24/2018	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Storm	12/9/2018	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/9/2018	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/9/2018	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/12/2019	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/12/2019	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/12/2019	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/19/2019	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/19/2019	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/19/2019	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/19/2019	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/19/2019	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/16/2020	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/16/2020	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/16/2020	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/24/2020	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/24/2020	0	0	$0	$0
Severe Winter Weather	Winter Storm	12/24/2020	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/27/2021	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/30/2021	0	0	$0	$0
Severe Winter Weather	Winter Storm	1/30/2021	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/7/2021	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/11/2021	0	0	$3,000	$0
Severe Winter Weather	Winter Storm	2/17/2021	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/18/2021	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Storm	2/18/2021	0	0	$0	$0
Severe Winter Weather	Winter Storm	2/18/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	4/30/1996	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/27/1997	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/27/1997	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/27/1997	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/16/1998	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/12/1999	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/12/1999	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/12/1999	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/25/1999	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/25/1999	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/25/1999	0	0	$0	$0
Severe Winter Weather	Winter Weather	11/29/2000	0	0	$0	$0
Severe Winter Weather	Winter Weather	11/19/2002	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/13/2003	0	0	$0	$0
Severe Winter Weather	Winter Weather	10/24/2006	1	5	$60,000	$0
Severe Winter Weather	Winter Weather	1/9/2007	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/7/2007	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/26/2008	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/26/2008	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/25/2010	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/25/2010	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/25/2010	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Weather	1/6/2011	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/6/2011	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/6/2011	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/6/2011	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/6/2011	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/6/2011	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/7/2011	0	0	$10,000	$0
Severe Winter Weather	Winter Weather	1/2/2012	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/10/2012	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/5/2012	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/21/2012	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/26/2012	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/17/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/2/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/13/2013	0	0	$15,000	$0
Severe Winter Weather	Winter Weather	3/24/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/25/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/25/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	4/4/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	4/4/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	4/4/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	11/27/2013	0	0	$15,000	$0
Severe Winter Weather	Winter Weather	12/10/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/10/2013	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Weather	12/17/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/17/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/17/2013	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/25/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/25/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/25/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/13/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/25/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/25/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/25/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	11/1/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	11/26/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	11/26/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	11/26/2014	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/23/2015	0	0	$25,000	$0
Severe Winter Weather	Winter Weather	1/23/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/23/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/23/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/2/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/12/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/14/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/14/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/14/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/14/2015	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Weather	2/18/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/18/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/18/2015	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/4/2016	0	0	$1,000	$0
Severe Winter Weather	Winter Weather	3/3/2016	0	0	$0	$0
Severe Winter Weather	Winter Weather	4/8/2016	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/29/2016	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/5/2017	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/5/2017	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/5/2017	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/5/2017	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/13/2017	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/12/2017	0	0	$100,000	$0
Severe Winter Weather	Winter Weather	1/16/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/16/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/16/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/16/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/1/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/1/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/1/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/21/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	3/24/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	4/9/2018	0	0	$0	$0
Severe Winter Weather	Winter Weather	4/9/2018	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Winter Weather	Winter Weather	12/11/2019	0	0	$6,000	$0
Severe Winter Weather	Winter Weather	1/7/2020	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/7/2020	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/7/2020	0	0	$0	$0
Severe Winter Weather	Winter Weather	12/16/2020	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/19/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/19/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/27/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/27/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	1/30/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/11/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/11/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/11/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/15/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/17/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/17/2021	0	0	$0	$0
Severe Winter Weather	Winter Weather	2/17/2021	0	0	$0	$0
Tornado	Funnel Cloud	5/1/2016	0	0	$0	$0
Tornado	Tornado	6/22/1990	0	0	$250,000	$0
Tornado	Tornado	10/7/2014	0	0	$275,000	$0
Tornado	Tornado	10/7/2014	0	2	$175,000	$0
Wildfire	Wildfire	11/9/1999	0	0	$0	$0
Wildfire	Wildfire	11/9/1999	0	0	$0	$0
Wildfire	Wildfire	11/9/1999	0	0	$0	$0

Hazard Type	Event Type	Date	Deaths	Injuries	Property Damage	Crop Damage
Wildfire	Wildfire	11/2/2000	0	0	$0	$0
Wildfire	Wildfire	11/2/2000	0	0	$0	$0
Wildfire	Wildfire	11/2/2000	0	0	$0	$0
Wildfire	Wildfire	11/1/2001	0	0	$0	$0
Wildfire	Wildfire	11/1/2001	0	0	$0	$0
Wildfire	Wildfire	11/1/2001	0	0	$0	$0

Appendix B: Previous Mitigation Actions Status

Mitigation Action (Strategy)	Status	Associated Action in Update
West Virginia Region I		
Collaborate with Region Extension Services and private sector interests to purchase or otherwise create and distribute information dealing with disasters and how people can prepare/ recover from them.	Ongoing; annual requirement – as people move, their conditions change	
Develop specific instructions for shutting down equipment and production sites outside the facility and a process to account for all employees after an evacuation.	Ongoing; sometimes hard to get commercial facilities to cooperate.	
Procedures for employees responsible for shutting down critical operations before evacuating the facility.	Unchanged; same as prior plan.	
McDowell County		
Lobby for additional political support and funding to procure emergency response equipment.	Ongoing	1
Distribute informational literature (to) public locations (schools, town halls, courthouse facilities, libraries, etc.).	Ongoing	2
Continue participation in Corps and FEMA mitigation programs.	Ongoing	3
Participate in FEMA pre-disaster mitigation programs once available.	Ongoing	4
Town of Bradshaw		
Increase enforcement and implementation of stricter floodplain and building ordinances.	Ongoing; Funding & staffing issue.	21
Continue participation in HMGP programs (HMGP 1410 application unfunded due to inadequate funds).	Ongoing	22
Town of Davy		
Distribute FEMA/OES literature at public locations such as schools, churches, libraries, town hall, etc.	Ongoing	33
Adopt and update the McDowell County Emergency Response plan as needed.	Ongoing	34
Increase floodplain ordinance regulation.	Ongoing	35
City of Gary		
Establish work groups to remove debris from local streams/rivers.	Ongoing	36
Increase maintenance/reduce response time for highway maintenance during snowstorm events.	Ongoing	37
Increase floodplain regulation.	Ongoing	38

Mitigation Action (Strategy)	Status	Associated Action in Update
Town of Iaeger		
Continue participation in HMGP programs (HMGP 1410 application unfunded due to inadequate funds).	Ongoing	52
Distribute FEMA/OES literature at public locations such as schools, churches, libraries, town hall, etc.	Ongoing	53
Increase floodplain regulation enforcement.	Ongoing	54
City of Keystone		
Seek funding to acquire pipes to be used to alleviate runoff flooding.	Ongoing	55
Form work groups to clear debris from streambeds and floodplains.	Ongoing	56
Utilize local media sources to distribute information and advertise informational public meetings.	Ongoing	57
Increase enforcement of floodplain regulations.	Ongoing	58
Town of Kimball		
Increase enforcement of floodplain regulations.	Ongoing with coordination with other government entities.	59
Town of Northfork		
Distribute FEMA/OES literature (in) public locations to increase community awareness of local hazards.	Ongoing	70
Participate in FEMA/OES and Corps mitigation programs.	Ongoing	71
City of War		
The City of War subscribes to the planning/zoning requirements of the McDowell County Redevelopment Authority.	Ongoing	75
The City of War has a newly built Sanitation Sewage Treatment Plant, with new lines from homes and with separation of storm water management. The storm water management system appears to be adequate for emergencies.	Ongoing	76
The City of War has signed a contract with FEMA to meet floodplain regulations in relation to future flooding.	Ongoing	77
The City of War is working with the WV Office of Emergency Services to have FEMA acquire property damaged in the most recent flooding.	Ongoing	78
The McDowell County Redevelopment Authority does not allow construction in floodplain areas. The City subscribes to these policies.	Ongoing	79

Mitigation Action (Strategy)	Status	Associated Action in Update
The City will dredge the Dry Fork River to help prevent property damage to homes and businesses.	Ongoing	80
The City will develop and implement a public education and awareness program, which will be distributed to all citizens.	Ongoing	81
The City will distribute the program to all parents in Big Creek District through the McDowell County Schools.	Ongoing	82
The City will promote public awareness of the program through local media.	Ongoing	83
The City of War will work with all emergency service entities to ensure compliance with county and local policies and procedures.	Ongoing	84
City of Welch		
Continue participation in FEMA/OES mitigation programs.	Ongoing	85
Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.	Ongoing	86
Continue enforcement of floodplain regulation ordinance.	Ongoing	87
Encourage additional flood-proofing measures to all homes/businesses located in flood hazard areas.	Ongoing	88
Adopt stricter building codes to prohibit any development in flood hazard areas.	Ongoing	89
Continue to seek funding to separate storm water removal from municipal wastewater lines.	Ongoing	90
Mercer County		
Increase floodplain regulation enforcement. Seek additional funding for additional permit offices.	Ongoing	91
Participate in Hazard Mitigation Grant Program(s).	Ongoing	92
Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.	Ongoing	93
Regular removal of stream debris blockages.	Ongoing	94
Explore possibilities of cooperation with Turnpike Commission for installation of retention ponds along major transportation routes.	Ongoing	95
Seek additional funding to increase permit officer positions.	Ongoing	96

