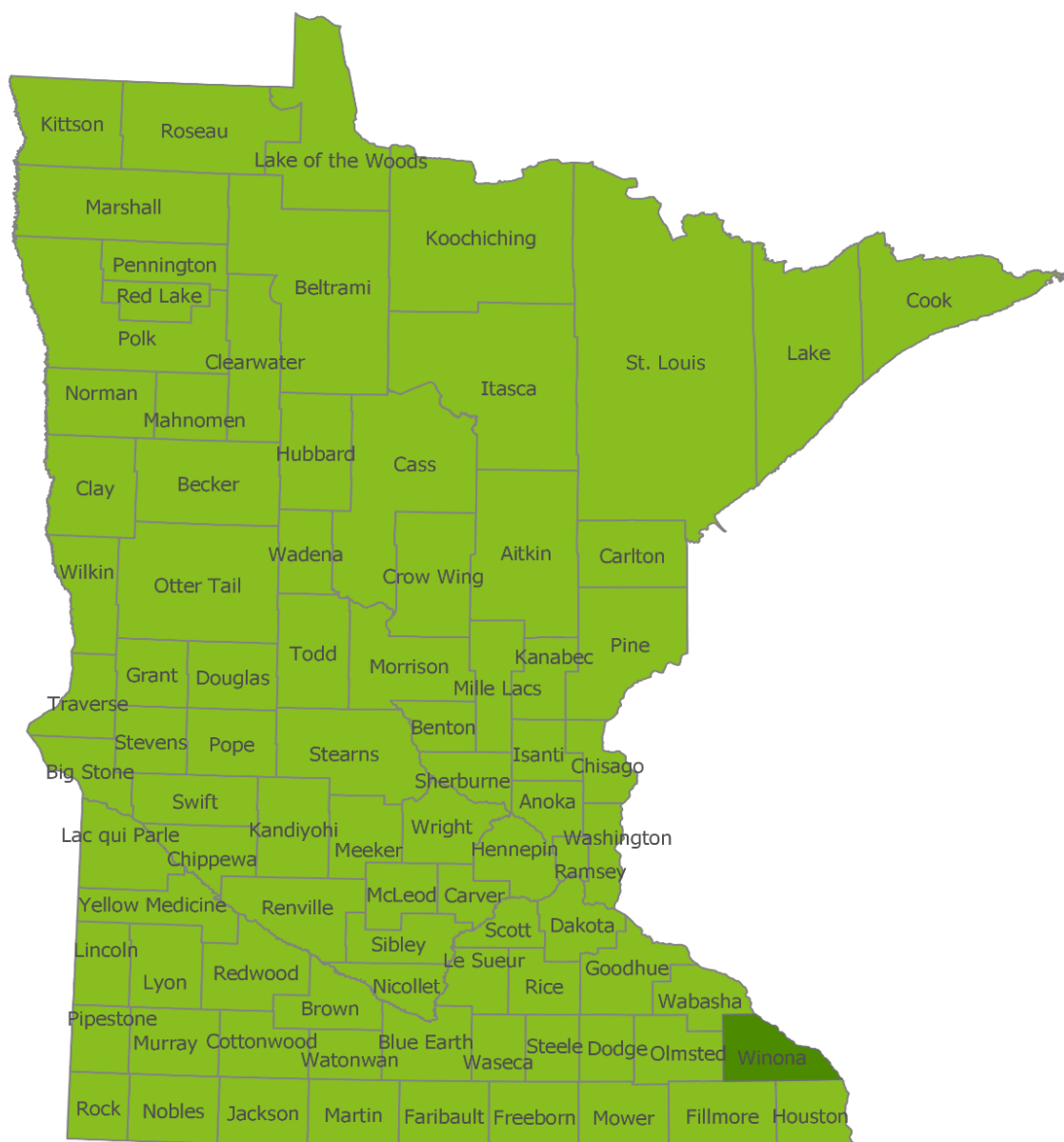


Multi-Hazard Mitigation Plan

Winona County, Minnesota, 2018



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Multi-Hazard Mitigation Plan (2018)

Winona County, Minnesota

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Section 1 – Introduction

1.1 Introduction

Hazard mitigation is defined as any sustained action to reduce or eliminate long-term risk to human life and property from hazards. The Federal Emergency Management Agency (FEMA) has made reducing hazards one of its primary goals; hazard mitigation planning and the subsequent implementation of resulting projects, measures and policies is a primary mechanism in achieving FEMA's goal. Between 1960 and 2014, natural hazards cost the U.S. an annual average loss of \$15.6 billion (Hazards & Vulnerability Research Institute, 2015).

Hazard mitigation planning and preparedness will be the most effective instrument to diminish losses by reducing the impact of disasters upon people and property. Although mitigation efforts will not eliminate all disasters, each county shall endeavor to be as prepared as possible for a disaster.

The Multi-Hazard Mitigation Plan (MHMP) is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000). The development of a local government plan is required in order to maintain eligibility for federal hazard mitigation grant funding programs. In order for communities to be eligible for future mitigation funds, they must adopt an MHMP.

Researchers at the National Institute of Building Sciences looked at the results of 23 years of federally funded mitigation grants provided by the Federal Emergency Management Agency (FEMA), U.S. Economic Development Administration (EDA) and U.S. Department of Housing and Urban Development (HUD) and found mitigation funding can save the nation \$6 in future disaster costs, for every \$1 spent on hazard mitigation (National Institute of Building Sciences, 2017).

Winona County is vulnerable to a variety of potential natural disasters, which threaten the loss of life and property in the county. Such hazards as tornadoes, flooding, wildfires, blizzards, straight-line winds, ice storms and droughts have the potential for inflicting vast economic loss and personal hardship. In 2013, Minnesota had some of the highest weather-related disaster claims in the country (MN Environmental Quality Board, 2014).

This Multi-Hazard Mitigation Plan represents the efforts of Winona County and its local governments to fulfill the responsibility for hazard mitigation planning. The intent of the plan is to reduce the actual threat of specific hazards by limiting the impact of damages and losses.

1.1.1 Scope

Winona County Emergency Management and the University of Minnesota Duluth Geospatial Analysis Center (GAC) have combined efforts to update the 2012 Winona County Multi-Hazard Mitigation Plan. The GAC contracted with Hundrieser Consulting LLC for additional emergency management planning expertise and facilitation.

This Multi-Hazard Mitigation Plan evaluates and ranks the major natural hazards affecting Winona County as determined by frequency of event, economic impact, deaths and injuries. Mitigation recommendations are based on input from state and local agencies, public input, and national best practices.

The University of Minnesota Duluth Geospatial Analysis Center (GAC) performed the hazard risk assessment for 100-year floods using the Hazus GIS tool. The Minnesota Homeland Security and Emergency Management (HSEM) office has determined that Hazus should play a critical role in Minnesota's risk assessments, and therefore the 100-year flood hazard analysis is used in this plan.

This is a multi-jurisdictional plan that covers Winona County, including the cities of Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica and Winona. The Winona County risks and mitigation activities identified in this plan also incorporate the concerns and needs of townships, school districts and other entities participating in this plan.

Members from each of these jurisdictions actively participated in the planning process by attending workgroup meetings, providing information, suggesting mitigation strategies and reviewing the plan document. Each jurisdiction will adopt the plan by resolution after approval by FEMA. County and local city resolutions will be added by Winona County after final approval by FEMA, in Appendix D.

Winona County has specified the following goals for this Multi-Hazard Mitigation Plan update:

- Include more recent data documenting the critical infrastructure and hazards faced by Winona County.
- Reformat and reorganize the plan to reflect definitions of hazards as expressed in the 2014 State of Minnesota Multi-Hazard Identification and Risk Assessment Plan.
- Reflect current hazard mitigation priorities in Winona County.

1.1.2 Hazard Mitigation Definition

Hazard mitigation may be defined as any action taken to eliminate or reduce the long-term risk to human life and property from natural hazards. Following are examples of hazard mitigation measures that fall within one of five types of mitigation strategies:

- *Planning* – Development of mitigation standards, regulations, policies, and programs.
- *Structure and Infrastructure Projects* – Structural retrofits, property acquisition, local flood reduction projects, and safe room construction.
- *Natural Systems Protection* – Sediment and erosion control, stream corridor restoration, forest and vegetative management, floodplain and stream restoration.
- *Education and Awareness Programs* – Outreach programs, hazard awareness campaigns, real estate disclosure, and promotion of family/personal emergency preparedness
- *Mitigation Preparedness & Response Support* – Emergency planning and services such as warning siren systems, CodeRed, and installing generators for critical facilities.

1.1.3 Benefits of Mitigation Planning

The benefits of hazard mitigation planning include the following:

- Saving lives, protecting the health of the public, and reducing injuries
- Preventing or reducing property damage
- Reducing economic losses
- Minimizing social dislocation and stress
- Reducing agricultural losses
- Maintaining critical facilities in functioning order
- Protecting infrastructure from damage
- Protecting mental health
- Reducing legal liability of government and public officials

1.2 State Administration of Mitigation Grants

FEMA currently has 3 mitigation grant programs that are administered by the State of Minnesota: the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation program (PDM), and the Flood Mitigation Assistance (FMA) program. The HMGP, PDM and FMA are administered through the state of Minnesota Department of Public Safety, Division of Homeland Security and Emergency Management. All applicants must have or be covered under an approved Hazard Mitigation Plan. Eligible applicants include state and local governments; certain private non-profit organizations or institutions; and tribal communities.

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Section 2 – Public Planning Process

2.1 Steering Committee Information

The Winona County Multi-Hazard Mitigation Plan update steering committee is headed by the Winona County Emergency Management Coordinator, who is the primary point of contact. During the course of the 2018 plan update, Anne Morse, Winona County Sustainability Coordinator, provided assistance to Winona County Emergency Management (Sheriff's Office) to serve as the MHMP Coordinator, facilitating the participation of key county, city, and other stakeholders in the planning process. Members of the Winona County MHMP steering committee include representatives from the public, private and governmental sectors. Table 1 identifies the steering committee individuals and the organizations they represent.

Table 1. Multi-Hazard Mitigation Steering Committee for 2018 Update

Name	Jurisdiction/Agency/ Organization	Title
Kent Russell	City of Goodview	Police Chief
Dave Schultz	City of Goodview	Public Works Director
Dan Matejka	City of Goodview	Administrator
Matt Essig	City of Lewiston	Ambulance Director/ Safety Coordinator
Jamie Hengel	City of Rollingstone	Clerk-Treasurer
Mike Schultz	City of St. Charles	Fire Chief
Nick Koverman	City of St. Charles	Administrator
Beth Winchester	City of Stockton	Clerk
Keith Nelson	City of Winona	Public Works Director
Paul Degallier	Ham Radio Group	Member
Bob Bruno	Pickwick Fire	Safety Officer
Jodi Dansingburg	Ridgeway Community School	Director
Mark Daley	Utica Township	Township Officer
Leon Bowman	Wilson Township	Township Board Chair
Walt Kelly	Winona Amateur Radio	Member
Andrew Teska	Winona Ambulance	Operations Supervisor
Kay Qualley	Winona County	Planning & Environmental Services Director
Jim Pomeroy	Winona County	Commissioner
Ron Ganrude	Winona County	Sheriff
Jill Johnson	Winona County	Community Services Supervisor
Eric Johnson	Winona County	Zoning Administrator
Lauren Jensen	Winona County	GreenCorps member

Name	Jurisdiction/Agency/ Organization	Title
Anne Morse	Winona County	Sustainability Coordinator and 2018 MHMP Coordinator
Daryl Buck	Winona County SWCD	District Manager
Ben Klinger	Winona County	Emergency Manager
Chad Chaffee	MiEnergy Cooperative	VP of System Operations
Ron Dempsey	Winona State University	VP for Advancement
Dave Kramer	Winona County Highway Department	County Engineer
Lew Overhaug	Winona County Planning	Planner
Sheila Harmes	Winona County Planning	Water Planner

Jurisdictional representatives participating on the steering committee were contacted throughout the plan update process to provide feedback on the hazards of concern to their community and the mitigation actions which they would seek to implement upon plan adoption. The list of final mitigation actions was divided into jurisdiction-specific mitigation action charts so that each could see and address those actions that applied specifically to their cities (see *Appendix G: Mitigation Actions by Jurisdiction*).

2.2 Review of Existing Plans, Capabilities & Vulnerabilities

Winona County and its local communities utilized a variety of planning documents to direct community development. These documents include a Comprehensive/Master Plan, Capital Improvements Plan, Emergency Operations Plan, Water Management Plan and Wellhead Protection Plans. The planning process also incorporated the existing natural hazard mitigation elements from previous planning efforts. In addition, the 2014 Minnesota All-Hazard Mitigation Plan was consulted.

In the development of the Winona County Multi-Hazard Mitigation Plan update, UMD consultants reviewed and incorporated a variety of planning documents that direct community development and influence land use decisions for the county and its jurisdictions. In addition, UMD consultants worked closely with the Winona County MHMP Coordinator, other key county staff, and local city officials to collect specific feedback on local mitigation capabilities and vulnerabilities that either support or hinder the ability to mitigate against natural hazards at the county and local level. Following is a summary of the assessment tools used to gather information on local capabilities and vulnerabilities during the planning process:

Capabilities Assessment (hazard specific) – In this assessment, detailed information was collected on current *Plans and Programs in Place* and *Program Gaps or Deficiencies* that currently exist to mitigate destruction caused by each natural hazard addressed in the plan. This information was used to inform where there were current mechanisms in place to incorporate or implement mitigation measures (i.e.,

existing programs, plans or policies) and where there were areas that needed to be addressed (see *Section 4.4 Hazard Profiles*).

Jurisdictional Questionnaires – In this questionnaire, detailed information was collected from each jurisdiction in the county on: 1) Severe weather or disaster events & impacts that have occurred within the last 5 years; 2) Actions taken within the last 5 years that have helped to reduce local vulnerabilities to future disaster events; 3) Any changes within the last 5 years that have increased local vulnerabilities to future disaster events; and 4) Any concerns or specific ideas for mitigation projects to help reduce or eliminate risk resulting from future severe weather or disaster events. This information was used to inform Section 4, Risk Assessment and the development of local-level mitigation actions (see *Appendix L, Jurisdictional Questionnaires and Appendix G, Mitigation Actions by Jurisdiction*).

Local Mitigation Capabilities Assessment (LMCA) – In this assessment, detailed information was collected on key elements in place that help to accomplish mitigation in the community, including: 1) Plans, authorities, or policies; 2) Staff (organizational capacity); 3) Programs; and 4) Funding or other resources. Information was further collected on what program gaps or deficiencies exist that are a barrier to accomplishing mitigation in the community. This information was used to inform the development of local-level mitigation actions (see *Appendix K, Local Mitigation Capabilities Assessment and Appendix G, Mitigation Actions by Jurisdiction*).

2.3 Planning Process Timeline and Steps

In order to update the 2012 Winona County Multi-Hazard Mitigation Plan, UMD consultants worked in coordination with the Winona County MHMP Coordinator, and members of the steering committee. The updated plan includes not only new data documenting the types of hazards faced by Winona County residents and emergency planning officials, but also new thinking about how to best address these hazards.

In July 2017, Winona County issued a news release inviting public feedback and participation for the Winona County MHMP update (for complete documentation, see *Appendix F: Public Outreach & Engagement Documentation*).

On July 12, 2017, the Geospatial Analysis Center hosted a kickoff webinar that was attended by the Winona County MHMP Coordinator. The webinar included a project overview, GAC background, the roles and responsibilities of the Coordinator, contents of the Multi-Hazard Mitigation Plan, planning process and projected timeline (see Appendix E for webinar slides).

A steering committee meeting took place on November 20, 2017, at the Winona County Government Center in Winona, which included the Winona County MHMP steering committee and the UMD planning team. The steering committee was provided with an overview of the purpose, process and timeline for the Winona County Multi-Hazard Mitigation Plan update, as well as the role and responsibilities of steering committee members. Appendix E provides documentation of steering committee meeting summaries, including participant sign-in sheets and presentation slides.

Steering committee members were engaged in providing feedback on plans and programs in place as they relate to hazards facing the county, and they discussed potential mitigation actions to be added to the plan. This information was used to inform the development of mitigation strategies in the updated plan.

On April 27, 2018, members of the steering committee convened again with the UMD planning team to conduct a review and discussion of the draft mitigation action charts developed for Winona County and the city jurisdictions participating in the plan. See Appendix E for a full meeting summary.

In order to provide opportunity for public input, Winona County issued a second new release on August 23, 2018 inviting public review and feedback on the draft plan. The news release provided information on where the plan could be viewed and comments submitted. The UMD Geospatial Analysis Center hosted a webpage to post the full draft Winona County MHMP, including excerpts of the Winona County Master Mitigation Action Chart, each of the jurisdictional mitigation action charts, and an electronic feedback form.

Appendix F provides documentation of the public outreach for feedback on the draft plan by Winona County and jurisdictions. The public feedback period for the draft plan was open from 8/23/2018 to 9/14/2018, for a total of 23 days.

Table 2. Winona County Multi-Hazard Mitigation Plan Update Meetings and Public Outreach

Meeting Type	Date	Location
Public Outreach	7/12/2017	News release inviting public feedback and participation.
Kickoff Webinar	7/12/2017	Hosted online by GAC in Duluth
Steering Committee	11/20/2017	Winona County Government Center, Winona, MN
Steering Committee	4/27/2018	Winona County Government Center, Winona, MN
Public Outreach	8/23/2018 – 9/14/2018	Public review period for draft plan

At the close of the public outreach period, the UMD consultants worked with the Winona County MHMP Coordinator and members of the steering committee to incorporate comments from the public into the Multi-Hazard Mitigation Plan.

For more information on the planning process, see sections 5 and 6.

Section 3 – Winona County Profile

This section offers a general overview of Winona County to provide a basic understanding of the characteristics of the community, such as the physical environment, population and the location and distribution of services.

3.1 General County Description

Winona County is bounded on the east by the Mississippi River and the State of Wisconsin, on the south by Houston and Fillmore Counties, on the west by Olmsted County and by Wabasha County to the north. Winona County covers 642 square miles (410,880 acres) and the county had an estimated population of 50,948 in 2016. The city of Winona is the county seat and the largest city in the county, with an estimated population of 27,592 (US Census, 2010).

There are twelve cities in Winona County, including Altura, Dakota, Elba, Goodview, Lewiston, Minneiska, Minnesota City, Rollingstone, St. Charles, Stockton, Utica and Winona. The 19 townships are Dresbach, Elba, Fremont, Hart, Hillsdale, Homer, Mount Vernon, New Hartford, Norton, Pleasant Hill, Richmond, Rollingstone, Saint Charles, Saratoga, Utica, Warren, Whitewater, Wilson and Wiscoy.

The largest employment sectors in Winona County (2015) are manufacturing (20%), healthcare and social assistance (15%) and retail trade (12%) (Data USA, 2015).

3.2 Environmental Characteristics

A dominant physical feature found in much of Winona County's landscape is blufflands. This area is predominated by a series of steep to rolling bluffs, cut by a number of narrow valleys draining surface water to the Mississippi river. Bluffs in Winona County have slopes varying from 18%-100%. The highest elevation in the county is in the west-southwestern portion of the county, at 1,325 feet above sea level. In contrast, the floodplain of the Mississippi River in the east is 600 feet below the western upland plateau.

The southeastern part of Minnesota, including Winona County, did not experience the Wisconsin glaciations, and as a result the landscape has significant exposed bedrock and much thinner soils because it was not blanketed with Wisconsin glacial till. For this reason, the region is called the "driftless area." The upper bedrock layer in much of county is the Prairie du Chien group comprised of carbonate rock. Carbonate rock such as dolomite has low porosity and permeability but over time exposed to slightly acidic rainwater, the rock dissolves. Dissolution features such as sinkholes, stream sinks, caves and blind valleys comprise the visible karst landscape (Figure A - 31).

The bedrock's carbonate components, fine clastic components and coarse clastic components under shallow bedrock conditions (< 200 ft from the land surface) can contain secondary pores such as fractures. The karst system has well-developed secondary porosity and underlying fractures that link

the land surface directly to the upper groundwater system. This network also results in groundwater resurfacing as springs and seeps. These springs and seeps are the source of the county's streams.

A significant portion of Winona County's soils are classified as highly erodible based on their tendencies to erode from wind or water movement. Extra care must be taken in these areas to ensure that proper planting and cover techniques are employed to protect the rich topsoil.

The potential for excessive soil erosion in the bluff areas and stream valley walls exists through much of the county, due to its areas of extremely steep topography. Careful land use planning and site preparation is required to avoid soil erosion and other hazards. It is essential that residential development, timber harvesting and agricultural production be carefully regulated in these areas.

Figure A - 32 in Appendix A maps pollution sensitivity of near-surface materials from the transmission time of water through 3 feet of soil and 7 feet of surficial geology, to a depth of 10 feet from the land surface.

3.3 Hydrography

There are three major watersheds in Winona County, all of which drain to the Mississippi River: the Mississippi River - Winona, Mississippi River – La Crescent, and the Root. In addition, there are six minor watersheds and numerous sub-watersheds.

Impaired waters are an increasing problem as Winona County has many creeks and rivers that are on the Minnesota Pollution Control Agency Impaired Waters lists, including the Mississippi River, Whitewater River (South Fork, Middle Fork and North Fork), Garvin Brook, Trout Run Creek, Stockton Valley Creek, Silver Creek, Corey Creek, Money Creek, Rush Creek, Rollingstone Creek and Pine Creek (Minnesota Pollution Control Agency, 2018). Impaired waters have become a priority issue because they do not meet state water quality standards, they affect growth and health of communities and economies, and the Clean Water Act has a mandate requiring every state to address impairments. Impairments found in Winona County waters include fecal coliform, E. coli, mercury in fish tissue, turbidity, nitrates and PCB in fish tissue.

Basic hydrography in Winona County is mapped in Figure A-1 in Appendix A. Aquifer vulnerability (using 2011 data from the Minnesota Department of Agriculture) and public wells are mapped in Figure A - 15 in Appendix A.

3.3.1 Lakes

While there are no natural lakes in Winona County, there are a number of lakes from the backwaters created by the dams along the Mississippi River. In addition, there are a number of former and existing sand/gravel mining operations and city stormwater facilities that have created ponds or small lakes within floodplains or along drainage ways. The only inland lakes in the county are found within Winona and Goodview and were originally backwater wetlands of the Mississippi River or quarries.

3.3.2 Rivers

The Mississippi River forms the eastern boundary of Winona County. In total, the Mississippi River is 2,350 miles long, draining a watershed of approximately 1.2 million square miles. Other rivers and streams that run through Winona County include the Whitewater River, Rush Creek, Rollingstone Creek, Pine Creek, Money Creek and Cedar Creek. The largest river in Winona County is the Whitewater River.

3.3.3 Wetlands

Wetlands mapped by the National Wetlands Inventory cover 1,086 acres in Winona County. Important benefits of wetlands include storage area for excess water during flooding; filtering of sediments and nutrients before they enter lakes, rivers and streams; and fish and wildlife habitat (MN DNR, 1986).

Wetlands in Winona County include six types, including seasonally flooded, wet meadow, shallow marsh, deep marsh, shrub swamp, and wooded swamp (Figure A - 1).

Invasive species have been found in many of Minnesota's wetlands. These plants and animals can take over entire native communities and threaten native wetland ecosystems. Since 2006, Eurasian watermilfoil has been documented in the Goodview gravel pit and Lake Winona (MN DNR, 2018).

3.4 Climate

This area of Minnesota is classified as a temperate continental climate. Warm, humid summers and cold winters characterize this type of climate. Local variations are strongly influenced by topography and greatly affected by the Mississippi River.

Precipitation rates vary month to month with typical yearly rates ranging from 25-35 inches per year. Typically, over 70% of moisture accumulation occurs between the months of April and September.

The average seasonal snowfall for Winona County is between 40-50 inches. Average daily temperature throughout the year varies in Winona County from 13° F to 73° F.

During the winter months, minimum temperatures average below 10° F. The coldest day on record for Winona County occurred January 30, 1951 with a low of -32° F. In the summer, maximum daily temperatures average 80° F to 89° F. The hottest day on record occurred on June 20, 1953 with a temperature of 103° F.

3.4.1 Climate Change

Minnesota's climate is currently changing in ways that affect the environment, economy and everyday life. Historical weather data show changing trends in some weather phenomenon over the past few decades, and future changes are likely. Definite predictions are difficult to make, as changes may vary depending on geographical location, even within Minnesota. Intense study of these topics is ongoing.

According to the 2015 Minnesota Weather Almanac,

During the three most recent decades, the Minnesota climate has shown some very significant trends, all of which have had many observable impacts...Among the detectable measured quantity changes are: (1) warmer temperatures, especially daily minimum temperatures, more weighted to winter than any other season; (2) increased frequency of high dew points, especially notable in mid- to late summer as they push the Heat Index values beyond 100°F; and (3) greater annual precipitation, with a profound increase in the contribution from intense thunderstorms (Seeley M. , 2015).

Winter temperatures in Minnesota have been warming nearly twice as fast as annual average temperatures, a trend that has been noticed throughout the Midwest. There has also been a distinct spread of warmer lows into the northern portion of the state, and 7 of the top 10 warmest years in Minnesota since record-keeping began in 1895 have occurred within the last 15 years (Minnesota Department of Health, 2015). Various studies have also concluded that the frequency and intensity of precipitation in the Midwest has increased, with more storm events leading to flooding.

Rural communities are particularly vulnerable to climate change, due to their dependence upon natural resources, physical isolation, limited economic diversity, higher poverty rates and aging populations. According to *Climate Change Impacts in the United States: The Third National Climate Assessment*,

Warming trends, climate volatility, extreme weather events, and environmental change are already affecting the economies and cultures of rural areas. Many rural communities face considerable risk to their infrastructure, livelihoods, and quality of life from observed and projected climate shifts...These changes will progressively increase volatility in food commodity markets, shift the ranges of plant and animal species, and, depending on the region, increase water scarcity, exacerbate flooding and coastal erosion, and increase the intensity and frequency of wildfires across the rural landscape (Hales, et al., 2014).

The Assessment also notes that transportation systems in rural areas are more vulnerable to risks such as flooding, since there are typically fewer transportation options and infrastructure redundancies. In addition, power and communication outages due to severe weather events typically take longer to repair in rural areas, which can increase the vulnerability of elderly populations. Rural areas are also more vulnerable since they typically have more limited financial resources to deal with the effects of climate change.

The composition of the region's forests is expected to change as increasing temperatures shift tree habitats northward. While forests in the Midwest are currently acting as a net absorber of carbon, this could change in the future due to projected increases in insect outbreaks, forest fires, and drought, which will result in greater tree mortality and carbon emissions (Pryor, et al., 2014).

The National Climate Assessment suggests that infrastructure planning (particularly water resources infrastructure) should "be improved by incorporating climate change as a factor in new design

standards and asset management and rehabilitation of critical and aging facilities, emphasizing flexibility, redundancy, and resiliency” (Georgakakos, et al., 2014).

Federal, state, and tribal governments are increasingly integrating climate change adaptation into existing decision-making, planning, or infrastructure-improvement processes (Georgakakos, et al., 2014).

3.5 Demographics

The largest city in the county is Winona with an estimated population of 27,592 (US Census, 2010). There are 12 cities and 19 townships in Winona County.

Table 3 summarizes population by community according to the 2010 U.S. Census. Figure 1 shows Winona County population density by census block.

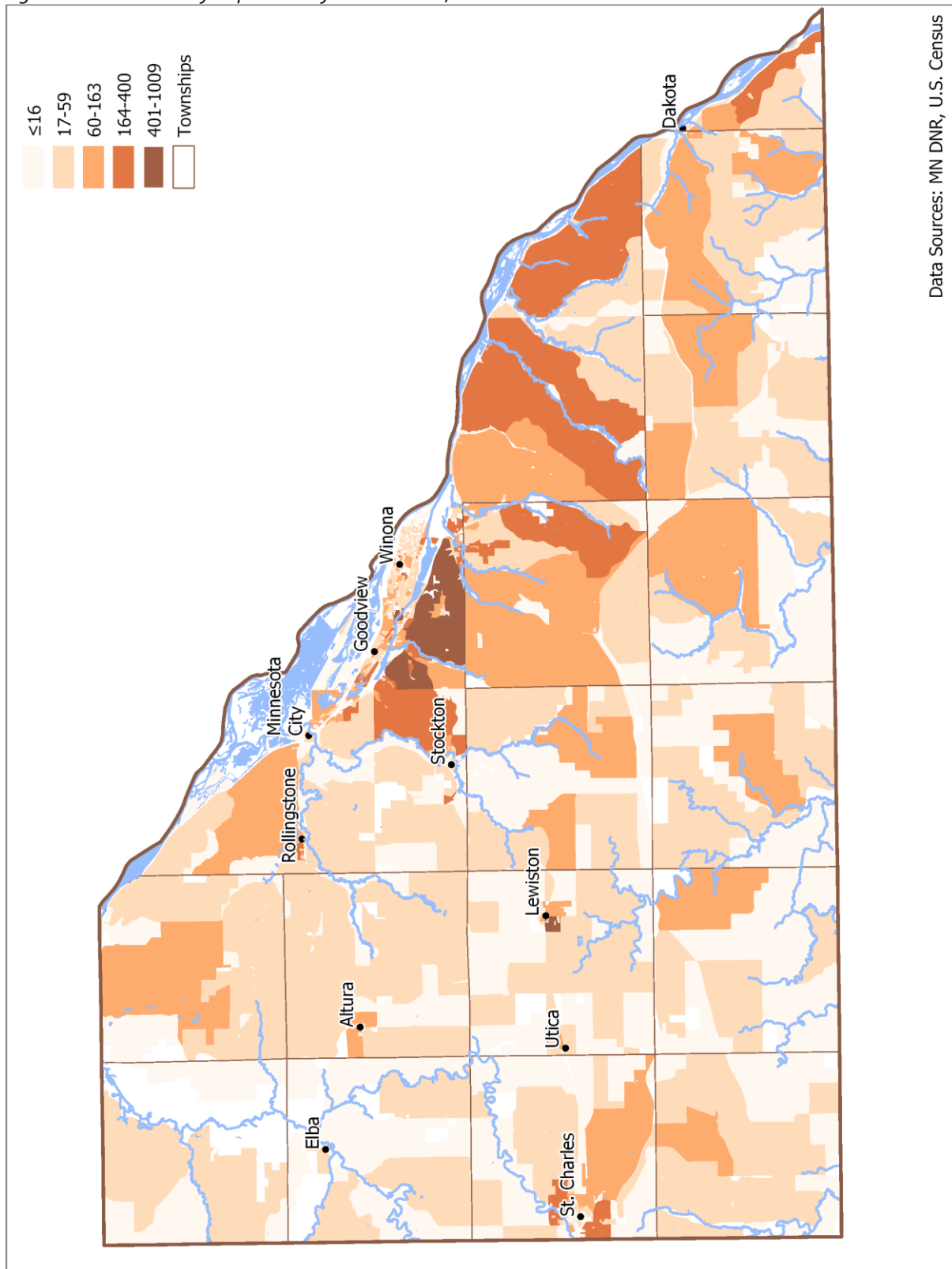
Table 3. Winona County Population by Community, 2010

Community	2010 Population	% of County
Altura	493	.96%
Dakota	323	.63%
Dresbach township	456	.89%
Elba	152	.29%
Elba township	311	.60%
Fremont township	355	.69%
Goodview	4,036	7.84%
Hart township	357	.69%
Hillsdale township	912	1.77%
Homer township	1,356	2.64%
Lewiston	1,620	3.15%
Minneiska	50	.097%
Minnesota City	204	.40%
Mount Vernon township	273	.53%
New Hartford township	890	1.73%
Norton township	490	.95%
Pleasant Hill township	531	1.03%
Richmond township	699	1.36%
Rollingstone	664	1.29%
Rollingstone township	701	1.36%
St. Charles	3,735	7.28%
St. Charles township	629	1.22%
Saratoga township	618	1.20%
Stockton	697	1.35%

Community	2010 Population	% of County
Utica	291	.57%
Utica township	639	1.24%
Warren township	651	1.27%
Whitewater township	198	.38%
Wilson township	1,177	2.29%
Winona	27,592	53.62%
Wiscoy township	361	.70%
Total	51,461	

Source: U.S. Census Bureau, 2010

Figure 1. Winona County Population by Census Block, 2010



Population growth trends have an important influence on the needs and demands of a variety of services such as transportation, law enforcement and emergency response. An understanding of population trends and location of population concentrations is important for making projections regarding potential impacts in the event of a disaster.

In 2016, Winona County had an estimated population of 50,948 residents, averaging 80 persons per square mile of land area. Winona, the largest city in the county, has a population of 27,139 (U.S. Census 2016).

Winona County's population is increasing, rising 3% between 2000 and 2010. Since 1940, the population has risen by 36%. Table 4 below shows the population change in Winona County between 1940 and 2010.

Population change by township from 2000 to 2010 is mapped in Figure A - 3 in Appendix A.

Table 4. Winona County Population Change (1940-2010)

1940	1950	1960	1970	1980	1990	2000	2010	Change 1940- 2010	Change 2000- 2010
37,795	39,841	40,937	44,409	46,256	47,828	49,985	51,461	+36%	+3%

Source: U.S. Census Bureau, 2016

Winona County's population is projected to decrease by 11% between 2015 and 2045. Table 5 below shows population projections for Winona County until 2045.

Table 5. Winona County Population Projections (2015-2045)

2015	2020	2025	2030	2035	2040	2045	Projected Change 2015-2045
50,972	50,241	49,380	48,431	47,435	46,409	45,368	-11%

Source: Minnesota State Demographic Center, Minnesota Planning, 2018

3.6 Economy

The economy in Winona County is dominated by the manufacturing industry, with 20% of jobs in the county. Healthcare and social assistance, educational services, and retail trade are also major components of the county's economy (Data USA, 2015).

The number of jobs in the county declined by less than 1% between 2006 and 2016. Table 6 provides an overview of the annual average employment by major industry sector in Winona County.

Table 6. Annual Average Employment by Major Industry Sector, Winona County

Industry	Number of Jobs (2006)	Number of Jobs (2016)
Manufacturing	6,348	5,996
Educational Services	3,056	3,313
Health Care/Social Assistance	2,611	2,760
Retail Trade	3,054	2,649
Accommodation and Food Services	1,850	2,104
Transportation and Warehousing	974	1,181
Public Administration	968	874
Administrative and Support and Waste Management and Remediation Services	785	718
Construction	671	614
Other Services (Except Public Administration)	614	605
Information	N/A	576
Finance and Insurance	567	533
Arts, Entertainment, and Recreation	255	243
Real Estate and Rental and Leasing	129	103
Total, All Industries	25,004	24,800

Source: Minnesota Dept. of Employment and Economic Development. Note: data discrepancies between segment values and totals exist due to data suppression for confidentiality.

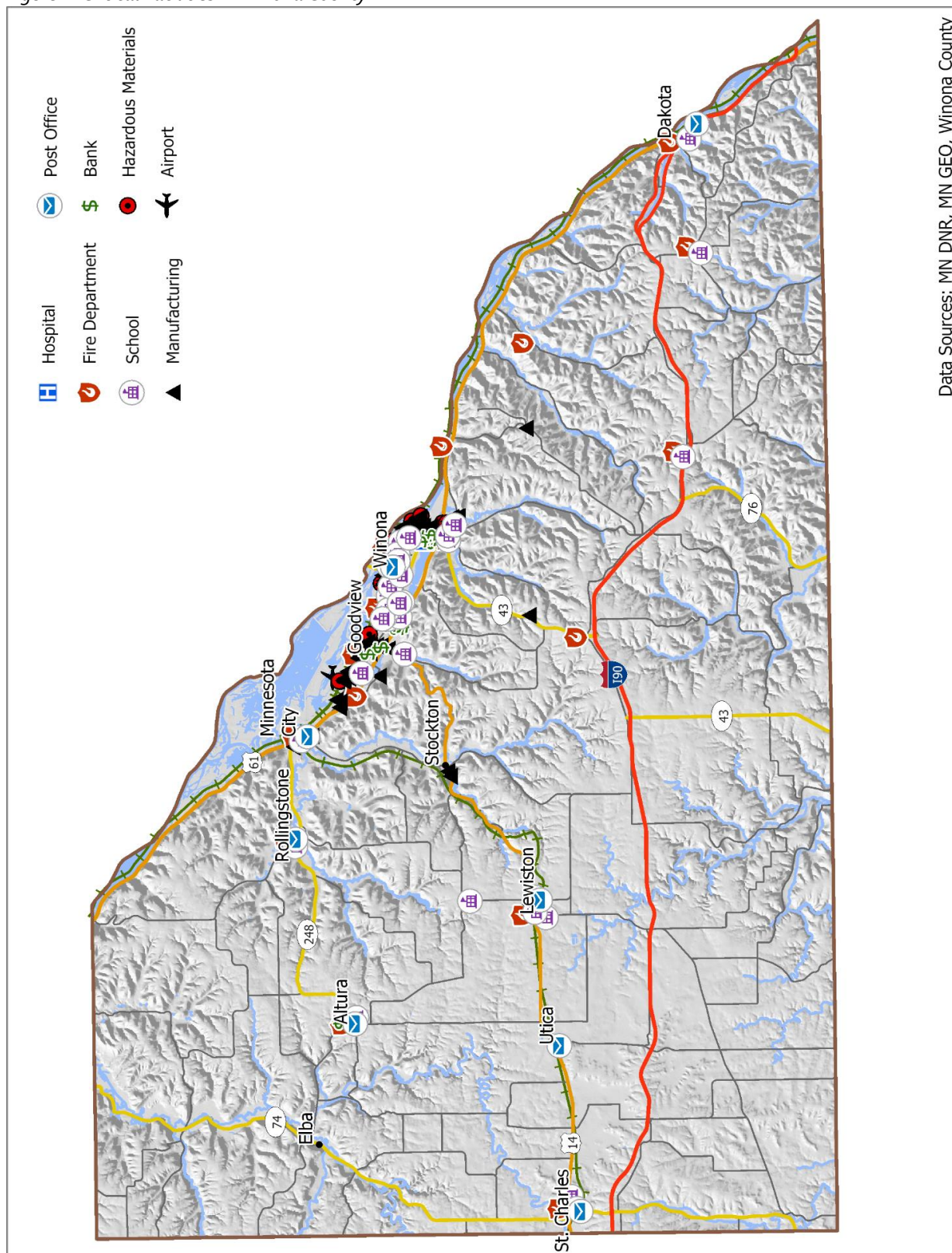
According to 2016 American Community Survey (ACS) estimates, the percent of the population in Winona County below the poverty level was 13.9%, compared to 10.8% for the State of Minnesota. The median household income in Winona County was \$52,840, while the median household income in the State of Minnesota was \$63,217.

The Minnesota Department of Employment and Economic Development reported that 87% of the workforce in Winona County was employed in the private sector in 2016 (MNDEED, n.d.).

3.7 Community Services & Infrastructure

The following section provides an overview on community services and infrastructure within Winona County. Examples of community services include healthcare and public safety, while examples of community infrastructure include power utilities, water and sewer facilities, and the transportation network. Figure 2 below shows critical facilities in the county, and tables of all critical facilities can be found in Appendix B.

Figure 2. Critical Facilities in Winona County



3.7.1 Health Care Providers

Winona County has one hospital, Winona Health Hospital, located in the city of Winona. Winona County also has health clinics that are located throughout the city of Winona and the surrounding area.

Nursing homes and assisted living centers are located in the cities of Winona, Lewiston and St. Charles.

Figure A - 14 in Appendix A depicts health services within Winona County.

3.7.2 Public Safety Providers/Government Services

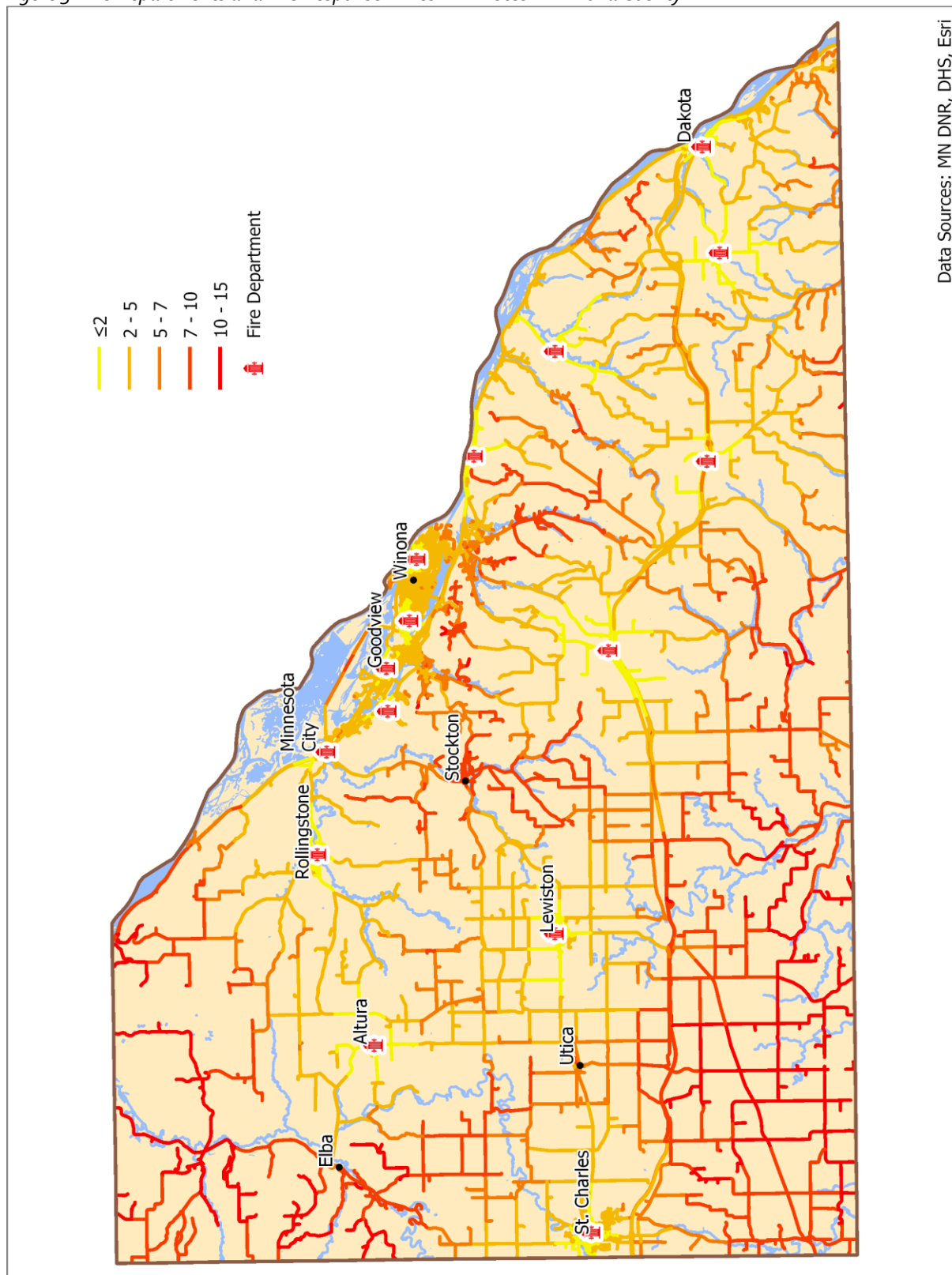
The Winona County Sheriff's Office is located in Winona. The following cities have their own police departments: Winona, Goodview, Lewiston and St. Charles.

Figure A - 5 in Appendix A depicts government and emergency facilities, including city halls, fire departments, police departments, and the Winona County Courthouse.

Fire departments are located in Altura, Dakota, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Winona and Homer.

Figure 3 shows fire departments and fire response times in Winona County. These drive times were created using ArcGIS Network Analyst extension and Esri's Business Analyst. The user may note discrepancies between MnDOT road data and the map in this document; Network Analyst requires a seamlessly-connected data source in order to perform the calculations for drive times, which Business Analyst provides but MnDOT does not. The Business Analyst data was used for this reason. According to this model, all of the county is within 15 minutes from the closest fire department.

Figure 3. Fire Departments and Fire Response Times in Minutes in Winona County



3.7.3 Utilities/Communications

Energy providers are listed in *Appendix B: Winona County Critical Facilities*.

Established in 2004, the Allied Radio Matrix for Emergency Response (ARMER) Program, administered in coordination with the Minnesota Statewide Radio Board, manages the implementation of a 700/800 megahertz (MHz) shared digital trunked radio communication system. In Winona County, there are 6 ARMER towers (see Figure A - 6).

3.7.4 Transportation

The county transportation system is composed of roads, highways, railroads, trails and an airport. The system is designed to serve all residents, businesses, industries and tourists.

US Trunk Highway 61 runs down the east border of the county from north to south. Interstate I-90 runs east to west through south-central Winona County. Because of the transportation constraints caused by the Mississippi River, river crossings are a significant component of the highway system for Winona County.

According to Minnesota law, any structure or combination of structures over a 10-foot span length is considered a bridge. There are 315 bridges in the county. The larger bridges include MN Trunk Highway 43 that cross the Mississippi on the eastern border of the county.

Federal law mandates that all bridges over 20 feet are inspected every 2 years, with some inspected annually (MnDOT, 2016). Bridge ratings are made for each component of a bridge: deck, superstructure, substructure, channel & channel protection, and culvert condition. The ratings range from 0 to 9, with 9 being in excellent condition. Bridge ratings fall into 4 categories: Adequate, Functionally Obsolete, Structurally Deficient, and Closed.

Two railroads currently operate in Winona County: the BNSF (owner of two lines) and the CP (Canadian Pacific) lines. The BNSF line runs along the Mississippi river on the county's eastern border.

Air transportation is a relatively minor component of the Winona County's overall transportation system. There is one airport located in the county, Winona Municipal Airport- Max Conrad Field. Outside of the county, there is regional access to the Minneapolis-St. Paul International Airport.

3.8 Land Use and Ownership

Winona County covers 642 square miles (410,880 acres). Land in Winona County has mixed use, including cultivated crops, hay/pasture, and deciduous forests. Land used in agricultural practices are mainly found in the southwest portion of the county. Forested areas are primarily in the north, northeast, east-central, and southeastern parts of the county.

In 2012, 1,115 farms existed in the county, covering 277,329 acres (67% of the county). Of this farming land, 65% is cropland and 60% is harvested. The number of farms in the county decreased from 1,203 to

1,115 between 2007 and 2012, while the number of acres of farmland decreased by 28,231 acres (Census of Agriculture, 2012).

According to Minnesota DNR data, the number of feedlots in Winona County as of July 5, 2016 was 911, 74 of which have more than 500 animal units. Feedlots in Winona County are mapped in Figure A - 29 (*Appendix A: Winona County Maps*).

Land ownership categories from the 2008 U.S. Geological Survey GAP (Gap Analysis Program) are shown in Figure A - 9 (*Appendix A: Winona County Maps*). Land cover is also mapped in Figure A - 8.

Section 4 – Risk Assessment

The goal of mitigation is to reduce or eliminate the future impacts of a hazard including loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation practices must be based on sound risk assessment. A risk assessment involves quantifying the potential loss resulting from a disaster by assessing the vulnerability of buildings, infrastructure and people.

Basing risk assessments on the best information available is important in developing effective mitigation actions that benefit communities. Geographic Information System (GIS) tools are not only helpful in producing maps, but they also show structures at risk and may determine damage estimates for potential hazard scenarios. MN Homeland Security and Emergency Management (HSEM) mitigation staff encourages the use of GIS tools in risk assessments because they produce good information to be used in the risk assessment process. In recognition of the importance of planning in mitigation activities, FEMA created **Hazards USA Multi-Hazard (Hazard)**, a powerful GIS-based disaster risk assessment tool. This tool enables communities to predict estimated losses from floods, hurricanes and other related phenomena and to measure the impact of various mitigation practices that might help reduce those losses. Hazard was used by UMD Geospatial Analysis Center staff in the flood hazard risk assessment (see section 4.4.5).

This assessment identifies the characteristics and potential consequences of a disaster, how much of the community could be affected by a disaster, and the impact on community assets. A risk assessment consists of 3 components — hazard identification and prioritization, risk profile and vulnerability profile.

4.1 Hazard Identification/Profile

4.1.1 Hazard Identification

The cornerstone of the risk assessment is identification of the hazards that affect jurisdictions. To facilitate the planning process, several sources were employed to ensure that the natural hazards are identified prior to assessment.

The county maintenance of the plan includes continual updates of the hazards identified in the initial plan. The mitigation steering committee compared the hazards in the initial plan to current publications to determine if new hazards should be considered or if some should be deleted. This plan addresses natural hazards only.

Natural hazards are identified in the FEMA publication “Multi-Hazard Identification and Risk Assessment – A Cornerstone of the National Mitigation Strategy,” also known as MHIRA. FEMA Region V developed a list based on state mitigation plans in the region. Table 7 lists the natural hazards included in the 2014 Minnesota State Hazard Mitigation Plan.

Table 7. FEMA MHIRA Natural Hazards in the 2014 Minnesota State Hazard Mitigation Plan

Flooding	Hail	Drought
Dam/Levee Failure	Lightning	Extreme Heat
Wildfire*	Winter Storms	Extreme Cold
Windstorms	Erosion	Earthquakes
Tornadoes	Land Subsidence (Sinkholes & Karst)	

*Addressed in the State Mitigation Plan because Minnesota is a heavily forested state compared to other states in Region V.

4.1.2 Vulnerability Assessment by Jurisdiction

As part of the plan update process, the steering committee reviewed, updated and ranked the hazards faced by residents of Winona County, updated the existing mitigation actions published in the 2012 Multi-Hazard Mitigation Plan, and proposed new mitigation actions.

To engage in this process, the committee drew on a number of data sources. First, the committee examined the hazards identified in the 2012 Hazard Mitigation Plan (Table 8). The natural hazards that pose risk to Winona County were discussed and adjusted to reflect the definitions of natural hazards used in the 2014 Minnesota State Hazard Mitigation Plan. This was done in order to assure that the risks faced by Winona County were categorized the same way as the priority hazards established by the State of Minnesota.

Table 8. Hazards identified in the 2012 Winona County Multi-Hazard Mitigation Plan

Natural Hazards			
Tornadoes	Floods	Landslides	Drought
Earthquakes	Thunderstorms	Winter Storms	Wildfires
Sinkholes and Subsidence (Karst)			

While the focus of this MHMP is on natural hazards, planning took place with the understanding that many non-natural hazards could occur as a result of natural disasters (i.e. disruption in electrical service due to freezing rain causing problems for both utility corporations and vulnerable populations dependent on electricity for heat).

This plan draws on a variety of data sources including the State of Minnesota and Homeland Security Emergency Management Critical Infrastructure Strategy for the State of Minnesota (2010), FEMA's Local Mitigation Planning How-to Guide Integrating Manmade Hazards into Mitigation Planning (2003), and the State of Minnesota Multi Hazards Identification Risk Assessment.

Winona County ranked hazards based on a Calculated Priority Risk Index, or CPRI, as part of the development of their 2013-2015 Threat Hazard Identification and Risk Assessment (THIRA). These rankings were considered by the steering committee in the process of ranking hazards for the MHMP update. The methodology of the CPRI is outlined below.

4.1.3 Calculated Priority Risk Index

The vulnerability assessment builds upon the previously developed hazard information by identifying the community assets and development trends and intersecting them with the hazard profiles to assess the potential amount of damage that could be caused by each hazard event. A summary of Calculated Priority Risk Index (CPRI) categories and risk levels is shown in Table 9.

Definitions of CPRI Categories

Probability – a guide to predict how often a random event will occur. Annual probabilities are expressed between 0.001 or less (low) up to 1 (high). An annual probability of 1 predicts that a natural hazard will occur at least once per year.

Magnitude/Severity – indicates the impact to a community through potential fatalities, injuries, property losses, and/or losses of services. The vulnerability assessment gives information that is helpful in making this determination for each community.

Warning Time – plays a factor in the ability to prepare for a potential disaster and to warn the public. The assumption is that more warning time allows for more emergency preparations and public information.

Duration – relates to the actual amount of time that an incident may take place over time.

Table 9. Summary of Calculated Priority Risk Index (CPRI) Categories and Risk Levels

CPRI Category	DEGREE OF RISK			Assigned Weighting Factor
	Level ID	Description	Index Value	
Probability	Unlikely	Extremely rare with no documented history of occurrences or events. Annual probability of less than 0.001	1	45%
	Possible	Rare occurrences with at least one documented or anecdotal historic event. Annual probability that is between 0.01 and 0.001.	2	
	Likely	Occasional occurrences with at least two or more documented historic events. Annual probability that is between 0.1 and 0.01.	3	
	Highly Likely	Frequent events with a well-documented history of occurrence. Annual probability that is greater than 0.1.	4	
Magnitude/Severity	Negligible	Negligible property damages (less than 5% of critical and non-critical facilities and infrastructure). Injuries or illnesses are treatable with first aid and there are no deaths. Negligible quality of life lost. Shutdown of critical facilities for less than 24 hours.	1	
	Limited	Slight property damages (greater than 5% and less than 25% of critical and non-critical facilities and infrastructure). Injuries or illnesses do not result in permanent disability and there are no deaths. Moderate quality of life lost. Shut down of critical facilities for more than 1 day and less than 1 week.	2	

	Critical	Moderate property damages (greater than 25% and less than 50% of critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and at least one death. Shut down of critical facilities for more than 1 week and less than 1 month.	3	30%
	Catastrophic	Severe property damages (greater than 50% of critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and multiple deaths. Shut down of critical facilities for more than 1 month.	4	
Warning Time	Less than 6 hours	Less than 6 hours	4	15%
	6 to 12 hours	6 to 12 hours	3	
	12 to 24 hours	12 to 24 hours	2	
	More than 24 hours	More than 24 hours	1	
Duration	Brief	Up to 6 hours	1	10%
	Intermediate	Up to 1 day	2	
	Extended	Up to 1 week	3	
	Prolonged	More than 1 week	4	

The hazard rankings for the Winona County MHMP update (Table 10) were based upon review of 1) hazard rankings in the past MHMP, 2) hazard rankings in the Calculated Priority Risk Index (CPRI) conducted by the county, and 3) group review and discussion during the MHMP steering committee meetings.

Table 10. Hazard Ranking for 2018 MHMP Update

Natural Hazards	MHMP Hazard Ranking
Severe Summer Storms (Thunderstorms, Lightning, Hailstorms, Windstorms, Tornadoes)	High
Severe Winter Storms	High
Flash Flood & Riverine Flood	High
Erosion / Landslides	High
Extreme Heat / Extreme Cold	Moderate
Drought	Moderate
Wildfire	Low
Dam Failure	Low

4.1.4 Hazard Profiling Concept of Planning

The risk assessments identify the characteristics and potential consequences of a disaster, how much of the community could be affected by a disaster, and the impact on community assets. A risk assessment consists of 3 components—hazard identification, risk profile and vulnerability profile.

4.1.5 GIS and Risk Assessment

The risk analysis step in this assessment quantifies the risk to the population, infrastructure and economy of the community. Hazards that can be geographically identified (wildfires, windstorms, tornadoes, hail, floods) were mapped.

FEMA's Hazus tool in ArcGIS was used to estimate the damages incurred for a 100-year flood and for general asset assessment. Hazus also generates aggregated loss estimates for the entire county due to a 100-year flood. Aggregate inventory loss estimates, which include building stock analysis, are based upon the assumption that building stock is evenly distributed across each census block. Therefore, it is possible that overestimates of damage will occur in some areas while underestimates will occur in other areas. With this in mind, total losses tend to be more reliable over larger geographic areas (groups of many blocks) than for individual census blocks. It is important to note that Hazus is not intended to be a substitute for detailed engineering studies.

4.1.6 National Centers for Environmental Information (NCEI) Records

Historical storm event data was compiled from the National Centers for Environmental Information (NCEI). NCEI records are estimates of damage reported to the National Weather Service (NWS) from various local, state and federal sources. However, these estimates are often preliminary in nature and may not match the final assessment of economic and property losses related to given weather events.

The NCEI data included 470 reported events in Winona County between 1950 and April 2018. However, some weather event categories only had available data going back as recent as 1996. No records before 1950 were available. A summary table of events related to each hazard type is included in the hazard profile sections that follow. A full table listing all events, including additional details, is included in Appendix C. NCEI hazard categories used in this plan are listed in Table 11.

Table 11. National Centers for Environmental Information Historical Hazards

Hazard	
Tornado	Hail
Thunderstorm Wind	Flood/Flash Flood
Winter Weather/ Winter Storm/Blizzard	Cold/Wind Chill
Excessive Heat/Heat	Lightning

4.1.7 FEMA Declared Disasters

Another historical perspective is derived from FEMA-declared disasters. Twelve major disaster and 2 emergency declarations in Winona County have been made between 1957 and 2017 (Figure 4).

Figure 4. FEMA-Declared Disasters and Emergencies in Minnesota, 1957-2017

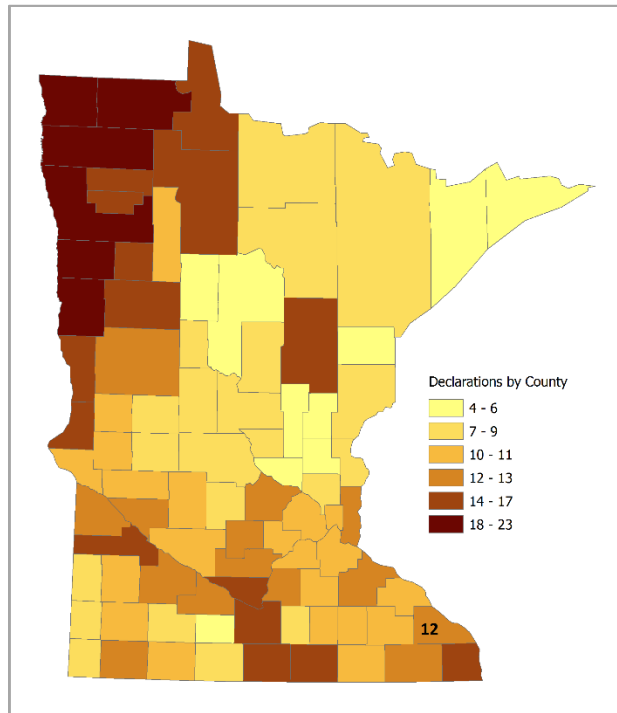


Table 12 and Table 13 show the details of the disasters including payments for Public Assistance (PA) and Individual Assistance (IA), listed under the flooding and severe storm profiles. No declarations were made for the other storms listed in the NCEI database. Reviewing the federal payments for damages from the declared disasters is a way of correlating the impact from the NCEI report.

Table 12. FEMA-Declared Major Disasters in Winona County (1953-2017)

Incident	Declaration Date and Disaster Number	Incident Period	Total PA Obligated by FEMA for Disaster in Minnesota	Total PA Obligated by FEMA for Disaster in Winona County	Individual Assistance in Minnesota	Individual Assistance in Winona County
Severe Storms, Flooding	10/13/2010 DR-1941	9/22/2010 – 10/13/2010	\$25,733,101	\$687,141	None	None
Severe Storms, Flooding	8/23/2007 DR-1717	8/18/2007 – 8/31/2007	\$30,341,117	\$5,279,762	\$19,808,889	\$7,571,539
Flooding	5/16/2001 DR-1370	3/23/2001 – 7/3/2001	\$34,907,042	\$92,195	\$3,650,492	Yes, amount unknown
Severe Storms, Flooding, Tornadoes	6/27/2000 DR-1333	5/17/2000 – 7/26/2000	\$11,285,948	\$91,287	Yes, amount unknown	None
Severe Storms, Straight Line Winds, Tornadoes	6/23/1998 DR-1225	5/15/1998 – 6/28/1998	Yes, amount unknown	Yes, amount unknown	None	None

Incident	Declaration Date and Disaster Number	Incident Period	Total PA Obligated by FEMA for Disaster in Minnesota	Total PA Obligated by FEMA for Disaster in Winona County	Individual Assistance in Minnesota	Individual Assistance in Winona County
Severe Storms, Flooding	4/8/1997 DR-1175	3/21/1997 – 5/24/1997	Yes, amount unknown	\$287,899	Yes, amount unknown	Yes, amount unknown
Severe Storms, Tornadoes, Flooding	6/11/1993 DR-993	5/6/1993 – 8/25/1993	Yes, amount unknown	\$268,451	Yes, amount unknown	Yes, amount unknown
Severe Storms, Tornadoes, Hail, Flooding	7/8/1978 DR-560	7/8/1978	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown
Severe Storms, Tornadoes, Flooding	7/17/1975 DR-476	7/17/1975	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown
Severe Storms, Flooding	7/13/1974 DR-446	7/13/1974	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown
Flooding	4/18/1969 DR-255	4/18/1969	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown
Flooding	4/11/1965 DR-188	4/11/1965	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown	Yes, amount unknown

* Data provided by MN HSEM in September 2016, and downloaded from <https://www.fema.gov/openfema-dataset-registration-intake-and-individuals-household-program-v1> and <https://www.fema.gov/openfema-dataset-disaster-declarations-summaries-v1> on 2/6/2018. Values are estimates collected at the time of the disaster.

Table 13. FEMA-Declared Emergencies in Winona County (1974-2017)

Incident	Declaration Date and Disaster Number	Incident Period	Individual Assistance in Minnesota	Public Assistance (all affected areas)
Hurricane Katrina Evacuation	9/13/2005 EM-3242	8/29/2005 – 10/1/2005	\$0	\$2,470,003
Drought	6/17/1976 EM-3013	6/17/1976	Unknown	Yes, Amount Unknown

* Data downloaded from <https://www.fema.gov/openfema-dataset-disaster-declarations-summaries-v1> on 2/6/2018. Values are estimates collected at the time of the disaster.

After DR-1921, three flood warning gages were installed in Whitewater State Park, funded as a 5% project for a total of \$33,862. A recorded 11.5 inches of rain on August 19, 2007 left campers stranded in the park since there was very little time to prepare for the flash flood. The park manager stated that no campers should be stranded in the future due to elevating the bridges and increased warning time provided by the gages. Park staff has new procedures to warn and evacuate campers based on gage readings. Park staff is notified by phone when heavy rainfall occurs or there is a rapid rise in stream height. The MN DNR is also expanding the park by constructing new campsites at higher elevations and

turning campsites by the river into open space. The effect of these measures will minimize life safety issues associated with flash floods in Whitewater State Park.

Winona County was also part of a State Disaster Declaration in 2017 (SD-017), due to severe storms and flooding on June 28, 2017. The declaration was declared on July 24, 2017. The State Disaster Program was signed into state law in 2014. It is ½ the threshold of the federal/FEMA public assistance (only) program threshold.

Table 14 depicts the historical projects in Winona County resulting from hazard mitigation funding.

Table 14. Historical Hazard Mitigation Funding (HMGP and PDM) in Winona County

Year	Project Description	Sub-Grantee	Federal Share
2012	Minnesota City property acquisition/demolition (HMGP)	City of Minnesota City	\$186,497
2011	City of Elba property acquisition/demolition (HMGP)	City of Elba	\$36,000
2011	City of Elba property acquisition/demolition (HMGP)	City of Elba	\$18,000
2011	City of Elba property acquisition/demolition (HMGP)	City of Elba	\$127,431
2011	City of Elba property acquisition/demolition (HMGP)	City of Elba	\$33,000
2010	City of Stockton property acquisition/demolition (HMGP)	City of Stockton	\$193,204
2009	Winona County All-Hazard Mitigation Plan (PDM)	Winona County	\$25,528
2008	City of St. Charles West Drainage Ditch Mitigation Project (PDM)	City of St. Charles	\$51,829
Total HMGP/PDM Funding – Winona County			\$671,489

*Data downloaded from <https://www.fema.gov/media-library/assets/documents/28323> and <https://www.fema.gov/media-library/assets/documents/103341> on 2/20/2017.

4.2 Vulnerability Assessment

4.2.1 Asset Inventory

A 2010 essential facility dataset (schools, medical facilities, fire stations and police stations compiled from state and county sources) was used to override the default Hazus input database. Other critical facilities identified by the county were geocoded and overlaid with the Hazus flood model output.

For the purposes of this plan, critical infrastructure and key resources were defined by Winona County.

Table 15 below identifies the critical facilities that were included in the analysis. Essential facilities are a subset of critical facilities. Names and locations of all critical facilities are found in Appendix B. Figure 5 below maps the critical facilities in Winona, while Figure 6 depicts critical facilities in Goodview.

Table 15. Winona County Critical Infrastructure and Facilities

Infrastructure Type	Number of Facilities
Agriculture and Food	10
Banking and Finance	22
Chemical and Hazardous Materials	48
Commercial Facilities	21
Communications	4
Dams	38
Emergency Services	19
Energy	18
Government Facilities	34
Healthcare and Public Health	18
Manufacturing	79
Nuclear	0
Postal and Shipping	8
Transportation	7
Water	11

Figure 5. Critical Facilities in Winona

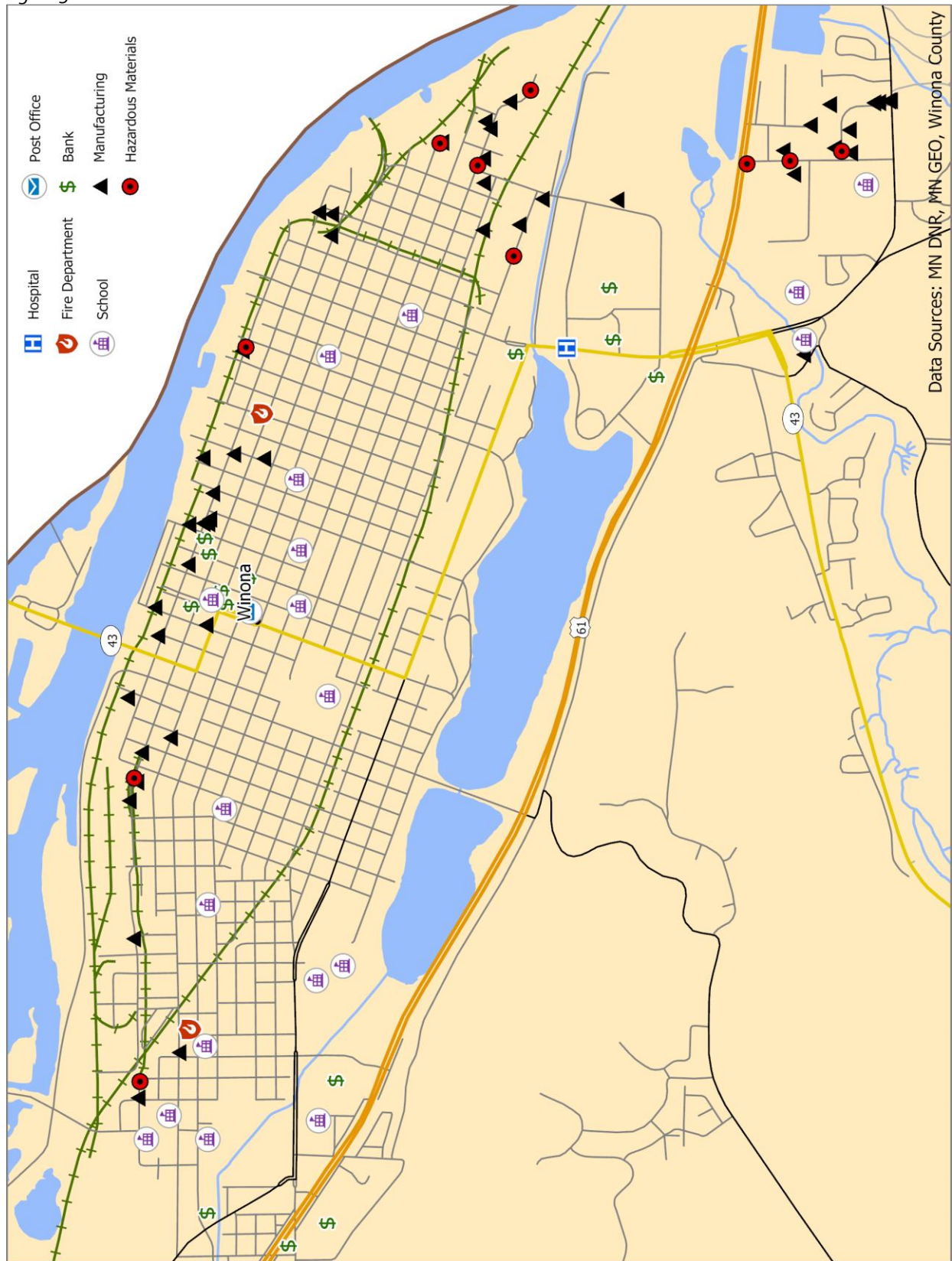
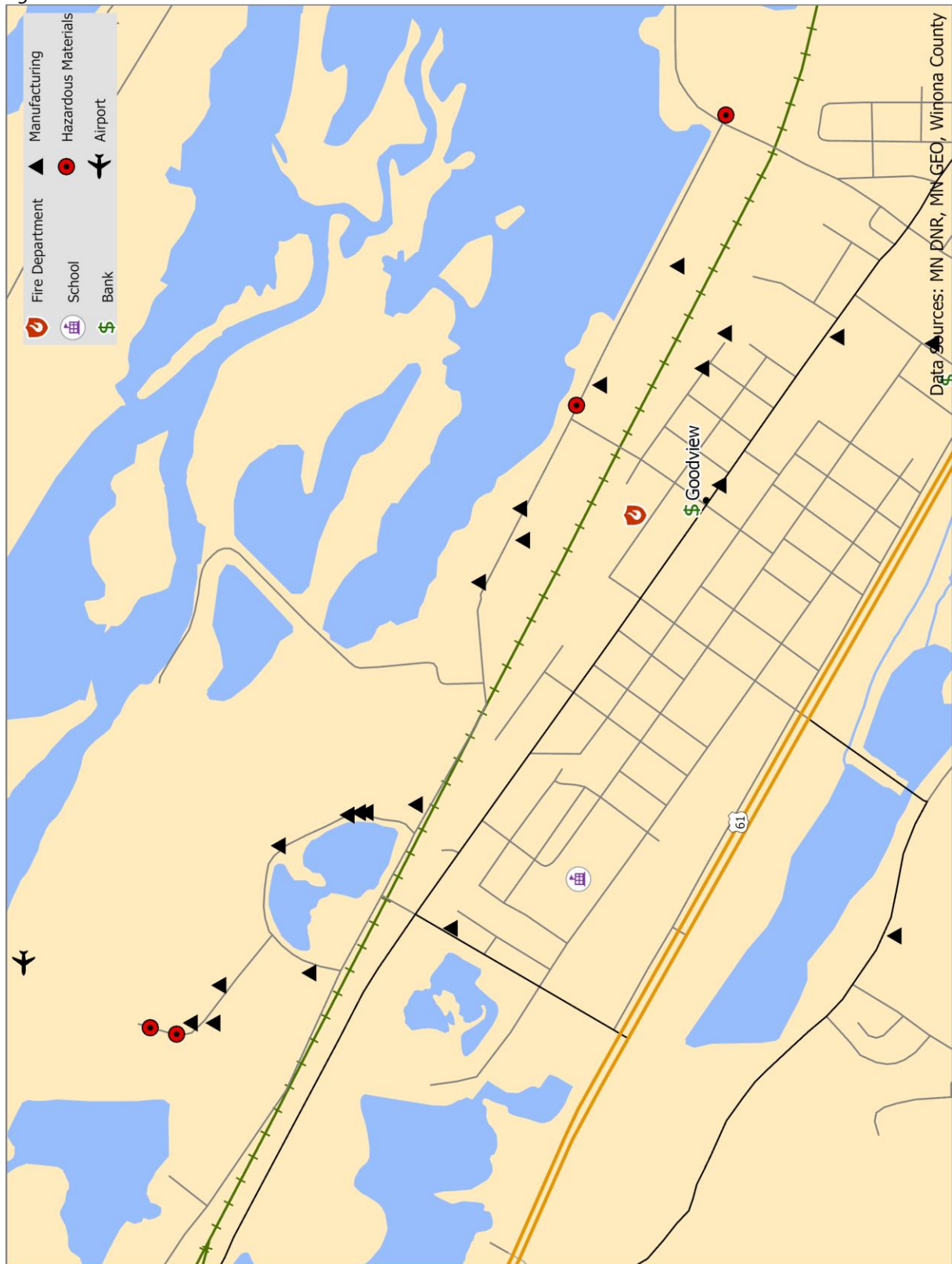


Figure 6. Critical Facilities in Goodview



4.2.2 Facility Replacement Costs

Winona County-specific building data was sourced from the parcel tax databases and parcel polygon data included building valuations and occupancy class. Structure values for each parcel were aggregated within each parcel and assigned to the parcel centroid point. Records were aggregated to the relevant census administrative boundaries for the flood hazard analysis. This process also provided total facility replacement costs and total building exposure by general occupancy class (defined by Hazus tools). The total estimated building exposure for Winona County is shown in Table 16.

Table 16. Winona County Total Building Exposure

General Occupancy	Parcels Containing Structures	Total Building Exposure
Agriculture	1,477	\$209,356,000
Commercial	801	\$262,228,000
Education	60	\$348,240,000
Government	149	\$63,787,000
Industrial	160	\$101,483,000
Religious/Non-Profit	149	\$92,685,000
Residential	14,125	\$1,794,329,000
Total:	16,921	\$2,872,108,000

4.3 Future Development

Because Winona County is vulnerable to a variety of natural hazards, the county government—in partnership with the state government—must make a commitment to prepare for the management of these types of events. Winona County is committed to ensuring that county elected and appointed officials become informed leaders regarding community hazards so that they are better prepared to set and direct policies for emergency management and county response.

There have not been any changes in development, settlement patterns, and commercial land use patterns in Winona County since the last Multi-Hazard Mitigation Plan (2012).

The Winona County Emergency Management Coordinator will work to keep the jurisdictions covered by the Multi-Hazard Mitigation Plan engaged and informed during the plan's cycle. By keeping jurisdictional leaders actively involved in the monitoring, evaluation and update of the MHMP, they will keep their local governments aware of the hazards that face their communities and how to mitigate those hazards through planning and project implementation. Each jurisdiction has identified mitigation strategies they will seek to implement in their communities (see *Appendix G: Mitigation Actions by Jurisdiction*). Jurisdictions will include considerations for hazard mitigation in relation to future development when updating local comprehensive plans or other plans that may influence development.

Section 6 of this plan further outlines the process by which Winona County will address the maintenance of this plan, including monitoring, evaluation, and update of the plan, as well as implementation and continued public involvement.

4.4 Hazard Profiles

As part of the risk assessment, each natural hazard that poses risk to the county was independently reviewed for its past hazard history, relationship to climate change, and jurisdictional vulnerability to future events. A capabilities assessment was also conducted to review the plans and programs that are in place or that are lacking (program gaps or deficiencies) for the implementation of mitigation efforts.

4.4.1 Tornadoes

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms to the ground, with wind speeds between 40-300 mph. They develop under 3 scenarios: (1) along a squall line; (2) in connection with thunderstorm squall lines during hot, humid weather; and (3) in the outer portion of a tropical cyclone. Funnel clouds are rotating columns of air not in contact with the ground; however, the column of air can reach the ground very quickly and become a tornado.

Since 2007, tornado strength in the United States is ranked based on the Enhanced Fujita scale (EF scale), replacing the Fujita scale introduced in 1971. The EF scale uses similar principles to the Fujita scale, with 6 categories from 0-5, based on wind estimates and damage caused by the tornado. The EF Scale is used extensively by the NWS in investigating tornadoes (all tornadoes are now assigned an EF Scale number), and by engineers in correlating damage to buildings and techniques with different wind speeds caused by tornadoes. To see a comparative table of F and EF scales, see <http://www.spc.noaa.gov/faq/tornado/ef-scale.html>.

Figure 7. Lewiston Tornado Damage, 1999 (National Weather Service, 2018)



In Minnesota, the peak months of tornado occurrence are June and July. The typical time of day for tornadoes in Minnesota ranges between 4:00 p.m. and 7:00 p.m. Most of these are minor tornadoes, with wind speeds under 125 miles per hour. A typical Minnesota tornado lasts approximately 10 minutes, has a path length of 5 to 6 miles, is nearly as wide as a football field, has a forward speed of about 35 miles an hour, and affects less than 0.1% of the county warned.

Tornado History in Winona County

According to the NCEI, 12 tornadoes were reported in Winona County between 1950 and April of 2018, causing no deaths, seven injuries, and over \$7.5 million in property damage. Tornado classification ranged from Fo/EFo to F₄ on the Fujita Scale.

The most recent tornado occurred in July of 1999, causing \$2,000,000 in property damage (Figure 7). The F₂ tornado touched down just northwest of the city of Lewiston. The tornado moved through the middle of the city and intensified. Many homes along Main Street sustained extensive damage. Only two people sustained minor injuries. Weather spotters reported hail up to 2 inches in diameter (National Centers for Environmental Information, 2018).

