

Multi-Hazard Mitigation Plan

Waseca County, Minnesota, 2018



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Waseca County, Minnesota

2018

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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).

Waseca 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. 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 Waseca 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

The Waseca County Emergency Management Director and the University of Minnesota Duluth Geospatial Analysis Center (GAC) have combined efforts to update the 2013 Waseca County Multi-Hazard Mitigation Plan. The GAC contracted with Hundrieser Consulting LLC for additional emergency management planning expertise and facilitation.

This plan evaluates and ranks the major natural hazards affecting Waseca 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 Waseca County, including the cities of Janesville, New Richland, Waldorf and Waseca. The city of Elysian is located partially in Waseca County and partially in Le Sueur County. The city is not included as a jurisdiction in this plan since it is included in the Le Sueur County Multi-Hazard Mitigation Plan. The Waseca 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 Waseca County after final approval by FEMA, in Appendix D in the back of the plan.

Waseca 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 Waseca 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 Waseca 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 programs 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 Waseca County Multi-Hazard Mitigation Plan steering committee is headed by the Waseca County Emergency Management Director, who is the primary point of contact. Members of the Waseca 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 Plan Update Steering Committee

Name	Agency/Organization	Participant Title
Denise Wright	Waseca County Emergency Management	Director
Trevor Kanewischer	Waseca County Sheriff's Office	Chief Deputy
Kris Markeson	Waseca Police Department	Captain
Penny Vought	Waseca Police Department	Chief of Police
Megan Kirby	Waseca County Public Health	Health Coordinator
Anthony Martens	New Richland Police Department/city of New Richland	Chief of Police/EM Director
Sarah Berry	Waseca County Public Health	Director
Jon Schiro	Court Services	Director
Kim Huxford	Steele-Waseca COOP Electric	Operations Manager
Jon Kahnke	Waseca Fire Department	Commander
Judy Hiller	Waseca County IT	Director
David Ulman	Janesville Police Department	Chief of Police
Brian Tomford	Waseca County Maintenance	Director
Tom Lee	Waseca Public Schools	Superintendent
Jessica Beyer	Waseca County	Administrator
Travis Swanberg	Waseca County IT	GIS Coordinator
Joe Udermann	Waseca County	Assessor
Dan Weydert	FCI/BOP	Safety Manager
Angela Schrader	MCHS – Waseca	Trauma/Triage Coordinator
Cheri Brummund	Waseca SWCD	Administrator
Mark Schaetzke	Waseca SWCD	District Manager
John Underwood	Waseca Fire Department	Fire Chief

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 jurisdiction 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

Waseca County and its local communities utilized a variety of planning documents to direct community development. These documents include a Comprehensive/Master Plan, Emergency Operations Plan, Transportation Plan, Wellhead Protection Plan, etc. (see Appendix J for a full listing of plans and programs in place in Waseca County). 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 Waseca County Multi-Hazard Mitigation Plan, 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 Waseca County Emergency Management Director, 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 2013 Waseca County Multi-Hazard Mitigation Plan, UMD consultants worked in coordination with the Waseca County Emergency Management Director, and members of the steering committee. The updated plan includes not only new data documenting the types of hazards faced by Waseca County residents and emergency planning officials, but also new thinking about how to best address these hazards.

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

On August 1, 2017, the Geospatial Analysis Center hosted a kickoff meeting online that was attended by the Waseca County Emergency Management Director. The webinar included a project overview, GAC background, the roles and responsibilities of the Emergency Management Director, 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 Waseca County Emergency Operations Center (EOC) in Waseca, MN, which included the Waseca 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 Waseca 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 26, 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 Waseca 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, Waseca County issued a second new release on August 28, 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 Waseca County MHMP, including excerpts of the Waseca 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 Waseca County and jurisdictions. The public feedback period for the draft plan was open from August 28, 2018, to September 21, 2018, for a total of 25 days.

Table 2. Waseca County Hazard Mitigation Update Meetings and Public Outreach

Meeting Type	Date	Location
Public Outreach	7/2017	News release inviting public feedback and participation.
Kickoff Meeting	8/1/2017	Hosted online by GAC in Duluth
Steering Committee	11/20/2017	Waseca County EOC, Waseca, MN
Steering Committee	4/26/2018	Waseca County EOC, Waseca, MN
Public Outreach	8/28/2018 – 9/21/2018	Public review period for draft plan.

At the close of the public outreach period, the UMD consultants worked with the Waseca County Emergency Management Director 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 – Waseca County Profile

This section offers a general overview of Waseca 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

Waseca County is located in south-central Minnesota, approximately 40 miles south of the Twin Cities metropolitan area and covers a total of 432.81 square miles (276,998 acres). To the west lies Blue Earth County, and to the east lies Steele County. Le Sueur and Rice County are on the northern border of Waseca County, whilst Faribault and Freeborn County are located on the southern border. The county's estimated population in 2016 was 18,911 and the largest city in the county is Waseca, with a total estimated population of 9,074.

The 4 cities in Waseca County are Janesville, New Richland, Waldorf and Waseca. There are also 12 townships: Janesville, Josco, Blooming Grove, Alton, St. Mary, Woodville, Freedom, Wilton, Otisco, Vivian, Byron and New Richland.

3.2 Environmental Characteristics

The physiographic features of Waseca County's landscape are predominantly the result of the last major advance of the North American Laurentide Ice Sheet during the Wisconsin glaciation (100,000-10,000 years ago). Approximately 14,000 years ago, the last glacier to cross the state, the Des Moines lobe, pushed southeast from the Dakotas across south-central Minnesota and into north-central Iowa. As the glacier moved south, it collected sediment, which was eventually deposited across southern Minnesota. The bedrock underlying the county is covered in 70 to 350 feet of this glacial sediment.

The Bemis moraine marks the terminal margin of the Des Moines lobe. While the Bemis moraine is distinct along the western and southern extent of the glacier, the eastern section is comprised of a less distinct series of recessional moraines. This series of moraines is collectively known as the Owatonna moraine complex and runs southward from Jordan to Albert Lea and into Iowa. The Owatonna moraine roughly parallels State Highway 13 along the eastern border of the county and varies between three and eight miles in width.

Approximately 12,000 years ago, the Des Moines lobe retreated northward, leaving behind a mix of unsorted rock debris known as glacial till. The central and western areas of the county lie within the eastern portion of the Blue Earth till plain. In the southwest and west-central portions of the county a thin, patchy layer of residual sediment from Glacial Lake Minnesota covers the till plain. This lake formed due to the accumulation of melt water from the retreating glacier and once covered a significant area within Blue Earth, Watonwan and Faribault counties.

The topography of the county gently slopes to the south and west. The northern and eastern portions of the county are characterized by flat-topped hills. The hills were formed through topographic

inversion, a process where sediment on top of the glacier filled in holes in the ice. As the ice receded, the debris piles remained, becoming hills. The abundant depressions and channels between the hills are occupied by bogs and marshlands.

Towards the center of the county the hills grade into irregular, rounded hummocks, which were formed as water flowing along the ice margin undermined the ice and caused collapse and the redistribution of glacial sediment. In the southwestern portion of the county the hummocks give way to gentle, undulating terrain and finally flatten out into the expanse of the till plain.

The landscape is dotted with numerous lakes. Many lakes formed in irregular till depressions (lakes Buffalo, Silver, and Wheeler), while others formed in ice-block basins in the till (lakes Goose, Reed, Rice, and Elysian). Ice-block basins are also known as kettle lakes, which form when massive blocks of ice break off from a retreating glacier, are surrounded by till, and melt to form a standing body of water.

3.3 Hydrography

The county contains two major watersheds, the Cannon River Watershed and the Le Sueur River Watershed. The Cannon River Watershed occupies 79 square miles in the northeastern corner of the county and the remaining 353.8 square miles fall within the Le Sueur River Watershed. The county also contains 54 minor watersheds.

Impaired waters are an increasing problem as Waseca County has many creeks and rivers that are on the Minnesota Pollution Control Agency (MPCA) Impaired Waters lists, including the Le Sueur River, Little Le Sueur River, Boot Creek, Iosco Creek, Crane Creek, Clear Lake and Lake Elysian (Minnesota Pollution Control Agency, 2016). 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 Waseca County waters include fecal coliform, E. coli, mercury and PCB in fish tissue, eutrophication and turbidity.

Basic hydrography in Waseca County is mapped in Figure A-1 in Appendix A.

3.3.1 Lakes

The county contains 46 lakes and ponds. The majority of the lakes are located in the northern half of the county. Three of the county's lakes are over one square mile in size, including Lake Elysian (3.5 square miles), Lake Buffalo (1.3 square miles), and Clear Lake (1 square mile).

3.3.2 Rivers

There are two major rivers that flow through Waseca County: the Cobb River and the Le Sueur River. The Cobb River is a 78.6-mile-long tributary of the Le Sueur River and flows northwestwardly through southwestern Waseca County. The Le Sueur River is 111 miles long, flowing westward through Waseca County, eventually reaching its tributaries of the Blue Earth and Minnesota Rivers. A total of 711,838 acres drain to the Le Sueur River, and an extensive ditch and tile system facilitates movement of water throughout the watershed (MPCA).

Both the Le Sueur and the Cobb River are part of the Mississippi River watershed, draining an area of 1,089 square miles.

Also flowing through Waseca County are two smaller rivers: the Little Cobb River and the Little Le Sueur River. The Little Cobb River flows generally westward for 36.9 miles and is a tributary of the Cobb River. The Little Le Sueur River flows into the Le Sueur River.

3.3.3 Wetlands

The county contains 101 wetlands, marshes, swamps and bogs. The majority of the wetlands are located in the northern half of the county, with the densest cluster located to the north and east of the city of Waseca. The county's largest wetland, Moonan Marsh, covers approximately 2.1 square miles of territory.

Wetlands mapped by the National Wetlands Inventory cover 18,512 acres (29 square miles) in Waseca 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.

Wetlands in Waseca County include 6 types: seasonally flooded basins and flats, wet meadows, shallow marshes, deep marshes, shrub swamps, and wooded swamps (Figure A - 1).

Invasive plants have spread throughout many wetlands in Minnesota. These plants can take over entire native communities and threaten wetland ecosystems. Eurasian watermilfoil and curly-leaf pondweed have been documented in Waseca County (MN DNR, 2016).