Mitigation Action (Strategy)	Status	Associated Action in Update
Create emergency preparedness and shelter location brochures.	Ongoing, shelters locations are mapped	97
Disseminate hazard safety information during the Mountain Festival, County Fair, or October Fest with information on emergency preparedness, health and safety and personal well-being during times of extreme weather.	Ongoing	98
Improve wv511.org by updating information more quickly. Highway closure information is improved by social media such as Facebook, Twitter, and internet connectivity to all smartphones.	Ongoing	99
Town of Athens		
Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse, etc.).	Ongoing	104
Continue to seek additional funding for increased emergency response equipment.	Ongoing, water system getting older – repairs needed, especially water tower, one of the tanks has a leak	105
City of Bluefield		
Apply for funding through Small Cities Block Grant and other programs to fund analysis.	Ongoing	115
Seek funding assistance to refurbish/upgrade inadequate drainage structures.	Ongoing	116
Utilize citywide topographic data (5-foot contours) to acquire comprehensive hydraulic and hydrologic mapping.	No FEMA flood areas in the City	117
The stormwater board is assessing every culvert yearly and making repairs.	Ongoing	118
Removal of culvert debris to decrease drainage blockages.	Ongoing. Sweeper truck runs four days a week, vacuum may be used	119
Distribute literature from FEMA and the WV Office of Emergency Services.	Ongoing	120
Town of Bramwell		
Participate in Hazard Mitigation Grant Program(s).	Ongoing	141
Town of Matoaka		
Participate in Hazard Mitigation Grant Program(s).	Ongoing	142
Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.	Ongoing	143

Mitigation Action (Strategy)	Status	Associated Action in Update
Increase floodplain regulation enforcement.	Ongoing	144
Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse offices, etc.).	Update: The City continues to increase public awareness. Additionally, the City continues to refine ordinances relevant to the protection of both flooding and storm-water management.	145
Town of Oakvale		
Continue utilization of CASE workers to remove debris from stream beds and banks to reduce debris blockages.	Ongoing	146
Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse offices, etc.).	Update: The City continues to increase public awareness. Additionally, the City continues to refine ordinances relevant to the protection of both flooding and storm-water management.	147
Seek assistance from local machinery/mining corporations for donation of equipment and/or labor for channelization.	Ongoing	148
City of Princeton		
The City of Princeton has obtained the services of Stafford Consultants to perform pre-engineering and cost-estimation on proposed recommendations to improve the storm water systems on Stafford Drive and Rogers Street.	Ongoing	152
Approximately five years ago, the City worked with the Southern Soil Conservation District and Mercer County to have Brush Creek, Glady Fork, and Daves Fork dredged to their original elevation (City's cost: $60,000). The City also contributes $4,000 per year to a fund for annual maintenance that is conducted by the SCS.	Ongoing	153

Mitigation Action (Strategy)	Status	Associated Action in Update
The City also participated financially (approximately $10,000) in a Corp of Engineers study for flood protection in Mercer County. The study recommended a floodwall in Princeton as well as a high-water warning system. This project is still in the development stage.	Ongoing	154
Working through Mike Saffel, the director of the Princeton Sanitary Board, the City worked with several West Virginia municipalities to develop legal criteria for implementation of the Storm Water Management Act. Implementation is in the beginning stages.	Ongoing	155
Monroe County		
Undertake stream maintenance along 2nd and Rock Camp Creeks. Also, near Green Valley Road, and along Indian Creek near Red Sulphur Springs.	Ongoing	190
Promote awareness of FEMA regulations among the public and elected officials through media campaigns focused on consequences of living in a floodplain.	Ongoing	191
Inform the public of cave-related hazard sites and risks.	Ongoing	192
Secure roadsides against snowslides and landslides or land subsidence using Gabion baskets or other materials as appropriate, especially along Route 219.	Ongoing	193
Town of Peterstown		
Undertake stream maintenance near the intersection of Rich Creek and Brush Creek.	Ongoing	196
Secure roadsides against snowslides and landslides or land subsidence using Gabion baskets or other materials as appropriate, especially along Route 219.	Ongoing	197
Town of Union		
Improve ground slope around the Town Hall where rainwater frequently floods the basement.	Ongoing	208
Raleigh County		
Undertake stream maintenance along Creek Fork, Marsh Fork, and Tommy Creeks, as well as near Fairdale.	Ongoing	211

Mitigation Action (Strategy)	Status	Associated Action in Update
Continue enforcement of current building codes in Ghent, Flat Top, and Shady Spring where hailstorm-caused roof damage is frequent.	Ongoing	212
Secure roadsides against snowslips and landslides along Rock and Slab Fork Creeks. Also, secure parts of State Route 99 and State Route 3. As was found during Profiling Hazard Events, one of the most troublesome parts has been Berry Branch near Helen. Here, heavy flooding has often resulted in landslides caused by an abandoned mine slate dump.	Ongoing	213
Monitor hazardous abandoned mine sites for possible reclamation, especially the site concentration near Beckley and Mabscott (refer to the map included in Section 3.3.1). Note that the County only recently reclaimed the abandoned mine site near Jonben.	Ongoing	214
City of Beckley		
Repair and maintain stormwater drain (and/or replace culvert as appropriate) along Market Street. Note that this part stretches outside the city limits and hence, coordination with the County would be necessary.	Complete	-
Purchase smaller snowplows for the City's 20-, 40-, and 50- foot right of ways.	Complete	-
Town of Lester		
Repair and maintain stormwater drain along Central and Virginia Streets.	Complete	-
Town of Mabscott		
Undertake stream maintenance along White Stick Creek.	Ongoing	222
Town of Sophia		
Seek funding for acquisition of the residential properties along Riffe and Main Streets. These properties are located in the 100-year floodplain.	Ongoing	228
Summers County		
Acquire emergency generators for all county departments and shelters.	Ongoing	232
Establish emergency shelters throughout the County.	Ongoing	233

Mitigation Action (Strategy)	Status	Associated Action in Update
Increase emergency responder/shelter operator training.	Ongoing	234
Seek grant funding to increase emergency response equipment training.	Ongoing	235
Increase participation in Hazard Mitigation Grant Programs.	Ongoing	236
Acquire a dedicated swift water rescue team.	Not Applicable	-
Conduct public meetings to educate the public regarding natural hazards.	Complete	-
Increase enforcement of floodplain ordinances; implement stricter regulations for floodplain development.	Enforcement in place for new builds.	-
Capitalize on funding sources to acquire, elevate, or relocate properties in hazard areas.	Complete	-
City of Hinton		
Increase participation in Hazard Mitigation Grant Programs.	Ongoing	243
Distribute FEMA/Office of Emergency Services literatures at public locations to improve community awareness.	Ongoing	244
Work with local school board and county commission to identify alternate access to points to Summers County High School.	Ongoing. Wording of action changed to fit city capabilities	245
Increase hazardous materials training of local emergency responders.	Complete	-
Seek funding to acquire fire prevention systems.	Complete	-
Capitalize on funding sources to acquire, elevate, or relocate properties in hazard areas.	Complete	-
Wyoming County		
Seek funding for the County's 3 previously un-funding HMGP applications from Disaster #1410: 'Multiple Creek Project' (appoximately $434,400 for 5 residential properties in Pineville, McGraws, Bud, and Maben), 'Guyandotte or Grey River Project' (approximately $917,500 for 12 residential properties in Corinne, Brenton, and Marianna), and 'Laurel Creek Project' (approximately $1,093,480 for 10 residential properties in Matheny, Glen Rogers, Glen Fork, Ravencliff, and Jesse).	Complete	-

Mitigation Action (Strategy)	Status	Associated Action in Update
Protect the Glen Rogers PSD sewage treatment plant against flood.	Ongoing	247
Promote awareness of FEMA regulations among the public and elected officials through media campaigns focused on consequences of living in a floodplain.	Ongoing	248
Ease floodplain management through use of mapping technology. Note that the County is already a beneficiary of a related ESRI-NACO Software Grant.	Ongoing	249
Link the building permitting process with complicate of floodplain regulations by requiring a Certificate of Occupancy.	Ongoing	250
Undertake steam maintenance along Lauren Creek near Matheny.	Ongoing	251
City of Mullens		
Repair and maintain the stormwater drain along Broadway Street. Note that the City has received FEMA Disaster Relief Funds from Disaster #1455 for partial improvement of this drain. The City now plans to request for more funds to completely cure the drainage problem.	Ongoing	257
Seek approximately $500,000 in funding for the acquisition of 10 repetitive-loss residential properties along the Guyandotte and Woodland Avenues in south Mullens. The city would also seek funding for acquisition of one property that was part of a previously unfunded HMGP application from Disaster #1378 on Lusk Avenue. Note that acquisition projects funding in the recent past addressed properties mainly along Broadway Street and Guyandotte Avenue.	Ongoing	258
Secure the following roadsides against snowslips and landslides using Gabion baskets or other materials as appropriate: Flood Road and Lusk Avenue.	Ongoing	259
Reclaim the three hazardous abandoned mine sites up on Parsons Road to check run-off to the low-lying neighborhood along Broadway Street.	Ongoing	260
Purchase a stand-by generator for the city hall for quick-restoration of power during a disaster event.	Ongoing	261
Write and formalize the city's Emergency Recall Plan.	Complete	-