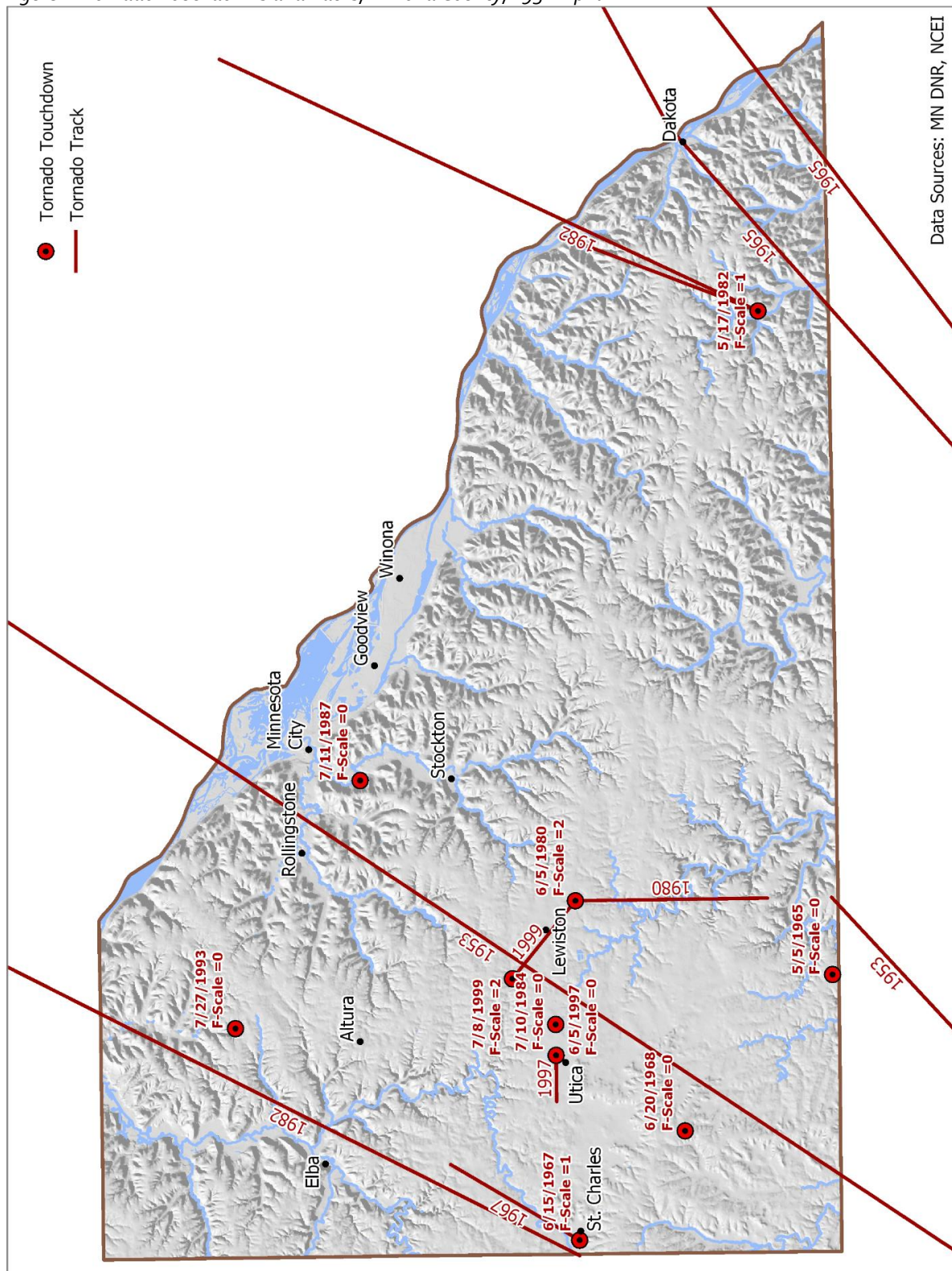
Figure 8 below shows tornado touchdown points and tracks in Winona County from 1950-April 2018. Historic tornado events in the county are listed in Table 17.

Table 17. Historic Tornado Events in Winona County, 1950-April 2018

Location or County	Date	Magnitude	Deaths	Injuries	Property Damage
Lewiston	7/8/1999	F ₂	0	2	\$2,000,000
Utica	6/5/1997	F ₀	0	0	<i>unknown</i>
Winona Co.	7/11/1987	F ₀	0	0	<i>unknown</i>
Winona Co.	7/10/1984	F ₀	0	0	<i>unknown</i>
Winona Co.	5/17/1982	F ₁	0	0	<i>unknown</i>
Winona Co.	5/17/1982	F ₂	0	0	\$250,000
Winona Co.	6/5/1980	F ₂	0	0	\$250,000
Winona Co.	6/20/1968	F ₀	0	0	\$2,500
Winona Co.	6/15/1967	F ₁	0	0	\$25,000
Winona Co.	5/5/1965	F ₀	0	0	\$25,000
Winona Co.	5/5/1965	F ₃	0	0	\$2,500,000
Winona Co.	5/10/1953	F ₄	0	5	\$2,500,000

Source: National Centers for Environmental Information

Figure 8. Tornado Touchdowns and Paths, Winona County, 1950-April 2018



Tornadoes and Climate Change

Tornadoes and other severe thunderstorm phenomena frequently cause as much annual property damage in the U.S. as do hurricanes, and often cause more deaths. Although recent research has yielded insights into the connections between global warming and the factors that cause tornadoes and severe thunderstorms, such as atmospheric instability and increases in wind speed with altitude (Del Genio, Yao, & Jonas, 2007), these relationships remain mostly unexplored, largely because of the challenges in observing thunderstorms and tornadoes and simulating them with computer models (National Climate Assessment Development Advisory Committee, 2013).

According to Harold Brooks of NOAA's National Severe Weather Laboratory, there is increasing variability in the "start" of tornado season. The number of days with more than 30 EF1 or greater tornadoes is increasing, while the number of days with at least 1 EF1 or greater tornadoes is decreasing. Thus, tornadoes are occurring on fewer days, but *more* are occurring on outbreak days.

The earliest reported tornado in Minnesota occurred on March 6, 2017, when 2 tornadoes touched down in southern Minnesota, which was 12 days earlier than the previous record. The Zimmerman tornado occurred 115 miles further north than the previous record from 1968. According to State Meteorologist Paul Huttner, "Those records fit seasonally and geographically with longer term climate trends pushing weather events earlier in the season and further northward" (Huttner, MPR News, 2017).

The state of Wisconsin has recorded 3 tornadoes in January and 6 in December during the period of 1844-2013 (National Weather Service Weather Forecast Office, 2014) including a January tornado in 2008.

Vulnerability

The county has experienced tornadoes in 10 of the 67 full years on record. According to these statistics, there is a 15% chance of a tornado affecting Winona County each year. The vulnerability of each jurisdiction to severe summer storms has not changed due to any development in the last 5 years.

Plans and Programs in Place

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Emergency Notifications – Summer storm warnings are initiated by the National Weather Service or local trained SKYWARN spotters. Residents receive warnings by NOAA weather radio, local media, CodeRed, cell phone apps and the outdoor warning siren system. Winona County also has IPAWS (Integrated Public Alert Warning System) which allows for both targeted and countywide emergency notifications to both residents and visitors (not an "opt-in" service).

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Severe Weather Awareness Week – Winona County helps promote and participates in the National Weather Service’s “Severe Weather Awareness Week” held in April each year. The event seeks to educate residents on the dangers of severe summer storms and highlights the importance of preparing for severe weather before it strikes.

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Program Gaps & Deficiencies

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Storm Shelters/Community Safe Rooms – Additional storm shelter areas would enhance public safety. Construction or retrofit of facilities to serve as community safe rooms for severe wind events should also be evaluated for areas where there are vulnerable populations, such as the schools.

4.4.2 Windstorms

FEMA defines winds in excess of 58 miles per hour, excluding tornadoes, as windstorms. Straight-line winds and windstorms are used interchangeably in the plan. This hazard is treated as a different category than tornadoes (which may also include high winds). Windstorms are among the nation's most severe natural hazards in terms of both lives lost and property damaged.

Severe winds can damage and destroy roofs, toss manufactured homes off their pier foundations, and tear light-framed homes apart. There are several different types of windstorms. A "downburst" is defined as a strong downdraft with an outrush of damaging winds on or near the earth's surface. Downbursts may have wind gusts up to 130 mph and are capable of the same damage as a medium-sized tornado. A "gust front" is the leading edge of the thunderstorm downdraft air. It is most prominent near the rain-free cloud base and on the leading edge of an approaching thunderstorm and is usually marked by gusty, cool winds and sometimes by blowing dust. The gust front often precedes the thunderstorm precipitation by several minutes. Straight-line winds, when associated with a thunderstorm, are most frequently found with the gust front.

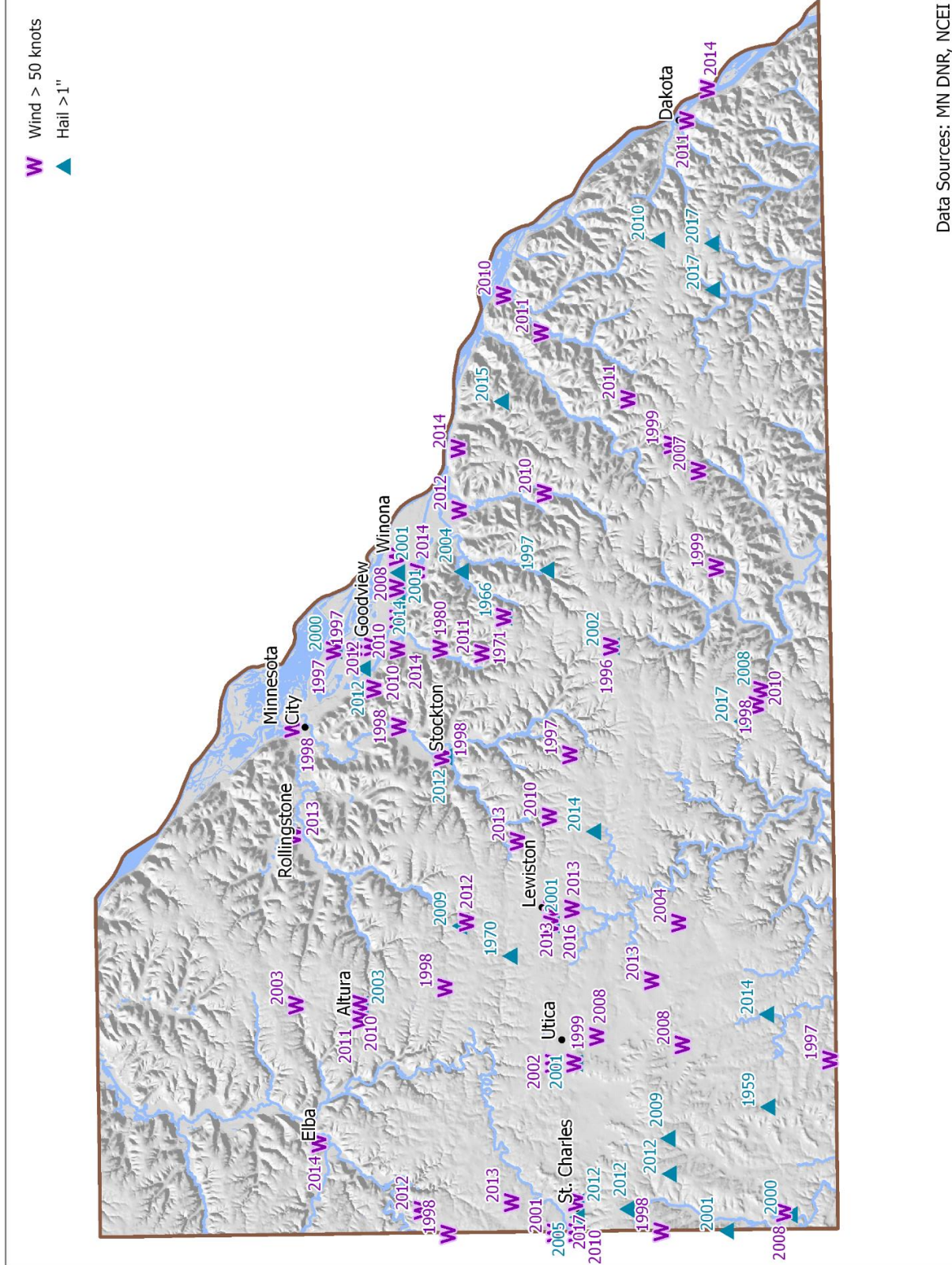
Windstorm History in Winona County

Winona County frequently experiences winds blowing at over 50 knots. According to NCEI records there have been 142 wind events reported between 1950 and April of 2018, with wind speeds of up to 70 knots. These winds can inflict damage to buildings and in some cases overturn high-profile vehicles.

A notable severe wind event occurred on June 27, 1998, when a line of severe thunderstorms swept through Winona County. The northern track of the system hit the city of Winona. Thousands of trees were knocked down from wind gusts of 70-90 mph. Six southeast Minnesota counties were declared Federal Disaster areas. Winona County reported \$1.2 million in property damage (National Centers for Environmental Information, 2018).

The most recent severe wind and hailstorms in Winona County are shown in Figure 9.

Figure 9. Most Recent Severe Wind and Hail Storms in Winona County



Windstorms and Climate Change

Lack of high-quality long-term data sets make assessment of changes in wind speeds very difficult (Kunkel, et al., 2013). One analysis generally found no evidence of significant changes in wind speed distribution. Other trends in severe storms, including the numbers of hurricanes and the intensity and frequency of tornadoes, hail, and damaging thunderstorm winds are uncertain. Since the impact of more frequent or intense storms can be larger than the impact of average temperature, climate scientists are actively researching the connections between climate change and severe storms (National Climate Assessment Development Advisory Committee, 2013).

Vulnerability

The magnitude of summer storms each year is unpredictable and within Winona County the vulnerability of jurisdictions to windstorms does not vary geographically. The vulnerability of each jurisdiction to severe summer storms has not changed due to any development in the last 5 years.

Plans and Programs in Place

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Storm Shelters/Community Safe Rooms – Additional storm shelter areas would enhance public safety. Construction or retrofit of facilities to serve as community safe rooms for severe wind events should also be evaluated for areas where there are vulnerable populations, such as the schools.

4.4.3 Lightning

Lightning typically occurs as a by-product of a thunderstorm. In only a few millionths of a second, the air near a lightning strike is heated to 50,000° F, a temperature hotter than the surface of the sun.

The hazard posed by lightning is significant. High winds, rainfall, and a darkening cloud cover are the warning signs for possible cloud-to-ground lightning strikes. While many lightning casualties happen at

the beginning of an approaching storm, more than half of lightning deaths occur after a thunderstorm has passed. Lightning has been known to strike more than 10 miles from the storm in an area with clear sky above.

Lightning strikes the ground approximately 25 million times each year in the U.S. According to the NWS, the chance of an individual in the U.S. being killed or injured by lightning during a given year is 1 in 240,000 (NOAA National Severe Storms Laboratory, n.d.).

Lightning is the most dangerous and frequently encountered weather hazard that most people in the United States experience annually. Lightning is the second most frequent killer in the U.S., behind floods and flash floods, with nearly 100 deaths and 500 injuries annually. The lightning current can branch off to strike a person from a tree, fence, pole, or other tall object. In addition, an electrical current may be conducted through the ground to a person after lightning strikes a nearby tree, antenna, or other tall object. The current may also travel through power lines, telephone lines, or plumbing pipes to damage property or cause fires.

Lightning History in Winona County

The NCEI has recorded 6 lightning events in Winona County since 1997, which resulted in a total of \$80,000 in property damage, but no reported injuries or deaths.

In October 2013, lightning struck a power pole causing a line to fall onto 3 buildings. All 3 buildings then caught on fire. Property damage of \$15,000 was recorded.

In May 2012, lightning struck a house in the city of Winona that caused a fire. The house sustained minor fire damage to the roof and attic while the second floor was damaged by heat, water and smoke. Property damage of \$30,000 was recorded.

Lightning and Climate Change

The projected possible intensity and frequency of tornadoes, hail, and damaging thunderstorm winds, the conditions associated with lightning, are uncertain (National Climate Assessment Development Advisory Committee, 2013). Severe rain events are becoming more common and may include an additional risk of lightning.

Vulnerability

The magnitude of summer storms each year is unpredictable and within Winona County the vulnerability of jurisdictions to windstorms does not vary geographically. The vulnerability of each jurisdiction to severe summer storms has not changed due to any development in the last 5 years.

Plans and Programs in Place

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4.4.4 Hail

Hailstorms are a product of severe thunderstorms. Hail is formed when strong updrafts within the storm carry water droplets above the freezing level, where they remain suspended and continue to grow larger, until their weight can no longer be supported by the winds. Hailstones can vary in size, depending on the strength of the updraft. The NWS uses the following descriptions when estimating hail sizes: pea size is ¼-inch, marble size is ½-inch, dime size is ¾-inch, quarter size is 1-inch, golf ball size is 1 ¾-inches, and baseball size is 2 ¾-inches. Individuals who serve as volunteer “storm spotters” for the NWS are located throughout the state, and are instructed to report hail dime size (¾-inch) or greater. Hailstorms can occur throughout the year; however, the months of maximum hailstorm frequency are typically between May and August. Although hailstorms rarely cause injury or loss of life, they can cause significant property damage.

Hail History in Winona County

According to the NCEI, there have been 144 reports of hail in Winona County since 1950. Hail has caused over \$300,000 in property damage in Winona County since 1950.

Table 18 shows storms producing hail greater than 1 inch diameter in Winona County.

Table 18. Storms producing hail of greater than 1 inch diameter in Winona County, 1950-April 2018

Location or County	Date	Hail Size (Inches)	Location or County	Date	Hail Size (Inches)
Fremont	5/7/2014	1.25	Lewiston	9/10/2000	1.25
Stockton	9/4/2012	1.75	Utica	9/10/2000	1.75
Saratoga	9/4/2012	2	St. Charles	9/10/2000	1.75
St. Charles	9/4/2012	1.75	Troy	9/10/2000	1
Nodine	9/15/2010	1.75	Winona	8/23/1997	1.75
Nodine	7/17/2010	1.5	Winona	8/3/1997	1.75
Lewiston	4/24/2009	1.5	Utica	6/5/1997	1/75
Hart	5/30/2008	1.75	Winona County	7/21/1991	1.75
St. Charles	5/30/2008	1.75	Winona County	6/4/1979	1.75
Winona	4/18/2002	1.25	Winona County	7/15/1978	1.75
Winona	6/11/2001	2	Winona County	6/20/1974	1.75
Lewiston	6/11/2001	1.25	Winona County	7/1/1972	1.75
Winona	9/11/2000	1.75	Winona County	6/20/1966	1.75
Lewiston	9/10/2000	2			

Source: National Centers for Environmental Information

Hail and Climate Change

According to the Federal Advisory Committee Draft National Climate Assessment (NCA), trends in severe storms, including the numbers of hurricanes and the intensity and frequency of tornadoes, hail, and damaging thunderstorm winds are uncertain. Since the impact of more frequent or intense storms can be larger than the impact of average temperature, climate scientists are actively researching the connections between climate change and severe storms (National Climate Assessment Development Advisory Committee, 2013).

The occurrence of very heavy precipitation has increased in Minnesota in recent decades and future projections also indicate this will continue (International Climate Adaptation Team, 2013). While it is unknown if this precipitation will occur during severe storms that produce hail, the possibility has not been ruled out.

Vulnerability

Summer storms affect Winona County each year, so there is a 100% probability that the county and its jurisdictions will be affected. According to the 67-year NCEI record, there is a 55% chance of a significant hailstorm any year in Winona County and a 22% chance in each year that there will be a hailstorm that produces hail greater than 1 inch in size.

The magnitude of summer storms each year is unpredictable and within Winona County the vulnerability of jurisdictions to summer storms does not vary geographically. The vulnerability of each jurisdiction to severe summer storms has not changed due to any development in the last 5 years.

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Aboveground Power Lines – A majority of the power lines in the county are aboveground and subject to damage from ice storms, wind and falling tree limbs. Power lines that are aboveground are susceptible to coming down during severe storms, resulting in power outages.

Backup Power – Not all city facilities have backup power in the event of a severe storm that takes out power.

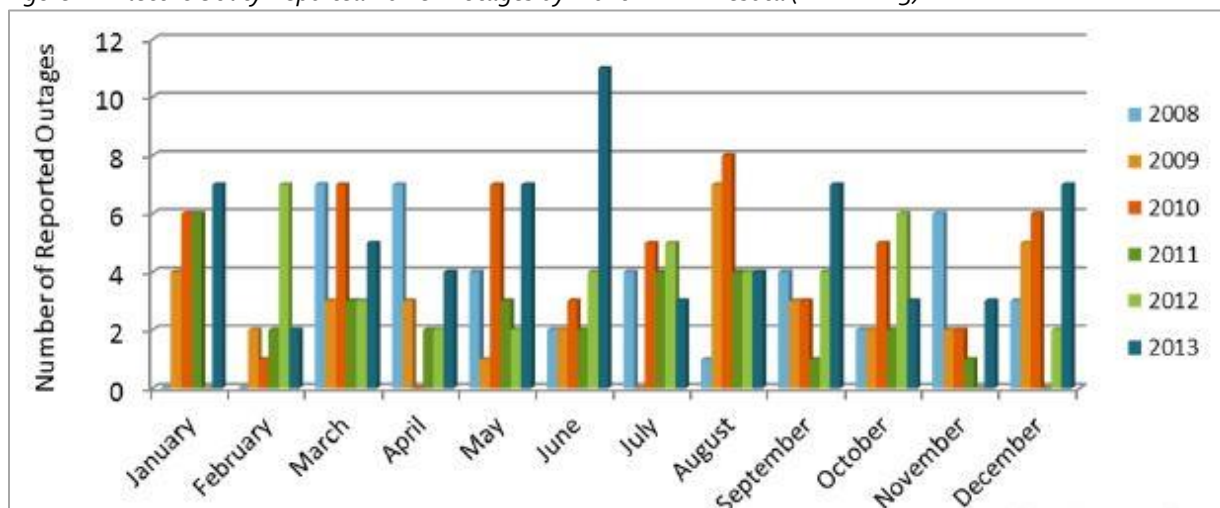
Communications – Not all residents have opted in to the CodeRed notification system or have updated phone numbers, and not all own weather radios or follow our Facebook page to receive important messages. Winona County does have use of IPAWS. However, our geography of steeply incised valleys create dead zones (the cities of Stockton and Elba are identified as a gap, and most of our river valleys).

Storm Shelters/Community Safe Rooms – Additional storm shelter areas would enhance public safety. Construction or retrofit of facilities to serve as community safe rooms for severe wind events should also be evaluated for areas where there are vulnerable populations, such as the schools.

Severe Summer Storms and Electrical Outages

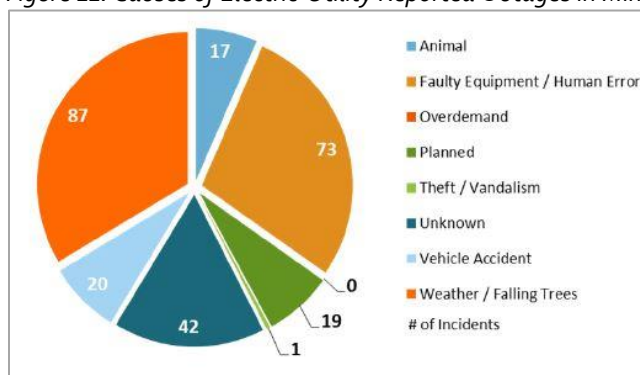
According to NOAA data, the natural hazards that caused the greatest overall property loss in Minnesota between 1996 and 2014 were thunderstorms and lightning, at \$86.3 million per year. The state also experienced 23 electric transmission outages from 1992 to 2009, 5 of which were due to heat waves and thunderstorms. On average, the number of people affected annually by all electric outages during 2008 to 2013 in Minnesota was 449,995, with a high of 1,460,810 in 2011 (U.S. Department of Energy, 2015). Figure 10 below shows the seasonality of electric outages by month for the years 2008-2013, and Figure 11 shows the causes of outages in the state between 2008 and 2013, with the largest cause being weather/falling trees.

Figure 10. Electric Utility Reported Power Outages by Month in Minnesota (2008-2013)



Source: U.S. Department of Energy, 2015

Figure 11. Causes of Electric-Utility Reported Outages in Minnesota (2008-2013)



Source: U.S. Department of Energy, 2015

4.4.5 Flash Flood and Riverine Flood

Flooding is the most significant and costly natural hazard in Minnesota. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area, the rate at which precipitation infiltrates the ground, the geometry and hydrology of the catchment, and flow dynamics and conditions in and along the river channel. Flash floods generally occur in the upper parts of drainage basins and are typically characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, flash floods cause damage over relatively localized areas, but they can be quite severe. Flash floods in urban areas involve the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid

snowmelt. Flash floods can occur at any time of the year in Minnesota, but they are most common in the spring and summer. Twenty-four flash floods have been recorded in Winona County since 1950.

Riverine floods refer to floods on large rivers at locations with large upstream catchments. Riverine floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and the flood peak is much longer for riverine floods than for flash floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage.

Nationwide, floods caused 4,586 deaths from 1959 to 2005 while property and crop damage averaged nearly \$8 billion per year (in 2011 dollars) from 1981-2011 (Georgakakos, et al., 2014).

During the past several decades, agencies have used the “100-year floodplain” as the design standard for projects funded by the federal government. However, today floods of that magnitude are occurring far more often than once per century (Natural Resources Defence Council, 2015). In recognition of increasing risks, in January of 2015 the President issued an executive order that updates flood protection standards that guide federally-funded projects in or near floodplains or along coastlines. These new standards require federally-funded projects to either build 2 feet above the 100-year flood elevation for standard projects and three feet above for critical buildings like hospitals and evacuation centers; or build to the 500-year flood elevation (The White House, 2015).

Flood History in Winona County

Table 19 below lists Winona County’s historical floods from 1997-April 2018 as recorded by the NCEI. Five deaths have been reported as a result of floods in Winona County, along with over \$48 million in property damage (National Centers for Environmental Information, 2018).

Runoff from heavy rain pushed Garvin Creek out of its banks around Stockton after a severe line of thunderstorms occurred in June of 2017. Debris caught in the floodwaters clogged culverts where the creek passes under County Road 23, causing a portion of the road to collapse. Total damages recorded by the NCEI were \$108,000. In addition, floodwaters flowed down a dry run along County Highway 37 between Elba and Altura, causing the road bank to erode in several places. A Minnesota State Disaster was declared in Winona County.

Heavy rains in October of 2013 resulted in a mudslide near Pickwick. U.S. Highway 61 was closed due to the mudslide, along with various other slides along the highway. A semi-truck became trapped between two of the slides, and multiple streets were closed due to flooding in Goodview and the city of Winona. The NCEI reported \$20,000 of property damage in Goodview and Homer.

In September of 2010, severe flooding occurred throughout the county, with the worst impacts seen in the northern parts of the county. Numerous roads were closed and some were damaged by floodwaters. A portion of County Road 74 southwest of Elba was closed due to high water. The

Whitewater River saw major flooding, which damaged portions of the Whitewater State Park, which was evacuated. Five homes also incurred damage.

Table 19. Winona County Historical Floods, 1997-April 2018

Location or County	Date	Type	Deaths	Injuries	Property Damage
Winona	4/29/2018	Flood	0	0	unknown
Homer	7/20/2017	Flash Flood	0	0	\$7,000
St. Charles	7/19/2017	Flood	0	0	unknown
Minneiska	7/19/2017	Flash Flood	0	0	\$6,000
St. Charles	6/28/2017	Flood	0	0	unknown
Stockton	6/28/2017	Flash Flood	0	0	\$108,000
Elba	6/28/2017	Flash Flood	0	0	\$25,000
St. Charles	6/12/2017	Flood	0	0	unknown
Winona	5/23/2017	Flood	0	0	unknown
Homer	5/16/2017	Flood	0	0	unknown
Lamoille	4/20/2017	Flash Flood	0	0	unknown
St. Charles	9/22/2016	Flood	0	0	unknown
Lamoille	9/21/2016	Flash Flood	0	0	\$4,000
St. Charles	7/23/2016	Flood	0	0	unknown
Elba	7/23/2016	Flash Flood	0	0	\$10,000
Winona	7/1/2014	Flood	0	0	unknown
St. Charles	6/27/2014	Flood	0	0	unknown
Winona	6/22/2014	Flood	0	0	unknown
Winona	5/13/2014	Flood	0	0	unknown
Winona	5/3/2014	Flood	0	0	unknown
Homer	10/5/2013	Flash Flood	0	0	\$5,000
Goodview	10/5/2013	Flash Flood	0	0	\$15,000
St. Charles	6/25/2013	Flood	0	0	unknown
Whitman	6/22/2013	Flash Flood	0	0	\$7,000
St. Charles	5/19/2013	Flood	0	0	unknown
St. Charles	4/4/2013	Flood	0	0	unknown
St. Charles	3/30/2013	Flood	0	0	unknown
Elba	6/20/2012	Flood	0	0	\$5,000
Winona Muni Airport	7/23/2011	Flood	0	0	unknown
Winona	4/1/2011	Flood	0	0	unknown
Winona	3/29/2011	Flood	0	0	unknown
Winona Muni Airport	10/1/2010	Flood	0	0	unknown

Location or County	Date	Type	Deaths	Injuries	Property Damage
Winona Muni Airport	9/28/2010	Flood	0	0	<i>unknown</i>
Troy	9/23/2010	Flood	0	0	\$1,360,000
New Hartford	9/15/2010	Flood	0	0	<i>unknown</i>
Goodview	9/15/2010	Flood	0	0	<i>unknown</i>
St. Charles	8/13/2010	Flood	0	0	<i>unknown</i>
Winona	8/13/2010	Flood	0	0	<i>unknown</i>
Winona	7/17/2010	Flood	0	0	<i>unknown</i>
Dresbach	7/16/2008	Flash Flood	0	0	\$10,000
Winona	6/7/2008	Flood	0	0	\$50,000
Lamoille	6/7/2008	Flash Flood	0	0	\$250,000
Lewiston	8/22/2007	Flash Flood	0	0	\$1,500
Winona	8/19/2007	Flood	0	0	\$1,500,000
Elba	8/18/2007	Flood	0	0	\$60,000
Winona	8/18/2007	Flash Flood	0	0	\$12,000,000
Lewiston	8/18/2007	Flash Flood	5	0	\$300,000
Stockton	8/18/2007	Flash Flood	0	0	\$22,000,000
Lewiston	8/18/2007	Flash Flood	0	0	\$6,000,000
Countywide	9/15/2004	Flash Flood	0	0	\$4,000
Winona (Zone)	5/1/2001	Flood	0	0	\$2,300,000
Winona (Zone)	4/11/2001	Flood	0	0	\$2,000,000
Countywide	6/20/2000	Flood	0	0	<i>unknown</i>
St. Charles	6/1/2000	Flash Flood	0	0	\$8,000
Countywide	5/17/2000	Flash Flood	0	0	\$8,000
Stockton	8/9/1998	Flash Flood	0	0	\$150,000
Stockton	6/26/1998	Flash Flood	0	0	\$15,000
Winona	8/23/1997	Flash Flood	0	0	\$40,000
Lewiston	7/19/1997	Flash Flood	0	0	\$50,000
Lewiston	7/19/1997	Flood	0	0	<i>unknown</i>
Winona (Zone)	4/3/1997	Flood	0	0	\$500,000

The National Oceanic and Atmospheric Administration (NOAA) Advanced Hydrologic Prediction Service provides information from gauge locations at points along various rivers across the United States. Seven USGS gauging stations are located in Winona County. Flood crest data for the top gauge heights is recorded in Table 20 below.

Table 20. Historical Flood Crests for USGS gauging stations in Winona County

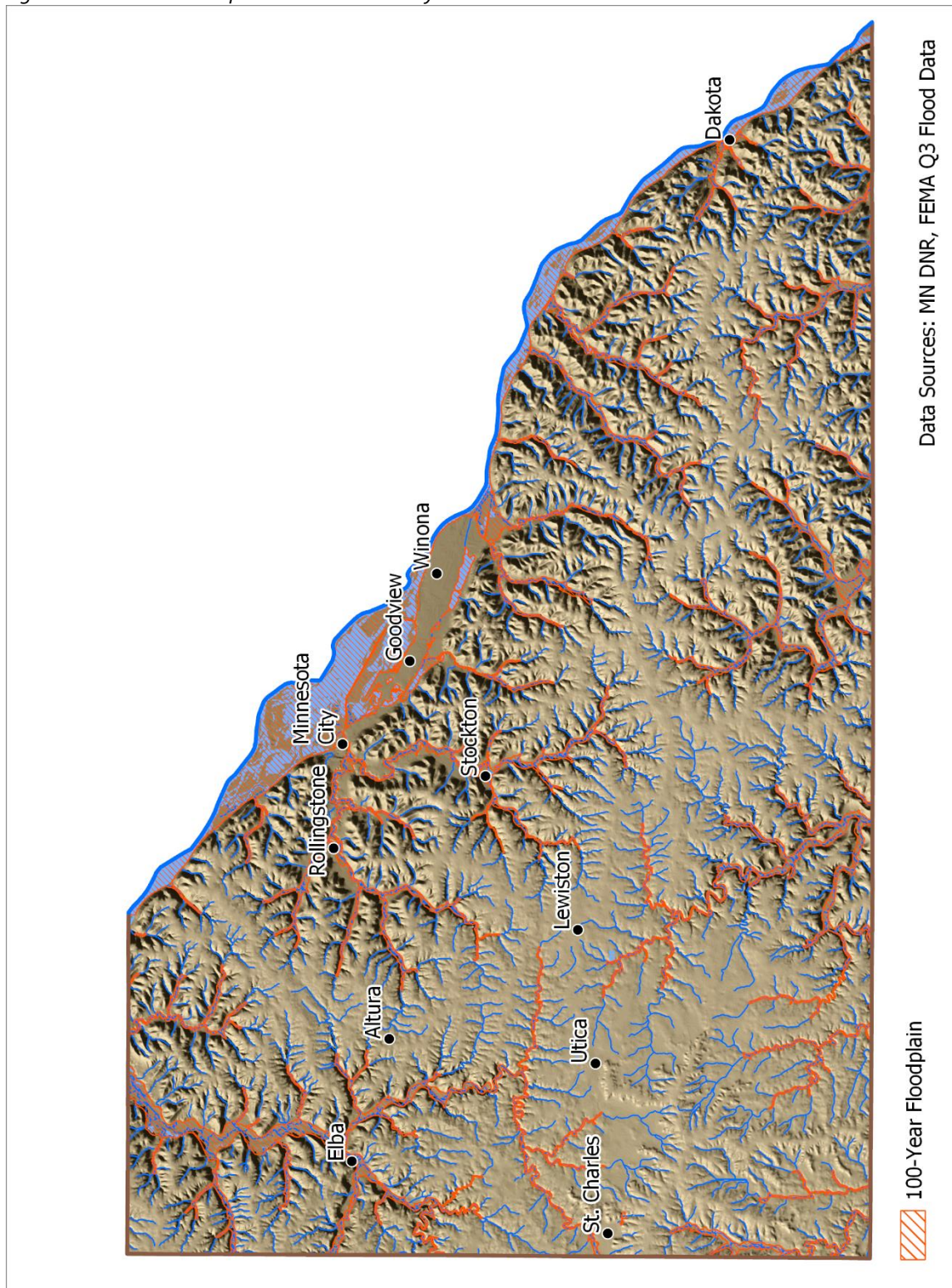
Location	Date	Gauge Height (feet)
Mississippi River at La Crescent, MN	4/21/1965	647.38
Mississippi River at Trempealeau, MN	4/21/1965	653.02
Mississippi River at Winona, MN	4/19/1965	20.77
Mississippi River at Winona Dam 5a	4/19/1965	663.35
Mississippi River at Minnesota City, MN	4/19/1965	667.85
North Fork Whitewater River at Elba, MN	N/A	N/A
Middle Fork Whitewater River at Whitewater State Park Group Camp	N/A	N/A

Vulnerability and Hazus Hazard Analysis

The University of Minnesota Duluth Geospatial Analysis Center (GAC) performed the hazard risk assessment for 100-year floods using the Hazus GIS tool (FEMA).

FEMA's Hazus 4.2 (Service Pack 1) and ArcGIS 10.5.1 was used to estimate potential losses incurred in a 100-year flood event in Winona County. A Q3 floodplain obtained from the MN DNR was used to determine the flood extent because no updated National Flood Insurance Program (NFIP) map is available. The Q3 Flood Data are derived from the Flood Insurance Rate Maps (FIRMS), published by FEMA, and follow standards required for mapping at a scale of 1:24,000, these maps are often outdated. A 10-meter digital elevation model (DEM) was used to create a flood depth grid for the county. The 100-yr floodplain boundary is shown in Figure 12.

Figure 12. 100-Year Floodplain in Winona County



Winona County specific building data was sourced from the parcel tax and spatial databases to include building valuations, occupancy class, square footage, year built and number of stories. A geodatabase with a layer named Building_Footprints was obtained from the county to locate buildings. Additionally, files named WinonaCountyParcelDescriptions_4_26_18.xls (occupancy class), and WinonaCountyBuildingData_Edits.xlsx (structure value, number of stories, square footage, and year built), were used and supplemented with regional averages where values were missing. The resulting spatial dataset included 24,209 unique parcel numbers; 16,906 of these records were identified as having building values and were used in the analyses.

In cases where building value, year built, or number of stories were missing, values were assigned based on best practices from values in the other variables and from the region. The data were then assigned to one parcel centroid or building location, which served as a surrogate for each parcel's buildings to aggregate to the associated census block for use in the Hazus model.

According to the Winona County general building stock (derived from the county's parcel data and imported to the Hazus model), the Hazus model estimates there are 16,921 parcels with buildings in the region with a total value (excluding contents) of \$2.87 billion (2010 dollars). Approximately 83.48% of the buildings (and 62.47% of the building value) are associated with residential housing. The Hazus model estimated 220 parcels' buildings will be at least moderately damaged (>10% damage); 35 of these parcels' buildings are estimated to be completely destroyed (>50% damage).

The total economic loss estimated for the flood is \$495.78 million dollars. Building losses are broken into 2 categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are associated with inability to operate a business because of the damage sustained during the flood. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the flood. The total building-related losses were \$139.01 million dollars. 72% of the estimated losses were related to the business interruption of the region. Residential occupancies made up 11.37% of the total loss.

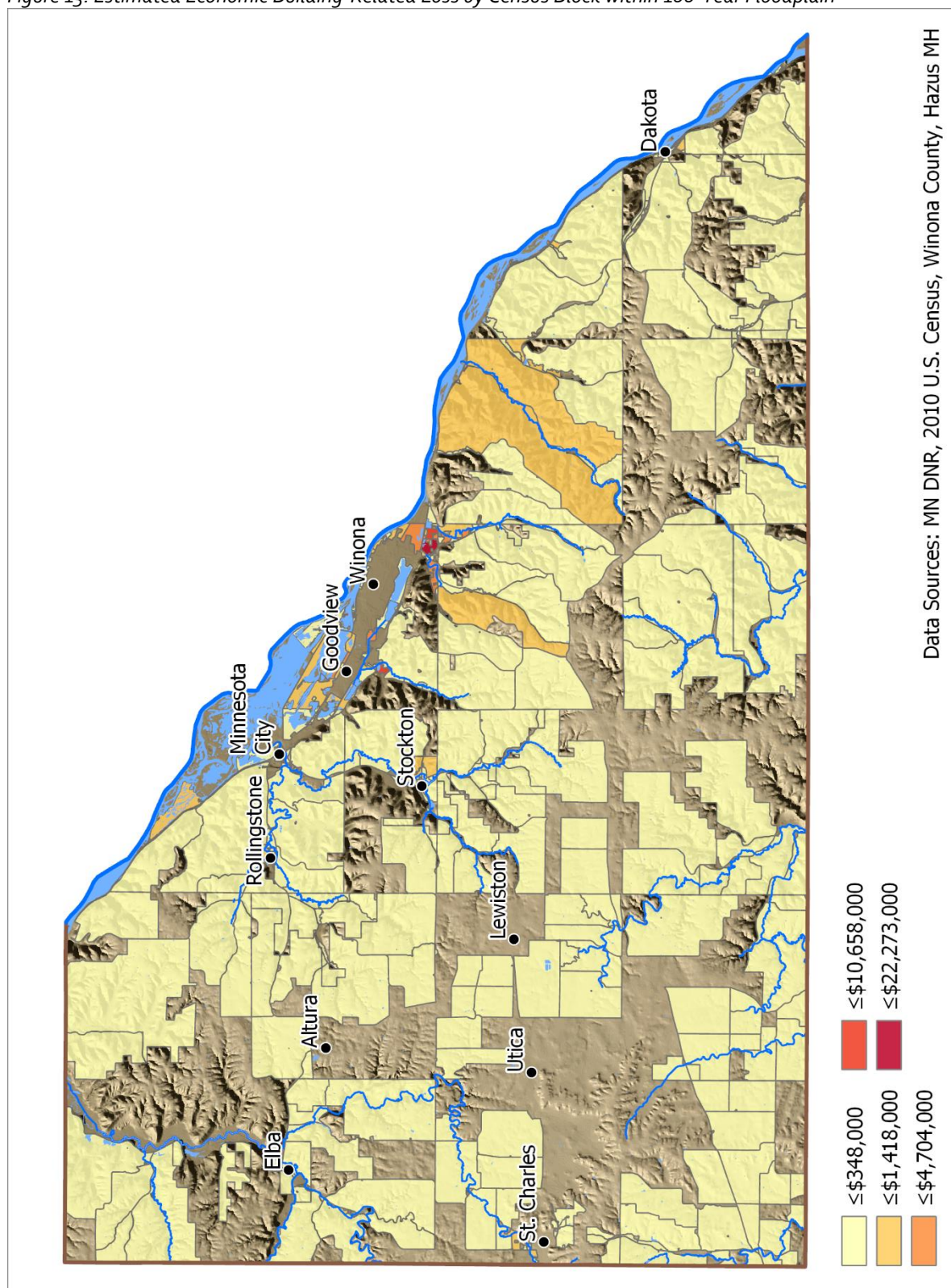
The reported building counts should be interpreted as degrees of loss rather than an exact number of buildings exposed to flooding. These numbers were derived from aggregate building inventories, which are assumed to be dispersed evenly across census blocks. Hazus requires that a predetermined amount of square footage of a typical building sustain damage in order to produce a damaged building count. If only a minimal amount of damage to buildings is predicted, it is possible to see zero damaged building counts while also seeing economic losses.

The total estimated number of damaged buildings (parcels as a surrogate), total building losses, and estimated total economic losses for the countywide 100-year flood are shown in Table 21. The distribution of economic losses for Winona County is depicted in Figure 13.

Table 21. Winona County Total Economic Loss from 100-Year Flood

General Occupancy	Total Parcels	Parcels with Damaged Buildings	Total Building Exposure	Total Economic Loss	Building Loss
Agricultural	1,477	0	\$209,356,000	\$14,584,000	\$4,125,000
Commercial	801	22	\$262,228,000	\$93,943,000	\$4,509,000
Education	60	0	\$348,240,000	\$169,396,000	\$5,214,000
Government	149	0	\$63,787,000	\$102,457,000	\$1,111,000
Industrial	160	8	\$101,483,000	\$26,141,000	\$3,832,000
Religious/Non-Profit	149	0	\$92,685,000	\$32,891,000	\$4,210,000
Residential	14,125	240	\$1,794,329,000	\$56,370,000	\$27,002,000
Total	16,921	270	\$2,872,108,000	\$495,782,000	\$50,003,000

Figure 13. Estimated Economic Building-Related Loss by Census Block within 100-Year Floodplain



The three most populated cities with a potential economic loss are displayed in Figures 14-16.

Figure 14. 100-Year Flood Building-Related Loss Estimates, by Census Block, Winona City

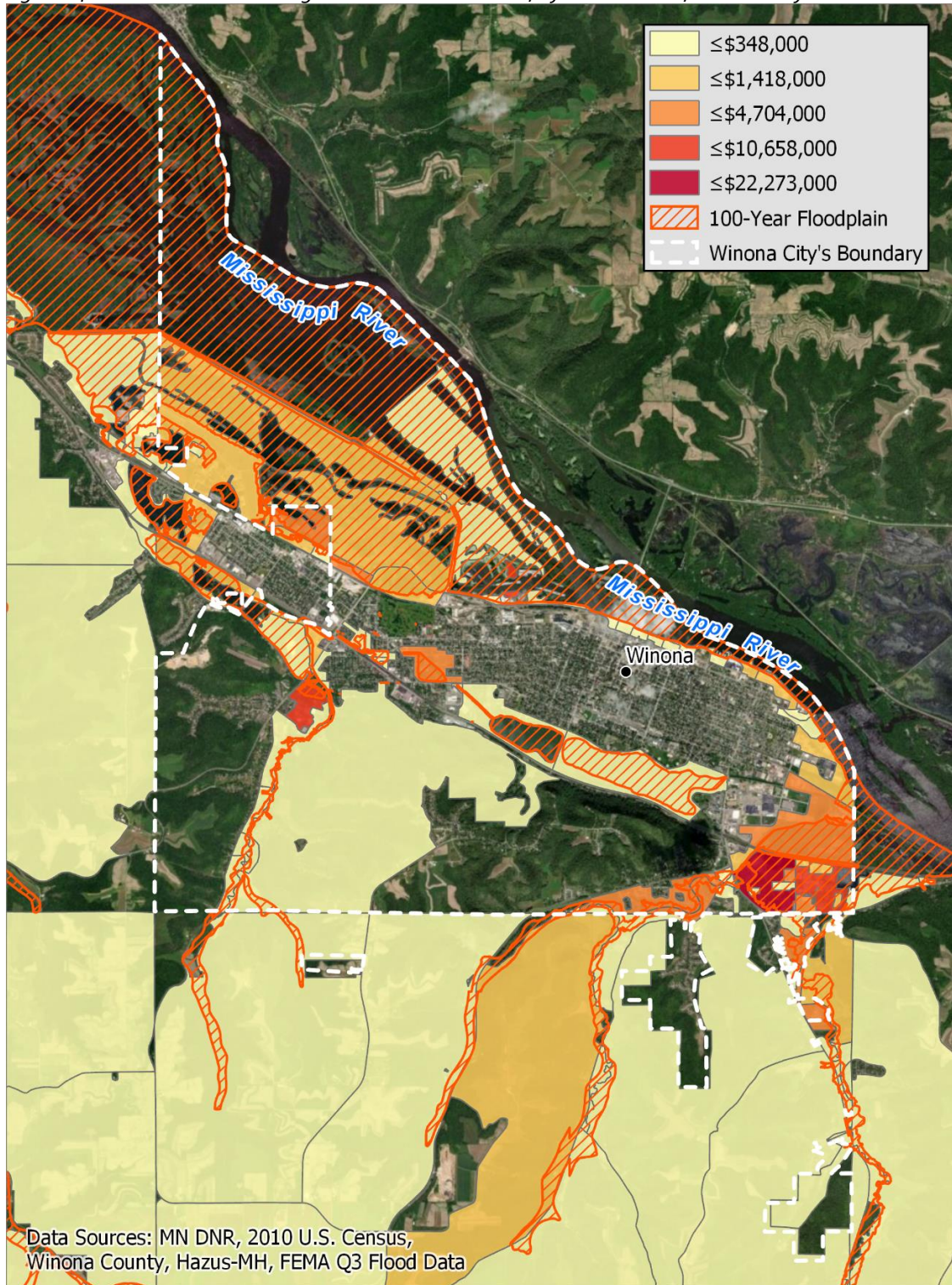


Figure 15. 100-Year Flood Building-Related Loss Estimates, by Census Block, Goodview

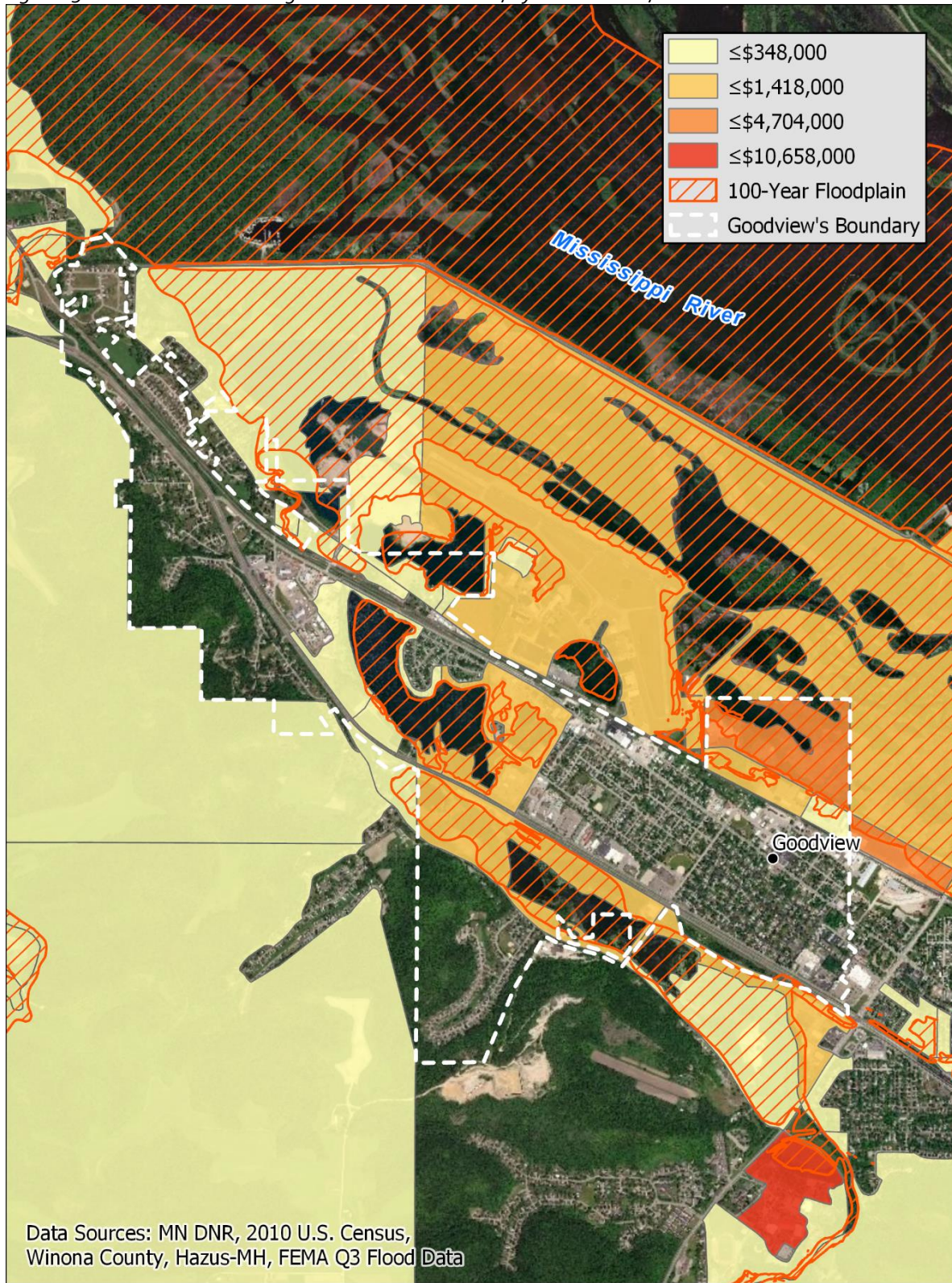
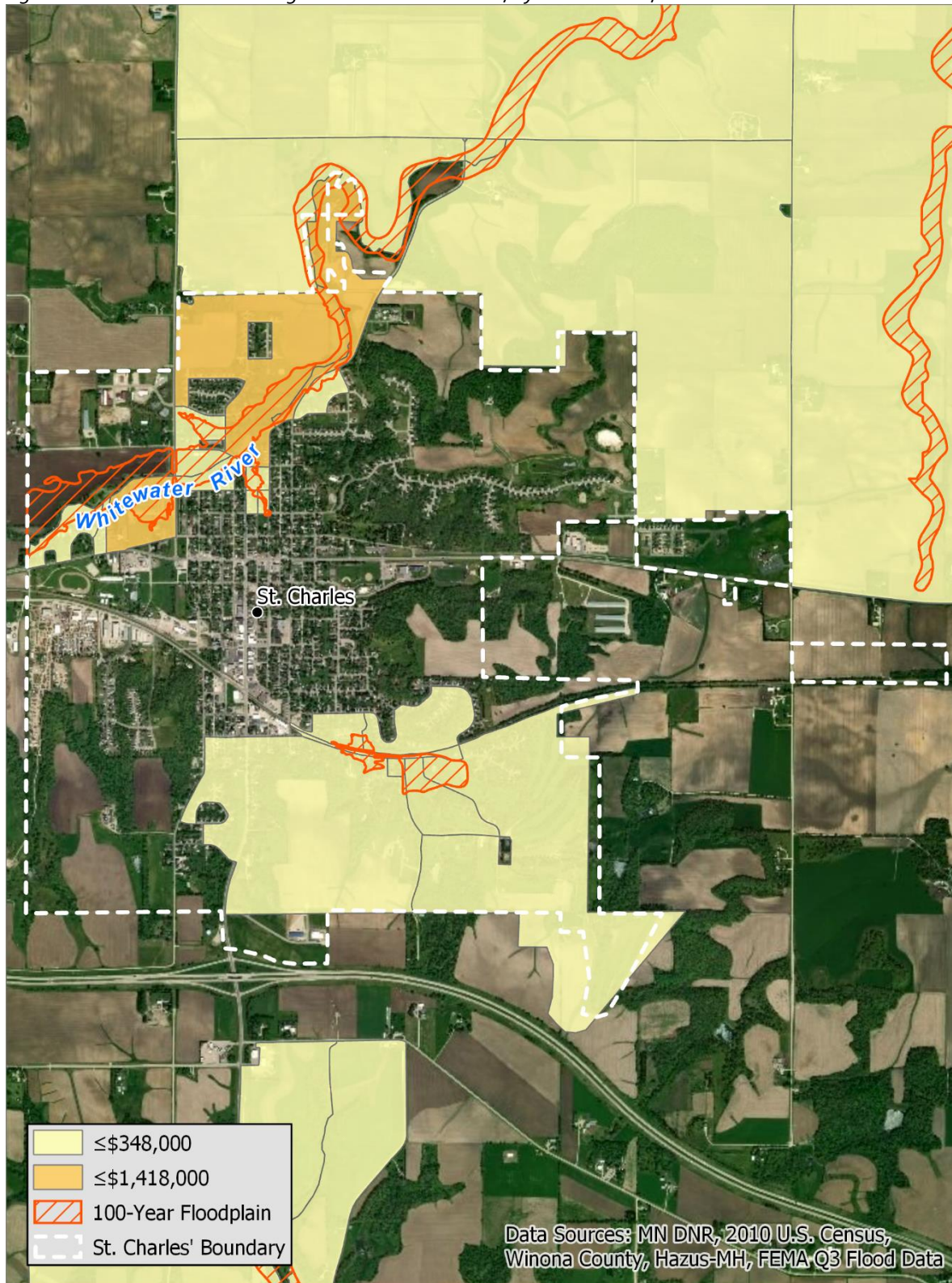


Figure 16. 100-Year Flood Building-Related Loss Estimates, by Census Block, St. Charles



Census blocks of concern should be reviewed in more detail to determine the actual location and proximity of facilities with respect to the flood hazard areas. The aggregate losses reported in this study may be overstated due to the fact that values are distributed evenly across a census block. The 3 census blocks with the greatest estimated loss values (calculated by adding the total value of the buildings + the value of the buildings' contents located within a census block), which contain parcels with buildings located within the floodplain, are shown in Table 22. These potentially high loss census blocks, used for the loss estimation and the Hazus output floodplain are shown in Figures 17-19. In some cases, the assets of value may not fall in the floodplain in the same proportion that the floodplain covers the entire census block. For this reason, some potential losses may be overstated.

Table 22. Census Blocks with the Greatest Estimated Losses, Containing Parcels with Buildings in the 100-Year Floodplain

Census Block Number	Total Estimated Loss	Location
271696707002094	\$22,273,000	Winona City
271696704001036	\$8,569,000	Winona City
271696707002086	\$8,050,000	Winona City

An additional analysis was performed to identify the 10 parcels with the highest values (building + contents) that contain buildings which intersect the 100-year floodplain. Some of the parcels are located in one of the 3 census blocks with the greatest estimated loss; these parcels are labeled accordingly. The results of this analysis (and total building values) are shown in Table 23.

Table 23. Winona County Properties with Highest Building/Contents Value at Risk of Potential Building Flood Damage

Parcel ID	Total Value of Building(s) + Building's Contents on Parcel	Class Description	Building Area (ft ²)
323-208-160	\$52,948,710	Education - Grade School	406,340
323-208-250	\$39,806,212	Education - College/University	173,362
323-200-201	\$18,127,824	Commercial - Retail Trade	639,385
323-203-540	\$11,804,385	Education - College/University	26,548
323-202-071	\$9,601,100	Religion - Church or Non-profit org.	56,101
323-200-340	\$7,578,102	Industrial - Light	109,883
241-150-091	\$6,837,430	Industrial - Light	297,624
323-208-151	\$6,776,500	Industrial - Light	110,982
324-610-120	\$5,303,746	Commercial - Retail Trade	135,398
240-600-060	\$4,847,908	Industrial - Light	130,950
Total	\$163,631,917		

Figure 17. Census Block #271696707002094 and 100-Year Floodplain in Winona City

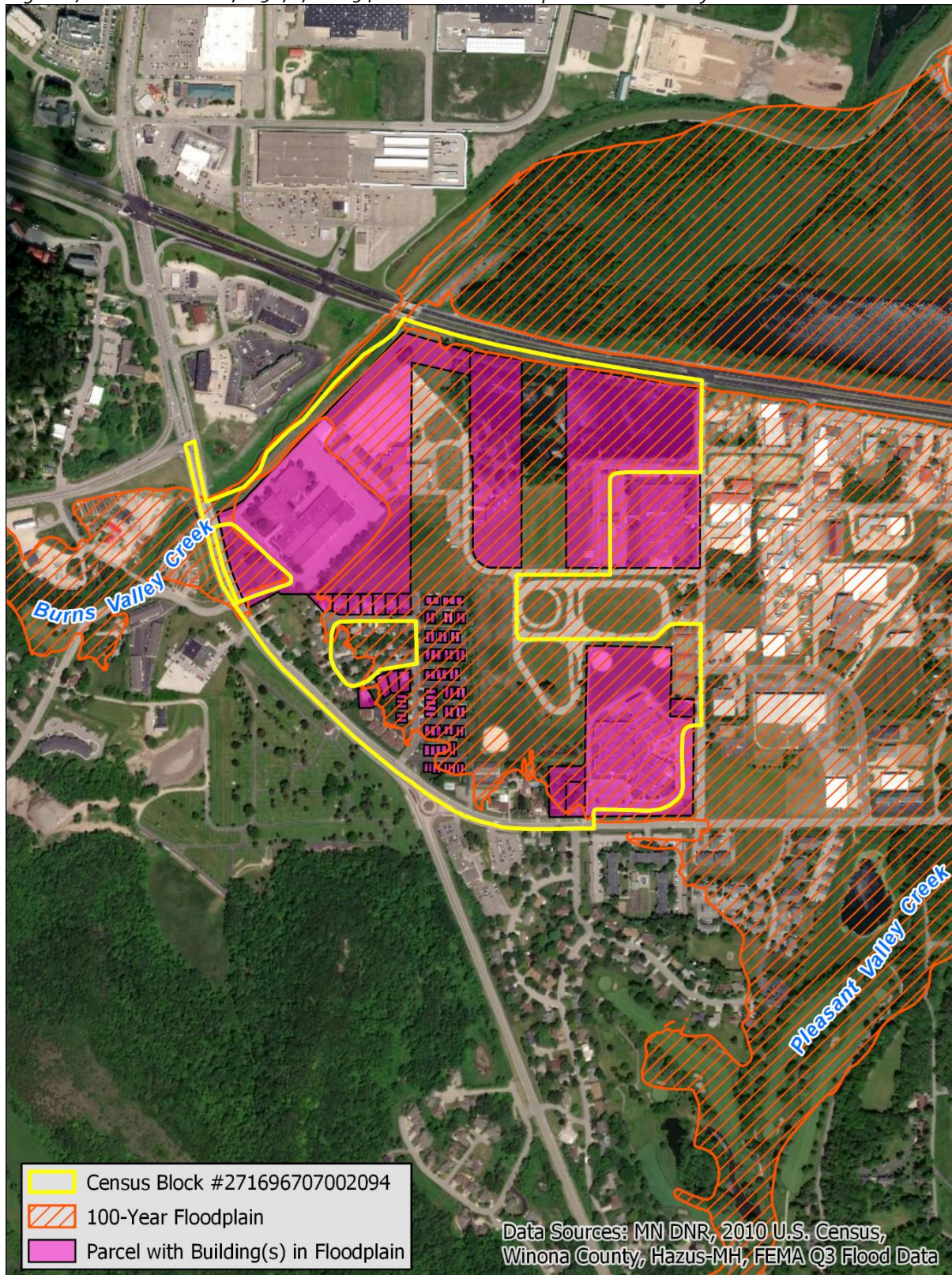
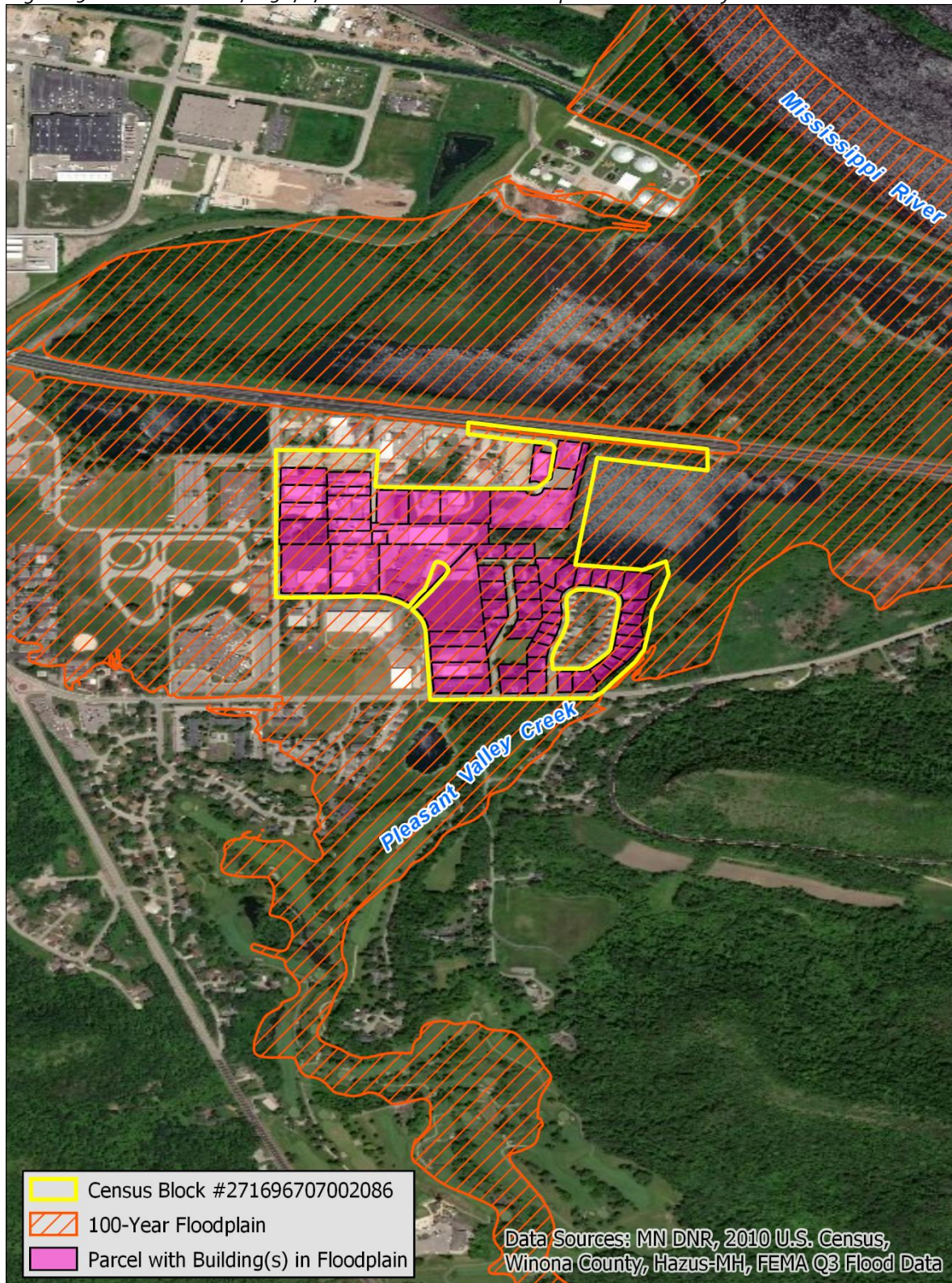


Figure 18. Census Block #271696704001036 and 100-Year Floodplain in Winona City



Figure 19. Census Block #271696707002086 and 100-Year Floodplain in Winona City



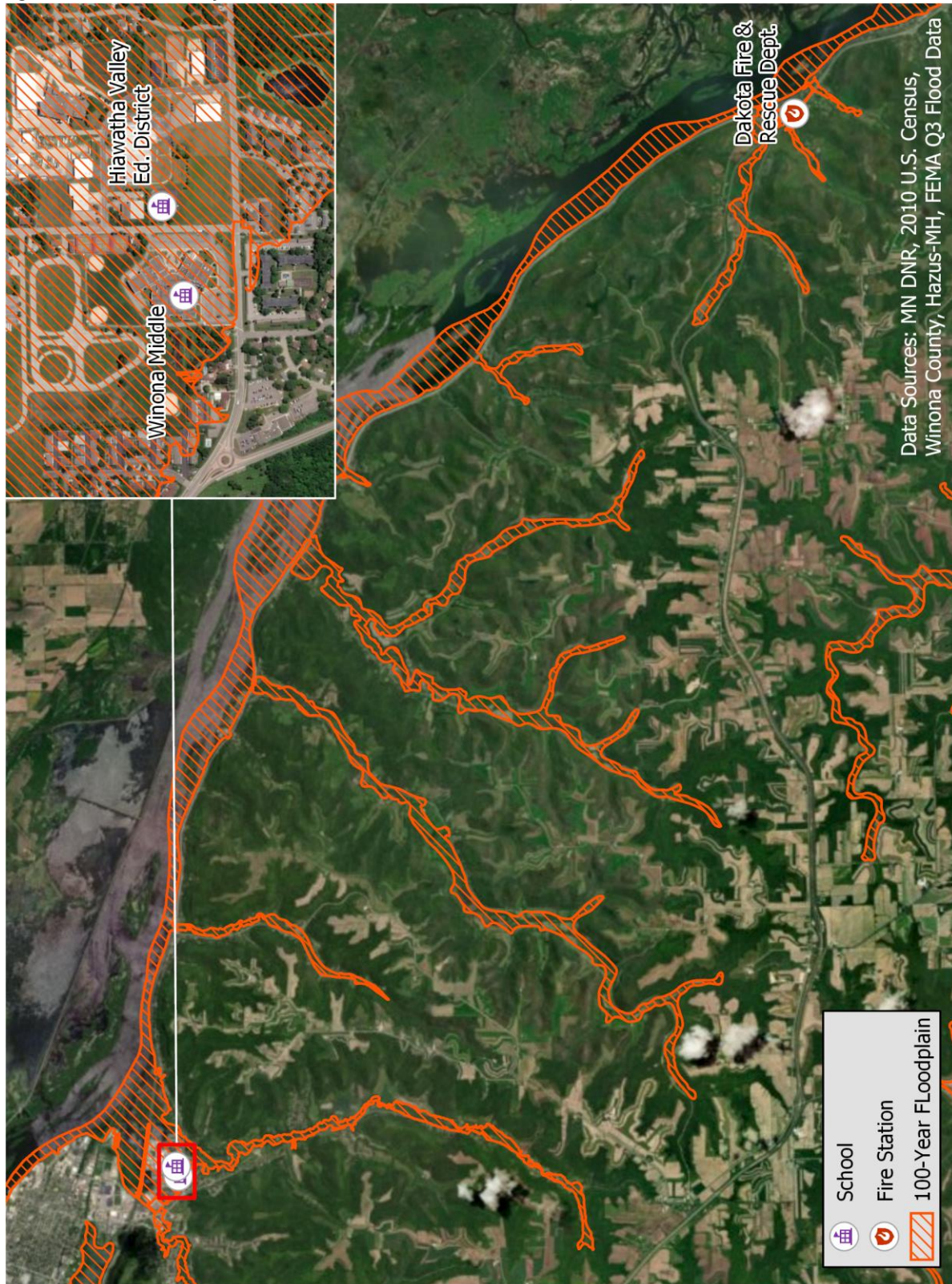
Hazus Essential Facility Loss Analysis

Essential facilities encounter the same impacts as other buildings within the flood boundary: structural failure, extensive water damage to the facility, and loss of facility functionality (i.e. a damaged police station will no longer be able to serve the community). The essential facilities that are within the 100-year floodplain are listed in Table 24 and displayed in Figure 20.

Table 24. Winona County Essential Facilities within estimated 100-Year Flood Boundary

Type	Name	Address	City
Fire Station	Dakota Fire Department	725 Frontage Road	Dakota
School	Hiawatha Valley Ed. District	1410 Bundy Blvd.	Winona
School	Hiawatha Valley Ed District ESY	1410 Bundy Blvd.	Winona
School	Winona Middle School	1570 Homer Rd	Winona

Figure 20. Winona County Essential Facilities in the 100-Year Floodplain



Hazus Shelter Requirement Analysis

Hazus estimates the number of households that are expected to be displaced from their homes due to the flood and the associated potential evacuation. Hazus also estimates those displaced people that may require accommodations in temporary public shelters. The model estimates 737 households may be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, the model estimates 92 people (out of a total population of 51,461) may seek temporary shelter in public shelters.

Hazus Debris Generation Analysis

Hazus estimates the amount of debris that may be generated by the flood. The model breaks debris into 3 general categories: 1) Finishes (dry wall, insulation, etc.), 2) Structural (wood, brick, etc.) and 3) Foundations (concrete slab, concrete block, rebar, etc.). This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 25,365 tons of debris will be generated. Of the total amount, Finishes comprises 26% of the total, Structural comprises 42% of the total, and Foundation comprises 31%. If the debris tonnage is converted into an estimated number of truckloads, it would require 1,015 truckloads (at 25 tons/truck) to remove the debris generated by the flood.

Flooding and Climate Change

As Minnesota's climate changes, the quantity and character of precipitation is changing. Average precipitation has increased in the Midwest since 1900, with more increases in recent years. The Midwest has seen a 45% increase in very heavy precipitation (defined as the heaviest 1% of all daily events) from 1958 to 2011 (National Climate Assessment Development Advisory Committee, 2013). This precipitation change has led to amplified magnitudes of flooding. Increased precipitation may also show seasonal changes, trending toward wetter springs and drier summers and falls. An example of a recent year with this character was 2012, when many MN counties were eligible for federal disaster assistance for drought, while others were eligible for flooding, and 7 were eligible for both in the same year (Seeley, 2013). In 2007, 24 Minnesota counties received drought designation, while 7 counties were declared flood disasters. In 2012, 55 Minnesota counties received federal drought designation at the same time 11 counties declared flood emergencies. In addition, the yearly frequency of the largest storms – those with 3 inches or more of rainfall in a single day – has more than doubled in just over 50 years. In the past decade, such dramatic rains have increased by more than 7% (MN Environmental Quality Board, 2014).

Southeastern Minnesota has experienced three 1000-year floods in the past decade: in September 2004, August 2007, and September 2010 (Meador, 2013). The 2004 flood occurred when parts of south-central Minnesota received over 8 inches of precipitation. Faribault and Freeborn counties received over 10 inches in 36 hours. The deluge led to numerous reports of stream flooding, urban flooding, mudslides, and road closures (MN DNR, 2004). During the 2007 event, 15.10 inches fell in 24 hours in Houston County, the largest 24-hour rainfall total ever recorded by an official National Weather Service

reporting location. The previous Minnesota record was 10.84 inches in 1972. The resulting flooding from the 2007 rainfall caused 7 fatalities (MN DNR, 2007). In September 2010, a storm on the 22-23rd resulted in more than 6 inches of rain falling over 5,000 square miles in southern Minnesota. Rainfall totals of more than 8 inches were reported in portions of 10 counties. The heavy rain, falling on soils already sodden from a wet summer, led to numerous reports of major rural and urban flooding. For many monitoring locations in southern Minnesota, stream discharge resulting from the deluge was the highest ever seen during an autumn flood (Minnesota Climatology Working Group, 2010).

June 2014 was the wettest month on record in Minnesota, with a state-averaged rainfall of 8.03 inches. This broke the previous record of 7.32 inches, which occurred in both July 1897 and June 1914. Rainfall totals for much of the state ranked above the 95th percentile when compared with the historical record; in some cases the totals tripled that of the historical rainfall average for June. Scott County received between 10-12 inches of rain during June 2014 (MN DNR, 2014). A presidential disaster declaration was declared due to the severe storms, winds, flooding, landslides, and mudslides (DR-4182), which included 37 Minnesota counties and 3 Indian Reservations.

Plans and Programs in Place

Emergency Operations Plan – Winona County maintains an all hazards EOP that contains information applicable to flooding: evacuation plans, mass notification systems, sheltering information, etc.

Public Warning/Mass Notification – In the event of emergencies or hazardous conditions that require timely and targeted communication to the public, Winona County utilizes the CodeRed Mass Notification System, Winona County and Winona County Sheriff's Office Facebook pages, and local news media. Winona County promotes the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. Local newspaper and radio stations assist with sharing public information.

County Office of Planning & Zoning – Winona County Planning & Zoning administers land use and zoning ordinances for rural portions of Winona County, including for floodplains and shoreland. According to MN Statute, Planning & Zoning also coordinates and administers the county's Comprehensive Water Plan, develops and implements strategies to protect and enhance shoreland and overall water quality, and administers the Natural Resource Block Grant (NRBG) funds. This includes that portion of the Root River Comprehensive Watershed Management Plan that is within Winona County. The SWCD also assists with the implementation of the water plan strategies.

County Shoreland Ordinance – The Winona County Shoreland Ordinance (which is contained in the Winona County Zoning Ordinance) was adopted by the Winona County Board to regulate development within shoreland areas. The classification of lakes as well as setbacks, maximum impervious surface coverage, bluffs, vegetation and topographic alterations are addressed in this ordinance. Grading and filling and erosion control permits are specified per requirements.

Winona County Highway Department – Winona County’s Highway Department oversees maintenance for county roads and bridges, including:

- 385 miles of County Roads, including 325 miles paved and 60 miles aggregate surface
- 447 miles of Township Roads
- 211 bridges, including 200 county/township/small city bridges and 11 city of Winona bridges.

Mitigation Grant Planning for Roads & Bridges (Post-Disaster) – Approximately half of Winona County’s road mileage is functionally classified as major collector or above, thus is eligible for disaster funding under the FHWA Emergency Relief program, and thus is *ineligible* for FEMA Public Assistance under the Stafford Act. According to guidance from FEMA, “Opportunities for mitigation usually present themselves during the repair and replacement efforts following a disaster. Section 406 provides discretionary authority to fund mitigation measures in conjunction with the repair of damaged facilities.” Winona County anticipates any mitigation measures on public road or bridge facilities would take place under Section 406 of the Stafford Act as discussed above. Undamaged facilities may be eligible for hazard mitigation funding under Section 404 of the Stafford Act. As of the preparation of this document, Winona County is not aware of any specific local road or bridge facilities that should be identified in a Hazard Mitigation Plan for potential mitigation under Section 404.

Winona County Blufflands Ordinance – Included in the Winona County Zoning Ordinance, these standards aim to protect the public from injury and property damage due to flooding, erosion and other natural hazards that may be intensified by development.

National Flood Insurance Program (NFIP) – The NFIP is a federal program created by Congress to mitigate future flood losses nationwide through sound, community-enforced building and zoning ordinances and to provide access to affordable, federally-backed flood insurance protection for property owners. The NFIP is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. Participation in the NFIP is based on an agreement between local communities and the federal government that states that if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas (SFHAs), the federal government will make flood insurance available within the community as a financial protection against flood losses. Table 25 below has the NFIP status of Winona County and its municipalities.