3.4 Climate

Waseca County's daily climatic observations occur via the Waseca Experiment Station, No. 218692, and date back to 1914. The University of Minnesota's Southern Research and Outreach Center has maintained the record since 1960. The station has amassed one of the state's best long-term, detailed climate records. This record includes data on soil temperature and drainage, solar radiation, air temperature, precipitation, evaporation and wind. The experiment station, by means of a variety of sources, provides the bulk of the data presented in the climate overview below.

Waseca County, like the rest of Minnesota, has an extreme continental climate. The county sits in the heart of the North American land mass and lies within an area where cold, dry air from Canada battles for control of the atmosphere with warm, moist air from the Gulf of Mexico. The result is a variety of extreme temperature possibilities, ranging from 106° F in May 1934 and July 1936, to -37° F in January 1924. In July, daily temperatures range from the low eighties to the low sixties with an average of approximately 71° F. Daily temperatures in January range from the low twenties to the low single digits, with an average of approximately 12° F. The annual average temperature is 44° F.

The county receives an average of 31 inches of precipitation annually. December through February is the driest time of year; June through August is the wettest time of year. Sixty-two percent of annual average precipitation (20 inches) typically falls within the growing season (May to September). The wettest year on record is 1991, with a total of 50 inches and the driest year on record is 1976, with a

total of 17 inches. The record for 1-day maximum precipitation is 5.63 inches, which fell on September 23, 2010. Overall, the county has seen a 26% increase in average annual precipitation since 1950, one of the largest changes in Minnesota.

The average annual snowfall for the county is 47 inches. With an average of 11 inches, February is the snowiest month, followed by March (10.3 inches) and January (9.5 inches). The snowiest season on record is the winter of 1983-1984, when a total of 106 inches fell. The record for maximum daily snowfall is 15 inches, which fell on March 24, 1966.

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 limited financial resources to deal with the effects of climate change.

The composition of the region's forests are 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

Waseca is the largest city in the county (pop.9,410) and the designated county seat. There are 4 cities and 12 townships within the county.

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

Table 3. Waseca County Population by Community, 2010

Community	2010 Population	% of County
Janesville	2,256	11.79%
New Richland	1,203	6.29%
Waldorf	229	1.20%
Waseca	9,410	49.18%
Alton Township	434	2.27%
Blooming Grove Township	525	2.74%
Byron Township	230	1.20%
Freedom Township	326	1.70%
Iosco Township	550	2.87%
Janesville Township	513	2.68%
New Richland Township	443	2.32%
Otisco Township	599	3.13%

Community	2010 Population	% of County
St. Mary Township	460	2.40%
Vivian Township	259	1.35%
Wilton Township	365	1.91%
Woodville Township	1,332	6.96%
Total	19,134	

Source: U.S. Census Bureau, 2015

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 2010, Waseca County had a total population of 19,134 residents, averaging approximately 230 persons per square mile of land area.

Waseca County's population is gradually increasing. Since 1940, the population has risen by 26%. Table 4 below shows the population change in Waseca County between 1940 and 2010.

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

1940	1950	1960	1970	1980	1990	2000	2010	Change 1940- 2010	Change 2000- 2010
15,186	14,957	16,041	16,663	18,448	18,079	19,526	19,134	+26%	-2%

Source: U.S. Census Bureau

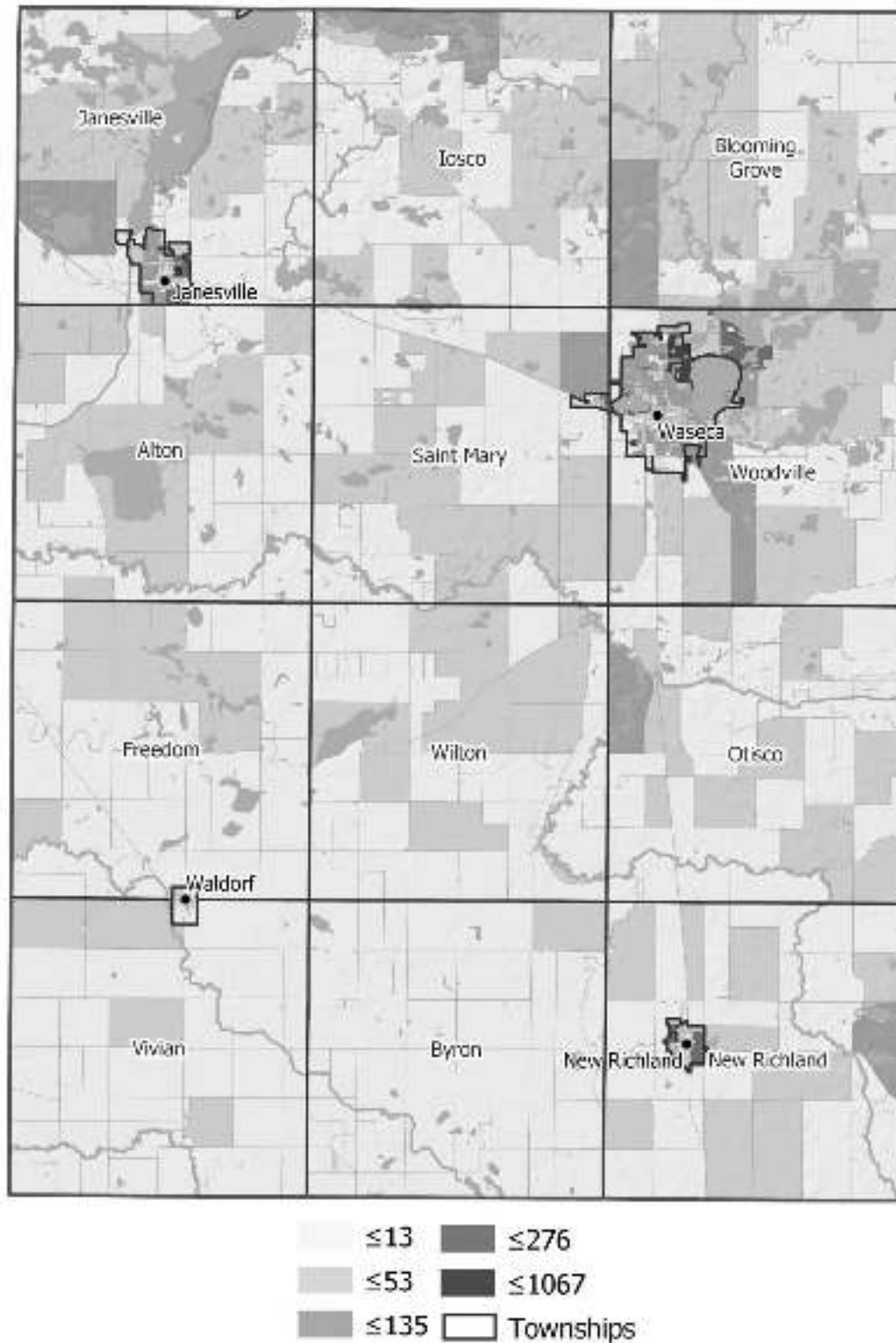
In 2014, Waseca's County population was projected to decrease by 1.8% or by 347 residents between 2015 and 2050. Table 5 below shows population projections for Waseca County until 2050.

Table 5. Waseca County Population Projections (2015-2050)

2015	2020	2025	2030	2035	2040	2045	2050	Projected Change 2015-2050
19,113	19,176	19,166	19,101	19,022	18,927	18,831	18,766	-1.8%

Source: Minnesota State Demographic Center, Minnesota Planning, 2014

Figure 1. Waseca County Population by Census Block, 2010



Data Sources: MN DNR, U.S. Census

3.6 Economy

Waseca County is dominated by the education and health services industry, with 28% of jobs in the county. The manufacturing industry is a close second, providing 27% of jobs within the county, followed by the trade, transportation and utilities industry, making up 15% of the county's economy.

According to the Minnesota Department of Employment and Economic Development, between 2005 and 2015, there was a 15% decrease in job availability within the county. Table 6 provides an overview of the annual average employment by major industry sector in Waseca County.

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

Industry	Number of Jobs (2005)	Number of Jobs (2015)
Natural Resources and Mining	154	175
Construction	241	289
Manufacturing	2,416	1,754
Trade, Transportation, Utilities	1,108	1,023
Financial Activities	246	206
Professional /Business Services	236	187
Education and Health Services	2,157	1,803
Leisure and Hospitality	436	408
Public Administration	558	577
Total Number of Jobs:	7,552	6,422