Mitigation Action (Strategy)	Status	Associated Action in Update
Town of Oceana		
Repair and maintain the stormwater drain along Chestnut Street.	Ongoing	262
Town of Pineville		
Repair and maintain the stormwater drain along Sycamore Avenue, and at the intersection of Cedar and Oakwood Avenues.	Ongoing	263

Appendix C: Matrix Scoring Spreadsheet

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
1	Multiple Hazards	Collaborate with Region Extension Services and private sector interests to purchase or otherwise create and distribute information dealing with disasters and how people can prepare/ recover from them.							1	5	Previous
2	Multiple Hazards	Develop specific instructions for shutting down equipment and production sites outside the facility and a process to account for all employees after an evacuation.							1		Previous
3	Multiple Hazards	Procedures for employees responsible for shutting down critical operations before evacuating the facility.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
4	Multiple Hazards	Lobby for additional political support and funding to procure emergency response equipment.	5	3	5	4	5	22	1	1	Previous
5	Multiple Hazards	Distribute informational literature (to) public locations (schools, town halls, courthouse facilities, libraries, etc.).	4	3	5	4	5	21	1	2	Previous
6	Multiple Hazards	Continue participation in Corps and FEMA mitigation programs.	5	3	5	4	5	22	1	1	Previous
7	Multiple Hazards	Participate in FEMA pre-disaster mitigation programs once available.	5	3	5	4	5	22	1	1	Previous
8	Flooding & Flash Flooding	Clear tree debris from creeks and other waterways in the County.	3	5	5	5	5	23	1	2	New
9	Flooding & Flash Flooding	Repair identified embankments.	5	5	5	5	5	25	1	1	New
10	Flooding & Flash Flooding	Identify embankments in need of urgent repair.	5	5	5	5	5	25	1	1	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
11	Flooding & Flash Flooding	Acquire backhoe, bulldozer, dump trucks, an excavator, skid-steer loader, and other equipment necessary for debris clearing.	5	5	5	5	5	25	1	1	New
12	Severe Winter Weather	Send out educational materials warning about the dangers of winter weather, especially for vulnerable populations (such as the elderly).	4	3	5	5	5	22	2	2	New
13	Severe Winter Weather	Work with Department of Highways to identify priority areas for snow removal outside of primary roads.	5	3	5	5	5	23	2	1	New
14	Severe Winter Weather	Equip community volunteer fire department with four-wheelers, snow removal vehicles.	3	3	5	5	5	21	2	3	New
15	Severe Winter Weather	Equip other first responders with four-wheelers, snow removal vehicles.	3	3	5	5	5	21	2	3	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
16	Multiple Hazards	Create a system with police, fire, and/or other first responders to register special medical or safety needs before a natural hazard event.	4	3	5	5	5	21	1	2	New
17	Severe Winter Weather	Send out educational materials about preparing in advance for severe weather, such as having food and water on hand, generators, etc.	5	3	5	5	5	23	2	1	New
18	Flooding & Flash Flooding	Upgrade and relocate structures on properties that are partially within the floodway on the same property outside of the floodway.	5	2	5	5	5	22	1	2	New
19	Flooding & Flash Flooding	Purchase and demolish structures that are on properties that are fully within the floodway.	5	2	5	5	5	22	1	2	New
20	Flooding & Flash Flooding	Coordinate with the Corps of Engineers and the National Resource Conservation Service to identify and purchase flood-prone structures.	2	5	5	5	5	22	1	2	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
21	Flooding & Flash Flooding	Identify properties outside of the floodplain where flood-prone properties and structures can be relocated.	5	5	5	5	5	25	1	1	New
22	Flooding & Flash Flooding	Increase enforcement and implementation of stricter floodplain and building ordinances.	2	5	5	5	5	22	1	2	Previous
23	Multiple Hazards	Continue participation in HMGP programs (HMGP 1410 application unfunded due to inadequate funds).	5	5	5	5	5	25	1	1	Previous
25	Multiple Hazards	Public awareness campaign about building upkeep and debris cleanup.	5	5	5	5	5	25	1	1	New
26	Multiple Hazards	Work with State and County for staffing assistance, particularly for code enforcement officers.	5	5	5	5	5	25	1	1	New
27	Multiple Hazards	Use social media (particularly Facebook) to emphasize the importance of building upkeep.	5	5	5	5	5	25	1	1	New
28	Multiple Hazards	Organize regular volunteer cleanups.	5	5	5	5	5	25	1	1	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
29	Multiple Hazards	Acquire and demolish or retrofit severely damaged properties.	3	5	5	5	5	23	1	2	New
30	Multiple Hazards	Enact a vacant property tax.	2	5	5	5	5	22	1	3	New
31	Multiple Hazards	Map vacant properties in the town.	5	5	5	5	5	25	1	1	New
32	Multiple Hazards	Install an emergency cell tower nearby to improve cell service.	1	2	4	5	5	17	1	5	New
33	Multiple Hazards	Work with West Virginia Region 1 to improve internet service.	1	3	5	5	5	19	1	4	New
34	Multiple Hazards	Distribute FEMA/OES literature at public locations such as schools, churches, libraries, town hall, etc.							1		Previous
35	Multiple Hazards	Adopt and update the McDowell County Emergency Response plan as needed.							1		Previous
36	Flooding & Flash Flooding	Increase floodplain ordinance regulation.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
37	Flooding & Flash Flooding	Establish work groups to remove debris from local streams/rivers.	3	4	5	5	3	20	1	1	Previous
38	Severe Winter Weather	Increase maintenance/reduce response time for highway maintenance during snowstorm events.	4	2	3	3	3	15	2	3	Previous
39	Flooding & Flash Flooding	Increase floodplain regulation.	4	3	3	4	3	17	1	2	Previous
40	Tornadoes & Damaging Winds	Perform regular tree trimming throughout the City.	1	5	3	5	4	18	1	2	New
41	Flooding & Flash Flooding	Perform regular clearing of debris from streams, creeks.	1	3	3	5	3	15	1	3	New
42	Flooding & Flash Flooding	Department of Environmental – work with the department to develop a regular stream clearing program.	3	3	5	5	5	21	1	2	New
43	Flooding & Flash Flooding	Identify and mark (wayfinding) alternative routes.	4	2	5	5	2	18	1	3	New
44	Flooding & Flash Flooding	Repair existing bridges.	5	1	5	5	5	21	1	1	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
45	Flooding & Flash Flooding	Raise bridges to reduce impacts of floods.	5	1	5	5	4	20	1	2	New
46	Flooding & Flash Flooding	Relocate bridges or construct alternative access points.	1	1	3	5	5	15	1	4	New
47	Flooding & Flash Flooding	Implement regular clearing of stormwater infrastructure throughout the City.	4	1	3	5	3	16	1	2	New
48	Flooding & Flash Flooding	Upgrade existing stormwater infrastructure to meet current standards.	3	1	3	5	3	15	1	3	New
49	Flooding & Flash Flooding	Identify high priority areas for stormwater infrastructure repairs and upgrades.	5	5	5	5	3	23	1	1	New
50	Severe Winter Weather	Acquire additional vehicles for snow removal.	2	5	5	4	3	19	2	2	New
51	Severe Winter Weather	Hire additional staff for operating snow removal vehicles.	2	4	5	4	3	18	2	3	New
52	Severe Winter Weather	Send out educational materials (mailings, social media posts) warning about the health risks of shoveling/plowing snow. (Heart attacks, etc.).	5	4	5	4	4	22	2	1	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
53	Multiple Hazards	Continue participation in HMGP programs (HMGP 1410 application unfunded due to inadequate funds).							1		Previous
54	Multiple Hazards	Distribute FEMA/OES literature at public locations such as schools, churches, libraries, town hall, etc.							1		Previous
55	Flooding & Flash Flooding	Increase floodplain regulation enforcement.							1		Previous
56	Flooding & Flash Flooding	Seek funding to acquire pipes to be used to alleviate runoff flooding.							1		Previous
57	Flooding & Flash Flooding	Form work groups to clear debris from streambeds and floodplains.							1		Previous
58	Multiple Hazards	Utilize local media sources to distribute information and advertise informational public meetings.							1		Previous
59	Flooding & Flash Flooding	Increase enforcement of floodplain regulations.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
60	Flooding & Flash Flooding	Increase enforcement of floodplain regulations.	5	3	5	1	5	19	1	1	Previous
61	Flooding & Flash Flooding	Work with the Army Corps of Engineers to update the flood zones and floodways within city limits, since work has been done to improve flow of nearby water bodies.	5	5	5	5	5	25	1	1	New
62	Flooding & Flash Flooding	Reduce flood regulations along Main Street after Army Corps of Engineers study.	5	5	5	5	5	25	1	1	New
63	Flooding & Flash Flooding	Work with County to maintain streams and creeks.	5	5	5	5	5	25	1	1	New
64	Flooding & Flash Flooding	Identify areas for future development outside of FEMA floodplains/identified floodways.	5	5	5	4	3	22	1	2	New
65	Landslide & Land Subsidence	Acquire equipment for debris clearing after a landslide.	3	5	5	5	5	23	3	3	New
66	Landslide & Land Subsidence	Identify areas within town to install retaining walls to prevent landslide debris from reaching the roadway.	5	4	5	5	5	24	3	2	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
67	Landslide & Land Subsidence	Work with the State and/or Region 1 to construct retaining walls in the identified areas.	5	5	5	5	5	25	3	1	New
68	Landslide & Land Subsidence	Identify and map high risk areas for landslides with the Town.	5	5	5	5	5	25	3	1	New
69	Flooding & Flash Flooding	Acquire, retrofit, or demolish abandoned properties within the Town.	5	5	5	5	5	25	1	1	New
70	Flooding & Flash Flooding	Acquire and sell abandoned properties to private entities where appropriate (example: outside of flood zone).	5	5	5	5	5	25	1	1	New
71	Multiple Hazards	Distribute FEMA/OES literature (in) public locations to increase community awareness of local hazards.	5	3	5	1	5	19	1	2	Previous
72	Multiple Hazards	Participate in FEMA/OES and Corps mitigation programs.	5	4	5	5	5	24	1	1	Previous
73	Severe Winter Weather	Acquire snow removal equipment.	5	3	5	4	5	22	2	1	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
74	Severe Winter Weather	Send out educational materials about the dangers of shoveling snow for vulnerable populations (ex: elderly populations).	5	5	5	3	3	21	2	2	New
75	Severe Winter Weather	Identify/Update high priority areas (outside of primary roads) for snow removal, including vulnerable population areas (elderly population areas, hospitals).	5	5	5	2	5	22	2	1	New
76	Multiple Hazards	The City of War subscribes to the planning/zoning requirements of the McDowell County Redevelopment Authority.							1		Previous
77	Flooding & Flash Flooding	The City of War has a newly built Sanitation Sewage Treatment Plant, with new lines from homes and with separation of storm water management. The storm water management system appears to be adequate for emergencies.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
78	Flooding & Flash Flooding	The City of War has signed a contract with FEMA to meet floodplain regulations in relation to flooding.							1		Previous
79	Flooding & Flash Flooding	The City of War is working with the WV Office of Emergency Services to have FEMA acquire property damaged in the most recent flooding.							1		Previous
80	Flooding & Flash Flooding	The McDowell County Redevelopment Authority does not allow construction in floodplain areas. The City subscribes to these policies.							1		Previous
81	Flooding & Flash Flooding	The City will dredge the Dry Fork River to help prevent property damage to homes and businesses.							1		Previous
82	Multiple Hazards	The City will develop and implement a public education and awareness program, which will be distributed to all							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
83	Multiple Hazards	The City will distribute the program to parents in Big Creek District through McDowell County Schools.							1		Previous
84	Multiple Hazards	The City will promote public awareness of the program through local media.							1		Previous
85	Multiple Hazards	The City of War will work with all emergency service entities to ensure compliance with county and local policies and procedures.							1		Previous
86	Multiple Hazards	Continue participation in FEMA/OES mitigation programs.							1		Previous
87	Multiple Hazards	Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.							1		Previous
88	Flooding & Flash Flooding	Continue enforcement of floodplain regulation ordinance.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
89	Flooding & Flash Flooding	Encourage additional flood-proofing measures to all homes/businesses located in flood hazard areas.							1		Previous
90	Flooding & Flash Flooding	Adopt stricter building codes to prohibit any development in flood hazard areas.							1		Previous
91	Flooding & Flash Flooding	Continue to seek funding to separate storm water removal from municipal wastewater lines.							1		Previous
92	Flooding & Flash Flooding	Continue to seek additional funding for increased emergency response equipment.	3	2	5	3	5	18	1	4	Previous
93	Multiple Hazards	Participate in Hazard Mitigation Grant Program(s).	3	3	5	3	5	19	1	3	Previous