Table 25. Winona County Participation in the NFIP

Community Name	County	NFIP Participation	FEMA Flood Risk Mapping
La Crescent	Houston & Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Minneiska	Wabasha & Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Altura	Winona	NOT Participating	No FEMA Mapped High Risk Areas
Dakota	Winona	Participating in NFIP	FEMA Mapped High Risk Areas

Community Name	County	NFIP Participation	FEMA Flood Risk Mapping
Elba	Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Goodview	Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Lewiston	Winona	Participating in NFIP	No FEMA Mapped High Risk Areas
Minnesota City	Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Rollingstone	Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Saint Charles	Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Stockton	Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Utica	Winona	NOT Participating	No FEMA Mapped High Risk Areas
Winona	Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Winona County	Winona	Participating in NFIP	FEMA Mapped High Risk Areas

Public Water Supply Management – The provisions of the 1996 amendments to the federal Safe Drinking Water Act required the Drinking Water Protection Section and Environmental Health Division of the Minnesota Department of Health to work with community and non-community public water suppliers in assessing, planning, and implementing a variety of activities to protect the safety of all public water supplies in the state. Threat level was assessed and priority given to those water systems at the greatest risk. All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans.

Private Water Supply Protection – The protections required by the Safe Drinking Water Act for public water suppliers are not required for private wells. Winona County and many agencies work to reduce the over-application of fertilizer, manure, and pesticides relating to agricultural activities which impact private wells. The Point of Sale requirement in the Winona County Zoning Ordinance requires inspection of septic systems at time of property transfer and requires upgrades to those not performing as required by law. Grants exist to assist low income and others in offsetting the costs of septic replacement which reduces impacts to groundwater. In addition, the Winona County Office of Planning & Environmental Services provides access to water test kits and works individually with well owners to trouble shoot their water supplies and implement management or treatment technologies making them as safe as possible if well replacement is not practical. All of these efforts help to mitigate issues with the safety of private water supplies in advance of a high-rain or flooding event that could worsen at-risk private wells.

Winona County Comprehensive Local Water Management Plan – The Winona County Water Management Plan (2015-2025) establishes goals and a related set of objectives and actions intended to protect, enhance and manage water resources within Winona County in cooperation with local, regional and state partners. The plan outlines 4 priority areas of concern:

1. *Water Quality*: This concern involves protecting groundwater; addressing Clean Water Act impairments and protecting surface waters; and effectively managing those land areas at the water / land interface such as riparian lands, floodplains, and sensitive groundwater recharge areas in karst settings.
2. *Soil Erosion, Sediment Control and Stormwater Management*: This concern addresses steep topography and extreme soil erosion potentials. Control of erosion and sediment is a concern on agricultural lands and for residential and urban development. Effective stormwater management includes water retention and infiltration that reduces soil erosion, improves hydrologic processes and reduces flooding.
3. *Nutrient, Manure, and Human Waste Management*: Wastes generated from feedlots and from septic systems are assumed to contribute to the Clean Water Act recreational impairments as measured by excess levels of fecal coliform in several County streams. Wastes from feedlots and septic systems as well as from commercial fertilizers can contribute to the high nitrate concentrations found in some wells and streams in the county.
4. *Watershed Management Approach*: This approach provides a context for integrating programs, and emphasizing and addressing the most significant concerns in any given watershed.

The Root River Comprehensive Watershed Management Plan (2016) also covers the Root River watershed area of Winona County.

Floodplain Mapping – Winona County's GIS Department maintains the floodplain maps for the county.

County Watershed Management Organizations – There are two watershed district management organizations within the county that work on the protection and restoration of natural systems to reduce erosion, flooding, and protect surface and ground waters:

- *Stockton-Rollingstone-Minnesota City Watershed District* – The SRMC develops and maintains a water management plan for the Stockton-Rollingstone-Minnesota City Watershed District. This watershed district lies in the Buffalo – Whitewater Watershed and is part of the Lower Mississippi River Basin. The District corresponds to the geographical extent of the Garvin Brook Watershed and lies entirely within Winona County. The District consists of eleven minor watersheds. The major streams within the District are Garvin Brook, Stockton Valley Creek, and Rollingstone Creek. Stockton Valley Creek flows into Garvin Brook just above Stockton. Garvin Brook continues downstream until it converges with Rollingstone Creek above Minnesota City, before discharging into the Mississippi River within the Upper Mississippi River National Wildlife and Fish Refuge.
- *Whitewater Joint Power Board* – The Whitewater Joint Powers Board facilitates development and implementation of a 10-year working action plans for the Mississippi River-Winona Watershed. The Mississippi River-Winona watershed covers 419,200 acres in Wabasha, Winona, and Olmsted counties in southeast Minnesota. The Whitewater River falls within this watershed

and is well known for its state park and trout fishing. A majority of the watershed is cropland, with forest and grassland covering large portions as well. Only a small percentage of the watershed is developed. The river discharges into the Mississippi River at Weaver Bottoms, an important Mississippi River backwater and waterfowl staging area. The largest city in the watershed is Winona (pop. 27,000), located on the Mississippi River.

Program Gaps & Deficiencies

Increasing Culverts and Raising Roads – Planning and Water & Public Works. Areas needing more specific analysis and planning are infrastructure that is prone to extreme flooding. Action steps to come out of this need are:

1. ID County and local infrastructure prone to flooding in extreme events (over 100 year).
2. Determine additional modeling or analysis needed.
3. Determine priority areas.

Flash Flood Warnings – Flash flood warning systems should be explored for areas that are high-risk for flash flooding. Emergency notifications for flash flooding has some gaps. Our geography of steeply incised valleys create dead zones where mobile/cellular radio communication is not currently possible. The city of Stockton has been identified as an area of need for improved cellular coverage due to its flood risk and history of flood-related emergencies.

Floodplain Mapping – Floodplain mapping needs to be updated for Winona County as the most current one on file was done in the 1980s. The new FEMA floodplain maps for Winona County are expected to be completed in 2019.

Wellhead Protection Plans – All of the cities within Winona County either have an approved plan or currently have one under development. The Wellhead Protection Plan presents the actions that will be taken to manage potential contamination sources that may present a risk to the quality of the community's drinking water. Flooding events may contribute to the risk of drinking water supply system contamination.

Community Planning – Small communities often lack resources and expertise to initiate and carry out long-range planning activities. In communities where flooding is frequent, planning for recovery, future growth, and land use can be an effective way to mitigate flood risk.

4.4.6 Severe Winter Storms – Blizzards, Ice Storms

Blizzards are storms that contain heavy snowfall, strong winds, and cold temperatures. The combination of these elements creates blinding snow with near zero visibility, deep snowdrifts, and life-threatening wind chill temperatures. Blizzards are the most dramatic and destructive of all winter storms that occur within Winona County, and are generally characterized as storms bearing large amounts of snow accompanied by strong winds. They have the ability to completely immobilize travel in large areas and can be life-threatening to humans and animals in their path. According to the

National Weather Service (NWS), there is no fixed temperature requirement for blizzard conditions, but the life-threatening nature of low temperatures in combination with blowing snow and poor visibility increases dramatically when temperatures fall below 20° F. Blizzards typically occur between October and April; however, they occur most frequently from early November to late March.

The greatest numbers of blizzards historically have occurred in the months of January, followed by March and November, respectively. Winona County, along with all areas of Minnesota, is susceptible to blizzards.

Damages from blizzards can range from human and livestock deaths to significant snow removal costs. Stranded drivers can make uninformed decisions, such as leaving the car to walk in conditions that put them at risk. Because of the blinding potential of heavy snowstorms, drivers are also at risk of collisions with snowplows or other road traffic.

Figure 21. Armistice Day Blizzard, 1940



Drivers and homeowners without emergency plans and kits are vulnerable to the life-threatening effects of heavy snow storms such as power outages, cold weather, and inability to travel, communicate, obtain goods or reach their destinations. Heavy snow loads can cause structural damage, particularly in areas where there are no building codes or where residents live in manufactured home parks. The frequency of structural fires tends to increase during heavy snow events,

primarily due to utility disruptions and the use of alternative heating methods by residents.

Between the years of 1975 and 1991, there were 49 deaths associated with blizzards statewide, or an average of 3 deaths per year. Deaths attributable to blizzards have dropped in recent years, primarily due to increased weather awareness and warning capabilities across the state. The economic costs of winter storms are generally not recorded by the NCEI; however, a winter storm in November 2001 resulted in property damage of \$500,000.

Ice storms are described as occasions when damaging accumulations of ice occur due to freezing rain. The terms freezing rain and freezing drizzle warn the public that a coating of ice is expected on the ground and other exposed surfaces. Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers.

Communications and power can be disrupted for days while utility companies work to repair extensive damage. Ice forming on exposed objects generally ranges from a thin glaze to coatings more than 1 inch thick. Even small accumulations of ice on sidewalks, streets, and highways may cause extreme

hazards to Winona County motorists and pedestrians. Sleet does not stick to trees and wires, but sleet of sufficient thickness does cause hazardous driving conditions. Heavy sleet is a relatively rare occurrence, defined as an accumulation of ice pellets covering the ground to a depth of ½-inch or more.

Ice and sleet storms typically occur from October through April. The NWS notes that over 85% of ice storm-related deaths are the result of traffic accidents. According to the NCEI, 5 ice storms have occurred in the county since 1998.

Observing winter storm watches and warnings and adequate preparation can lessen the impact of blizzard events in Minnesota. Technical advances made in transportation, including safer vehicles and improved construction and maintenance of roads, have also contributed to the decline in deaths related to blizzards. Historical estimates of dollar losses associated with blizzards were not available for the purposes of this analysis. However, costs incurred by state and local government for snow removal associated with disaster declaration DR-1158 (January 1997) totaled over \$27,300,000 dollars. Blizzards rank 9th out of the 10 natural hazards economically impacting Minnesota according to the statewide risk analysis. The chance that another winter storm affecting Winona County will occur is highly probable.

Severe Winter Storm History in Winona County

The total of recorded events defined as heavy snows, blizzards, winter weather, ice storms and winter storms in Winona County recorded by the NCEI for the period from 1996 to April 2018 is 82. An overview of some of the most notable winter storm events can be found in Table 26 below.

Table 26. Notable Winter Weather Events in Winona County

Date	Type	Property Damage	Deaths	Injuries	Description
11/11/2017	Winter Weather	\$20,000	0	2	Two people were transported to the hospital after being injured in separate crashes along Interstate 90 across southern Winona County. The crashes resulted from icy roads after a period of freezing rain coated untreated roads.
2/01/2016	Winter Weather	\$8,000	2	3	Two people were killed and another injured in a two-car accident of US Highway 61 in Winona County. Temperatures the day before the accident warmed above freezing allowing some snowmelt to occur and this moisture then likely formed icy spots when temperatures dropped into the 20s. Two other accidents, with non-life threatening injuries, also occurred on icy spots on US Highway 61.

Date	Type	Property Damage	Deaths	Injuries	Description
12/20/2010	Winter Storm	\$17,000	0	0	Snow fell across the county, producing accumulations of 4 to 6 inches. A period of freezing drizzle occurred once the snow ended and produced up to an eighth of an inch of icing. The weight of the snow caused two buildings roofs to collapse.
1/26/1996	Blizzard	<i>unknown</i>	0	0	Heavy snow and strong winds brought blizzard conditions to Winona County. Snowfall totals were 10 inches in Winona. Many roads were closed in southeast Minnesota.

Severe Winter Storms and Climate Change

Historically, winter storms have had a large impact on public safety in Minnesota. This will continue, with a possible increase in snowstorm frequency and annual total snowfall. Winter weather is often a cause of power outages. Pressures on energy use, reduced reliability of services, potential outages and the potential rise in household costs for energy are major climate change risks to public health.

According to the 2015 Minnesota Weather Almanac, a recent study of seasonal snowfall records across the state from 1890-2000 showed that 41 of 46 climate stations recorded an increase in average annual snowfall, by as much as 10 inches. Higher snowfall levels can result in greater runoff potential during spring snowmelt, and many watersheds in Minnesota have shown more consistent measures of high-volume flows during spring, often at or above flood stage (Seeley M. , 2015).

Vulnerability

The number of heavy snowfall years for the Midwest has fluctuated between 1900 and 2006. The periods of 1900-1920 and 1960-1985 had numerous years with snowfall totals over the 90th percentile. In the past 3 decades, the number of heavy seasonal snowfall totals has been much lower. Despite these generally lower seasonal snowfall totals, some areas of the Midwest have still experienced significant snow totals in the most recent decade. The 100-year linear trends based on decadal values show that the upper Midwest had statistically significant (1% level) upward linear trends in snowstorm frequency from 1901 to 2000 (Kunkel, et al., 2013).

Winter storms affect Winona County each year, so there is a 100% probability that the county and its jurisdictions will be affected annually. The amount of snow and ice, number of blizzard conditions, and days of sub-zero temperatures each year are unpredictable and within Winona County the vulnerability of jurisdictions to winter storms does not vary geographically. Citizens living in climates such as these must always be prepared for situations that put their lives or property at risk. It is not always the size of the storm or the depth of the cold, but an unprepared individual with a vehicle breakdown or lack of a personal winter safety kit that are at risk. Rural citizens are more vulnerable to issues with deep snow.

The vulnerability of each jurisdiction to severe winter storms has not changed due to any development in the last 5 years.

Severe Winter Storms and Electrical Outages

The leading cause of electric outages in Minnesota during 2008 to 2013 was weather/falling trees. Between 2008 and 2013, the greatest number of electric outages in Minnesota occurred during the month of March (U.S. Department of Energy, 2015).

Plans and Programs in Place

Emergency Operations Plan – Winona County maintains an Emergency Operations Plan, which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions.

Public Warning and Notification – In the event of emergencies or hazardous conditions that require timely and targeted communication to the public, Winona County utilizes the CodeRed Emergency Notification System, the County Sheriff's Office Facebook page and local news media. The County promotes the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. Local newspaper and radio stations and their websites may assist with sharing public information.

Winter Weather Warnings – Winter weather warnings are issued by the National Weather Service office in La Crosse, WI. Winona County has an Emergency Closing of County Government Offices policy in place.

Winter Hazard Awareness Week – Winona County helps promote and participates in the National Weather Service's "Winter Hazard Awareness Week" held in November each year. The event provides education to residents on the dangers of winter weather and how to properly deal with it.

School Closings – All school districts within the county have a school closing policy and communications plan in place if inclement weather or temperatures create a hazardous situation for students or staff.

Backup Power – The Winona County Government Center has generator backup power, as does the Courthouse. The Law Enforcement Center (LEC) has a generator that provides power to the jail, Sheriff's Office, Dispatch and primary EOC. The county office building also has a generator that powers the county data center.

Snow Removal – The county, cities and townships complete snow removal and disperse sand/salt as needed on all county, city and township roads. MNDOT removes snow from state highways as well as disperses salt/sand as needed.

Program Gaps & Deficiencies

Aboveground Power Lines – A majority of the power lines in the county are aboveground and subject to damage from ice storms, wind and falling tree limbs. Power lines that are aboveground are susceptible to coming down during severe winter storms, resulting in power outages.

Backup Power – Not all city facilities have backup power to continue operations in the event of an outage.

Communications – Not all residents have opted in to the CodeRed notification system for cell phones, or have updated phone numbers, and not all own weather radios or follow our Facebook page to receive important messages. The new I-PAWS system, however, covers all media.

COOP (Continuity of Operations Plan) – Currently, Winona County has a 2009 countywide COOP plan that identifies how the execution of essential functions will continue to be performed during a wide range of emergencies, including localized acts of nature, but it has yet be adopted.

4.4.7 Extreme Cold

Winter in Winona County can be severe, and especially dangerous for disabled citizens and outdoor workers. Record temperature lows and arctic-like wind chills can cause cold-related illnesses such as frostbite and hypothermia, which can be deadly. Hypothermia is the greatest and most life-threatening cold weather danger.

In Winona County, cold winter weather can have severe or fatal impacts. Hypothermia occurs when the core body temperature drops below 96° F. Anyone who is exposed to severe cold without enough protection can develop hypothermia. Frostbite occurs when skin tissue and blood vessels are damaged from exposure to temperatures below 32° F. It most commonly affects the toes, fingers, earlobes, chin, cheeks, nose, and other body parts that are often left uncovered in cold temperatures. The NWS issues “Extreme cold” warnings when it feels like -30° F or colder across a wide area for several hours. Extreme cold watches are issued a day or two before the conditions are expected.

Medical costs related to extreme heat and cold can be enormous: in 2005 the total was \$1.5 billion nationwide, or more than \$16,000 per patient (Union of Concerned Scientists, 2009).

Below zero temperatures occur almost every winter in Minnesota. January is the coldest month, with daytime highs averaging 20° F and nighttime lows averaging 2° F. However, these averages do not tell the whole story. Maximum temperatures in January have been as high as 61° F and minimums as low as 36° F below zero.

Extreme cold temperatures affect the county nearly every year. Extremely cold air settled over Minnesota on January 31st of 1996, and remained entrenched through February 4th. A new record low temperature for Minnesota was set in the town of Tower on February 2, 1996, at -60° F. Numerous record low temperatures were set during the period at St. Cloud, Rochester and the Twin Cities. Minneapolis/St. Paul set 3 new record low temperatures as well as recording the 2nd coldest day on

record on February 2, 1996. A mean temperature of -25° F was measured that day with a high of -17° F and a low of -32° F in the Twin Cities. This was within 2 degrees of tying the all-time record low temperature set in the Twin Cities and the coldest temperature recorded this century. Many central and southern Minnesota locations set new record low temperatures the morning of the 2nd. The Governor closed all schools that day.

In February of 2014, nearly all of Minnesota was between 10-15° F colder than normal (1981-2010 period) (High Plains Regional Climate Center, 2014). The winter of 2013-2014 was the sixth coldest on record in Minnesota (The Weather Channel, 2014), with schools in the Twin Cities canceling 5 times in January due to dangerous wind chills. It was the coldest winter in the Twin Cities in 35 years, with an average temperature for December-February of 9.7° F (MN DNR, 2014). Many areas in the state also experienced higher than average precipitation through the winter and spring months.

Extreme Cold History in Winona County

January is the coldest month on average in Winona, with an average low of 9° F. The lowest temperature ever recorded there occurred in 1951, when it fell to -32° F (Intellicast, 2018).

The National Centers for Environmental Information (NCEI) has recorded 8 extreme cold/wind chill events since 2007. No deaths or injuries were reported.

Extreme Cold and Climate Change

Although climate research indicates that Minnesota's average winter lows are rising rapidly, and our coldest days of winter are now warmer than we have ever recorded (NCEI, Climate at a Glance: Statewide Mapping, 2018), cold temperatures have always been a part of Minnesota's climate and extreme cold events will continue. An increase in extreme precipitation or storm events such as ice storms as the climate changes could lead to a higher risk of residents being exposed to cold temperatures during power outages or other storm-related hazards during extreme cold.

Vulnerability

Extreme cold temperatures affect the county nearly every year. The amount of snow and ice, number of blizzard conditions, and days of sub-zero temperatures each year are unpredictable

Within Winona County the risk of extreme cold does not vary geographically. Citizens living in climates such as these must always be prepared for situations that put their lives or property at risk. It is not always the depth of the cold, but an unprepared individual with a vehicle breakdown or lack of a personal winter safety kit that are at risk. Rural citizens not connected to city gas lines are more vulnerable to issues with extreme cold. The vulnerability of each jurisdiction to extreme cold has not changed due to any development in the last 5 years.

Plans and Programs in Place

Emergency Operations Plan – Winona County maintains an Emergency Operations Plan, which is designed as a guide for emergency operations. It is intended to assist key county/city officials and

emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions.

Public Warning and Notification – In the event of emergencies or hazardous conditions that require timely and targeted communication to the public, Winona County utilizes the CodeRed Notification System, along with IPAWs, Winona County Sheriff’s Office Facebook page and local news media. Winona County promotes the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. Local newspaper & radio stations assist with sharing public information.

School Closings – All school districts within Winona County have a school closing policy and communications plan in place if inclement weather or temperatures create a hazardous situation for students or staff.

Mass Care Shelter Facilities – A period of extreme cold coupled with a major power outage may require emergency sheltering for those in need. Winona County has designated shelter facilities that have agreements with the Red Cross.

Winter Hazard Awareness Week – Winona County participates in the public outreach for winter safety information to the general public, schools, businesses and government agencies.

Program Gaps & Deficiencies

Mass Care Shelter Facilities – Most of our identified mass care shelters are schools. This is problematic because they may not be able to host a shelter when school is in session. Locations such as community centers and faith-based organizations that would be able to host shelters throughout the year need to be identified.

Generators for Backup Power to Shelter Facilities – In the event of a power outage during a period of extreme cold, designated shelters (primarily schools) must be ready to provide either temporary or extended periods of sheltering for those in need. Designated shelter facilities should ensure that they have generator backup power to provide heat if there is a loss of power.

4.4.8 Extreme Heat

Humans need to maintain a constant body temperature if they are to stay healthy. Working in high temperatures induces heat stress when more heat is absorbed into the body than can be dissipated out. Heat illness such as prickly heat, fainting from heat exhaustion, or heat cramps are visible signs that people are working in unbearable heat. In the most severe cases, the body temperature control system breaks down altogether and body temperature rises rapidly. This is a heat stroke, which can be fatal. The NWS issues a heat advisory when, during a 24-hour period, the temperature ranges from 105° F to 114° F during the day, and remains at or above 80° F at night.

Extreme heat events are linked to a range of illnesses, even death, and can exacerbate pre-existing chronic conditions such as cardiovascular, respiratory, liver, and neurological diseases, endocrine

disorders, and renal disease or failure. Populations who are most vulnerable to extreme heat include persons over 65 or under 5 years old; living alone, without air-conditioning, or residing on the topmost floor of a building; and with an income at or below the poverty line. People who are exposed to heat because of recreational activities or job-related activities also are more vulnerable, including athletes, construction workers, and landscape/agricultural workers (Adapting to Climate Change in Minnesota: 2013 Report of the Interagency Climate Adaptation Team, 2013).

Medical costs related to extreme heat and cold can be enormous: in 2005 the total was \$1.5 billion nationwide, or more than \$16,000 per patient (Union of Concerned Scientists, 2009).

Extreme Heat History in Winona County

July is the hottest month on average in Winona, with an average high of 85° F. The highest temperature ever recorded there occurred in 1936, when it rose to 108° F (Intellicast, 2018).

The National Centers for Environmental Information has recorded 1 instance of extreme heat in Winona County since 1950. This event occurred in the July of 2011. No deaths or injuries were reported. Afternoon heat indices during this 3-day event topped out between 110 and 120° F (NCEI, 2018).

Extreme Heat and Climate Change

Minnesota's average temperature has increased more than 1.5°F since recordkeeping began in 1895, with increased warming happening in recent decades (International Climate Adaptation Team, 2013). Annual temperatures in the Midwest have generally been well above the 1901-1960 average since the late 1990s, with the decade of the 2000s being the warmest on record (Kunkel, et al., 2013). 7 of Minnesota's 10 warmest years occurred in the last 15 years. Projected increases are 2° F to 6° F more by 2050 and 5° F to 10° F by 2100 (MN Environmental Quality Board, 2014). The Midwest has experienced major heat waves and their frequency has increased over the last 6 decades (Perera, et al., 2012). For the U.S., mortality increases 4% during heat waves compared with non-heat wave days (Anderson & Bell, 2011). During July 2011, 132 million people across the U.S. were under a heat alert – and on July 20 the majority of the Midwest experienced temperatures in excess of 100° F. Heat stress is projected to increase as a result of climbing summer temperatures and humidity (Schoof, 2012). On July 19, 2011, Moorhead Minnesota set a new state record for the hottest heat index ever, at 134° F. That same day, Moorhead also recorded a new state record for the highest dew point at 88. It was the hottest, most humid spot on the planet that day (Douglas, 2011).

Statistics from NOAA show that there are more human fatalities each year due to heat waves than from floods, lightning, tornadoes and winter storms. Many cities have responded by creating Heat Wave Response Plans to ensure that those in marginal health without air conditioning can obtain the relief and care they need, and the Minnesota Department of Health developed the Extreme Heat Toolkit to help educate at-risk populations on how to reduce risks associated with heat waves (Seeley M., 2015).

Increasing temperatures impacts Minnesota's agricultural industry. Agriculture is highly dependent on specific climate conditions. As a result of increasing temperatures, crop production areas may shift to new regions of the state where the temperature range for growth and yield of those crops is optimal. According to the National Climate Assessment, the Midwest growing season has lengthened by almost 2 weeks since 1950 due in large part to earlier timing of the last spring freeze. This trend is expected to continue. While a longer growing season may increase total crop production, other climate changes, such as increased crop losses and soil erosion from more frequent and intense storms, and increases in pests and invasive species, could outweigh this benefit. There may also be higher livestock losses during periods of extreme heat and humidity. Losses of livestock from extreme heat lead to a challenge in the disposal of animal carcasses. Currently there are only 2 rendering facilities in Minnesota available for livestock disposal. If a rendering facility is not available, lost livestock must be composted on an impervious surface. If losses are high, finding an impervious surface large enough is a challenge. In an attempt to adapt to increased temperatures, livestock areas in Minnesota may shift farther north. As a result of new livestock areas and the resulting manure production, farmers may transition to manure-based fertilizer applications in areas where traditionally only commercial fertilizers have been used, with accompanying environmental advantages and disadvantages (Adapting to Climate Change in Minnesota: 2013 Report of the Interagency Climate Adaptation Team, 2013). In order to minimize the detrimental effects of heat stress on animal metabolism and weight gain, Minnesota farmers have also begun redesigning and retrofitting dairy, hog, and poultry barns with better watering, feeding, and ventilation systems (Seeley M. , 2015).

Vulnerability

Within Winona County the risk of extreme heat does not vary geographically. The vulnerability of each jurisdiction to extreme heat has not changed due to any development in the last 5 years.

Plans and Programs in Place

Emergency Operations Plan – Winona County maintains an Emergency Operations Plan, which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions.

Public Warning and Notification – In the event of emergencies or hazardous conditions that require timely and targeted communication to the public, Winona County utilizes the CodeRed Notification System, IPAWS, the Sheriff's Office Facebook page and local news media. Winona County promotes the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. Local newspaper & radio stations assist with sharing public information.

School Closings – All school districts within Winona County have a school closing policy and communications plan in place if inclement weather or temperatures create a hazardous situation for students or staff.

Mass Care Shelter Facilities – A period of extreme heat coupled with a major power outage may require emergency sheltering for those in need. Winona County has designated shelter facilities that have agreements with the Red Cross.

Severe Weather Awareness Week – Winona County helps promote and participates in the National Weather Service’s “Severe Weather Awareness Week” held in April each year. The event seeks to educate residents on the dangers of severe summer storms and highlights the importance of preparing for severe weather before it strikes.

Program Gaps & Deficiencies

Mass Care Shelter Facilities – Winona County Emergency Management is working with the Red Cross to get local shelters certified.

Generators for Backup Power to Shelter Facilities – In the event of a power outage during a period of extreme heat, designated shelters (primarily schools) must be ready to provide either temporary or extended periods of sheltering for those in need. Designated shelter facilities should ensure that they have generator backup power to provide cooling if there is a loss of power.

4.4.9 Drought

A drought refers to an extended period of deficient rainfall relative to the statistical mean for a region. Drought can be defined according to meteorological, hydrological, socioeconomic, and agricultural criteria. Meteorological drought is qualified by any significant deficit of precipitation. Hydrological drought is manifest in noticeably reduced river and stream flow and critically low groundwater tables. The term agricultural drought indicates an extended dry period that results in crop stress and harvest reduction. Socioeconomic drought refers to the situation that occurs when water shortages begin to affect people and their lives. It associates economic goods with the elements of meteorological, agricultural, and hydrological drought. Many supplies of economic goods (e.g., water, food grains, hydroelectric power) are greatly dependent on the weather. Due to natural variations in climate, water supplies are high in some years but low in others. Fluctuating long-term climate variations make drought difficult to predict.

Drought History in Winona County

In September of 2013, severe drought conditions developed across Winona County. Precipitation deficits were between 6-8 inches over the course of the summer. Above normal temperatures and the precipitation deficit led to soil moisture to rapidly diminish, leading to a severe drought. Some trees across southeast Minnesota became stressed and dropped their leaves prematurely (NCEI, 2018).

In November of 2012, severe drought conditions developed across the northwestern half of Winona County. River flow on the Mississippi River was 20% less than normal, and groundwater levels were deeper than normal. The drought persisted through the winter months, as snowfall amounts were not enough to create change. By February the ground was frozen, so little to no moisture was absorbed by the soil. The drought gradually eased from March through April.

The hazard rank for drought in Winona County is moderate. A drought may not have a severe impact on human life due to decreased water access; however, the economic impact on farmers would be significant. A drought would also have a detrimental impact on the local economy due to stunting growth of agriculture crops and negative impacts on livestock. Extended drought conditions may also make an area more prone to wildfire. Droughts can also be closely linked with insect infestation. Trees may be lost due to lack of moisture. In severe instances, a drought may cause wells to dry up entirely.

Drought and Climate Change

Droughts have been happening throughout Minnesota's history and it is not yet clear how climate change may impact this (International Climate Adaptation Team, 2013). While there was no apparent change in drought duration in the Midwest over the past century (Dai, 2011), the average number of days without precipitation is projected to increase in the future (National Climate Assessment Development Advisory Committee, 2013).

Even in areas where precipitation does not decrease, projected higher air temperatures will cause increased surface evaporation and plant water loss, leading to drier soils. As soil dries out, a larger proportion of the incoming heat from the sun goes into heating the soil and adjacent air rather than evaporating its moisture, resulting in hotter summers under drier climatic conditions (Mueller & Seneviratne, 2012).

Across the nation, drought is affecting water supplies, as ground and surface water levels are increasingly reduced due to growing consumption and withdrawal. These trends are expected to continue, with a higher likelihood of water shortages (Georgakakos, et al., 2014).

In 2007, 24 Minnesota counties received drought designation, while 7 counties were declared flood disasters. In 2012, 55 Minnesota counties received federal drought designation at the same time 11 counties declared flood emergencies (MN Environmental Quality Board, 2014).

In May 2015, over 90% of Minnesota was undergoing severe or moderate drought, due to low snow levels during the 2014-2015 winter and dry spring weather, with precipitation deficits totaling 3-6 inches below average across much of the state since October 2014. Water levels on streams, lakes, and wetlands were below average, and wildfires were common during April of 2015. Blowing soil was also reported due to high winds and the dried-out landscape (MN DNR, 2015).

Vulnerability

Jurisdictions in Winona County do not vary in their vulnerability to drought. The vulnerability of each jurisdiction to drought has not changed due to any development in the last 5 years.

Plans and Programs in Place

City Water Supply Plans (watering restrictions): All cities within Winona County maintain a water supply plan that abides by MN DNR guidelines.

MN Drought Response Plan – Minnesota has a statewide drought response plan in place. The plan was prepared by the Minnesota DNR.

Program Gaps & Deficiencies

Water Conservation Provisions/Use Restrictions – Water conservation provisions and use restrictions in times of drought are not included in county ordinances.

4.4.10 Wildfire

A wildfire is an uncontrolled fire spreading through vegetative fuels, posing danger and destruction to property. Wildfires can occur in undeveloped areas and spread to urban areas where structures and other human developments are more concentrated. While some wildfires start by natural causes like lightning, humans cause 4 out of every 5 wildfires. Debris burns, arson or carelessness are the leading causes of wildfires. As a natural hazard, a wildfire is often the direct result of a lightning strike that may destroy personal property and public land areas, especially on national and state forest lands. The dangers from wildfire include the destruction of timber, property and wildlife, and injury or loss of life to people living in the affected area or using the area for recreational facilities.

While wildfires are often viewed in a negative light, they are a naturally occurring part of the environment. Wildfires are an important component of healthy forest and prairie ecology, and can be beneficial by reducing dangerously high fuel levels and putting nutrients into the ground that spur new growth. In addition, many flora species require fire for seed germination. However, as people settled this country and began clearing land and building homes, roads, railroads, and campgrounds, new artificial causes of wildfire emerged and their frequency and level of destruction increased.

Causes of wildfires vary from state to state. For example, in Florida, lightning ignites approximately half of all wildfires, while in Minnesota lightning causes less than 5% of all wildfires. These variations are due to climate, vegetation, topography, and weather. People burning debris cause most wildfires in Minnesota. However, wildfires are also caused by vehicle exhaust, sparks from trains and heavy equipment, camping, smoking and lightning.

Topography affects the movement of air and fire over the ground surface. The slope and shape of terrain can change the rate of speed at which the fire travels. Weather affects the probability of wildfire and has a significant effect on its behavior. Temperature, humidity and wind affect the severity and duration of wildfires.

Homes threatened by wildfire are primarily those located in the “wildland-urban interface.” This is the zone where homes and subdivisions have been located in wildland areas where natural wildfires can have an impact. While wildfires are necessary for healthy ecosystems, they burn whatever fuel is in their path, whether vegetation or buildings.

One of the most common causes of a home being damaged or destroyed is due to radiant heat. In a wildfire, radiant heat is the heat given off by burning vegetation. The high temperatures of some

wildfires can cause the deck, siding, or roof of a home to ignite, because the fire was too near the home. Studies in western wildfires have shown that approximately 85% of homes surviving a major wildfire had 30-50 feet of defensible space around them, coupled with fire-resistant roofing.

Approximately 1,600 wildfires occurred each year in Minnesota on average from 1976-2011 (MN DNR, 2011). Wildfires occur throughout the spring, summer and fall, however, most wildfires in Minnesota take place in March, April, and May. During this period, much of the existing vegetation has been killed due to winter temperatures and is dead, brown and combustible. Also, there is little green vegetation to serve as a barrier for a moving wildfire.

Wildfire History in Winona County

Wildfires are common in the county; several can be expected in a year. According to Minnesota Department of Natural Resources records, the most recent wildfire in Winona County occurred in April 2016, burning 4 acres (MN DNR, 2018).

The Minnesota DNR recorded 369 wildfires in Winona County between 1985 and April 2016 (Figure 22). All but 5, which were caused by lightning, were human-caused, burning a total of 1,054 acres. These include fires not only on state lands, but also rural private lands for which there is not another agency with primary responsibility. Wildfires that are not included in this data are those that occur on federal and Native American lands, and those that are responded to by local fire departments. The largest fire burned 99 acres northeast of Elba in April 1990 and was caused by smoking.

Wildfire has been ranked as a low risk by Winona County.

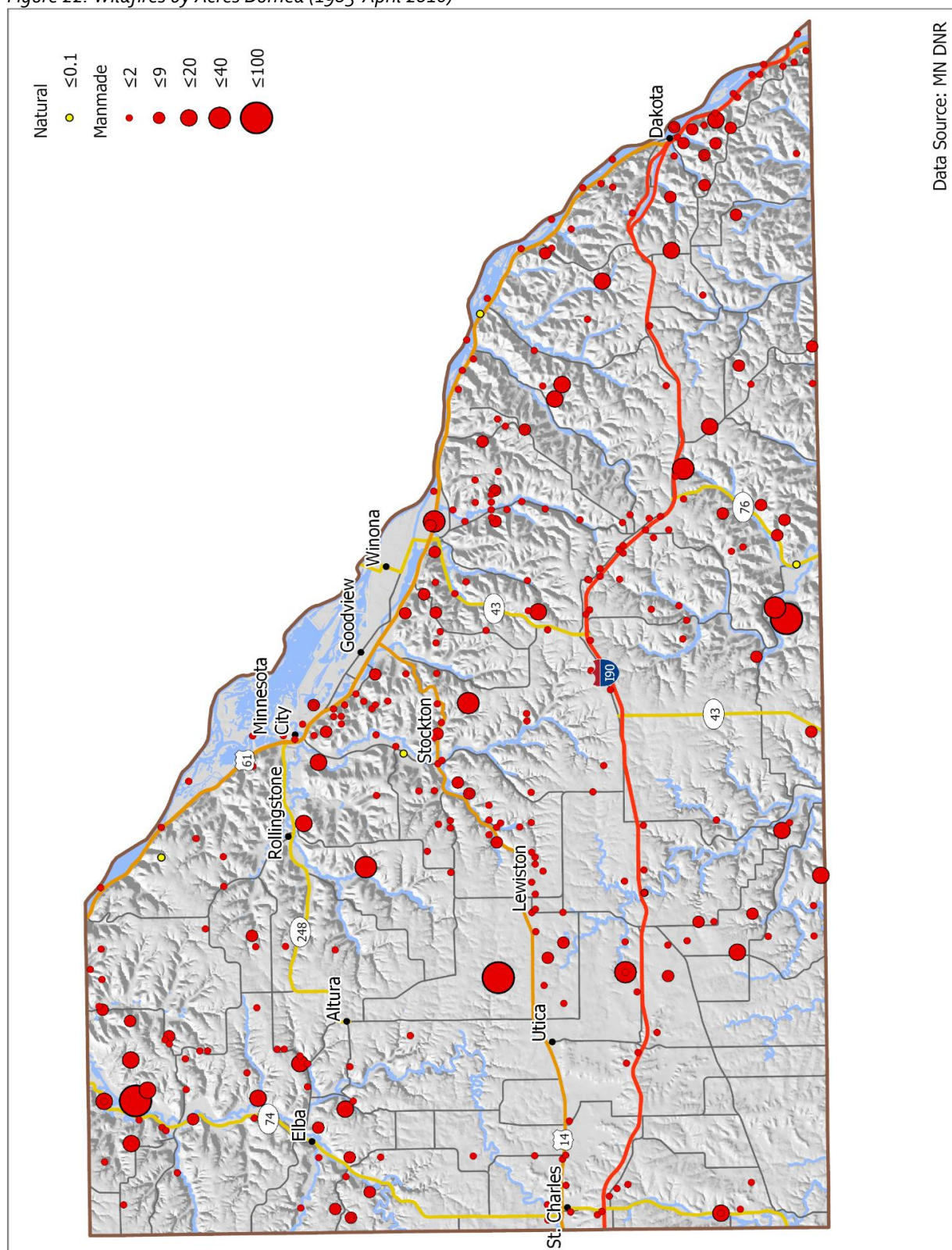
Wildfire and Climate Change

Temperatures are predicted to rise in the state, which could lead to more extreme heat events and associated wildfire risks. As Minnesota's climate changes, weather fluctuations between drought and extreme rain events and increasing temperatures will result in changes to forest composition and/or distribution. These fluctuations can lead to dry conditions that may cause increased fire risk in both grassland and forest environments.

Vulnerability

Jurisdictions in Winona County do not vary in their vulnerability to wildfires. The vulnerability of each jurisdiction to wildfire has not changed due to any development in the last 5 years.

Figure 22. Wildfires by Acres Burned (1985-April 2016)



Plans and Programs in Place

Public Warning and Notification System – In the event of emergencies or hazardous conditions that require timely and targeted communication to the public, Winona County utilizes the CodeRed System, County Sheriff's Office Facebook page, and local news media. Local newspaper & radio stations assist with sharing public information.

Fire Departments – There are 16 fire departments located in Winona County. Each department is responsible for structure fires & wildfires within their department boundaries; however, they often work together on larger fires, including wildfires.

Mutual Aid Agreements – All of the municipal fire departments in Winona County have mutual aid agreements with each contiguous department that borders their respective fire district. Written mutual aid agreements are on file with each city.

DNR Information and Training – The DNR maintains current statewide map information on seasonal wildfire risks. Firefighters in the county are encouraged to participate in annual wildfire training classes offered by the DNR Forestry Department. The DNR also works with firefighters in promoting their Fire Smart Program, which is a fire prevention program involving local public schools.

Burning Permits/Restrictions – The MN DNR regulates when burning permits are available and requires permit holders to notify the county prior to burning.

Fire Prevention Week – Fire prevention week is held annually each October. Most city fire departments participate and provide an opportunity for citizens to learn fire safety with open houses. In addition to fire departments going to schools to educate youth, local media also assists in sharing fire safety information to the public.

Program Gaps & Deficiencies

Wildfire Assessment – There has not been a recent countywide assessment of areas with significant wildfire potential, particularly those with proximity to urban areas.

Dry Hydrants and Water Access – Not all areas of Winona County have good access to water resources for fighting fires. Fire districts need to continue addressing the need for dry hydrants and water access.

4.4.11 Landslides and Soil Erosion

Erosion is the wearing-away of land, such as the loss of a riverbank, beach, shoreline, or dune material. It is measured as the rate of change in the position or displacement of a riverbank or shoreline over a period of time. Short-term erosion typically results from periodic natural events, such as flooding, hurricanes, storm surges, and windstorms, but may be intensified by human activities. Long-term erosion is a result of multi-year impacts such as repetitive flooding, wave action, sea level rise, sediment loss, subsidence, and climate change. Death and injury are not typically associated with erosion; however, major incidents of erosion, such as landslides, can destroy buildings and infrastructure (FEMA, 2013).

The movement of a mass of rock, debris, or earth down a slope by the force of gravity is considered a landslide. They occur when the slope or soil stability changes from stable to unstable, which may be caused by earthquakes, storms, volcanic eruptions, erosion, fire, or additional human-induced activities. Slopes greater than 10 degrees are more likely to slide, as are slopes where the height from the top of the slope to its toe is greater than 40 feet. Slopes are also more likely to fail if vegetative cover is low and/or soil water content is high. Potential impacts include environmental disturbance, property and infrastructure damage, and injuries or fatalities (FEMA, 2013).

Soil Erosion/Landslides History in Winona County

Locally heavy rains in July of 2017 caused a mudslide to occur near Minneiska that covered U.S. Highway 61. The NCEI reported \$6,000 in damage. As the heavy rain continued overnight, another mudslide occurred on July 20th, covering U.S. Highway 61 near Homer. The NCEI reported \$7,000 in damage.

Runoff from heavy rain in June of 2017 caused floodwaters to flow down a dry run along County Highway 37 between Elba and Altura. The floodwaters caused the road bank to erode in several places. Elba recorded \$25,000 in damage. In addition, Garvin Creek overtopped its banks around Stockton. Debris clogged culverts where the creek passes under County Road 23, causing enough erosion that a portion of the road collapsed. The NCEI reported \$108,000 in damage.

In September 2016, a mudslide sent trees onto one of the southbound lanes of U.S. Highway 61 near Pickwick. The heavy rain also caused water to go over some private driveways along County Highway 19.

Heavy rains in October of 2013 resulted in a mudslide near Pickwick. U.S. Highway 61 was closed due to the mudslide, along with various other slides along the highway. A semi-truck became trapped between two of the slides, and multiple streets were closed due to flooding in Goodview and the city of Winona. The NCEI reported \$20,000 of property damage in Goodview and Homer.

In June of 2013, heavy rain caused a mudslide southeast of Minneiska. The mudslide took down trees, one of which went across U.S. Highway 61 and blocked a lane of traffic.

The Winona County Zoning Administrator/Floodplain Manager has noted that in the past 5 years there have been severe rain events that resulted in severe field and soil erosion during planting season. Considerable erosion and sediment deposition occurred along incised valleys, bluff edges, crop land and streams.

The City Administrator of Goodview has also noted that erosion has occurred in certain neighborhoods along the hillsides during the past 5 years.

Soil Erosion/Landslides and Climate Change

The increased magnitude and frequency of flooding events and storm activity that may result from climate change may in turn increase the risk of soil erosion and landslides. According to University of

Washington geologist Dave Montgomery, "If the climate changes in a way that we get a lot more rainfall you would expect to see a lot more landslides" (Phillips, 2014).

In Minnesota, the wettest days are getting wetter. This can contribute to increased erosion in many locations due to flooding and saturation of soils. Reduced ice cover on lakes and shorelines (due to warmer temperatures) could potentially expose shorelines to increased erosion or damage during weather events when they previously may have been covered with ice (National Climate Assessment Development Advisory Committee, 2013).

According to the 2014 National Climate Assessment, "Increased precipitation intensity also increases erosion, damaging ecosystems and increasing delivery of sediment and subsequent loss of reservoir storage capacity" (Pryor, et al., 2014).

Vulnerability

Figure A - 30 in Appendix A maps soil erodibility in Winona County using the Soil Erodibility Factor (K-Factor, rock free), which is a quantitative description of soil's inherent erodibility, by measuring the susceptibility of soil particles to shift due to rainfall and runoff. The Soil Erodibility Factor ranges in value from 0.02 to 0.69; however, all areas in Winona County are 0.43 or less.

Plans and Programs in Place

Winona County Zoning Ordinance Soil Erosion & Sediment Control Standards – The purpose of this ordinance is to minimize soil erosion and sedimentation, and excessive or accelerated soil erosion caused by activities of man including agricultural production, timber harvesting and the development of land. It establishes standards for practices to protect water and soil resources, and to prevent or minimize nonpoint source pollution. There is also a Root River Comprehensive Watershed Management Plan to address management for erosion and flooding on the Root River.

Winona County Blufflands Ordinance – Included in the Winona County Zoning Ordinance, these standards aim to protect the public from injury and property damage due to flooding, erosion and other natural hazards that may be intensified by development.

Winona County Comprehensive Local Water Management Plan – The Water Management Plan establishes goals and a related set of objectives and actions intended to protect, enhance, and manage water resources within Winona County in cooperation with local, regional and state partners. The focus of the plan is a set of four priority concerns as outlined in the Priority Concerns Scoping Document.

Priority Concerns:

1. **Water Quality:** This concern involves protecting groundwater; addressing Clean Water Act impairments and protecting surface waters; and effectively managing those land areas at the water / land interface such as riparian lands, floodplains, and sensitive groundwater recharge areas in karst settings.

2. **Soil Erosion, Sediment Control and Stormwater Management:** This concern addresses steep topography and extreme soil erosion potentials. Control of erosion and sediment is a concern on agricultural lands and for residential and urban development. Effective stormwater management includes water retention and infiltration that reduces soil erosion, improves hydrologic processes and reduces flooding.
3. **Nutrient, Manure, and Human Waste Management:** Wastes generated from feedlots and from septic systems are assumed to contribute to the Clean Water Act recreational impairments as measured by excess levels of fecal coliform in several county streams. Wastes from feedlots and septic systems as well as from commercial fertilizers can contribute to the high nitrate concentrations found in some wells and streams in the county.

This approach provides a context for integrating programs, and emphasizing and addressing the most significant concerns in any given watershed.

Winona County SWCD Programs – The Winona County SWCD works to promote soil and water conservation through technical, educational and financial assistance. The SWCD provides technical assistance & review to individual landowners as well as to the county, cities, townships, watershed districts, schools and state agencies. The SWCD does not have regulatory, permitting or enforcement authority, but is able to provide technical assistance to help the local government unit to know and understand some of the concerns and options related to erosion, sedimentation and water quality when making decisions that affect the conservation of lands and water.

Winona County SWCD Cost-Share Programs – Various Cost-Share programs are administered locally by the Winona County Soil and Water Conservation District (SWCD). These programs assist landowners financially and technically in the installation of conservation practices that reduce erosion, control sedimentation or improve and protect water quality and reduce flooding to ensure the sustainable use of Minnesota's natural resources. These objectives of the approved practices may include, but are not limited to, activities that: control nutrient run-off, stabilize critical erosive areas, divert runoff to protect and improve water quality, reduce wind erosion, control gully, rill or sheet erosion, protect shore land from erosion, control storm water runoff, and protect or improve surface and groundwater quality.

County Watershed Management Organizations – There are two watershed district management organizations within the county that work on the protection and restoration of natural systems to reduce erosion, flooding, and protect surface and ground waters:

- *Stockton-Rollingstone-Minnesota City Watershed District* – The SRMC develops and maintains a water management plan for the Stockton-Rollingstone-Minnesota City Watershed District. This watershed district lies in the Buffalo – Whitewater Watershed and is part of the Lower Mississippi River Basin. The district corresponds to the geographical extent of the Garvin Brook Watershed and lies entirely within Winona County. The district consists of eleven minor watersheds. The major streams within the district are Garvin Brook, Stockton Valley Creek and Rollingstone Creek. Stockton Valley Creek flows into Garvin Brook just above Stockton. Garvin

Brook continues downstream until it converges with Rollingstone Creek above Minnesota City, before discharging into the Mississippi River within the Upper Mississippi River National Wildlife and Fish Refuge. The WD levy is used primarily for flood control and water quality improvement projects.

- *Whitewater Joint Power Board* – The Whitewater Joint Powers Board facilitates development and implementation of a 10-year working action plans for the Mississippi River-Winona Watershed. The Mississippi River - Winona watershed covers 419,200 acres in Wabasha, Winona and Olmsted counties in southeast Minnesota. The Whitewater River falls within this watershed and is well known for its state park and trout fishing. A majority of the watershed is cropland, with forest and grassland covering large portions as well. Only a small percentage of the watershed is developed. The river discharges into the Mississippi River at Weaver Bottoms, an important Mississippi River backwater and waterfowl staging area. The largest city in the watershed is Winona (pop. 27,000), located on the Mississippi River.

Program Gaps & Deficiencies

No program gaps or deficiencies were identified.

4.4.12 Dam Failure

Dams are structures that retain or detain water behind a large barrier. When full or partially full, the difference in elevation between the water above the dam and below creates large amounts of potential energy, allowing the chance for failure. Dams can fail due to either 1) water heights or flows above the capacity for which the structure was designed; or 2) deficiencies in the structure such that it cannot hold back the potential energy of the water. If a dam fails, issues of primary concern include loss of human life/injury, downstream property damage, lifeline disruption (transportation routes and utility lines required to maintain or protect life), and environmental damage. Dams require constant monitoring and regular maintenance to insure their integrity.

Dam Failure History in Winona County

Table 27 below summarizes data on Winona County's dams based on data from the National Inventory of Dams and the MN DNR. They are also mapped in Figure 23. Five of the dams have Emergency Action Plans.

There is an 11-mile levee located in the city of Winona, which was completed in 1985. It protects the city from flooding up to 25 feet. It also protects the city of Goodview and most of Minnesota City (Winona Daily News, 2011).

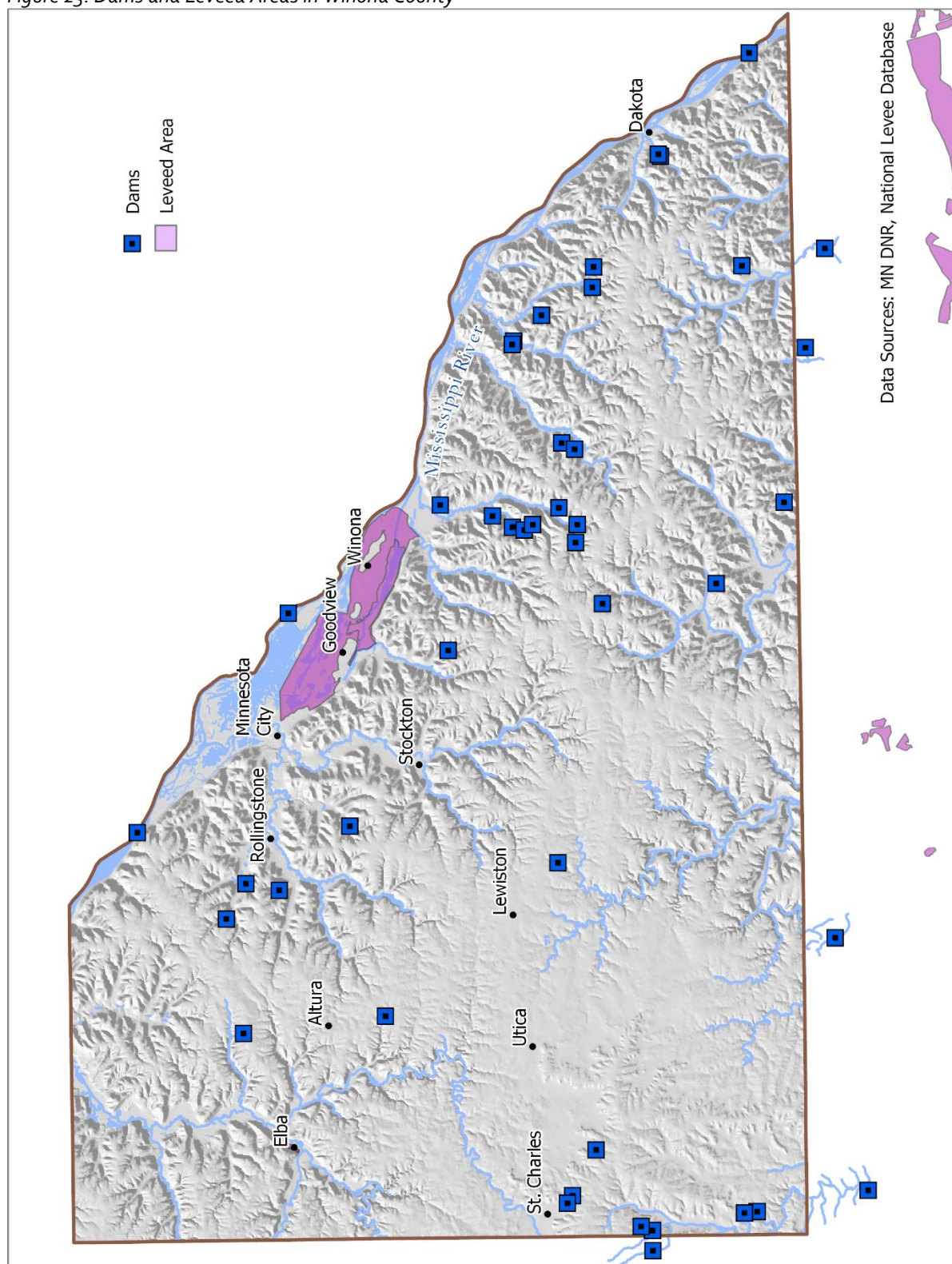
Table 27. Dam Data for Winona County

Name	Owner	River	Primary Purpose	NID Height (ft)	Dam Type
Blumentritt Detention	Blumentritt, Irvin	Pine Creek-Tributary	Flood Control	27	Earth

Name	Owner	River	Primary Purpose	NID Height (ft)	Dam Type
Boller Pool	Evanson & Evanson Partnership	Rollingstone Creek- Tributary	Flood Control	30	Earth
Craven Detention	Raak, Arthur	Trout Run- Tributary	Flood Control	31	Earth
Felix Detention	Felix, Clement	Money Creek- Tributary	Flood Control	34	Earth
Greden Detention	Greden, Lenard	Trout Creek- Tributary	Flood Control	26	Earth
Gunderson-Marmsoler Detention	Gunderson; Marmsoler	Big Trout Creek- Tributary	Flood Control	34	Earth
Harcey Pond	Persons, James	Trout Run- Tributary	Flood Control	31	Earth
Harcey Stabilizer	Persons, James	Trout Run Creek	Fire Protection, Stock, or Small Fish Pond	29	Earth
Haxton Pond	Haxton, Lloyd	Speltz Creek- Tributary	Flood Control	24	Earth
Henry Neuman Detention	Neumann, Henry	Whitewater River- South Branch Tributary	Flood Control	26	Earth
Hilke Detention	William Gartner	Trout Run Creek			
Homer Township	Township of Homer	Pickwick Creek	Flood Control	27	Earth
Hoseck Detention No. 1	Hoseck, Loyal	Cedar Creek- Tributary	Flood Control	35	Earth
Hoseck Detention No. 2	Hoseck, Loyal	Cedar Creek- Tributary	Flood Control	33	Earth
Jesson Park	City of St. Charles	Whitewater River- South Fork Tributary	Flood Control	26	Earth
Little Trout Detention No. 1	Klawiter, Kevin & Paula	Little Trout Creek	Flood Control	36	Earth
Little Trout Detention No. 2	Hartwick, Richard	Little Trout Creek- Tributary	Flood Control	33	Earth
Lock & Dam #5	CEMVP	Mississippi	Navigation	43	Earth, Concrete
Lock & Dam #5A	CEMVP	Mississippi	Recreation	46	Earth, Concrete
Lock & Dam #7	CEMVP	Mississippi	Navigation	41	Earth, Concrete
Merle Wiskow	Merle Wiskow	Whitewater River – south branch			
M.L.O. Partnership	M.L.O. Partnership	Hippie Creek- Tributary	Flood Control	30	Earth
Pagel-Young Detention No. 1	Pagel, William	Whitewater River- South Branch	Flood Control	27	Earth
Pickwick Mill	Pickwick Mill Inc	Big Trout Creek	Flood Control	36	Gravity, Earth

Name	Owner	River	Primary Purpose	NID Height (ft)	Dam Type
Pleasant Valley No. 1	Hundorf	Pleasant Valley Creek	Flood Control	38	Earth
Pleasant Valley No. 10	Dr. Paul Heise	Pleasant Valley Creek	Flood Control	27	Earth
Pleasant Valley No. 12	Rainbow Properties, LP	Pleasant Valley Creek- Tributary	Flood Control	35	Earth
Pleasant Valley No. 2	Hamilton, Charles & Constance	Pleasant Valley Creek- Tributary	Flood Control	32	Earth
Pleasant Valley No. 3	Murphy, Scott & Jana	Pleasant Valley Creek- Tributary	Flood Control	27	Earth
Pleasant Valley No. 6	Girtler, Stanley	Pleasant Valley Creek	Flood Control	29	Earth
Pleasant Valley No. 7	Girtler, Stanley	Pleasant Valley Creek	Flood Control	30	Earth
Pleasant Valley No. 8	Girtler, Stanley	Pleasant Valley Creek	Flood Control	36	Earth
Southwind Orchard Driveway	Hector Family LTD PTN	Mississippi- Tributary	Fire Protection, Stock, or Small Fish Pond	25	Gravity, Earth
Speltz Detention No. 2	Speltz, Herb	Speltz Creek	Flood Control	31	Earth
Speltz Pond	Speltz, Joel & Elizabeth	Speltz Creek- Tributary	Flood Control	25	Earth
Spooner Group Detention	Crigler, James	Gilmore Creek	Flood Control	38	Earth
Warren TWP RD	Warren TWP, Ray & Diane Radatz	Rush Creek- Tributary	Flood Control	21	Earth
Zerbe Pond	Zerbe, James	Money Creek- Tributary	Flood Control	33	Earth

Figure 23. Dams and Leveed Areas in Winona County



Dam Failure and Climate Change

Dams are designed based on assumptions about a river's annual flow behavior that will determine the volume of water behind the dam and flowing through the dam at any one time. Changes in weather patterns due to climate change may change the expected flow pattern. It is conceivable that bigger rainfalls at earlier times in the year could threaten a dam's designed margin of safety, causing dam operators to release greater volumes of water earlier in a storm cycle in order to maintain the required margins of safety. Such early releases of increased volumes can increase flood potential downstream.

While climate change will not increase the probability of catastrophic dam failure, it may increase the probability of design failures. Minnesota had a dam failure due to a large storm event in June 2012. The Forebay canal in Carlton County had operated as designed for nearly 100 years. The intensity of the 2012 rain event caused a failure of the canal wall which caused significant damage. Climate change is adding a new level of uncertainty that needs to be considered with respect to assumptions made during dam construction.

Vulnerability

Areas most susceptible to the effects of dam failure are the populated places downstream from a dam location. The vulnerability of each jurisdiction to dam failure has not changed due to any development in the last 5 years.

Plans and Programs in Place

Federal Emergency Management Agency (FEMA) National Dam Safety Program – For 30 years, the federal government has used the National Dam Safety Program (NDSP) to protect Americans from dam failure. The NDSP is a partnership of states, federal agencies, and other stakeholders that encourages individual and community responsibility for dam safety. The NDSP is intended to help states bring the necessary resources to bear on inspection, classification, and emergency planning for dam safety.

National Levee Database (NLD) – The NLD is a database developed by the U.S. Army Corps of Engineers (USACE), is the focal point for comprehensive information about our nation's levees. Authorized by Congress in 2007, the database contains information to facilitate and link activities, such as flood risk communication, levee system evaluation for the National Flood Insurance Program (NFIP), levee system inspections, flood plain management, and risk assessments. The NLD continues to be a dynamic database with ongoing efforts to add levee data from federal agencies, states, and tribes.

Minnesota Department of Natural Resources, Division of Waters – Dam Safety Program – The MN DNR Dam Safety Program and current dam safety regulations require the safe design, construction, operation, and maintenance of dams in Minnesota. The state program includes review of design plans and plans for proposed dams, safety inspections of existing dams, and repair of dams. The Dam Safety Program keeps a file on all dams that are subject to state dam safety regulations or have had information or reports generated on them for another purpose. A typical file contains construction plans, photos, inspection reports and correspondence.

National Inventory of Dams (NID) – The NID is a database managed by the Army Corps of Engineers. The NID is used to track information on the nation's water control infrastructure. Information from the NID is used in the development of water resource management, land use management, floodplain management, risk management, and emergency action planning.

U.S. Army Corps of Engineers – The U.S. Army Corps of Engineers has plans in place for terroristic acts against the dams and flood control projects in the county.

Levees in Winona County – There is a USACE federally-constructed levee in Winona that is inspected by the U.S Army Corps of Engineers. The Winona County GIS Dept. is currently mapping existing earthen dams/pond water structures.

Public Information and Warning – In the event of emergencies or hazardous conditions that require timely and targeted communication to the public, Winona County utilizes CodeRED Emergency Notification System, as well as the IPAWS warning system. We also utilize Winona County website and the Sheriff's Office Facebook Pages.

Program Gaps & Deficiencies

No program gaps or deficiencies were identified.

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Section 5 – Mitigation Strategy

The goal of mitigation is to protect lives and reduce the future impacts of hazards including property damage, disruption to local and regional economies, the amount of public and private funds spent to assist with recovery, and to build disaster-resistant communities. Mitigation actions and projects should be based on a well-constructed risk assessment, provided in Section 4 of this plan. Mitigation should be an ongoing process adapting over time to accommodate a community's needs.

5.1 Community Capability Assessments

The capability assessment identifies current activities used to mitigate hazards. The capability assessment identifies the policies, regulations, procedures, programs and projects that contribute to the lessening of disaster damages. The assessment also provides an evaluation of these capabilities to determine whether the activities can be improved in order to more effectively reduce the impact of future hazards. The following sections identify existing plans and mitigation capabilities within all of the communities:

- *Appendix J:* Lists the plans and programs in place in Winona County as related to hazard mitigation.
- *Appendix K:* As part of the Winona County MHMP update, the County, its cities, and townships were asked to participate in filling out a "Local Mitigation Capabilities Assessment" (LMCA) form to report on their current mitigation capabilities and program gaps. Appendix K lists the LMCA reports gathered for Winona County.

5.1.1 National Flood Insurance Program (NFIP)

The NFIP is a federal program created by Congress to mitigate future flood losses nationwide through sound, community-enforced building and zoning ordinances and to provide access to affordable, federally-backed flood insurance protection for property owners. The NFIP is designed to provide an insurance alternative to disaster assistance to meet the escalating costs of repairing damage to buildings and their contents caused by floods. Participation in the NFIP is based on an agreement between local communities and the federal government that states that if a community will adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas (SFHAs), the federal government will make flood insurance available within the community as a financial protection against flood losses.

Table 28 below shows which jurisdictions in Winona County participate in the National Flood Insurance Program (NFIP).

Table 28. NFIP Participation in Winona County

Jurisdiction Name	NFIP y/n	FEMA Mapped High-Risk Areas
La Crescent	Participating in NFIP	FEMA Mapped High Risk Areas
Minneiska	Participating in NFIP	FEMA Mapped High Risk Areas
Altura	NOT Participating	No FEMA Mapped High Risk Areas
Dakota	Participating in NFIP	FEMA Mapped High Risk Areas
Elba	Participating in NFIP	FEMA Mapped High Risk Areas
Goodview	Participating in NFIP	FEMA Mapped High Risk Areas
Lewiston	Participating in NFIP	No FEMA Mapped High Risk Areas
Minnesota City	Participating in NFIP	FEMA Mapped High Risk Areas
Rollingstone	Participating in NFIP	FEMA Mapped High Risk Areas
Saint Charles	Participating in NFIP	FEMA Mapped High Risk Areas
Stockton	Participating in NFIP	FEMA Mapped High Risk Areas
Utica	NOT Participating	No FEMA Mapped High Risk Areas
Winona	Participating in NFIP	FEMA Mapped High Risk Areas
Winona County	Participating in NFIP	FEMA Mapped High Risk Areas

Data current as of 8/16/2017 (FEMA, 2017)

Repetitive loss properties are defined as properties that have had 2 or more flood insurance claims of \$1,000 or more in any rolling 10-year period. Property owners are asked to consider mitigation activities such as acquisition, relocation, or elevation, among other options. FEMA's Repetitive Loss (RL) properties strategy is to eliminate or reduce the damage to property and the disruption to life caused by repeated flooding of the same properties. Property owners are notified of their status by FEMA.

There are 2 repetitive loss properties in Winona County: 1 in the city of Winona (2 losses with average payment of \$7,002), and 1 is listed as in Winona County (2 losses with an average payment of \$14,210). None are classified as "Severe Repetitive Loss" (SRL). An SRL property is defined as a residential property that is covered under an NFIP flood insurance policy and:

- That has at least 4 NFIP claim payments (including building and contents) over \$5,000 each, and the cumulative amount of such claims payments exceeds \$20,000; or

- For which at least 2 separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building.
- For both (a) and (b) above, at least 2 of the referenced claims must have occurred within any 10-year period, and must be greater than 10 days apart.

For more on the areas that flood repeatedly in Winona County, see section 4.4.5 *Flash Flood and Riverine Flood*.

5.1.2 Plans and Ordinances

Winona County and its incorporated communities have a number of plans and ordinances in place to ensure the safety of residents and the effective operation of communities, including a Zoning Ordinance, Floodplain Ordinance, Emergency Operations Plan, Capital Improvements Plan, and Water Management Plan. In Section 4.4 of this plan (*Hazard Profiles*) a review of the plans and programs in place was included as related to each of the hazards addressed in the plan. See Appendix J for a list of all plans and programs in place in Winona County, and Appendix K for the local mitigation capabilities assessment reports.

5.2 Mitigation Goals

In Section 4.0 of this plan, the risk assessment identified Winona County as prone to a number of natural hazards. The steering committee members understand that although hazards cannot be eliminated altogether, Winona County can work toward building disaster-resistant communities.

The goals and strategies being developed for the 2019 Minnesota State Hazard Mitigation Plan for natural hazards were adopted for use in the Winona County Plan (Table 29). This framework will allow for integration of the mitigation actions that are listed by Winona County and its jurisdictions into the state plan. The state will then be able to develop a statewide strategy that will benefit all of Minnesota.

Table 29. Goals that will be used in the 2019 Minnesota State Hazard Mitigation Plan

Flooding Goal: Reduce deaths, injuries, property loss and economic disruption due to all types of flooding (riverine, flash flooding, dam/levee failure)
Wildfire Goal: Reduce deaths, injuries, property loss, natural resource and economic disruption due to wildfire (forest, prairie, grass, and peat bogs).
Windstorms Goal: Reduce deaths, injuries, property loss, and economic disruption due to windstorms.
Severe Winter Storms Goal: Reduce deaths, injuries, property loss, and economic disruption due to severe winter storms (blizzard, ice, and ice storm).
Lightning Goal: Reduce deaths, injuries, property losses, loss of services, and economic disruption due to lightning.
Tornado Goal: Reduce deaths, injuries, property loss, and economic disruption due to tornadoes.
Drought Goal: Reduce economic loss and environmental impacts due to drought

Extreme Heat Goal: Reduce deaths, injuries, and economic disruption due to extreme heat.

Extreme Cold Goal: Reduce deaths, injuries, property loss, and economic disruption due to extreme cold.

Landslide/Erosion Goal: Reduce deaths, injuries, property loss, and economic disruption due to landslides and erosion.

5.3 Mitigation Actions and Project Strategies

The mitigation actions in this plan are summarized into 4 main strategy types, as described in the FEMA publications *Local Mitigation Planning Handbook* (2013) and *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards* (2013). Also included are the new FEMA Climate Resilient Mitigation Actions (CRMA) released in 2016. Minnesota HSEM recommends the use of these mitigation strategies to be in alignment with the state plan and those recommended by FEMA. A fifth strategy type was determined by Minnesota HSEM for use within the state. They are listed in Table 30 below:

Table 30. Mitigation Strategies and Action Types

Mitigation Strategy	Description	Example Mitigation Actions
Local Plans and Regulations	These actions include government authorities, policies, or codes, that influence the way land and buildings are developed and built.	<ul style="list-style-type: none"> • Comprehensive plans • Land use ordinances • Planning and zoning • Building codes and enforcement • Floodplain ordinance • NFIP Community Rating System • Capital improvement programs • Open space preservation • Shoreline codes • Stormwater management regulations and master plans
Structure and Infrastructure Projects	<p>These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.</p> <p>This type of action also involves projects to construct manmade structures to reduce the impact of hazards.</p> <p>Many of these types of actions are projects eligible for funding through the FEMA Hazard Mitigation Assistance program.</p>	<ul style="list-style-type: none"> • Acquisitions and elevations of structures in flood prone areas • Utility undergrounding • Structural retrofits • Floodwalls and retaining walls • Detention and retention structures • Culverts • Safe rooms

Mitigation Strategy	Description	Example Mitigation Actions
Natural Systems Protection	These are actions that minimize damage and losses and also preserve or restore the functions of natural systems.	<ul style="list-style-type: none"> • Sediment and erosion control • Stream corridor restoration • Forest management • Conservation easements • Wetland restoration and preservation
Education and Awareness Programs	These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady or Firewise Communities. Although this type of mitigation reduces risk less directly than structural projects or regulation, it is an important foundation. A greater understanding and awareness of hazards and risk among local officials, stakeholders, and the public is more likely to lead to direct actions.	<ul style="list-style-type: none"> • Radio or television spots • Websites with maps and information • Real estate disclosure • Presentations to school groups or neighborhood organizations • Mailings to residents in hazard-prone areas. • StormReady • Firewise Communities
Mitigation Preparedness and Response	This is a State of Minnesota mitigation strategy with the intent of covering preparation and actions that protect life and property during a natural disaster.	<ul style="list-style-type: none"> • Emergency operations plan • Flood fight plans and preparedness • Dam emergency action plans • Warning • Backup power • Emergency capabilities

In the review and discussion of selected mitigation strategies and actions, steering committee members and the public were asked to consider the ranking of mitigation actions by priority for implementation. Table 31 provides criteria that were taken into consideration in the process.

5.3.1 Hazard Mitigation Actions

Winona County and its included municipalities share a common Multi-Hazard Mitigation Plan and worked closely to develop it. Local leaders work together with the Winona County Emergency Management Coordinator to assure that the hazards and mitigation actions included in this plan are accurate and addressed in their jurisdictions. The jurisdictions responsible for each action are Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona and Winona County.

Table 32 lists all mitigation actions for Winona County. Appendix G contains separate mitigation action tables for each jurisdiction. Each of these mitigation action charts detail the hazard, the mitigation strategy and action to address it, the priority ranking for implementation (1 = High Priority; 2 = Moderate Priority; 3 = Low Priority, see Table 31), its current stage of implementation, the timeframe for implementation going forward, the jurisdictions who have identified they will work to implement the action, the responsible parties to carry through with implementation, and comments on how the plan will be implemented through existing planning mechanisms and potential funding to make implementation happen.

Table 31. Criteria for Mitigation Action Priority Ranking

Ranking	Criteria
High Priority (1)	<ul style="list-style-type: none"> • Methods for reducing risk from the hazard are technically reliable. • The County has experience in implementing mitigation measures. • Mitigation measures are eligible under federal grant programs. • There are multiple mitigation measures for the hazard. • The mitigation measure(s) are known to be cost effective. • The mitigation measures protect lives and property for a long period of time, or are permanent risk reduction solutions.
Moderate Priority (2)	<ul style="list-style-type: none"> • Mitigation methods are established. • The County has limited experience with the kinds of measures that may be appropriate to mitigate the hazard. • Some mitigation measures are eligible for federal grants. • There is a limited range of effective mitigation measures for the hazard. • Mitigation measures are cost-effective only in limited circumstances. • Mitigation measures are effective for a reasonable period of time.
Low Priority (3)	<ul style="list-style-type: none"> • Methods for reducing risk from the hazard are not well-established, are not proven reliable, or are experimental. • The State or Counties have little or no experience in implementing mitigation measures, and/or no technical knowledge of them. • Mitigation measures are ineligible under federal grant programs. • There is a very limited range of mitigation measures for the hazard, usually only one feasible alternative. • The mitigation measure(s) have not been proven cost effective and are likely to be very expensive compared to the magnitude of the hazard. • The long-term effectiveness of the measure is not known, or is known to be relatively poor.

Mitigation actions that have been completed or deleted from the 2012 Winona County Multi Hazard Mitigation Plan are identified and reported on in Appendix H. Completed and deleted mitigation actions are not carried over into the updated mitigation action chart.