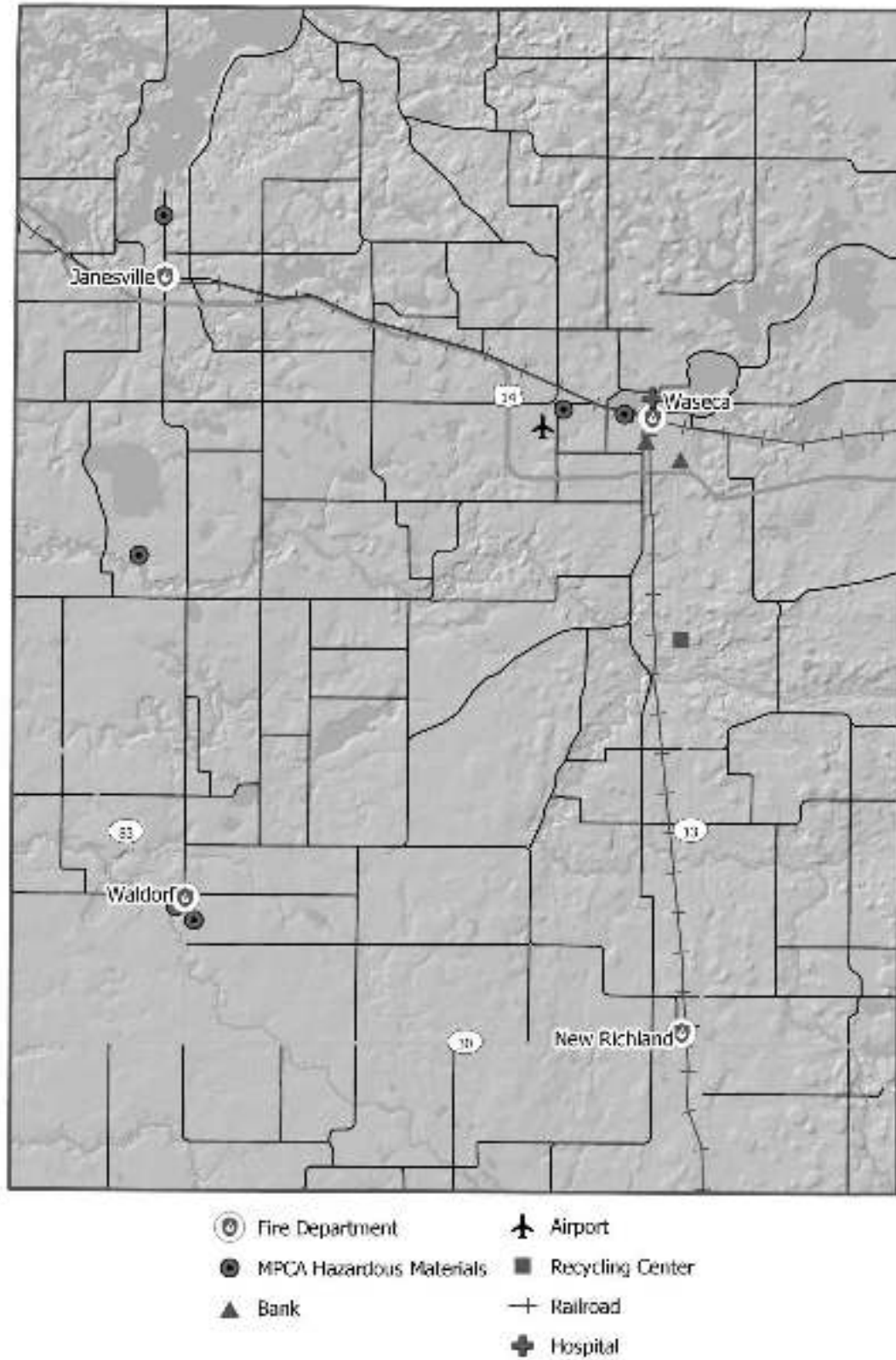
Source: Minnesota Dept. of Employment and Economic Development. Note: data discrepancies between segment values and totals exist due to data suppression for confidentiality.

The 2015 median household income was \$53,564, compared to a Minnesota average of \$61,492. The median household income in Waseca County increased 6% from 2010 to 2015. The percent of the county's population living below the poverty level in 2015 was 8.7%, compared to an 11.3% average for the state of Minnesota.

3.7 Community Services & Infrastructure

The following section provides an overview of community services and infrastructure within Waseca 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 are located in Appendix B.

Figure 2. Critical Facilities in Waseca County



3.7.1 Health Care Providers

The Mayo Clinic Health System operates a hospital within the city of Waseca, known as the Waseca Medical Center, as well as two health clinics, located in Janesville and New Richland. Waseca County also provides a public county health clinic, located in the city of Waseca.

There are also three nursing homes located within the county, in Janesville, New Richland and Waseca.

Waseca County has ambulance services through North Ambulance located in the city of Waseca and New Richland Ambulance.

Figure A - 13 in Appendix A depicts health services within Waseca County.

3.7.2 Public Safety Providers/Government Services

The Waseca County Sheriff's office is located in Waseca. Fire departments are located within all four cities of Waseca County: Janesville, Waseca, Waldorf and New Richland. Police departments are located in Janesville, Waseca and New Richland.

Figure A - 4 in Appendix A depicts government and emergency facilities, including city halls, fire departments, ambulance service, police departments, the Sheriff's Department, and the Waseca County Courthouse.

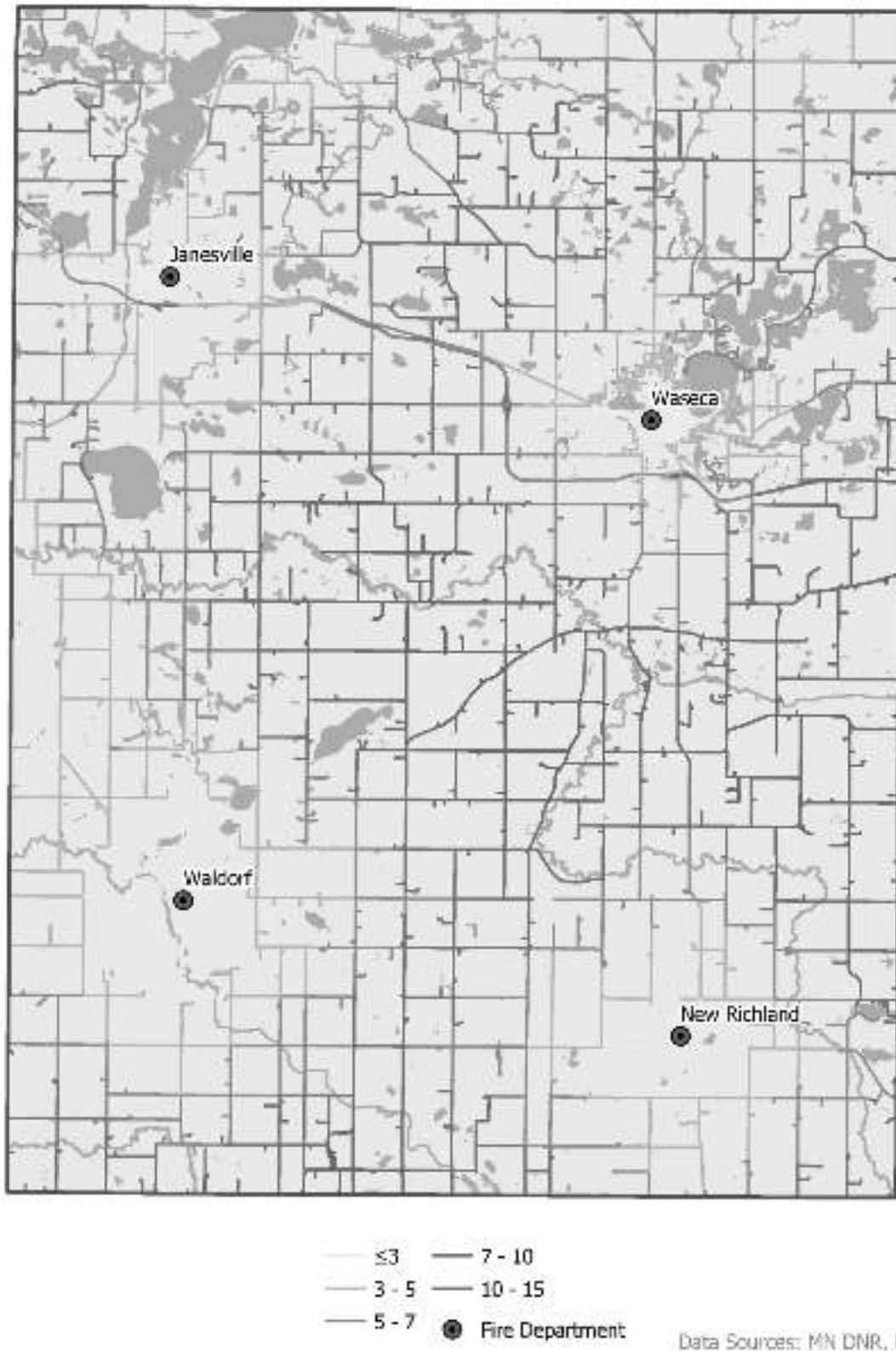
Figure 3 shows fire departments and fire response times in Waseca County. These drive times were created using the ArcGIS Network Analyst extension and Esri's Business Analyst. The user may note discrepancies between MnDOT road data and the map in this document; Network Analyst requires a seamlessly-connected 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 communities in the county are within 15 minutes of a fire department.

3.7.3 Utilities/Communications

The electricity providers within Waseca County are Southern Minnesota Municipal Power Agency, Alliant, Waseca Solar Farm LLC, Great River Energy and Xcel Energy, Inc.

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 Waseca County, there are 4 ARMER towers. Two are owned by the State of Minnesota, one located approximately 2 miles south of Janesville and the other located approximately 1.5 miles southeast of Waldorf. The other two are owned by Waseca County, one located behind the Sheriff's Office 122 3rd Ave NW, Waseca and one located on the water tower in the city of New Richland (see Figure A - 5 in Appendix A).

Figure 3. Fire Departments and Fire Response Times (in minutes) in Waseca County



3.7.4 Transportation

The Waseca County Highway Department is responsible for the maintenance and construction of 383 miles of road. The department is also responsible for the inspection of 81 county and township bridges.

There are two main railroad lines that run through Waseca County. One runs north-south parallel to MN Highway 13, through New Richland and Waseca. This railroad line then ends in Waseca and intersects another railroad line running east-west, parallel to US Highway 14 and runs through Janesville. Both railroad lines are owned by Dakota, Minnesota and Eastern Railroad (DME), a railroad subsidiary of the Canadian Pacific Railway. The Waseca Municipal Airport is located 2 miles west of the city of Waseca and 80 miles south of Minneapolis-St. Paul. The airport sees between 6,000 and 12,500 annual operations including business, private and recreational, medical and emergency life support and agricultural sprayers.

3.8 Land Use and Ownership

Waseca County covers a total 432.81 square miles (276,998 acres). Land in Waseca County is primarily used for agricultural production and approximately 80% of Waseca County is covered by cultivated crops. In 2012, 805 farms existed in the county, covering 362 square miles (231,713 acres). On this farming land, 92% has been classified by the USDA Census of Agriculture as “cropland” and the other 7.8% has been classified as “other uses.” The number of farms in the county decreased by 5% between 2007 and 2012, while the number of acres farmed decreased by 4%. The average size of each farm also saw a slight decrease between 2007 and 2012, decreasing in size from 300 acres to 288 acres (Census of Agriculture, 2012). According to Minnesota DNR data, the number of feedlots in Waseca County is 395, and 99 of those feedlots contain more than 1,000 animal units. Feedlots in Waseca County are mapped in Figure A - 29 (*Appendix A: Waseca County Maps*).