94	Multiple Hazards	Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.	3	3	3	3	3	15	1	5	Previous
95	Flooding & Flash Flooding	Regular removal of stream debris blockages.	4	3	5	5	5	22	1	2	Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
96	Flooding & Flash Flooding	Explore possibilities of cooperation with Turnpike Commission for installation of retention ponds along major routes.	3	3	5	3	5	19	1	3	Previous
97	Flooding & Flash Flooding	Seek additional funding to increase permit officer positions.	3	3	4	4	5	19	1	3	Previous
98	Multiple Hazards	Create emergency preparedness and shelter location brochures.	4	4	5	4	5	22	1	2	Previous
99	Multiple Hazards	Disseminate hazard safety information during the Mountain Festival, County Fair, or October Fest with information on emergency preparedness, health and safety and personal well-being during times of extreme weather.	5	5	5	5	5	25	1	1	Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
100	Multiple Hazards	Improve wv511.org by updating information more quickly. Highway closure information is improved by social media such as Facebook, Twitter, and internet connectivity to all smartphones.	5	5	5	5	5	25	1	1	Previous
101	Multiple Hazards	Hire staff for emergency shelters.	1	2	5	5	5	18	1	3	New
102	Multiple Hazards	Coordinate with the Red Cross to staff shelters with volunteers.	5	5	5	5	5	25	1	1	New
103	Multiple Hazards	Install generators throughout all identified County shelters.	4	4	5	5	5	23	6	2	New
104	Multiple Hazards	Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse, etc.).	3	3	3	3	3	15	1	2	Previous
105	Multiple Hazards	Continue to seek additional funding for increased emergency response equipment.	3	3	5	4	4	19	1	1	Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
106	Multiple Hazards	Training current or incoming staff to use new equipment, techniques.	3	3	3	3	3	15	6	1	New
107	Utility Failure	Identify leaks within both water systems (in town and out of town system).	3	3	3	3	3	15	6	1	New
108	Utility Failure	Repair leaks within the water system (in town and out of town system).	3	3	3	3	3	15	6	1	New
109	Utility Failure	Update water tower and water tanks to meet current standards.	3	3	3	3	3	15	6	1	New
110	Utility Failure	Hire a building code enforcement officer.	3	3	3	3	3	15	1	1	New
111	Flooding & Flash Flooding	Form a building code committee to identify problems, improve code.	3	3	3	3	3	15	1	1	New
112	Utility Failure	Install a backup generator.	3	3	3	3	3	15	6	1	New
113	Flooding & Flash Flooding	Update to meet ADA standards.	3	3	3	3	3	15	1	1	New
114	Flooding & Flash Flooding	Install weather-proof storage for local government documents.	3	3	3	3	3	15	1	1	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
115	Multiple Hazards	Apply for funding through Small Cities Block Grant and other programs to fund analysis.	4.5	5	5	4.5	3	22	1	1	Previous
116	Flooding & Flash Flooding	Seek funding assistance to refurbish/upgrade inadequate drainage structures.	3.5	2.5	4	5	4	19	1	4	Previous
117	Flooding & Flash Flooding	Utilize citywide topographic data (5-foot contours) to acquire comprehensive hydraulic and hydrologic mapping.	4	4.5	4.5	2	2	17	1	5	Previous
118	Flooding & Flash Flooding	The stormwater board is assessing every culvert yearly and making repairs.	4.5	5	4.5	3.5	3	20.5	1	2	Previous
119	Flooding & Flash Flooding	Removal of culvert debris to decrease drainage blockages.	4.5	5	4.5	4	4	22	1	1	Previous
120	Multiple Hazards	Distribute literature from FEMA and the WV Office of Emergency Services.	3.5	4	5	3.5	4	20	1	3	Previous
121	Flooding & Flash Flooding	Re-route traffic away from the tunnel.	4	3	5	3	3	18	1	2	New
122	Flooding & Flash Flooding	Improve alternative routes.	3	2	3	2	3	13	1	3	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
123	Flooding & Flash Flooding	Utilize a mobile pump to remove flood water from the tunnel.	4	4	4	3	4	19	1	1	New
124	Flooding & Flash Flooding	Tree planting along the streets listed in the problem statement.	2	4	5	1	1	13	1	3	New
125	Flooding & Flash Flooding	Rain garden installation.	2	4	5	1	1	13	1	3	New
126	Flooding & Flash Flooding	Upgrade stormwater infrastructure along the streets listed in the problem statement to meet current standards.	1	5	5	5	5	21	1	2	New
127	Flooding & Flash Flooding	Replace old stormwater infrastructure along Union Street.	5	2	4	5	5	21	1	2	New
128	Flooding & Flash Flooding	Improve detention pond near Union Street.	3	4	4	4	4	19	1	3	New
129	Flooding & Flash Flooding	Add detention pond near Union Street.	4	4	4	5	5	22	1	1	New
130	Multiple Hazards	Equip City Hall with radio and communication systems.	1	4	5	5	5	20	1	2	New
131	Multiple Hazards	Equip City Hall with computers, screens for monitoring ongoing situations.	1	4	5	5	5	20	1	2	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
132	Multiple Hazards	Equip City Hall with a backup generator.	1	5	5	5	5	21	1	1	New
133	Multiple Hazards	Determine whether existing shelters meet criteria for primary emergency shelter designation.	5	4	5	5	5	24	1	1	New
134	Multiple Hazards	Retrofit existing shelter to meet emergency shelter Red Cross, Emergency Management criteria.	1	3	5	5	5	19	1	2	New
135	Multiple Hazards	Purchase new fire trucks.	2	4	5	5	5	21	7	2	New
136	Multiple Hazards	Upgrade equipment on existing fire trucks.	3	4	5	5	5	22	7	1	New
137	Multiple Hazards	Identify key government buildings, shelters for continuity of operations.	5	5	5	3	4	22	2	1	New
138	Multiple Hazards	Install backup generators in key government buildings.	1	5	5	3	5	19	2	2	New
139	Multiple Hazards	Install backup generators in City shelters.	1	5	5	3	5	19	2	2	New
140	Multiple Hazards	Ensure City shelters have heating systems.	1	5	5	3	4	18	2	3	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
141	Multiple Hazards	Participate in Hazard Mitigation Grant Program(s).							1		Previous
142	Multiple Hazards	Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.							1		Previous
143	Multiple Hazards	Seek additional funding to acquire needed emergency response equipment.							1		Previous
144	Dam/Levee Failure	Seek additional funding sources to upgrade reservoir spillways to comply with federal safety regulations.							9		Previous
145	Multiple Hazards	Participate in Hazard Mitigation Grant Program(s).							1		Previous
146	Multiple Hazards	Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.							1		Previous
147	Flooding & Flash Flooding	Increase floodplain regulation enforcement.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
148	Multiple Hazards	Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse offices, etc.).							1		Previous
149	Multiple Hazards	Participate in Hazard Mitigation Grant Program(s).							1		Previous
150	Multiple Hazards	Participate in pre-disaster mitigation programs once implemented by WV Office of Emergency services.							1		Previous
151	Flooding & Flash Flooding	Continue utilization of CASE workers to remove debris from stream beds and banks to reduce debris blockages.							1		Previous
152	Multiple Hazards	Facilitate public awareness through the distribution of educational literature at public locations (libraries, city halls, schools, courthouse offices, etc.).							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
153	Flooding & Flash Flooding	Seek assistance from local machinery/ mining corporations for donation of equipment and/or labor for channelization.							1		Previous
154	Flooding & Flash Flooding	The City of Princeton has obtained the services of Stafford Consultants to perform pre-engineering and cost-estimation on recommendations to improve the storm water systems on Stafford Drive and Rogers Street.							1		Previous
155	Flooding & Flash Flooding	The City also contracted with Region 1 to develop accurate and detailed mapping of the storm water system. This action will provide a tool to better control the storm water system.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
156	Flooding & Flash Flooding	Approximately five years ago, the City worked with the Southern Soil Conservation District and Mercer County to have Brush Creek, Glady Fork, and Daves Fork dredged to their original elevation (City's cost: $60,000). The City also contributes $4,000 per year to a fund for annual maintenance that is conducted by the SCS.							1		Previous
157	Flooding & Flash Flooding	The City also participated financially (approximately $10,000) in a Corp of Engineers study for flood protection in Mercer County. The study recommended a floodwall in Princeton as well as a high-water warning system. This project is still in the development stage.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
158	Flooding & Flash Flooding	Working through Mike Saffel, the director of the Princeton Sanitary Board, the City worked with several West Virginia municipalities to develop legal criteria for implementation of the Storm Water Management Act. Implementation is in the beginning stages.							1		Previous
159	Flooding & Flash Flooding	Undertake stream maintenance near the intersection of Rich Creek and Brush Creek.							1		Previous
160	Flooding & Flash Flooding	Undertake stream maintenance along 2nd and Rock Camp Creeks. Also, near Green Valley Road, and along Indian Creek near Red Sulphur Springs.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
161	Flooding & Flash Flooding	Promote awareness of FEMA regulations among the public and elected officials through media campaigns focused on consequences of living in a floodplain.							1		Previous
162	Landslide & Land Subsidence	Inform the public of cave-related hazard sites and risks.							3		Previous
163	Multiple Hazards	Secure roadsides against snowslides and landslides or land subsidence using Gabion baskets or other materials as appropriate, especially along Route 219.							2		Previous
164	Flooding & Flash Flooding	Undertake stream maintenance near the intersection of Rich Creek and Brush Creek.	2	3	5	5	5	20	1	1	Previous
165	Multiple Hazards	Secure roadsides against snowslides and landslides or land subsidence using Gabion baskets or other materials as appropriate, especially along Route 219.	2	1	5	3	3	14	2	2	Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
166	Flooding & Flash Flooding	Retrofit / flood proof properties within the flood risk areas near Rich Creek and Brush Creek.	4	1	5	3	5	18	1	2	New
167	Flooding & Flash Flooding	Purchase and relocate or demolish properties in the high-risk flood area, in coordination with property owners.	3	1	5	2	3	14	1	3	New
168	Flooding & Flash Flooding	Raise berms in the area to reduce flooding impacts.	5	1	5	5	5	21	1	1	New
169	Flooding & Flash Flooding	Perform regular stream clearings (debris removal).	2	1	5	3	4	14	1	3	New
170	Flooding & Flash Flooding	Mark alternative routes for both bridges, for use during flooding.	5	5	5	3	4	22	1	1	New
171	Flooding & Flash Flooding	Elevate bridges above flood levels (no clear alternative for relocation).	1	1	5	3	3	13	1	3	New
172	Flooding & Flash Flooding	Construct elevated pedestrian bridges (Baptist Church Bridge has a walkway).	1	1	5	3	3	13	1	3	New
173	Flooding & Flash Flooding	Repair and upgrade existing bridges to meet current standards.	3	1	5	5	5	19	1	2	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
174	Flooding & Flash Flooding	Flood proof or retrofit Town Hall, especially the basement.	1	1	5	5	5	17	1	1	New
175	Flooding & Flash Flooding	Relocate outdoor rest area outside of flood zone.	3	1	5	3	3	15	1	2	New
176	Flooding & Flash Flooding	Improve ground slope around the Town Hall where rainwater frequently floods the basement.							1		Previous
177	Multiple Hazards	Secure roadsides against snowslides and landslides or land subsidence using Gabion baskets or other materials as appropriate, especially along Route 219.							2		Previous
178	Flooding & Flash Flooding	Undertake stream maintenance along Creek Fork, Marsh Fork, and Tommy Creeks, as well as near Fairdale.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
179	Severe Thunderstorms	Continue enforcement of current building codes in Ghent, Flat Top, and Shady Spring where hailstorm-caused roof damage is frequent.							5		Previous
180	Multiple Hazards	Secure roadsides against snowslips and landslides along Rock and Slab Fork Creeks. Also, secure parts of State Route 99 and State Route 3. As was found during Profiling Hazard Events, one of the most troublesome parts has been Berry Branch near Helen. Here, heavy flooding has often resulted in landslides caused by an abandoned mine slate dump.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
181	Landslide & Land Subsidence	Monitor hazardous abandoned mine sites for possible reclamation, especially the site concentration near Beckley and Mabscott Note that the County only recently reclaimed the abandoned mine site near Jonben.							3		Previous
182	Flooding & Flash Flooding	Repair and maintain stormwater drain (and/or replace culvert as appropriate) along Market Street. Note that this part stretches outside the city limits and hence, coordination with the County would be necessary.	-	-	-	-	-	-	1	1	Complete
183	Severe Winter Weather	Purchase smaller snowplows for the City's 20-, 40-, and 50- foot right of ways.	-	-	-	-	-	-	2	2	Complete