In addition to ranking the hazard mitigation actions, the steering committee also reports on the status of the mitigation action. Completed and deleted mitigation actions are denoted in Appendix H. Ongoing mitigation actions from the initial review were incorporated into annual reviews by the

mitigation team. The status designations are:

- New – New actions that have been identified since the last plan
- Ongoing – Actions from the last plan that require continuing application
- In Progress – Actions from the last plan that are currently being acted upon

The mitigation types are defined as follows:

- Local Planning and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs
- Mitigation Preparedness and Response Support

Table 32. Winona County Master Mitigation Action Chart (2018-2022)

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media).	County, municipal funding
2	All-Hazards	Education & Awareness Programs	Ensure the ability to send out prompt & targeted emergency notifications to reach both residents and visitors to Winona County.	Ongoing	High	2018-2022	Winona County	WC Sheriff's Office / WC Emergency Management	Winona County is IPAWS capable, allowing the County to do targeted and countywide emergency notifications to reach both residents and visitors.	County Funding, Twin Cities PBS

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding
4	All-Hazards	Local Planning & Regulations / Mitigation Preparedness & Response Support	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
5	All-Hazards	Local Planning & Regulations	Ensure that sheltering plans and designated facilities are established as locations for mass care sheltering in the event that people are displaced due to disaster events.	Ongoing	High	2018-2022	Winona County	WC Emergency Management in coordination with WC Community Services	Mass Care planning is part of the Winona County EOP. WC Emergency Management and WC Community Services will continue to work with local jurisdictions and the American Red Cross to identify and establish MOU's with facilities capable of serving as mass care shelters throughout the year.	County funding
6	All-Hazards	Mitigation Preparedness & Response Support	Continue to work with the Winona County Amateur Radio Club to enhance emergency communications capabilities for Winona County.	New	Moderate	2018-2022	Winona County	WC Emergency Management & WC Information Technology Dept. in coordination with Winona Amateur Radio Club	WC Emergency Management will continue to explore ways to work with the Winona Amateur Radio Club. The Club provides important emergency communications support to Winona County Emergency Management, Fire, and Law Enforcement.	County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding).	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. (i.e., <i>Public Safety facilities, Government Buildings, Water Treatment Plants</i>)	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).	County, municipal funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Winona County does not enforce the Minnesota Building Code as it relates to construction in unincorporated areas. This does not remove county property owners from the responsibility of following Minnesota Building Code requirements. There is value in exploring enhanced code compliance in areas that are more vulnerable to all hazards, and especially in flood plain-prone areas. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
11	All-Hazards	Local Planning & Regulations	Expand the use of GIS resources that are available to support emergency management planning and response at the County and local level.	Ongoing	High	2018-2022	Winona County	WC Emergency Management in coordination with WC Information Technology Dept.	Development of future GIS support systems should include updating spatial and non-spatial data (such as Karst features and landslide vulnerabilities), modeling, project cost benefit evaluation and hazard event record storage including substantial damaged structure information. In recent efforts, WC GIS worked with WC Emergency Management to implement damage assessment and dashboard processes. WC GIS also created an EM application that was shared with fire departments and first responders across Winona County. The County is using GIS with the dispatch and 911 for decision support.	County funding
12	All-Hazards	Local Planning & Regulations	Evaluate use of the U.S. National Grid system to enhance Winona County GIS capabilities in emergency management.	Ongoing	Low	2018-2022	Winona County	WC Emergency Management, WC Information Technology	This will be a coordinated effort between WC Emergency Management and WC GIS.	County funding
13	All-Hazards	Local Planning & Regulations	Conduct a GIS analysis to determine Emergency Services' response times to areas throughout the County.	Ongoing	Low	2018-2022	Winona County	WC Emergency Management, WC Information Technology	This will be a coordinated effort between WC Emergency Management and WC GIS. GIS mapping of will help with a gap analysis for areas that have slow response times.	County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition). Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (<i>CMS – Centers for Medicare & Medicaid Services</i>) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (<i>MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15</i>).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms. <i>(Examples of critical facilities include Police/ Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower. The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/ universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/ summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
22	Severe Winter Weather	Education & Awareness Programs	Conduct outreach to provide education & awareness to residents for severe-winter weather preparedness, including for individuals, families, and the elderly.	Ongoing	High	2018-2022	Winona County	WC Emergency Management & WC Community Services	This is an ongoing effort of Winona County Emergency Management. During periods of winter storms or extreme cold, WC Emergency Management will promote preparedness measures such as having home generators, inspecting furnaces and installing CO detectors, protecting septic systems, and having emergency travel kits in vehicles. Those who depend on medication are also encouraged to keep a supply on hand.	County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/ Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
24	Severe Summer Storms	Education & Awareness Programs	Conduct outreach to provide education & awareness to residents for severe spring & summer storms preparedness, including for individuals, families, and the elderly.	Ongoing	High	2018-2022	Winona County	WC Emergency Management & WC Community Services	During periods of the year with extreme spring and summer storms, WC Emergency Management will promote preparedness measures such as having home generators, understanding tornado warnings vs. watches, what to do when warning sirens go off, and having extra food and water in stock. Those who depend on medication are also encouraged to keep a supply on hand. Homeowners without basements are provided with safety tips on how to shelter in-place within the home. The County also participates in the Statewide Tornado Drill in April each year. Opportunities for additional community outreach may include providing information at community events such as National Night Out or the County Fair.	County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
25	Severe Summer Storms	Education & Awareness Programs	Encourage the retrofitting of existing homes, buildings, schools, or public park facilities with building materials that help to reduce the impact of severe storm events that can cause damage such as high winds, thunderstorms, lightning, and hail storms. <i>(Examples may include special high wind resistant films for doors and windows and installation of lightning grounding systems.)</i>	Ongoing	Moderate	2018-2022	Winona County	WC Emergency Management	WC Emergency Management will seek to make information available on more resilient building materials that can sustain severe storms, such as during Severe Weather Awareness Week.	County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
26	Severe Summer Storms	Education & Awareness Programs	Provide information on the benefits of tie-down straps for mobile homes to help withstand extreme wind or tornado events.	Ongoing	Moderate	2018-2019	Winona County	WC Emergency Management / City EM's and Mobile Home Park Owners	WC Emergency Management will encourage cities with mobile home parks to promote homeowner information on installation of tie down straps. Manufactured homes are more easily flipped or damaged during windstorms than site-built homes and require tie-downs to remain stable. Manufactured homes are elevated and vulnerable to the forces of wind uplift if they are not equipped with skirting and tie downs.	County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
27	Severe Summer Storms	Local Planning & Regulations	Work to ensure Minnesota Department of Health Evacuation Plan & Storm Shelter Requirements are met in municipalities with manufactured home parks.	On-going	High	2018-2022	City of Goodview (<i>Lake Village</i>), City of Lewiston (<i>Lewiston Park</i>), City of Minnesota City (<i>Hidden Valley Mobile Home Village</i>), City of Stockton (<i>Country Valley Manufacture Home Park</i>), City of St. Charles (<i>Sherwood Mobile Home Park</i>), Rollingstone Township / Hillsdale Township (<i>Lake Village</i>)	City Emergency Managers in coordination with WC Emergency Management	Minnesota State Statute (327.205 <i>Shelter Construction Standards</i>) outlines the requirements for MHP's with less than 10 units / more than 10 units for evacuation plans and sheltering facilities for the residents of the park in times of high winds or tornadoes, as well as the responsibility of municipalities with MHPs to assist with/approve of evacuation & shelter plans. WC Emergency Management will encourage municipalities to continue to work with local MPH operators to ensure they are in compliance with the law.	County, municipal funding, MHP Owner

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona & All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit). Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding
32	Severe Summer Storms	Education & Awareness Programs	Continue to provide the National Weather Service's SkyWarn "Storm Spotter" training in various parts of the County for first responders and community residents.	Ongoing	High	2018-2022	Winona County	WC Emergency Management in collaboration with local cities and NWS	Winona County offers SKYWARN training on an annual basis for local fire and law enforcement departments and local residents that wish to be trained as volunteers.	County, municipal funding, NWS funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
33	Extreme Temps (Heat / Cold)	Education & Awareness Programs	Provide outreach & education to vulnerable populations in the community (i.e., senior citizens, young adults) on personal safety measures to take during periods of extreme heat / cold.	Ongoing	High	2018-2022	Winona County	WC Emergency Management, WC Community Services in collaboration with Schools and City Emergency Managers	This is done as part of the NWS annual spring and winter severe weather awareness weeks. It is also done during actual periods of extreme temperatures. Information on staying safe during periods of extreme heat or cold is relayed to the public through channels such as County/City websites, social media, radio, and local newspapers. All Schools work to educate students on the dangers of extreme heat and cold as well.	County, municipal funding
34	Extreme Temps (Heat / Cold)	Mitigation Preparedness & Response Support	Develop plans to respond to extreme temperatures situations in Winona County.	Ongoing	Moderate	2018-2022	Winona County	WC Emergency Management & WC Community Services	In the event of a severe heat or cold event that poses risk to public safety, WC Emergency Management will work with WC Community Services to release information to the public about personal safety measures and where to go for a heating/cooling facility for the public, especially at-risk individuals such as senior citizens. All emergency shelters should be prepared with emergency backup power.	County Budget

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
35	Flooding	Education & Awareness Programs	Educate the public on the dangers associated with flooding and timely flood-condition information. Also provide education about floodplain management ordinances, risks associated with living in the floodplain, and benefits of purchasing flood insurance.	Ongoing	High	2018-2022	Winona County	WC Emergency Management, WC Planning & Environmental Services	Flood watches, advisories, or warnings are issued by the NWS and additionally conveyed by WC Emergency Management via the Sheriff's Office Facebook page to help get the word out. During the NWS's Severe Weather Awareness Week in April each year, one day is dedicated to floods and flood education.	County funding
36	Flooding	Local Planning & Regulations	Encourage municipal participation in FEMA's Community Rating System (CRS).	Ongoing	Moderate	2018-2022	Winona County	WC Planning & Environmental Services	FEMA's Community Rating System (CRS) Recognizes and encourages community floodplain management activities that exceed the minimum NFIP standards. Depending upon the level of participation, flood insurance premium rates for policyholders can be reduced up to 45%. (as of Jan. 9, 2018) Winona County will explore enrollment in the Community Rating System (CRS) with municipalities.	County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.	County, municipal funding
38	Flooding	Local Planning & Regulations	Identify residential and commercial structures in the floodplain throughout Winona County and encourage those homeowners / businesses to participate in the FEMA National Flood Insurance Program (NFIP).	Ongoing	High	2018-2022	Winona County	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	New FEMA floodplain maps are planned for Winona County in 2019. Winona County and local cities will encourage homeowners and businesses in mapped floodplain areas to participate in the NFIP if they do not do so already.	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
39	Flooding	Natural Systems Protection	Work with local farmers to design, repair, or maintain agricultural water retention and erosion control structures.	Ongoing	High	2018-2022	Winona County	WC SWCD in partnership with Watershed Organizations	WC SWCD works to provide ongoing technical support to ag-land owners in the assessment & best practices to mitigate for erosion, sedimentation, and water quality (i.e., design of grade stabilization structures to mitigate 10-15 yr. rain events).	SWCD
40	Flooding	Mitigation Preparedness & Response Support	Install rain/flood gauge monitoring equipment on streams and rivers of concern in order to provide early notification to downstream residents. Install new equipment as feasible.	New	High	2018-2022	Winona County City of Stockton	MN DNR	The MN DNR is the lead agency to work with watershed districts and communities throughout the County to assess the potential to install stream monitoring equipment.	County, municipal funding, MN DNR
41	Flooding	Mitigation Preparedness & Response Support	Continue to ensure there are sand bags and other equipment available to respond to emergency flood events within Winona County.	Ongoing	High	2018-2022	Winona County	WC Emergency Management	WC Emergency Management and WC Hwy. Dept. maintain an inventory of sandbags and work with communities as needed in the event of rain events that require sandbagging efforts.	County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.	County, municipal funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/ Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events.	Municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
44	Flooding	Natural Systems Protection	Work with private property owners to clean out ponds to restore water storage capacity of existing ponds and reduce localized flooding.	New	High	2018-2022	Winona County	WC SWCD in coordination with municipal Public Works, SRMC WD	Winona County SWCD, SRMC WD and municipalities will work with ag-land or other property owners to address the clean out and maintenance of ponds that help to hold water and reduce flooding to nearby roads or communities. Currently State and Federal funds don't adequately allow cost-share for this.	County, municipal funding, SWCD/ SRMC WD funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process. Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities
47	Flooding	Local Planning & Regulations / Structure and Infrastructure Projects	Construct new or certify existing dikes, levees, or floodwalls to provide localized storm water control and protection of critical facilities or property at risk to flooding.	New	High	2018-2022	Winona County, City of Elba City of Stockton, City of St. Charles City of Winona	US Army Corps of Engineers, MN DNR, in coordination with municipal Public Works Depts. and Watershed Districts	This work applies to individual municipalities as well as the MN DNR and U.S. Army Corps of Engineers as applicable.	County, municipal funding, Possible USDA funding or MN DNR Flood Hazard grant funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County. <i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure.	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation
50	Flooding	Education & Awareness Programs	Provide education to property owners on measures they can take to reduce the risk of flood damage to structures and property and reduce the impact of rain events on storm drains & ditches. (i.e., landscaping, green infrastructure, and drainage applications).	New	High	2018-2022	Winona County	WC Planning & Environmental Services, WC SWCD, WC Extension	In October, 2017 Winona County provided a community educational forum "Creating Resiliency Through Improved Landscape Practices". This sort of community awareness & education outreach can be continued in the future.	SWCD / County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
51	Flooding	Local Planning & Regulations / Education & Awareness Programs	Provide education to County/City administrative level leaders (Planning Commission, County Commissioners, Town Boards, City Council) on the consequences of building in sensitive areas, floodplains, steep slopes, and areas of concentrated water flow.	New	High	2018-2022	Winona County	WC SWCD, WC Planning & Environmental Services	<p>Many proposed projects that fall into a category listed as a "sensitive feature" would also translate to a higher level of permitting. These types of actions incur a public review process that necessitates a high level of County staff interaction with members of the public, project proposers and the deciding boards & councils. Trained staff can prescribe best management practices, alternatives, conditions or other recommendations to mitigate some of the potential negative consequences during these procedures.</p> <p>Trained staff is tasked with continually educating the public, realtors, developers and policy makers of the potential negative consequences for improper projects that occur within the sensitive features.</p>	SWCD, County Funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management. (<i>i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.</i>)	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities
53	Flooding	Natural Systems Protection	Work with property owners to clean out/remove debris, overgrowth of vegetation, obstructions from riparian corridors of streams in areas with higher incidence of flooding.	New	High	2018-2022	Winona County Elba, Goodview, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	Winona County Planning, SWCD, MN DNR, and Watershed Districts	This is an ongoing effort of Winona County Planning, SWCD, MN DNR, and our Watershed Districts as we respectively work in our programs to educate and work with property owners on localized flood mitigation measures. Outreach is commonly conducted through newsletters and direct outreach during our summer growth periods and following periods of heavy storms that will result in problematic downed vegetation.	County, municipal funding, SWCD, MN DNR

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
55	Erosion	Structure and Infrastructure Projects / Education & Awareness Programs	Evaluate the feasibility of building roads to provide temporary storage behind culverts/bridges, and educate landowners of the value.	New	High	2018-2022	Winona County	WC Hwy. Department & Environmental Services in WC Hwy Dept & WC SWCD	There needs to be discussion between the WC Engineer and WC SWCD as to whether or not these practices will work in our steep terrain/ landscape.	County funding
56	Flooding	Local Planning & Regulations	Work with Olmsted County on any joint efforts to mitigate against flood impacts related to upstream water flow to Winona County.	New	High	2018-2022	Winona County	WC Planning & Environmental Services in coordination with Olmsted County Planning Dept.	Olmsted County is the only neighboring county with water running into Winona County. Winona County will work in collaboration with Olmsted County to find ways to work together on flood mitigation.	County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
57	Flooding / Erosion	Education & Awareness Programs	Provide assistance to landowners in the application of practices that help to restore and stabilize areas impacted by wind/ water erosion (i.e., wetland restoration, installation of shelter belts, erosion control measures for lake shore and stream bank stabilization).	Ongoing	High	2018-2022	Winona County	WC SWCD in coordination with Watershed Districts	The Winona County SWCD and watershed districts in the County offer educational, financial, and technical assistance to land users for management and conservation practices to protect and restore soil & water resources. Local cities are encouraged to restore and preserve natural systems in their jurisdictions as applicable to help in localized flood risk reduction.	County, municipal funding, SWCD, & USDA grants or loans
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on bluffs.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
60	Karst / Sinkholes	Education & Awareness Programs	Provide public awareness and education on areas of karst in the County, along with associated dangers of sinkholes and importance of groundwater protection, in areas of karst, including buffers.	Ongoing	Low	2018-2022	Winona County	WC SWCD	This is an ongoing, but limited education & awareness program element by Winona County SWCD.	SWCD
61	Karst / Sinkholes	Local Planning & Regulations	Continue to enforce ordinances that restrict new development in areas with karst features.	Ongoing	Low	2018-2022	Winona County	WC Planning & Environmental Services	Winona County has a Natural hazard specific ordinance in place for karst features.	County funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding
63	Wildfire	Local Planning & Regulations	Continue to enforce burning permits/restrictions.	Ongoing	Moderate	2018-2022	Winona County	MN DNR, WC Sheriff's Office	The MN DNR manages the burning permits for Winona County and will issue notices when there are burning restrictions in place.	MN DNR, Municipal, Fire District funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
64	Wildfire	Structure & Infrastructure Projects / Natural Systems Protection	Assess the needs of local fire departments for water availability & equipment to support wildland fire-fighting and acquire/install equipment as feasible.	New	Low	2018-2022	Winona County	WC Emergency Management and MN DNR in coordination with municipal fire depts.	<p>Fire districts within the County have identified a need for specific equipment and water availability to support fire fighting capabilities, particularly in outlying areas not served by a municipal water source.</p> <p>Priorities for water availability & wildfire fighting equipment include:</p> <ul style="list-style-type: none"> • Install underground holding tanks to provide water storage/access for refilling of fire trucks. <i>The Pickwick Fire Department is specifically interested in construction of a cistern to provide water availability.</i> • Purchase portable dry water pumps • Install dry hydrants at lakes or streams where feasible. • Acquire portable generators. <p>Fire departments will work with MN DNR Forestry to help in evaluation of and provision of grant funding to support the above projects.</p>	County, municipal funding, Fire District funding, or Possible MN DNR Firewise Grant funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
65	Wildfire	Education & Awareness Programs	Continue to provide public education and awareness on the prevention of forest fires particularly during dry spells or periods of drought.	Ongoing	Moderate	2018-2022	Winona County	WC Emergency Management and MN DNR in coordination with municipal fire depts.	Fire prevention is held annually each October. City fire departments participate and provide an opportunity for citizens to learn fire safety with open houses. In addition to fire departments going to schools to educate our youth, local media also assists in sharing fire safety information to the public. Winona County Emergency Management helps to put out reminders on wildfire safety through the Sheriff's Office FB page (i.e., campfire safety). The MNDNR also activity puts out public information on wildfire safety.	Municipal, Fire District funding, MN DNR
66	Wildfire	Local Planning & Regulations	Work with the MN DNR to consider/develop a Community Wildfire Protection Plan (CWPP) for Winona County.	New	Moderate	2018-2022	Winona County	WCEM in coordination with municipal fire depts.	Currently Winona County does not have a CWPP, however there are high-risk wildfire areas within the County. Having a CWPP in place may provide for certain grant funding opportunities from the MN DNR for wildfire mitigation. WCEM will explore development of a CWPP with the MN DNR SW-MN Firewise Coordinator.	County funding
67	Wildfire	Natural Systems Protection	Identify & implement structural, retrofit, or vegetation management projects for County or City owned properties that reduce risk for wildfire.	Ongoing	Moderate	2018-2022	Winona County	WC Emergency Management in coordination with municipal fire depts.	WC Emergency Management and local fire depts. will continue to consider and implement projects designed to mitigate at-risk structures or property against wildfire (i.e., wildfire breaks or removal of dead, dry vegetation and trees which may ignite as a result of lightning or human related causes).	Municipal, Fire District funding, possible MN DNR Funding for Fuels Reduction

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
68	Wildfire	Local Planning & Regulations	Conduct a county-wide assessment of areas with significant wildfire potential, particularly those in in proximity to urban areas.	New	Low	2018-2022	Winona County	Local fire districts in coordination with MN DNR Forestry	MN DNR conducts statewide assessments for wildfire potential and the location of Wildland Urban Interface (WUI) areas. WCEM and local fire departments will coordinate with MNDNR to remain up-to-date on a wildfire risk assessment for the County.	MN DNR
69	Wildfire	Education & Awareness Programs	Promote Firewise education for homeowners in high-risk wildfire areas of how to create a "Firewise Property" and provide technical assistance to conduct Level-1 Assessments for increasing defensible space.	New	Moderate	2018-2022	Winona County	Local fire districts in coordination with MN DNR Forestry	This is an ongoing collaborative effort between local fire districts and the MN DNR.	MN DNR, Municipal, Fire District funding, Possible FEMA HMA Grant funding for Fuels Reduction

5.3.2 Mitigation Actions by Community

This is a multi-jurisdictional plan that covers Winona County, its school districts and the cities of Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica and Winona. Planning team members from each community participated directly in the development of local mitigation action charts for implementation. The Winona County risks and mitigation activities identified in this plan also incorporate the concerns and needs of townships and other entities participating in this plan.

Mitigation actions are separated by jurisdiction in Appendix G.

Section 6 – Plan Maintenance

6.1 Monitoring, Evaluation, and Updating the Plan

The Winona County Multi-Hazard Mitigation Plan (MHMP) should be considered a living document. The plan should be updated and approved by FEMA at a minimum of every 5 years. The guidance in this section will function as the primary tool when reviewing progress on the implementation of the Winona County MHMP.

The Winona County Emergency Management Coordinator is the individual responsible for leading all efforts to monitor, evaluate, and update the hazard mitigation plan within the 5-year window. Throughout the 5-year planning cycle, the Winona County Emergency Management Coordinator will work with the Winona County Emergency Coordinating Council (WCECC) to serve as the committee to help to monitor, review, evaluate and update the Multi-Hazard Mitigation Plan. The WCECC meets every-month and consists of representatives from Winona County Emergency Management, Public Health, Planning and other county departments, as well as representatives from the cities of Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica and Winona.

Additional stakeholders will be added based on need. If necessary, the Winona County Emergency Management Coordinator will convene the committee to meet on a more regular basis to monitor plan implementation progress and reassess needs and opportunities. This could be done in response to funding cycles of programs that provide resources for hazard mitigation activities. If there is a need for a special meeting due to new developments or a declared disaster occurring in the county, the committee will meet to update pertinent mitigation strategies. Depending on Winona County opportunities and fiscal resources, mitigation projects may be implemented independently by individual communities or through local partnerships.

The committee will continue to review the MHMP goals and objectives to determine their relevance to changing situations in Winona County. In addition, state and federal policies will be reviewed to ensure they are addressing current and expected conditions. The committee will also review the risk assessment portion of the plan to determine if this information should be updated or modified. The parties responsible for the various implementation actions will report on the status of their projects, and will include which implementation processes worked well, any difficulties encountered, how coordination efforts are proceeding, and which strategies should be revised.

Updates or modifications to the MHMP during the 5-year planning process will require a public notice and a meeting prior to submitting revisions to the individual jurisdictions for approval. The plan will be updated via written changes, submissions as the committee deems appropriate and necessary, and as approved by county commissioners.

Throughout the 5-year window of the plan, each respective county department and jurisdiction will be required to report on the status of mitigation actions in their charts to the Winona County Emergency Management Coordinator so that progress notes may be maintained for the next plan update.

6.2 Implementation

Winona County and its included municipalities share a common Multi-Hazard Mitigation Plan and work together closely to develop, revise and implement it. This MHMP provides a comprehensive chart of mitigation actions for Winona County and its jurisdictions (see Section 5.3.1, *Hazard Mitigation Actions*). The cities of Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica and Winona participated in the MHMP planning process and identified the specific mitigation strategies that they would seek to implement in their communities during the 5-year planning cycle. These mitigation actions are provided in *Appendix G: Mitigation Actions by Jurisdiction*.

A number of implementation tools are available to address hazards. Many of these tools are below, however, in some cases additional discussion is needed in order to identify what strategies are most appropriate to use. This will be part of an ongoing discussion as Winona County looks for opportunities for plan implementation. The following tools will be considered:

Education: In many cases, education of residents has been identified as one of the most effective mitigation strategies.

Capital Investments: Capital investments such as fire and ambulance equipment, sprinkler systems and dry hydrants are tools that can limit risks and impacts of natural and man-made hazards.

Data Collection and Needs Assessments: Data collection and needs assessments can aid in gaining a better understanding of threats and allow planning for mitigation strategies accordingly. As resources are limited for this part of the planning process, additional data collection is likely to be an ongoing activity as resources become available.

Coordination: Responsibilities for mitigation strategies run across various county departments, local fire and ambulance departments, city and township governments, and a host of state and federal agencies. Ongoing coordination is an important tool to ensure resources are used efficiently. Coordination can also avoid duplication of efforts or prevent gaps that are created because of unclear roles and responsibilities. The mitigation plan review process can function as a tool to have an ongoing discussion of roles, responsibilities, and opportunities for coordination.

Regional Cooperation: Counties and public safety services providers throughout the region often share similar challenges and concerns. In some cases, a regional approach may be warranted as a mitigation strategy in order to save resources. Mutual aid agreements are a tool already in use for a number of services. Needs assessments for fire and ambulance services and development of assistance for volunteer recruiting, training and retention could benefit from a regional approach. Cooperation among counties could also help in lobbying for certain funding priorities that address concerns relating to

challenges in service delivery in rural areas. Organizations such as FEMA Region V and the MN Department of HSEM through the Regional Program Coordinator can offer tools and resources to assist in these cooperative efforts.

6.3 Continued Public Involvement

Continued public involvement is critical to the successful implementation of the Multi-Hazard Mitigation Plan (MHMP). The Winona County Emergency Management Coordinator and the steering committee members from the participating jurisdictions of the cities of Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica and Winona continue to engage new public stakeholders in planning discussions and project implementation during the 5-year cycle of this plan.

In order to seek continued public participation after the plan has been approved and during the 5-year window of implementation for this plan, the county will take the following measures:

- The plan will be posted on the Winona County Emergency Management website for the public to read and provide feedback. Collected feedback will be reviewed and the plan will be amended as necessary.
- Following any major storms or natural disasters, Winona County Emergency Management will seek to gather concerns and new ideas for mitigation from local residents to include in the next update of the plan. This may be done through public meetings, outreach via social media (i.e., Sheriff's Office Facebook Page), or news releases via local media.
- Each city participating in the plan will be responsible to keep their city councils, city departments, schools and community members updated and engaged in the implementation of their respective mitigation action charts (see *Appendix G: Mitigation Actions by Jurisdiction*). Each respective jurisdiction will be required to report on the status of mitigation actions in their charts to the Winona County Emergency Management Coordinator.
- Jurisdictions will use numerous means of public outreach to engage new public stakeholders in providing input on mitigation efforts or concerns on hazards by sharing information at city council meetings, sharing information at special events, working with local schools and partner organizations, and posting information on relevant local or social media that their communities use to inform and engage the public. As mitigation projects are implemented, jurisdictions will work to keep the public updated and engaged in those local efforts.

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APPENDICES

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Appendix B – Winona County Critical Facilities
Appendix C – Winona County Hazard Events
Appendix D – Adopting Resolutions
Appendix E – Steering Committee Meetings
Appendix F – Public Outreach & Engagement Documentation
Appendix G – Mitigation Actions by Jurisdiction
Appendix H – Past Mitigation Action Review Status Report (2012-2017)
Appendix I – Works Cited
Appendix J – Winona County Plans & Programs In Place
Appendix K – Local Mitigation Capabilities Assessment Report
Appendix L – Jurisdictional Questionnaires

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Appendix A

Winona County Maps

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Figure A - 1. Hydrography of Winona County

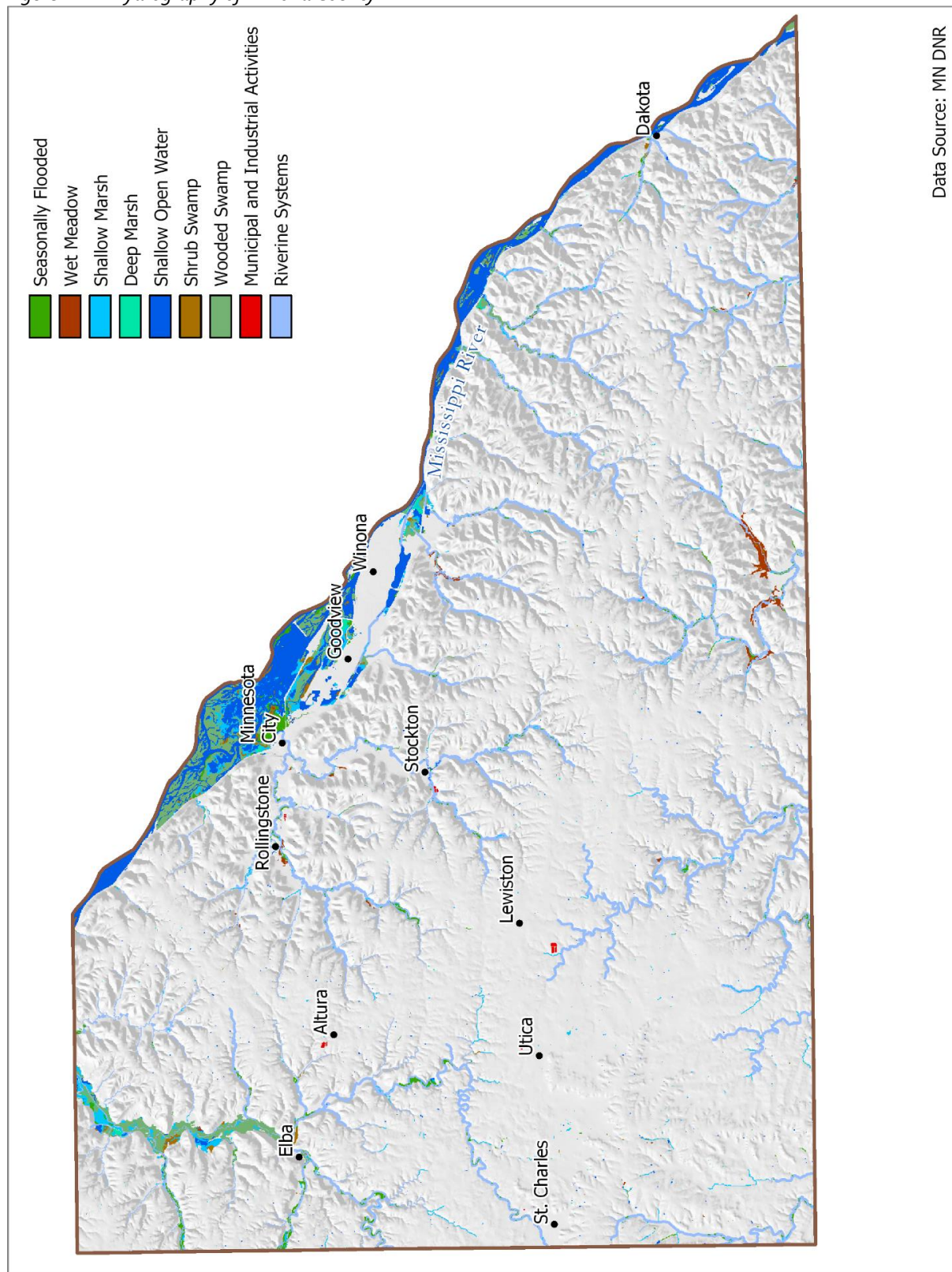


Figure A - 2. Winona County Population by Census Block, 2010

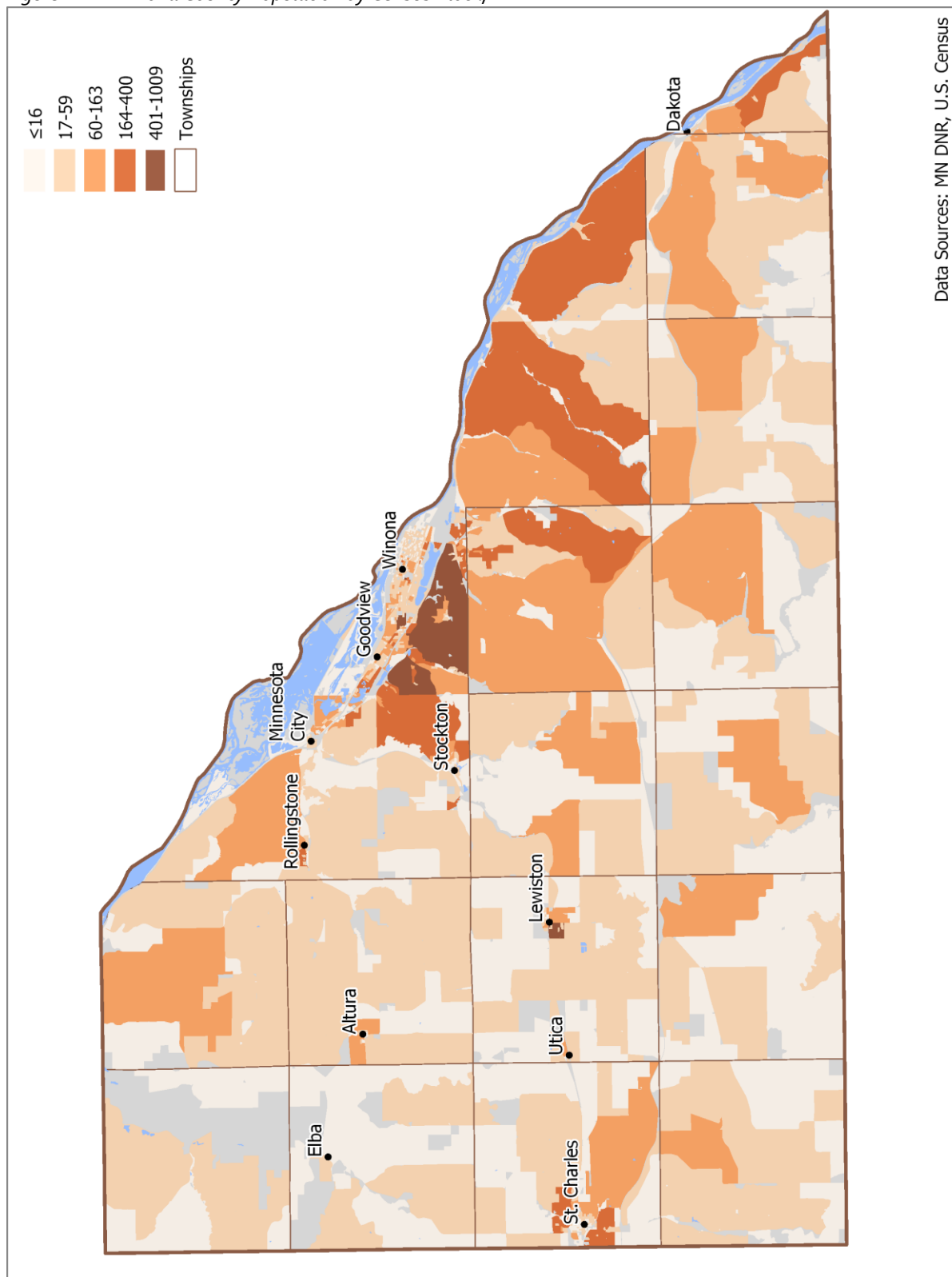


Figure A - 3. Percent Population Change by Township, 2000-2010

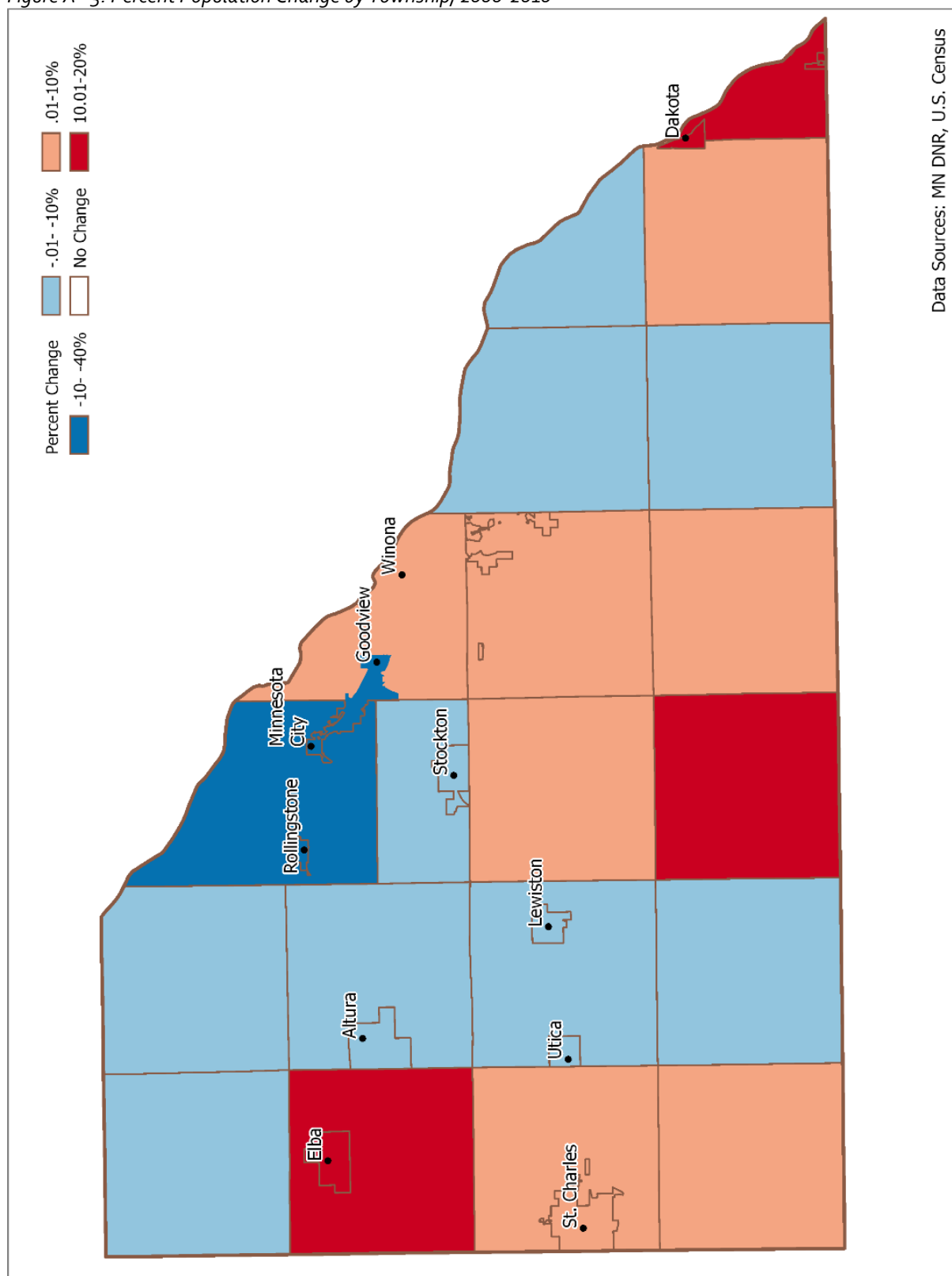


Figure A - 4. Fire Departments and Fire Response Times in Minutes in Winona County

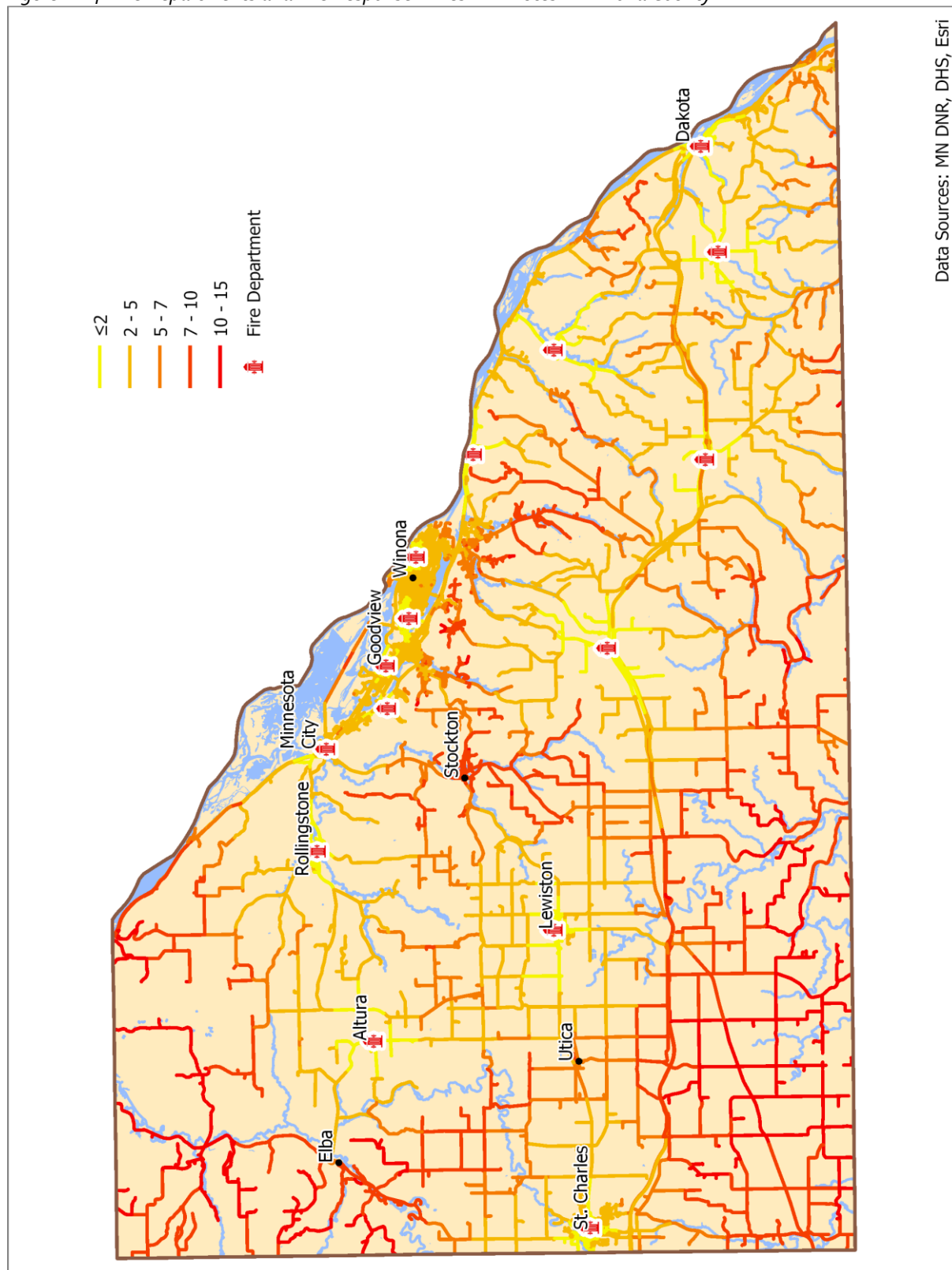


Figure A - 5. Winona County Public Safety and Government Services

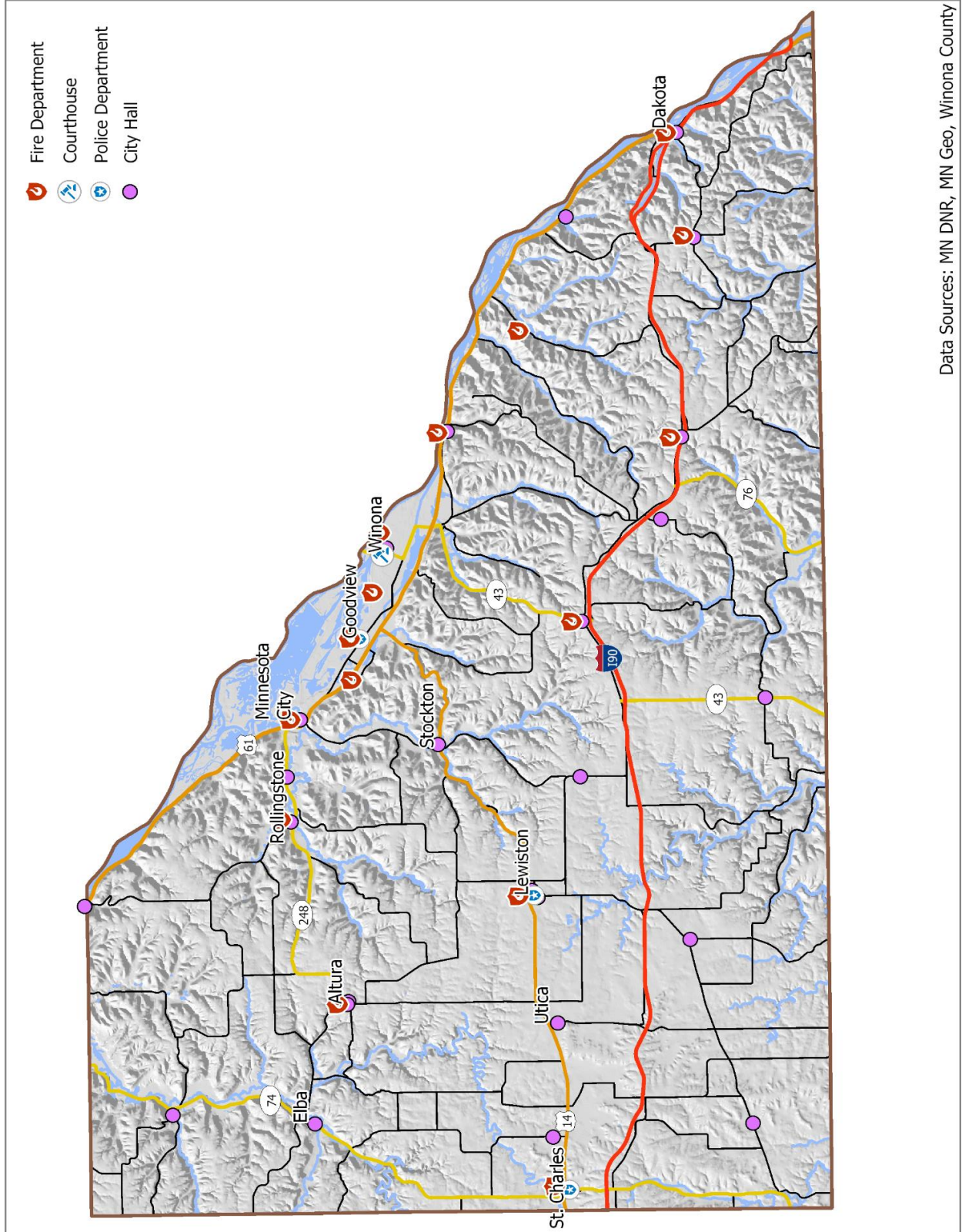
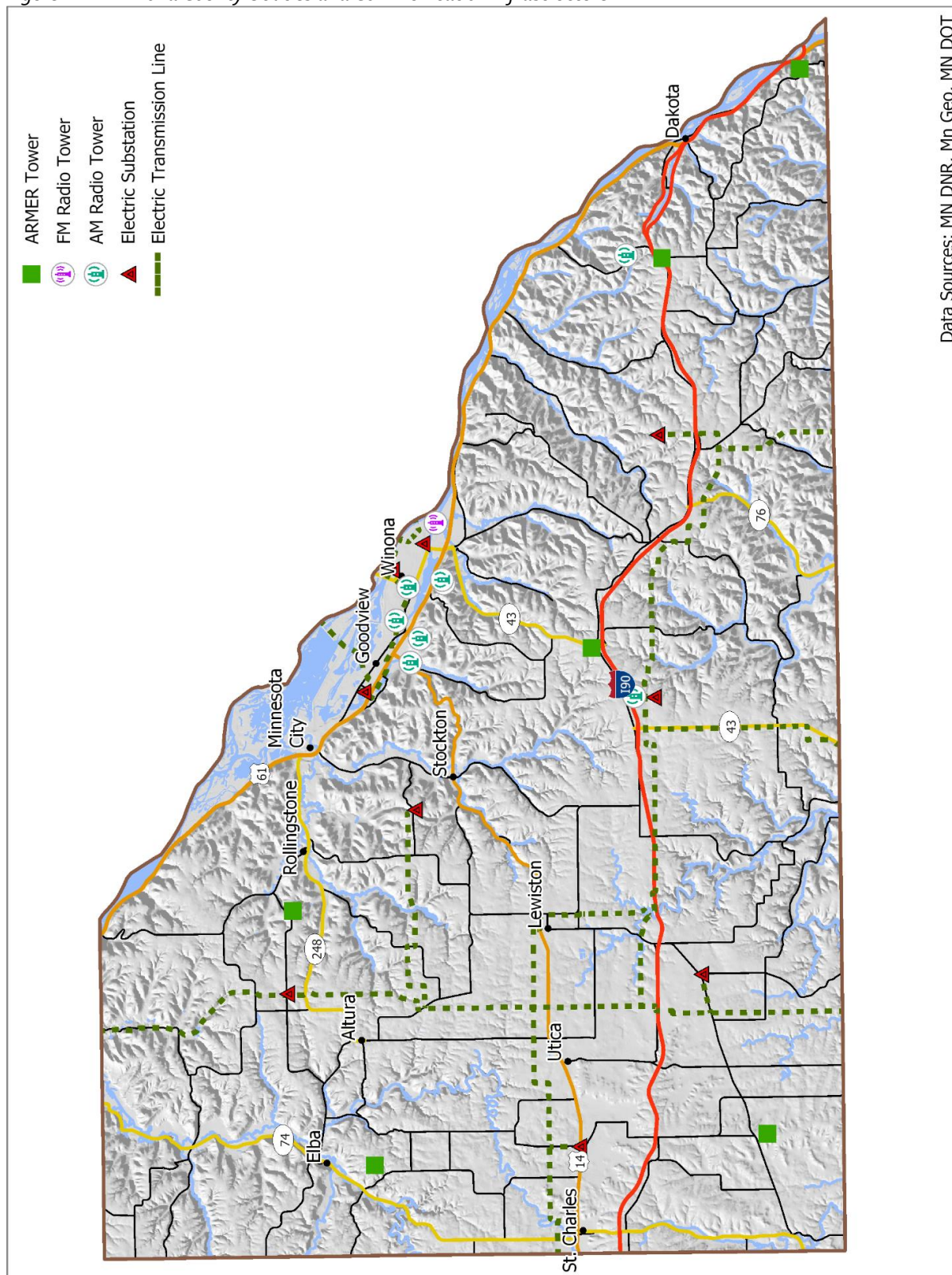