Agricultural areas in the state such as those in Waseca County may need to undergo transformative changes to keep pace with climate change, though the country’s agricultural system is expected to be fairly resilient overall due to “the system’s flexibility to engage in adaptive behaviors such as expansion of irrigated acreage, regional shifts in acreage for specific crops, crop rotations, changes to management decisions (such as choice and timing of inputs and cultivation practices), and altered trade patterns compensating for yield changes” (Hales, et al., 2014).

Land ownership categories from the 2008 U.S. Geological Survey GAP (Gap Analysis Program) are shown in Figure A - 8 (*Appendix A: Waseca County Maps*). Land cover is mapped in Figure A - 7.

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 use in the risk assessment process. In recognition of the importance of planning in mitigation activities, FEMA created Hazards USA Multi-Hazard (Hazardus), 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. Hazardus 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 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 Waseca County, updated the existing mitigation actions published in the 2013 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 2013 Hazard Mitigation Plan (Table 8). The natural hazards that pose risk to Waseca 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 Waseca County were categorized the same way as the priority hazards established by the State of Minnesota.

Table 8. Hazards identified in the 2013 Waseca County Multi-Hazard Mitigation Plan

Natural Hazards			
Drought	Earthquake	Wildfire	Flooding
Severe Summer Weather	Severe Winter Weather	Tornadoes	Windstorms

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.

Waseca 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	30%
	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	3	

		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.		
	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 Waseca 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
Flash Flooding & Riverine Flood	High
Severe Winter Storms	High
Severe Summer Storms (Thunderstorms, Lightning, Hailstorms, Windstorms, Tornadoes)	High
Extreme Heat/Extreme Cold	Moderate
Erosion/Land Subsidence	Moderate
Drought	Low
Dam Failure	Low
Wildfire	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 355 reported events in Waseca 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	Extreme Cold/ Wind Chill
Excessive Heat/Heat	Lightning

4.1.7 FEMA Declared Disasters

Another historical perspective is derived from FEMA-declared disasters. Nine disaster declarations were made between 1957 and August 2018 in Waseca County (Figure 4). Waseca County has been part of only 1 emergency declaration (EM-3242 – Hurricane Katrina Evacuation). Minnesota counties were included because the state opened a hotline to take calls.

Figure 4. FEMA-Declared Disasters in Minnesota, 1957-August 2018

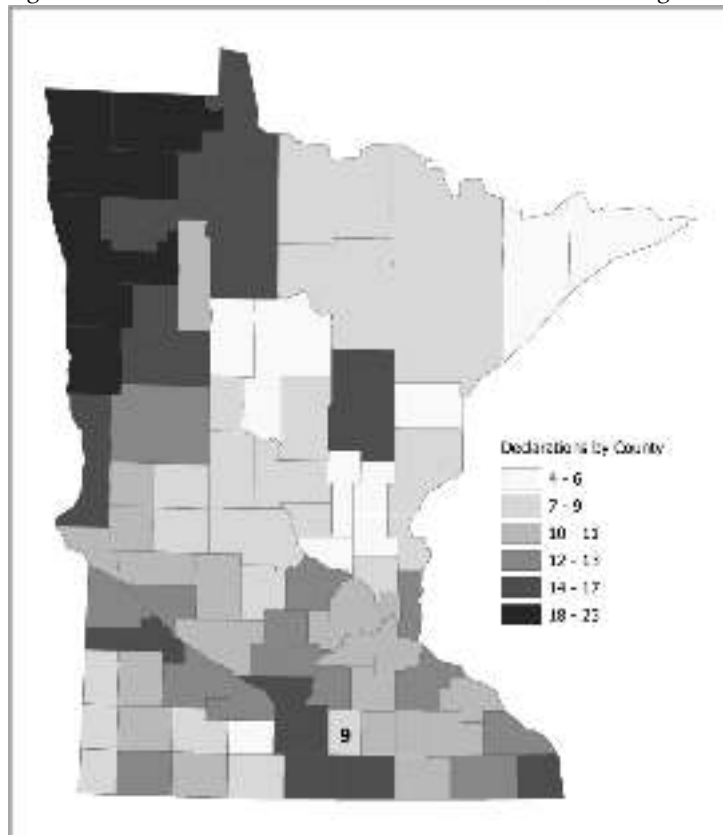


Table 12 shows the details of the disasters including payments for Public Assistance (PA) and Individual Assistance (IA), listed under the flooding and severe storm profiles. No declarations were made for the other storms listed in the NCEI database. Reviewing the federal payments for damages from the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

Table 12. FEMA-Declared Disasters in Waseca County (1953-August 2018)

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 Waseca County	Individual Assistance in Minnesota	Individual Assistance in Waseca County
Severe Storms, Flooding	11/2/2016 DR-4290	9/21/2016 – 9/24/2016	\$6,190,160 (as of 2/8/18)	\$1,268,287	\$2,598,417 (as of 2/8/18)	\$1,514,334
Severe Storms, Straight-line Winds, Flooding, Landslides, Mudslides	8/21/2014 DR-4182	6/11/2014 – 7/12/2014	\$39,694,513	\$267,418	None	None
Severe Storms, Flooding	10/13/2010 DR-1941	9/22/2010 – 10/14/2010	\$25,733,101	\$1,114,922	None	None
Severe Storms	1/16/1997 DR-1158	1/3/1997 – 2/3/1997	Yes, Amount Unknown	Yes, Amount Unknown	Unknown	None
Severe Storms	1/7/1997 DR-1151	11/14/1996 – 11/30/1996	Yes, Amount Unknown	Yes, Amount Unknown	Unknown	None
Flooding	6/1/1996 DR-1116	3/14/1996 – 6/17/1996	Yes, Amount Unknown	Yes, Amount Unknown	Unknown	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 Waseca County	Individual Assistance in Minnesota	Individual Assistance in Waseca County
Severe Storms, Tornadoes, Flooding	6/11/1993 DR-993	5/6/1993 – 8/25/1993	Yes, Amount Unknown	Yes, Amount Unknown	Yes, Amount Unknown	Yes, Amount Unknown
Ice Storm	12/26/1991 DR-929	10/31/1991 – 11/29/1991	Yes, Amount Unknown	Yes, Amount Unknown	None	None
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 August 2017 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 depicts the historical projects in Waseca County resulting from hazard mitigation funding.

Table 13. Historical Hazard Mitigation Funding (HMGP and PDM) in Waseca County

Year	Project Description	Sub-Grantee	Federal Share
2009	Local Multihazard Mitigation Plan (HMGP)	Waseca County	\$36,041
1997	Underground power line conversion project (HMGP)	City of Waseca	\$202,500
Total HMGP/PDM Funding – Waseca County			\$238,541

* Data provided by MN HSEM in August 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 Waseca County.

Table 14 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. Critical Facilities in Waseca, Janesville, New Richland and Waldorf are mapped in Figures 5-8.

Table 14. Waseca County Critical Infrastructure and Facilities

Infrastructure Type	Number of Facilities
Agriculture and Food	4
Banking and Finance	8

Infrastructure Type	Number of Facilities
Chemical and Hazardous Materials	4
Commercial Facilities	3
Communications	3
Dams	11
Emergency Services	9
Energy	8

Infrastructure Type	Number of Facilities
Government Facilities	8
Healthcare and Public Health	4
Manufacturing	6
Postal and Shipping	4
Transportation	7
Water	35