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
184	Flooding & Flash Flooding	Identify priority areas for stormwater infrastructure improvement.	2	5	5	4	4	20	1	1	New
185	Flooding & Flash Flooding	Upgrade stormwater infrastructure in the area to meet current standards.	2	5	5	4	4	20	1	1	New
186	Landslides & Land Subsidence	Evaluate and identify land subsidence issues in the area and make recommendations for future mitigation.	5	5	5	5	5	25	3	1	New
187	Flooding & Flash Flooding	Repair and maintain stormwater drain along Central and Virginia Streets.							1		Previous
188	Flooding & Flash Flooding	Undertake stream maintenance along White Stick Creek.							1		Previous
189	Severe Winter Weather	Purchase emergency snow removal equipment.							2		Previous
190	Flooding & Flash Flooding	Protect the water treatment plant against flood. Note that the Town has a related SCBG application pending with the WVDO. If approved the Town would use unused funds toward this task.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
191	Flooding & Flash Flooding	Seek funding for acquisition of approximately 20 repetitive-loss properties along Tommy Creek Road near the Town Hall, and 10 repetitive-loss properties along Coal City Road and Luke Lane. These properties are located in the 100-year floodplain.							1		Previous
192	Utility Failure	Purchase an emergency generator for the water treatment plant for quick restoration of power during a disaster event.							6		Previous
193	Flooding & Flash Flooding	Seek funding for acquisition of the residential properties along Riffe and Main Streets. These properties are located in the 100-year floodplain.							1		Previous
194	Flooding & Flash Flooding	Repair and maintain stormwater drain (and/or replace culvert as appropriate) along Valley Road beyond Virginia Street.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
195	Severe Winter Weather	Purchase emergency snow removal equipment.							2		Previous
196	Multiple Hazards	Acquire emergency generators for all county departments and shelters.	4	3	5	4	4	20	1	4	Previous
197	Multiple Hazards	Establish emergency shelters throughout the County.	3	5	5	4	4	21	1	3	Previous
198	Multiple Hazards	Increase emergency responder/shelter operator training.	3	5	5	4	4	21	1	3	Previous
199	Multiple Hazards	Seek grant funding to increase emergency response equipment training.	4	5	5	4	5	23	1	1	Previous
200	Multiple Hazards	Increase participation in Hazard Mitigation Grant Programs.	4	5	5	4	4	22	1	2	Previous
201	Flooding & Flash Flooding	Retrofit and elevate residential buildings in the floodplain.	2	1	3	4	5	15	1	2	New
202	Flooding & Flash Flooding	Acquire a full-time floodplain administrator.	3	5	5	3	4	20	1	1	New
203	Multiple Hazards	Identify ideal shelter locations throughout the county.	5	5	5	5	5	25	1	1	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
204	Multiple Hazards	Install backup generators in identified shelter locations.	3	5	5	5	5	23	6	2	New
205	Multiple Hazards	Acquire supplies to operate emergency shelters (cots, toiletries, etc.).	3	5	5	5	5	23	1	2	New
206	Multiple Hazards	Install heating and cooling systems in emergency shelters.	2	5	5	5	5	22	1	3	New
207	Multiple Hazards	Increase participation in Hazard Mitigation Grant Programs.	3	2	5	5	5	20	1	1	Previous
208	Multiple Hazards	Distribute FEMA/Office of Emergency Services literatures at public locations to improve community awareness.	5	5	5	2	2	19	1	2	Previous
209	Multiple Hazards	Work with local school board and county commission to identify alternate access to points to Summers County High School.	3	1	5	3	3	15	1	3	Previous
210	Flooding & Flash Flooding	Retrofit and/or flood proof the local high school.	2	1	5	3	3	14	1	1	New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
211	Flooding & Flash Flooding	Seek funding for the County's 3 previously un-funding HMGP applications from Disaster #1410: 'Multiple Creek Project', 'Guyandotte or Grey River Project', and 'Laurel Creek Project'							1		Previous
212	Multiple Hazards	Secure the following roadsides against snowslips and landslides using Gabion baskets or other materials as appropriate: Route 10 near Jesse Mountain, Route 54 outside Mullens, and Route 97 near Saulsville.							2		Previous
213	Flooding & Flash Flooding	Protect the Glen Rogers PSD sewage treatment plant against flood.							1		Previous
214	Flooding & Flash Flooding	Promote awareness of FEMA regulations among the public and elected officials through media campaigns focused on consequences of living in a floodplain.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
215	Flooding & Flash Flooding	Ease floodplain management through use of mapping technology. Note that the County is already a beneficiary of a related ESRI-NACO Software Grant.							1		Previous
216	Flooding & Flash Flooding	Link the building permitting process with complicate of floodplain regulations by requiring a Certificate of Occupancy.							1		Previous
217	Flooding & Flash Flooding	Undertake steam maintenance along Lauren Creek near Matheny.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
218	Flooding & Flash Flooding	Seek approximately $500,000 in funding for the acquisition of 10 repetitive-loss residential properties along the Guyandotte and Woodland Avenues in south Mullens. The city would also seek funding for acquisition of one property that was part of a previously unfunded HMGP application from Disaster #1378 on Lusk Avenue.							1		Previous
219	Flooding & Flash Flooding	Repair and maintain the stormwater drain along Broadway Street. Note that the City has received FEMA Disaster Relief Funds from Disaster #1455 for partial improvement of this drain. The City now plans to request for more funds to completely cure the drainage problem.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
220	Multiple Hazards	Secure the following roadsides against snowslips and landslides using Gabion baskets or other materials: Flood Rd & Lusk Ave.							2		Previous
221	Landslide & Land Subsidence	Reclaim the three hazardous abandoned mine sites up on Parsons Road to check run-off to the low-lying neighborhood along Broadway Street.							3		Previous
222	Multiple Hazards	Purchase a stand-by generator for the city hall for quick-restoration of power during a disaster							1		Previous
223	Multiple Hazards	Write and formalize the city's Emergency Recall Plan.							1		Previous
223	Flooding & Flash Flooding	Seek approximately $500,000 in funding for the acquisition of 8 repetitive-loss residential properties along Cherry Street.							1		Previous
225	Flooding & Flash Flooding	Repair and maintain the stormwater drain along Chestnut Street.							1		Previous