Figure A - 6. Winona County Utilities and Communication Infrastructure



Data Sources: MN DNR, Mn Geo, MN DOT

Figure A - 7. Winona County Transportation Infrastructure

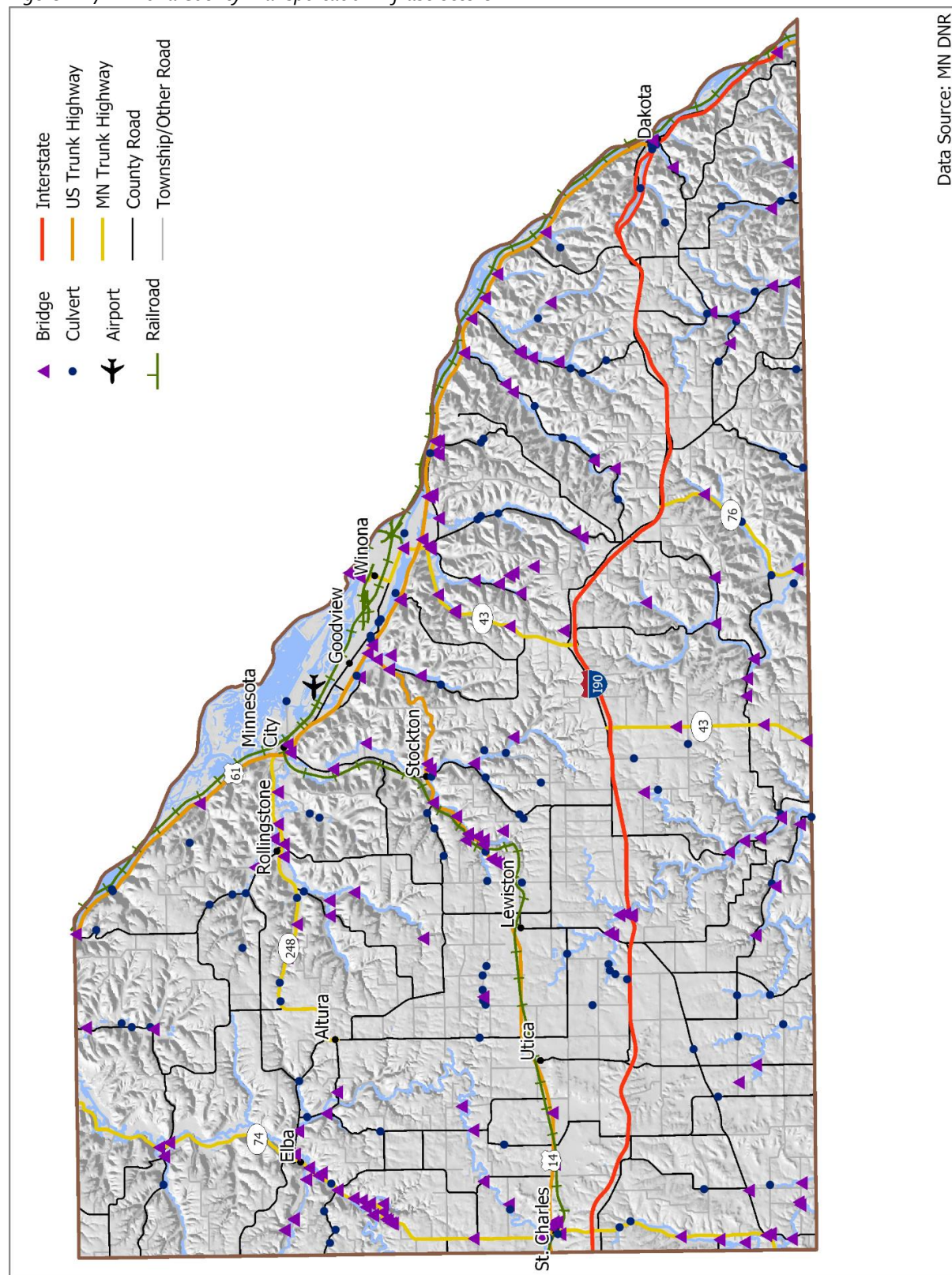


Figure A - 8. Winona County Land Cover, National Land Cover Database, 2011

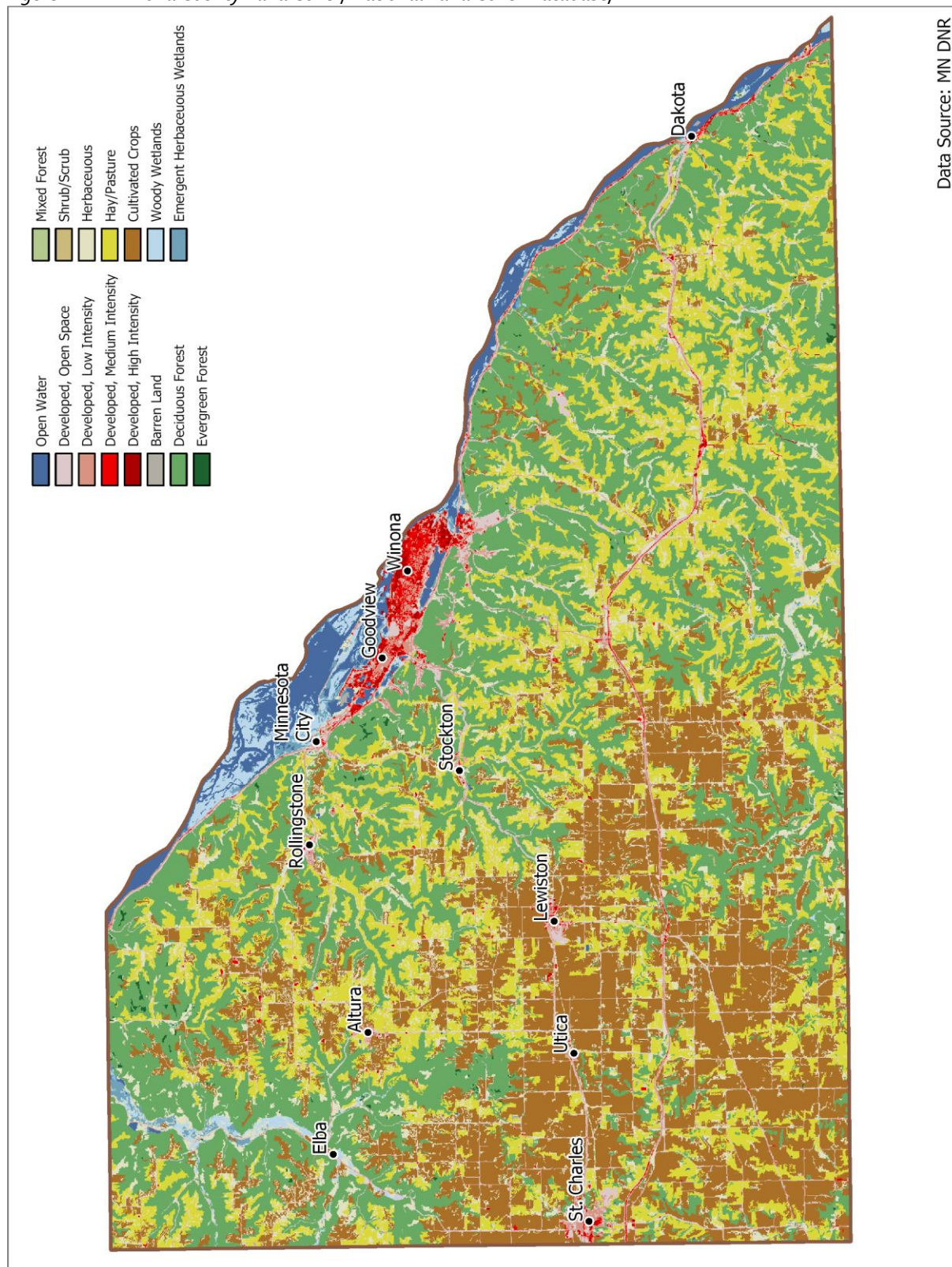


Figure A - 9. Winona County Land Ownership by Agency

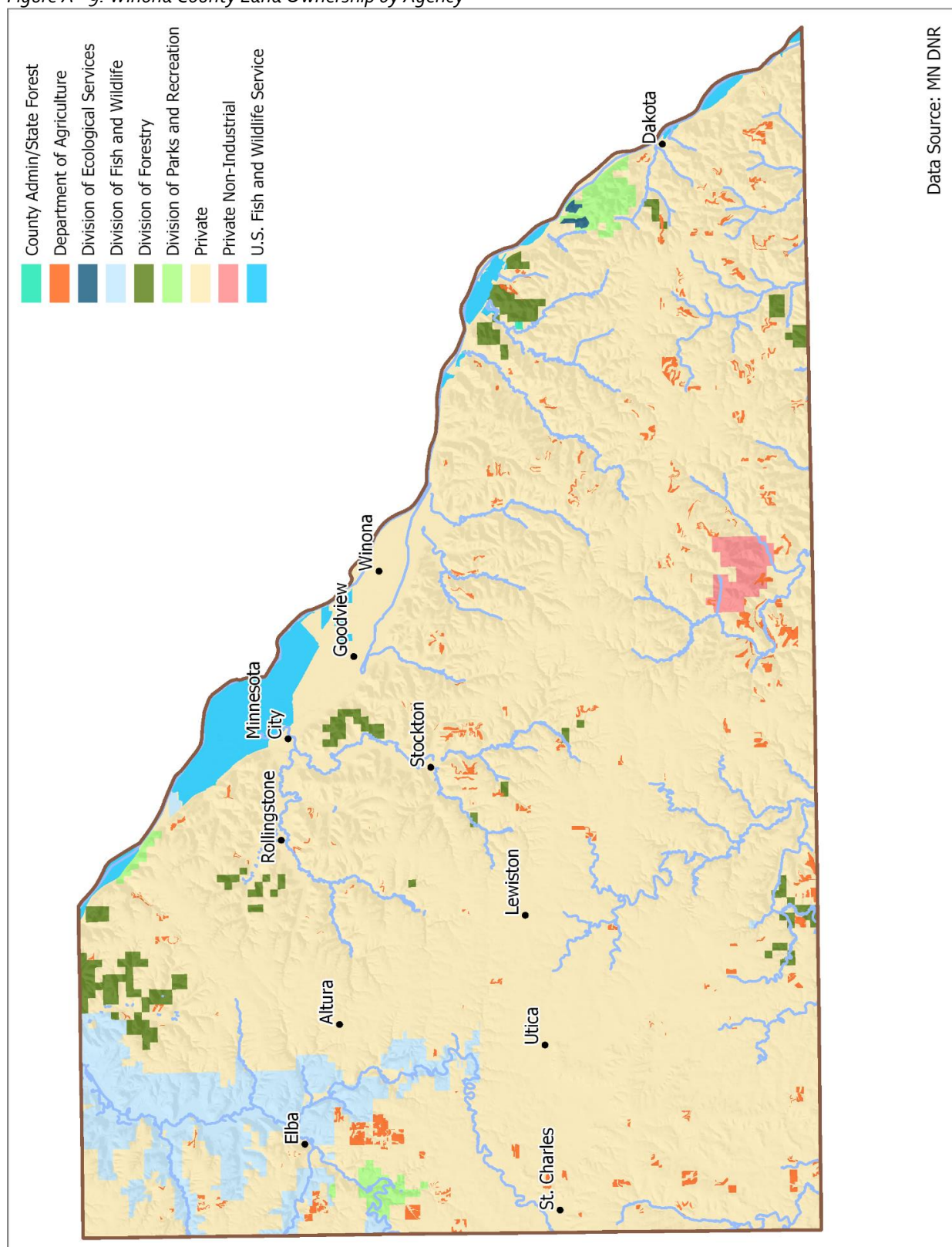


Figure A - 10. Most Recent Severe Wind and Hail Storms in Winona County

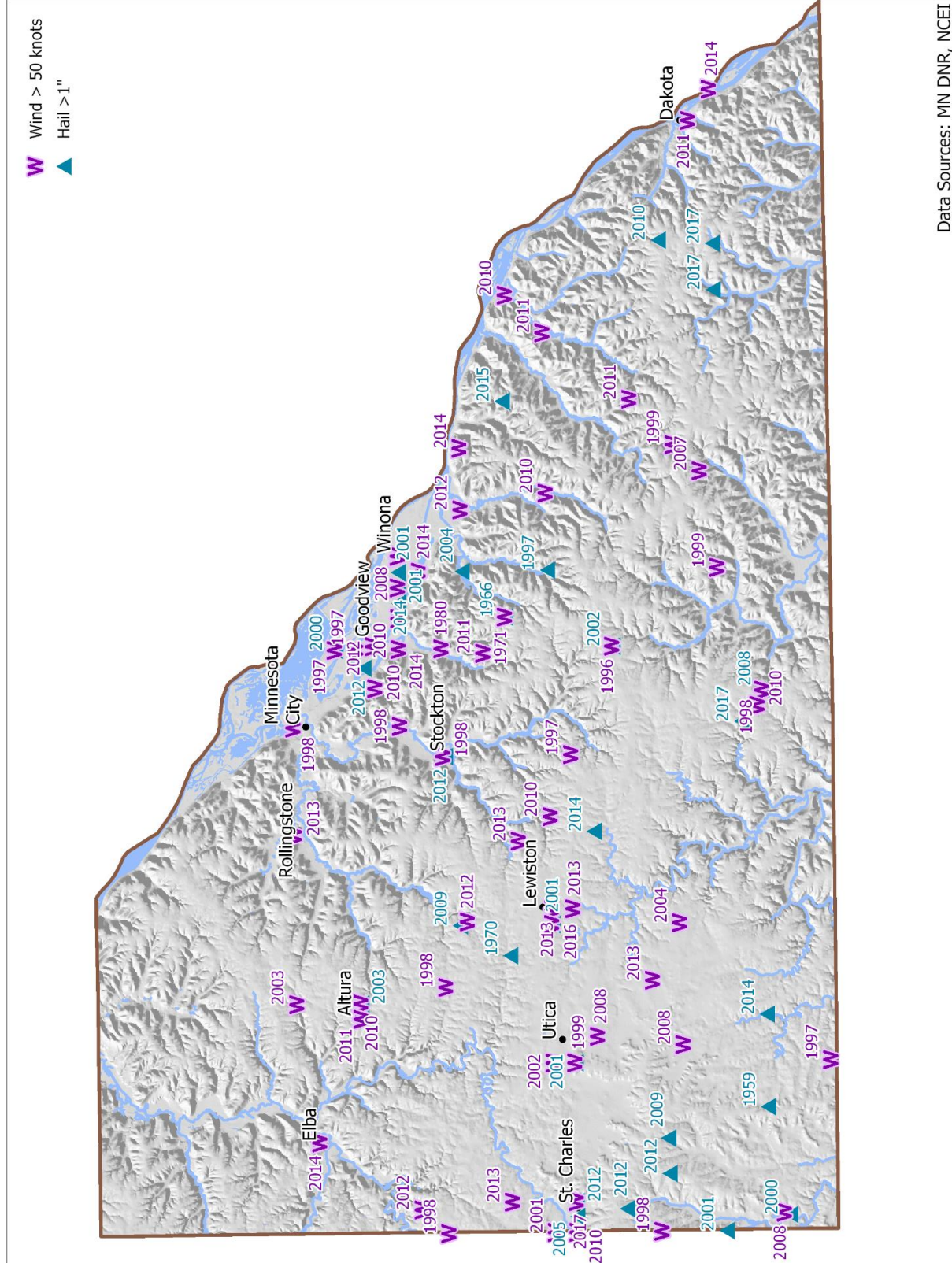


Figure A - 11. Tornado Touchdowns and Paths in Winona County

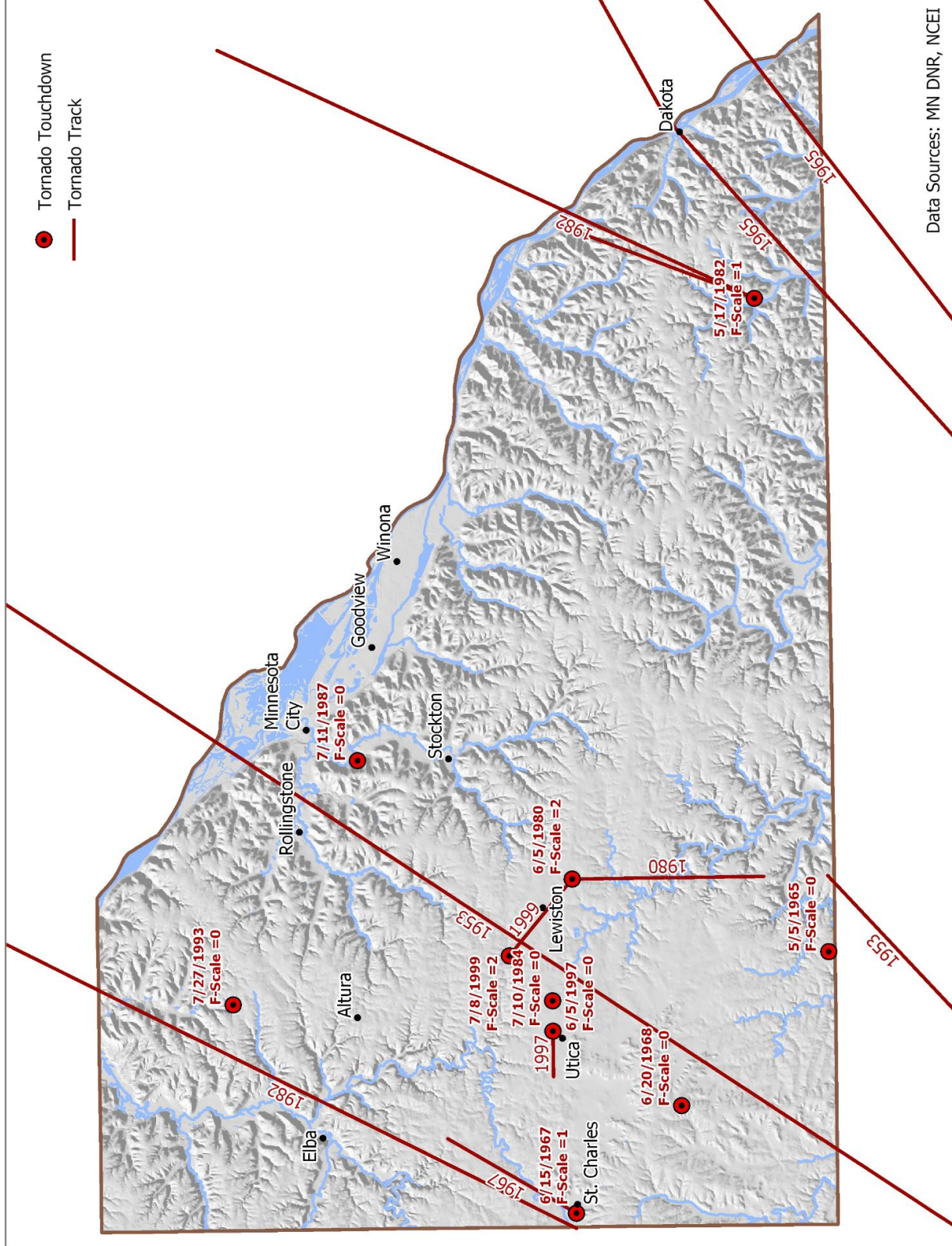


Figure A - 12. Dams and Leveed Areas in Winona County

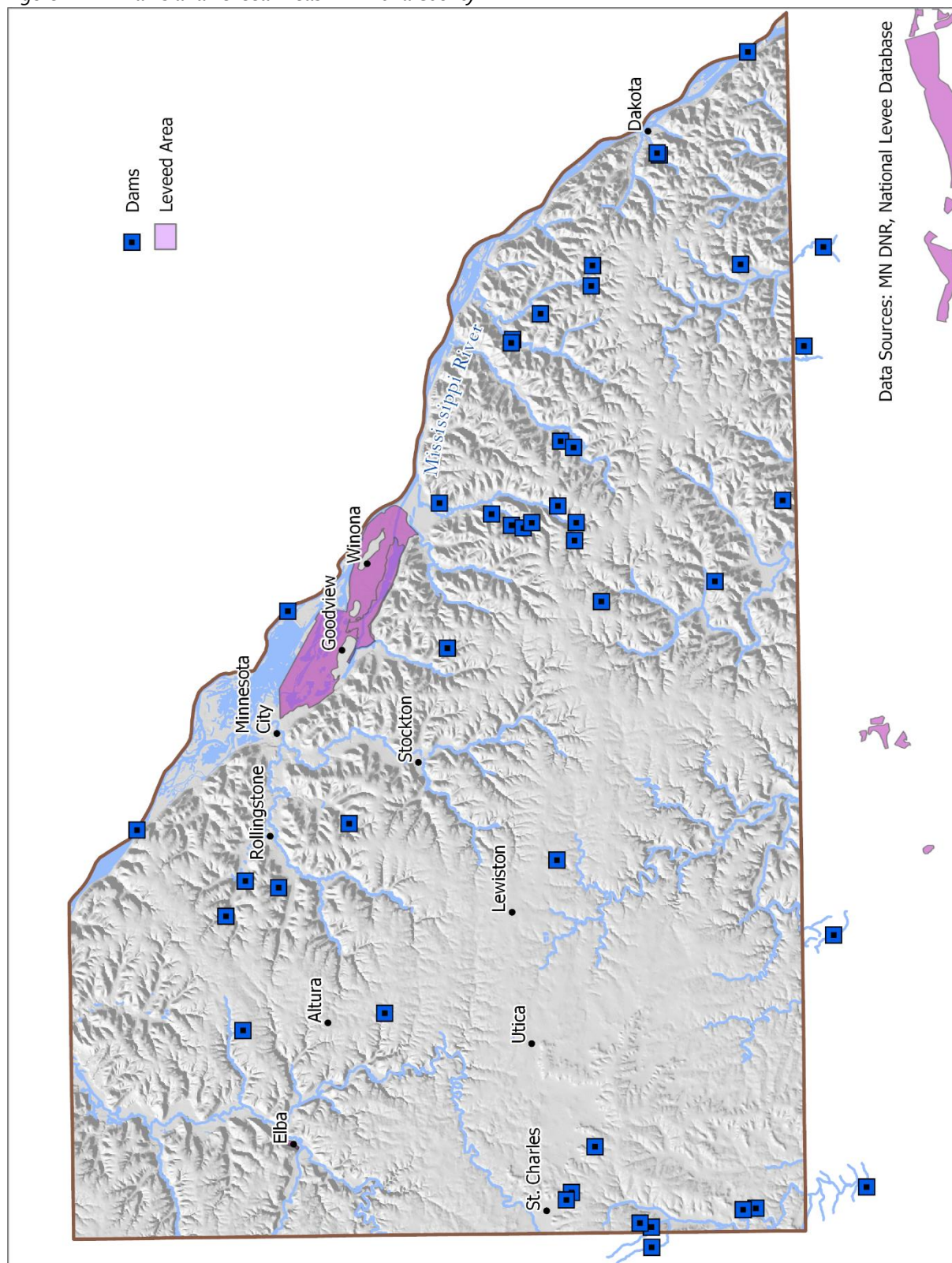


Figure A - 13. Sites with Hazardous or Chemical Waste in Winona County

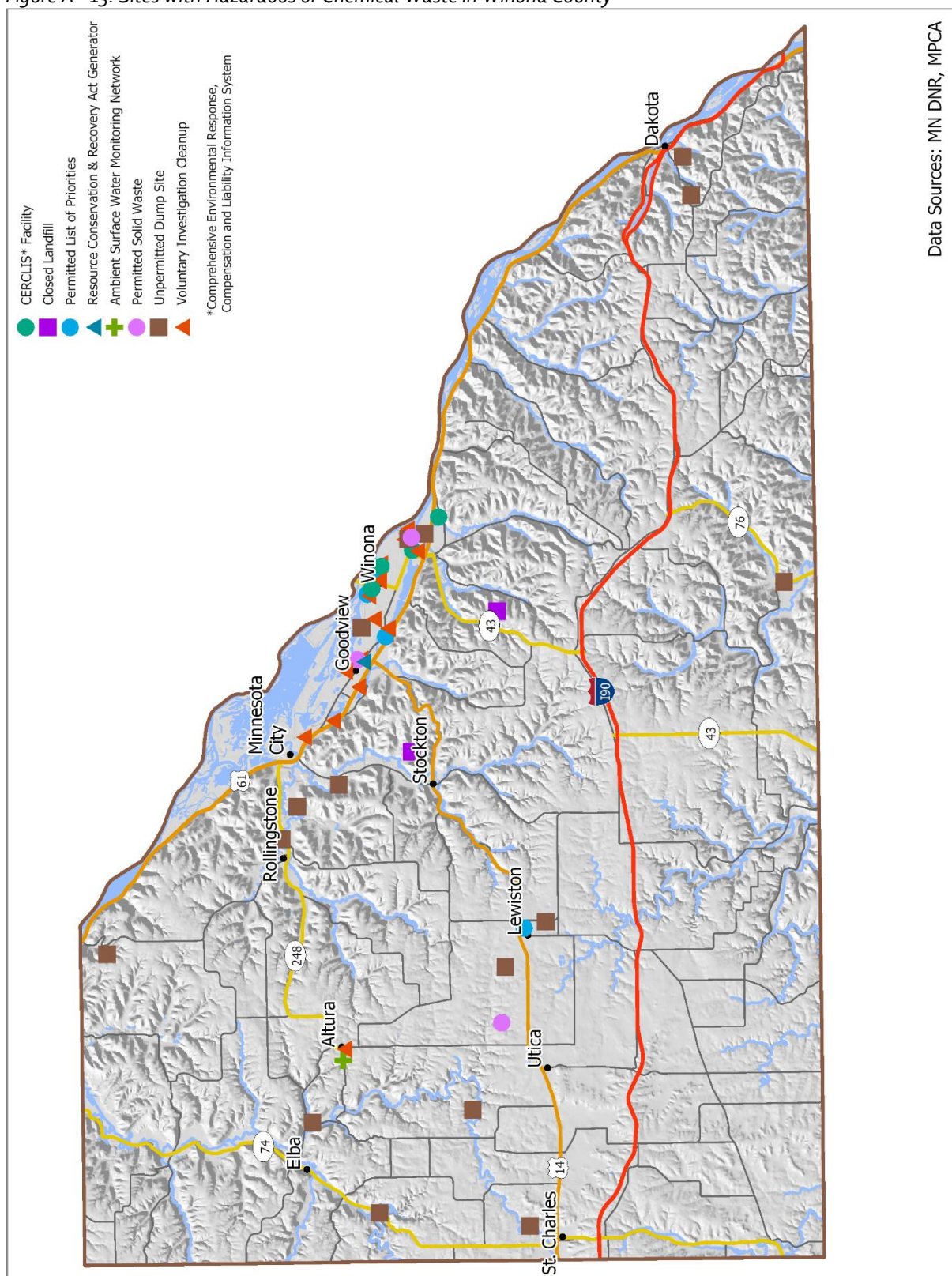


Figure A - 14. Health Care Providers in Winona County

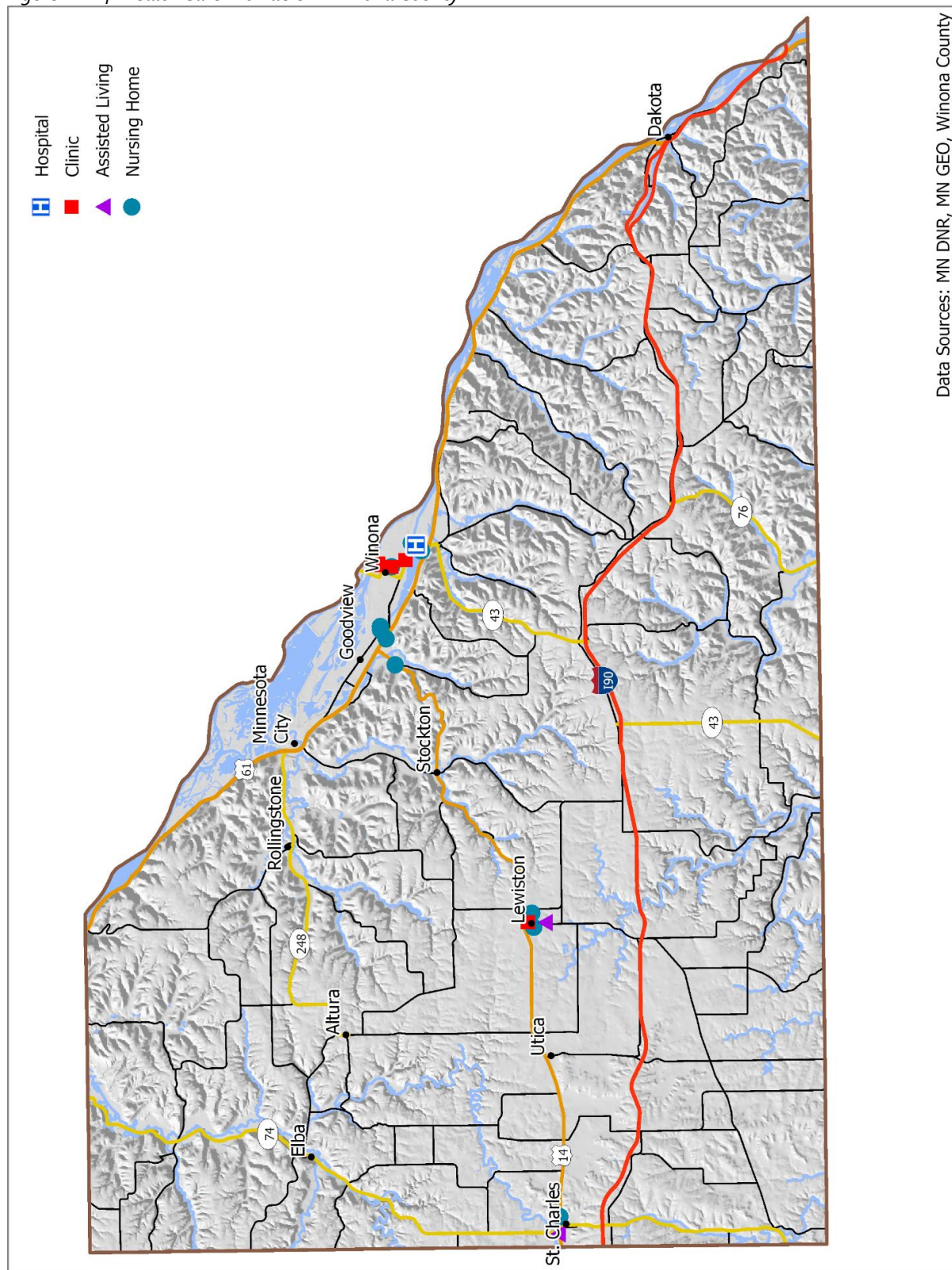


Figure A - 15. Winona County Aquifer Vulnerability and Public Wells

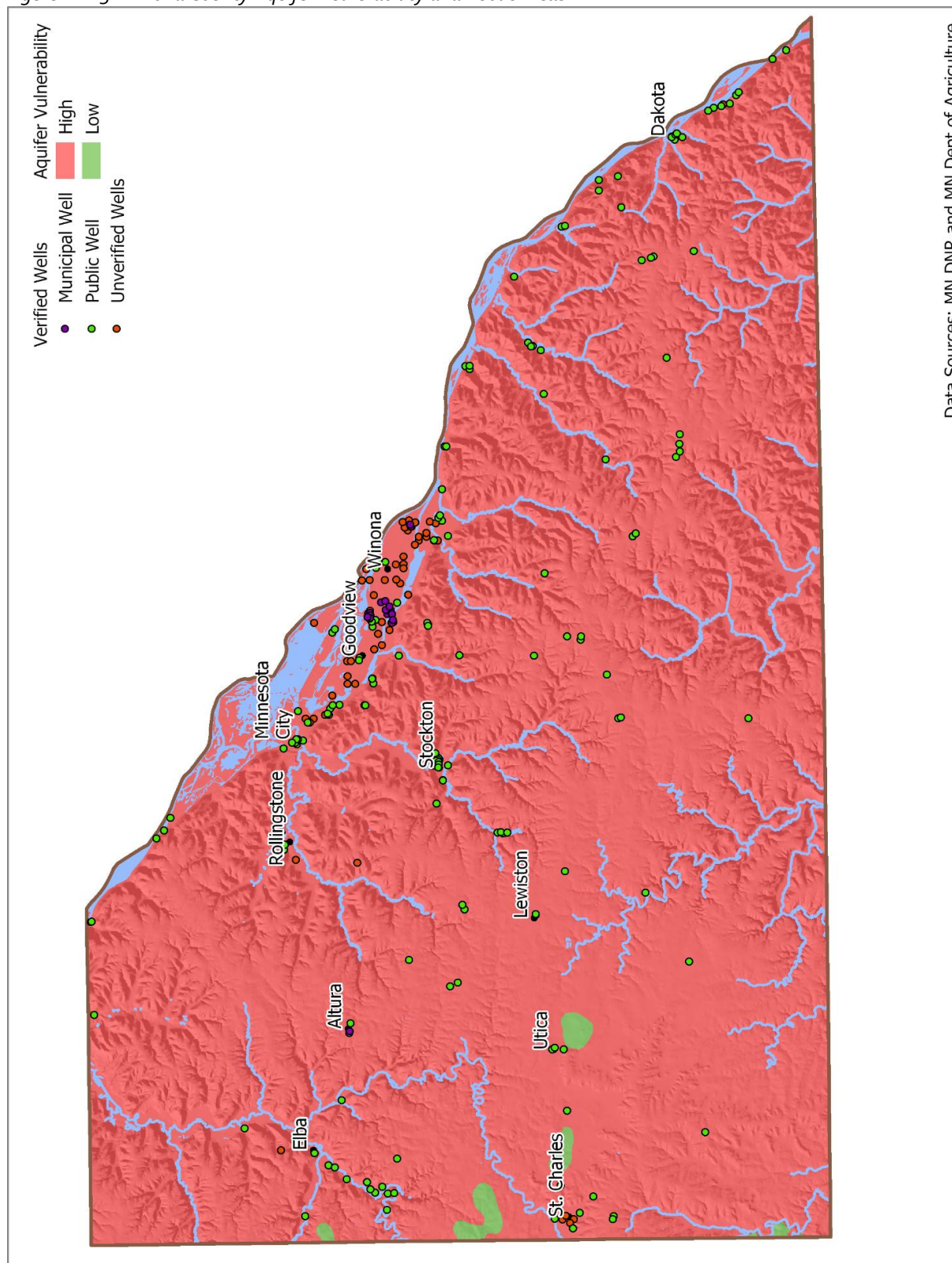


Figure A - 16. Critical Facilities in Winona County

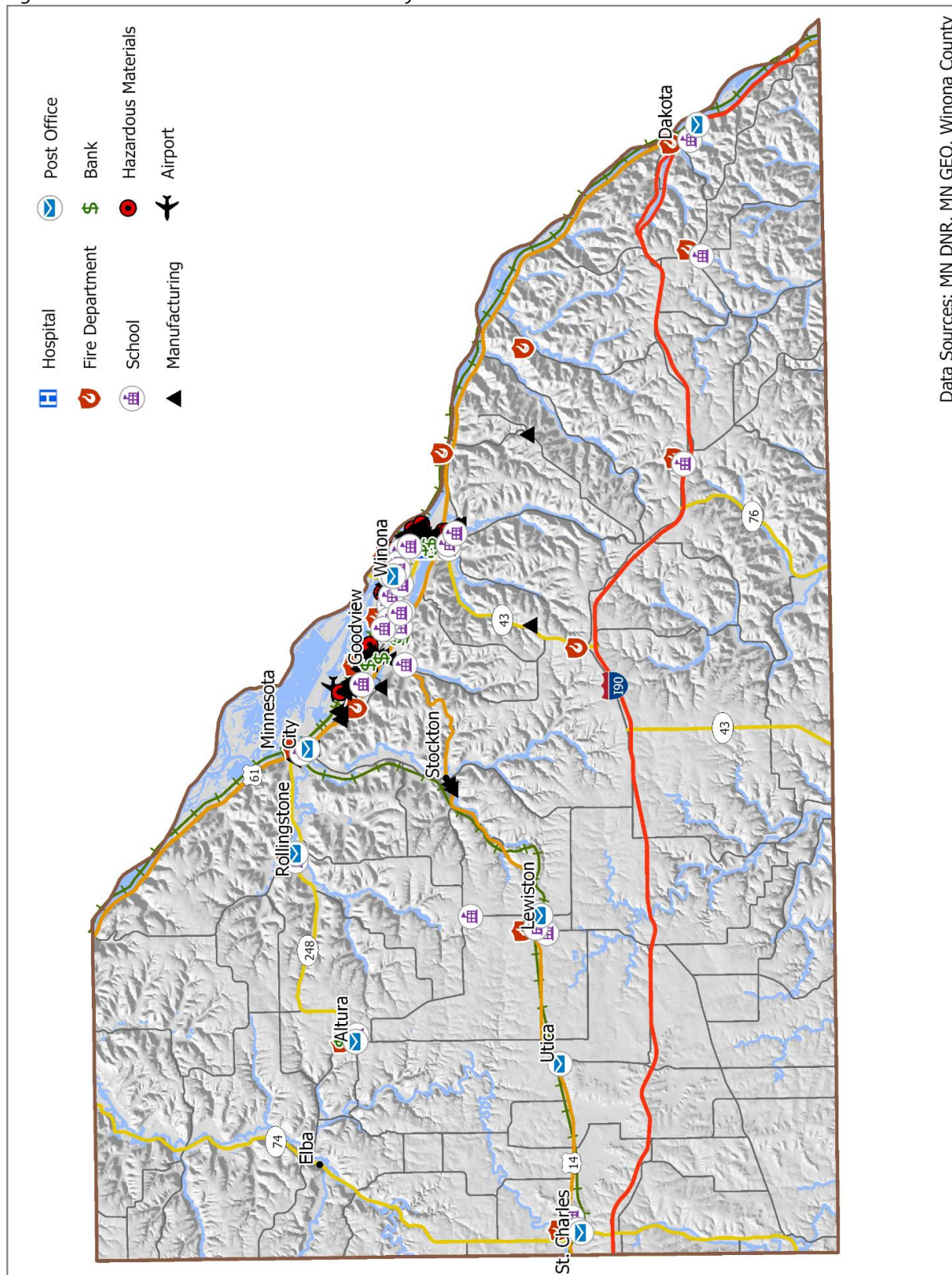


Figure A - 17. Critical Facilities in Winona

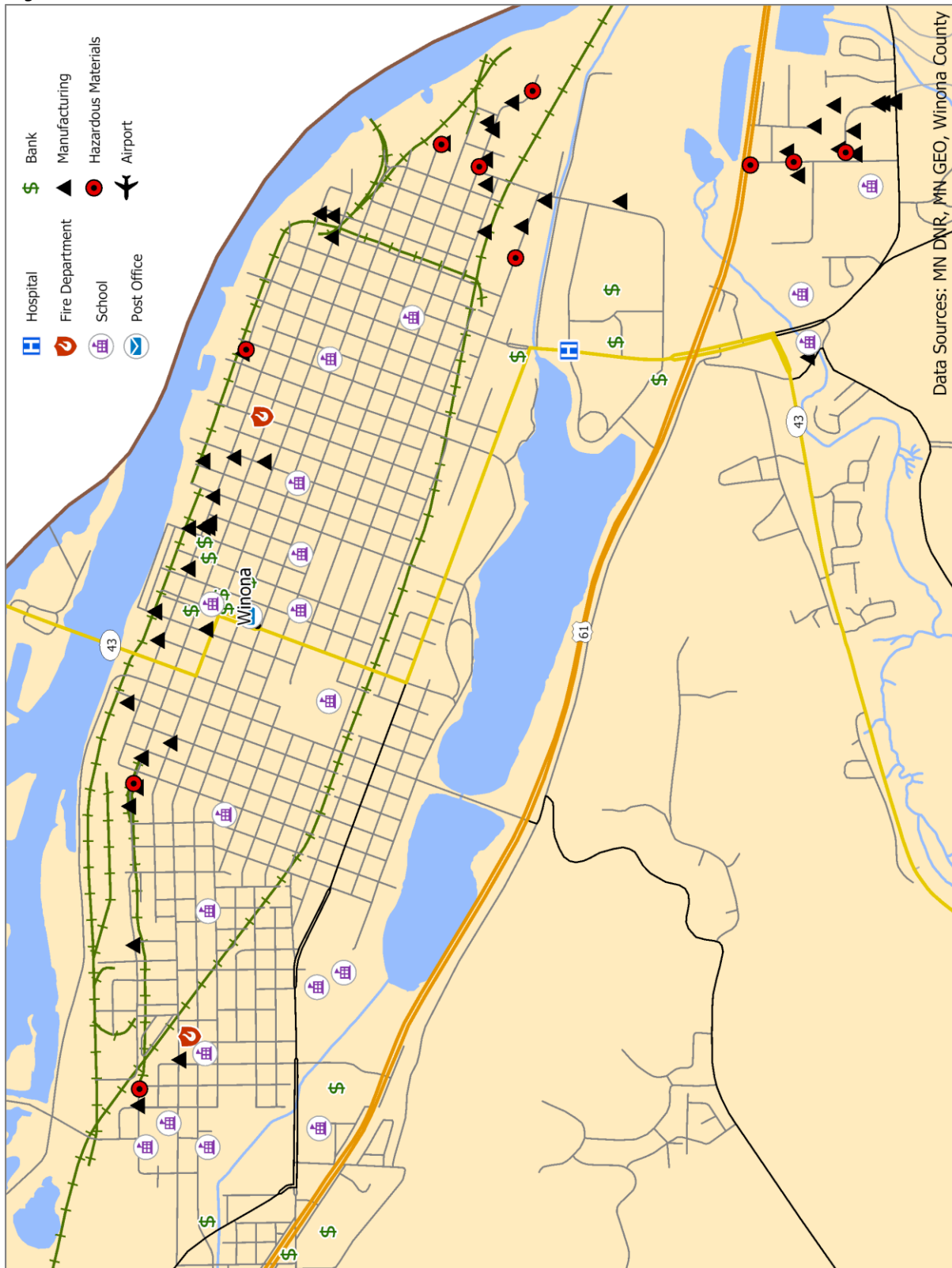


Figure A - 18. Critical Facilities in Goodview

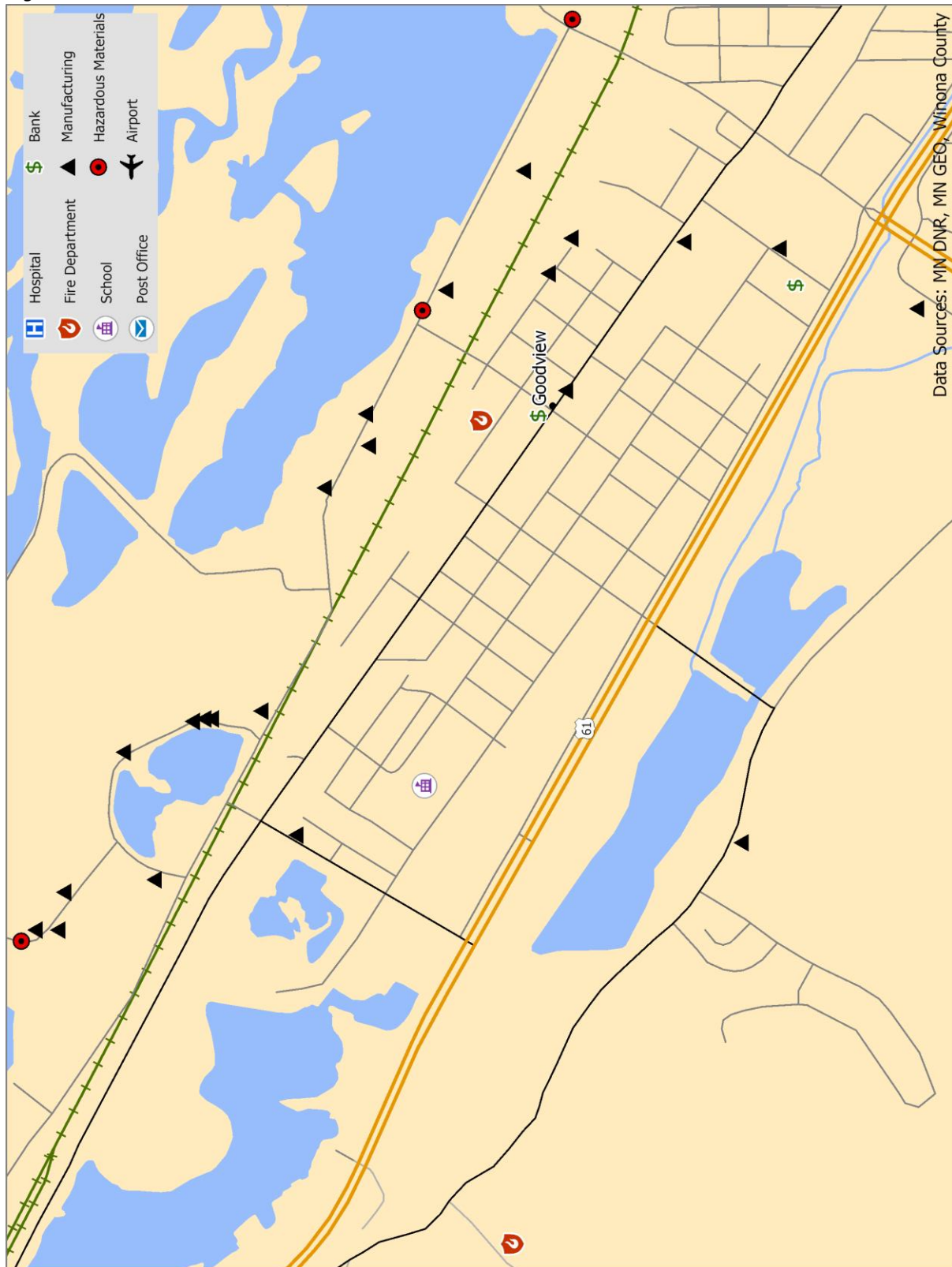


Figure A - 19. Wildfires by Acres Burned (1985-April 2016)

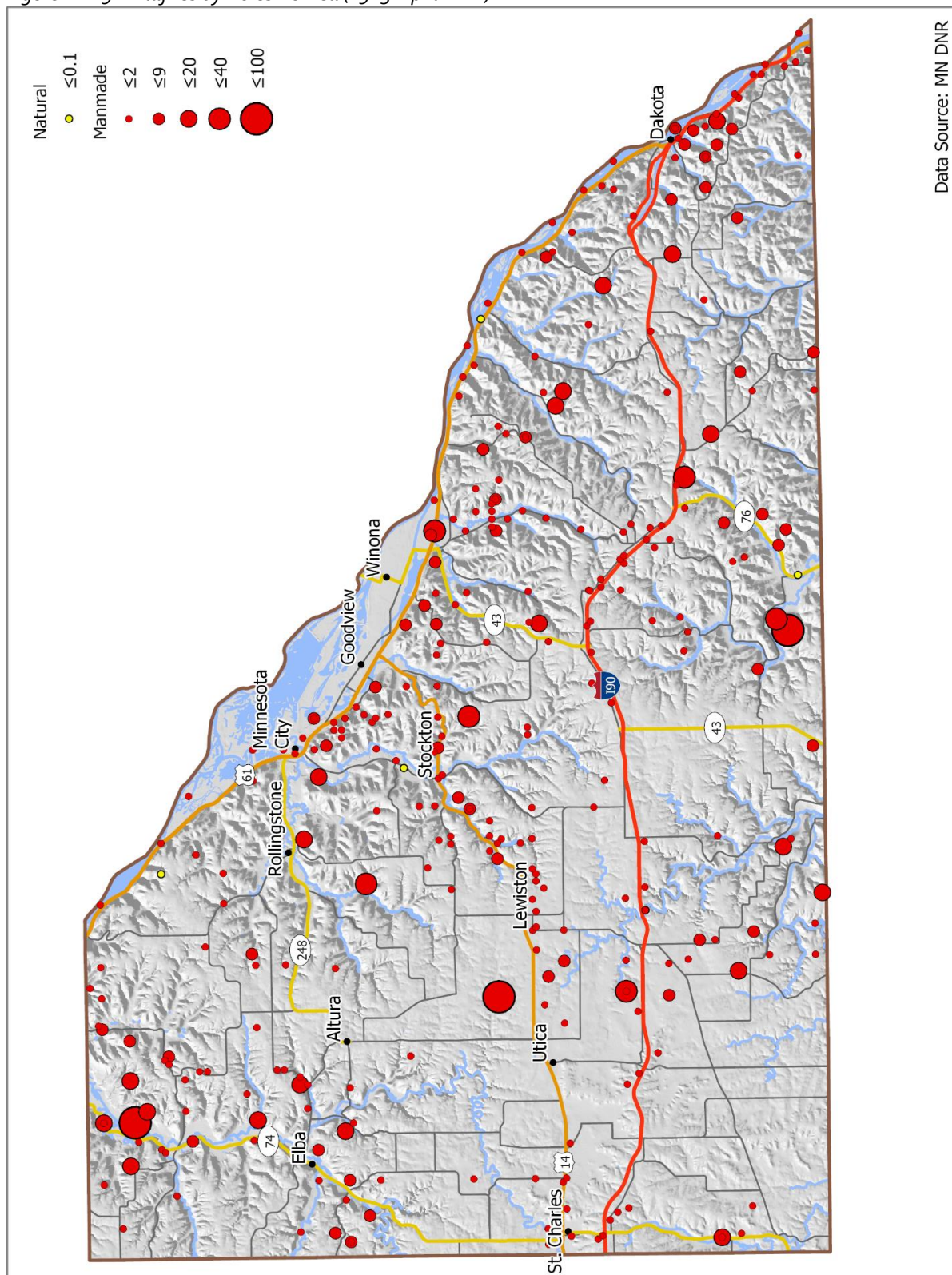


Figure A - 20. 100-Year Floodplain in Winona County

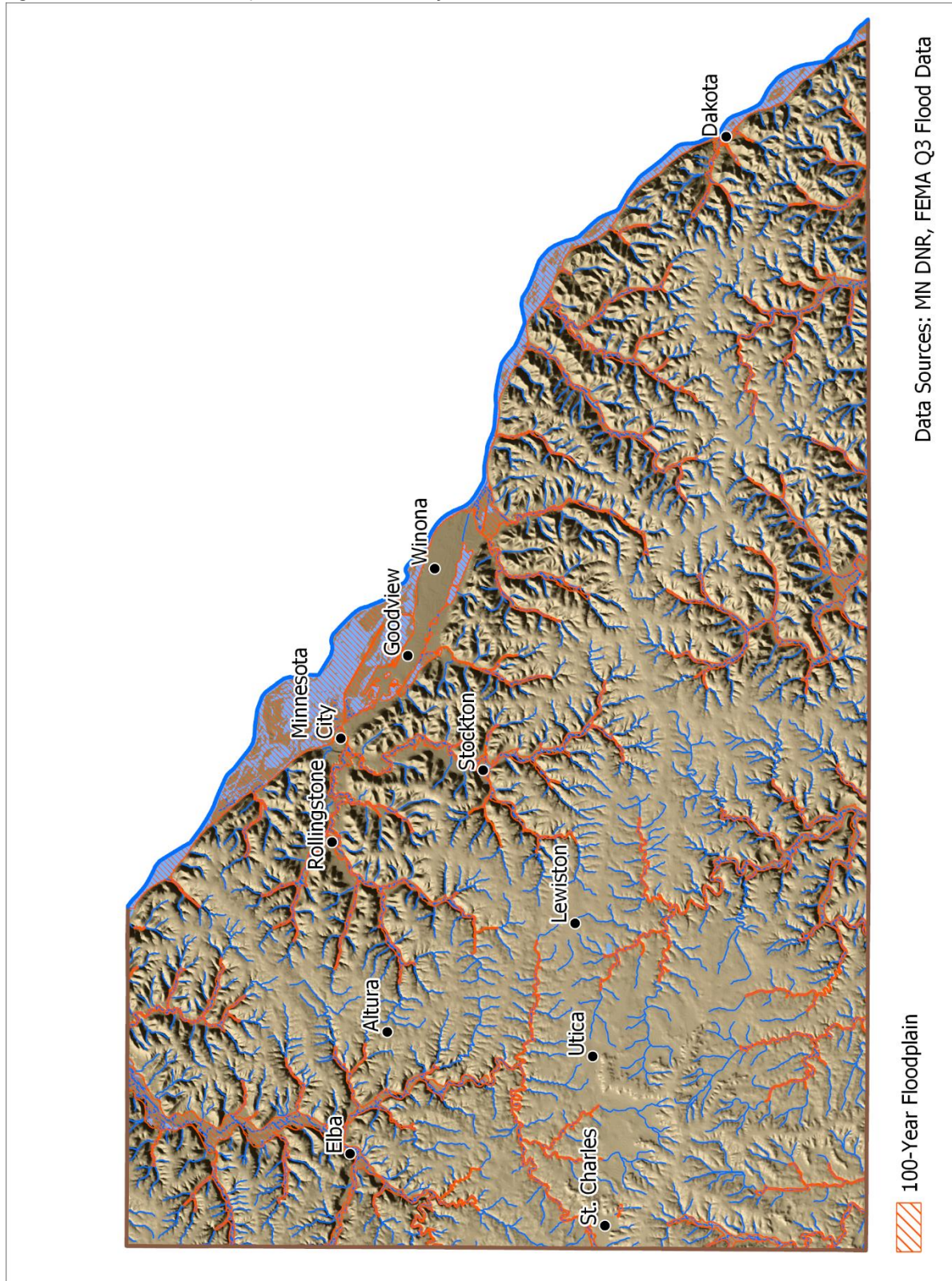


Figure A - 21. Estimated Economic Loss by Census Block in a 100-Year Flood

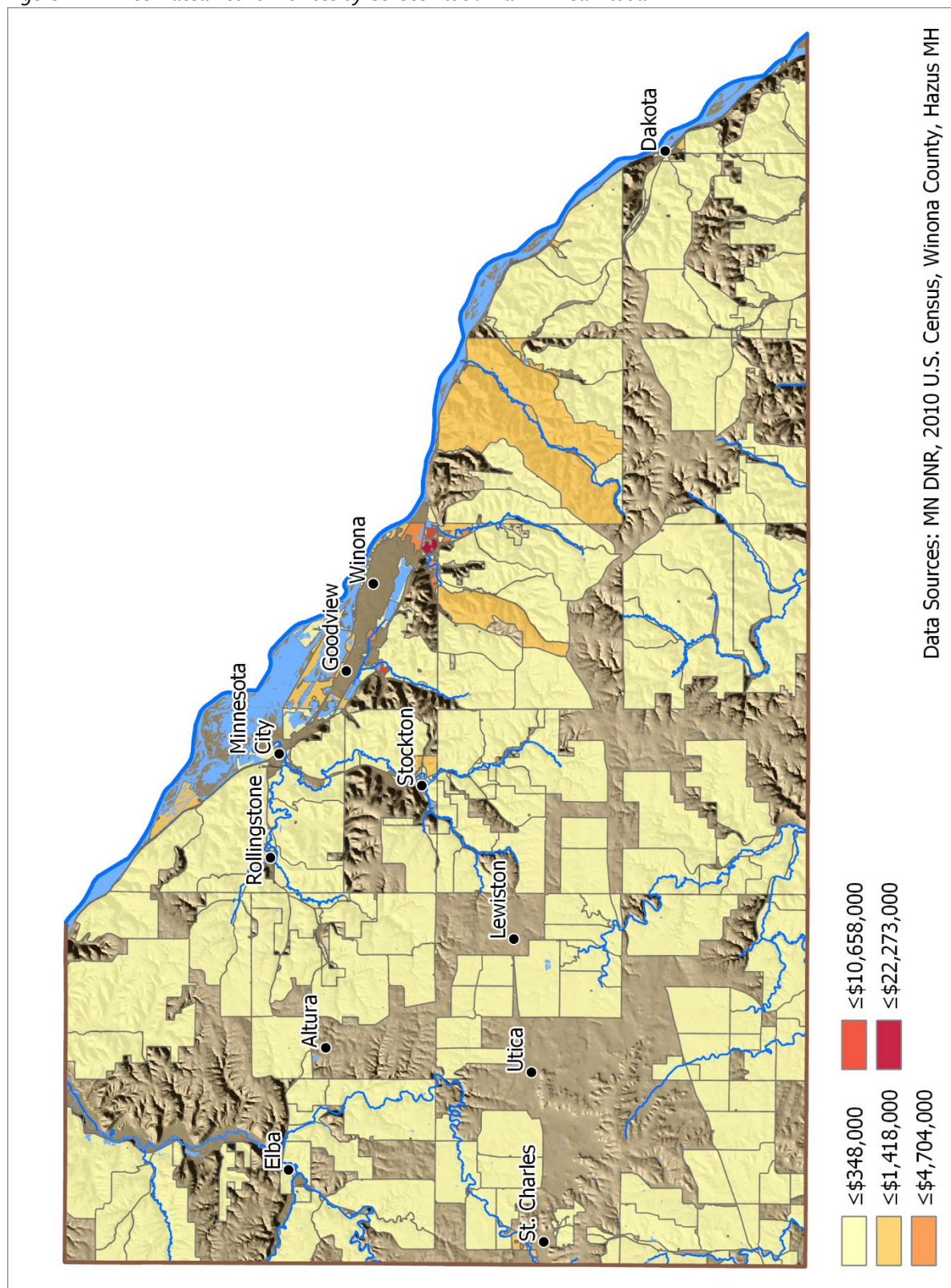


Figure A - 22. 100-Year Building-Related Flood Loss Estimates in the City of Winona

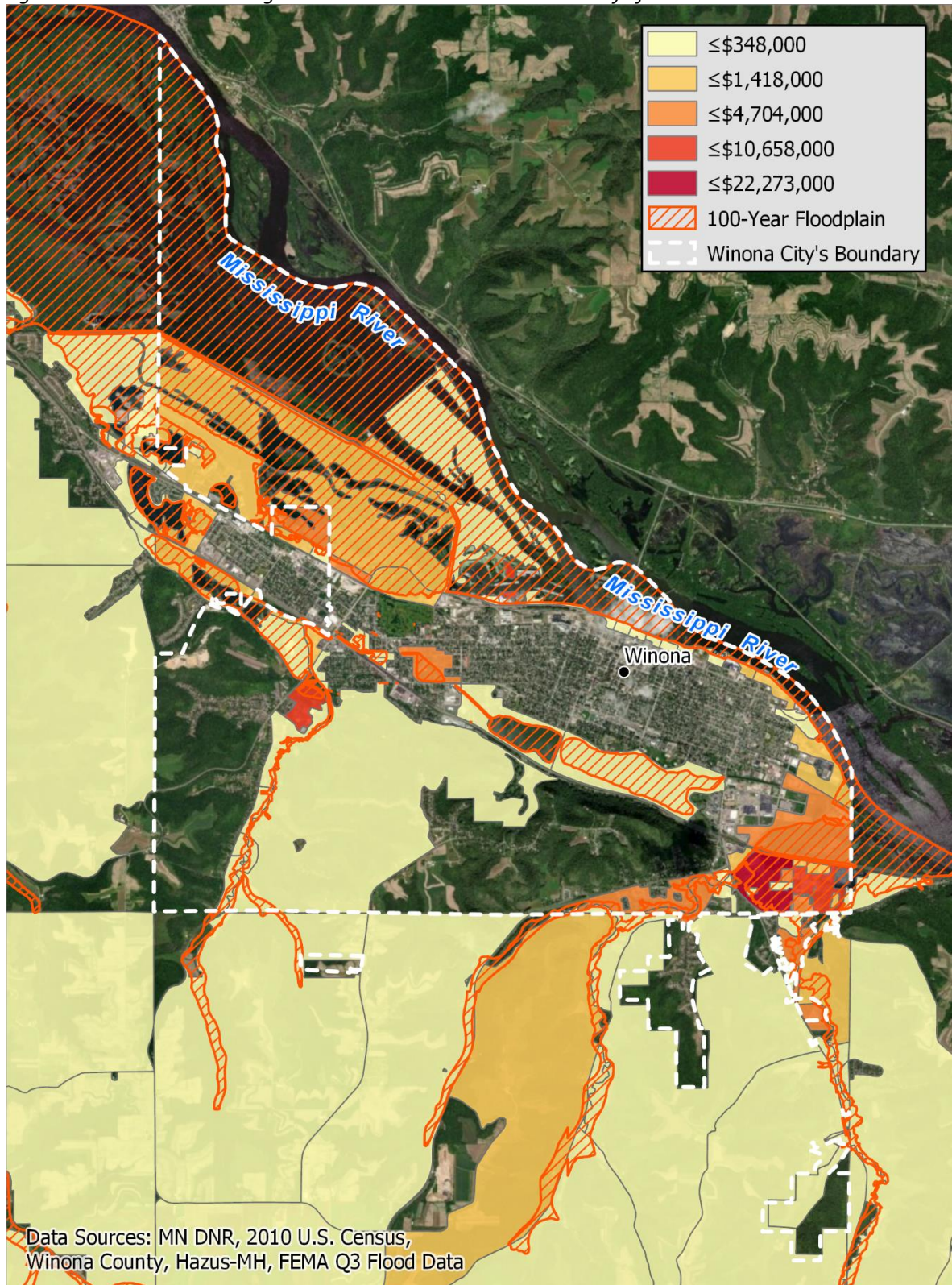


Figure A - 23. 100-Year Building-Related Flood Loss Estimates in Goodview

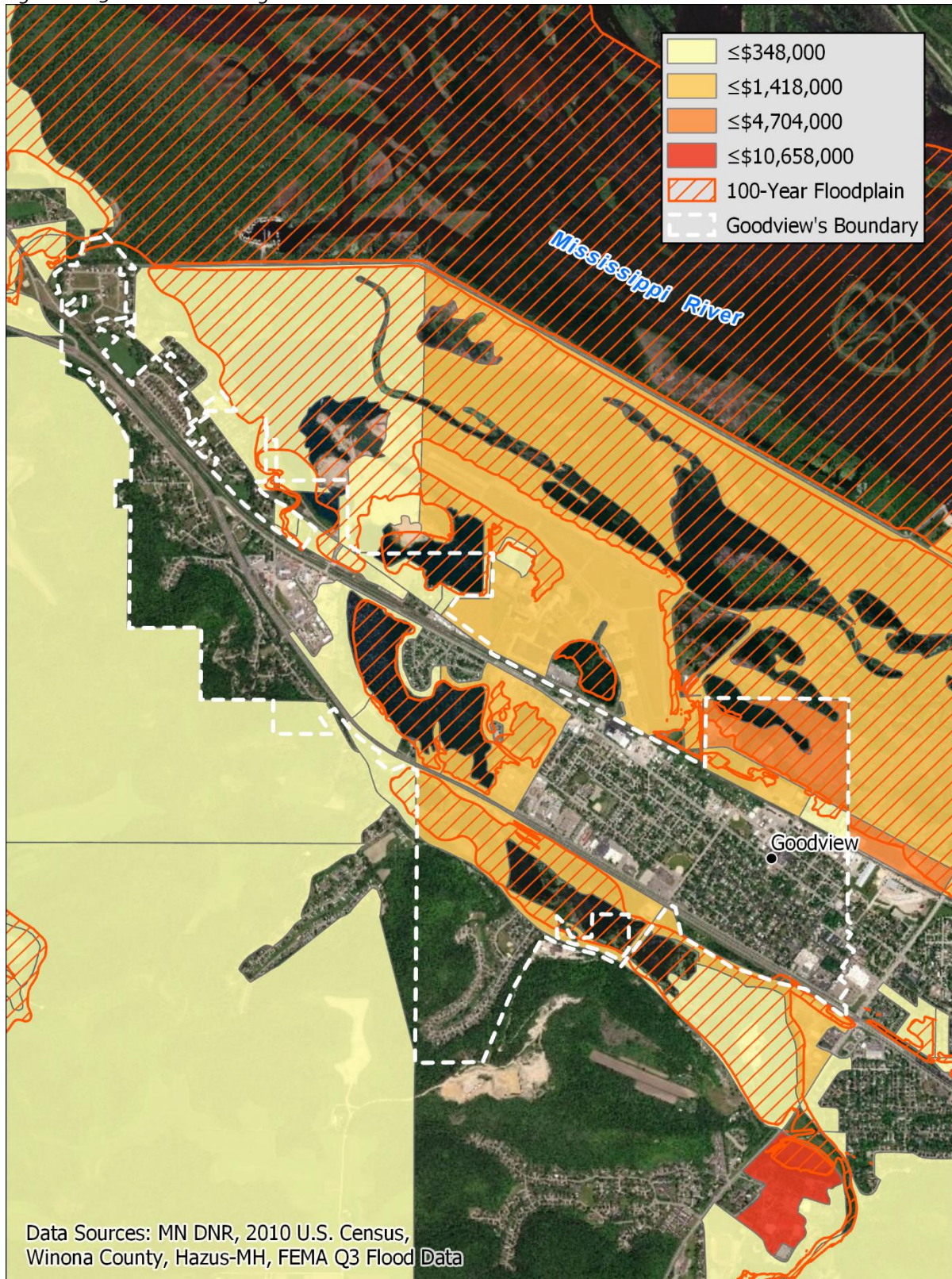


Figure A - 24. 100-Year Building-Related Flood Loss Estimates in St. Charles

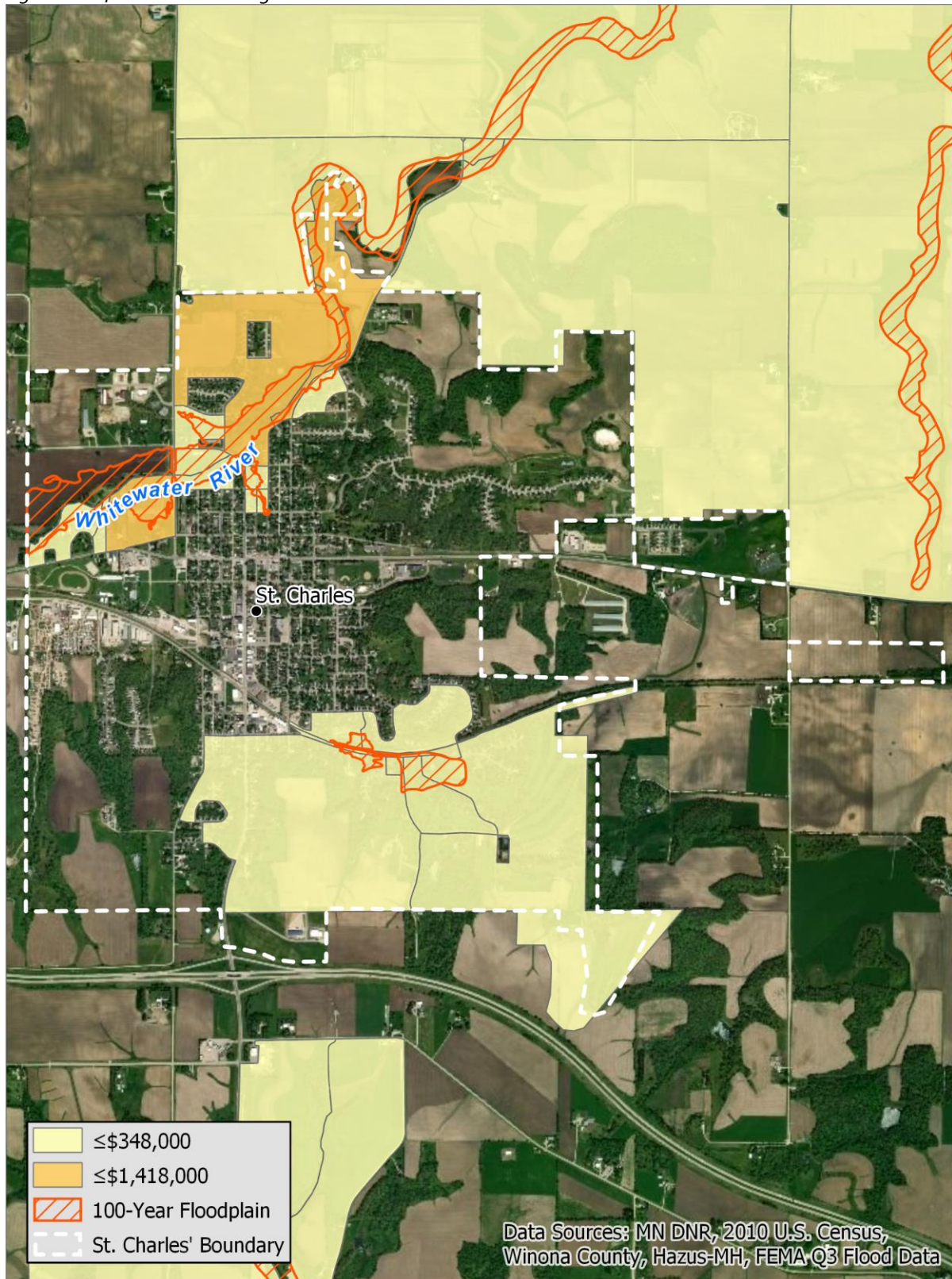


Figure A - 25. Census Block #271696707002094 and 100-Year Floodplain in Winona City



Figure A - 26. Census Block #271696704001036 and 100-Year Floodplain in Winona City



Figure A - 27. Census Block #271696707002086 and 100-Year Floodplain in Winona City

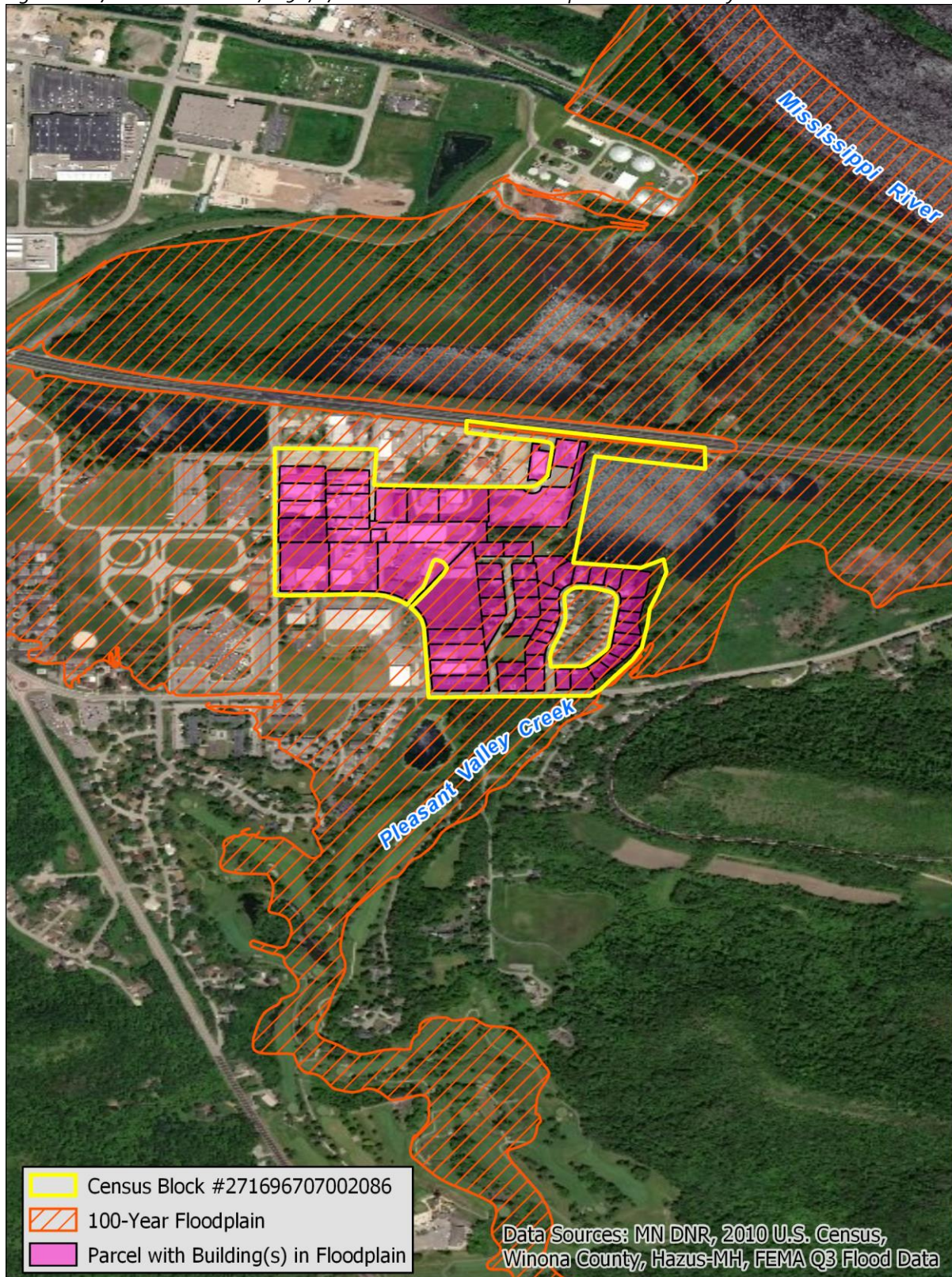


Figure A - 28. Winona County Essential Facilities in the 100-Year Floodplain

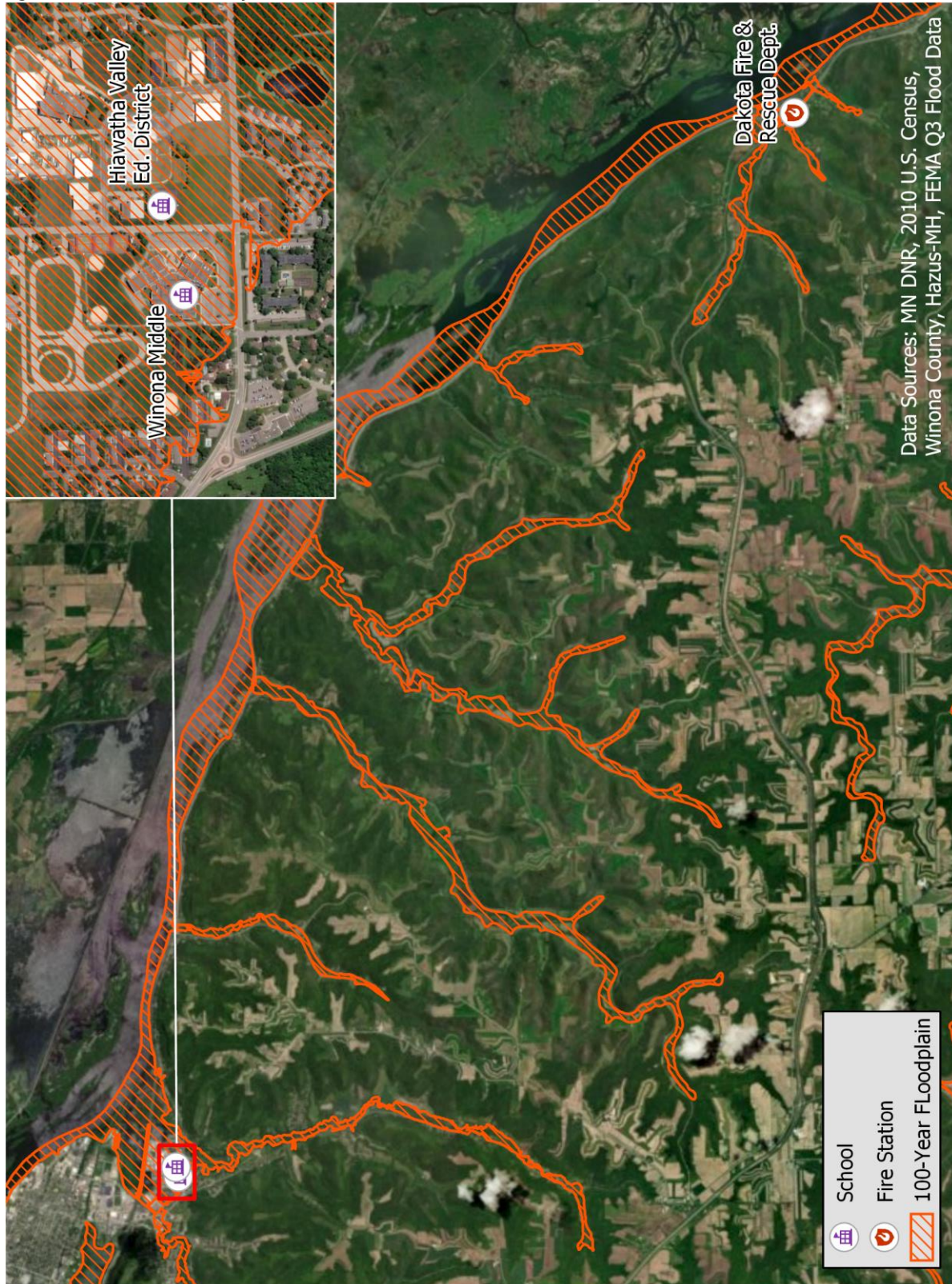


Figure A - 29. Feedlots in Winona County

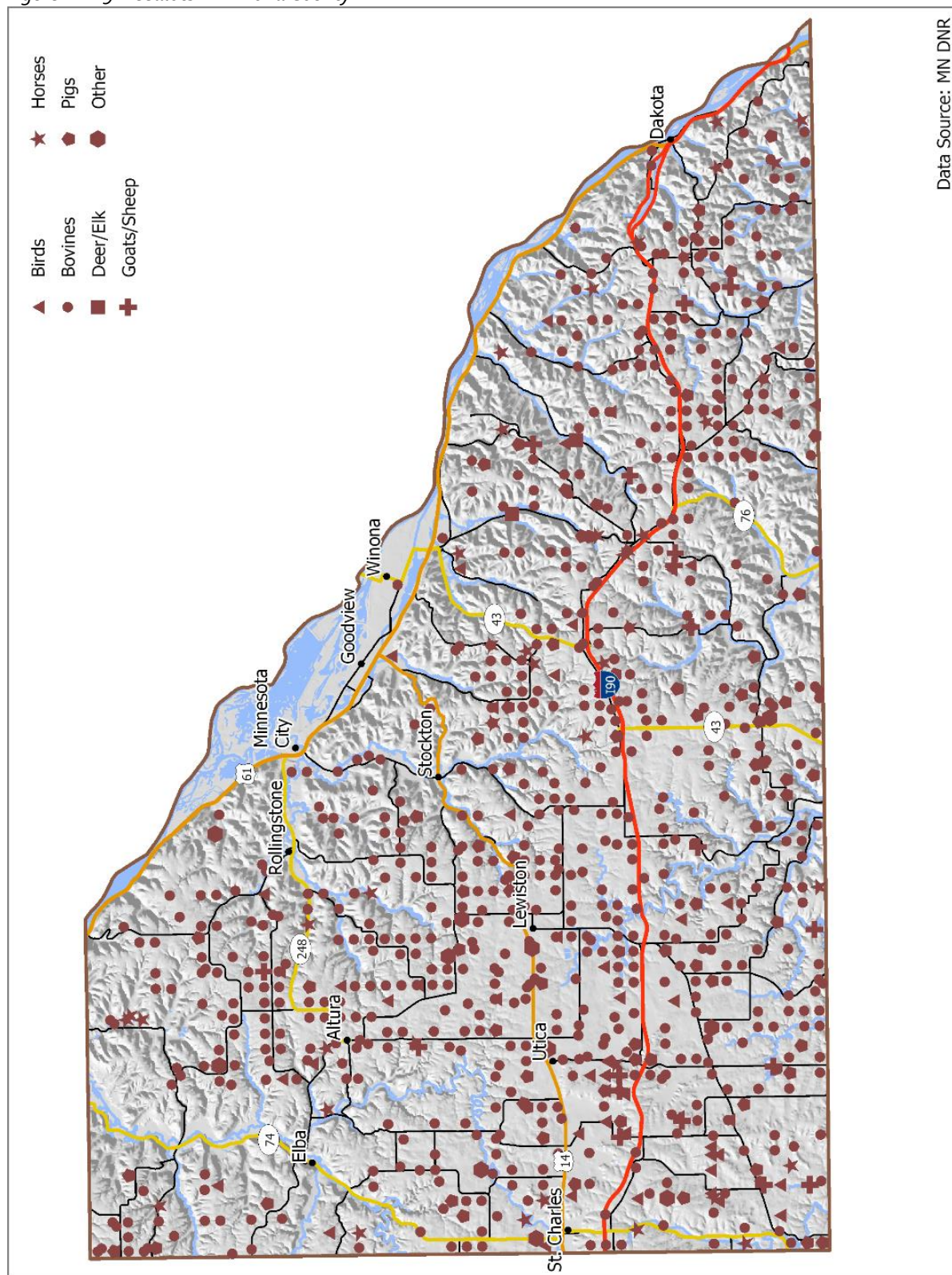


Figure A - 30. Soil Erodibility (K Factor) as Percentage

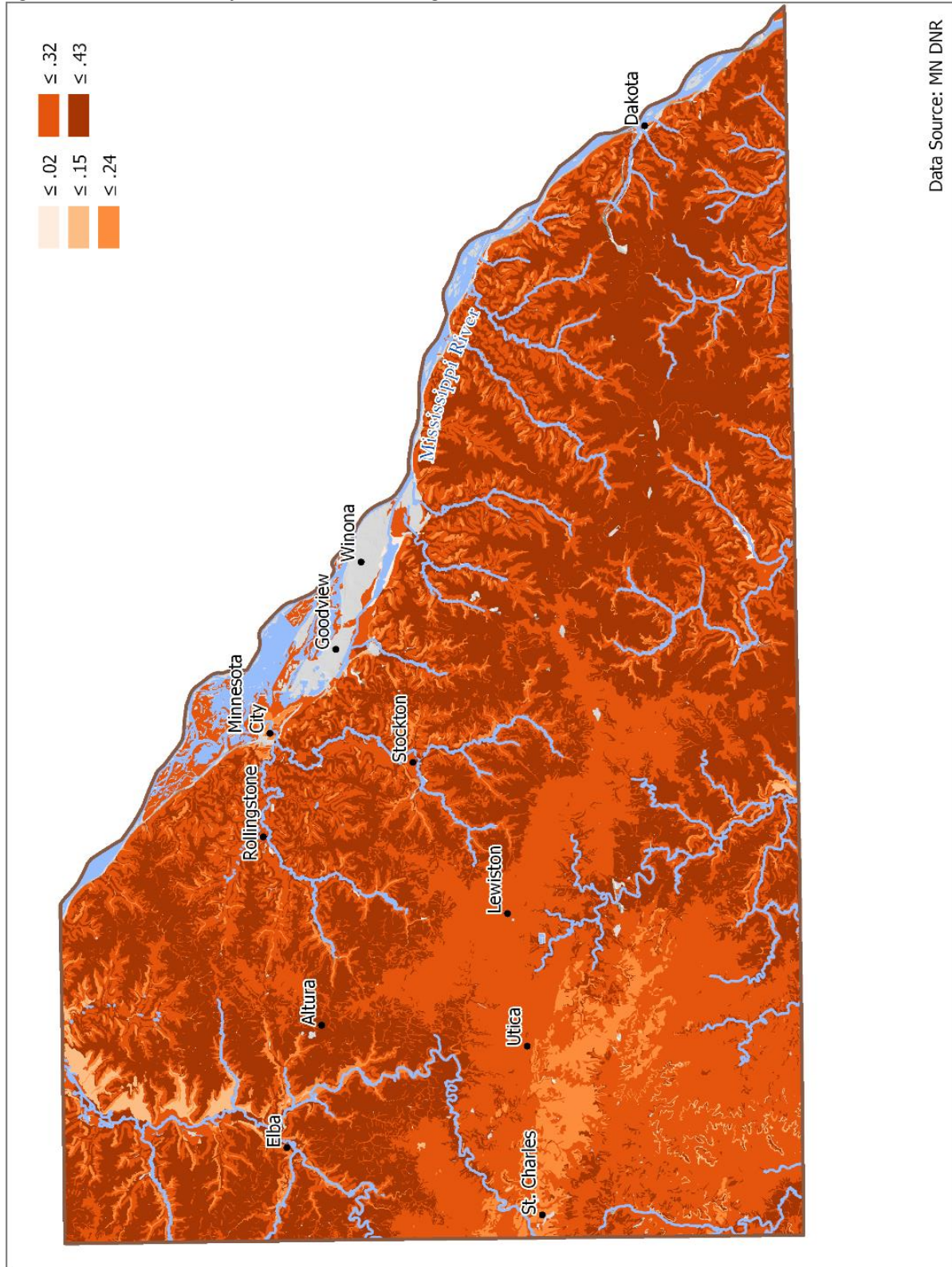


Figure A - 31. Karst Features in Winona County

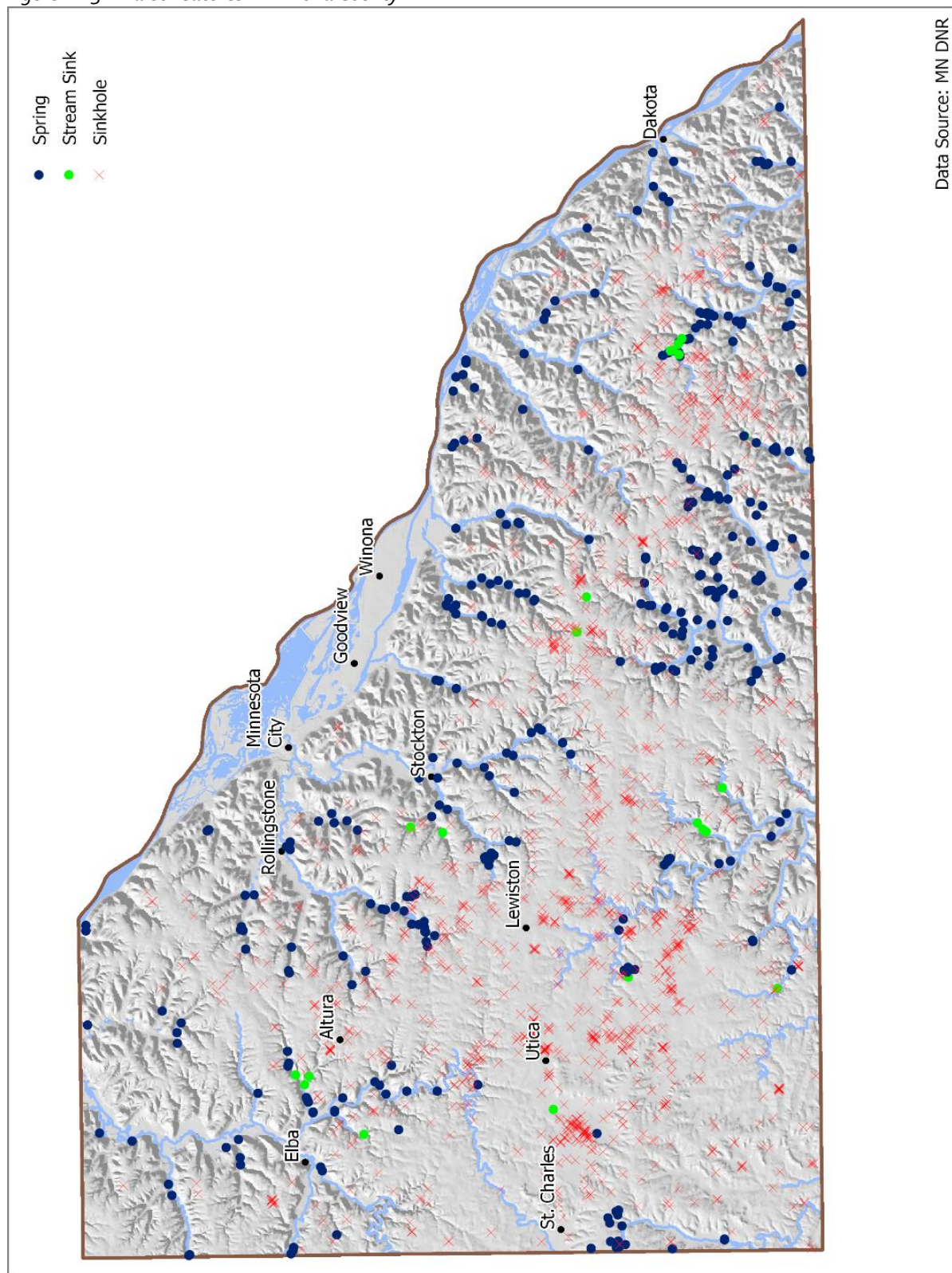
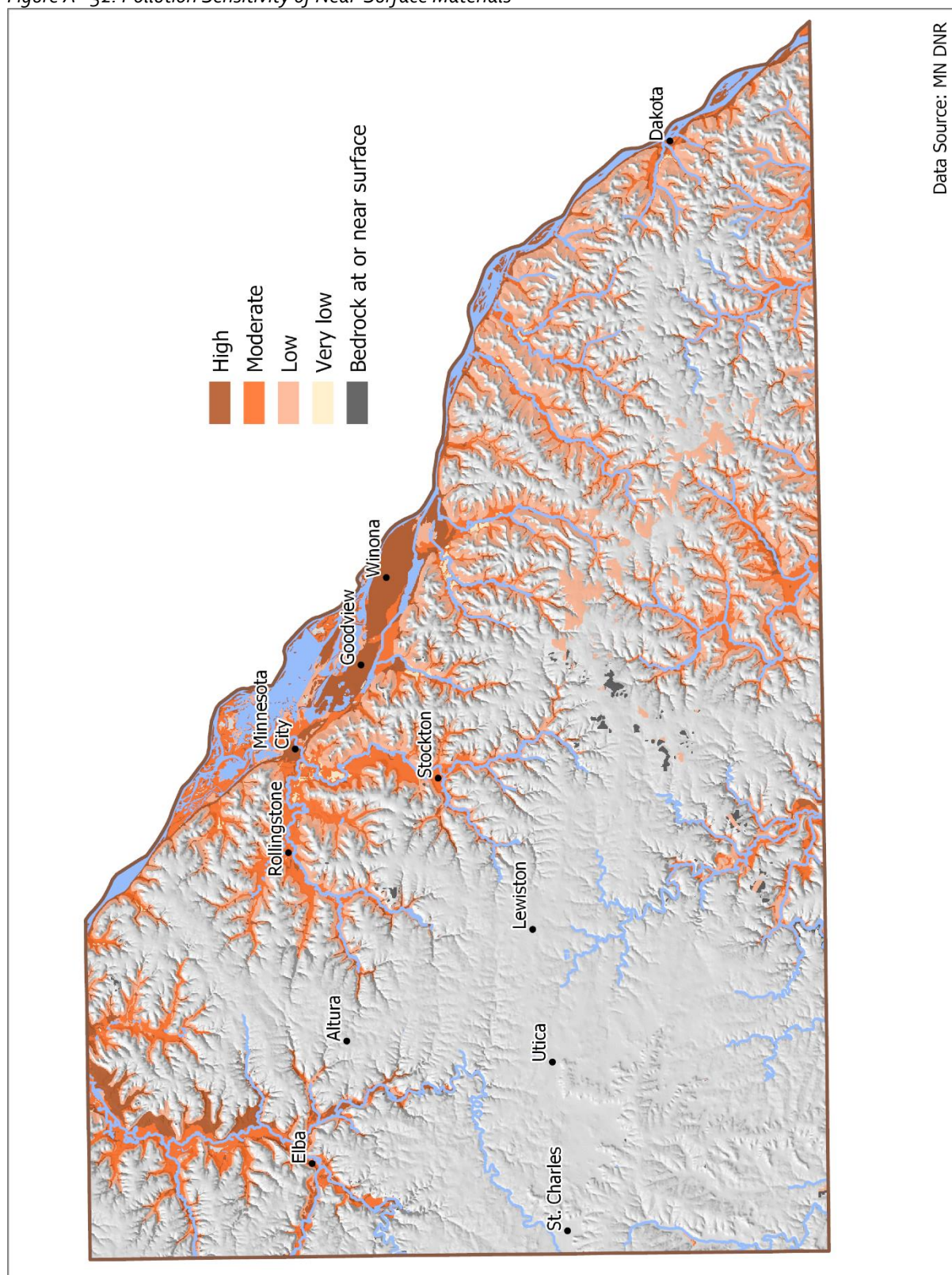


Figure A - 32. Pollution Sensitivity of Near-Surface Materials



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Appendix B

Winona County Critical Facilities

Agriculture & Food				
Bay State Milling	55 Franklin St.	Winona	MN	55987
Benson Farm Service	600 Debra Drive	Lewiston	MN	55952
CHS Grain Terminal	980 Riverview Dr.	Winona	MN	55987
High Plains Coop	Hwy 29 South	Lewiston	MN	55952
Lewiston Feed and Produce	105 Main Street	Lewiston	MN	55952
Lewiston Feed and Produce	120 Main Street	Lewiston	MN	55952
Malteurop North America	500 W 3rd St.	Winona	MN	55987
Progressive Ag Center	942 Wabasha Ave	St. Charles	MN	55972
Twin Valley Ag Services	23142 Hwy 74	St. Charles	MN	55972
Watkins Inc.	150 Liberty St.	Winona	MN	55987

Banking & Finance				
Affinity Plus	111 Riverfront, Suite 100	Winona	MN	55987
Altura Federal Credit Union	1214 Gilmore Avenue	Winona	MN	55987
Altura State Bank	411 Main Street, N.W.	Altura	MN	55910
Citizens Community Federal	955 Frontenac Drive	Winona	MN	55987
East Office	840 Mankato Avenue	Winona	MN	55987
Goodview Facility	4124 Sixth Street- Goodview	Winona	MN	55987
Home Federal Savings Bank	175 Ctr St	Winona	MN	55987
Lafayette & Fifth Branch	225 Lafayette Street	Winona	MN	55987
Merchants Bank	102 East 3 rd Street	Winona	MN	55987
Merchants Bank, National Association	100-106 East Third Street	Winona	MN	55987
Merchants Lakeside Branch	627 Mankato Avenue	Winona	MN	55987
Rollingstone Branch	140 Main Street	Rollingstone	MN	55969
Security State Bank	225 East Main Street	Lewiston	MN	55952
St. Charles Branch	1130 Whitewater Avenue	St. Charles	MN	55972
St. Charles Branch	748 Whitewater Avenue	St. Charles	MN	55972
West Office	1491 West Broadway	Winona	MN	55987
Winona Branch	1858 North Service Drive	Winona	MN	55987
Winona Downtown Branch	125 Main Street	Winona	MN	55987
Winona Goodview Branch	875 34th Avenue	Winona	MN	55987
Winona Hy-Vee Branch	1475 Service Drive	Winona	MN	55987
Winona National bank	204 Main Street	Winona	MN	55987
Winona Sugarloaf	930 Parks Ave	Winona	MN	55987

Chemical and Hazardous Materials				
Altura Dump		Altura	MN	55910
B & K Ranch Dump		Hart	MN	55943
Badger Foundry Fill Area		Winona	MN	55987
Bluffview Montessori	1321 W Gilmore Ave	Winona	MN	55987
Brom Machine & Foundry Co	3565 W 6th St	Winona	MN	55987
Canamer International, Inc	126 N Baker St	Winona	MN	55987
Commercial Cleaning Facility	400 E 2nd St	Winona	MN	55987
Dakota Dump		Dakota	MN	55925
Elba Village Dump		Elba	MN	55910
Fastenal Co - Service Dr	4730 Service Dr N	Winona	MN	55987
Geisler Sanitary Landfill		St. Charles	MN	55972
Gorman Co	508 Louisa St	Winona	MN	55987
Harold Kiese Dump		Lewiston	MN	55952
Home Federal Bank	51 W 4th St	Winona	MN	55987
Landscape Brands Inc	1101 E Sanborn St	Winona	MN	55987
Lewiston Dump		Lewiston	MN	55952
Lewiston Groundwater		Lewiston	MN	55952
Louisa St Chemical Disposal Site		Winona	MN	55987
McConnon & Company/Mackwin Company	25 McConnon Dr	Winona	MN	55987
McConnon Demolition Landfill	25 McConnon Dr	Winona	MN	55987
Minneiska Dump		Minneiska	MN	55910
Minnesota City Dump		Minnesota City	MN	55959
Murphy Recycling Center Dump		Winona	MN	55987
MV Student Transportation	32 Wenonah Rd	Minnesota City	MN	55959
P & W Properties of Altura (Formerly)	Main & Water St	Altura	MN	55910
Peerless Chain Co	1416 E Sanborn St	Winona	MN	55987
Polymer Composites	Theurer Blvd	Goodview	MN	55987
Pozanc	955 Shive Rd	Winona	MN	55987
Promiscuous Dump - Dakota		Dakota	MN	55925
Riverview Park	W 2nd Park	Winona	MN	55987
Rollingstone Dump		Rollingstone	MN	55969
Rtl, Inc	6830 Martina Road	Winona	MN	55987
Shives Road Dump		Winona	MN	55987
St. Charles Dump		St. Charles	MN	55972

Chemical and Hazardous Materials				
Stockton Dump		Stockton	MN	55988
Sweazy Fill Area Dump		Winona	MN	55987
Utica Dump		Utica	MN	55979
Watkins Inc	150 Liberty St	Winona	MN	55987
Watlow Winona	1265 E Sanborn St	Winona	MN	55987
Weisman S & Sons Inc, Scrap	450 W 3rd St	Winona	MN	55987
Whitewater Park Dump		Elba	MN	55910
Winona City Dump (Former)	Homer Road at Pleasant Valley Creek	Winona	MN	55987
Winona County Facility		Winona	MN	55987
Winona Gas Mfg Site	3rd St & Huff St	Winona	MN	55987
Winona GW Contamination		Winona	MN	55987
Winona Mall	1213 Gilmore Ave	Winona	MN	55987
Winona Municipal Well Field	Front St	Winona	MN	55987
Winona Transfer Station	1252 Trempealeau Dr	Winona	MN	55987

Commercial Facilities				
Acuity Brands/Winona Lighting	3760 W 4th St.	Winona	MN	55987
Badger Foundry Co	1058 E Mark St.	Winona	MN	55987
Benchmark Electronics	4065 Theurer Blvd	Winona	MN	55987
Benson Farm Service - Fertilizer Plant	19105 Hwy 14 W	Lewiston	MN	55925
CHS/WRR - Fertilizer Plant	1000 E 3rd St.	Winona	MN	55987
CHS/WRR - Fertilizer Plant	10 Prairie Island Rd.	Winona	MN	55987
Cytec Engineered Materials	501 W 3rd St.	Winona	MN	55987
Envirolastech	2133 Enterprise Ave	St. Charles	MN	55972
Fastenal Company	2001 Theurer Blvd	Winona	MN	55978
Goodyear Tire Center	5110 W Service Dr	Winona	MN	55987
Miller Waste Mills	580 E Front St.	Winona	MN	55987
Mississippi Welders Supply Inc.	5150 W 6th St.	Winona	MN	55987
Modern Ready Mix	4980 W 6th St	Winona	MN	55987
National Chemical	135 Rice Street	Lewiston	MN	55952
National Chemical	105 Liberty St.	Winona	MN	55987
Peerless Chain Co.	1416 E Sanborn St.	Winona	MN	55987
Stericycle	4640 Service Drive	Goodview	MN	55987
The Andersons	1020 E 2nd St.	Winona	MN	55987
Ticona Polymers	4610 Theurer Blvd	Winona	MN	55987

Commercial Facilities

United Machine & Foundry	1200 W 3rd St	Winona	MN	55987
Watlow Winona	1241 Bundy Blvd	Winona	MN	55987

Communications

CenturyLink	128 W 3rd St.	Winona	MN	55987
CenturyLink	27031 Frank Hill Road	Winona	MN	55987
CenturyLink	1230 Whitewater	St. Charles	MN	55972
Hiawatha Broadband	58 Johnson St.	Winona	MN	55987

Dams

Blumentritt Detention	Pine Creek-Tributary		
Boller Pool	Rollingstone Creek- Tributary		
Craven Detention	Trout Run- Tributary		
Felix Detention	Money Creek- Tributary		
Greden Detention	Trout Creek- Tributary		
Gunderson-Marmsoler Detention	Big Trout Creek- Tributary		
Harcey Pond	Trout Run- Tributary		
Harcey Stabilizer	Trout Run Creek		
Haxton Pond	Speltz Creek- Tributary		
Henry Neuman Detention	Whitewater River- South Branch Tributary		
Hilke Detention	Trout Run Creek		
Homer Township	Pickwick Creek		
Hoseck Detention No. 1	Cedar Creek- Tributary		
Hoseck Detention No. 2	Cedar Creek- Tributary		
Jesson Park	Whitewater River- South Fork Tributary		
Little Trout Detention No. 1	Little Trout Creek		
Little Trout Detention No. 2	Little Trout Creek- Tributary		
Lock & Dam #5	Mississippi		
Lock & Dam #5A	Mississippi		
Lock & Dam #7	Mississippi		
Merle Wiskow	Whitewater River – south branch		
M.L.O. Partnership	Hippie Creek- Tributary		
Pagel-Young Detention No. 1	Whitewater River- South Branch		

Dams			
Pickwick Mill	Big Trout Creek		
Pleasant Valley No. 1	Pleasant Valley Creek		
Pleasant Valley No. 10	Pleasant Valley Creek		
Pleasant Valley No. 12	Pleasant Valley Creek- Tributary		
Pleasant Valley No. 2	Pleasant Valley Creek- Tributary		
Pleasant Valley No. 3	Pleasant Valley Creek- Tributary		
Pleasant Valley No. 6	Pleasant Valley Creek		
Pleasant Valley No. 7	Pleasant Valley Creek		
Pleasant Valley No. 8	Pleasant Valley Creek		
Southwind Orchard Driveway	Mississippi- Tributary		
Speltz Detention No. 2	Speltz Creek		
Speltz Pond	Speltz Creek- Tributary		
Spooner Group Detention	Gilmore Creek		
Warren TWP RD	Rush Creek- Tributary		
Zerbe Pond	Money Creek- Tributary		

Emergency Services				
Altura Fire Department	25 N Main St	Altura	MN	55910
Dakota City Fire Department	725 Frontage Rd	Dakota	MN	55925
Goodview City Fire Department	4135 W. 5th St.	Goodview	MN	55987
Goodview City Police Department	4140 W. 5 th Street	Goodview	MN	55987
Hidden Valley Fire Department	23 Hidden Valley Rd	Goodview	MN	55987
Lewiston City Fire Department	75 N Fremont St	Lewiston	MN	55952
Lewiston City Police Department	75 Rice Street	Lewiston	MN	55952
Minnesota City City Fire Department	149 Mill St	Minnesota City	MN	
Nodine Fire Department	42774 County Rd 12	Dakota	MN	55925
Pickwick Volunteer Fire Department - Station 2	21975 Madison St	Winona / Homer	MN	
Pickwick Volunteer Fire Dept.	24616 County Rd 7	Winona / Homer	MN	
Ridgeway Fire Department	35745 Co Rd 12	Winona	MN	55987
Rollingstone City Fire Department	116 Main St	Rollingstone	MN	55969
St Charles Fire Department	613 Church Ave	St. Charles	MN	55972
St. Charles Police Department	830 Whitewater Ave	St. Charles	MN	55972
Wilson Fire Department	29660 Co Rd 12	Winona	MN	55987

Emergency Services				
Winona City Fire Department - East	451 E 3rd St	Winona	MN	55987
Winona City Fire Department - West	1077 W 6th St	Winona	MN	55987
Winona Law Enforcement Center	201 W. 3 rd Street	Winona	MN	55987

Energy				
Amerigas	954 Wabasha Ave	St. Charles	MN	55972
Cenex	518 W 6th St	St. Charles	MN	55972
Cenex	142 Whitewater Ave	St. Charles	MN	55972
Cenex	555 W Hwy 248	Rollingstone	MN	55969
City of St. Charles Generation Plant	461 E 4th St.	St. Charles	MN	55972
FerrellGas	County Road 25	Lewiston	MN	55952
Hiawatha Valley Tru Gas	1213 Gilmore Ave	Winona	MN	55987
Neumann Gas & Oil Co	1150 E Broadway St.	Winona	MN	55987
Neumann Oil Co	1st St E	Lewiston	MN	55952
Northern Natural Gas Company				
Selectus Energy	26038 County Road 29 S	Lewiston	MN	55952
Severson Oil Co LP Plant	640 Hwy 14 E	Utica	MN	55979
Severson Oil Co LP Plant	910 Bruski Drive	Winona	MN	55987
Severson Oil Co	508 Louisa Street	Winona	MN	55987
Severson Oil Co	265 E Mark St.	Winona	MN	55987
Severson Oil Co	6125 W 5th St	Winona	MN	55987
Suburban Propane (Hiawatha Tru-Gas)	Hwy 14 & Hickory Lane	Winona (Stockton)	MN	55987
Xcel Energy	5050 Service Dr	Winona	MN	55987

Government Facilities				
Altura City Hall	25 Main Street North	Altura	MN	55910
Dakota City Hall	725 Frontage Road	Dakota	MN	55925
Dresbach Town Hall	46851 Riverview Drive	La Crescent	MN	
Elba City Hall	1125 Hill Street	Elba	MN	
Elba Town Hall	1125 Hill Street	Elba	MN	
Fremont Town Hall	29589 County Road 29	Utica	MN	55979

Government Facilities				
Goodview City Hall	4140 West 5th Street	Goodview	MN	55987
Hart Town Hall	32040 Highway 43	Rushford	MN	
Hillsdale Town Hall	8600 D Street	Stockton	MN	
Homer Town Hall	36087 Old Homer Road	Winona	MN	55987
La Crescent City Hall	315 Main Street	La Crescent	MN	
Lewiston City Hall	75 Rice Street	Lewiston	MN	55952
Minneiska City Hall	424 Bennett Avenue	Minneiska	MN	
Minnesota City City Hall	149 Mill Street	Minnesota City	MN	
Mt. Vernon Town Hall	25 Main Street North	Altura	MN	55910
New Hartford Town Hall	42774 County Road 12	Nodine	MN	
Norton Town Hall	10 1st Street NE	Altura	MN	55910
Pleasant Hill Town Hall	35761 County Rd 12	Houston	MN	
Richmond Town Hall	43203 Bell Drive	Winona	MN	55987
Rollingstone City Hall	98 Main Street	Rollingstone	MN	55969
Rollingstone Town Hall	24643 Highway 248	Rollingstone	MN	55969
Saratoga Town Hall	12835 County Road 6	Saint Charles	MN	
St. Charles City Hall	830 Whitewater Avenue	St. Charles	MN	55972
St. Charles Town Hall	25010 County Rd 119	Saint Charles	MN	
Stockton City Hall	8600 D Street	Stockton	MN	
Utica City Hall	200 Center Street	Utica	MN	55979
Utica Town Hall	30 2nd Street SW	Lewiston	MN	55952
Warren Town Hall	24487 Almon Drive	Lewiston	MN	55952
Whitewater Town Hall	12754 Town Hall Rd	Altura	MN	55910
Wilson Town Hall	29660 County Road 12	Winona	MN	55987
Winona City Hall	207 Lafayette Street	Winona	MN	55987
Wisoy Town Hall	28770 County Road 17	Winona	MN	55987
Winona County Government Center	177 Main Street	Winona	MN	55987
Winona County Courthouse	171 W. 3 rd Street	Winona	MN	55987

Healthcare and Public Health				
Winona Health Hospital	855 Mankato Avenue	Winona	MN	55987
Adith Miller Manor	885 Mankato Ave	Winona	MN	55987
Brookdale	835 E 12th St.	Winona	MN	55987
Callista Court	1455 W Broadway	Winona	MN	55987
Golden Living Center	525 Bluff Avenue	St Charles	MN	
Home & Community Options	745 Highway 14	Winona	MN	55987
Lake Winona Manor	865 Mankato Ave	Winona	MN	55987

Healthcare and Public Health				
Lewiston Villa	505 East Main St	Lewiston	MN	55952
Roger Metz Manor	875 Mankato Ave	Winona	MN	55987
Sauer Memorial Hme	1635 W Service Dr	Winona	MN	55987
Speltz Estates Assisted Living	232 S Fremont St	Lewiston	MN	55952
Speltz Homes Plus	70 2nd St S	Lewiston	MN	55952
Sugarloaf Senior Living	765 Menard Rd	Winona	MN	55987
St Anne Extended Healthcare	1347 W Broadway	Winona	MN	55987
St Charles Assisted Living	402 W 4th St	St Charles	MN	
Sterling House of Winona	835 E 12th St	Winona	MN	55987
Watkins Manor	175 E Wabasha	Winona	MN	55987
Winona Arms	150 Pleasant Hill Dr	Winona	MN	55987

Manufacturing				
Acuity Brands Winona Lighting	3760 West 4th Street	Winona	MN	55987
Alliant Castings	1200 West 3rd Street	Winona	MN	55987
ANOVA Furnishings	1101 East Sanborn Street	Winona	MN	55987
Badger Equipment Co.	217 Patenaude Drive	Winona	MN	55987
Badger Foundry	1058 East Mark Street	Winona	MN	55987
Bay State Milling	55 Franklin Street	Winona	MN	55987
Behrens Manufacturing	1250 East Sanborn Street	Winona	MN	55987
Benchmark Electronics	4065 Theurer Blvd.	Winona	MN	55987
Biesanz Stone Co.	4600 Goodview Road	Winona	MN	55987
Brom Microsystems Engineering, Inc.	845 34th Ave.	Winona	MN	55987
Canamer International, Inc.	5701 Industrial Park Road	Winona	MN	55987
Cathedral Crafts Co., Inc.	730 54th Ave.	Winona	MN	55987
Celanese	4610 Theurer Blvd.	Winona	MN	55987
CodaBow International	876 East 3rd Street	Winona	MN	55987
ColorWare	2050 West 4th Street	Winona	MN	55987
Comfortex	1680 Wilkie Drive	Winona	MN	55987
CPI-Core Molding Technologies	1700 Wilkie Drive	Winona	MN	55987
Cytec Engineered Materials	501 W 3rd Street	Winona	MN	55987
DCM Tech, Inc.	4455 Theurer Blvd.	Winona	MN	55987
Digicom, Inc.	1736 Wilkie Drive	Winona	MN	55987
Douglas Machining Services, Inc.	1726 Wilkie Drive	Winona	MN	55987

Manufacturing				
Dunn Blacktop - Milestone Quarry	24206 Hwy 43	Winona	MN	55987
Engineered Foundry Solutions	1272 Breezy Lane	Winona	MN	55987
Enlightened Equipment	1124 West 5th Street	Winona	MN	55987
Equality Die Casting	164 East 2nd Street	Winona	MN	55987
Excel Images, Inc.	425 Cottonwood Drive	Winona	MN	55987
Fastenal	2001 Theurer Blvd.	Winona	MN	55987
Goodson Companies	156 Galewski Drive	Winona	MN	55987
Hal Leonard Corporation	1210 Innovation Drive	Winona	MN	55987
Hiatt Manufacturing, Inc.	4410 Theurer Blvd.	Winona	MN	55987
Hiawatha Broadband Communications, Inc.	58 Johnson Street	Winona	MN	55987
Hossfield Manufacturing Co.	460 West 3rd Street	Winona	MN	55987
Hot Jobs, Cool Companies	160 Johnson Street	Winona	MN	55987
In Tech	163 East 2nd Street	Winona	MN	55987
Itechra	173 East 2nd Street	Winona	MN	55987
J.R. Watkins, Inc.	150 Liberty Street	Winona	MN	55987
Judy Machining	3565 6th Street West	Winona	MN	55987
Knitcraft Corporation	4020 West 6th Street	Winona	MN	55987
Mach - B Grinding Wheel Shaping & Resizing	156 Galewski Drive	Winona	MN	55987
Malteurop	500 West 3rd Street	Winona	MN	55987
MCC Embroidery & Screen Printing	54 East 2nd Street	Winona	MN	55987
Mec-Pro Manufacturing	408 West 4th Street	Winona	MN	55987
Mediascope	910 East 2nd Street	Winona	MN	55987
Michaels Lighting	2 Kansas Street	Winona	MN	55987
Midwest Metal Products, Inc.	1175 East Broadway	Winona	MN	55987
Midwest Pattern	2444 Hwy 248	Minnesota City	MN	55959
Miller Ingenuity	1155 East 8th Street	Winona	MN	55987
Minnesota City Machining	120 Lake Street	Minnesota City	MN	55959
National Chemicals, Inc.	135 Rice Street	Lewiston	MN	55952
Natural Process Design, Inc.	1220 East 7th Street	Winona	MN	55987
North Castle Graphics, LLC	1260 Sugar Loaf Road	Winona	MN	55987
Oak Ridge Fabrication	1140 72nd Ave.	Minnesota City	MN	55959
Omni Engineering Services, Inc.	370 West 2nd Street Suite 100	Winona	MN	55987
Peerless Industrial Group	1416 East Sanborn Street	Winona	MN	55987

Manufacturing				
PlasitCert, Inc.	300 North Wilson Street	Lewiston	MN	55952
PlastiComp	110 Galewski Drive	Winona	MN	55987
Quality Sheet Metal Fabricators, Inc.	1730 Wilkie Drive	Winona	MN	55987
Reinarts Stained Glass Studio	73 Washington Street	Winona	MN	55987
Rite-Way Canvas Shade	6885 West 5th Street	Winona	MN	55987
River City Mfg. & Machine Co.	24231 County Road 15	Winona	MN	55987
RiverSide Electronics	1 RiverSide Drive	Lewiston	MN	55952
RiverStar Incorporated	1705 Wilkie Drive	Winona	MN	55987
RTP Company	580 East Front Street	Winona	MN	55987
Teakworks4U	156 Galewski Drive	Winona	MN	55987
Technical Die-Casting, Inc.	8910 West Main Street	Stockton	MN	55987
Technigraph Corporation	850 West 3rd Street	Winona	MN	55987
Thern, Inc.	5712 Industrial Park Road	Winona	MN	55987
Tooling, Machining & Design, Inc. (TMD Inc.)	8650 West Main Street	Winona	MN	55987
TRW Automotive	5752 Industrial Park Road	Winona	MN	55987
Valley Computer Solutions, LLC	1736 Wilkie Drive	Winona	MN	55987
Watlow Electric Manufacturing	1241 Bundy Blvd.	Winona	MN	55987
Wenonah Canoe	1252 Bundy Blvd.	Winona	MN	55987
Whetstone Machine, Inc.	52 Walnut Street	Winona	MN	55987
Willet Hauser Architectural Glass	1685 Wilkie Drive	Winona	MN	55987
Wincraft, Inc.	1124 West 5th Street	Winona	MN	55987
Winona Aggregate	6930 West 5th Street	Minnesota City	MN	55959
Winona Pattern & Mold	1025 East King Street	Winona	MN	55987
WinTech Electronics	121 Steuben Street	Winona	MN	55987
WS Packaging Group, Inc.	202 Galewski Drive	Winona	MN	55987

Postal and Shipping				
Altura Post Office	15 Main St	Altura	MN	55910
Dakota Post Office	745 Frontage Rd	Dakota	MN	55925
Lewiston Post Office	675 Main St	Lewiston	MN	55952
Minnesota City Post Office	200 Mill St	Minnesota City	MN	
Rollingstone Post Office	105 Main St	Rollingstone	MN	55969
St Charles Post Office	Whitewater St	St Charles	MN	

Postal and Shipping

Utica Post Office	Main St	Utica	MN	55979
Winona Post Office	67 W 5th St	Winona	MN	55987

Transportation

Bob Brink Inc.	165 Steuben St.	Winona	MN	55987
City of Winona Transit Service	207 Lafayette St.	Winona	MN	55987
FedEx Freight	27058 County Road 12	Winona	MN	55987
Lawrence Transportation	400 W 3rd St	Winona	MN	55987
Modern Transport	780 E Front St.	Winona	MN	55987
Phillipps Bus Service	27784 County Road 17	Winona	MN	55987
Winona Municipal Airport – Max Conrad Field	106 Galewski Dr	Winona	MN	55987

Water

Cobblestone Creek Water Tower				
Garvin Heights Reservoir				
Johnson Reservoir				
Knopp Valley Reservoir				
Sugar Loaf Reservoir				
Valley Oaks Reservoir				
Wincrest Reservoir				
Westfield Water Treatment Plant				
Wincrest Water Treatment Plant				
Winona City Wastewater Treatment Plant		Winona	MN	55987
Winona City Water Works		Winona	MN	55987

Appendix C

Winona County Hazard Events

The National Centers for Environmental Information Database was queried for all notable events since 1950. However, some categories of events do not have records prior to 1996. Data was available through April of 2018.