Figure 5. Critical Facilities in Waseca

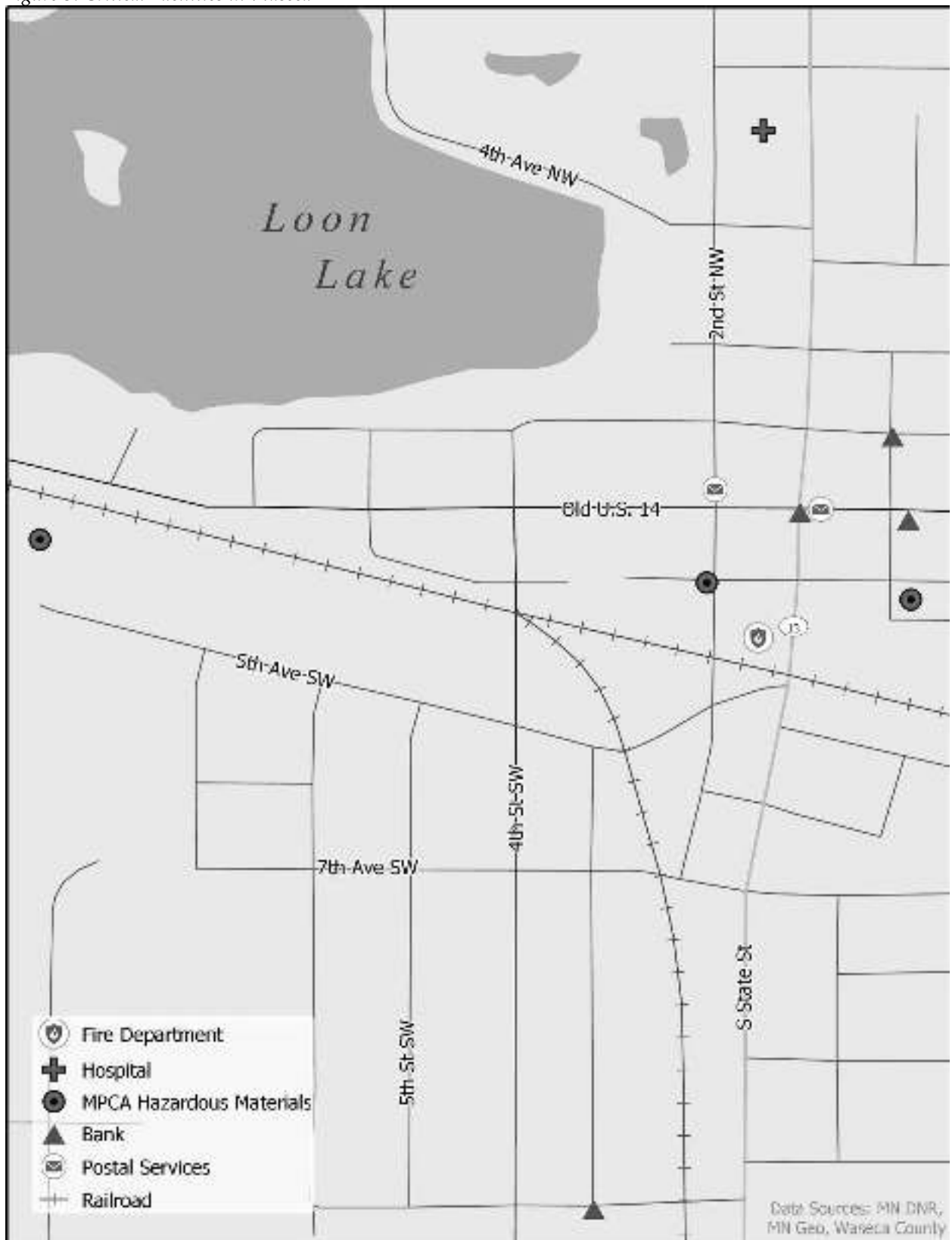


Figure 6. Critical Facilities in Janesville



Figure 7. Critical Facilities in New Richland

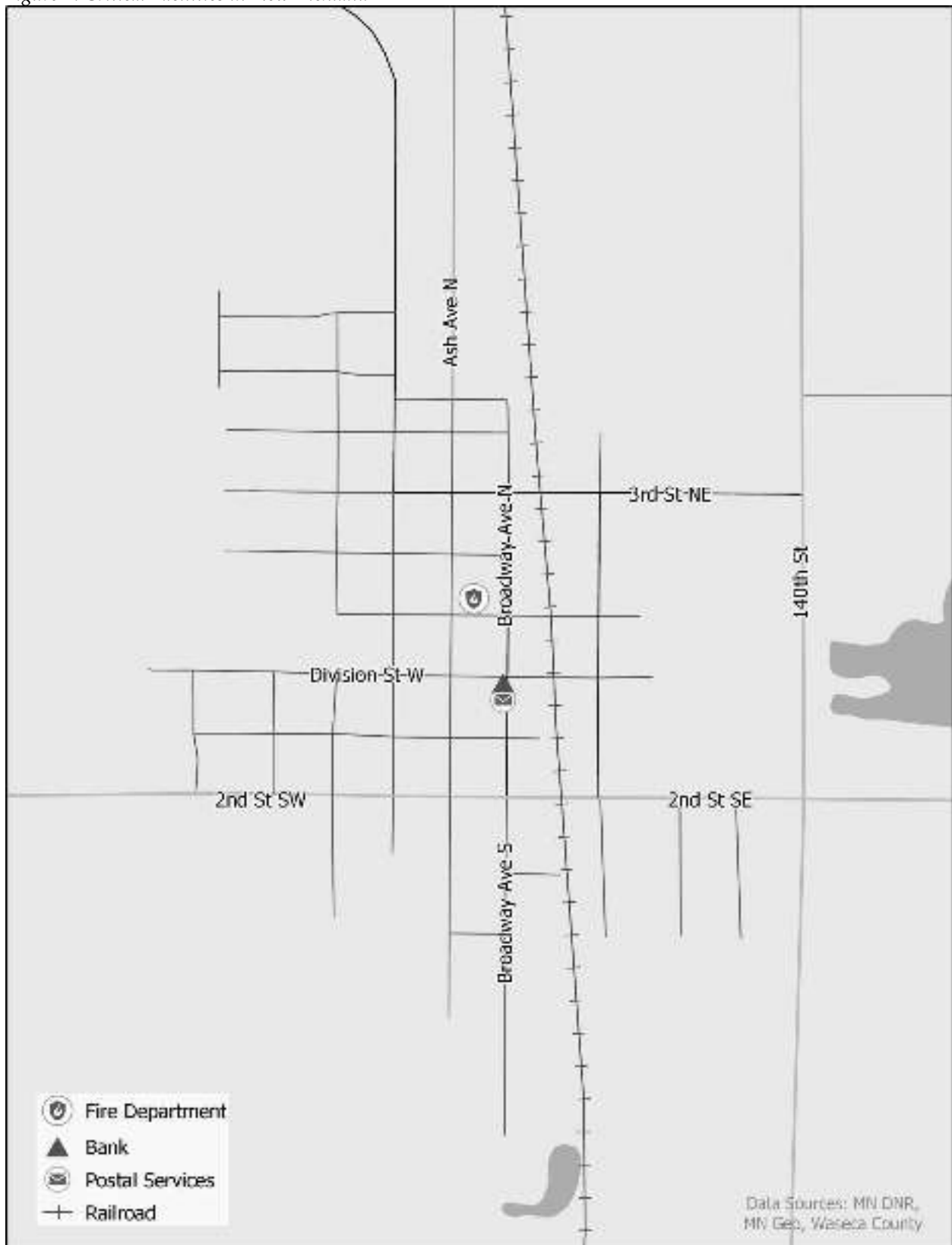
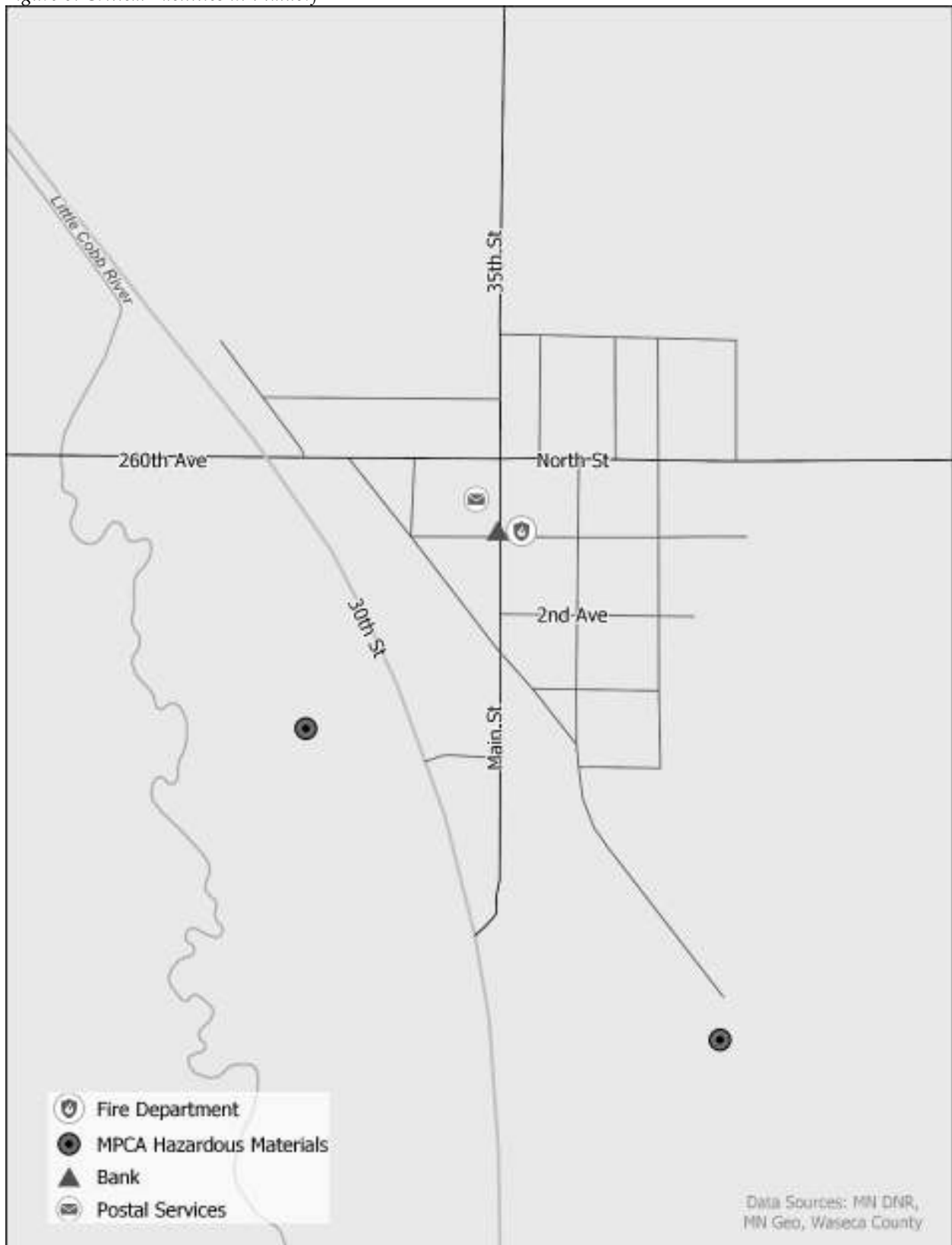


Figure 8. Critical Facilities in Waldorf



4.2.2 Facility Replacement Costs

Waseca 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 Waseca County is shown in Table 15.

Table 15. Waseca County Total Building Exposure

General Occupancy	Parcels Containing Structures	Total Building Exposure
Agriculture	1,103	\$287,277,000
Commercial	360	\$170,285,000
Education	13	\$59,100,000
Government	74	\$52,549,000
Industrial	12	\$8,744,000
Religious/Non-Profit	54	\$13,566,000
Residential	5,970	\$539,418,000
Total:	7,586	\$1,130,939,000

4.3 Future Development

Because Waseca 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 events. Waseca 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 Waseca County since the last Multi-Hazard Mitigation Plan (2013).

The Waseca County Emergency Management Director 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 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 Waseca 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>.

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 Waseca County

According to the NCEI, 19 tornadoes were reported in Waseca County between 1950 and March 2018, causing 6 deaths, 24 injuries, and just under \$80 million dollars in property damage. Tornado classification for Waseca County has been ranked from EF0/F0 to F4.

The most recent tornado occurred in 2012, which resulted in approximately \$100,000 in property damage. The tornado scaled as an EF0 with no direct deaths or injuries. It touched down south of Elysian Lake Road, just south of 412th Ave, in northern Waseca County. The tornado tracked north for approximately 2.8 miles and most of the damage was primarily associated with uprooted trees and roof damage. The worst damage occurred to a farmstead, which had a metal storage shed collapse along Elysian Lake Road. Based on the damages, winds were estimated around 80 mph.

In 1967, a series of deadly tornadoes struck Waseca County. The deadliest of the three was an F4 tornado that formed in Freeborn County, moving north from Hartland along the eastern edge of

Waseca County, through New Richland to 7 miles north-northeast of Waseca, before cutting a four-block wide swath through town and over Clear Lake. The tornadoes impacted Waseca, Steele, Freeborn, Rice and Mower Counties, killing 13 in the area - (six in Waseca County) - and causing millions of dollars in damage (Figure 9).