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
226	Flooding & Flash Flooding	Repair and maintain the stormwater drain along Sycamore Avenue, and at the intersection of Cedar & Oakwood Avenues.							1		Previous
227	Flooding & Flash Flooding	Use green infrastructure to improve water quality of Dave's Fork (a tributary into Brush Creek) that will improve water quality of Brush Creek	3	3	5	4	5	20	1		New
228	Flooding & Flash Flooding	Formulate a watershed Improvement Plan with Help of DEP Watershed Improvement Branch.	5	3	5	5	5	23	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
229	Flooding & Flash Flooding	Work with DNR and Army Corps of Engineers to formulate Location of at least one public Access Point along Brush Creek for Public Access to the Same and at least 2 walking bridges for Green Infrastructure Paths / Education Trails	5	3	5	5	5	23	1		New
230	Flooding & Flash Flooding	Consult and start plan with US Fish and Wildlife for potential fish stocking and fishing points along Brush Creek.	5	3	5	5	5	23	1		New
231	Flooding & Flash Flooding	Bio retention swale Green Infrastructure Site on Parcels 28-10-0016-0067-0000 and 28-10-0016-0266-000 Drainage area on Rogers Street	5	3	5	4	3	20	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
232	Flooding & Flash Flooding	Bio retention swale Green Infrastructure Site on Parcels 28-10-0016-0120-0000, 28-10-0016-0123-0000, 28-10-0016-0124-0000, 28-10-0016-0125-0000, 28-10-0016-0126-0000, 28-10-0016-0127-0001 and 28-10-0016-0127-0000 Site stretches from Rogers Street to Dave's Fork (a tributary into Brush Creek).	5	3	5	4	5	22	1		New
233	Flooding & Flash Flooding	Green Infrastructure site along right of way between 535 Rogers and 501 Rogers from Rogers Street to Dave's Fork (a tributary into Brush Creek) with walking path using filtering media and permeable surfaces.	5	3	5	4	5	22	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
234	Flooding & Flash Flooding	Green Infrastructure Site at end of lot at parcel 28-10-0016-0061-0001 next to Dave's Fork (a tributary into Brush Creek) to address run off from pavement into the same.	5	3	5	4	5	22	1		New
235	Flooding & Flash Flooding	Rain Garden next to S Wickham Avenue on Parcel 28-10-0016-0060 to catch run off from road and bridge into Dave's Fork (a tributary to Brush Creek)	5	3	5	5	5	23	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
236	Flooding & Flash Flooding	Begin walking trail of Green Infrastructure with foot Bridge that crosses Dave's Fork (a tributary to Brush Creek) from Parcel 28-10-0016-0061-0000 to Parcel 28-10-0016-0061-0000 and green infrastructure walking path with filtering media and permeable surfaces to improve water quality.	5	3	5	5	5	23	1		New
237	Flooding & Flash Flooding	Green Infrastructure walking Path along Dave's Fork (a tributary to Brush Creek) with filtering media and permeable surfaces attaches from Parcel 28-10-0016-0060-0000 to Parcel 28-10-0016-0060-0001.	5	3	5	5	5	23	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
238	Flooding & Flash Flooding	Potential Green Infrastructure or Green Space park area next Dave's Fork (a tributary to Brush Creek)at parcel 28-10-0016-0059-0001 with city right of way on 3 side's parcel 28-10-0016-0060-0001 on final side.	5	3	5	3	5	21	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
239	Flooding & Flash Flooding	Potential Green Infrastructure or Green Space park next to Dave's Fork (a tributary to Brush Creek) including Parcels 28-10-0016-0096-0000, 28-10-16-0095-0000, 28-10-0016-0091-0000, 28-10-0016-0097-0000, 28-10-0016-0098-0000, 28-10-0016-0099-0000, 28-10-0016-0100-0000, 28-10-0016-0101-0000, 28-10-0016-0100-0000, 28-10-0016-0101-0000 all attached to city right of way which could be utilized for the same.	5	3	5	3	5	21	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
240	Flooding & Flash Flooding	Green Infrastructure walking Path along Dave's Fork (a tributary to Brush Creek) with filtering media and permeable surfaces attaches from Parcel 28-10-0016-0060-0001 to Parcel 28-10-0016-0270-0000 with city public right of way which could be utilized for the same.	5	3	5	5	5	23	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
241	Flooding & Flash Flooding	Continue walking trail of Green Infrastructure with foot Bridge that crosses Dave's Fork (a tributary to Brush Creek) in City right of way next to from Parcel 28-10-0016-0270-0000 and Parcel 28-10-0016-0145-0000 and green infrastructure walking path with filtering media and permeable surfaces to improve water quality that stretches length of right of way to Rogers Street.	5	3	5	5	5	23	1		New

#	Hazard	Mitigation Action	Cost Effective	Technically Feasible	Environ-mentally Sound	Immediate Need	Total Risk Reduction	Raw Score	Hazard Priority	Action Priority	Status
242	Flooding & Flash Flooding	Improve Water Quality of Brush Creek by implementing Green Infrastructure sites along Dave's Fork (a tributary to Brush Creek) to improve water quality of the both streams.	5	3	5	5	5	23	1		New
243	Flooding & Flash Flooding	Create Green Infrastructure sites at area where water drains into Brush Creek along Rogers Street And South Wickham Avenue that improve water quality.	5	3	5	5	5	23	1		New

Appendix D: Critical Facilities List

The following table provides a summary of the number of critical facilities categorized by each type. West Virginia Region I maintains a complete list of all critical facilities.