Table C - 1. All tornadoes recorded by NCEI, 1950-April 2018

Location or County	Date	Magnitude	Deaths	Injuries	Property Damage
Lewiston	7/8/1999	F2	0	2	\$2,000,000
Utica	6/5/1997	F0	0	0	Unknown
Winona Co.	7/11/1987	F0	0	0	Unknown
Winona Co.	7/10/1984	F0	0	0	Unknown
Winona Co.	5/17/1982	F1	0	0	Unknown
Winona Co.	5/17/1982	F2	0	0	\$250,000
Winona Co.	6/5/1980	F2	0	0	\$250,000
Winona Co.	6/20/1968	F0	0	0	\$2,500
Winona Co.	6/15/1967	F1	0	0	\$25,000
Winona Co.	5/5/1965	F0	0	0	\$25,000
Winona Co.	5/5/1965	F3	0	0	\$2,500,000
Winona Co.	5/10/1953	F4	0	5	\$2,500,000
Highest Value Property Damage					\$2,500,000

Table C - 2. All severe hail storm events recorded by NCEI, 1950-April 2018

Location or County	Date	Size in Inches	Deaths	Injuries	Property Damage
Nodine	5/17/2017	1	0	0	Unknown
Nodine	5/17/2017	1	0	0	Unknown
Altura	5/17/2017	0.75	0	0	Unknown
Winona	4/9/2017	0.88	0	0	Unknown
Hart	4/9/2017	1	0	0	Unknown
Stockton	4/9/2017	0.88	0	0	Unknown
Lewiston	3/6/2017	0.75	0	0	Unknown
Winona	9/21/2016	0.75	0	0	Unknown
Dakota	9/21/2016	0.88	0	0	Unknown
Nodine	6/29/2015	0.75	0	0	Unknown
Homer	6/29/2015	1	0	0	Unknown
Winona	5/7/2014	0.75	0	0	Unknown
Wyattville	5/7/2014	1	0	0	Unknown
Fremont	5/7/2014	1.25	0	0	Unknown

Location or County	Date	Size in Inches	Deaths	Injuries	Property Damage
Winona	4/12/2014	1	0	0	Unknown
Stockton	4/12/2014	0.88	0	0	Unknown
Nodine	4/12/2014	1	0	0	Unknown
Winona	8/6/2013	1	0	0	Unknown
Winona	8/6/2013	0.75	0	0	Unknown
Pickwick	7/22/2013	0.75	0	0	Unknown
Altura	5/31/2013	0.75	0	0	Unknown
Altura	5/29/2013	0.75	0	0	Unknown
St. Charles	10/24/2012	1	0	0	Unknown
Hart	9/4/2012	0.75	0	0	Unknown
Winona	9/4/2012	1	0	0	Unknown
Stockton	9/4/2012	1.75	0	0	Unknown
Winona	9/4/2012	1	0	0	Unknown
Goodview	9/4/2012	1	0	0	Unknown
Saratoga	9/4/2012	2	0	0	Unknown
St. Charles	9/4/2012	1.75	0	0	Unknown
Goodview	4/10/2011	1	0	0	Unknown
Nodine	9/15/2010	1.75	0	0	Unknown
St. Charles	8/13/2010	0.75	0	0	Unknown
Nodine	7/17/2010	1.5	0	1	Unknown
Winona	7/17/2010	0.75	0	0	Unknown
Nodine	6/17/2010	1	0	0	Unknown
Utica	8/3/2009	1	0	0	Unknown
Winona	4/24/2009	1	0	0	Unknown
Lewiston	4/24/2009	1.5	0	0	Unknown
Winona	7/10/2008	0.88	0	0	Unknown
Ridgeway	5/30/2008	0.88	0	0	Unknown
Hart	5/30/2008	1.75	0	0	\$5,000
Fremont	5/30/2008	0.88	0	0	Unknown
St. Charles	5/30/2008	1.75	0	0	\$7,000
Lewiston	5/6/2008	0.88	0	0	Unknown
Utica	6/21/2007	0.75	0	0	Unknown
Utica	6/21/2007	0.75	0	0	Unknown
Lewiston	5/13/2007	0.88	0	0	Unknown
Hart	8/24/2006	0.88	0	0	\$750
Utica	11/27/2005	1	0	0	\$750
Stockton	8/18/2005	0.88	0	0	Unknown
Pickwick	8/9/2005	0.75	0	0	Unknown

Location or County	Date	Size in Inches	Deaths	Injuries	Property Damage
Elba	6/7/2005	0.75	0	0	Unknown
Ridgeway	3/30/2005	0.75	0	0	Unknown
Dakota	10/29/2004	0.75	0	0	Unknown
Winona	10/29/2004	1	0	0	\$750
Lewiston	8/26/2004	0.75	0	0	Unknown
Troy	6/23/2004	0.75	0	0	Unknown
Troy	5/8/2004	0.88	0	0	Unknown
Altura	7/31/2003	1	0	0	\$1,500
Altura	7/31/2003	0.75	0	0	Unknown
Minnesota City	5/8/2002	0.75	0	0	Unknown
Altura	5/8/2002	0.75	0	0	Unknown
Winona	4/18/2002	1.25	0	0	Unknown
Wilson	4/18/2002	1	0	0	Unknown
Winona	6/17/2001	1	0	0	\$700
Winona	6/17/2001	0.88	0	0	Unknown
Winona Muni Airport	6/17/2001	0.75	0	0	\$2,000
Minnesota City	6/17/2001	0.75	0	0	Unknown
Winona	6/17/2001	0.75	0	0	Unknown
Stockton	6/11/2001	1	0	0	\$1,000
Winona	6/11/2001	2	0	0	\$6,000
Winona	6/11/2001	1	0	0	\$3,000
Lewiston	6/11/2001	1.25	0	0	\$2,500
Utica	6/11/2001	1	0	0	\$1,200
St. Charles	6/11/2001	0.75	0	0	Unknown
Winona	6/11/2001	0.88	0	0	Unknown
Stockton	6/11/2001	0.88	0	0	Unknown
Altura	6/11/2001	1	0	0	\$1,500
Altura	6/11/2001	0.88	0	0	Unknown
St. Charles	5/1/2001	1	0	0	\$2,000
Lewiston	5/1/2001	0.75	0	0	Unknown
Winona	4/8/2001	0.75	0	0	Unknown
Winona	9/11/2000	1.75	0	0	\$25,000
Winona Muni Airport	9/10/2000	1	0	0	\$20,000
Lewiston	9/10/2000	2	0	0	\$15,000
Lewiston	9/10/2000	1.25	0	0	\$10,000
Lewiston	9/10/2000	1	0	0	\$7,500

Location or County	Date	Size in Inches	Deaths	Injuries	Property Damage
Utica	9/10/2000	1.75	0	0	\$10,000
Altura	9/10/2000	0.75	0	0	\$1,000
St. Charles	9/10/2000	1.75	0	0	\$12,000
St. Charles	9/10/2000	0.75	0	0	Unknown
Troy	9/10/2000	1	0	0	\$4,500
Lewiston	8/26/2000	0.75	0	0	Unknown
Goodview	8/26/2000	0.75	0	0	\$5,000
Winona	8/26/2000	0.88	0	0	\$8,500
Altura	8/26/2000	0.75	0	0	\$3,000
Winona	6/1/2000	0.88	0	0	\$7,000
Beaver	5/21/2000	0.88	0	0	Unknown
Winona	5/18/2000	0.88	0	0	Unknown
Winona	5/17/2000	0.88	0	0	\$1,500
Dresbach	7/8/1999	0.75	0	0	Unknown
Nodine	7/8/1999	0.75	0	0	Unknown
Hart	6/5/1999	0.75	0	0	Unknown
Rollingstone	5/16/1999	0.75	0	0	Unknown
Minneiska	8/9/1998	0.75	0	0	\$2,000
Nodine	6/27/1998	0.75	0	0	Unknown
Goodview	6/26/1998	0.75	0	0	\$22,000
Winona	6/26/1998	0.75	0	0	\$30,000
Winona	5/28/1998	0.75	0	0	Unknown
Hart	5/18/1998	0.75	0	0	Unknown
Winona	8/23/1997	1.75	0	0	\$30,000
Winona	8/23/1997	1	0	0	\$30,000
Winona	8/23/1997	0.75	0	0	\$25,000
Winona	8/3/1997	1	0	0	\$20,000
Winona	8/3/1997	1.75	0	0	Unknown
Utica	7/20/1997	0.75	0	0	Unknown
Stockton	6/5/1997	0.88	0	0	Unknown
Utica	6/5/1997	1.75	0	0	Unknown
Winona Muni Airport	6/5/1997	0.75	0	0	Unknown
Rollingstone	6/5/1997	0.88	0	0	Unknown
Nodine	6/5/1997	0.75	0	0	Unknown
Winona	6/5/1997	0.88	0	0	Unknown
Winona	8/25/1996	0.75	0	0	Unknown
Stockton	8/25/1996	0.75	0	0	Unknown

Location or County	Date	Size in Inches	Deaths	Injuries	Property Damage
Winona	5/13/1995	0.75	0	0	Unknown
Winona	5/10/1993	0.75	0	0	Unknown
Winona County	5/16/1992	0.75	0	0	Unknown
Winona County	7/21/1991	1.75	0	0	Unknown
Winona County	5/27/1991	0.75	0	0	Unknown
Winona County	8/9/1990	0.75	0	0	Unknown
Winona County	5/10/1987	1	0	0	Unknown
Winona County	6/4/1979	1.75	0	0	Unknown
Winona County	7/15/1978	1.75	0	0	Unknown
Winona County	6/4/1977	0.75	0	0	Unknown
Winona County	6/20/1974	0.75	0	0	Unknown
Winona County	6/20/1974	1.75	0	0	Unknown
Winona County	7/1/1972	0.75	0	0	Unknown
Winona County	7/1/1972	1.75	0	0	Unknown
Winona County	7/31/1970	1	0	0	Unknown
Winona County	6/12/1970	1	0	0	Unknown
Winona County	6/20/1966	1.75	0	0	Unknown
Winona County	5/5/1964	0.75	0	0	Unknown
Winona County	8/10/1959	1	0	0	Unknown
Highest Value Property Damage					\$30,000

Table C - 3. All severe thunderstorm wind events recorded by NCEI, 1950-April 2018

Location or County	Date	Type	Magnitude (Knots)	Deaths	Injuries	Property Damage
St. Charles	7/19/2017	Thunderstorm Wind	52	0	0	\$15,000
Winona	6/16/2017	Thunderstorm Wind	45	0	0	\$2,000
Altura	5/17/2017	Thunderstorm Wind	40	0	0	\$2,000
Winona	3/6/2017	Thunderstorm Wind	40	0	0	\$20,000
Lewiston	7/5/2016	Thunderstorm Wind	50	0	0	\$1,000
Winona (Zone)	4/2/2016	Strong Wind	43	0	0	\$200
Winona (Zone)	3/16/2016	Strong Wind	38	0	0	\$15,000
Goodview	5/3/2015	Thunderstorm Wind	40	0	0	\$10,000
Goodview	8/29/2014	Thunderstorm Wind	52	0	0	\$1,000
Elba	8/29/2014	Thunderstorm Wind	50	0	0	\$10,000

Location or County	Date	Type	Magnitude (Knots)	Deaths	Injuries	Property Damage
Dresbach	8/18/2014	Thunderstorm Wind	50	0	0	\$15,000
Winona	8/18/2014	Thunderstorm Wind	50	0	0	\$4,000
Homer	7/6/2014	Thunderstorm Wind	50	0	0	\$25,000
The Arches	6/22/2013	Thunderstorm Wind	50	0	0	\$2,000
Winona	5/19/2013	Thunderstorm Wind	54	0	0	Unknown
Rollingstone	5/19/2013	Thunderstorm Wind	50	0	0	\$5,000
Rollingstone	5/19/2013	Thunderstorm Wind	50	0	0	\$2,000
Lewiston	5/19/2013	Thunderstorm Wind	55	0	0	\$2,000
Lewiston	5/19/2013	Thunderstorm Wind	64	0	0	Unknown
Fremont	5/19/2013	Thunderstorm Wind	55	0	0	Unknown
St. Charles	5/19/2013	Thunderstorm Wind	55	0	0	\$40,000
St. Charles	5/19/2013	Thunderstorm Wind	55	0	0	\$20,000
Elba	8/9/2012	Thunderstorm Wind	56	0	0	\$5,000
Homer	5/24/2012	Thunderstorm Wind	54	0	0	\$3,000
Goodview	5/24/2012	Thunderstorm Wind	52	0	0	\$20,000
Bethany	5/24/2012	Thunderstorm Wind	50	0	0	\$20,000
Lamoille	9/2/2011	Thunderstorm Wind	52	0	0	Unknown
Stockton	9/2/2011	Thunderstorm Wind	52	0	0	Unknown
St. Charles	8/23/2011	Thunderstorm Wind	50	0	0	\$1,000
Ridgeway	7/23/2011	Thunderstorm Wind	50	0	0	\$2,000
Altura	7/23/2011	Thunderstorm Wind	52	0	0	\$200
St. Charles	7/23/2011	Thunderstorm Wind	52	0	0	\$3,000
Dakota	7/1/2011	Thunderstorm Wind	52	0	0	\$200
Lewiston	7/1/2011	Thunderstorm Wind	52	0	0	\$200
Winona (Zone)	10/26/2010	High Wind	52	0	0	\$4,000
Lamoille	9/15/2010	Thunderstorm Wind	52	0	0	\$2,000
Winona	9/15/2010	Thunderstorm Wind	52	0	0	\$1,500
Hart	9/15/2010	Thunderstorm Wind	56	0	0	\$2,500
The Arches	8/13/2010	Thunderstorm Wind	50	0	0	\$2,000
Pickwick	8/13/2010	Thunderstorm Wind	50	0	0	\$500
Winona	7/14/2010	Thunderstorm Wind	52	0	0	\$1,500
Altura	6/26/2010	Thunderstorm Wind	52	0	0	\$2,000
Winona	6/17/2010	Thunderstorm Wind	53	0	0	Unknown
Goodview	6/17/2010	Thunderstorm Wind	56	0	0	\$95,000
St. Charles	6/17/2010	Thunderstorm Wind	61	0	0	\$65,000
St. Charles	6/17/2010	Thunderstorm Wind	61	0	0	\$50,000
Winona	7/10/2008	Thunderstorm Wind	52	0	0	Unknown
Winona	7/10/2008	Thunderstorm Wind	56	0	0	Unknown

Location or County	Date	Type	Magnitude (Knots)	Deaths	Injuries	Property Damage
Winona	7/10/2008	Thunderstorm Wind	52	0	0	Unknown
Winona	7/10/2008	Thunderstorm Wind	52	0	0	\$8,000
Fremont	7/7/2008	Thunderstorm Wind	61	0	0	\$5,000
Troy	7/7/2008	Thunderstorm Wind	61	0	0	\$15,000
Utica	7/7/2008	Thunderstorm Wind	61	0	0	\$50,000
Winona	6/6/2008	Thunderstorm Wind	52	0	0	\$2,000
St. Charles	9/21/2007	Thunderstorm Wind	50	0	0	\$800
Winona	8/11/2007	Thunderstorm Wind	52	0	0	\$2,000
Ridgeway	6/7/2007	Thunderstorm Wind	52	0	0	\$750
Winona	8/18/2005	Thunderstorm Wind	61	0	0	\$2,500
Lewiston	8/26/2004	Thunderstorm Wind	56	0	0	Unknown
Winona (Zone)	4/18/2004	High Wind	54	0	0	\$1,500
Altura	7/4/2003	Thunderstorm Wind	54	0	0	\$500
St. Charles	8/6/2002	Thunderstorm Wind	56	0	0	\$4,000
Lewiston	7/30/2002	Thunderstorm Wind	54	0	0	Unknown
Winona (Zone)	10/25/2001	High Wind	43	0	0	Unknown
Altura	6/18/2001	Thunderstorm Wind	54	0	0	\$1,500
St. Charles	6/18/2001	Thunderstorm Wind	70	0	0	\$1,200
Winona (Zone)	4/7/2001	High Wind	54	0	0	\$2,500
Lewiston	6/13/2000	Thunderstorm Wind	55	0	0	\$5,000
Ridgeway	6/6/1999	Thunderstorm Wind	55	0	0	\$5,000
Utica	6/6/1999	Thunderstorm Wind	54	0	0	\$15,000
Winona	6/5/1999	Thunderstorm Wind	52	0	0	\$3,000
Winona (Zone)	11/10/1998	High Wind	60	0	0	\$75,000
Winona	8/9/1998	Thunderstorm Wind	55	0	0	\$75,000
Winona	8/9/1998	Thunderstorm Wind	55	0	0	\$40,000
Winona	8/9/1998	Thunderstorm Wind	55	0	0	\$55,000
Winona	8/9/1998	Thunderstorm Wind	52	0	0	\$30,000
Winona	7/20/1998	Thunderstorm Wind	74	0	0	\$15,000
Winona	7/20/1998	Thunderstorm Wind	52	0	0	\$20,000
Minnesota City	7/20/1998	Thunderstorm Wind	52	0	0	\$18,000
Winona	6/27/1998	Thunderstorm Wind	65	0	0	\$400,000
Winona Muni Airport	6/27/1998	Thunderstorm Wind	78	0	0	\$300,000
Stockton	6/27/1998	Thunderstorm Wind	61	0	0	\$2,000
Lewiston	6/27/1998	Thunderstorm Wind		0	0	\$250,000
Utica	6/27/1998	Thunderstorm Wind	56	0	0	\$15,000
Minneiska	6/26/1998	Thunderstorm Wind	52	0	0	\$15,000

Location or County	Date	Type	Magnitude (Knots)	Deaths	Injuries	Property Damage
Minneiska	6/26/1998	Thunderstorm Wind	52	0	0	\$12,000
Hart	5/30/1998	Thunderstorm Wind	55	0	0	\$40,000
Winona	5/30/1998	Thunderstorm Wind	58	0	0	\$50,000
St. Charles	5/30/1998	Thunderstorm Wind	55	0	0	\$25,000
Winona	5/15/1998	Thunderstorm Wind	52	0	0	\$8,000
Winona	5/15/1998	Thunderstorm Wind	58	0	0	\$15,000
Bethany	5/15/1998	Thunderstorm Wind	52	0	0	\$12,000
Altura	5/15/1998	Thunderstorm Wind	52	0	0	\$18,000
St. Charles	5/15/1998	Thunderstorm Wind	56	0	0	\$30,000
St. Charles	5/15/1998	Thunderstorm Wind	54	0	0	\$15,000
Winona	8/23/1997	Thunderstorm Wind	55	0	0	\$15,000
Goodview	8/23/1997	Thunderstorm Wind	55	0	0	\$40,000
Utica	7/20/1997	Thunderstorm Wind	52	0	0	Unknown
Winona Muni Airport	7/17/1997	Thunderstorm Wind	52	0	0	\$30,000
Winona	6/28/1997	Thunderstorm Wind	52	0	0	\$1,000
St. Charles	6/28/1997	Thunderstorm Wind	52	0	0	Unknown
Minnesota City	4/5/1997	Thunderstorm Wind	52	0	0	\$7,000
Winona	4/5/1997	Thunderstorm Wind	52	0	0	\$10,000
Winona (Zone)	10/30/1996	High Wind	48	0	0	\$1,500
Wilson	8/25/1996	Thunderstorm Wind	52	0	0	\$5,000
Stockton	8/25/1996	Thunderstorm Wind	56	0	0	Unknown
Winona	8/25/1996	Thunderstorm Wind	56	0	0	\$8,000
Winona (Zone)	2/10/1996	High Wind	48	0	0	Unknown
Lewiston	6/10/1994	Thunderstorm Wind	0	0	0	\$500
Winona Co.	6/17/1992	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/17/1992	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	5/16/1992	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	5/16/1992	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	5/16/1992	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	8/26/1990	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	8/9/1990	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	7/25/1990	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/13/1990	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/2/1990	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	8/4/1989	Thunderstorm Wind	52	0	0	Unknown
Winona Co.	8/4/1989	Thunderstorm Wind	52	0	0	Unknown
Winona Co.	5/29/1989	Thunderstorm Wind	0	0	0	Unknown

Location or County	Date	Type	Magnitude (Knots)	Deaths	Injuries	Property Damage
Winona Co.	7/14/1984	Thunderstorm Wind	52	0	0	Unknown
Winona Co.	6/7/1984	Thunderstorm Wind	65	0	0	Unknown
Winona Co.	8/7/1980	Thunderstorm Wind	70	0	0	Unknown
Winona Co.	6/19/1979	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	7/15/1978	Thunderstorm Wind	52	0	0	Unknown
Winona Co.	6/16/1976	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/20/1974	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/20/1974	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/6/1971	Thunderstorm Wind	55	0	0	Unknown
Winona Co.	6/26/1969	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/26/1969	Thunderstorm Wind	80	0	0	Unknown
Winona Co.	6/26/1969	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/26/1969	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	7/8/1968	Thunderstorm Wind	50	0	0	Unknown
Winona Co.	6/8/1967	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	10/14/1966	Thunderstorm Wind	62	0	0	Unknown
Winona Co.	6/8/1963	Thunderstorm Wind	88	0	0	Unknown
Winona Co.	6/10/1961	Thunderstorm Wind	0	0	0	Unknown
Winona Co.	6/21/1956	Thunderstorm Wind	69	0	0	Unknown
Winona Co.	6/5/1955	Thunderstorm Wind	0	0	0	Unknown
Highest Value Property Damage						\$400,000

Table C - 4. All extreme flood events recorded by NCEI, 1997-April 2018

Location or County	Date	Type	Deaths	Injuries	Property Damage
Winona	4/29/2018	Flood	0	0	Unknown
Homer	7/20/2017	Flash Flood	0	0	\$7,000
St. Charles	7/19/2017	Flood	0	0	Unknown
Minneiska	7/19/2017	Flash Flood	0	0	\$6,000
St. Charles	6/28/2017	Flood	0	0	Unknown
Stockton	6/28/2017	Flash Flood	0	0	\$108,000
Elba	6/28/2017	Flash Flood	0	0	\$25,000
St. Charles	6/12/2017	Flood	0	0	Unknown
Winona	5/23/2017	Flood	0	0	Unknown

Location or County	Date	Type	Deaths	Injuries	Property Damage
Homer	5/16/2017	Flood	0	0	Unknown
Lamoille	4/20/2017	Flash Flood	0	0	Unknown
St. Charles	9/22/2016	Flood	0	0	Unknown
Lamoille	9/21/2016	Flash Flood	0	0	\$4,000
St. Charles	7/23/2016	Flood	0	0	Unknown
Elba	7/23/2016	Flash Flood	0	0	\$10,000
Winona	7/1/2014	Flood	0	0	Unknown
St. Charles	6/27/2014	Flood	0	0	Unknown
Winona	6/22/2014	Flood	0	0	Unknown
Winona	5/13/2014	Flood	0	0	Unknown
Winona	5/3/2014	Flood	0	0	Unknown
Homer	10/5/2013	Flash Flood	0	0	\$5,000
Goodview	10/5/2013	Flash Flood	0	0	\$15,000
St. Charles	6/25/2013	Flood	0	0	Unknown
Whitman	6/22/2013	Flash Flood	0	0	\$7,000
St. Charles	5/19/2013	Flood	0	0	Unknown
St. Charles	4/4/2013	Flood	0	0	Unknown
St. Charles	3/30/2013	Flood	0	0	Unknown
Elba	6/20/2012	Flood	0	0	\$5,000
Winona Muni Airport	7/23/2011	Flood	0	0	Unknown
Winona	4/1/2011	Flood	0	0	Unknown
Winona	3/29/2011	Flood	0	0	Unknown
Winona Muni Airport	10/1/2010	Flood	0	0	Unknown
Winona Muni Airport	9/28/2010	Flood	0	0	Unknown
Troy	9/23/2010	Flood	0	0	\$1,360,000
New Hartford	9/15/2010	Flood	0	0	Unknown
Goodview	9/15/2010	Flood	0	0	Unknown
St. Charles	8/13/2010	Flood	0	0	Unknown
Winona	8/13/2010	Flood	0	0	Unknown
Winona	7/17/2010	Flood	0	0	Unknown
Dresbach	7/16/2008	Flash Flood	0	0	\$10,000
Winona	6/7/2008	Flood	0	0	\$50,000
Lamoille	6/7/2008	Flash Flood	0	0	\$250,000
Lewiston	8/22/2007	Flash Flood	0	0	\$1,500
Winona	8/19/2007	Flood	0	0	\$1,500,000

Location or County	Date	Type	Deaths	Injuries	Property Damage
Elba	8/18/2007	Flood	0	0	\$60,000
Winona	8/18/2007	Flash Flood	0	0	\$12,000,000
Lewiston	8/18/2007	Flash Flood	5	0	\$300,000
Stockton	8/18/2007	Flash Flood	0	0	\$22,000,000
Lewiston	8/18/2007	Flash Flood	0	0	\$6,000,000
Countywide	9/15/2004	Flash Flood	0	0	\$4,000
Winona (Zone)	5/1/2001	Flood	0	0	\$2,300,000
Winona (Zone)	4/11/2001	Flood	0	0	\$2,000,000
Countywide	6/20/2000	Flood	0	0	Unknown
St. Charles	6/1/2000	Flash Flood	0	0	\$8,000
Countywide	5/17/2000	Flash Flood	0	0	\$8,000
Stockton	8/9/1998	Flash Flood	0	0	\$150,000
Stockton	6/26/1998	Flash Flood	0	0	\$15,000
Winona	8/23/1997	Flash Flood	0	0	\$40,000
Lewiston	7/19/1997	Flash Flood	0	0	\$50,000
Lewiston	7/19/1997	Flood	0	0	Unknown
Winona (Zone)	4/3/1997	Flood	0	0	\$500,000
Highest Value Property Damage					\$22,000,000

Table C - 5. All severe winter weather events recorded by NCEI, 1996-April 2018

Location or County	Date	Type	Deaths	Injuries	Property Damage
Winona County	4/13/2018	Winter Storm	0	0	Unknown
Winona County	4/3/2018	Heavy Snow	0	0	Unknown
Winona County	3/5/2018	Winter Storm	0	0	Unknown
Winona County	2/19/2018	Winter Weather	0	0	Unknown
Winona County	1/22/2018	Winter Storm	0	0	Unknown
Winona County	12/28/2017	Winter Weather	0	0	\$500
Winona County	11/11/2017	Winter Weather	0	0	\$20,000
Winona County	3/12/2017	Heavy Snow	0	0	Unknown
Winona County	2/23/2017	Winter Storm	0	0	Unknown
Winona County	1/24/2017	Heavy Snow	0	0	Unknown
Winona County	1/16/2017	Winter Weather	0	0	Unknown
Winona County	12/10/2016	Heavy Snow	0	0	Unknown
Winona County	3/23/2016	Winter Storm	0	0	Unknown

Location or County	Date	Type	Deaths	Injuries	Property Damage
Winona County	2/2/2016	Winter Storm	0	0	Unknown
Winona County	2/1/2016	Winter Weather	0	0	\$8,000
Winona County	12/28/2015	Winter Storm	0	0	Unknown
Winona County	3/22/2015	Heavy Snow	0	0	Unknown
Winona County	2/20/2014	Winter Storm	0	0	Unknown
Winona County	1/26/2014	Winter Storm	0	0	Unknown
Winona County	5/1/2013	Heavy Snow	0	0	Unknown
Winona County	4/11/2013	Ice Storm	0	0	Unknown
Winona County	3/10/2013	Winter Storm	0	0	Unknown
Winona County	3/4/2013	Heavy Snow	0	0	Unknown
Winona County	2/21/2013	Winter Storm	0	0	Unknown
Winona County	1/27/2013	Winter Storm	0	0	Unknown
Winona County	12/19/2012	Winter Storm	0	0	\$2,500
Winona County	12/9/2012	Winter Storm	0	0	Unknown
Winona County	2/20/2011	Winter Storm	0	0	Unknown
Winona County	12/31/2010	Winter Weather	0	0	Unknown
Winona County	12/20/2010	Winter Storm	0	0	\$17,000
Winona County	12/11/2010	Winter Storm	0	0	Unknown
Winona County	12/11/2010	Blizzard	0	0	Unknown
Winona County	12/3/2010	Heavy Snow	0	0	Unknown
Winona County	11/24/2010	Winter Weather	0	0	Unknown
Winona County	2/7/2010	Winter Storm	0	0	Unknown
Winona County	1/21/2010	Winter Weather	0	0	Unknown
Winona County	12/8/2009	Blizzard	0	0	Unknown
Winona County	2/26/2009	Winter Storm	0	0	Unknown
Winona County	1/3/2009	Winter Weather	0	0	Unknown
Winona County	12/20/2008	Winter Storm	0	0	Unknown
Winona County	12/8/2008	Winter Storm	0	0	Unknown
Winona County	3/21/2008	Heavy Snow	0	0	Unknown
Winona County	1/29/2008	Winter Storm	0	0	Unknown
Winona County	1/21/2008	Heavy Snow	0	0	Unknown
Winona County	12/22/2007	Winter Storm	0	0	Unknown
Winona County	12/1/2007	Winter Storm	0	0	Unknown
Winona County	4/10/2007	Winter Storm	0	0	Unknown
Winona County	3/1/2007	Winter Storm	0	0	Unknown
Winona County	2/28/2007	Winter Storm	0	0	Unknown
Winona County	2/24/2007	Blizzard	0	0	Unknown
Winona County	2/23/2007	Winter Storm	0	0	Unknown

Location or County	Date	Type	Deaths	Injuries	Property Damage
Winona County	1/14/2007	Heavy Snow	0	0	Unknown
Winona County	11/10/2006	Heavy Snow	0	0	Unknown
Winona County	3/15/2006	Winter Storm	0	0	Unknown
Winona County	2/15/2006	Winter Storm	0	0	Unknown
Winona County	3/17/2005	Winter Storm	0	0	Unknown
Winona County	2/20/2005	Winter Storm	0	0	Unknown
Winona County	1/21/2005	Winter Storm	0	0	Unknown
Winona County	1/1/2005	Ice Storm	0	0	Unknown
Winona County	2/1/2004	Winter Storm	0	0	Unknown
Winona County	1/26/2004	Winter Storm	0	0	Unknown
Winona County	4/7/2003	Winter Storm	0	0	Unknown
Winona County	3/9/2002	Blizzard	0	0	Unknown
Winona County	3/11/2001	Winter Storm	0	0	Unknown
Winona County	2/24/2001	Ice Storm	0	0	Unknown
Winona County	2/8/2001	Winter Storm	0	0	Unknown
Winona County	1/29/2001	Ice Storm	0	0	Unknown
Winona County	12/28/2000	Winter Storm	0	0	Unknown
Winona County	12/18/2000	Winter Storm	0	0	Unknown
Winona County	3/8/1999	Winter Storm	0	0	Unknown
Winona County	1/24/1999	Heavy Snow	0	0	Unknown
Winona County	1/1/1999	Winter Storm	0	0	Unknown
Winona County	1/4/1998	Ice Storm	0	0	\$7,000
Winona County	3/12/1997	Winter Storm	0	0	Unknown
Winona County	2/4/1997	Winter Storm	0	0	Unknown
Winona County	1/24/1997	Heavy Snow	0	0	Unknown
Winona County	1/15/1997	Winter Storm	0	0	Unknown
Winona County	11/20/1996	Winter Storm	0	0	Unknown
Winona County	1/28/1996	Blizzard	0	0	Unknown
Winona County	1/26/1996	Blizzard	0	0	Unknown
Winona County	1/25/1996	Heavy Snow	0	0	Unknown
Winona County	1/17/1996	Heavy Snow	0	0	Unknown
Highest Value Property Damage					\$20,000

Table C - 6. All severe cold/wind chill events recorded by NCEI, 1996-April 2018

Location or County	Date	Type	Deaths	Injuries	Property Damage
Winona County	12/18/2016	Extreme Cold/Wind Chill	0	0	Unknown
Winona County	1/7/2015	Extreme Cold/Wind Chill	0	0	Unknown
Winona County	1/27/2014	Extreme Cold/Wind Chill	0	0	Unknown
Winona County	1/6/2014	Extreme Cold/Wind Chill	0	0	Unknown
Winona County	1/1/2010	Cold/Wind Chill	0	0	Unknown
Winona County	12/10/2009	Cold/Wind Chill	0	0	Unknown
Winona County	1/14/2009	Extreme Cold/Wind Chill	0	0	Unknown
Winona County	12/21/2008	Cold/Wind Chill	0	0	Unknown
Winona County	12/14/2008	Cold/Wind Chill	0	0	Unknown
Winona County	2/10/2008	Extreme Cold/Wind Chill	0	0	Unknown
Winona County	1/29/2008	Extreme Cold/Wind Chill	0	0	Unknown
Winona County	2/2/2007	Extreme Cold/Wind Chill	0	0	Unknown
Winona County	1/16/1997	Cold/Wind Chill	0	0	Unknown
Winona County	2/1/1996	Cold/Wind Chill	0	0	Unknown
Winona County	1/31/1996	Cold/Wind Chill	0	0	Unknown
Highest Value Property Damage					unknown

Table C - 7. All extreme heat/heat events recorded by the NCEI, 1996-April 2018

Location or County	Date	Type	Deaths	Injuries	Property Damage
Winona County	7/21/2016	Heat	0	0	Unknown
Winona County	7/2/2012	Heat	0	0	Unknown
Winona County	7/17/2011	Excessive Heat	0	0	\$10,000
Winona County	8/1/2001	Heat	0	0	Unknown
Winona County	7/31/2001	Heat	0	0	Unknown
Winona County	7/28/1999	Heat	0	0	Unknown
Winona County	7/23/1999	Heat	0	0	Unknown
Winona County	7/4/1999	Heat	0	0	Unknown
Highest Value Property Damage					\$10,000

Table C - 8. All lightning events recorded by the NCEI, 1996-April 2018

Location or County	Date	Deaths	Injuries	Property Damage
Winona	10/5/2013	Lightning	0	Unknown
Winona	8/15/2012	Lightning	0	Unknown
Homer	5/6/2012	Lightning	0	Unknown
Winona	7/1/2011	Lightning	0	Unknown
Goodview	6/11/2001	Lightning	0	Unknown
Hart	5/30/1998	Lightning	0	Unknown
Highest Value Property Damage				<i>unknown</i>

Appendix D

Adopting Resolutions

Resolutions to be added to Appendix D by Winona County following final approval of the plan by FEMA.

Appendix E

Steering Committee Meetings

8/9/2017

Minnesota 7-County Multi-Hazard Mitigation Update Project Kick-off Orientation Webinar

UNIVERSITY OF MINNESOTA GEOSPATIAL ANALYSIS CENTER

SWENSON COLLEGE
OF SCIENCE & ENGINEERING
UNIVERSITY OF MINNESOTA, DULUTH
Driven to Discover

Webinar Purpose & Goals

Purpose:

The purpose of this webinar is provide an orientation kick-off meeting for the Emergency Managers participating in the Minnesota 7-County Multi-Hazard Mitigation Plan Update project.

Goals:

- Introduce the UMD Team and County contacts.
- Provide an overview of the project.
- Clarify roles and responsibilities.
- Outline the planning process, discuss key tasks and timelines.
- Discuss next steps and answer your questions.

Introductions

Who We Are (UMD Project Team)

-  Stacey Stark, Director, Geospatial Analysis Center (GAC)
-  Micella Penning, Research Associate, GIS Specialist, Cartographer, and Editor (GAC)
-  Steve Graham, Research Associate and Flood Modeling Specialist (GAC)
-  Bonnie Hundreser, Emergency Management Planning Consultant (Hundreser Consulting LLC)

Who You Are (County Emergency Managers):

- Name, Title, and County
- Past Experience with MHMP?

Minnesota HSEM:

Jennifer Nelson, MN HSEM
State Hazard Mitigation Officer

Project Overview

➤ 7 Counties

A jurisdiction	FEMA's Expiration Date
Waseca	3/26/2017
Rice	5/22/2017
Carver	10/17/2017
Winona	11/8/2017
Ramsey	12/3/2017
Todd	4/15/2018
Nicollet	5/24/2018



Why UMD-GAC?

- **Proven experience**
GAC has extensive experience in the comprehensive review and update of county MHMPs, as well as update of the State MHMP.
- **Advanced Capabilities**
GAC has expertise in the application of GIS, HAZUS, and research to support MHMP development and meeting all FEMA requirements.
- **Ability to Expedite**
GAC has the ability to expedite the MHMP update process for multiple counties through a consistent approach and format, which also supports State and FEMA review of draft plans.
- **Planning Team**
GAC project team includes working with advanced GIS students and experienced consultants to effectively complete tasks.

Overview of MHMP Update Process

Key Considerations for Discussion

8/9/2017

EM Roles & Responsibilities

- Act as main Point of Contact.
- Track required local match and submit to HSEM.
- Coordinate communication and outreach to engage local planning team, additional key stakeholders, and the public.
- Review past mitigation actions and provide status update.
- Provide information for Capabilities Assessment (Plans & Programs in Place / Program Gaps or Deficiencies) for each hazard.
- Assist in development of new mitigation action chart (must be county and jurisdictionally specific) that includes projects for HMA eligibility.
- Provide information for Critical Facilities forms.
- Provide coordination with GIS and assessor's data managers in order to obtain GIS and parcel information for GIS analyses.
- Assist in timely review of material throughout the plan update process via phone, email, and in-person meetings.

Planning Team Engagement

Each EM will play a critical role in identification and engagement of a planning team during the plan update process. The MHMP must document who was involved & how, and include representation from the county and each jurisdiction. Neighboring communities, local and regional agencies should also be given the opportunity to participate.

Key Considerations:

- **Planning Team** – Should include key county departments/staff and representation from all participating cities, as well as other key agency or organizational personnel (i.e., MNDNR, Utility reps, Schools)
- **In-Person Meetings** – Our planning process consists of 2 in-person planning team meetings (Kickoff Meeting and Mitigation Action Chart review meeting).
- **Other Communication** – At different parts of the planning process we will seek additional participation & feedback via email.

Public Engagement

As part of the planning process, the MHMP must document how the public was given the opportunity to be involved in the planning process and how their feedback was incorporated into the plan.

Key Considerations:

- Our public outreach process consists of 2 outreach periods (early in the process and for public review of draft plan).
- We provide you with a news release for posting/distribution.
- We work with you to document your public outreach in the plan.
- We provide a website for posting the plan and collection of public feedback.
- If you wish to do additional public outreach, you may do so under your own direction (i.e., posting an online survey, providing an update meetings, or distributing information at public events, such as a booth at the County Fair).

Hazard Identification and Risk Assessment

All plans will address the **natural hazards** identified to pose risk to the county and its jurisdictions. Non-natural hazards (technological and human-caused) will not be included in the risk and vulnerability assessment and development of mitigation strategies and actions.

Key Considerations:

- Identify specific impacts and vulnerabilities (at the county/jurisdiction level) due to natural hazards.
- Identify if and how any priorities changed since the last plan (i.e., financial, legal, political realities, and post-disaster conditions).
- Identify existing development or future development that may increase or decrease the community's vulnerability to natural hazard events.

Mitigation Strategy

Key activities to support the update of the Mitigation Strategy will include a capabilities assessment for mitigating against natural hazards, as well as a comprehensive review of the status of mitigation actions in the previously approved plan.

Key Considerations:

- Plans and Programs in Place that support mitigation.
- Program Gaps or Deficiencies that hinder mitigation.
- Past Mitigation Action Review (Completed, Deleted, or Ongoing)
- Identification of projects that may be eligible for HMA funding.
- Local Mitigation Capabilities Assessment (LMCA) for jurisdictional-level mitigation actions.

Plan Adoption

After FEMA has provided "APA" status (Approval Pending Adoption), the county and all participating jurisdictions must formally adopt the plan.

Key Considerations:

- This step is often a difficult challenge for Emergency Managers after the plan is completed, and can bog down the process of final plan adoption and thus eligibility for applying for FEMA HMA funding.
- Engaging County and City personnel throughout the planning process will help to ensure understanding of the purpose and process of the MHMP update, including expectation of follow-through to adopt the plan.

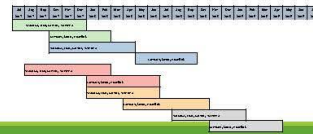
8/9/2017

Project Timeline

- 30-Month total timeline - 24 months active
- Staggering of Counties will be required to complete UMD's update of risk assessments, research of hazard histories, etc. for each county.

Estimated Time-line

Task #	Task	County	County
1	Project Kick-off meeting to review the process and establish a timeline for the project.	Winona County	Winona County
2	Identify project goals and objectives.	Winona County	Winona County
3	Identify project goals and objectives.	Winona County	Winona County
4	Identify project goals and objectives.	Winona County	Winona County
5	Identify project goals and objectives.	Winona County	Winona County



Our Recent Experience

These things *really* help speed up the update process!

The UMD Team provides you with prepared communications & formats.

- Using the existing formats we provide to you for particular tasks (i.e. data collection, meeting notices, assessment forms) will expedite our process, effectively use your time, and maintain consistency among plans.

EM's complete "assignments" in a thorough and timely fashion.

- The quicker you get them back to us with complete information, the faster we can work with them, and we don't have to follow up to ask for help in filling in gaps.

EM's help coordinate getting information that we need.

- Your assistance to coordinate with your GIS dept. or County Assessor will help to ensure we get the information we need to update the plan.
- Your assistance to coordinate with county department and city personnel to get information or feedback is also extremely helpful.

EM's do a great job of convening planning team meetings & outreach.

- Well-attended planning team meetings help to ensure easier communication on this project with all those involved, and helps document required participation to FEMA and FEMA in the planning process. It also helps secure your local match!

EM Tasks

- All county Emergency Managers will be provided with resources to complete the following tasks:

- ✓ Plans & Programs in Place Checklist
- ✓ Capabilities Assessment by each Natural Hazard
- ✓ Past Mitigation Action Review (Status Update)
- ✓ Public News Releases
- ✓ Compilation of Critical & Essential Facilities in Each Jurisdiction
- ✓ Coordination of Local Mitigation Capabilities Assessment
- ✓ Building Attribute Checklist for Flood Economic Loss Analysis

Next Steps

UMD Team members (Bonnie/Micaella) will follow up with each EM to provide & discuss the following assignments you can begin to work on:

- Plans & Programs in Place Checklist
- Capabilities Assessment (CA)
- Past Mitigation Action Review (PMAR)
- Listing of Critical Facilities
- "Section 6" text (How the plan will be monitored, evaluated and updated within a 5-year cycle, and how public participation will continue).
- Scheduling of 1st Planning Team Meeting

Questions?

What questions do you have for UMD or HSEM about the MHMP Update process?

8/9/2017

Contact Information

Stacey Stark, MS, GISP
Geospatial Analysis Center
slstark@d.umn.edu
218-726-7438

Example Plans:
<https://z.umn.edu/hazardmitigation>



Winona County

Multi-Hazard Mitigation Plan Update

November 20, 2017 MHMP Planning Team Meeting
Winona County Government Center – Winona, MN
2:00 p.m. – 4:00 p.m.

Meeting Summary:

On Monday, November 20, 2017, key county, city, and township representatives, as well as other stakeholders were convened to participate in a Planning Team Meeting for the update of Winona County Multi-Hazard Mitigation Plan (MHMP). The meeting was facilitated by the University of Minnesota – Duluth Geospatial Analysis Center (GAC) staff and Bonnie Hundrieser who are leading the update of the Winona County MHMP. A total of 24 people attended the meeting.

The opening presentation covered:

- The purpose of hazard mitigation planning.
- The role & responsibilities of the Planning Team.
- An overview of content in the MHMP (County physical & social profile, Asset Inventory, Hazard Assessment and Vulnerability Analysis, Capability Assessment and Mitigation Actions).
- Group review and discussion of hazard rankings for Winona County.
- A review of mitigation strategies and considerations for developing local mitigation actions.
- An overview of the FEMA Hazard Mitigation Assistance (HMA) Grants program.

Following the presentation a facilitated Mitigation Action Working Session was held. Participants discussed the natural hazards of concern to their communities and filled out Mitigation Action Worksheets to identify new, jurisdictionally-specific mitigation actions to be included in the MHMP plan update. Mitigation actions were required to fall within one of the 5 mitigation action strategies:

1. Local Planning and Regulations
2. Structure and Infrastructure Projects
3. Natural Systems Protection
4. Education and Awareness Programs
5. Mitigation Preparedness and Response Support

Following the Mitigation Action Working Session, the group then discussed the upcoming process and anticipated timeline for engaging the public and other key stakeholders in an open plan review period and public meetings. Meeting attendees were told that they would be contacted for additional information as needed and kept informed on the upcoming steps in the planning process, including opportunities for draft plan review and final selection of mitigation actions for inclusion in the plan.

Attached to this meeting summary are the following documentation items:

- 11-20-17 Winona County Meeting Email Invite
- 11-20-17 Meeting Agenda
- 11-20-17 Meeting Sign-in Sheets
- 11-20-17 Power Point Presentation Slides
- 11-20-17 Meeting Handouts (Mitigation Strategies, HMA Grants, Mitigation Ideas Worksheet)
- 11-20-17 Mitigation Ideas Working Session (jurisdictional worksheets)

Meeting Summary Prepared By: Bonnie Hundrieser, UMD Project Team, (Hundrieser Consulting LLC)

From: Anne Morse
Sent: Monday, October 30, 2017 3:05 PM
To: Anne Morse <AMorse@Co.Winona.MN.US>
Cc: 'Bonnie Hundreiser'
Subject: Winona County 11-20-17 Hazard Mitigation Plan Meeting Invitation

Greetings,

As an administrator of a city within Winona County, your presence is requested at a vital Planning Team meeting for the update of the **Winona County Multi-Hazard Mitigation Plan** on:

Date: Monday, November 20th, 2017
Time: 2:00 p.m. – 4:00 p.m. (1400 – 1600 hours)
Location: Winona County Government Center Board Room, 177 Main Street, Winona

The update of the County's hazard mitigation plan is a requirement by the State of Minnesota Department of Homeland Security & Emergency Management (HSEM), as well as the Federal Emergency Management Agency (FEMA) every 5 years. Our plan is due for an update and our planning is currently underway. The plan addresses the natural hazards that face Winona County and will result in mitigation actions for implementation that will reduce or eliminate loss of life or damage to property as a result of natural hazard events. As someone involved in the operations of the county, or of a city within Winona County, your input is needed. Additional key stakeholders have also been invited.

Your participation in this hazard mitigation plan is important for several reasons:

1. You will have input on projects we can implement at the county and local level that will help to eliminate or reduce the impacts of future natural disaster events.
2. Participating cities and the County will be eligible to apply for significant federal mitigation funding from FEMA to implement specific projects that meet eligibility requirements.
3. Mitigation planning is a fundamental element in emergency management and local planning that we all must address to keep our communities safe and resilient.
4. FEMA and the State of Minnesota require that local jurisdictions participate in the planning process. Your participation is important so that the County can ensure that we meet this requirement.

During this brief 2 hour meeting we will discuss & rank the hazards that face our county and discuss mitigation actions to include in the plan. The meeting will be facilitated by the University of Minnesota – Duluth Geospatial Analysis Center and Bonnie Hundreiser, an emergency management planning consultant working closely with us on this project.

Please RSVP to this invitation by November 6th. If you cannot attend, please seek to send someone in your stead to represent your county department/city jurisdiction/or other organization.

If you have any questions, please do not hesitate to contact me.

Thank you,

Anne

Anne Morse
Sustainability Coordinator
Winona County Planning & Environmental Services
177 Main Street
Winona, MN 55987
o) 507-457-6468

From: Anne Morse
To: [Anne Morse](#)
Cc: [Hundrieser, Bonnie](#)
Subject: Invitation to Upcoming Public Input Winona County 11-20-17 Hazard Mitigation Plan Meeting Invitation
Date: Tuesday, November 7, 2017 12:17:18 PM

Greetings,

As a Township officer or Township clerk of Winona County, your presence is requested at an important Planning Team meeting for the update of the **Winona County Multi-Hazard Mitigation Plan** on:

Date: Monday, November 20th, 2017

Time: 2:00 p.m. – 4:00 p.m. (1400 – 1600 hours)

Location: Winona County Government Center Board Room, 177 Main Street, Winona

The update of the County's hazard mitigation plan is a requirement by the State of Minnesota Department of Homeland Security & Emergency Management (HSEM), as well as the Federal Emergency Management Agency (FEMA) every 5 years. Our plan is due for an update and our planning is currently underway. The plan addresses the natural hazards that face Winona County and will result in mitigation actions for implementation that will reduce or eliminate loss of life or damage to property as a result of natural hazard events. As someone involved in township operations within Winona County, your input is desired. Additional key stakeholders have also been invited.

Your participation in this hazard mitigation plan would be valuable for several reasons:

1. You will have input on projects we can implement at the county and local level that will help to eliminate or reduce the impacts of future natural disaster events.
2. Participating cities and the County will be eligible to apply for significant federal mitigation funding from FEMA to implement specific projects that meet eligibility requirements.
3. Mitigation planning is a fundamental element in emergency management and local planning that we all must address to keep our communities safe and resilient.
4. FEMA and the State of Minnesota require that local jurisdictions participate in the planning process. Your participation is important so that the County can ensure that we meet this requirement.

During this brief 2 hour meeting we will discuss & rank the hazards that face our county and discuss mitigation actions to include in the plan. The meeting will be facilitated by the University of Minnesota – Duluth Geospatial Analysis Center and Bonnie Hundrieser, an emergency management planning consultant working closely with us on this project.

Please RSVP to this invitation by November 13th. If you cannot attend, we encourage you to send someone in your stead to represent the township.

If you have any questions, please do not hesitate to contact me.

Thank you,

Anne

Anne Morse
Sustainability Coordinator
Winona County Planning & Environmental Services
177 Main Street
Winona, MN 55987
o) 507-457-6468

Winona County

Multi-Hazard Mitigation Plan Update

Planning Team Meeting

Monday, November 20, 2017, 2:00 p.m. – 4:00 p.m.
Winona County Government Center – Winona, MN

Presenting:

- Stacey Stark, University of Minnesota –Duluth, Geospatial Analysis Center
- Bonnie Hundrieser, Hundrieser Consulting LLC (UMD MHMP Project Team)

Agenda:

1. Welcome and Introductions
2. Winona County MHMP Plan Update
 - *About the Plan*
 - *Planning Team*
 - *Plan Content*
3. Review of Mitigation Strategies and Developing Mitigation Actions
4. Hazard Mitigation Assistance (HMA) Grants
5. Mitigation Action Working Session

Contact:

For more information on the Winona County MHMP Update, please contact:

- Anne Morse, Winona County Sustainability Coordinator
507-457-6468 / amorse@co.winona.mn.us
- Bonnie Hundrieser, UMD Project Team Member
218-343-3468 / hundrieserconsulting@gmail.com

Winona County 11/20/17 Planning Team Meeting
Participant Sign-in List (24 attendees)

Winona County MHMP Update Monday, November 20, 2017 Planning Team Meeting Participant Sign-in List			
Name	Jurisdiction/Agency	Title	Email
Kent Russell	City of Goodview	Police Chief	krussell@goodviewmn.com
Dave Schultz	City of Goodview	Public Works Director	daves@goodviewmn.com
Dan Matejka	City of Goodview	Administrator	dmatejka@goodviewmn.com
Matt Essig	City of Lewiston	Ambulance Dir/Safety Coord	ambulance@lewistonmn.org
Jamie Hengel	City of Rollingstone	Clerk-Treasurer	rollingstonecityclerk@outlook.com
Mike Schultz	City of St. Charles	Fire Chief	scfire@stcharlesmn.org
Nick Koverman	City of St. Charles	Administrator	nkoverman@stcharlesmn.org
Beth Winchester	City of Stockton	Clerk	stockton55988@gmail.com
Keith Nelson	City of Winona	Public Works Director	knelson@ci.winona.mn.us
Paul Degallier	Ham Radio Group	member	paul@degallier.org
Bob Bruno	Pickwick Fire	Safety Officer	pickwickfire@gmail.com
Jodi Dansingburg	Ridgeway Community School	Director	jdansingburg@ridgewayschool.org
Mark Daley	Utica Township	Township officer	daleyfarm2@live.com
Leon Bowman	Wilson Township	Township Board chair	lbowman@winona.edu
Walt Kelly	Winona Amateur Radio	member	walt@wltkelly.com
Andrew Teska	Winona Ambulance	Operations Supervisor	ateska@winonahealth.org
Kay Qualley	Winona County	Planning & Env Services Dir	kqualley@co.winona.mn.us
Jim Pomeroy	Winona County	Commissioner	jpomeroy@co.winona.mn.us
Ron Ganrude	Winona County	Sheriff	rganrude@co.winona.mn.us
Jill Johnson	Winona County	Comm Services Supervisor	jjohnson@co.winona.mn.us
Lauren Jensen	Winona County	GreenCorps member	ljensen@co.winona.mn.us
Anne Morse	Winona County	Sustainability Coordinator	amorse@co.winona.mn.us
Daryl Buck	Winona County SWCD	District Manager	daryl.buck@winonaswcd.com
Anne Morse	Winona County	Sustainability Coordinator	AMorse@Co.Winona.MN.US

Winona County – Multi Hazard Mitigation Plan Update
Planning Team Meeting – Monday, November 20, 2017

PARTICIPANT SIGN IN SHEET

Name	Agency/Organization	Title	Email
Ann Morse	Winona County Planning	Sustainability Coordinator	amorse@co.winona.mn.us
Leon Bremer	Wilson Board	Chair	LBremer@winona.mn.us
WALT KELLY	Winona Ambulance		WALT@WALTRELL.COM
Beth Winchester	City of Stockton	Clerk	Stockton5588@gmail.com
MATT ESSIG	City of Lewiston	Amb. Director / Safety Card.	ambulance@leviston.mn.us
Andrew Teska	Winona Ambulance	Operations Supervisor	ateska@winonahealth.org
Kurt Rasmussen	Goodview Police	Chief of Police	KRUSSELL@goodview.mn.us
Dave Schultz	Goodview Public Works	DPW	daves@goodview.mn.us
Ray Chillet	Winona County	Planning + ES Director	lquibye@co.winona.mn.us
Janie Kengol	City of Rollingstone	Clerk-Treasurer	collingsstoncityclerk@outlook.com
Keith Nelson	City of Winona	Director - Public Works	
Jim Komerley	Winona County	Chief of Police	
Daryl Bueche	Winona Co Sheriff	Deputy Sheriff	
Ron Gannard	Winona Co Sheriff	Sheriff	rgannard@co.winona.mn.us
Mark Daley	Utica Township	Officer	daleyfarm2@live.com
Mike Skelton	St. Charles Fire	Chief	sskel@stcharlesmn.org
Dick Karsgaard	City of St. Charles	Administrator	nkarsgaard@stcharlesmn.org
Don Metzger	" " " "	"	donmetzger@goodviewmn.us
Paul Degallier	Heam Radio	Safety Officer	paul@degallier-one.com
Bob Brand	Pickwick Fire	School Director	PickwickFire@gmail.com
Jodi Dansingh	Ridgeway Community	CHS Admin / CS	jdansingburg@ridgeway-school.org
Jill Johnson	Winona Co. Comm. Services	Supervisor	jjohnson@co.winona.mn.us
Lauren Jensen	Winona County	MN GreenLaps Member Stormwater Mgmt	ljensen@co.winona.mn.us

11/26/2017



Agenda

1. Welcome and Introductions
2. MHMP Plan Update Overview
 - About the Plan
 - Planning Team
 - Plan Content
3. Review of Mitigation Strategies and Developing Mitigation Actions
4. Hazard Mitigation Assistance (HMA) Grants
5. Mitigation Action Working Session



Flooding in Winona, 2007



Flooding in Minnesota City, 2007

About your UMD Project Team

SWENSON COLLEGE
OF SCIENCE & ENGINEERING
UNIVERSITY OF MINNESOTA DULUTH
Driven to Discover

- The **Geospatial Analysis Center (GAC) at the University of Minnesota Duluth** was contracted by Minnesota HSEM to facilitate the development of this plan and to conduct spatial analysis, mapping and research for the plan.
- The GAC has worked on 13 MHMP's (2011-2016) and currently has been working on 17 county MHMP updates in Minnesota.
- Working with the GAC is **Bonnie Hundrieser**, who specializes in Emergency Management planning.

About the Plan

The Multi-Hazard Mitigation Plan (MHMP) is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000). **The development of a local government plan is required in order to maintain eligibility for certain federal hazard mitigation grant funding programs.**

MHMP's must:

- Be updated every 5 years
- Identify hazards and conduct a risk assessment
- Include goals, strategies, and mitigation actions
- Address all jurisdictions (county/cities)
- Engage stakeholder and include public participation

What is Hazard Mitigation?

- HM is **sustained action** to reduce or eliminate long-term risk to people and their property from hazards.
- HM Planning is the process local government use to **identify risks** and vulnerabilities associated with natural disasters, and develop long-term strategies for protecting people and property from future hazard events.
- HM planning allows communities to strategically plan for and work together to implement activities that are cost effective, technically feasible and environmentally sound **BEFORE** a disaster strikes.
- A dollar spent on mitigation grants leads to an average of \$3.65 in avoided post-disaster relief costs and increased federal tax revenues.

The MHMP Planning Team

An MHMP **must** be developed with the participation of jurisdictional (county/city) representatives and other key stakeholders. This group is referred to as the "Planning Team".

The role of the Planning Team is to help:

1. Rank hazards, prioritize mitigation strategies and identify specific projects for implementation.
2. Assist with public outreach and participate in public meetings.
3. Review the draft plan and provide feedback.
4. Facilitate final adoption of the MHMP by local government.

11/26/2017

Content of the MHMP

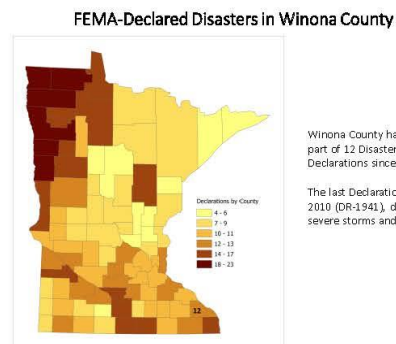
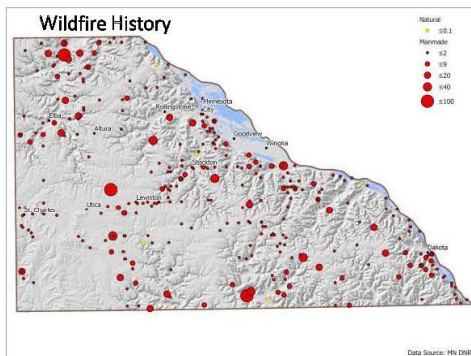
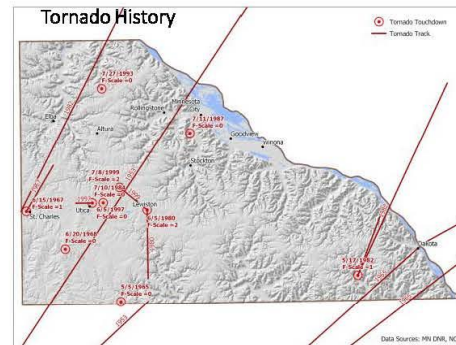
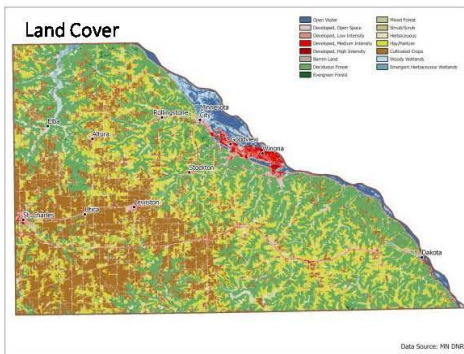
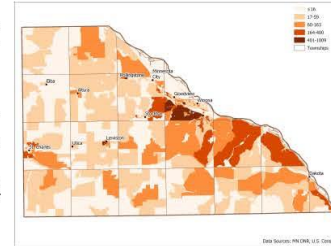
- County physical and social profile
- Asset Inventory
- Hazard Assessment and Vulnerability Analysis
- Capability Assessment
- Mitigation Actions



Winona County

This is a multi-jurisdictional plan that covers Winona County, including the cities of Altura, Dakota, Elba, Goodview, Homer, La Crescent, Lewistown, Minneka, Minnesota, Rollingstone, St. Charles, Stockton, Utica and Winona.

The County and Cities are required to adopt the final plan. Townships are covered under the umbrella of the County.



Winona County has been part of 12 Disaster Declarations since 1957. The last Declaration was in 2010 (DR-1941), due to severe storms and flooding.

11/26/2017

What Hazards are Addressed?

A Multi-Hazard Mitigation Plan looks primarily at natural disasters, including:

Flooding	Hail	Drought
Dam/Levee Failure	Lightning	Extreme Heat
Wildfire	Winter Storms	Extreme Cold
Windstorms	Landslides/Erosion	Earthquakes
Tornadoes	Land Subsidence (Sinkholes & Karst)	

Hazard Categories from the Minnesota State Plan

Manmade hazards are not required by the DMA 2000 to be addressed in the MHMP.

How are Hazards Identified & Ranked for a Community?

- Previous Hazard Events
- Historical Data (National Climatic Data Center)
- Previous HMP
- Calculated Priority Risk Index (CPRI)

CPRI Risk Factors

PROBABILITY
MAGNITUDE/SEVERITY
WARNING TIME
DURATION

CPRI Assessment for Hazard Risk Ranking

Priorities of Risks Faced by Winona County (2017)

The following hazards rankings for Winona County are based on the on rankings in the 2013 plan.

They are provided for discussion for inclusion in the 2017 MHMP Update.

Winona County Prioritization of Hazards	
Type	Risk Severity
Severe Summer Storms (thunderstorms, lightning, hailstorms, windstorms, tornadoes)	High
Severe Winter storms	High
Flash Flood & Riverine Flood	High
Extreme Heat & Extreme Cold	Moderate
Drought	Moderate
Erosion / Land Subsidence (sinkholes & Karst)	High
Wildfire	Low
Dam Failure	Low

Review of Mitigation Capabilities

Multi-Hazard Mitigation Plans require that each jurisdiction **must** document the existing authorities, policies, programs, and resources in place for mitigation.

- What **plans and programs** are in place to support mitigation against that hazard?
- What **program gaps or deficiencies** exist to support mitigation against that hazard?

Mitigation Strategy #1: Local Planning and Regulations

Government, administrative, or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses.

Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and stormwater management regulations.

Local Planning & Regulations Examples



Atkin County

Flood Plain



Management Ordinance

11/26/2017

Acquisition of Flood Prone Properties and Conversion to Open Space



Mitigation Strategy #2: Structure and Infrastructure Projects

Actions that involve the construction of structures to reduce the impact of a hazard, such as dams, levees, floodwalls, seawalls, retaining walls, and safe rooms; and actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area.

Examples include acquisition, elevation, structural retrofits, storm shutters, and shatter-resistant glass. Climate Resilient Mitigation Actions include flood diversion and storage and green infrastructure. This mitigation strategy includes road/bridge/culvert projects for local flood mitigation.

Community Safe Rooms Wadena-Deer Creek School, June 17 2010



August, 2012 – 1st school based tornado safe room (Wadena)



Green Infrastructure Projects



Power Line retrofit/burial



11/26/2017

Mitigation Strategy #3: **Natural Systems Protection**

Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems.

These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, aquifer storage and recovery and floodplain and stream restoration.

Natural Systems Protection examples



Mitigation Strategy #4: **Education and Awareness Programs**

Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them.

Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.

Education & Awareness Program Examples



Mitigation Strategy #5: **Mitigation Preparedness & Response Support**

(HSEM added strategy for use in the state)

Actions that protect people and property prior to, during and immediately after a disaster or hazard event. Services include warning systems and emergency response services.

These activities are not typically considered mitigation, but support reduction of the effects of damaging events.

Mitigation Preparedness & Response Support examples



11/26/2017

Mitigation Actions Update

So far, the following has been completed in the review of mitigation actions in the last MHMP:

1. What mitigation actions **have been completed** since the last plan was adopted.
2. What mitigation actions **should be deleted**.
3. What mitigation actions **have not been completed or may be an on-going action** to roll-over into the new plan.

Next Steps in Developing Actions

1. Identify specific mitigation strategies and actions at the jurisdictional level based on the community's risk and vulnerabilities.
2. Consider priority, timeframe, who's responsible, and what is in place to support implementation.
3. Consider potential funding and cost/benefit.
4. Engage key partners and stakeholders in providing local expertise and feedback.
5. Provide opportunities for public involvement and feedback in the planning process.

FEMA's Hazard Mitigation Assistance (HMA) Grant Program

The Federal Emergency Management Agency (FEMA) provides grant funding to help communities to implement eligible mitigation projects that will help to reduce or eliminate the impact of future hazard or disaster events.



Not all mitigation actions are eligible for federal HMA funding. Identification of eligible projects for potential HMA funding is a critical part of the MHMP planning process!

Mitigation Grant Eligibility

- Local Units of Government
- All jurisdictions in State
 - City, County, Tribal, private non-profit
- Cost Share - 75%/25%
- **Project must be identified in local HM plan**

Application Process

- Notice of Available Funds
- Application
- Benefit Cost Analysis
- Environmental Historic Preservation
- State and FEMA review
- Award ~ 3 year period of performance
- Closeout

Eligible project types

- **Acquisition/Elevation/Relocation**
 - Substantially or repetitively damaged (flood or erosion)
 - Threat of imminent danger (slope failure)
- **Tornado Safe Rooms** (severe storms/tornadoes)
- **Powerline retrofit/strengthening** (severe storms/ice)
- **Wildfire sprinklers/defensible space/resistant materials**
- **Slope stabilization**
- **Flood risk reduction activities**

11/26/2017

New! Climate Resilient Mitigation Actions (CRMA)

FEMA encourages communities to incorporate **climate resilience** in all mitigation actions through use of green infrastructure methods and designing projects to increase ecosystem service benefits

1. Aquifer Storage and Recovery (ASR)
2. Floodwater Diversion, Storage, and Recovery
3. Floodplain and Stream Restoration

Historical projects in Winona County resulting from Hazard Mitigation funding

Year	Project Description	Sub-Grantee	Federal Share
2012	Minnesota City property acquisition/demolition (HMGP)	City of Minnesota City	\$186,497
2011	City of Elba property acquisition/demolition (HMGP)	City of Elba	\$36,000
2011	City of Elba property acquisition/demolition (HMGP)	City of Elba	\$18,000
2011	City of Elba property acquisition/demolition (HMGP)	City of Elba	\$127,431
2011	City of Elba property acquisition/demolition (HMGP)	City of Elba	\$38,000
2010	City of Stockton property acquisition/demolition (HMGP)	City of Stockton	\$193,204
2009	Winona County All-Hazard Mitigation Plan (PDM)	Winona County	\$25,528
2008	City of St. Charles West Drainage Ditch Mitigation Project (PDM)	City of St. Charles	\$51,829
Total HMGP/PDM funding - Winona County			\$671,489

Mitigation Strategies

For every community, there are a range of mitigation actions that can be taken to work to reduce or eliminate the impacts of future natural hazard and disaster events. Following are the four types of mitigation strategies recommended by the Federal Emergency Management Agency (FEMA) for the organization of mitigation actions:

- 1) **Local Planning and Regulations:** Government, administrative, or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and stormwater management regulations.
- 2) **Structure and Infrastructure Projects:** Actions that involve the construction of structures to reduce the impact of a hazard, such as dams, levees, floodwalls, seawalls, retaining walls, and safe rooms; and actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area. Examples include acquisition, elevation, structural retrofits, storm shutters, and shatter-resistant glass. CRMA include flood diversion and storage (FDS) and green infrastructure.
- 3) **Natural Systems Protection:** Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems. These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation. Aquifer storage and recovery (ASR) and floodplain and stream restoration (FSR).
- 4) **Education and Awareness Programs:** Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.

A fifth strategy was added by Minnesota HSEM for use in the state:

- 5) **Mitigation Preparedness and Response Support:** Actions that protect people and property prior to, during and immediately after a disaster or hazard event. Services include warning systems and emergency response services.. These activities are typically not considered mitigation, but support reduction of the effects of damaging events.



State of Minnesota
 Department of Public Safety
 Division of Homeland Security and Emergency Management
 445 Minnesota Street, Suite 223
 St. Paul, MN 55101-6223

HAZARD MITIGATION ASSISTANCE

Hazard Mitigation Assistance (HMA) grant programs provide funding with the aim to reduce or eliminate risk to property and loss of life from future natural disasters. HMA programs are typically a 75%/25% cost share program. The federal share is 75% of total eligible project reimbursement costs. The local applicant is responsible for 25% of the project costs. The amount of HMGP funds availability is based on a percent of Public Assistance provided by Federal Emergency Management Agency (FEMA).