Figure 9. Damage from 1967 Tornado in Waseca County (Stark, 2017)



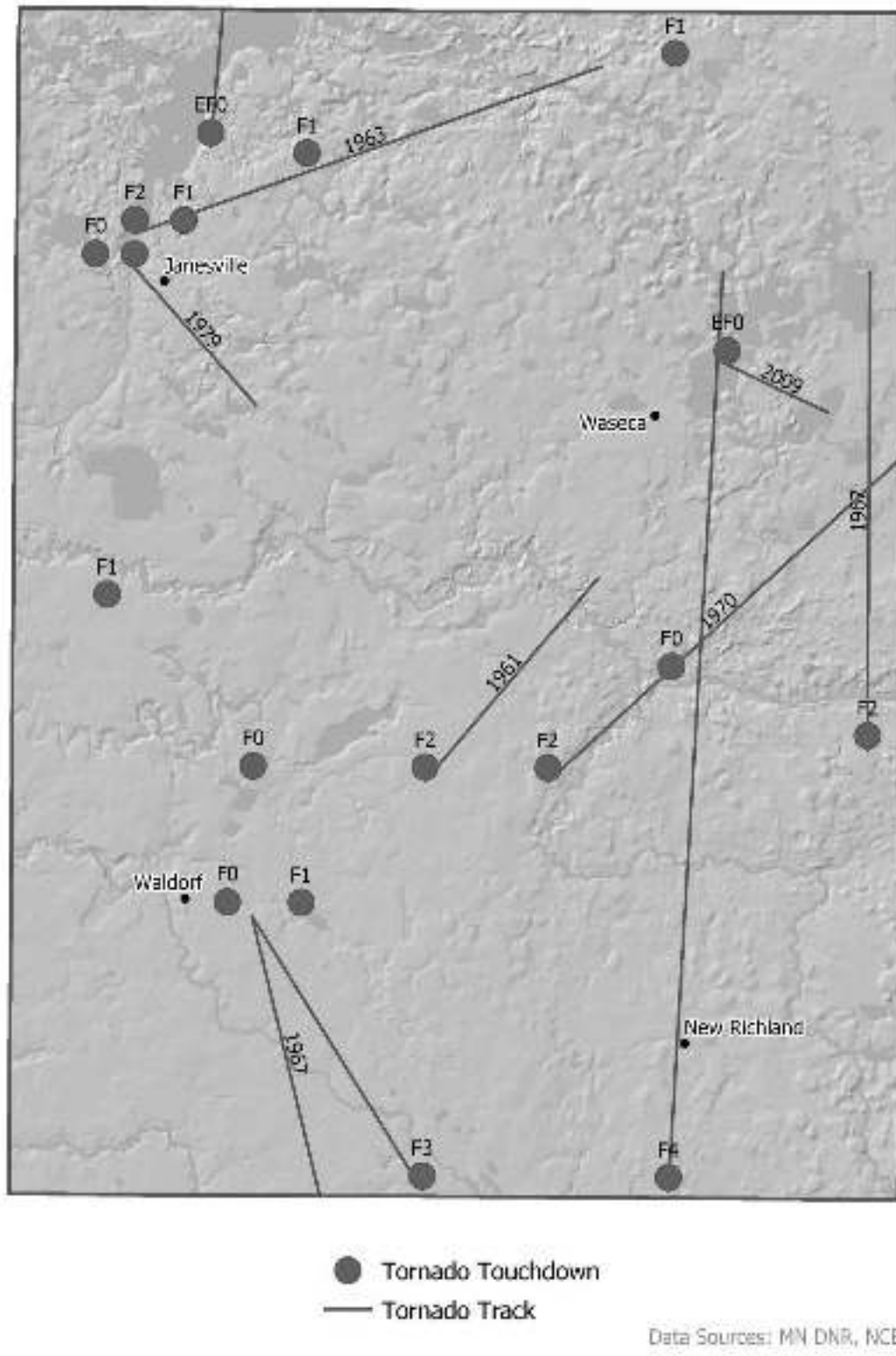
Figure 10 below shows tornado touchdown points and tracks in Waseca County from 1950-April 2018. Historic tornado events in the county are listed in Table 16.

Table 16. Historic Tornado Events in Waseca County, 1950-April 2018

Location or County	Date	Magnitude	Deaths	Injuries	Property Damage
Janesville	3/19/2012	EF0	0	0	\$100,000
Waseca	6/17/2009	EF0	0	0	unknown
Janesville	7/14/2003	F0	0	0	unknown
Waterville	8/7/1994	F1	0	0	unknown
Waseca Co.	7/14/1987	F0	0	0	unknown
Waseca Co.	6/7/1984	F1	0	0	\$2,500
Waseca Co.	6/4/1984	F1	0	0	\$250,000
Waseca Co.	6/13/1983	F0	0	0	\$25,000
Waseca Co.	6/28/1979	F1	0	0	\$250,000
Waseca Co.	8/1/1978	F1	0	1	\$2,500,000
Waseca Co.	7/23/1973	F1	0	0	\$25,000
Waseca Co.	7/23/1973	F0	0	0	\$2,500
Waseca Co.	6/18/1973	F0	0	0	\$2,500
Waseca Co.	4/29/1970	F2	0	0	\$250,000
Waseca Co.	4/30/1967	F4	6	22	\$25,000,000
Waseca Co.	4/30/1967	F3	0	0	\$25,000,000
Waseca Co.	4/30/1967	F2	0	0	\$25,000,000
Waseca Co.	6/9/1963	F2	0	0	\$250,000
Waseca Co.	5/14/1961	F2	0	1	\$250,000

Source: National Centers for Environmental Information

Figure 10. Tornado Touchdowns and Paths, Waseca 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 14 of the 67 full years on record. According to these statistics, there is a 21% chance of a tornado affecting Waseca County each year. The vulnerability of each jurisdiction to tornadoes has not changed due to any development in the last 5 years.

Plans and Programs in Place

Emergency Operations Plan – Waseca 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 including debris removal.

Emergency Notifications – Summer storm warnings are initiated by the National Weather Service or locally-trained SKYWARN spotters. The emergency warning system is activated by the dispatch center as directed. Residents receive warnings by NOAA weather radio, the CodeRED Emergency Notification System, IPAWS and the outdoor warning siren system.

SKYWARN Program – Waseca County offers two SKYWARN classes on an annual basis for first responders and local residents that wish to be trained as volunteers. SKYWARN spotters help keep their local communities safe by providing timely and accurate reports of severe weather to their local National Weather Service office and the dispatch center. Waseca County has a group of approximately

25 trained spotters who are called on to go out and spot in different areas within the county when the National Weather Service sends out a spotter activation.

Severe Weather Awareness Week – Waseca 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.

Outdoor Warning Sirens – There are outdoor warning sirens located throughout Waseca County. Sirens are activated when the National Weather Service notifies Dispatch that there are winds of 70 mph or greater or tornado conditions that pose risk to public safety.

Storm Shelters – In the event of severe weather such as straight-line winds or tornadoes, the Waseca County EOC serves as an emergency shelter where people from a local mobile home court can go or others without a basement. If people at the campground need to be evacuated because of severe weather, they would go to the nearby school. There is a “shelter team” of people who own/work at the campground that would help to facilitate the evacuation of campers to the school if needed.

Program Gaps and Deficiencies

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

Power Lines – Aboveground power lines and poles are susceptible to damage from high winds during severe thunderstorms. Locating lines underground where it is feasible and cost effective, as is occurring in some parts of Waseca County, can reduce damage and potential power outages.

Storm Shelter/Safe Room – There is a very large campground on the outskirts of the city of Waseca, which does not have a storm shelter on site. This can become a dangerous situation during sudden storms, when there is not enough time for campers to drive to the designated shelter in town. The Waseca County Solid Waste/Recycling Facility is another high-priority location for a storm shelter for the protection of employees and customers. These are two key locations that will be evaluated for the possible construction of community safe rooms or storm shelters.

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. These winds originate as downdraft air reaches the ground and rapidly spreads out, becoming strong horizontal flow.

Windstorm History in Waseca County

Waseca County frequently experiences winds blowing at over 50 knots. According to NCEI records there have been 103 thunderstorm/high wind events reported between 1950 and April 2018, with speeds up to 86 knots in 1996. These winds can inflict damage to buildings and in some cases overturn high profile vehicles. Although wind speeds have reached high levels in the last 50 years, no deaths or injuries have been recorded by the NCEI.

The two most powerful thunderstorms that have occurred in the last 5 years in Waseca County occurred in 2014, reaching a maximum magnitude of 61 knots each. The first storm occurred in May of 2014, causing \$100,000 in property damages, and the second occurred in September of 2014, causing no property damages.

The most recent severe wind and hail storms in Waseca County are shown in Figure 11.