Type	Count
Historic	50
Public and Private Schools	104
Veteran's Affairs Facilities	3
Police	45
Fire	72
Medical	8
Higher Education	8
Nursing Homes	13
Libraries	27
Places of Worship	690

Appendix E: Sources

Introduction

- https://transportation.wv.gov/Pages/WVDOT-Projects.aspx
- https://www.wvaeis.com/home/airport-locations/
- https://transportation.wv.gov/aeronautics/Pages/AirportLocations.aspx
- https://gis.transportation.wv.gov/wvairports/
- https://mapcarta.com/21983844
- https://transportation.wv.gov/rail/Pages/Tourist-trains.aspx
- https://transportation.wv.gov/rail/freight/Pages/default.aspx
- https://transportation.wv.gov/rail/passenger/Pages/default.aspx
- https://dep.wv.gov/WWE/getinvolved/sos/Pages/Watersheds.aspx

History and Demographics

- https://raleighcounty.org/
- https://visitwv.com/
- https://www.facebook.com
- https://www.mercercountywv.org/
- https://www.monroecountywv.gov/
- https://www.summerscountywv.gov/
- https://www.twitter.com
- https://www.wycowv.com/

Dam/Levee Failure

- https://www.fema.gov/sites/default/files/2020-08/fema_living-with-dams_p-956.pdf
- https://nid.sec.usace.army.mil/ords/f?p=105:113:8092649896831::NO:::
- https://www.ferc.gov/sites/default/files/2020-04/fema-64.pdf

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- https://earthquake.usgs.gov/cfusion/external_grants/reports/G17PG00049.pdf
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- https://wvutoday.wvu.edu/media-center-blog/2019/03/05/expert-pitch-monday-s-west-virginia-earthquake-rare-in-magnitude-likely-a-natural-occurrence
- https://www.usgs.gov/media/images/2014-seismic-hazard-map-west-virginia
- https://www.volcanodiscovery.com/earthquakes/quake-info/3341862/mag4quake-Jun-19-1976-West-Virginia-USA.html
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- https://www.usgs.gov/natural-hazards/earthquake-hazards/seismic-hazard-maps-and-site-specific-data
- https://www.usgs.gov/natural-hazards/earthquake-hazards/science/information-region-west-virginia?qt-science_center_objects=0#qt-science_center_objects

- https://wcyb.com/news/virginia-news/largest-earthquake-in-decades-near-virginia-west-virginia-border-strikes
- https://www.augurisk.com/risk/state/west-virginia

Flooding

- http://edition.cnn.com/2002/WEATHER/05/03/wv.floods/index.html
- https://www.wvnstv.com/top-stories/emergency-services-director-looks-back-on-2001-floods/
- https://www.herald-dispatch.com/news/20-years-later-recent-storms-no-match-for-flood-of-1997/article_c5ef6a08-6130-5ecf-891c-70be3d951fed.html

Landslides

- https://www.usgs.gov/faqs/what-a-landslide-and-what-causes-one?qt-news_science_products=0#qt-news_science_products
- https://www.arcgis.com/apps/webappviewer/index.html?id=cb01c47cfa884309b4f38dcd7542f805

Tornadoes

- https://www.herald-dispatch.com/news/20-years-later-recent-storms-no-match-for-flood-of-1997/article_c5ef6a08-6130-5ecf-891c-70be3d951fed.html

Utility Failure

- https://www.herald-dispatch.com/news/20-years-later-recent-storms-no-match-for-flood-of-1997/article_c5ef6a08-6130-5ecf-891c-70be3d951fed.html

Wildfire

- https://www.iii.org/fact-statistic/facts-statistics-wildfires#Wildfires%20By%20State,%202020
- https://wvforestry.com/wildfire-danger-map/
- https://emd.wv.gov/MitigationRecovery/Documents/WV%20State%20Hazard%20Mitigation%20Plan%20FINAL%2011-2018.pdf
- https://www.epa.gov/climate-indicators/climate-change-indicators-wildfires#%20
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- https://www.wvnstv.com/archives/crews-battle-forest-fire-in-mcdowell-county/
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- https://apps.usfa.fema.gov/registry/search?forget=1
- https://www.fireweatheravalanche.org/fire/state/west-virginia

Appendix F: FEMA Flood Maps

Appendix G: Meeting Documentation

Cecil D. Patterson
President

Michael D. Brooks
Commissioner

William C. Estep
Commissioner

McDowell County Commission
109 Wyoming Street
Welch, West Virginia 24801
Phone: (304) 436-8548 Fax: (304)-436-8572

Brittany Puckett
Prosecuting Attorney

Donald L. Hicks
County Clerk

Jennifer Hopkins-Wimmer
County Administrator

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

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

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in McDowell County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the McDowell County Commission demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the McDowell County Commission adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 14th day of September, 2022.

By: Cecil Dale Patterson
Cecil Patterson, President

ATTEST:
By: Donald L. Hicks
County Clerk

Town of Anawalt

Post Office Box 40

Anawalt, WV 24808

RESOLUTION NO. 10

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Anawalt recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Anawalt demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Anawalt adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 5 in favor and -0- against, and -0- abstaining, this 10th day of August, 2022.

By: Dorothy Wilson
Dorothy Wilson, Mayor

ATTEST:
By: Brenda Rierley
Clerk/Recorder

RESOLUTION NO. 02-14-2023

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Bradshaw recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Bradshaw demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Bradshaw adopts the West Virginia Region I Hazard Mitigation Plan, dated July 2022.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 14th day of February, 2023.

By: Brian Harrison
Brian Harrison, Mayor

ATTEST:
By: Shelia Muncy
Clerk/Recorder

Town of Davy
6594 Loop Seven Hgy
Davy, WV 24828
townofdavy@yahooo.com
304-656-7145

RESOLUTION NO. 2

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Davy recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Davy demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Davy adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 11th day of August, 2022.

By: Kenneth Gentry
Kenneth Gentry, Mayor

ATTEST:
By: Alice Wells
Clerk/Recorder

CITY OF GARY
P.O. BOX 310
GARY, WEST VIRGINIA 24836
Telephone 304-448-2209 Fax 304-448-2209

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of Gary recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of Gary demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of Gary adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 13th day of September, 2022.

By: _____
Larry Barber, Acting Mayor

ATTEST:
By: _____
Clerk/Recorder

TOWN OF IAEGER

P.O. Box 158
Iaeger, WV 24844
Phone/Fax (304) 938-3035

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Iaeger recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Iaeger demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Iaeger adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and 6 abstaining, this 19 day of September, 2022.

By: _____
Joe Ford, Mayor

ATTEST:
By: Robert Bowles III
Clerk/Recorder

City of Keystone
32509 Coal Heritage Road
Keystone, WV 24852

Mailing Address: 32509 Coal Heritage Road
Northfork, WV 24868

Phone No.: 304-862-2239
Fax No.: 304-862-232

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of Keystone recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of Keystone demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of Keystone adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 29th day of September, 2022.

By: Holly Maben
~~Anita Winfree, Mayor~~ Acting Mayor

ATTEST:
By: Holly Maben
Clerk/Recorder

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Kimball recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Kimball demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Kimball adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 8th day of November, 2022.

By: _____ Mayor
Adam Gianato, Mayor

ATTEST
By: _____
Clerk/Recorder

Town of Northfork

P.O. Box 760
Northfork, WV 24868
304-862-3414

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Northfork recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Northfork demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Northfork adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 7th day of September, 2022.

By: _____
Carol Sizemore, Mayor

ATTEST:
By: _____
Clerk/Recorder

City of War

P. O. Box 280
War, WV 24892
(304) 875-3111

RESOLUTION NO. ____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of War recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of War demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of War adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 19th day of September, 2022.

By: Robert Beavers
Robert Beavers, Mayor

ATTEST:
By: Sarah Muncy
Clerk/Recorder

City Of Welch

Welch Municipal Building ● 88 Howard St. ● Welch, WV 24801 ● (340) 436-3113 ● Fax (304) 436-2546

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of Welch recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of Welch demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of Welch adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 12 day of September, 2022.

By: Harold McBride
Harold McBride, Mayor

ATTEST:
By: Robin G. Lee
Clerk/Recorder

Mercer County Commission

1501 West Main, Suite 210
Princeton, West Virginia 24740

Phone: (304) 487-8306
Fax: (304) 487-8370
Email:
mercercocommission@frontiernet.net

VICKY REED
County Administrator

BILL ARCHER
1322 Woodrow Avenue
BLUEFIELD, WV 24701

GENE BUCKNER
118 Martingale Place
BLUEFIELD, WV 24701

GREG PUCKETT
334 Pine Acres Way
PRINCETON, WV 24739

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN

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

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in Mercer County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Mercer County Commission demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan dated July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Mercer County Commission adopts the West Virginia Region I Hazard Mitigation Plan dated July 2022.

ADOPTED THIS 13TH DAY OF SEPTEMBER, 2022.

MERCER COUNTY COMMISSION:

GENE BUCKNER, PRESIDENT

GREG PUCKETT, COMMISSIONER

BILL ARCHER, COMMISSIONER

ATTEST:

VERLIN MOYE, COUNTY CLERK

Town of Athens

PO Box 458 Athens WV 24712
304-384-3525 Fax: 304-384-7104
athenswv@frontiernet.net

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Athens recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Athens demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Athens adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 7 in favor and 0 against, and 0 abstaining, this 16 day of August, 2022.