- Hazard Mitigation Grant Program (HMGP) funds assists in implementing long-term hazard mitigation measures following a Presidential major disaster declaration
- Pre-Disaster Mitigation (PDM) provides funds for hazard mitigation planning and projects on an annual basis
- Flood Mitigation Assistance (FMA) provides funds for projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP) on an annual basis

Who is eligible for grant funding?

All applicants must have or be covered under an approved Hazard Mitigation Plan. Eligible applicants include: State and local governments; certain private non-profit organizations or institutions; and Tribal Communities

What types of projects can be funded?

All projects must be eligible, technically feasible, and cost-effective. All projects are subject to environmental and cultural resource review. Examples of projects include:

- ***NEW! Climate Resilient Mitigation Activities*** are eligible under the Hazard Mitigation Assistance programs to support communities in reducing the risks associated with climate change. These activities are: ***Aquifer Storage and Recovery, Floodplain and Stream Restoration, Flood Diversion and Storage, and Green Infrastructure Methods.*** These activities can mitigate any natural hazard; however, the activities are focused on mitigating the impacts of flood and drought conditions.
- **Property Acquisition and Structure Demolition or Relocation** – The voluntary acquisition of an existing at-risk structure and the underlying land, and conversion of the land to open space through the demolition or relocation of the structure. The property must be deed-restricted in perpetuity to open space uses to restore and/or conserve the natural floodplain functions.
- **Safe Room Construction** - Safe room construction projects are designed to provide immediate life-safety protection for people in public and private structures from tornado and severe wind events. Includes retrofits of existing facilities or new safe room construction projects, and applies to both single and dual-use facilities
- **Minor Localized Flood Reduction Projects** - Projects to lessen the frequency or severity of flooding and decrease predicted flood damages, such as the installation or modification of culverts, and stormwater management activities, such as creating retention and detention basins. These projects must not duplicate the flood prevention activities of other Federal agencies and may not constitute a section of a larger flood control system.

- **Infrastructure Retrofit** - Measures to reduce risk to existing utility systems, roads, and bridges.
- **Soil Stabilization** - Projects to reduce risk to structures or infrastructure from erosion and landslides, including installing geotextiles, stabilizing sod, installing vegetative buffer strips, preserving mature vegetation, decreasing slope angles, and stabilizing with rip rap and other means of slope anchoring. These projects must not duplicate the activities of other Federal agencies.
- **Wildfire Mitigation** - Projects to mitigate at-risk structures and associated loss of life from the threat of future wildfire through: Defensible Space for Wildfire, Application of Ignition-resistant Construction and Hazardous Fuels Reduction
- **Post-Disaster Code Enforcement** – Projects designed to support the post-disaster rebuilding effort by ensuring that sufficient expertise is on hand to ensure appropriate codes and standards, including NFIP local ordinance requirements, are used and enforced.
- **Generators** – Emergency equipment to provide a secondary source of power. Generators and related equipment (e.g., hook-ups) are eligible provided that they are cost-effective, contribute to a long-term solution to the problem they are intended to address, and meet other program eligibility criteria.
- **5 Percent Initiative Projects** – These projects, which are only available pursuant to an HMGP disaster, provide an opportunity to fund mitigation actions that are consistent with the goals and objectives of the State or Indian Tribal (Standard or Enhanced) and local mitigation plans and meet all HMGP program requirements, but for which it may be difficult to conduct a standard Benefit-Cost Analysis (BCA) to prove cost-effectiveness.
- **All-Hazard Mitigation Plans**
Update or enhance sections of the current FEMA-approved mitigation plan, such as:
 - Risk and vulnerability assessment based on new information, including supporting studies, such as economic analyses;
 - Mitigation strategy, specifically strengthening the linkage to mitigation action implementation, with emphasis on available HMA project grant funding; or
 - Incorporate climate adaptation, green building, or smart growth principles into the risk assessment and/or mitigation strategy.

How do I apply?

Start by submitting a Notice of Interest, available on HSEMs website at:

<https://dps.mn.gov/divisions/hsem>

Where can I obtain further information?

For additional information about the HMA grant program, you can refer to the FEMA website:

<http://www.fema.gov/hazard-mitigation-assistance>

For additional information contact:

- Jennifer Nelson, State Hazard Mitigation Officer at (651) 201-7427 or Jennifer.E.Nelson@state.mn.us
- Jim McClosky, Hazard Mitigation Planner at (651) 201-7455 or James.McClosky@state.mn.us

MITIGATION ACTIONS WORKSHEET

HAZARD: _____ / JURISDICTION: _____

Mitigation Strategy:

- | | |
|--|---|
| <input type="checkbox"/> Local Planning & Regulations | <input type="checkbox"/> Education and Awareness |
| <input type="checkbox"/> Structure and Infrastructure Projects | <input type="checkbox"/> Mitigation Preparedness and Response Support |
| <input type="checkbox"/> Natural Systems Protection | |

Mitigation Action:

HAZARD: _____ / JURISDICTION: _____

Mitigation Strategy:

- | | |
|--|---|
| <input type="checkbox"/> Local Planning & Regulations | <input type="checkbox"/> Education and Awareness |
| <input type="checkbox"/> Structure and Infrastructure Projects | <input type="checkbox"/> Mitigation Preparedness and Response Support |
| <input type="checkbox"/> Natural Systems Protection | |

Mitigation Action:

HAZARD: _____ / JURISDICTION: _____

Mitigation Strategy:

- | | |
|--|---|
| <input type="checkbox"/> Local Planning & Regulations | <input type="checkbox"/> Education and Awareness |
| <input type="checkbox"/> Structure and Infrastructure Projects | <input type="checkbox"/> Mitigation Preparedness and Response Support |
| <input type="checkbox"/> Natural Systems Protection | |

Mitigation Action:

HAZARD: _____ / JURISDICTION: _____

Mitigation Strategy:

- | | |
|--|---|
| <input type="checkbox"/> Local Planning & Regulations | <input type="checkbox"/> Education and Awareness |
| <input type="checkbox"/> Structure and Infrastructure Projects | <input type="checkbox"/> Mitigation Preparedness and Response Support |
| <input type="checkbox"/> Natural Systems Protection | |

Mitigation Action:

HAZARD: _____ / JURISDICTION: _____

Mitigation Strategy:

- | | |
|--|---|
| <input type="checkbox"/> Local Planning & Regulations | <input type="checkbox"/> Education and Awareness |
| <input type="checkbox"/> Structure and Infrastructure Projects | <input type="checkbox"/> Mitigation Preparedness and Response Support |
| <input type="checkbox"/> Natural Systems Protection | |

Mitigation Action:

HAZARD: _____ / JURISDICTION: _____

Mitigation Strategy:

- | | |
|--|---|
| <input type="checkbox"/> Local Planning & Regulations | <input type="checkbox"/> Education and Awareness |
| <input type="checkbox"/> Structure and Infrastructure Projects | <input type="checkbox"/> Mitigation Preparedness and Response Support |
| <input type="checkbox"/> Natural Systems Protection | |

Mitigation Action:

Winona County
November 20, 2017 MHMP Planning Meeting
Mitigation Ideas Worksheet Notes

Following are notes from the Winona County 11-20-17 MHMP Planning Team Meeting “Mitigation Action Working Session” part of the meeting. Participants broke into discussion groups and used Mitigation Action Worksheets to brainstorm new mitigation ideas for their jurisdiction.

Participants used the worksheets to develop mitigation action ideas, identifying:

- Hazard – what natural hazard does the action focus on?
- Jurisdiction – what jurisdiction is for? (City/Township/County)
- Strategy – which mitigation strategy does this action relate to?
- Action – what is a description of the mitigation action?

The mitigation actions identified during this session will be used to support development of new mitigation actions to include in the Winona County MHMP 2018 Update.

Winona County

Contact: Ron Ganrude, Winona County Sheriff

Hazard: All-Hazards
Strategy: Local Planning & Regulations
Action: Hire a County Emergency Management Director. (Currently there is not a designated EM in place).

Hazard: Tornados/Straight Line Winds
Strategy: Mitigation Preparedness and Response Support
Action: Install more warning sirens where needed in the County. Ensure that all warning sirens are working.

Hazard: Severe Weather
Strategy: Mitigation Preparedness and Response Support
Action: Promote the use of NOAA weather radios by local residents and critical facilities. The local radio stations do not maintain 24/7 broadcasting hours, and many people may not listen to NPR to receive announcements from the National Weather Service. The ability for people to be adequately notified of impending severe weather by radio and even local papers is an important issue. Use of NOAA weather radios would help get information to people in a timely manner.

Winona County

Contact: Kay Qualley, Winona County Planning & Environmental Services Director

Hazard: Increased pressure on bluffs for building sites.
Strategy: Local Planning & Regulations / Natural Resource Protection / Education & Awareness
Action: Training for Planning Commission and Boards of Adjustment. Landscaping for natives, deeper-rooted perennials, keeping smaller (1.1”) rain events on properties out of storm drains and ditches

Hazard: Landslides
 Strategy: Local Planning & Regulations / Natural Systems Protection / Education & Awareness
 Action: Creating up-hill pressure reduction plans; Require engineering drawings; Complete post-construction inspections for new construction projects with methods to create compliance.

Hazard: Wildfires
 Strategy: Structure and Infrastructure Projects / Mitigation Preparedness & Response Support
 Action: Increase water availability for fire-fighting. Put water cisterns under churches, school lots, large institutional business surface lots to provide back-up water sources for fighting wildfires in high-risk areas.

Hazard: Tornado
 Strategy: Education and Awareness
 Action: Do all residents of manufactured housing, assisted living, etc. know where to go / what to do during a tornado? Work to raise awareness of vulnerable populations.

Winona County

Contact: Lauren Jensen, Winona County GreenCorps member

Hazard: Flood Prevention/Control
 Strategy: Natural Systems Protection
 Action: Stormwater Management: Install more Green infrastructure. Infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled. Installed in areas near rivers/lakes/streams where stormwater drains. Reduce amount of impervious surfaces of existing or new construction.

Winona County

Contact: Daryl Buck, Winona County SWCD, District Manager

Hazard: Flooding/Washout of Homes
 Strategy: Local Planning & Regulations / Education & Awareness
 Action: Education of Planning Commission, County Commissioners, Town Boards, City Council on allowing building in sensitive areas, floodplains, steep slopes, and areas of concentrated water flow.

Hazard: Erosion
 Strategy: Local Planning & Regulations / Structure and Infrastructure Projects / Natural Systems Protection
 Action: Excessive erosion control. / Laws & ordinances to regulate land use that cause erosion/sedimentation.

Hazard: Flooding
 Strategy: Structure and Infrastructure Projects
 Action: Build roads to provide temporary storage behind the culverts/bridges. Educate landowners of the value.

Hazard: Flooding
 Strategy: Natural Systems Protection
 Action: Pond cleanout and cost-share to restore water storage capacity of existing “ponds”. Current State and Federal funds don’t adequately allow cost-share for this.

Hazard: Flooding
 Strategy: Local Planning and Regulations
 Action: Olmsted County is the only neighboring county with water running into Winona County. Work with Olmsted County on any joint efforts to mitigate against flood impacts related to this upstream water flow to Winona County.

Winona County

Contact: Jill Johnson, Winona County Community Services Health Supervisor

Hazard: Extreme Weather
 Strategy: Local Planning & Regulations / Mitigation Preparedness & Response Support
 Action: Cooling / Warming Shelters, Plans for Individuals, Generators, Fresh water, and care for elderly and vulnerable populations.

Hazard: Vector-borne Disease
 Strategy: Mitigation and Preparedness Support / Education & Awareness
 Action: Increase and incident of vector-borne disease (West Nile, Lyme). Increased monitoring, management, and treatment needed for vector habitat and increase education to homeowners.

Winona County – Amateur Radio Emergency Services

Contact: Walt Kelly, Winona Amateur Radio Member

Hazard: All-Hazards (Emergency Communication Support)
 Strategy: Mitigation Preparedness and Response Support
 Action: Seek to get mapping software that no / low cost that is compatible with ESRI and other major software package.

City of Stockton

Contact: Bethany Winchester, Clerk

Hazard: Flooding
 Strategy: Natural Systems Protection
 Action: Would like to get stream gauge monitors for both of our creeks so that we can be aware when high waters are coming. Also address farmer’s pond clean-up, which is being done by Stockton, Minnesota City, and Rollingstone Twp. Watershed District.

Hazard: Severe Winter/Summer Storms
 Strategy: Mitigation Preparedness and Response Support
 Action: Work to get local residents signed up for CodeRed. Also get a generator for City Hall which will serve as a safe shelter if residents are temporarily displaced.

City of St. Charles

Contact: Nick Koverman, City Administrator

Hazard: Flooding
 Strategy: Structure and Infrastructure Projects
 Action: West Drainage Ditch Repair. The greater portion of our west drainage ditch is deteriorating and in disrepair. The ditch, along with our East Ditch, represents the brunt of our flood mitigation facilities.

Hazard: Severe Storm
 Strategy: Structure and Infrastructure Projects
 Action: Community Safe Room. As the community has grown, little consideration has been given to safe room protection. The local trailer park has a small room for 150 residents, but the gym space constructed was not designed as a safe room

Hazard: All-Hazards
 Strategy: Local Planning & Regulations
 Action: Hire a Full-Time Winona County EM Director. We would like to support Winona County in the implementation of a full-time EM Director to support reduction of the effects of damaging events. Most towns do not have a budget to support a full-time position.

Hazard: Severe Weather (Power Failure)
 Strategy: Mitigation Preparedness and Response Support
 Action: Back-up generators for School District. Back-up generators should be obtained for the St. Charles Elementary and High School.

City of Winona

Contact: Keith Nelson, Director of Public Works

Hazard: Mississippi River Flooding
 Strategy: Structure and Infrastructure Projects
 Action: Levee Certification / FEMA. Back-up power to flood pump. Removal of levee easement encroachment or approval for them to remain.

City of Goodview

Contact: Dave Schultz, Public Works Director & Dan Matejka, City Administrator

Hazard: Flooding
 Strategy: Structure and Infrastructure Projects
 Action: Undersized drainage capabilities: Increase drainage capacity and rate of drainage – Sunny Acres area. Need to work with the railroad as this area eventually drains through a couple of box culverts under the railroad.

Hazard: Erosion and Sinkholes
 Strategy: Natural Systems Protection
 Action: Control water runoff and divert water flow. Steel areas such as We Valley and Woodhaven subdivisions.

Hazard: Annual Stream Cleaning
 Strategy: Natural Systems Protection
 Action: Cleaning the streambank of the Garvin Brook which runs through the Gunderson Subdivision. When this area has flooded in the past, a lot of it was due to vegetation that grew/fell and blocked the ports of the stream.

City of Lewiston

Contact: Matt Essig, Ambulance Dir/Safety Coord

Hazard: Emergency Notification
 Strategy: Education and Awareness
 Action: Inform residents of the CodeRed system and why its important for them to register. Could send this info out in monthly water bills.

Hazard: Tornado/Straight Line Winds
 Strategy: Mitigation Preparedness and Response Support
 Action: Currently we have only 1 warning siren for severe wind weather. Look at potentially adding another siren during construction of a new public safety building.

Ridgeway Community School (Ridgeway, MN)

Contact: Jodi Dansingburg, Ridgeway Community School Director

Hazard: Sustained Electrical Outage/Flash Flood
 Strategy: Mitigation Preparedness and Response Support
 Action: Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford.

Hazard: Wildfire
 Strategy: Mitigation Preparedness and Response Support
 Action: Ensure water pumping capabilities for local fire departments. Are generators needed in the event of power outages?

Hazard: Communicating during Emergencies
 Strategy: Mitigation Preparedness and Response Support
 Action: There is difficulty in communicating to residents when electricity is out and definitely when it is off. Many residents live in back valleys where cell coverage is limited. For severe wind storms maybe we need more sirens in rural areas.

**Winona County Multi-Hazard Mitigation Plan Update
Planning Team Meeting #2
April 27, 2018, 2:00 p.m. – 4:00 p.m.
Winona County Government Center (Board Room), Winona, MN**

Meeting Summary:

On Friday, April 27, 2018 members of the Winona County Multi-Hazard Mitigation (MHMP) Planning Team convened to conduct a review and discussion of the draft mitigation action charts developed for Winona County and the city jurisdictions participating in the plan. The meeting was facilitated by Bonnie Hundrieser, a member of the University of Minnesota – Duluth Geospatial Analysis Center (GAC) planning team that is leading the update of the Winona County MHMP. A total of 13 people attended the meeting, representing Winona County departments, city / township personnel and other key stakeholders.

The opening Power Point presentation covered a re-cap of key points regarding the MHMP plan update (purpose of the plan, who the plan covers, who needs to participate, what hazards are addressed and how they are ranked, mitigation strategies to be used, and what projects may be eligible for FEMA HMA funding). The presentation also provided a detailed breakdown of the Mitigation Action Chart to explain the relevance of each column to be addressed in the chart.

Following the presentation, the planning team participated in a facilitated discussion of the County's draft master Mitigation Action Chart which included mitigation actions for the county as well as for the cities participating in the plan. Mitigation actions included in the chart were identified through the County's review of past mitigation actions (actions to continue), as well as new mitigation actions that were identified during the first planning team meeting "Mitigation Actions Ideas Working Session." County and city representatives discussed each of the mitigation actions, adding comments, corrections, and identifying where cities would be listed to implement particular items in their respective jurisdictions.

Following the Mitigation Action Chart review, the group discussed the upcoming process of public outreach and posting the final draft of the plan for the public to review and comment on, followed by submission of the draft plan to HSEM and FEMA for final review and approval.

Attached to this meeting summary are the following documentation items:

- Winona County HMP Mtg. #2 Email Invite
- 4-27-18 Meeting Agenda
- 4-27-18 Meeting Sign-in Sheets
- 4-27-18 Power Point Presentation Slides

*Meeting Summary Prepared By:
Bonnie Hundrieser, UMD Project Team, (Hundrieser Consulting LLC)*

From: Anne Morse
To: "Bill O'Laughlin "; Anne Morse; Jill Johnson; Daryl Buck; "jdansingburg@ridgewayschool.org"; "Dave Schultz "; "Ted Kjos"; Jim Pomeroy; "City of Stockton"; "Dan Matejka "; "Keith Nelson "; "Nick Koverman"; "Pat Haack "; "Lana Gerlach "; David Kramer; "Cindy Timm"; "David Pries "; Cheryl A. Knight; "Sandra Pasche (alturacity@gmail.com)"; "Leon Bowman "; Lew Overhaug; "Gail Schwanbeck "; Kay Qualley; "Kent Russell"; "Matt Essig - City of Lewiston"; "Rollingstone City Clerk"; "Bob Bruno "; "Michael Schultz "; "Mark Daley - Utica Township "; Ron Gannrud; "Scott Bestul "; "Andrew Teska "; "walt@waltkelly.com"; "Paul Degallier"; Jeff Peterson; Eric Johnson; Sheila Harnes
Cc: Hundrieser, Bonnie
Subject: NOTICE: Invitation to Winona County HMP Planning Team Meeting #2 on April 27 2018
Date: Monday, April 2, 2018 8:47:18 AM

Greetings,

Your presence is requested at the **2nd Planning Team meeting** for the update of the **Winona County Multi-Hazard Mitigation Plan** on:

Date: Friday, April 27, 2018
Time: 2:00 p.m. – 4:00 p.m.
Location: Winona County Government Center Board Room, 177 Main Street, Winona

During this meeting we will be reviewing the draft Winona County Mitigation Action Chart to be included in the plan. Your feedback will be needed to identify & discuss the mitigation actions that will be listed for your city/county department/agency/or organization. This is a State and Federal requirement we must cover for the plan to be approved. The meeting will be facilitated by Bonnie Hundrieser, an emergency management planning consultant working closely with us on this project.

Please RSVP your attendance to me. If you cannot attend, please seek to send someone else in your stead as your representation.

If you have any questions, please do not hesitate to contact me.

Thank you,

Anne

Anne Morse
Sustainability Coordinator
Winona County Planning & Environmental Services
177 Main Street
Winona, MN 55987
o) 507-457-6468

Winona County

Multi-Hazard Mitigation Plan (MHMP) Update

Planning Team Meeting #2

Friday, April 27, 2018, 2:00 p.m. – 4:00 p.m.

Winona County Government Center (Board Room) – Winona, MN

Presenting:

Bonnie Hundrieser, UMD MHMP Project Team Member

Agenda:

1. **Welcome & Introductions**
2. **MHMP - Recap of Key Points**
3. **Mitigation Action Chart (MAC) Presentation**
Explanation of all columns of the MAC and content to be identified.
4. **MAC Working Session: Group Review & Feedback**
Group review and feedback of the Winona County Master Mitigation Action Chart & Jurisdictional Mitigation Action Charts
5. **Discussion of Next Steps**
 - Finalize Mitigation Action Chart
 - Public Outreach & Engagement (News Release, Online plan review & comment period)

Contact:

For more information on the Winona County MHMP Update, please contact:

- Anne Morse, Winona County Sustainability Coordinator
507-457-6468 / amorse@co.winona.mn.us
- Bonnie Hundrieser, UMD Project Team Member
218-343-3468 / hundrieserconsulting@gmail.com

Winona County 4/27/18 HMP Planning Team Meeting #2
Participant Sign-in List (13 attendees)

Winona County MHMP Update Friday, April 27, 2018 Planning Team Meeting #2 Participant Sign-in List			
Name	Jurisdiction/Agency/Organization	Title	Email
Anne Morse	Winona County Planning	Environmental Planner	amorse@co.winona.mn.us
Jim Pomeroy	Winona County	Commissioner	jpomeroy@co.winona.mn.us
Nick Koverman	City of St. Charles	City Administrator	nkoverman@stcharlesmn.org
Ben Klinger	Winona County Emergency Management	Emergency Manager	bklinger@co.winona.mn.us
Beth Winchester	City of Stockton	City Clerk	stockton55988@gmail.com
Chad Chaffee	MIEnergy Cooperative	VP of System Operations MN	cchaffee@mienergy.coop
Ron Dempsey	Winona State University	VP for Advancement	rdempsey@winona.edu
Daryl Buck	Winona County SWCD	District technician	daryl.buck@winonaswcd.com
Jill Johnson	Winona County Community Services	Supervisor/CHS Admin	jjohnson@co.winona.mn.us
Dave Kramer	Winona County Highway Department	County Engineer	dkramer@co.winona.mn.us
Lew Overhaug	Winona County Planning	Planner	loverhaug@co.winona.mn.us
Sheila Harmes	Winona County Planning	Water Planner	sharmes@co.winona.mn.us
Dan Matejka	City of Goodview	City Administrator	dmatejka@goodviewmn.com

4/6/2018



Agenda

1. Welcome and Introductions
2. MHMP – Recap of Key Points
3. Mitigation Action Chart (MAC) Overview Presentation
4. MAC Working Session: Group Review & Feedback
5. Discussion of Next Steps



Hazard Mitigation
Planning Meeting #2
*Mitigation Action
Chart Review*

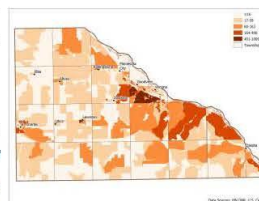
MHMP – Recap of Key Points

- Winona County is updating its **Multi-Hazard Mitigation Plan (MHMP)** to fulfill a state & federal requirement. The plan must be updated every 5 years.
- The purpose of the plan is to identify & assess natural hazards that pose risk to the County and its jurisdictions and **develop long-term strategies and mitigation actions** that will help to reduce or eliminate the impact of future hazard or disaster events.

Who the Plan Covers

This is a multi-jurisdictional plan that covers Winona County, including the cities of Altura, Dakota, Elba, Goodview, Lewiston, Minneiska, Minnesota, Rollingstone, St. Charles, Stockton, Utica and Winona.

The County and Cities are required to adopt the final plan. Townships are covered under the umbrella of the County.



Who Needs to Participate

Participation of **key county/city and other stakeholders** is required:

- County departments
- City Governments
- Townships
- Schools
- Electric Coops

Opportunities for **public participation** is also required:

- News Releases
- Facebook, Twitter, Web
- Online Plan Review & Comment Period
- Public Meeting (optional)

Priorities of Risks Faced by Winona County (2018)

The following hazards rankings for Winona County are based on the on the past MHMP.

They are provided for discussion for inclusion in the 2018 MHMP Update.

Winona County Prioritization of Hazards	
Type	Risk Severity
Severe Summer Storms (thunderstorms, lightning, hailstorms, windstorms, tornadoes)	High
Severe Winter Storms	High
Flash Flood & Riverine Flood	High
Extreme Heat & Extreme Cold	Moderate
Drought	Moderate
Erosion / Land Subsidence (sinkholes & karst)	High
Wildfire	Low
Dam Failure	Low

4/6/2018

What Mitigation Strategies Will Be Used to Develop Mitigation Actions

1. Local Planning & Regulations
2. Structure and Infrastructure Projects
3. Natural Systems Protection
4. Education and Awareness Programs
5. Mitigation Preparedness and Response Support

These strategies help communities to identify and implement long-term risk-reduction activities that will protect people and property from future hazard events.

Mitigation Strategy #1: Local Planning and Regulations

Government, administrative, or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses.

Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and stormwater management regulations.

Local Planning & Regulations Examples



Mitigation Strategy #2: Structure and Infrastructure Projects

Actions that involve the construction of structures to reduce the impact of a hazard, such as dams, levees, floodwalls, seawalls, retaining walls, and safe rooms; and actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area.

Examples include acquisition, elevation, structural retrofits, storm shutters, and shatter-resistant glass. Climate Resilient Mitigation Actions include flood diversion and storage and green infrastructure. This mitigation strategy includes road/bridge/culvert projects for local flood mitigation.

Acquisition of Flood Prone Properties and Conversion to Open Space



Community Safe Rooms Wadena-Deer Creek School, June 17 2010



4/6/2018

August, 2012 – 1st school based tornado safe room (Wadena)



Green Infrastructure Projects



Power Line retrofit/burial



Mitigation Strategy #3: Natural Systems Protection

Actions that, in addition to minimizing hazard losses, preserve or restore the functions of natural systems.

These actions include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, aquifer storage and recovery and floodplain and stream restoration.

Natural Systems Protection examples



Mitigation Strategy #4: Education and Awareness Programs

Actions to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them.

Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.

4/6/2018

Education & Awareness Program Examples



Mitigation Strategy #5:

Mitigation Preparedness & Response Support

(HSEM added strategy for use in the state)

Actions that protect people and property prior to, during and immediately after a disaster or hazard event. Services include warning systems and emergency response services.

These activities are not typically considered mitigation, but support reduction of the effects of damaging events.

Mitigation Preparedness & Response Support examples



What Projects May be Eligible for FEMA HMA Funding

- Acquisition/Elevation/Relocation
 - Substantially or repetitively damaged (flood or erosion)
 - Threat of imminent danger (slope failure)
- Safe Room Construction/Retrofit
- Powerline strengthening/burying
- Wildfire Mitigation Activities
- Slope stabilization
- Flood risk reduction activities
- Additional Projects difficult to conduct a standard BCA



The Federal Emergency Management Agency (FEMA) provides grant funding to help communities to implement eligible mitigation projects that will help to reduce or eliminate the impact of future hazard or disaster events.

Projects must be indicated in the local mitigation plan.

Mitigation Action Chart Overview

- The MHMP results in a "Mitigation Action Chart" that outlines the specific mitigation measures that the County and each city will seek to implement over the course of the next 5 years.
- Mitigation actions are drawn from the previous plan, identified capability gaps and feedback from jurisdictions on mitigation measures important to their community.
- **Every city will have it's own mitigation action chart for local implementation & tracking.**

"Hazard" column



Hazard	Mitigation Action	City	Priority	Cost	Responsible	Timeline	Other	Notes
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Each mitigation action **must** address a particular natural hazard.

"All-Hazard" mitigation actions relate to more than one type of natural hazard or may relate to other categories of technological and man-made threats/hazards.

4/6/2018

“Mitigation Strategy” column



#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time Frame	Jurisdictions	Responsibility	Owner/Department or Planning Jurisdiction for Implementation	Feasible Funding
---	--------	---------------------	-------------------	--------	------------------	------------	---------------	----------------	--	------------------

Each mitigation action **must** identify which type(s) of mitigation strategies relate to the mitigation measure:

1. Local Planning & Regulations
2. Structure and Infrastructure Projects
3. Natural Systems Protection
4. Education and Awareness Programs
5. Mitigation Preparedness and Response Support

“Mitigation Action” column



#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time Frame	Jurisdictions	Responsibility	Owner/Department or Planning Jurisdiction for Implementation	Feasible Funding
---	--------	---------------------	-------------------	--------	------------------	------------	---------------	----------------	--	------------------

Each mitigation action **must** include a description of what effort is to be implemented. Mitigation actions should be written to be clear, concise, and action-oriented (start with a verb). The action should seek help to reduce or eliminate long-term risk to life safety and property damage from future natural hazard events.

“Status” column



#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time Frame	Jurisdictions	Responsibility	Owner/Department or Planning Jurisdiction for Implementation	Feasible Funding
---	--------	---------------------	-------------------	--------	------------------	------------	---------------	----------------	--	------------------

Each mitigation action **must** include an indication of current status. They are:

- **“In-Progress”** – a defined mitigation project or effort that is currently underway.
- **“On-going”** – a mitigation project or effort that continues without end.
- **“New”** – a new mitigation project or effort identified to include in the new plan.

“Priority Ranking” column



#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time Frame	Jurisdictions	Responsibility	Owner/Department or Planning Jurisdiction for Implementation	Feasible Funding
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Each mitigation action **must** be ranked as being of **High**, **Moderate**, or **Low** priority to help provide guidance in implementation. Priority rankings should be based on key considerations, such as:

- Known effectiveness of the mitigation measure.
- Local capability to implement the mitigation measure.
- Cost effectiveness of the mitigation measure. (Benefit vs. Cost)
- Longevity of the mitigation measure.
- Community support for the mitigation measure.
- Eligibility for federal grants (FEMA HMA Grant Program).

“Timeline” column



#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time Frame	Jurisdictions	Responsibility	Owner/Department or Planning Jurisdiction for Implementation	Feasible Funding
---	--------	---------------------	-------------------	--------	------------------	------------	---------------	----------------	--	------------------

Each mitigation action **must** indicate a timeframe for implementation.

- For mitigation actions that are “In-Progress” or “New” a known timeframe may be identified (i.e., 2017-2018).
- Some mitigation actions may be identified to be implemented within the 5 year period of the MHMP (2017-2021).

“Jurisdictions” column



#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time Frame	Jurisdictions	Responsibility	Owner/Department or Planning Jurisdiction for Implementation	Feasible Funding
---	--------	---------------------	-------------------	--------	------------------	------------	---------------	----------------	--	------------------

Each mitigation action **must** identify what jurisdictions will seek to implement that action.

- Some mitigation actions will be specific to only the County for implementation.
- Other mitigation actions are those that all cities (or only some cities) would agree are important to include in their own jurisdictions.
- Schools and townships may be identified as well.

4/6/2018

“Responsibility” column



#	Hazard	Mitigation Strategy	Owner	Priority Ranking	Time Frame	Feasibility	Responsibility	Comments on Planning Mechanisms for Implementation	Possible Funding
---	--------	---------------------	-------	------------------	------------	-------------	----------------	--	------------------

Each mitigation action **must** include a brief identification of what agency or department or specific personnel has lead responsibility to implement that project or effort, such as:

- “County/City Emergency Management”
- “Planning and Zoning Department”
- “County Highway Department”
- “SWCD in collaboration with MN DNR”
- “Public Works Department”

“Comments on Planning Mechanisms for Implementation” column



#	Hazard	Mitigation Strategy	Owner	Priority Ranking	Time Frame	Feasibility	Responsibility	Comments on Planning Mechanisms for Implementation	Possible Funding
---	--------	---------------------	-------	------------------	------------	-------------	----------------	--	------------------

Each mitigation action **must** include a description of how the mitigation measure will be incorporated into existing or future planning or project efforts by the jurisdiction provided. For example:

- Reference related plans or programs that relate to the mitigation measure (such as comprehensive land use plans, Capital Improvement Programs, public outreach and education programs)
- Reference existing partnerships that relate to the mitigation measure (such as “This is a standing effort of the County/City emergency management program in partnership with Public Health.”)

“Possible Funding” column



#	Hazard	Mitigation Strategy	Owner	Priority Ranking	Time Frame	Feasibility	Responsibility	Comments on Planning Mechanisms for Implementation	Possible Funding
---	--------	---------------------	-------	------------------	------------	-------------	----------------	--	------------------

Each mitigation action **must** include identification of what possible funding will be used to implement the mitigation action:

- In most cases, “County/City” budget generally implies staff time to work on the mitigation measure or internal funding to purchase equipment, etc.
- When applicable, other funding such as outside grants, state or federal funding that may support the mitigation measure should be identified.
- It is particularly important to identify mitigation measures that may be eligible for FEMA HMA grant funding.

MAC Working Session

1. We will go through the Master “MAC” together.
2. We will discuss any changes or additions.
3. Jurisdictions will confirm where they want to be listed for local implementation efforts, and provide any additions or corrections.

Overview of Next Steps

- Final MACs will be submitted to UMD.
- The draft MHMP will be completed by UMD.
- The draft plan will be submitted to the EM for preliminary review and revisions.
- The full draft plan will be posted online for public review & comment. Public outreach will be conducted for the open review period.
- Any resulting revisions will be made, and the plan will be submitted to HSEM and FEMA for review and approval.

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Appendix F

Public Outreach & Engagement Documentation



Board of Commissioners

James G. Pomeroy
Chair

Providing Effective Efficient Government

177 Main Street

Winona, Minnesota 55987

Phone (507) 457-6350

Fax (507) 454-9365

WINONA COUNTY NEWS RELEASE

July 12, 2017

Public Feedback and Participation Invited for

Winona County 2018 Multi-Hazard Mitigation Plan Update

The Winona County Office of Emergency Management is currently working with the University of Minnesota Duluth – Geospatial Analysis Center (GAC) to prepare an update of the County's 2012 "Multi-Hazard Mitigation Plan" (MHMP). The plan is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000) and must be updated every five years in order to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs.

Development of the plan is under direction of the County's Planning and Emergency Management Departments in cooperation with a planning team of representatives from other County departments, local municipalities, school districts, and key stakeholders such as utility providers. The planning team is responsible to provide feedback required for the plan update, including the ranking of hazards and identification of strategic, cost-effective mitigation activities that may reduce future losses for the County and individual jurisdictions. Some mitigation activities may be eligible for future FEMA Hazard Mitigation Assistance (HMA) grant funding, such as: localized flood reduction measures, property acquisition and relocation/conversion to open space, infrastructure retrofits, wildfire mitigation, and safe room construction or retrofits to provide immediate life-safety protection for people vulnerable to tornado and severe wind events.

About the Plan

The Winona County MHMP is a multi-jurisdictional plan that covers Winona County, including the cities of [Altura](#), [Dakota](#), [Elba](#), [Goodyview](#), [La Crescent](#), [Lewiston](#), [Minnieska](#), [Minnesota City](#), [Rollingstone](#), [St. Charles](#), [Stockton](#), [Utica](#), and [Winona](#). The Winona County MHMP also incorporates the concerns and needs of townships, school districts, and other stakeholders participating in the plan.

Winona County is vulnerable to a variety of potential natural disasters, which threaten the loss of life and property in the county. Hazards such as tornadoes, flooding, wildfires, blizzards, straight-line winds, ice storms, and droughts have the potential for inflicting vast economic loss and personal hardship.

County Board of Commissioners

First District
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Second District
Marie H. Kovacs

Third District
Steven E. Jacob

Fourth District
Gregory D. Olson

Fifth District
Marcia L. Ward

According to Winona County Administrator Ken Fritz, “Hazard mitigation planning is a central part of our emergency management program. Understanding the natural hazards that can cause serious impact to our communities and taking action to reduce or eliminate the impact of future disasters makes us more resilient. Hazard mitigation helps us to break the cycle of damage and repair caused by things like flooding, ice storms, and severe wind events that can damage property, stress economies, and threaten life safety in our county.”

Examples of hazard mitigation include actions such as improvement of roads and culverts that experience repetitive flooding; construction of safe rooms at campgrounds, parks, trailer parks or schools to protect lives in the event of tornados or severe wind events; burying powerlines that may fail due to heavy snow, ice or wind storms; ensuring timely emergency communication to the public through warning sirens and mass notification systems, and conducting public awareness and education campaigns to help people to be prepared to take safe action before, during, or following a hazard event.

Public Feedback and Participation is Encouraged

As part of the planning process, gathering input from the public is an important and required step. Winona County seeks to gather feedback from residents and businesses from across the County to incorporate into the plan:

- What are the natural hazards you feel pose the greatest risk to your community?
- Have you experienced a previous disaster event?
- What concerns do you have, and what sorts of mitigation actions or projects do you feel would help to reduce the damages of potential future events for your personal property, your community, or the County as a whole?

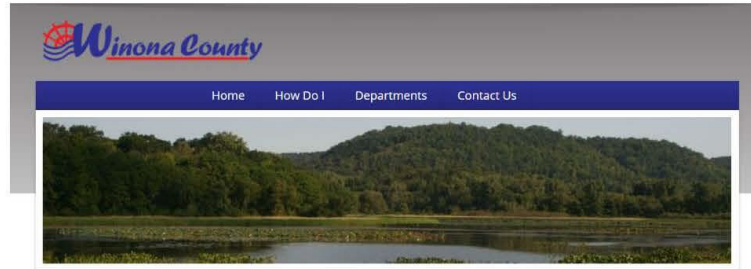
The public is strongly encouraged to submit your comments, concerns, or questions regarding natural disasters and potential mitigation actions to be included into the plan update process. Please submit your feedback to Anne Morse, Winona County Sustainability Coordinator: (507) 457-6468 or amorse@co.winona.mn.us.

The public will have a continued opportunity to participate in the MHMP update in the coming months. A draft of the plan will be posted on the County website for public review prior to submission of the plan to the State of Minnesota. Future news releases will be shared with the media to notify the public of these opportunities.

Contact

Anne Morse
Winona County Sustainability Coordinator
Phone: (507) 457-6498
Email: amorse@co.winona.mn.us

Winona County Website – News Release Posting, July 17, 2017



Quicklinks

Agendas & Minutes
Career Opportunities
Winona Internships
Pay/View Your Taxes Online
Financial Transparency Portal
Comprehensive Plan
Zoning Ordinance

News

2018 Multi-Hazard Mitigation Plan Update
Winona County will hold a Working Session on July 25, 2017, beginning at 5:00 p.m.
Services Unavailable During Minnesota DMV Upgrade July 20 - 24
Blue-Green Algae News Release from MPCA
Winona County Now Accepts eMarriage Applications
Winona County Zoning Ordinance Amendment Regarding the Mining and Processing of Industrial Minerals in Winona County

Events

Emergency Coordinating Committee
Tuesday, Jul 25, 2017
Winona County Board Working Session
Tuesday, Jul 25, 2017
Winona County Board Meeting
Tuesday, Jul 25, 2017
EDA Committee
Thursday, Jul 27, 2017



Winona Daily News posting– July 17, 2017

Winona County asks for resident feedback on Multi-Hazard Mitigation Plan

Jul 17, 2017

The Winona County Office of Emergency Management is currently working with the University of Minnesota Duluth – Geospatial Analysis Center to prepare an update of the county's 2012 Multi-Hazard Mitigation Plan.

The plan is a requirement of the Federal Disaster Mitigation Act of 2000 and must be updated every five years in order to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs.

Winona County seeks to gather feedback from residents and businesses from across the county to incorporate into the plan. Participants should consider what nature hazards they view as the greatest risk, have they experienced a previous disaster, what concerns they have and what projects they have in mind.

Development of the plan is under direction of the county's Planning and Emergency Management Departments in cooperation with a planning team of representatives from other county departments, local municipalities, school districts and key stakeholders such as utility providers. The planning team is responsible to provide feedback required for the plan update, including the ranking of hazards and identification of strategic, cost-effective mitigation activities that may reduce future losses for the county and individual jurisdictions.

The plan is a multi-jurisdictional plan that covers Winona County and concerns and needs of townships, school districts and other stakeholders participating in the plan.

Examples of hazard mitigation include improvement of roads and culverts, construction of safe rooms at campgrounds, parks, trailer parks or schools to protect lives in the event of tornadoes or severe wind events, and burying power lines that may fail due to heavy snow, ice or wind storms.

Participants will have a continued opportunity to participate in the plan update in the coming months. A draft of the plan will be posted on the County website for public review prior to submission of the plan to the State of Minnesota.

The public can submit their feedback to Anne Morise, Winona County sustainability coordinator by calling 507-457-5408 or emailing amorise@co.winona.mn.us.

RECOMMENDED

COLOSIMO
Geoff Coventry: There's no 'free market' solution to health care

PEOPLE
Tributes continue to pour in for Chester

PEOPLE
Chester Bennington's widow falls victim to hacker

PEOPLE
Mel B's lost dogs have reportedly been

Winona Post – July 24, 2017 News Release

winona's twice-weekly newspaper since 1971

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BROSNAHAN LAW FIRM P.A.

NEWS / COUNTY

Public feedback and participation invited for Winona County 2018 Multi-Hazard Mitigation Plan update

(7/24/2017)

The Winona County Office of Emergency Management is currently working with the University of Minnesota Duluth – Geospatial Analysis Center (GAC) to prepare an update of the county's 2012 "Multi-Hazard Mitigation Plan" (MHMP). The plan is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000) and must be updated every five years in order to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs.

Development of the plan is under direction of the county's Planning and Emergency Management departments in cooperation with a planning team of representatives from other county departments, local municipalities, school districts, and key stakeholders such as utility providers. The planning team is responsible to provide feedback required for the plan update, including the ranking of hazards and identification of strategic, cost-effective mitigation activities that may reduce future losses for the county and individual jurisdictions. Some mitigation activities may be eligible for future FEMA Hazard Mitigation Assistance (HMA) grant funding, such as localized flood-reduction measures, property acquisition and relocation/conversion to open space, infrastructure retrofits, wildfire mitigation, and safe room construction or retrofits to provide immediate life-safety protection for people vulnerable to tornado and severe wind events.

About the plan

The Winona County MHMP is a multi-jurisdictional plan that covers Winona County, including the cities of Altura, Dakota, Elba, Goodview, La Crescent, Lewistown, Minneska, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, and Winona. The Winona County MHMP also incorporates the concerns and needs of townships, school districts, and other stakeholders participating in the plan.

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Winona Radio News Release Posting, July 17, 2017

Leighton - Winona

broadcasting

A Marketing Company

101.1
UP RIVER
WINONA'S GREATEST HITS

WIND
COUNTRY
99
Today's Hot New Country!

AM 1230
KWNO

1380 AM
KG COUNTRY
REAL COUNTRY

KG-95.3
TODAY'S BEST MUSIC

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Hazard Mitigation

Winona County Emergency Management is working with the University of Minnesota-Duluth to prepare an update of the County's 2012 "Multi Hazard Mitigation Plan."

The plan is a requirement of the Federal Disaster Mitigation Act of 2000 and must be updated every five years in order to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs.

Development of the plan is under the direction of the county's Planning and Emergency Management Departments with the cooperation of several other organizations including local municipalities, school districts and key stakeholders.

The Winona County plan covers the county, and includes the cities of Altura, Dakota, Elba, Goodview, La Crescent, Leveston, Minnesota, Minnesota City, Rollingstone, St. Charles, Stockton, Utica and Winona.

As part of the planning process, Winona County is seeking to gather feedback from residents and businesses from across the county. The public will have a continued opportunity to participate in the update in the coming months.....

[E-Mail](#)
[Print](#)
[A](#)
[A](#)

Fairs & Festivals Summer Guide



Event Dates:
 June 29th at Paul Gies
 July 27th at Jaycee Pavilion
 August 31st at East End Rec

PICNIC & GAMES:

Food for the first 200
 Kid's Zone
 Bike Giveaways
 Informational booths

The Lewiston Journal – News Release Posting, July 20, 2017

A6 Thursday, July 20, 2017 The Lewiston Journal - www.lewistonjournal.net

Local Announcements



Whitewater State Park Events

THURSDAY, JULY 20

1-2 p.m. Nature Time at the Beach

Hey kids, meet at the beach for some hands-on fun exploring nature!

FRIDAY, JULY 21

1-2 p.m. Nature Time at the Beach

Hey kids, meet at the beach for some hands-on fun exploring nature!

6-7:30 p.m. CCC History Walk

Walk in the footsteps of the young men who lived and worked in the Civilian Conservation Corps and Works Progress Association camps at Whitewater State Park. Meet at Nature Store amphitheater.

SATURDAY, JULY 22

10 a.m.-12 p.m. Fossil Field Trip

On this trip you will find, and can keep, fossils of plants and animals that lived here hundreds of millions of years ago. They were on earth long before the dinosaurs! Bring transportation, as the site is nine miles from the park.

1-2 p.m. Nature Games at the Beach

Hey kids! Do you like being outside and playing games? If so join us for an hour of family fun! Meet at the beach.

3-4 p.m. Weaving with Natural Fibers: Nature Bracelets

Have you ever wondered how Native Americans once used the natural resources of this area to make tools and living necessities? During this program you'll learn of some of these tools including how to use the fibers from plants to make strong twine or a nature bracelet!

7-8 p.m. Wolves at Our Door

Come learn about these amazing creatures that used to visit the Whitewater Valley. During the program we will learn about the basics of wolf biology, pack dynamics, habitat, and wolf management. Presented by International Wolf Center. Ideally suited for ages 8 and up.

SUNDAY, JULY 23

10:30 a.m.-12 p.m. Intro to Trout Fishing

Join us at the South Picnic Area for some fishing fun! Equipment

Public Feedback and Participation Invited for Winona County 2018 Multi-Hazard Mitigation Plan Update

The Winona County Office of Emergency Management is currently working with the University of Minnesota Duluth – Geospatial Analysis Center (GAC) to prepare an update of the County's 2012 "Multi-Hazard Mitigation Plan" (MHMP). The plan is a requirement of the Federal Disaster Mitigation Act of 2000 (DMA 2000) and must be updated every five years in order to maintain eligibility for certain federal disaster assistance and hazard mitigation funding programs.

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Scoreboard

ST. CHARLES PARK/REC
SUMMER SANDLOT
VOLLEYBALL LEAGUE STANDINGS
2017

Division I	W	L
State Farm	12	0
Three Rivers Party Rental	10	2
Small Farms	10	5
Wendell Dairy	6	9
RD Smathers	5	10
Mudis	5	10
Keefe Farms	4	11
Division II	W	L
Good Sport (Reddy)	15	3
Good Sport (Blue)	15	3
Ag Specialists	13	5
Ed Hat That	12	6
State Farm (Dana Hegde)	12	6
Kalms implement	10	5
Proctor's Sports Bar	9	6
Motcar Rental	9	9
Geeders Farms	9	9
Team Jose	8	10
Let's on the Beach	6	12
Good Sport (Swabell)	5	10
Sandy Cocks	2	13
Here for Beer	1	14
Here for Beer	0	15

Military News

Department of Defense civilian Scott Krenke graduated from the College of Naval Warfare at the Naval War College in Newport, R.I. This college is the oldest war college in the nation and oldest institution of its kind in the world devoted to advanced military studies. The College of Naval Warfare is a multidisciplinary program designed for U.S. Navy

The St Charles Press – News Release Posting, July 20, 2017

A6 Thursday, July 20, 2017 The St. Charles Press - www.stcharlespress.net

Local Announcements



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According to Winona County Administrator Ken Fritz, "Hazard mitigation planning is a central part of our emergency management program. Understanding the natural hazards that can cause serious impact to our communities and taking action to reduce or eliminate the impact of future disasters makes us more resilient. Hazard mitigation helps us to break the cycle of damage and repair caused by things like flooding, ice storms, and severe wind events that can threaten our lives, our property, and our future."

SEMCAC Menu

Thursday, July 20 - Cold plate ham/cheese, potato salad, Alt Chef salad, tomato wedges, peach, homemade dinner roll, cream puff.

Friday, July 21 - Swiss steak in sauce, mashed potatoes, green beans, dinner roll, pear with caramel sauce.

Monday, July 24 - Baked chicken, mashed potatoes, broccoli, cauliflower, orange/pear cup.

Tuesday, July 25 - Sweet pepper steak, oven brown rice, Alt Chicken Caesar salad, cauliflower, tossed salad, dinner roll, banana.

Wednesday, July 26 - Cream of broccoli soup, chicken, egg salad, sandwich, carrot, corn salad, oatmeal cookie.

Thursday, July 27 - Fruity chicken salad on lettuce, Alt Chef salad, tomato wedges, gingerbread with lemon sauce.

Senior Center

Recent addition to events: Playing "68" on Thursdays from 2 PM to 4PM. Come join in.

Looking for more bridge players on Thursdays. Call 932-5664.

St. Charles Senior Center offers casual card and board games every week day morning.

Every Tuesday 12:45 - 5:00 cards; 4 P.M. Bone builders.

2nd Tuesday Birthday celebration

Every Thursday at 1 P.M. Bridge Club

Email to members of Winona County Township Officers Association – July 23, 2017

-----Original Message-----

From: Steve [<mailto:steve@winonawebs.com>]

Sent: Sunday, July 23, 2017 12:11 AM

To: wctoa@googlegroups.com

Subject: [Township Officers] Hazard Mitigation Plan update

WINONA COUNTY NEWS RELEASE

July 12, 2017

Public Feedback and Participation Invited for Winona County 2018 Multi-Hazard Mitigation Plan Update

The Winona County Office of Emergency Management is currently working with the University of Minnesota Duluth – Geospatial Analysis Center (GAC) to prepare an update of the County's 2012 "Multi-Hazard Mitigation Plan" (article continued in email)



County Administrator
Kenneth J. Fritz

Providing Effective and Efficient Government

177 Main Street Winona, Minnesota 55987 (507) 457-6355 kfritz@co.winona.mn.us

August 23, 2018

Public Review and Feedback Invited for Winona County's Multi-Hazard Mitigation Plan

Winona County has completed an updated draft of the County's Multi-Hazard Mitigation Plan (MHMP) as required by the Federal Disaster Mitigation Act of 2000 (DMA 2000). Local jurisdictions are required to update the plan every five years to remain eligible for pre-disaster and post-disaster mitigation grant programs.

Community involvement and feedback are vital to the success of the plan. Winona County invites public review and feedback of the draft plan prior to submitting it to the State of Minnesota and the Federal Emergency Management Agency (FEMA) for review. A copy of the draft MHMP and a survey for public feedback is available online at <https://scse.d.umn.edu/winona-county-mhmp>. The plan review and comment period will be open until Friday, September 14th.

About the Plan

The Winona County MHMP is a multi-jurisdictional plan that covers Winona County, including the cities of Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, and Winona. The Winona County MHMP also incorporates the concerns and needs of townships, school districts, and other stakeholders participating in the plan.

Winona County is vulnerable to a variety of potential natural disasters, which threaten the loss of life and property in the county. The plan addresses how to mitigate against hazards such as tornadoes, flooding, wildfires, blizzards, straight-line winds, ice storms, and droughts which have the potential for inflicting vast economic loss and personal hardship.

Update of the plan has been under direction of Winona County Emergency Management in cooperation with the University of Minnesota Duluth – Geospatial Analysis Center and representatives from County departments, local municipalities (city and township), school districts, and other key stakeholders such as utility providers. Together, the planning team worked to identify cost-effective and sustainable actions to reduce or eliminate the long-term risk to human life or property from natural hazards. Some examples include improvement of roads and culverts that experience repetitive flooding; construction of safe rooms at campgrounds, public parks, mobile

County Board of Commissioners

First District	Second District	Third District	Fourth District	Fifth District
James G. Pomeroy	Marie H. Kovacs	Steven E. Jacob	Greg D. Olson	Marcia L. Ward

home parks or schools to protect lives in the event of tornados or severe wind events; burying powerlines that may fail due to heavy snow, ice or wind storms; ensuring timely emergency communication to the public through warning sirens and mass notification systems, and conducting public awareness and education campaigns to help people be prepared to take safe action before, during, or following a hazard event.

The Benefits of Hazard Mitigation Planning

Hazard mitigation planning ultimately helps us protect Winona County residents. By working with local communities we can identify vulnerabilities and develop strategies to reduce or eliminate the effects of a potential hazard. In addition, increasing public awareness of local hazards and disaster preparedness helps to create a community that is resilient to disaster, and breaks the cycle of response and recovery. Update of the plan will further allow the county and its jurisdictions to apply for eligible projects under future Hazard Mitigation Assistance (HMA) grant funding from FEMA for projects that are cost-effective and will help to reduce or eliminate impacts of future natural disaster events.

Contact:

ANNE MORSE
WINONA COUNTY SUSTAINABILITY COORDINATOR
PHONE: (507) 457-6468
EMAIL: AMORSE@CO.WINONA.MN.US

County Board of Commissioners

First District
James G. Pomeroy

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Marie H. Kovetsi

Third District
Steven E. Jacob

Fourth District
Greg D. Olson

Fifth District
Marcia L. Ward

From: Bonnie Hundrieser
To: "[Bonnie Hundrieser](#)"
Subject: Winona County Multi-Hazard Mitigation Plan draft ready for your review and feedback
Date: Thursday, August 23, 2018 3:22:46 PM
Attachments: [Winona County MHMP News Release Inviting Input on draft Plan.docx.pdf](#)

From: Anne Morse
Sent: Thursday, August 23, 2018 3:06 PM
To: 'alturamn@hbci.com'; 'gerlach1@acegroup.cc'; 'parnold@q.com'; 'Dan Matejka' <dmatejka@goodviewmn.com>; 'administrator@lewistonmn.org' <administrator@lewistonmn.org>; 'dkpries@gmail.com'; 'mncity@hbci.com'; 'rollingstonecityclerk@outlook.com'; 'Nick Koverman' <nkoverman@stcharlesmn.org>; 'cindytimm@juno.com'; 'Keith Nelson' <knelson@ci.winona.mn.us>; 'gschwanbeck105@hotmail.com' <gschwanbeck105@hotmail.com>; 'tkjos@mienergy.coop' <tkjos@mienergy.coop>; 'rbruno.vann@gmail.com' <rbruno.vann@gmail.com>; 'jdansingburg@ridgewayschool.org' <jdansingburg@ridgewayschool.org>; 'daleyfarm2@live.com' <daleyfarm2@live.com>; 'lbowman@winona.edu' <lbowman@winona.edu>; 'paul@degallier.org' <paul@degallier.org>; 'walt@waltkelly.com' <walt@waltkelly.com>; 'ateska@winonahealth.com' <ateska@winonahealth.com>; 'sdbestul@winona.edu' <sdbestul@winona.edu>; Jim Pomeroy <JPomeroy@Co.Winona.MN.US>; Ron Ganrude <RGanrude@Co.Winona.MN.US>; Anne Morse <AMorse@Co.Winona.MN.US>; Kay Qualley <KQualley@co.winona.mn.us>; Jill Johnson <JJohnson@Co.Winona.MN.US>; Daryl Buck <daryl.buck@winonaswcd.com>; David Kramer <DKramer@Co.Winona.MN.US>; Ross Dunsmoor <RDunsmoor@Co.Winona.MN.US>; Eric Johnson <EJohnson@Co.Winona.MN.US>; Lew Overhaug <LOverhaug@Co.Winona.MN.US>; Jeff Peterson <JPeterson@Co.Winona.MN.US>; Jenifer LaValla <JLaValla@Co.Winona.MN.US>; Frankie Mpagi <FMpagi@Co.Winona.MN.US>; Joey Nadeau <JNadeau@co.winona.mn.us>; Ben Klinger <BKlinger@Co.Winona.MN.US>; 'William Olaughlin' <william.olaughlin@winona.k12.mn.us>
Subject: County Multi-Hazard Mitigation Plan draft ready for your review and feedback

Greetings,

The Winona County Multi-Hazard Mitigation Plan draft document is now ready for public review and comment. City and County personnel are encouraged to look at the plan and submit any questions, comments, or changes for the plan before we submit it to the State of MN and FEMA for their approval. I am sending this to you as a member of our mitigation planning committee.

You may download and comment on the plan at this website: <https://scse.d.umn.edu/winona-county-mhmp>. Please note that the public review period is open until September 14th.

City Representatives: You are encouraged to please post the [attached PDF news release](#) to your city website to help announce the public review period. This is an essential part in proving to FEMA that we have provided opportunity for public review of the plan. When you post it, please send me a website link so that we may document it. You may title it "Winona County Multi-Hazard Mitigation Plan is Open for Public Review".

Thank you,

Anne

Anne Morse
Sustainability Coordinator
Winona County Planning & Environmental Services
177 Main Street
Winona, MN 55987
o) 507-457-6468

From: Anne Morse
To: ["btodd@postbulletin.com"](mailto:btodd@postbulletin.com); ["winpost@winonapost.com"](mailto:winpost@winonapost.com); ["Andrea Mikkelsen"](mailto:Andrea.Mikkelsen); ["dave.dicke@hbc.com"](mailto:dave.dicke@hbc.com); ["Tiffany Olson"](mailto:Tiffany.Olson); ["Winona Daily News"](mailto:Winona.Daily.News); ["St. Charles Press"](mailto:St.Charles.Press); ["Sarah Elmquist"](mailto:Sarah.Elmquist); ["justin.barrientos@hbc.com"](mailto:justin.barrientos@hbc.com); ["news8@wkbt.com"](mailto:news8@wkbt.com); ["Channel 25 Fox News \(news@fox2548.com\)"](mailto:Channel.25.Fox.News); ["Chris"](mailto:Chris); ["Patrick Marek"](mailto:Patrick.Marek); ["News@KAALtv.com"](mailto:News@KAALtv.com); ["KTTC News"](mailto:KTTC.News); ["Greg Taylor"](mailto:Greg.Taylor); ["samantha.stetzer@lee.net"](mailto:samantha.stetzer@lee.net); ["John Casper"](mailto:John.Casper); ["Tobias Mann"](mailto:Tobias.Mann)
Cc: [Hundrieser, Bonnie](mailto:Hundrieser.Bonnie); [Ben Klinger](mailto:Ben.Klinger); [Anne Morse](mailto:Anne.Morse)
Subject: NEWS RELEASE: Winona County Invites Public Review and Feedback on County's Multi-Hazard Mitigation Plan
Date: Thursday, August 23, 2018 2:03:07 PM
Attachments: [Winona County MHMP News Release #2 \(8-23-18\).docx](#)

Hello!

Could you please publish this release in your next issue? We are inviting feedback on our draft plan through September 14th.

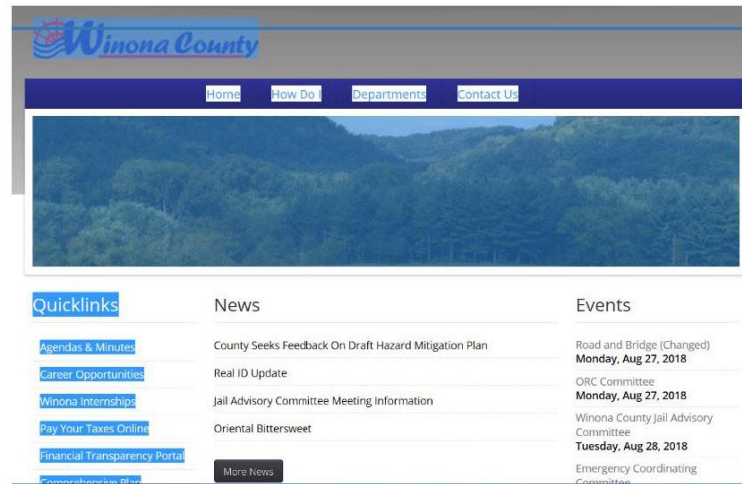
Thank you for helping us obtain feedback on this important plan.

Anne

Anne Morse
Sustainability Coordinator
Winona County Planning & Environmental Services
177 Main Street
Winona, MN 55987
o) 507-457-6468

Documentation of Notice of Availability of draft of Winona County Multi-Hazard Mitigation Plan for Public Comment

Winona County Homepage; posted August 23, 2018



Winona County Emergency Management Facebook Page- posted August 23rd, 2018



Winona County Sheriff's Office Facebook Page – August 23, 2018



City websites

City of Rollingstone https://www.rollingstonemn.org/vertical/sites/%7B9CD03697-5D55-48E6-90FA-F2CBAAE450E7%7D/uploads/MHMP_News_Release.pdf

Newspapers

Winona Post, posted August 27, 2018



Winona Daily News, posted August 26, 2018

WE ARE THE RUNNERS
RUN THE OPEN ROAD. RUN THE SHOW. RUN WILD.

Winona County seeks public input, feedback on multi-hazard mitigation plan

Aug 26, 2018

PHOTOS, VIDEO: Late afternoon storms cause minor road flooding in Winona. A strong thunderstorm brought heavy rain and strong winds to the area, causing minor flooding on some roads.

There is no rain. Flooding wipes out most of Casa Falls Park in Winona, threatening nearby homes.

Winona County has completed an updated draft of the of the County's Multi-Hazard Mitigation Plan (MHMP) as required by the Federal Disaster Mitigation Act of 2000 (FEMA 2000). Local jurisdictions are required to update the plan every five years to remain eligible for pre-disaster and post-disaster mitigation grant programs.

Community involvement and feedback are vital to the success of the plan. Winona County invites public review and feedback of the draft plan prior to submitting it to the State of Minnesota and the Federal Emergency Management Agency (FEMA) for review. A copy of the draft MHMP and a survey for public feedback is available online at <https://www.winonacounty.org/mhmp>. The plan review and comment period will be open until Friday, Sept. 14.

About the plan

The Winona County MHMP is a multi-jurisdictional plan that covers Winona County, including the cities of Albia, Dakota, Elba, Goodhue, Leighton, Minnesota City, Rollingstone, St. Charles, Stockton, Utica and Winona. The Winona County MHMP also incorporates the concerns and needs of townships, school districts and other stakeholders participating in the plan.

RECOMMENDED

St. Charles Press and Lewiston Journal (Same article ran in both papers, have same publisher)

Page 8 Thursday, August 30, 2018

The St. Charles Press - www.stcharlespress.net

Church News

Winona County Invites Public Review and Feedback on County's Multi-Hazard Mitigation Plan

Winona County has completed an updated draft of the of the County's Multi-Hazard Mitigation Plan (MHMP) as required by the Federal Disaster Mitigation Act of 2000 (FEMA 2000). Local jurisdictions are required to update the plan every five years to remain eligible for pre-disaster and post-disaster mitigation grant programs.

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Winona County is vulnerable to a variety of potential natural hazards, which threaten the loss of life and property in the county. The plan addresses how to mitigate against hazards such as tornadoes, flooding, wildfires, blizzards, straight-line winds, ice storms, and drought, which have the potential for inflicting vast economic loss and personal hardship.

Update of the plan has been under direction of Winona County Emergency Management in cooperation with the University of Minnesota Duluth - Geospatial Analysis Center and representatives from County departments, local municipalities (city and township), school districts, and other key stakeholders such as utility providers. Together, the planning team worked to identify cost-effective and sustainable actions to reduce or eliminate the long-term risk to human life or property from natural hazards. Some examples include improvement of roads and culverts that experience repetitive flooding, construction of safe rooms at campsgrounds, public parks, mobile home parks or schools to protect lives in the event of tornadoes or severe wind events; burying



Add some zest to your dessert table

A refreshing dessert makes summer evenings that much more enjoyable. After a good meal, sharing dessert with friends and family can make for the perfect ending to a relaxing night. Those who want to add a touch of the tropics to their summertime dessert table should consider the following recipe for "Jamaican Lime Pie" from Helen Wilchinsky's "Taste from Jamaica" (The Speed Press).

Jamaican Lime Pie

Serves 6

Filling

- 4 large egg yolks
- 1 large egg white
- 1 1/2 ounce can unsweetened condensed milk
- 1/2 cup fresh lime juice
- 1/4 teaspoon salt
- 1 partially baked 9-inch pie crust, chilled

Meringue

- 3 large egg whites
- 1/2 teaspoon cream of tartar
- 3/4 teaspoon sugar

Premiere of Ken Burns film focused on Mayo Clinic set for Sept. 10 in Rochester

Public welcome to attend event that will include a block party, film screening and discussion with Ken Burns.

Award-winning filmmaker Ken Burns will return to Rochester on September 10 at Twin Cities PBS and KSMQ Public Television host the full-length premiere of his new documentary, "The Mayo Clinic Faith-Hope-Love" (The documentary will air September 23 on PBS with a rebroadcast on September 25. The September 10 event marks the first time that the film will be screened for the general public.

The event will start with a community block party at 4:30 p.m. at the Mayo Clinic Center Plaza. The block party will include music, food and interactive activities. The block party requires no ticket and is open to anyone in the community who would like to attend.

The premiere will be held at 7 p.m. in the Taylor Annex at the Mayo Clinic Center. Following the screening of the film, a panel discussion will be held featuring Mr. Burns, who is the executive producer and co-director of the film, co-directors Eric and Charlotte Lerner Evans and John Nussworthy, M.D., president and CEO of Mayo Clinic. Public tickets for the event will be made available starting August 27 at the Mayo Clinic Center Box office. Tickets are free of charge, with a limit of two per person.

The Mayo Clinic Center is located at 30 Civic Center Drive SE, Rochester, MN 55905. The Box Office is open Monday - Friday, 10 a.m. to 5:59 p.m.; Saturday 10 a.m. to 2 p.m. and is closed on Sundays.

"The Mayo Clinic Faith-Hope-Love" is a production of Hometown Films, Ever Brothers Productions, and WETA Washington, DC.

Upcoming Winona County blood donation opportunities Sept. 1-15

Winona County

Pickwick

9/7/2018 12 p.m. - 6 p.m., Pickwick Community, 21799

UMD Webpages for Public Feedback to Winona County MHMP Update

URL: <https://scse.d.umn.edu/winona-county-mhmp>

Home Page with Links to Winona County draft MHMP and Mitigation Action Charts

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GEOSPATIAL ANALYSIS CENTER

Public Feedback for Winona County MHMP Update

UMD - Sevenson College of Science and Engineering - Public Feedback for Winona County MHMP Update

Contact us
umdgs@du.umn.edu
(218) 726-7438
TTY/TDD:
(800) 627-3529
Kirby Plaza 389
Duluth, MN 55812




Winona County is currently in the process of updating its Multi-Hazard Mitigation Plan. Before the plan is submitted to the State of Minnesota and FEMA for approval, we need your feedback! Please review the draft plan, in particular the mitigation actions for your jurisdiction, and then fill out this [quick form](#).

- [Winona County MHMP 2018 draft](#) 
- [Winona County Mitigation Actions](#) 
- [Albion Mitigation Actions](#) 
- [Dakota Mitigation Actions](#) 
- [Elba Mitigation Actions](#) 
- [Goodview Mitigation Actions](#) 
- [Lewiston Mitigation Actions](#) 
- [Minnesota City Mitigation Actions](#) 
- [Rollingstone Mitigation Actions](#) 
- [St. Charles Mitigation Actions](#) 
- [Stockton Mitigation Actions](#) 
- [Winona Mitigation Actions](#) 

Help us make Winona County safer from natural disasters!

If you have any questions or comments, please contact umdgs@du.umn.edu.

Winona County MHMP – Public Online Comment Form

Winona County MHMP Feedback & Comments

Upon reviewing the draft 2018 Multi-Hazard Mitigation Plan for Winona County, please answer the following questions to provide feedback and suggestions. Thank you!

Name

Your answer

Email address

Your answer

Job Title and Organization

Your answer

Jurisdiction

Choose

After reviewing the mitigation actions for your jurisdiction, do you have any ideas for new ones to add? Please explain in as much detail as possible.

Your answer

Are there any issues in your community related to natural hazards that we did not address in the plan? Please explain in as much detail as possible.

Your answer

Does this plan reflect the needs of Winona County to mitigate against future natural hazards? If not, please explain.

Your answer

Do you have any other comments or suggestions on the plan before it is submitted to the State of Minnesota and FEMA for approval?

Your answer

How did you find out about this planning effort?

☐ Colleague
☐ Friend
☐ Winona County Facebook Page
☐ County Announcement/Flyer
☐ County Email
☐ Newspaper
☐ Other:

SUBMIT

Never submit passwords through Google Forms.