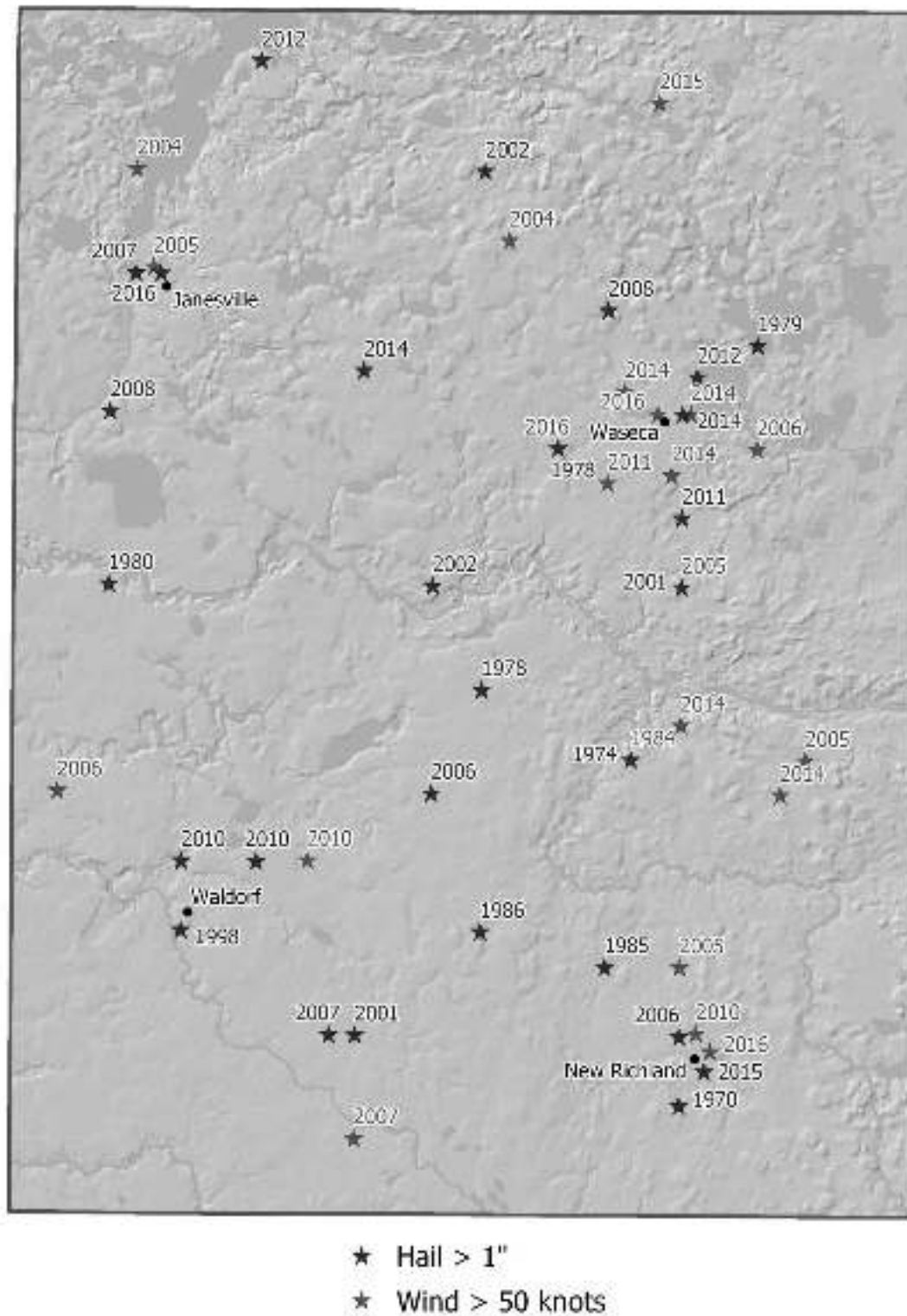
Windstorms and Climate Change

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 Waseca County, the vulnerability of jurisdictions to windstorms does not vary geographically. The vulnerability of each jurisdiction to severe windstorms has not changed due to any development in the last 5 years.

Figure 11. Most Recent Severe Wind and Hail Storms in Waseca County



Plans and Programs in Place

Emergency Operations Plan – Waseca 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 including debris removal.

Emergency Notifications – Summer storm warnings are initiated by the National Weather Service or locally-trained SKYWARN spotters. The emergency warning system is activated by the dispatch center as directed. Residents receive warnings by NOAA weather radio, the CodeRED Emergency Notification System, IPAWS and the outdoor warning siren system.

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Severe Weather Awareness Week – Waseca 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.

Outdoor Warning Sirens – There are outdoor warning sirens located throughout Waseca County. Sirens are activated when the National Weather Service notifies Dispatch that there are winds of 70 mph or greater or tornado conditions that pose risk to public safety.

Storm Shelters – In the event of severe weather such as straight-line winds or tornadoes, the Waseca County EOC serves as an emergency shelter where people from a local mobile home court can go or others without a basement. If people at the campground need to be evacuated because of severe weather, they would go to the nearby school. There is a "shelter team" of people who own/work at the campground that would help to facilitate the evacuation of campers to the school if needed.

Program Gaps and Deficiencies

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

Power Lines – Aboveground power lines and poles are susceptible to damage from high winds during severe thunderstorms. Locating lines underground where it is feasible and cost effective, as is occurring in some parts of Waseca County, can reduce damage and potential power outages.

Storm Shelter/Safe Room – There is a very large campground on the outskirts of the city of Waseca, which does not have a storm shelter on site. This can become a dangerous situation during sudden storms, when there is not enough time for campers to drive to the designated shelter in town. The

Waseca County Solid Waste/Recycling Facility is another high-priority location for a storm shelter for the protection of employees and customers. These are two key locations that will be evaluated for the possible construction of community safe rooms or storm shelters.

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 can 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 Waseca County

The NCEI has recorded 1 lightning event in Waseca since 1999. During this event, no deaths, injuries or property damages were reported.

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 Waseca County, the vulnerability of jurisdictions to lightning does not vary geographically. The vulnerability of each jurisdiction to lightning has not changed due to any development in the last 5 years.

Plans and Programs in Place

Emergency Operations Plan – Waseca 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 including debris removal.

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4.4.4 Hail

Hailstorms are a product of severe thunderstorms. Hail forms 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 Waseca County

According to the NCEI, there have been a total of 103 hail storms in Waseca County between 1958 and April 2018. During the last 50 years and up to present day, there have been no deaths, injuries or property damages due to hail storms, as recorded by the NCEI.

In the past 5 years, storms have produced hail no greater than 1 inch in diameter. Back in 2010, storms produced hail that was greater than 1.75 inches in diameter.

Table 17 shows storms producing hail greater than 1 inch diameter in Waseca County.

Table 17. Storms producing hail of greater than 1-inch diameter in Waseca County, 1950-April 2018

Date	Hail Size (inches)	Injuries	Date	Hail Size (inches)	Injuries	Date	Hail Size (inches)	Injuries
9/15/2010	1.25	0	8/7/1994	1.75	0	9/20/1980	1.75	0
6/25/2010	1.75	0	6/15/1986	1.75	0	6/28/1979	1.5	0
6/25/2010	1.75	0	3/26/1985	1.75	0	4/3/1978	1.5	0
5/8/2006	1.25	0	7/6/1982	1.5	0	4/3/1978	1.75	0
7/30/2002	1.75	0	7/21/1981	1.75	0	4/14/1977	2.5	0
5/8/2002	1.75	0	6/28/1981	1.75	0	6/18/1974	1.5	0
6/18/2001	1.75	0	6/23/1981	1.75	0	6/15/1970	2.5	0
5/1/2001	1.5	0	6/14/1981	1.75	0	7/23/1968	1.25	0
5/1/2001	1.25	0	4/27/1981	1.5	0	5/15/1968	1.75	0
8/7/1994	2	0	4/27/1981	1.75	0	8/14/1958	1.75	0

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

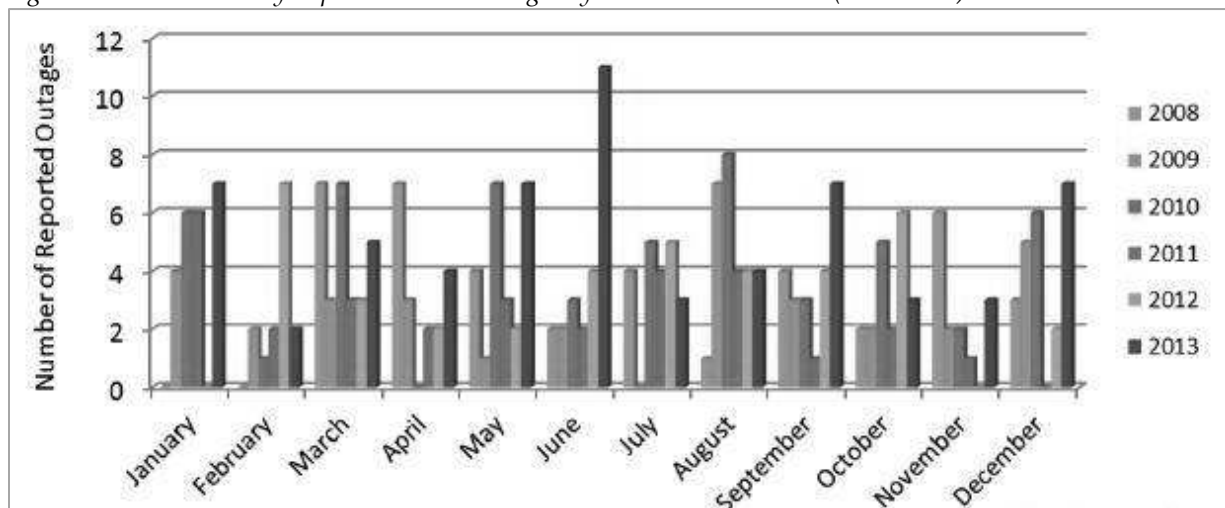
Summer storms affect Waseca County each year, so there is a 100% probability that the county and its jurisdictions will be affected. According to the 67-full-year NCEI record, there is a 51% chance of a significant hailstorm any year in Waseca County and a 25% chance in each year that there will be a hailstorm that produces hail greater than 1 inch in size.

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

Severe Summer Storms and Electrical Outages

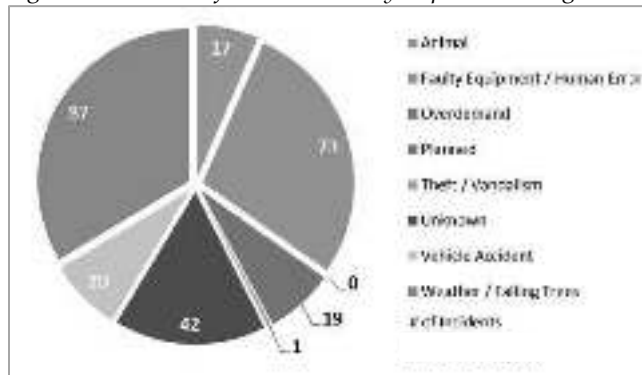
According to NOAA data, the natural hazards that caused the greatest overall property loss in Minnesota between 1996 and 2014 were thunderstorms and lightning, at \$86.3 million per year. The state also experienced 23 electric transmission outages from 1992 to 2009, 5 of which were due to heat waves 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 12 below shows the seasonality of electric outages by month for the years 2008-2013, and Figure 13 shows the causes of outages in the state between 2008 and 2013, with the largest cause being weather/falling trees.