By: _____
Timothy Pike, Mayor

ATTEST:
By: _____
Clerk/Recorder

RECEIVED
AUG 31 2022
REGION 1 PDC

Bluefield, West Virginia
Nature's Air-Conditioned City

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of Bluefield recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of Bluefield demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of Bluefield adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by ~~a vote of 4~~ in favor and 0 against, and 0 abstaining, this 23rd day of August, 2022.

By: _____
Ron Martin, Mayor

ATTEST:
By: _____
Clerk/Recorder

Post Office Box 4100, 200 Rogers Street, Bluefield, WV 24701
Phone: 304.327.2401 FAX: 304.325.6494
www.cityofbluefield.com

Town of Bramwell

A designated Community

PO Box 338
Simmons Avenue
Bramwell, WV 24715
Phone: 304-248-7114

Celebrating 100 years, 1908-2008

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Bramwell recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Bramwell demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Bramwell adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and 1 abstaining, this 12th day of September, 2022.

By: Louise Stoker
Louise Stoker, Mayor

ATTEST:
By: Susan Trautman
~~Clerk~~/Recorder

Town of Oakvale

13610 Ingleside Road
Oakvale, West Virginia 24740

RESOLUTION NO. 1

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Oakvale recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Oakvale demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Oakvale adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 12th day of September, 2022.

By: Deborah Rachel
Deborah Rachel, Mayor

ATTEST:
By: Shenae Bailey
Clerk/Recorder

City of Princeton

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of Princeton recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of Princeton demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of Princeton adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 6 in favor and 0 against, and 0 abstaining, this 15th day of August, 2022.

By: _____
David Graham, Mayor

ATTEST:
By: _____
Clerk/Recorder

800 Bee Street ★ Princeton, West Virginia 24740-3268
(304) 487-5020 ★ Fax (304) 487-5030 ★ www.cityofprinceton.org

Equal Housing Opportunity

Monroe County Commission

PO Box 350
350 Main Street
Union, WV 24983
http://www.monroecountywv.net

Kevin Galford, President
Kevin Mann
Melvin Young

Donald J. Evans, *Clerk*
Phone: (304) 772-3096
Facsimile: (304) 772-4191

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

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

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in Monroe County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Monroe County Commission demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Monroe County Commission adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 2 in favor and 0 against, and 1 abstaining, this 13 day of September, 2022.
(absent)

By: _____
Kevin Galford, President

ATTEST:
By: Donald J. Evans
County Clerk

Town of Peterstown
Monroe County, West Virginia

RESOLUTION NO. 27
RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Peterstown recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Peterstown demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Peterstown adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 13th day of September, 2022.

By: Michael L. Lively MAYOR
Michael Lively, Mayor

ATTEST:
By: Melissa B. Raines Clerk
Clerk/Recorder

Town of Union

Box 13
Union, WV 24983
(304) 772-5522

Mayor

Caroline S. Sparks

Recorder
Stacey Miller
Council Members
Robin Frazier
Jewell Clark
Jody Gullette
Tim Dolan
Rebecca Hill
Treasurer
Robert Pomphrey

RESOLUTION NO. 2022-3

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Union recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Union demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Union adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 10 day of August, 2022.

By: Caroline S. Sparks
Caroline Sparks, Mayor

ATTEST:
By: Pat Mustard
Clerk/Recorder

County Commission of Raleigh County

116 ½ North Heber Street
Beckley, West Virginia 25801-4522

RESOLUTION
APPROVING THE ADOPTION OF THE
WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

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

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in Raleigh County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Raleigh County Commission demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Raleigh County Commission adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 16th day of August, 2022.

By: _____
David Tolliver, President

ATTEST:
By: _____
County Clerk

Phone 304-255-9146 Fax 304-255-9166 ralcom@raleighcounty.com

CITY OF
BECKLEY
P. O. BOX 2514 • BECKLEY, WEST VIRGINIA 25802-2514

ROBERT R. RAPPOLD
Mayor

Phone: (304) 256-1750
Fax: (304) 256-1767
Email: robert.rappold@beckley.org

RESOLUTION NO. _____
RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of Beckley recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of Beckley demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of Beckley adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 6 in favor and 0 against, and 0 abstaining, this 23rd day of August, 2022.

By: Robert Rappold
Robert Rappold, Mayor

ATTEST:
By:
Clerk/Recorder

TOWN OF LESTER
P.O. Box 56
Lester, West Virginia 25865

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Lester recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Lester demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Lester adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 20th day of September, 2022.

By: _____
Kenneth Allen, Mayor

ATTEST:
By: _____
Clerk/Recorder

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Mabscott recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Mabscott demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Mabscott adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and _____ abstaining, this 17 day of FEBURARY, 2023.

By: _____
Wayne Houck, Mayor

ATTEST:
By: _____
Clerk/Recorder

TOWN OF SOPHIA

Incorporated 1912

P.O. Box 700
Sophia, West Virginia 25921
Telephone: (304) 683-4456
(304) 683-3225
Fax: (304) 683-3231

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Sophia recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Sophia demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Sophia adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and _____ abstaining, this 15 day of September, 2022.

By: Danny Barr
Danny Barr, Mayor

ATTEST:
By: Gary Basham
Clerk/Recorder

Summers County Commission

120 Ballengee Street • Suite 203 • Hinton, WV 25951
Telephone: (304) 466-7100 • Fax: (304) 466-7146

Charles W. Saunders
President
Mike Gore
Commissioner
Ted Kula
Commissioner

Mary E. Merritt
Clerk

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

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

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in Summers County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Summers County Commission demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Summers County Commission adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 14th day of September, 2022.

By: Charles W. Saunders
Charles Saunders, President

ATTEST:
By: Mary E. Merritt
County Clerk

"Building a healthy, livable, prosperous, well-governed and unified Summers County"

Jackson L. Scott
Mayor

Cris C. Meadows
City Manager

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of Hinton recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of Hinton demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of Hinton adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 16th day of August, 2022.

By: _____
Jackson L. Scott, Mayor

ATTEST:
By: _____
Clerk/Recorder

Wyoming County Commission

"Serving the citizens of Wyoming County"

P.O. Box 309
Pineville, WV 24874
Telephone 304-732-0087
ext 303
Fax 304-732-6603

Jewell L. Aguilar
County Clerk
Telephone 304-732-8000
Fax 304-732-9659

Randall Aliff
Commissioner

Jason Mullins
President

Dr. Samuel Muscari, Sr.
Commissioner

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

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

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in Wyoming County from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Wyoming County Commission demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Wyoming County Commission adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 3 in favor and 0 against, and 0 abstaining, this 17th day of August, 2022.

By: _____
Jason Mullins, President

ATTEST:
By: _____
County Clerk

RESOLUTION NO. ____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the City of Mullens recognizes the threat that natural hazards pose to people and property within the city; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the city from the impacts of future hazards and disasters; and

WHEREAS, adoption by the City of Mullens demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the City of Mullens adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 4 in favor and 0 against, and 0 abstaining, this 2nd day of February, 2022. 2023

By: _____
Mayor

ATTEST:
By: Allison Norris
Clerk/Recorder

Commissioner GT Norris _____

Commissioner PJ Blankenship _____

Commissioner Herbie Brooks _____

Commissioner John Morgan _____

Town of Oceana
1285 Cook Pkwy PO Box 190
Oceana, WV 24870
304-682-6231 Fax 304-682-4524

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Oceana recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Oceana demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Oceana adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 5 in favor and ϕ against, and ϕ abstaining, this 8 day of Sep., 2022.

By: _____
T. H. Evans Jr., Mayor

ATTEST:
By: _____
Clerk/Recorder

RESOLUTION NO. _____

RESOLUTION APPROVING THE ADOPTION OF THE WEST VIRGINIA REGION I HAZARD MITIGATION PLAN, JULY 2022

WHEREAS, the Town of Pineville recognizes the threat that natural hazards pose to people and property within the town; and

WHEREAS, West Virginia Region I Planning and Development Council has prepared a regional multi-hazard mitigation plan, hereby known as the West Virginia Region I Hazard Mitigation Plan, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS, the West Virginia Region I Hazard Mitigation Plan identifies mitigation goals and actions to reduce or eliminate long- term risk to people and property in the town from the impacts of future hazards and disasters; and

WHEREAS, adoption by the Town of Pineville demonstrates their commitment to the hazard mitigation and achieving the goals outlined in the West Virginia Region I Hazard Mitigation Plan, July 2022.

NOW, THEREFORE, BE IT RESOLVED that the Town of Pineville adopts the West Virginia Region I Hazard Mitigation Plan, July 2022.

ADOPTED by a vote of 5 in favor and 0 against, and 0 abstaining, this 24th day of October, 2022.

By: Toby Lowe
Mayor

ATTEST:
By: Victoria Knight Clay, Recorder
Clerk/Recorder

PINEVILLE CITY HALL
PO Box 220 | 296 Appalachian Hwy.
Pineville, WV 24874
(304) 732-6255 | townofpineville06@yahoo.com