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Appendix G

Mitigation Actions by Jurisdiction

Table G - 1. Mitigation Actions Identified for Implementation by the City of Altura (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans. <i>City Comment: The City has a disaster plan that outlines responsibilities and procedures for emergency response.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding).	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).	County, municipal funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower.</p> <p>The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/ summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit). Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events.	Municipal funding

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process. Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	<p>Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County.</p> <p><i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i></p>	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure.	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	<p>Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management.</p> <p><i>(i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.)</i></p>	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Altura Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura , Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Table G - 2. Mitigation Actions Identified for Implementation by the City of Dakota (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media). <i>City Comment: The City encourages all citizens to register for the County's CodeRed emergency alert system.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	<p>Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.</p> <p><i>City Comment: The City has an Emergency Preparedness Manual containing protocol, local contact information, and resources available, as well as a mapped evacuation route in the event of an incident. The City has the Bill Grant Community Center designated as an emergency shelter with generator backup and an early warning siren.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding).	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	<p>This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).</p> <p><i>City Comment: The City's Fire Department distributes information to encourage residents to plan safe escape procedures in the event of fire or other emergencies.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower.</p> <p>The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/ summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	<p>Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include:</p> <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.</p>	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p> <p><i>City Comment: The City has worked with Winona County to install an outdoor warning siren to alert residents for severe wind/tornado events.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.	County, municipal funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events.	Municipal funding

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process. Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County. <i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure.	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management (<i>i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.</i>)	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Dakota Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota , Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Table G - 3. Mitigation Actions Identified for Implementation by the City of Elba (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	<p>Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media).</p> <p><i>City Comment: The City encourages residents to sign up for the County's CodeRed System. The City also works to notify residents in the event of localized flooding.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding). <i>City Comment: The City has a Comprehensive Plan, however we need to do more to address hazard mitigation in the next update.</i>	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).	County, municipal funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/ Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower.</p> <p>The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/ universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/ summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	<p>New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.</p> <p><i>City Comment: The City has a floodplain ordinance and participates in the NFIP.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.	County, municipal funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events. <i>City Comment: The City is seeking to work with a private landowner to improve drainage. We would like to cut down more brush/weeds outside of the levee so that when the water is rising it would flow more freely. When the water gets high it is held back in this area, causing localized flooding.</i>	Municipal funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process. Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities
47	Flooding	Local Planning & Regulations / Structure and Infrastructure Projects	Construct new or certify existing dikes, levees, or floodwalls to provide localized storm water control and protection of critical facilities or property at risk to flooding.	New	High	2018-2022	Winona County, City of Elba City of Stockton, City of St. Charles City of Winona	US Army Corps of Engineers, MN DNR, in coordination with municipal Public Works Depts. and Watershed Districts	This work applies to individual municipalities as well as the MN DNR and U.S. Army Corps of Engineers as applicable.	County, municipal funding, Possible USDA funding or MN DNR Flood Hazard grant funding

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County. <i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure. <i>City Comment: The City has had heavy rains that caused some damage to infrastructure, roads washing out, and minor mudslides. We have worked to re-direct stormwater run-off as a means to mitigate against washouts.</i>	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management. <i>(i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.)</i>	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities
53	Flooding	Natural Systems Protection	Work with property owners to clean out/remove debris, overgrowth of vegetation, obstructions from riparian corridors of streams in areas with higher incidence of flooding.	New	High	2018-2022	Winona County Elba , Goodview, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	Winona County Planning, SWCD, MN DNR, and Watershed Districts	This is an ongoing effort of Winona County Planning, SWCD, MN DNR, and our Watershed Districts as we respectively work in our programs to educate and work with property owners on localized flood mitigation measures. Outreach is commonly conducted through newsletters and direct outreach during our summer growth periods and following periods of heavy storms that will result in problematic downed vegetation.	County, municipal funding, SWCD, MN DNR

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Elba Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba , Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Table G - 4. Mitigation Actions Identified for Implementation by the City of Goodview (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media). <i>City Comment: The City encourages our residents to sign up for the County's CodeRed emergency notification system.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	<p>The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).</p> <p><i>City Comment: The City of Goodview tries to hold at least one tabletop drill a year for our Emergency Operations Team/Committee.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	<p>Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.</p> <p><i>City Comment: The City has an Emergency Operations Plan which includes an evacuation/sheltering plan and has an equipped EOC. We have an EOP Committee which includes two City Council members. Our City Administrator is the City's designated Emergency Manager.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	<p>Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding).</p> <p><i>City Comment: In 2018 the City will be developing a Comprehensive Plan. We will work to incorporate hazard mitigation considerations into the plan. We have a growing population that our planning needs to address (i.e., for the Gunderson Division, which has flooded multiple times).</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	<p>Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure.</p> <p>The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.</p> <p><i>City Comment: The City of Goodview upgraded the lighting in both the City Hall and Fire Hall.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	<p>This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).</p> <p><i>City Comment: The City of Goodview does this through both our website and Facebook page.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced. <i>City Comment: The City of Goodview outsources our Building Inspector services by contract with Construction Management Services out of Rochester, MN.</i>	County, municipal funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.</p> <p><i>City Comment: The City participates in the NWS annual Winter & Spring Severe Weather Awareness Weeks. Our local elementary school also practice tornado drills on an annual basis.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS. <i>City Comment: The City of Goodview encourages this on our website.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower. The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> Public Safety facilities (Fire Halls, Police Stations) Government buildings without backup power Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p> <p><i>City Comment: The City of Goodview has numerous generators to be used at our lift stations if needed. Plus we have one large generator able to keep the City campus of buildings (City Hall, Fire Hall, & Police Dept.) operational in case of power failure.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows. <i>City Comment: The City of Goodview would like to have a generator available for each lift station and well we have in case they all gone down at the same time.</i>	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/ summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal. <i>City Comment: The City of Goodview has existing plan in place to trim along roads in case of storms.</i>	County, municipal funding, Utility Company Funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/ Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed. <i>City Comment: In 2018 the City of Goodview will be building its own sand & salt shelter to become more independent from the County.</i>	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
27	Severe Summer Storms	Local Planning & Regulations	Work to ensure Minnesota Department of Health Evacuation Plan & Storm Shelter Requirements are met in municipalities with manufactured home parks.	On-going	High	2018-2022	City of Goodview (Lake Village), City of Lewiston (Lewiston Park), City of Minnesota City (Hidden Valley Mobile Home Village), City of Stockton (Country Valley Manufacture Home Park), City of St. Charles (Sherwood Mobile Home Park), Rollingstone Township / Hillsdale Township (Lake Village)	City Emergency Managers in coordination with WC Emergency Management	<p>Minnesota State Statute (327.205 Shelter Construction Standards) outlines the requirements for MHP's with less than 10 units / more than 10 units for evacuation plans and sheltering facilities for the residents of the park in times of high winds or tornadoes, as well as the responsibility of municipalities with MHPs to assist with/approve of evacuation & shelter plans.</p> <p>WC Emergency Management will encourage municipalities to continue to work with local MPH operators to ensure they are in compliance with the law.</p> <p><i>City Comment: Lake Village in Goodview built a new storm shelter approximately 5 years ago.</i></p>	County, municipal funding, MHP Owner

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p> <p><i>City Comment: The City of Goodview is exploring the possibility of entering into a contract to conduct annual inspections of our 4 sirens.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility. <i>City Comment: The City of Goodview in the near future will be building a kiosk to place at LaCanne Park displaying information such as this.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	<p>New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.</p> <p><i>City Comment: The City has a floodplain ordinance and participates in the NFIP.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/ Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding. <i>City Comment: The City is working to increase stormwater drainage capacity and rate of drainage in the Sunny Acres area. We also need to work with the Railroad as this area eventually drains through a couple of box culverts under the railroad.</i>	County, municipal funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events. <i>City Comment: The City is working to conduct an annual cleaning the streambank of the Garvin Brook, which runs through the Gunderson Subdivision. When this area has flooded in the past, a lot of it was due to vegetation that grew/fell and blocked the ports of the stream.</i>	Municipal funding

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	<p>All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.</p> <p><i>City Comment: The City of Goodview is starting to update our Wellhead Protection plan.</i></p>	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	<p>Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process.</p> <p>Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.</p> <p><i>City Comment: We have a City Engineer and Director of Public Works that address road maintenance issues for potential flooding.</i></p>	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County. <i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/ Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure. <i>City Comment: The City has done a street & utility project to direct stormwater into the system and then into the lake instead of flooding residents.</i>	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	<p>Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management.</p> <p><i>(i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.)</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities
53	Flooding	Natural Systems Protection	Work with property owners to clean out/remove debris, overgrowth of vegetation, obstructions from riparian corridors of streams in areas with higher incidence of flooding.	New	High	2018-2022	Winona County Elba, Goodview , Minnesota City, Rollingstone, St. Charles, Stockton, Winona	Winona County Planning, SWCD, MN DNR, and Watershed Districts	This is an ongoing effort of Winona County Planning, SWCD, MN DNR, and our Watershed Districts as we respectively work in our programs to educate and work with property owners on localized flood mitigation measures. Outreach is commonly conducted through newsletters and direct outreach during our summer growth periods and following periods of heavy storms that will result in problematic downed vegetation.	County, municipal funding, SWCD, MN DNR

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads. <i>City Comment: The City is working on measures to control water runoff and divert water flow in order to reduce erosion and sinkholes. We are working on projects to steel areas such as We Valley and Woodhaven subdivisions.</i>	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Goodview Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview , Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	<p>Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.</p> <p><i>City Comment: The City of Goodview has discussed creating a Water Conservation Rate to help in times of drought, but nothing has been set yet.</i></p>	County, municipal funding

Table G - 5. Mitigation Actions Identified for Implementation by the City of Lewiston (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media). <i>City Comment: The City is working to inform residents of the CodeRed system and why it's important for them to register.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	<p>Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding).</p> <p><i>City Comment: The City has as 10-year Comprehensive Plan (2010) that is designed for the future physical growth of the City and appropriate land uses. The City needs to update the Comp Plan to better address hazard mitigation (i.e., flooding).</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.</p> <p><i>City Comment: The City participates in the NWS annual Winter & Spring Severe Weather Awareness Weeks. Our local school also practice tornado drills on an annual basis.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower. The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/ summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/ Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
27	Severe Summer Storms	Local Planning & Regulations	Work to ensure Minnesota Department of Health Evacuation Plan & Storm Shelter Requirements are met in municipalities with manufactured home parks.	On-going	High	2018-2022	City of Goodview (Lake Village), City of Lewiston (Lewiston Park), City of Minnesota City (Hidden Valley Mobile Home Village), City of Stockton (Country Valley Manufacture Home Park), City of St. Charles (Sherwood Mobile Home Park), Rollingstone Township / Hillsdale Township (Lake Village)	City Emergency Managers in coordination with WC Emergency Management	<p>Minnesota State Statue (327.205 Shelter Construction Standards) outlines the requirements for MHP's with less than 10 units / more than 10 units for evacuation plans and sheltering facilities for the residents of the park in times of high winds or tornadoes, as well as the responsibility of municipalities with MHPs to assist with/approve of evacuation & shelter plans.</p> <p><i>City Comment: The City works with our 2 mobile home parks to be in compliance with MDH requirements. Currently for storm shelters they are allowed to use the basement of the Elementary school, but gaining access outside of daytime hours is a concern.</i></p>	County, municipal funding, MHP Owner

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p><i>City Comment: In 2013 we replaced our 3 outdated tornado sirens with 1 new warning siren. The City will look at potentially adding another siren during construction of a new public safety building. We are concerned that we do not have enough warning sirens to reach the whole community.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p><i>City Comment: Our Mobile Home Parks should be evaluated for the construction of a safe room. The Elementary School basement is the current facility for sheltering.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. (The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.) When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/ Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding. <i>City Comment: in 2016 the City made improvements to the storm sewer ditch on the south side of the City's stormwater runoff. We removed debris, sanded, sloped, and re-seeded.</i>	County, municipal funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events.	Municipal funding

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	<p>Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process.</p> <p>Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.</p> <p><i>City Comment: The City has an annual Transportation Plan to address road improvement projects that include culvert and drainage improvements to reduce over-the-road repetitive flooding. The City has a City Engineer and Public Works Supervisor that oversee road maintenance issues for flooding.</i></p>	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County. <i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure. <i>City Comment: The City has worked with State and Federal partners to address mitigation efforts following flooding on County Rd. 106 in 2007 which put our lift station at risk. This flood proofing project was completed in 2012. In 2014 the City replaced the storm sewer with an updated 48" line on Lincoln St.</i>	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management. <i>(i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.)</i>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Lewiston Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston , Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Table G - 6. Mitigation Actions Identified for Implementation by the City of Minnesota City (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding).	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).	County, municipal funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County); Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms. <i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower. The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generator s

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	<p>Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include:</p> <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.</p>	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
27	Severe Summer Storms	Local Planning & Regulations	Work to ensure Minnesota Department of Health Evacuation Plan & Storm Shelter Requirements are met in municipalities with manufactured home parks.	On-going	High	2018-2022	City of Goodview (<i>Lake Village</i>), City of Lewiston (<i>Lewiston Park</i>), City of Minnesota City (<i>Hidden Valley Mobile Home Village</i>), City of Stockton (<i>Country Valley Manufacture Home Park</i>), City of St. Charles (<i>Sherwood Mobile Home Park</i>), Rollingstone Township / Hillsdale Township (<i>Lake Village</i>)	City Emergency Managers in coordination with WC Emergency Management	Minnesota State Statute (327.205 <i>Shelter Construction Standards</i>) outlines the requirements for MHP's with less than 10 units / more than 10 units for evacuation plans and sheltering facilities for the residents of the park in times of high winds or tornadoes, as well as the responsibility of municipalities with MHPs to assist with/approve of evacuation & shelter plans. WC Emergency Management will encourage municipalities to continue to work with local MPH operators to ensure they are in compliance with the law.	County, municipal funding, MHP Owner

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/Highway Depts.	<p>The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.</p> <p><i>City Comment: A major issue for the City is the need to replace the box culverts in Garvin Brook that washed away in the 2007 flood. Heavy rains have filled the remaining culverts with silt, and no repairs have ever been made. The box culverts that washed away were the only emergency route in the event of a train derailment. The City has no escape route at the east end of the city, affecting the 90-100 residents living east of the railroad tracks.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events. <i>City Comment: The City works to do brush cutting along Garvin Brook to prevent water flow restrictions.</i>	Municipal funding

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process. Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	<p>Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County.</p> <p><i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i></p>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/ Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure.	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PF A grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	<p>Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management.</p> <p><i>(i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.)</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities
53	Flooding	Natural Systems Protection	Work with property owners to clean out/remove debris, overgrowth of vegetation, obstructions from riparian corridors of streams in areas with higher incidence of flooding.	New	High	2018-2022	Winona County Elba, Goodview, Minnesota City , Rollingstone, St. Charles, Stockton, Winona	Winona County Planning, SWCD, MN DNR, and Watershed Districts	This is an ongoing effort of Winona County Planning, SWCD, MN DNR, and our Watershed Districts as we respectively work in our programs to educate and work with property owners on localized flood mitigation measures. Outreach is commonly conducted through newsletters and direct outreach during our summer growth periods and following periods of heavy storms that will result in problematic downed vegetation.	County, municipal funding, SWCD, MN DNR

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads. <i>City Comment: The City worked with the NRCS after the 2007 flood on a creek bank repair.</i>	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Minnesota City Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City , Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Table G - 7. Mitigation Actions Identified for Implementation by the City of Rollingstone (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media). <i>City Comment: The City will seek to do a better promotion to local residents to be aware of and sign up for the County's CodeRed system.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding). <i>City Comment: Our City has a 20-year Comprehensive Plan (2014) that is designed to plan for the future growth of our city and appropriate land uses.</i>	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	<p>This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).</p> <p><i>City Comment: The Rollingstone Community School practices tornado drills on an annual basis.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower. The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/ Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	<p>New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.</p> <p><i>City Comment: Our City has a Planning and Zoning Commission that has established the Rollingstone Bluffland Ordinance.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/ Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.	County, municipal funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	Municipal Public Works/ Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events.	Municipal funding

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	<p>Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process.</p> <p>Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.</p> <p><i>City Comment: The City has experienced some minor flooding on Kohner Road due to heavy rains in the Spring. Our public works department has repaired the damage to roads and bike trails where over-the-road flooding has occurred due to heavy rains. The Public Works Supervisor, along with the City Council, keep a maintenance to-do list to address road improvement projects that include culvert and drainage improvements.</i></p>	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County. <i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure.	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management (<i>i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.</i>)	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities
53	Flooding	Natural Systems Protection	Work with property owners to clean out/remove debris, overgrowth of vegetation, obstructions from riparian corridors of streams in areas with higher incidence of flooding.	New	High	2018-2022	Winona County Elba, Goodview, Minnesota City, Rollingstone , St. Charles, Stockton, Winona	Winona County Planning, SWCD, MN DNR, and Watershed Districts	This is an ongoing effort of Winona County Planning, SWCD, MN DNR, and our Watershed Districts as we respectively work in our programs to educate and work with property owners on localized flood mitigation measures. Outreach is commonly conducted through newsletters and direct outreach during our summer growth periods and following periods of heavy storms that will result in problematic downed vegetation.	County, municipal funding, SWCD, MN DNR

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Rollingstone Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone , St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Table G - 8. Mitigation Actions Identified for Implementation by the City of St. Charles (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media). <i>City Comment: The City takes part in the Winona County Emergency Alert System that residents can sign up for on our website.</i>	County, municipal funding

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3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.	County, municipal funding

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7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding). <i>City Comment: We have a 20-year Comprehensive Plan (2011) that is designed to plan for the future physical growth of the city and appropriate land uses.</i>	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events (i.e., <i>Public Safety facilities, Government Buildings, Water Treatment Plants</i>)	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding

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9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).	County, municipal funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding

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14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

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15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower.</p> <p>The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p> <p><i>City Comment: Backup generators are needed for the School District. Backup generators should be obtained for the St. Charles Elementary and High School as well as other critical facilities like the grocery store, gas station, and nursing home/assisted living.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	<p>Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include:</p> <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.</p> <p><i>City Comment: The City of St Charles Utility Company continues to bury power lines where feasible and cost effective. The City's annual budgets reflect new construction/repairs of electrical services, however, additional access to funds are needed for electrical improvements to move overhead lines to underground.</i></p>	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal. <i>City Comment: The City of St Charles Utility Company has enhanced its tree trimming program for trees close to power lines.</i>	County, municipal funding, Utility Company Funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Highway Dept., City Highway/Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
27	Severe Summer Storms	Local Planning & Regulations	Work to ensure Minnesota Department of Health Evacuation Plan & Storm Shelter Requirements are met in municipalities with manufactured home parks.	On-going	High	2018-2022	City of Goodview (<i>Lake Village</i>), City of Lewiston (<i>Lewiston Park</i>), City of Minnesota City (<i>Hidden Valley Mobile Home Village</i>), City of Stockton (<i>Country Valley Manufacture Home Park</i>), City of St. Charles (<i>Sherwood Mobile Home Park</i>), Rollingstone Township / Hillsdale Township (<i>Lake Village</i>)	City Emergency Managers in coordination with WC Emergency Management	<p>Minnesota State Statute (327.205 <i>Shelter Construction Standards</i>) outlines the requirements for MHP's with less than 10 units / more than 10 units for evacuation plans and sheltering facilities for the residents of the park in times of high winds or tornadoes, as well as the responsibility of municipalities with MHPs to assist with/approve of evacuation & shelter plans.</p> <p>WC Emergency Management will encourage municipalities to continue to work with local MPH operators to ensure they are in compliance with the law.</p>	County, municipal funding, MHP Owner

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p> <p><i>City Comment: We continue to invest in our outdoor warning siren system to allow for better warning of residents.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p><i>City Comment: The local trailer park has a small room for 150 residents, but the gym space constructed was not designed as a safe room. We would like to work more on evaluating construction of retrofitting a Community Safe Room within St. Charles.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit). Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

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31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding

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37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	<p>New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.</p> <p><i>City Comment: We have a City Planning & Zoning Commission that has established a Floodplain Ordinance. The City participates in the NFIP.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/Highway Depts.	<p>The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.</p> <p><i>City Comment: In 2017 the City replaced culverts in several areas including a bridge/culvert along 2nd Street. Two culvert replacements were also necessary where a rain event undermined a portion of the road and electric utilities along 15th St. The City is working to address West drainage ditch repairs. The West ditch, along with our East ditch, represents the brunt of our flood mitigation facilities.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events. <i>City Comment: The City works with the MN DNR to conduct stream debris removal projects. We have finished various stream debris removal projects to help the flow of water through the community as two major drainage ditches run north/south through St. Charles.</i>	Municipal funding

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

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46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	<p>Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process.</p> <p>Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.</p> <p><i>City Comment: We have a City Engineer and Public Works Director that address road maintenance for flooding (culverts, repetitive flooding).</i></p>	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities
47	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Construct new or certify existing dikes, levees, or floodwalls to provide localized storm water control and protection of critical facilities or property at risk to flooding.	New	High	2018-2022	Winona County, City of Elba City of Stockton, City of St. Charles City of Winona	US Army Corps of Engineers, MN DNR, in coordination with municipal Public Works Depts. and Watershed Districts	This work applies to individual municipalities as well as the MN DNR and U.S. Army Corps of Engineers as applicable.	County, municipal funding, Possible USDA funding or MN DNR Flood Hazard grant funding

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48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	<p>Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate year rain event. Implement measures to improve flood/ stormwater control systems throughout Winona County.</p> <p><i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i></p>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	<p>Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure.</p> <p><i>City Comment: City reviews its stormwater management plan annually to address road improvement projects that include culvert and drainage projects to reduce over-the-road repetitive flooding. The City's annual budgets reflect stormwater improvements and mitigation efforts, however, additional funding is needed to continue stormwater mitigation efforts as the fees generated do not keep up with pond, ditch, or culvert repair and/or replacement. The cleaning of storm retention ponds has been difficult to manage and keep up with.</i></p>	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

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49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management. <i>(i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.)</i>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities
53	Flooding	Natural Systems Protection	Work with property owners to clean out/remove debris, overgrowth of vegetation, obstructions from riparian corridors of streams in areas with higher incidence of flooding.	New	High	2018-2022	Winona County Elba, Goodview, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	Winona County Planning, SWCD, MN DNR, and Watershed Districts	This is an ongoing effort of Winona County Planning, SWCD, MN DNR, and our Watershed Districts as we respectively work in our programs to educate and work with property owners on localized flood mitigation measures. Outreach is commonly conducted through newsletters and direct outreach during our summer growth periods and following periods of heavy storms that will result in problematic downed vegetation.	County, municipal funding, SWCD, MN DNR

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of St. Charles Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on bluffslands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles , Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Table G - 9. Mitigation Actions Identified for Implementation by the City of Stockton (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media). <i>City Comment: The City promotes local residents to sign up for the County's CodeRed system.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	<p>Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.</p> <p><i>City Comment: The City maintains an Emergency Operations Plan that outlines roles, responsibilities, and procedures during a disaster.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding). <i>City Comment: The City of Stockton updated our 30-year Comprehensive Plan, which now includes a strategic plan that gets assessed every 5 years.</i>	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing. <i>City Comment: The City of Stockton has already implemented measures for our Wastewater & Water systems.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	<p>This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).</p> <p><i>City Comment: The City of Stockton maintains a Facebook page, access channel and a website to update our residence.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	<p>Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.</p> <p><i>City Comment: The City of Stockton has the MN Building code enforcement, and we have our own building inspector.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15). <i>City Comment: The City does not have a nursing home / Long-Term facility, but does have one daycare in town.</i>	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management & City Emergency Managers	<p>This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.</p> <p><i>City Comment: The City has Facebook, an access channel, and our own website to connect with our residents.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower.</p> <p>The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p> <p><i>City Comment: The City wants to get a generator for City Hall, which will serve as a safe shelter if residents are temporarily displaced.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter /summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.</p>	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	<p>Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.</p> <p><i>City Comment: MiEnergy has been through Stockton and cut/topped most trees along their electric lines in the summer of 2017.</i></p>	County, municipal funding, Utility Company Funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Highway Dept., City Highway/Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MNDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
27	Severe Summer Storms	Local Planning & Regulations	Work to ensure Minnesota Department of Health Evacuation Plan & Storm Shelter Requirements are met in municipalities with manufactured home parks.	On-going	High	2018-2022	City of Goodview (<i>Lake Village</i>), City of Lewiston (<i>Lewiston Park</i>), City of Minnesota City (<i>Hidden Valley Mobile Home Village</i>), City of Stockton (<i>Country Valley Manufacture Home Park</i>), City of St. Charles (<i>Sherwood Mobile Home Park</i>), Rollingstone Township / Hillsdale Township (<i>Lake Village</i>)	City Emergency Managers in coordination with WC Emergency Management	<p>Minnesota State Statue (327.205 <i>Shelter Construction Standards</i>) outlines the requirements for MHP's with less than 10 units / more than 10 units for evacuation plans and sheltering facilities for the residents of the park in times of high winds or tornadoes, as well as the responsibility of municipalities with MHPs to assist with/approve of evacuation & shelter plans.</p> <p>WC Emergency Management will encourage municipalities to continue to work with local MPH operators to ensure they are in compliance with the law.</p> <p><i>City Comment: The City's Country Valley MHP does have an emergency shelter, but we will need to check with them to see if it is up to State standards.</i></p>	County, municipal funding, MHP Owner

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p> <p><i>City Comment: The City received a new siren in 2010; our old siren was installed at the Mobile Home park in town.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p><i>City Comment: Stockton City Hall is considered a storm shelter, though we would be interested in a safe room too.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	<p>New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.</p> <p><i>City Comment: The City has a floodplain ordinance and will be getting updated after the new FEMA floodplain maps are adopted. The City participates in the NFIP.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
40	Flooding	Mitigation Preparedness and Response Support	Install rain/flood gauge monitoring equipment on streams and rivers of concern in order to provide early notification to downstream residents. Install new equipment as feasible.	New	High	2018-2022	Winona County City of Stockton	MN DNR	<p>The MN DNR is the lead agency to work with watershed districts and communities throughout the County to assess the potential to install stream monitoring equipment.</p> <p><i>City Comment: The City would like to get stream gauge monitors for both of our creeks so that we can be aware when high waters are coming and that flooding is imminent.</i></p>	County, municipal funding, MN DNR
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/ Highway Depts.	<p>The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.</p> <p><i>City Comment: The City constantly checks drainage ditches for fixing or reshaping for better water flow. Winona County has assisted through restructure of a culvert over a county road for better stream flow.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events. <i>City Comment: The City is working to address farmer's pond clean-up, which is being done by Stockton, Minnesota City, and Rollingstone Twp. Watershed District.</i>	Municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	<p>All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.</p> <p><i>City Comment: Stockton has been waiting on MDH to write our wellhead protection plan for 8 years.</i></p>	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process. Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding. <i>City Comment: The City has a 5-year plan to update road improvement projects. We also have a City Engineer who helps with flooding issues.</i>	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities
47	Flooding	Local Planning & Regulations / Structure and Infrastructure Projects	Construct new or certify existing dikes, levees, or floodwalls to provide localized storm water control and protection of critical facilities or property at risk to flooding.	New	High	2018-2022	Winona County, City of Elba City of Stockton , City of St. Charles City of Winona	US Army Corps of Engineers, MN DNR, in coordination with municipal Public Works Depts. and Watershed Districts	This work applies to individual municipalities as well as the MN DNR and U.S. Army Corps of Engineers as applicable.	County, municipal funding, Possible USDA funding or MN DNR Flood Hazard grant funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	<p>Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County.</p> <p><i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i></p>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	<p>Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure.</p> <p><i>City Comment: Currently we have a new subdivision with retention ponds, which need cleaning every spring. We have seen a rise in rain as we measure for wastewater ponds.</i></p>	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management. <i>(i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.)</i>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern. <i>City Comment: Stockton has rain gardens and native grasses in places which were installed in 2007.</i>	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities
53	Flooding	Natural Systems Protection	Work with property owners to clean out/remove debris, overgrowth of vegetation, obstructions from riparian corridors of streams in areas with higher incidence of flooding.	New	High	2018-2022	Winona County Elba, Goodview, Minnesota City, Rollingstone, St. Charles, Stockton , Winona	Winona County Planning, SWCD, MN DNR, and Watershed Districts	This is an ongoing effort of Winona County Planning, SWCD, MN DNR, and our Watershed Districts as we respectively work in our programs to educate and work with property owners on localized flood mitigation measures. Outreach is commonly conducted through newsletters and direct outreach during our summer growth periods and following periods of heavy storms that will result in problematic downed vegetation.	County, municipal funding, SWCD, MN DNR

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	<p>The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.</p> <p><i>City Comment: During high rain events we have had a loss of creek embankments, which is mainly on private properties. This sort of erosion leads to the clogging up of culverts/bridges, resulting in fixes by the City or County.</i></p>	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Stockton Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton , Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance. <i>City Comment: This is built into Stockton's Water Ordinance.</i>	County, municipal funding

Table G - 10. Mitigation Actions Identified for Implementation by the City of Utica (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding). <i>City Comment: The City has a Comprehensive Plan and zoning ordinance that governs land use within the city. In our next plan update the City will work to review the Comp Plan to include considerations for mitigation (i.e., flooding).</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management, WC Community Services & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Utica , Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower. The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/ summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.</p>	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Highway Dept., City Highway/Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MNDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> • Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. • Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona, All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC, WC Highway Dept. in coordination with municipal Public Works/ Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events.	Municipal funding

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process. Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County. <i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure. <i>City Comment: After the 2007 flood we did culvert work and installed a backup generator for our pumping station.</i>	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management (<i>i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.</i>)	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Utica Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica , Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Table G - 11. Mitigation Actions Identified for Implementation by the City of Winona (2018-2022) (From Winona County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
1	All-Hazards	Mitigation Preparedness & Response Support	Continue to ensure that all Winona County residents are aware of and sign-up for the County's Emergency Notification System.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Sheriff's Office / WC Emergency Management & City Emergency Managers	Currently the County has CodeRed in place, but is transitioning to RAVE. A link for the Winona County CodeRed Emergency Alert System for community sign up is provided on the County website, and reminders are also posted using the Sheriff's Office Facebook Page. All municipalities within the County are encouraged to promote sign up for the CodeRed system using their means of public outreach (websites, social media, and local TV/news media). <i>City Comment: The City encourages residents to sign up for the County's CodeRed system. We can activate cell-based emergency notifications.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Education & Awareness Programs	Continue to ensure that local elected officials, city emergency managers, and other key staff receive emergency preparedness education & training to understand principles of the Incident Command System (ICS) and their roles and responsibilities during an emergency.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with City EM's and local government	The WC Emergency Management Program is in a state of growth with the hiring of a new Emergency Management Director in 2018. Providing training and education to key county and city personnel will be a part of our EM program. Local jurisdictions and key response partners will also be engaged in annual exercises (i.e., tabletop, functional, and full-scale).	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
4	All-Hazards	Local Planning & Regulations	Continue to develop/update County/City Emergency Operation Plans to ensure that they adequately detail the needed steps of personnel to respond to all-hazards.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers; also Winona County Public Schools & Universities	Winona County maintains an Emergency Operations Plan (EOP), which is designed as a guide for emergency operations. It is intended to assist key county/city officials and emergency organizations to carry out their responsibilities for the protection of life and property under a wide range of emergency conditions. The Winona County EOP is updated on an annual basis to address new HSEM MNWALK requirements. Public Schools, Universities, and municipal governments within Winona County also work to annually update jurisdictional or facility emergency response plans.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
7	All-Hazards	Local Planning & Regulations	Update County/City Comprehensive Plans and Zoning Ordinances to include mitigation considerations that help to reduce risk from natural hazards. Utilize data of past hazard events and future climate projections to help inform updates.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning Depts.	Winona County has a "2040 Comprehensive Plan". WC Emergency Management and WC Planning & Environmental Services will encourage local cities to update Comp Plans to include considerations for mitigation in land use planning in order to reduce future risk to due to natural hazards (i.e., flooding). <i>City Comment: We have a 10 to 15 year Comprehensive Plan (2007) that is designed to plan for future physical growth of the city and appropriate land uses.</i>	County, municipal funding
8	All-Hazards	Local Planning & Regulations / Structure & Infrastructure Projects	Identify and implement hardening measures for the protection of critical facilities to better withstand disaster events. <i>(i.e., Public Safety facilities, Government Buildings, Water Treatment Plants)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. & Municipal Planning / Public Works Depts.	Winona County and local cities will work to identify and evaluate potential hardening measures (i.e. upgrades or retrofits for wind, lighting, or security) to critical infrastructure. The Garvin Heights Public Safety Tower site was recently updated with secure building and fencing.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on all-hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Information is distributed to the public via the Sheriff's Office Facebook page. Additional information is provided during the NWS severe weather awareness weeks in spring and winter. Local jurisdictions, schools, and universities and are encouraged to share information through their own existing channels (i.e., websites, social media, and local TV/news media).	County, municipal funding
10	All-Hazards	Local Planning & Regulations	Develop/enforce building codes and inspection programs to ensure the design and construction of structures meet minimum standards for public safety.	Ongoing	Low	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & Municipal Planning & Zoning Depts.	Currently Winona County has no building code, and thus no enforcement program in the unincorporated areas of the County. Most incorporated cities have building codes and inspection and work to keep codes up to date and enforced.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
14	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place for Fire Departments and regional Emergency Management Services.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Utica, Winona	Municipal fire districts & WC Emergency Management, in coordination with HSEM Region 1	Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements in place for fire & hazmat response. In HSEM Region 1, (which covers Winona County), Winona County participates in an Emergency Management mutual joint powers board agreement (due for renewal in 2018).	Fire District funding, County funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
15	All-Hazards	Local Planning & Regulations	Continue to encourage/provide support to facilities that care for vulnerable populations to develop emergency plans for evacuation, sheltering, or other protection in the event of threat or hazard events as per Federal and State requirements.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & WC Community Services in coordination with City Emergency Managers & individual care facility mgrs.	Winona County Community Services has engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition. Facilities that care for vulnerable populations (i.e., nursing homes, hospitals, medical clinics, and hospice facilities) are required by federal law (CMS – Centers for Medicare & Medicaid Services) to meet certain requirements for emergency planning, equipment (generators), and exercises. Family daycare facilities and other types of group homes are also responsible to develop emergency plans under separate State Statute requirements. (MN State Statute 245A.51 Subdivision 3 and 245A.04 Subdivision 15).	County funding and individual facility funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's annual Winter Weather Awareness Week in the fall and Severe Weather Awareness Week in the spring to improve local residents' understanding of storm hazards and personal readiness measures.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	This is an ongoing effort of WC Emergency Management. Public outreach is conducted using the Sheriff's Office FB page and local media to educate residents on the dangers of severe winter and summer storms and highlight the importance of preparing for severe weather before it strikes. Local cities as well as schools are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
17	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote the use of NOAA weather radios by residents, schools, businesses, and facilities that house vulnerable populations.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management, WC Community Services & City Emergency Managers	WC Emergency Management and local municipalities promote the use of NOAA weather radios by critical facilities and the public to receive information broadcast from the National Weather Service. NOAA weather radios are recommended as an important way to receive emergency weather alerts from the NWS.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	<p>Identify critical facilities or infrastructure that do not have generator backup power in the event of a major power outage resulting from severe winter or summer storms.</p> <p><i>(Examples of critical facilities include Police/Fire departments, EOC's, health care facilities, water & sewer treatment facilities, and other facilities deemed as critical, i.e. public schools and sheltering facilities).</i></p>	New	High	2018-2022	<p>Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona</p>	WC Emergency Management & City Emergency Managers	<p>Since 2007, Winona County has installed backup generators at all 4 county highway facilities, as well as the Garvin Heights Public Safety Tower. The County's current priorities for generator backup power include:</p> <ul style="list-style-type: none"> • Public Safety facilities (Fire Halls, Police Stations) • Government buildings without backup power • Designated mass-care shelter facilities. <p>Local jurisdictions and schools/universities are responsible to identify their respective critical facilities that should have backup power and seek funding for purchase of needed equipment.</p> <p><i>City Comment: The City wants to obtain backup power to flood pump.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
19	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that should have backup power.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	Winona County, local city governments, and schools will evaluate feasibility to purchase and install generators for key facilities, and will do so as funding allows.	County, municipal funding, Possible FEMA HMA grant for Generators

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural / municipal electrical cooperatives or power companies to reduce overhead exposure of power lines that are vulnerable to damage from severe winter/ summer storms (i.e., high winds, ice, and heavy snow). Replace overhead power lines with underground lines in areas with high-risk exposure (i.e. high tree concentration areas).	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Hwy. Depts. in cooperation utility company; WC Planning & Environmental Services, & WC Highway Dept. as appropriate	Winona County and all cities will work as needed with their appropriate utility providers as needed to evaluate areas of concern. Service providers for Winona County include: <ul style="list-style-type: none"> • MiEnergy Cooperative • Peoples Coop Power Assn • St. Charles Municipal Electrical Coop • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense.</p>	Coop / Electric Company funding, Possible FEMA HMA grant for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
21	Severe Winter & Summer Storms	Local Planning & Regulations	Regularly inspect and trim/remove trees as needed near power lines and along roads to reduce power outages and the danger to motorists due to falling trees or tree limbs during severe storms.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC County Highway Dept. and Municipal Public Works, as well as utility companies per service area	Tree management in the right-of-way of roads is addressed by the County Highway Department for county-owned & maintained roads and by municipal public works/roads departments for their respective roads. Utility companies also work to reduce tree hazards along power lines within their service areas. The County, municipalities, and electric companies will work to be responsive to concerns from the public regarding trees that may pose risk and need trimming or removal.	County, municipal funding, Utility Company Funding
23	Severe Winter Weather	Mitigation Preparedness & Response Support	Continue to provide for public safety on roads through snow removal, salting and sanding to minimize the impacts of snow/ice accumulation on roadways.	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., City Highway/Public Works, and MnDOT	Winona County and cities complete the snow removal and disperse sand/salt as needed on roads under their authority. MnDOT will remove the snow from State Highways as well as disperse salt/sand as needed.	County, municipal and MnDOT funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
28	Severe Summer Storms	Local Planning & Regulations / Mitigation Preparedness & Response Support	Ensure the functionality of all warning sirens in the County. Identify gaps in coverage and evaluate areas for installation of new warning sirens.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management & City Emergency Managers	<p>Winona County has warning sirens located throughout the county. The County PSAP and each city participate in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. Warning sirens are owned and maintained by the city where they are located. For severe wind storms or tornadoes we need more sirens in rural areas. Many residents live in back valleys where cell coverage is limited, making CodeRed or IPAWS a challenge to reach them.</p> <p>Winona County Emergency Management will continue to address areas that may need siren upgrades or installation of new sirens. Winona County currently has funds allocated for the installation of a new warning siren at Farmers Community Park.</p> <p><i>City Comment: The City has a city-wide outdoor warning siren system.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
29	Severe Summer Storms	Structure and Infrastructure Projects	Identify community areas (i.e., parks, campgrounds) and facilities (i.e., schools, government buildings, mobile home parks) that are vulnerable to tornadoes and evaluate for potential construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona , All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM, WC Planning & Environmental Services Dept. and municipal Emergency Managers	<p>The following areas are priorities for evaluation for safe room construction or retrofit in Winona County:</p> <ul style="list-style-type: none"> Creation of a safe room with generator to serve Wiscoy, Pleasant Hill, Wilson, and New Hartford townships. The Ridgeway Community School is considering an addition to the school and will evaluate the addition of a community safe room in the plans for new construction. Winona State University is interested to include a safe room in the new construction of their planned Regional Event Center). The University has submitted a Notice of Interest (NOI) to HSEM for the project in 2018. <p>Local city Emergency Managers will also work to evaluate areas of need for storm shelters or safe rooms within their communities.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
30	Severe Summer Storms	Structure and Infrastructure Projects	Implement construction or retrofit projects for safe rooms or storm shelters in identified vulnerable locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona , All Public/Private Schools, Ridgeway Community School & Winona State University	WCEM in coordination with City Emergency Managers	<p>Winona County Emergency Management will work to provide support as needed to any jurisdiction or educational facility that works to implement a community safe room project (new construction or retrofit).</p> <p>Winona County, municipalities or education facilities will submit a Notice of Interest to the State of MN HSEM to evaluate if FEMA grant funding may be sought to support an eligible safe room project.</p>	County, municipal funding, Possible FEMA HMA grant for Safe Rooms

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
31	Severe Summer Storms	Education & Awareness Programs	Post information in County public recreation areas (i.e., parks, trails, and campgrounds) on storm shelter access and/or safety measures to take in the event of severe storms.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Emergency Management in coordination with Municipal Parks & Rec Depts.	Many County and City public parks, campgrounds, and trail areas have informational signage or interpretive areas. Information can be posted in areas as applicable on the location of existing storm shelters or recommended precautions to take in the event of severe weather while using the area. Privately owned campgrounds will also be encouraged to post information as applicable for their facility.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
37	Flooding	Local Planning & Regulations	Continue to enforce and update local floodplain ordinances and participate in the National Flood Insurance Program.	New	High	2018-2019	Winona County, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	WC Planning & Environmental Services, WC Information Technology, and Municipal Planning depts.	<p>New floodplain maps for Winona County are under development by the MN DNR. The new effective map date is planned for 2019. Winona County and most cities participate in the NFIP and have floodplain ordinances in effect. <i>(The Cities of Altura and Utica do not participate as they do not have mapped FEMA high risk areas.)</i> When the new FEMA floodplain maps are completed and adopted the County and local jurisdictions will update their local floodplain ordinances.</p> <p><i>City Comment: The City has a floodplain ordinance and participates in the NFIP.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
42	Flooding	Natural Systems Protection	Work to repair and improve ditches & culverts within the County to increase drainage capacity and avoid over-the-road flooding.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC, WC Highway Dept. in coordination with municipal Public Works/Highway Depts.	The WC Highway Dept. works to identify and address problem areas along County maintained roads. Municipalities also work to monitor and improve culverts (i.e., re-sizing) and ditches that are impacted by sedimentation in order to reduce localized flooding.	County, municipal funding
43	Flooding	Natural Systems Protection	Conduct in-stream & near-stream vegetation debris removal to support un-obstructed water flow.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	Municipal Public Works/Highway Dept.	Local municipalities will continue to monitor and address vegetation management for key streams to avoid over-bank topping during high rain events.	Municipal funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
45	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may pose risk to the public water supply.	Ongoing	High	2018	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, MDH and city public works depts.	All public water supply systems in Winona County have undergone some level of testing and wellhead protection assessment with the large community public systems having completed Wellhead Protection Plans, Source Water Assessments, and are in the process of implementing the elements of their plans. Minnesota Rules Chapter 4720 specifies the requirements for developing a Wellhead Protection Plan. Wellhead protection requirements vary depending on the type of the public water supplier. The Minnesota Dept. of Health assists public water suppliers with preparing and implementing wellhead protection plans.	MDH Source Water Protection grant funding for wellhead improvement projects

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
46	Flooding	Structure and Infrastructure Projects	Identify and prioritize roads or bridges within the County that experience repetitive flooding and plan for mitigation measures to reduce flood-related risks.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Highway Dept., WC SWCD, and City public works / highway depts. and Watershed Districts	Winona County maintains a 5-year Road and Bridge Capital Improvements Program document that identifies proposed projects and their funding source. The CIP is updated and approved by the county board annually as part of the budget process. Municipal public works/highway depts. also maintain an inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding. <i>City Comment: The City has a City Engineer and Director of Public who work to facilitate repairs or improvements to the storm sewer system.</i>	County, municipal funding, Possible FEMA HMA grant for Localized Flood Reduction Projects / Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
47	Flooding	Local Planning & Regulations / Structure and Infrastructure Projects	Construct new or certify existing dikes, levees, or floodwalls to provide localized storm water control and protection of critical facilities or property at risk to flooding.	New	High	2018-2022	Winona County, City of Elba City of Stockton, City of St. Charles City of Winona	US Army Corps of Engineers, MN DNR, in coordination with municipal Public Works Depts. and Watershed Districts	<p>This work applies to individual municipalities as well as the MN DNR and U.S. Army Corps of Engineers as applicable.</p> <p><i>City Comment: We are in the process of certifying our flood control levee systems to protect against the 1% flood event. We are also evaluating removal of levee easement encroachments that limit maintenance access on the Flood Control system.</i></p>	County, municipal funding, Possible USDA funding or MN DNR Flood Hazard grant funding

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
48	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Develop stormwater management plans & ordinances including for areas of new development and installation of infrastructure capable of handling an appropriate rain event. Implement measures to improve flood/stormwater control systems throughout Winona County. <i>(Mitigation examples may include to construct, retrofit, or maintain drainage systems to include sewage and water retention and detention systems.)</i>	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services, WC Information Technology & municipal Planning/Public Works depts.	Winona County is currently mapping all basins, but does not have a stormwater management plan. Local municipalities are encouraged to update and implement local stormwater management plans to reduce future risk of flooding and impacts to municipal infrastructure. <i>City Comment: The City has a storm water utility in place for funding storm water and flood control measures.</i>	County, municipal funding, SWCD, SRMC WD, and Possible MPCA/PFA grant funding. Possible FEMA HMA grant for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
49	Flooding	Local Planning & Regulations	Identify residential, commercial, government facilities, and/or critical infrastructure properties that may experience damage from future flooding and work to implement appropriate mitigation measures (including buy-out for property acquisition & structure demolition or relocation). Areas of focus may include previously unidentified flooding locations.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z	As episodes of high rain and flooding events become more common, Winona County and municipalities will work to identify properties that experience damage from flooding and work with the property owner to explore potential buy out of property.	County, municipal funding, Possible FEMA HMA grant for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
52	Flooding	Local Planning & Regulations / Structure & Infrastructure Projects	Plan for and implement the installation of green infrastructure at County / City public facilities to improve stormwater management. <i>(i.e., Install infiltration systems/basins such as rain gardens targeted in areas where flood volume and rate needs to be controlled; Reduce the amount of impervious surfaces of existing or new construction.)</i>	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services & municipal Admin / P&Z, WC SWCD	This is a growing area of focus in stormwater management by Winona County as well as local cities. The Winona County SWCD and University of MN Extension are able to help provide technical assistance for assessment of projects in areas of concern.	County, municipal funding, possible MN DNR Flood Hazard Mitigation grants, USDA grants or loans, and possible FEMA HMA grant for Climate Resilient Activities
53	Flooding	Natural Systems Protection	Work with property owners to clean out/remove debris, overgrowth of vegetation, obstructions from riparian corridors of streams in areas with higher incidence of flooding.	New	High	2018-2022	Winona County Elba, Goodview, Minnesota City, Rollingstone, St. Charles, Stockton, Winona	Winona County Planning, SWCD, MN DNR, and Watershed Districts	This is an ongoing effort of Winona County Planning, SWCD, MN DNR, and our Watershed Districts as we respectively work in our programs to educate and work with property owners on localized flood mitigation measures. Outreach is commonly conducted through newsletters and direct outreach during our summer growth periods and following periods of heavy storms that will result in problematic downed vegetation.	County, municipal funding, SWCD, MN DNR

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
54	Erosion	Local Planning & Regulations	Establish/enforce ordinances to regulate land use that causes excessive erosion / sedimentation.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services and Municipal Planning Depts.	Winona County has an erosion ordinance in place. Municipalities are responsible to develop and enforce local ordinances as needed in their communities.	County, municipal funding
58	Erosion / Landslides	Natural Systems Protection / Structure and Infrastructure Projects	Improve the stabilization of steep hillsides or banks to reduce impacts to roads, natural resources, and recreation areas from erosion and slope failure.	Ongoing	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC SWCD, WC Highway Dept., WC Planning & Environmental Services & municipal Public Works/Roads Depts.	The Winona County SWCD, WC Highway Dept., and WC Planning & Environmental Services Dept. work together and with local municipalities public works/roads departments to identify and address problem areas for erosion control & slope stabilization along roads.	County funding, SWCD State Cost-Share Program, and Possible FEMA HMA grant for Slope Stabilization

#	Hazard	Mitigation Strategy	City of Winona Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
59	Erosion / Landslides	Local Planning & Regulations / Natural Systems Protection	Reduce the risk of erosion and landslides in areas of new development on blufflands.	New	High	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. / Municipal Planning / Public Works depts. in coordination with WC SWCD and watershed organizations.	Winona County continues to experience increased pressure on bluffs for construction of new homes. Measures the County may take to reduce erosion and landslide potential are to include creating up-hill pressure reduction plans, require engineering drawings, and conduct post-construction inspections to ensure compliance with building codes. The County and individual cities will work with the SWCD and Watershed Districts as needed to identify areas of highest priority concern.	County, municipal funding
62	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought, and enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	Moderate	2018-2022	Winona County, Altura, Dakota, Elba, Goodview, Lewiston, Minnesota City, Rollingstone, St. Charles, Stockton, Utica, Winona	WC Planning & Environmental Services Dept. in coordination with municipal planning depts.	Promoting water conservation during periods of drought is a standing effort of the County and local governments. The State of MN has a stateside drought response plan prepared by the MN DNR that the County may reference for guidance.	County, municipal funding

Appendix H

Past Mitigation Action Review

Status Report (2012-2017)

Following is a report on the status of each of the mitigation actions that were included in the 2012 Winona County multi-hazard mitigation plan. This report meets the following FEMA crosswalk requirement:

D2. Was the plan revised to reflect progress in local mitigation efforts? (44 CFR 201.6 (d)(3))

*The plan **must** describe the status of hazard mitigation actions in the previous plan by identifying those that have been completed or not completed. For actions that have not been completed, the plan **must** either describe whether the action is no longer relevant or be included as part of the updated action plan.*

COMPLETED

(All-Hazard) GPS Critical Facilities. *Yes, task complete.*

(All-Hazard) Private water supply protection including well sealing, well hardening and repair to meet well code. *Ordinances in place.*

(All-Hazard) Private water supply protection through decontamination/disinfection of wells. *Water testing is offered, and advice is given to homeowners. Pre-code wells are inherently susceptible.*

(Flooding) Update of FIRM (floodplain) maps in critical flood hazard areas. *Draft completed.*

(Flooding) Adoption of Storm water and Erosion Control Ordinances. *Completed.*

NOT COMPLETED (DELETE)

The following mitigation actions from the 2012 MHMP have been deemed as not relevant and will be removed from the plan update.

There are no mitigation actions identified to delete from the last plan.

NOT COMPLETED (ONGOING/KEEP FOR PLAN UPDATE)

The following mitigation actions from the 2012 MHMP have not been completed, have been deemed as still relevant and will be carried over into the plan update. Actions will be revised as necessary.

(Flooding) Development of multiple methods for warning residents of hazards including countywide AM/FM radio station, distribution of NOAA Weather Radios (letter sent to campgrounds to get one), and cell phone coverage in areas with no present coverage. Warning sirens additions, and education/outreach. *Ongoing. There were funds allocated in 2017 to install a new warning siren at Farmers Park. (Maybe not? Jeff M) 2) Stockton still a dead zone – tower was planned for there, but there are technical issues – check w/Bethany) 3) Did Elba get one? A new siren at Whitewater SP?*

(Flooding) Technical assistance and administration to survey, design agricultural conservation/water retention structures. *Ongoing. SWCD does this as funds are available, but funds are not forthcoming.*

(Flooding) Update floodplain management ordinances to ensure consistency with FEMA and MN DNR requirements. *Ongoing. Is continually being reviewed; floodplain ordinance is up to date. Will be updated when new flood maps are completed.*

(Flooding) Repair of new? water retention structures in agricultural areas. *Ongoing. Just now inventorying existing grade stabilization structures (designed to mitigate 10-15 yr rain events)*

(Flooding) Adoption of National Flood Insurance Program by all jurisdictions not currently participating. *Ongoing. Every community is participating.*

(Flooding) Public education about floodplain, management ordinances, risks associated with living in the floodplain and benefits of purchasing flood insurance. *Ongoing. One-on-one education, responding to inquiries*

(Wildfire) Assessment/purchase of water storage/access for refilling fire trucks. *Ongoing. Still a need in Winona County.*

(Wildfire) Identify structural/retrofit/vegetation management projects. *Nothing at present. Check with DNR.*

(Wildfire) Implement Fire wise Program. *Ongoing. Little work done on this to date.*

(Karst) Public Information on Groundwater Protection, including buffers. *Ongoing, but limited.*

(All-Hazard) Fire Depts. & Emergency Management Services Mutual Aid and Hazardous Materials Services Agreements. *I would say this is completed but is also ongoing as updates are needed. Region 1 Emergency Management mutual joint powers board agreement is due for renewal in 2018 so this should be left. The renewal process just started. Winona County Fire Departments belong to the Tri-County Firefighters Association and have mutual aid agreements though this.*

(All-Hazard) GIS Analysis of Emergency Services Response Times to Determine Response Areas. *Ongoing. I do know that there were some updates to service areas completed. I do not believe that there*

was ever an analysis done for response times though. This should be left as ongoing though in case more updates are needed

(All-Hazard) Public Awareness and Education Program on Hazard Mitigation Activities for All Hazards. *Leave as ongoing.*

(All-Hazard) Critical Facilities Hardening. *Ongoing. The Garvin Heights Public Safety Tower site was updated with secure building and fencing. There are more facilities that could use improvements though.*

(All-Hazard) Assessment and development of all-hazard shelters. *Ongoing.*

(All-Hazard) Adoption of building code and inspection program. *County has no building code, and thus no enforcement program in the county; most incorporated cities have building codes and inspection. So leave as ongoing for local jurisdictions.*

(All-Hazard) Development of GIS decision support system that would include updating spatial and non-spatial data (such as Karst features and landslide vulnerabilities), modeling, project cost benefit evaluation? Clarification) and hazard event record storage including substantial damaged structure information. *GIS worked with EM to implement damage assessment and dashboard processes. They also created an EM application that was shared with fire departments and first responders across Winona County. The county is using GIS with the dispatch and 911 for decision support. This should be left as ongoing though as all this information needs to be updated/improved.*

(All-Hazard) Backup generators for protection of public services. *This was completed at the Garvin Heights Public Safety tower. It should be left as ongoing though as other areas have need for this.*

Since 07, county installed backup generators at all 4 co hwy facilities. Needed at new St. Charles center?

(All-Hazard) Review and evaluate opportunity for implementation of the Community Rating System. *Unknown*

(All-Hazard) Expand the local awareness and utility of the National Grid. *Work was done on this between EM and GIS but should be left as ongoing as it is not implemented. However, the state standardization of the 911 function that is currently in process has overtaken our efforts to date.*

(All-Hazard) Work closely w/cities and townships to support achievement of their mitigation goals. *Leave as ongoing.*

Appendix I

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Works Cited

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Appendix J

Winona County Plans & Programs in Place

Planning & Regulatory

Plans/Programs	Yes/No
Comprehensive/Master Plan	Yes
Capital Improvements Plan	Yes
Economic Development Plan	No
Emergency Operations Plan	Yes
Continuity of Operations Plan	In place; not formalized
Transportation Plan	No
Stormwater Management Plan	Not the County. But City of Winona has MS ₄ permit; Co is now mapping now all basins
Community Wildfire Protection Plan	No
FireWise Program	Yes
Water Conservation/Emergency Preparedness Plan	Not applicable here?
Wellhead Protection Plans	Yes
Database of dry hydrants/well access	No. Only In fire dept's brains
Burning permits/restrictions	Yes
Water Management Plan	Yes
Zoning ordinance	Yes
Subdivision ordinance	Yes
Floodplain ordinance	Yes
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Blufflands/Steep Slope Ordinance. Regulations regarding stormwater; land alteration; timber harvesting; karst features
Flood insurance rate maps	Yes
Acquisition of land for open space and public recreation uses	No
School closing policy/communications plan in event of inclement weather/temperatures	Yes, all districts do
Storm shelters (list all locations)	Unknown
Warning sirens (list all locations)	Yes mapped in GIS
SKYWARN Program	Yes; are volunteers
CodeRED Mass Notification System	Yes, but transitioning to RAVE
Severe Weather Awareness Week	Yes
Winter Weather Awareness Week	Yes
NOAA Weather Radios	Yes
THIRA	Yes
Other <i>*please describe</i>	I-Paws

Administrative & Technical

Administration	Yes/No
Planning Commission	Yes
Mitigation Planning Committee	Yes
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Yes
Mutual aid agreements	Yes
Staff	Yes/No
Chief Building Official	No; Co has no building code
Floodplain Administrator	Yes
Emergency Manager	Yes
Community Planner	Yes
Civil Engineer	Yes
GIS Coordinator	Yes
Technical	Yes/No
Warning systems/services (Reverse 911, outdoor warning signals)	Yes
Hazard data and information	Yes
Hazus analysis	Unsure

Education & Outreach

Program/Organization	Yes/No
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes/No/No
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Yes
Natural disaster or safety related school programs	Yes
StormReady certification	No
Firewise Communities certification	Unknown
Public-private partnership initiatives addressing disaster-related issues	Unknown

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Appendix K

Local Mitigation Capabilities

Assessment Report

As part of the 2018 Winona County Multi-Hazard Mitigation Plan update, city and township jurisdictions as well as County departments were invited to respond to a "Local Mitigation Capabilities Assessment" (LMCA) questionnaire to provide information about the current capabilities they have in place to support hazard mitigation, as well as any identified gaps or deficiencies. Information from the LMCAs was used to assist in developing new mitigation actions for the 2018 plan update. Following are the responses from those departments or jurisdictions that participated.

WINONA COUNTY SHERIFF'S OFFICE

Submitted By: Ron Ganrude, Winona County Sheriff

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- Emergency management is not my expertise. I have very limited knowledge and relied upon the Emergency Management director and his staff of volunteers. He resigned in June, 2017 and has not been replaced.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- On Jan. 9, 2018 the County Board voted to hire a fulltime Emergency Management Director. Our previous director was E.M. Director/Dispatch Supervisor.

Q3. What programs are in place to help accomplish mitigation in your community?

- No answer

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The County Board Chair declared a State of Emergency in June 2017 after two storms caused flooding and roadway damage. We applied for state monies.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- No answer

WINONA COUNTY PLANNING & ENVIRONMENTAL SERVICES DEPARTMENT

Submitted By: Lew Overhaug, Land Use Planner

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- We have a 10-year Comprehensive Plan (2014 - 2024) that is designed to plan for the future physical growth of the County and appropriate land uses.
- We have a County Planning and Zoning Commission that has established a Floodplain Ordinance. The County participates in the National Flood Insurance Program (NFIP).
- The Stockton, Rollingstone, MN City Watershed District was established primarily to address flooding. They have a 10-year plan (2011-2021) that addresses flooding, water quality, and soil erosion and sediment control.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- We have a Zoning Administrator / Floodplain Manager, Water Planner, and other planning staff.
- We have the Stockton, Rollingstone, MN City Watershed District Board that the County appoints and helps administratively.

Q3. What programs are in place to help accomplish mitigation in your community?

- The County participates in the National Flood Insurance Program (NFIP).
- The County Water Planner educates farmers about soil health and conservation measures that improve water infiltration.
- The watershed district helps to fund projects that hold water on land and increase resiliency of the environment.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The County has worked with state and federal partners to address mitigation efforts following past disaster events such as the flood of 2017.
- The Stockton, Rollingstone, MN City Watershed District in cooperation with County and SWCD staff offer a cost share program that provides financial assistance to land owners who wish to install erosion control measures that help keep storm water from running off.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- Communities (especially small communities) that see repetitive flooding events need technical assistance and funding opportunities to prepare long term community recovery plans that compliment buy-outs and help a community recover and grow in a more sustainable direction.

WINONA COUNTY – COMMUNITY HEALTH SERVICES

Submitted By: Jill Johnson, Interim CHS Administrator

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- We have a Winona County Public Health Emergency Response Plan that outlines the response actions of the County Health Department.
- We have a Winona County Community Services Risk Communication Protocol that guides the risk communication(s) coming from our office during a health incident.
- We have a Winona County Community Services Pandemic Influenza Plan that addresses plans for an “off-site” clinic in the event of an influenza pandemic.
- We have a Winona County Community Services Mass Dispensing Plan that supports the actions involved in a mass dispensing of medications associated with a disease outbreak or release of a pathogen.
- We have a Winona County Strategic National Stockpile Site Security Plan to support activities around the activation of the Strategic National Stockpile (SNS) and the security of the SNS assets.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- Public Health Nurses
- Social Workers
- Support Staff
- Community Services CHS Administrator
- GIS Specialists
- Emergency Manager

Q3. What programs are in place to help accomplish mitigation in your community?

- HAN (MN Department of Health: Health Alert Network).

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- Emergency Preparedness Grant Funds.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- Staff Capacity.

CITY OF ALTURA, MN

Submitted By: Sandra Pasche, City Clerk

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- The City has a disaster plan in place that outlines responsibilities and procedures for Fire Department duties, Unified Command Post, Communications, Staging Area, Shelter Areas, Agencies to Contact, Mutual Aid Partners, Evacuation Sites, and Equipment Resources.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The City has a City Council, volunteer Fire Department, and Ambulance service personnel.

Q3. What programs are in place to help accomplish mitigation in your community?

- City of Altura zoning and land use planning by City Council.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- None beyond our regular city operating budget.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- Unknown.

CITY OF DAKOTA, MN

Submitted By: Lana Gerlach Clerk-Treasurer

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- The City has an Emergency Preparedness Manual containing protocol, local contact information and resources available.
- The City has a mapped evacuation route in the event of an incident.
- The Bill Grant Community Center is a designated emergency shelter equipped with a backup generator.
- The City has an agreement with St. John's School in Nodine, MN to use their facilities in the event the community center cannot be used.
- The City has a siren to alert residents for severe weather events.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The City has a designated Emergency Management Director who would work directly with the Fire Chief.

Q3. What programs are in place to help accomplish mitigation in your community?

- The City encourages all citizens to register for Code Red.
- The Fire & Rescue Department distributes information to encourage residents to plan safe escape procedures in the event of fire or other emergencies.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The City has worked with Winona County to acquire an early warning siren.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- The City needs to review and update their emergency preparedness manual more frequently.

CITY OF ELBA, MN

Submitted By: Jay Mollert, Mayor

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- The City participates in a National Flood Insurance Program currently.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The Mayor and the City Council work together to address these issues as they arise.

Q3. What programs are in place to help accomplish mitigation in your community?

- We are connected to the State Park's flood control warning system, via siren. Our residents are warned in the event of potential flooding.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The City has worked with State and Federal partners to address mitigation efforts following past disaster events.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- We need to update our Comprehensive Plan to address greater hazard mitigation.

CITY OF GOODVIEW, MN

Submitted By: Mr. Dan Matejka, City Administrator

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- In 2018 the City will be developing a Comprehensive Plan that will be designed to plan for the future physical growth of the City and appropriate land uses.
- We have a Floodplain Ordinance, and we participate in the National Flood Insurance Program.

- The City has developed its own Emergency Operations Plan (EOP) specifically for the City, which includes evacuation shelters and post-incident shelters.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- We have an EOP committee which includes two Council members.
- Our City Administrator is the City's designated Emergency Manager.
- We have a City Engineer and a Director of Public Works that addresses road maintenance issues for potential flooding.

Q3. What programs are in place to help accomplish mitigation in your community?

- City residents can participate in the County's CodeRed program.
- The City participates in the annual Severe Winter/Spring Weather Awareness Week.
- Our local elementary school practices tornado drills on an annual basis.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The City has worked with state and federal partners to address mitigation efforts following past disaster events such as the August, 2007 flood event.
- Our City belongs to the MNWARN program.
- The City annually budgets, although nominal in nature, dollars to help fund safety related items.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- More training, including live and table-top drills, for all City staff (not just Emergency personnel) as it relates to hazard mitigation. This would also relate to available funding for such training.

CITY OF LEWISTON, MN

Submitted By: Matt Essig, Ambulance Director/Safety Coordinator

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- We have a 10-year Comprehensive Plan (2010) that is designed to plan for the future physical growth of the city and appropriate land uses.
- We have an annual transportation plan to address road improvement projects that include culvert and drainage improvements to reduce over-the-road repetitive flooding.
- The City works with our 2 mobile home parks to be in compliance with the Minnesota Department of Health requirements to plan for the evacuation and sheltering of the residents of the park in times of severe weather such as tornadoes, high winds, or floods.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- Our Mayor is the City's designated Emergency Manager.
- We have a City Engineer and a Public Works Supervisor that addresses road maintenance issues for flooding (culverts, repetitive flooding).

Q3. What programs are in place to help accomplish mitigation in your community?

- The County has an Emergency Alert System that residents can sign up for.
- The City participates in the NWS annual Severe Winter/Spring Weather Awareness Week.
- Our school practices tornado drills on an annual basis.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The City has worked with state and federal partners to address mitigation efforts following flooding on County Rd. 106 in 2007 which put our lift station at risk. This flood proofing project was completed in 2012.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- Lack of funding.
- Our City's Median Household Income is too large which results in challenges obtaining grants.
- We need to update our Comprehensive Plan to address greater hazard mitigation, i.e., Flooding.
- Mobile Home Park Owners have had turnover and we lost communication.

Submitted By: Donald O'Neil, Mayor

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- The City cleans dirt and sand from roads, culverts, and ditches.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The City Council, Fire Department, and private contractors.

Q3. What programs are in place to help accomplish mitigation in your community?

- The City has an emergency alert system.
- The fire department has monthly emergency training.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The City worked with NRCS after the 2007 flood on a creek bank repair.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- Two of the box culverts in Garvin Brook washed out during the 2007 flood. Heavy rains have filled the remaining culverts with silt. No repairs have ever been made.
- The box culverts that washed away in Garvin Brook were the only emergency route in the event of a train derailment. The City has no emergency escape route at the east end of the city.

CITY OF ROLLINGSTONE, MN

Submitted By: Jamie Hengel, Clerk/Treasurer

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- Our City has a 20-year Comprehensive Plan (2014) that is designed to plan for the future growth of the city and appropriate land uses.
- Our City has a Planning and Zoning Commission that has established the Rollingstone Bluffland Ordinance.

- The Public Works Supervisor, along with the City Council, keep a maintenance to do list to address road improvement projects that include culvert and drainage improvements to reduce over-the-road repetitive flooding.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The City has a Public Works Supervisor that addresses road maintenance issues for flooding.
- The City Council has appointed an Emergency Service member.
- The City Council has appointed an Emergency Management Director.

Q3. What programs are in place are in place to help accomplish mitigation in your community?

- The Rollingstone Community School practices tornado drills on an annual basis.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The City has participated in hazard mitigation in the past. With participation, the City is eligible to receive FEMA hazard mitigation assistance and grants.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- We would like to know more about different types of funding and other resources available to our city.

CITY OF ST. CHARLES, MN

Submitted By: Nick Koverman, City Administrator

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- We have a 20-year Comprehensive Plan (2011) that is designed to plan for the future physical growth of the city and appropriate land uses.
- We have a City Planning and Zoning Commission that has established a Floodplain Ordinance. The City participates in the National Flood Insurance Program (NFIP).
- We have an annual stormwater management plan to address road improvement projects that include culvert and drainage improvements to reduce over-the-road repetitive flooding.

- Work with the DNR to conduct stream debris removal projects, etc.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The City Council includes a Public Safety Committee.
- Our Mayor is the City's designated Emergency Manager, which has been delegated to the City Administrator.
- We have a City Engineer and a Public Works Director that addresses road maintenance issues for flooding (culverts, repetitive flooding).
- We have a municipal utility crew on-call 24/7 to help in planning and projects that mitigate threats to our electrical system.
- We have a 30 member certified volunteer fire department along with a 19 member Emergency Services (ambulance) crew with two responding units.
- We have 24 hour police protection.

Q3. What programs are in place to help accomplish mitigation in your community?

- The City takes part in the Winona County Emergency Alert System that residents can sign up for on our website.
- Our school practices tornado drills on an annual basis.
- The City takes part in the Winona County All-Hazard Mitigation Plan.
- We have mutual aid agreements in place with surrounding fire and ambulance departments and Minnesota Municipal Utility Association (MMUA).

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The City has worked with state and federal partners to address mitigation efforts following past disaster events such as the July, 2016 severe wind event, and the 2007 flood.
- Annual budgets reflect stormwater improvements and mitigation efforts, in addition to new construction/repairs of electrical services.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- The City needs additional funding to continue stormwater mitigation efforts as the fees generated do not keep up with pond, ditch, or culvert repair and/or replacement.
- Storm shelters are inadequate for the size of the community and have not kept pace. Additional support to construct or retrofit existing facilities would be a need.

- Additional access to funds for electrical improvements to move from overhead to underground.
- Because of the burden on the budget to cover as many pieces as possible, the cleaning of storm retention ponds has been difficult to manage and keep up with. Ponds are one of the essential ways we help to slow and process water through our community and as the number of ponds continues to grow, it is becoming increasingly more difficult to repair among other things the two main drainage ditches that divert the majority of water through town as well as repair and maintain culverts.

CITY OF STOCKTON, MN

Submitted By: Bethany Winchester, Clerk-Treasurer

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- Redid our 30-year comprehensive plan, which now has a strategic plan that gets assessed every 5-years.
- Have a flood plain ordinance, though old, will be getting an updated version this year. The City is part of the NFIP.
- There is a 5-year plan to update road improvement projects
- The City does have a Flood plan in place, if FEMA can the City can come up with the money to do the project.
- City also has an Emergency plan that will be utilized during our next natural disaster.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- We do have an Emergency director on staff, and City Engineer to help with flooding issues. My council is well aware of the emergency plan.

Q3. What programs are in place to help accomplish mitigation in your community?

- County has an Emergency Alert system that the City urges our residents to sign up for.
- City has the emergency plan that does get practiced during the Spring Weather Awareness week.
- City is enrolled in the NFIP.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- City has worked with State and Federal organizations after the Flood of 2007.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- The City's flood map and ordinance need to be updated
- City is looking for stream gauge monitors, and money to help buy them
- City does have a flood mitigation plan in place, but not the money to do the project.

CITY OF UTICA, MN

Submitted By: Cynthia M. Timm, City Clerk

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- The City has a comprehensive plan and zoning ordinance that governs land use within the city.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- As a small city, City Council members handle such matters.

Q3. What programs are in place to help accomplish mitigation in your community?

- None in place at this time.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The City applied for state grant money after the 2007 flood when we needed to do culvert work and also install a backup generator for our pumping system.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- The City should be reviewing comprehensive plan (to include considerations for mitigation).

CITY OF WINONA, MN

Submitted By: Keith Nelson, Director of Public Works

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- We have a 10 to 15 year Comprehensive Plan (2007) that is designed to plan for future physical growth of the city and appropriate land uses.
- We have a Floodplain Ordinance and participate in the National Flood Insurance Program.
- We are in the process of certifying our flood control levee systems to protect against the 1% flood event.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- Our Fire Chief is the City's designated Emergency Manager.
- The City has its own GIS specialist.
- The City Engineer and Director of Public works to facilitate repairs or improvements to the storm sewer system.

Q3. What programs are in place to help accomplish mitigation in your community?

- The Fire department is working to inform the public for the need to maintain a buffer between forests and residential properties.
- Flood control systems are maintained properly and encroachments are being addressed for removal.
- The City has a citywide emergency siren system and can activate cell based emergency notifications.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- The city has a storm water utility in place for funding storm water and flood control measures.
- The City has worked with state and federal agencies to address mitigation efforts following past events.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- N/A

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Appendix L

Jurisdictional Questionnaires

As part of the Winona County 2018 Multi-Hazard Mitigation Plan update, city and townships were invited to respond to a “**Jurisdictional Questionnaire**” to provide information on impacts of recent hazard events, the increase or decrease of community vulnerabilities, and ideas for local-level mitigation actions. Following are the responses from jurisdictions that participated.

WINONA COUNTY SHERIFF’S OFFICE

Submitted By: Ron Ganrude, Winona County Sheriff

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** In June 2017 we had a couple severe storms. The result was isolated flooding in the western and central parts of the county. We has several roads that were damaged. Winona County declared a state of emergency and will be receiving state aid.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** The Sheriff’s Office has not taken any action.
3. **In the past 5 years, has anything changed that you feel has increased your community’s vulnerability to future severe weather or disaster events?** No
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** We should have a countywide training. We have not had one in many years. We need to hire a fulltime Emergency Management Director to help us plan, prepare and train.

WINONA COUNTY PLANNING & ENVIRONMENTAL SERVICES DEPARTMENT (1)

Submitted By: Lew Overhaug, Land Use Planner

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** There was some damage to property in the Rush and Pine Creek watersheds that took place in a rural portion of Winona County and resulted in damage to the floodplain and stream corridor that needed to be cleaned up by property owners. Not much structural damage occurred and there were no public costs to recovery in Winona County that I am aware of.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Not specifically, but generally we have worked with landowners and partners to push for soil health and other agricultural practices on farms that encourage infiltration and retention of rain water

on the land reducing the amount of runoff from fields to streams. There have also been stream restoration projects by Trout Unlimited that reduce impacts of flooding on streams and make them more resilient.

3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Not substantially one way or the other.

4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?**
Garvin Brook Watershed continues to be a priority area that needs a plan to protect the communities of Stockton, Goodview, and MN City as well as reduce the erosion that happens as a result of flooding. Study, planning, and ultimately implementation dollars need to be allocated in order to supplement local dollars.

WINONA COUNTY PLANNING & ENVIRONMENTAL SERVICES DEPARTMENT (2)

Submitted By: Eric Johnson, Zoning Administrator/Floodplain Manager

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** Severe rain events, (6" inches within a 24 hour period) that resulted in severe field and soil erosion during planting season. Considerable erosion and sediment deposition occurred along incised valleys, bluff edges, crop land, and along streams.

2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** We continue to request updated floodplain maps for properties on a case-by-basis as it relates to land-use and construction. We receive frequent inquiries from property owners requesting the new floodplain data, in order to assess insurance, risk and fulfil mortgage requirements. The new data is also helping individuals choose buildings sites that represent reduced vulnerability & damage to property.

One of the major electrical utility companies, (coop-member owned) is also implementing a new policy to remove as much over-head electrical service infrastructure in any given year, electing to go to an in-ground/sublevel service, that will likely reduce damage from wind/fire and flooding.

3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Population or development levels

have been constant the last five years. With the updating of the countywide floodplain maps, the base-flood elevations may increase for several communities (City of Elba and City of Stockton), and it is still uncertain as to what changes will be reflected in the new flood maps for portions of the City of Winona and surrounding communities, regarding the status of the current levees.

4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** We will implement a buy-out program that prioritizes properties with structures located in the floodplain, should repetitive flooding occur. One criticism from the last major flooding (2007) was that there was the perception of a lack of building code enforcement and inspection, in some of the neighborhoods that were severally damaged.

WINONA COUNTY PUBLIC HEALTH DEPARTMENT

Submitted By: Jeff Peterson, Public Health Preparedness Coordinator

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** No, not that I can recall.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Yes. I know St. Charles made efforts to bury power lines; we have also engaged Nursing Homes & Long-Term Care facilities in disaster planning through a regional coalition (Southeast Minnesota Disaster Health Coalition).
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Yes. Staff reductions of public health workers have a significant impact on our ability to respond to disaster events. Current staffing of 9 nurses is completely insufficient to respond if antibiotic dispensing or mass vaccinations would be needed within our community. Lack of nurse managers leaves nursing staff without guidance for emergency operations, command functions, and risks overall public health.

Winona County currently has no Health Educator to do outreach and education on public health issues. This vacancy also makes the county vulnerable in the communication of health issues as we lack the qualified insight of an educator about public health risks, treatments and exposures.

Until recently, long-term planning for public health was lacking; without consistent, solid leadership the Community Health Improvement Plan (CHIP) and Strategic Plan are difficult to guide through to the next revision.

4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?**
Planning and exercising existing plans greatly enhances response capabilities, however, a lack of budget for these events makes mitigation efforts less meaningful and creates an unnecessary vacuum between plans and execution of those plans.

CITY OF ALTURA, MN

Submitted By: Sandra Pasche, City Clerk

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** No
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** No
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** No
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?**
We currently have a disaster plan in place in case of an emergency.

CITY OF DAKOTA, MN

Submitted By: Lana Gerlach, Clerk-Treasurer

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** No.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** The City now has a designated emergency shelter with generator backup and an early warning siren.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** No.

4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?**
The City needs to be more proactive in informing the residents of the emergency plans already in place and the resources available to them.

CITY OF ELBA, MN

Submitted By: Jay Mollert, Mayor

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** We have had heavy rains that caused some damage to infrastructure, roads washing out, and minor mudslides.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** None that I am aware of other than redirecting runoff as to mitigate washouts.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** No.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** We need a storm shelter or safe place for campers to go in the event of a flood. Also I believe that if the brush/weeds were cut down more outside of our levee, the water (when rising), would flow more freely. This property is on private land. When the water gets high it is somewhat held back by the vegetation growing there.

CITY OF GOODVIEW, MN

Submitted By: Dan Matejka, City Administrator

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** Some erosion in our neighborhoods along the hillsides.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** We did a street & utility improvement project to direct stormwater into the system then the lake instead of flooding residents. The City also developed an Emergency Operations Plan specific for Goodview, including installing equipment for the Emergency Operations Center.

3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** We have increased in size thus are more responsible, especially for the Gunderson subdivision that has flooded numerous times.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** Residents need better preparedness (information & education).

CITY OF LEWISTON, MN

Submitted By: Matthew Essig, Ambulance Director/Safety Coordinator

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** Minimal weather or disaster events have occurred in the last 5 years. A tornado hit in 1999 and flooding occurred in 2007. In the last 5 years we've had some storms producing significant winds resulting in minor property damage.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** In 2013 we replaced our 3 outdated tornado sirens with 1 updated warning siren. Storm sewer was replaced and updated with 48-inch line in 2014 on Lincoln St. In 2016 we made improvements to the storm sewer ditch on the south side of City's storm water runoff. We removed debris, sanded, sloped and reseeded.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Increase to Bakken Oil tankers on RR tracks (which run directly through the City) have increased the potential for a possible man-made disaster.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** We are concerned that we still do not have enough warning sirens to reach entire community. Should look at purchasing 1-2 more sirens. Also concerns about storm shelter for our 2 mobile home parks. They currently are allowed to use the basement of the Elementary School, but gaining access to the building can be difficult outside of normal day-time hours. Our current Emergency Services Building is also outdated and inadequate to meet the demands of our current services.

CITY OF MINNESOTA CITY, MN

Submitted By: Donald O'Neil, Mayor

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** Some power outages. Garvin Brook high water fills in box culverts that have not flooded away with silt.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Brush cutting along Garvin Brook to prevent water flow restrictions.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** We have no emergency escape route over Garvin Brook due to flood damage.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** We need box culverts replaced in Garvin Brook for the safety of 90-100 residents living east of the railroad tracks.

CITY OF ROLLINGSTONE, MN

Submitted By: Jamie Hengel Title: Clerk-Treasurer

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage or incurred costs for recovery? Please describe.** We have experienced some minor flooding on Kohner Road due to heavy rains in the spring.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Our public works department has repaired the damage to roads and bike trails where over-the-road flooding has occurred due to heavy rains.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** We have experienced some minor flooding due to an increase of high rain events.
4. **What concerns do you have/ what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster**

events? Residents may need better preparedness. Also, city representatives could be informed on needs for better preparedness. Better promotion of sign-up for CodeRed.

CITY OF ST. CHARLES, MN

Submitted By: Nick Koverman, City Administrator

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** St. Charles has experienced severe wind/rain events that has damaged homes and trees and tore down power lines. In addition, as a result of these flash rain events, minor flooding of roads has also occurred.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** The City of St. Charles Utility Company continues to bury power lines when feasible and cost effective, but has also enhanced its tree trimming program for trees close to power lines. In 2017 we replaced existing culverts in several areas including a bridge/culvert along 2nd Street. Several projects were taken on as part of a master storm water management plan, but two culvert replacements were necessary because of a rain event that undermined a portion of road and electric utilities along 15th Street. We continue to train Emergency Services personnel in various rescue strategies, while working with our state and county partners to better plan and prepare. St. Charles, through an approved bond referendum, voted to improve their fire/ambulance facilities, while also adding onto the police department. We have also finished various stream debris removal projects to help the flow of water throughout the community as two major drainage ditches run north/south through St. Charles. We continue to invest into our siren system to allow for a better early warning system. In a partnership with the DNR, a stream-flow monitor has been installed at the bridge between St. Charles and Dover to help provide us with data as to when water levels rise to critical levels.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Over the past 5 years, the frequency and volatile nature of rain/wind events has increased, which has led to more flooding, downed trees, and property damage. Certainly, increased development of both residential and commercial has increased the percentage of impervious surfaces and added to the increased runoff. Management of private surface runoff either from agricultural fields or development has added to the strain on the storm water system.

Because of the burden on the budget to cover as many pieces as possible, the cleaning of storm retention ponds has been difficult to manage and keep up with. Ponds are one of the essential ways we help to slow and process water through our community and as the number of ponds continues to grow, it is becoming increasingly more difficult to repair among other things the two main drainage ditches that divert the majority of water through town as well as repair and maintain culverts.

4. What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?

- As the threat of wind and ice storms seem more frequent, continuing to improve the electrical system with redundancies and burying our service underground would help greatly.
- Part of our greatest aging infrastructure is our drainage ditches and retention/drainage ponds. While we work to maintain them and have them on a rotating schedule, cost of repair continues to escalate and as the “new norm” for rain events seems to increase, much of the infrastructure has not been designed to handle the capacity that it truly needs. So while we do maintain what we have, improving it to a higher standard is a factor that is not part of our budget.
- Repair the two main drainage ditches that divert the majority of water through town as well as repair and maintain culverts.
- Maintaining a quality communication/siren system with the latest updates could also be a factor that would help eliminate risks during severe weather events.
- In addition, necessary supplies for survival could also be useful.
- Backup portable generators that could be accessible for cities to utilize would also be a helpful tool.
- Setting aside time and resources for an all-county hazard mitigation training is also viewed as a worthwhile investment of resources. It through proper training, planning and practice that issues can be discovered and worked out.

CITY OF STOCKTON, MN

Submitted By: Bethany Winchester, Clerk/Treasurer

- 1. In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** High water, resulting in loss of creek embankments, which is mainly on private properties. Also clogging up culverts/bridges, resulting in a culvert fix by Winona County. High

winds and thunderstorms causing a tree to fall on a house, damaging it enough to think of demolishing the house instead of fixing it.

2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Winona County has restructured a culvert over a county road for better stream flow. The City constantly checks drainage ditches for fixing or reshaping for better water flow.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Currently have a new subdivision, with retention ponds, which needs cleaning every spring. Have seen a rise in rain, as we measure for wastewater ponds.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** Residents are pretty prepared for another flood, but as time goes on they relax thinking it won't happen in their lifetime. So, maybe more residential preparedness. I am trying to find creek warnings that would tell us a flood is imminent.

CITY OF UTICA, MN

Submitted By: Cynthia M. Timm, Clerk

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** None.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Not in the last 5 years. However, after the 2007 flood we did culvert work and installed a backup generator for our pumping system.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** No changes.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** Reviewing work completed in 2007.

CITY OF WINONA, MN

Submitted By: Keith Nelson, Director of Public Works

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** In September of 2013 a brush fire in Gilmore Valley threatened residential homes. Every year the flood control system is engaged to protect from the Mississippi River flooding.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Maintenance and upgrades to the Flood Control system. Fire department training in flood response including swiftwater and surface water rescue.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** No
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** Improved maintenance plan for citizens to deal with the Urban/Woodland interface as it relates to fire control. Removal of encroachments that limit maintenance access on the Flood Control system.

HART TOWNSHIP, MN

Submitted By: Gail Schwanbeck, Town Clerk

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** High rain events.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Culvert improvements, clearing of trees close to power lines.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Extreme rain events.
4. **What concerns do you have / what mitigation actions do you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** More culvert improvements.

NORTON TOWNSHIP, MN

Submitted By: Bruce Montplaisir, Township Treasurer

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** We have experienced rain that washed out some culverts.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Culverts were replaced with bigger culverts and in one case with a bridge.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Not really.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** We have a few roads that need regular maintenance beyond the normal rock and grading. There are places where trees fall across the road and need to be removed and there are a few washouts.

RIDGEWAY COMMUNITY SCHOOL / WISCOY, WILSON, AND NEW HARTFORD TOWNSHIPS

Submitted By: Jodi Dansingburg, Director – Ridgeway Community School

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** Road flooding and washouts, power outage due to severe winter and summer weather.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** Not that I am aware of.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** Increasing elderly residents and residents that live in trailers.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** We need a storm shelter/safe room for service to Pleasant Hill, Wiscoy, Wilson, and New Hartford Townships.

ROLLINGSTONE TOWNSHIP, MN

Submitted By: Marcia Anderson, Clerk

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** We experienced severe winds that damaged homes and trees; we have had storm events that caused extended power outages, and we have flooding to roads & homes.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** The Township has made culvert improvements (made bigger) and is also working to constantly improve our drainage ditches to keep them from flooding.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** We have an aging population.
4. **What concerns do you have / what mitigation actions do you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** *No answer provided.*

WILSON TOWNSHIP, MN

Submitted By: Leon Bowman, Chairperson

1. **In the last 5 years has your community experienced any severe weather or disaster events that resulted in loss of life, caused property damage, or incurred costs for recovery? Please describe.** Loss of culverts, road surfaces, road closures.
2. **In the last 5 years has your community taken any particular actions to reduce the vulnerability of your community against future severe weather or disaster events?** We have put considerable money into trimming trees in Right of Way to help eliminate tree debris from clogging culverts. Also redesigned road ditches and culverts.
3. **In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events?** High winds have affected trees on hill-type roads.
4. **What concerns do you have / what mitigation actions you think would help your community to reduce or eliminate risk against future severe weather or disaster events?** Small dams at the top of gullies to reduce the amount of water going through culverts.