Figure 12. Electric Utility Reported Power Outages by Month in Minnesota (2008-2013)



Source: U.S. Department of Energy, 2015

Figure 13. Causes of Electric-Utility Reported Outages in Minnesota (2008-2013)



Source: U.S. Department of Energy, 2015

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Program Gaps and Deficiencies

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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. 11 flash floods have been recorded in Waseca County since 1997.

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 3 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 Waseca County

According to the 2005 Waseca County Comprehensive Land Use Plan, 46% of the county's land has potential for flooding.

Since 1997, the NCEI has recorded 11 floods and 11 flash floods in Waseca County. No deaths or injuries were associated with these floods, and the NCEI reported property damage only once.

Figure 14. New Richland Care Center during 2010 flood (Waseca County, 2016)



In September of 2010, New Richland and Waldorf experienced a 100-year precipitation event, which has a 1% likelihood of taking place. This event caused adverse impacts to local infrastructure, including businesses such as Trapper's Lanes, Morgan's Meat Market, Midwest Repairable, Thompson's Auto Body and New Richland Auto. In addition, the flood extent forced the New Richland Care Center to be evacuated and caused one

million dollars in property damages, shown above in Figure 14 (Waseca County, 2016).

Figure 15. Flooding in June 2015 (Waseca County, 2016)



In June of 2015, roughly 3 inches of rain fell in 3 hours, which was classified as a 10-year precipitation event for the New Richland area, and the capacities of Joint County Ditch 6 and County Ditch 47 were again put to the test (Figure 15). With the memory of the 2010 event still fresh in area residents' minds and the understanding that changing precipitation patterns have resulted in a greater occurrence of storms with increased severities, this event brought

to the community's attention the need to address the area's flooding potential (Waseca County, 2016).

Figure 16. Flooding in September 2016 (Waseca County, 2016)



In September of 2016, the city of New Richland again experienced a 100-year precipitation event, with 8 inches of rain falling over a 48-hour period. Forty-four residents in the New Richland Care Center were evacuated. Thompson's Auto Body was forced to relocate many vehicles and pieces of equipment offsite, and sandbags were seen surrounding Trappers Lanes and Morgan's Meat Market. Midwest Repairables was underwater, and a culvert located underneath the railroad tracks at the junction of Aspen Ave. S and 2nd St. SE was blown out. New Richland-Hartland-Ellendale-Geneva Public School was seen pumping water out from inside the school (Figure 16) (Waseca County, 2016).

Table 18 below lists Waseca County's historical floods as recorded by the NCEI. Although no deaths or injuries were recorded with these floods, the flood in 2010 resulted in \$1,000,000 in property damage.

Table 18. Waseca County Historical Floods, 1997-April 2018

Location or County	Date	Type	Deaths	Injuries	Property Damage
New Richland	9/22/2016	Flood	0	0	unknown
Waseca	9/22/2016	Flash Flood	0	0	unknown
Waseca	9/22/2016	Flash Flood	0	0	unknown
Waseca	9/21/2016	Flash Flood	0	0	unknown
Waseca	9/21/2016	Flash Flood	0	0	unknown
Waseca	8/12/2016	Flash Flood	0	0	unknown
Waseca	6/16/2014	Flash Flood	0	0	unknown
Waseca	6/16/2014	Flash Flood	0	0	unknown
St Mary	3/25/2011	Flood	0	0	unknown
Waldorf	9/23/2010	Flood	0	0	\$1,000,000
Waldorf	9/23/2010	Flash Flood	0	0	unknown
Waseca	6/17/2010	Flash Flood	0	0	unknown

Location or County	Date	Type	Deaths	Injuries	Property Damage
Janesville	3/15/2010	Flood	0	0	unknown
New Richland	3/15/2010	Flood	0	0	unknown
Waldorf	3/15/2010	Flood	0	0	unknown
Wilton	3/15/2010	Flood	0	0	unknown
Matawan	3/15/2010	Flood	0	0	unknown
Waseca	8/19/2007	Flash Flood	0	0	unknown
Waseca Co	9/15/2004	Flood	0	0	unknown
New Richland	8/1/2004	Flash Flood	0	0	unknown
Waseca Co	6/9/2004	Flood	0	0	unknown
Waseca Co	4/1/2001	Flood	0	0	unknown

Source: National Centers for Environmental Information

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. However, there are no gauging stations located in Waseca County.

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 sp1 in ArcGIS 10.5.1 was used to estimate the damages incurred for a 100-year flood in Waseca County. A 10-meter DEM (digital elevation model) was used to generate a 100-year floodplain and flood depth grid using Hazus hydrology and hydraulics methods.

This documentation does not provide full details on the processes and procedures completed in the flood risk analysis, it is only intended to highlight the major inputs that were used. The fields obtained from the Waseca County tax assessor are noted in parentheses.

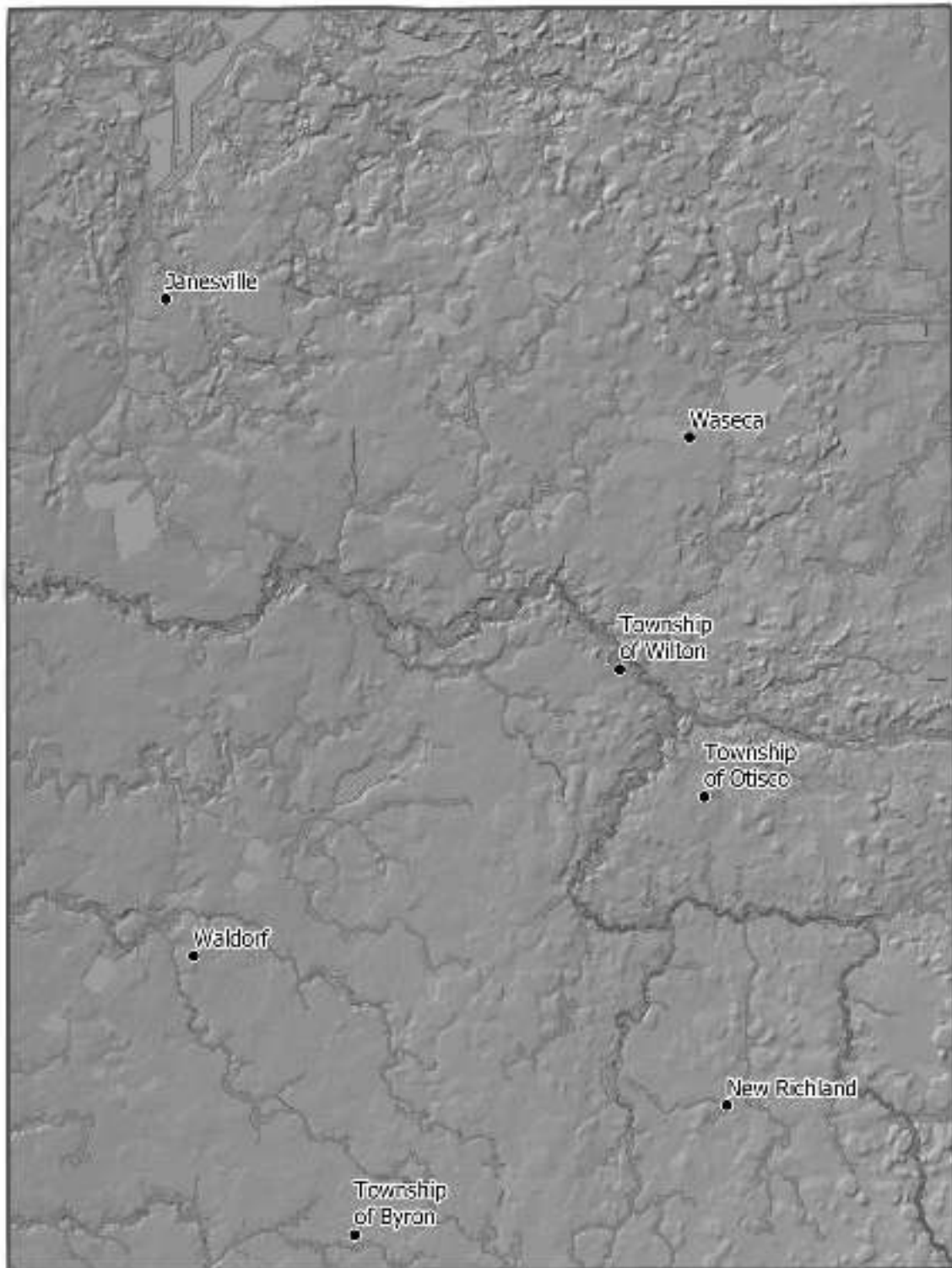
Waseca County-specific building data was sourced from parcel tax databases and parcel polygon databases, including building valuations (Building value) and occupancy class (Use Code). Hazus analysis of structures takes into account the depth of water in relation to the structure using finished square footage (Adjusted Square Feet and Architectural Type for number of stories). The tool also considers the actual dollar exposure to the structure for the costs of building reconstruction (Building Value), content (calculated based on Building Value and square footage). Damages are based upon the assumption that each structure will fall into a structural class (assumptions made based on Year Built), and structures in each class will respond in a similar fashion to a specific depth of flooding. Furthermore, the damage estimates assume an equal distribution of building classifications across the developed portion of a census block. These assumptions suggest that the loss estimates for aggregate structural losses need to be viewed as approximations of losses that are subject to considerable variability rather than as exact engineering estimates of losses to individual structures.

Waseca 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. Shapefiles named Waseca_Parcels_2018.shp and Waseca_Buildings_2018.shp were obtained from the county to locate buildings within the county. Additionally, an attribute file named Zach.xls (structure value, number of stories, square footage, year built, and occupancy class), was used and supplemented with regional averages where values were missing. The resulting spatial dataset included 11,526 unique parcel numbers, 7586 of these records were identified as having building values and were used in the analyses.

In cases where building attributes 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.

The resulting HAZUS 100-year floodplain output is shown in Figure 17.

Figure 17. 100-Year Floodplain in Waseca County



100-Year Floodplain

Data Sources: FEMA Hazus-MH

According to the Waseca County general building stock (derived from the county's parcel data and imported to the Hazus model), the Hazus model estimates there are 7,586 parcels with buildings in the region with a total value (excluding contents) of \$1.1 billion (2010 dollars). Approximately 78.7% of the buildings (and 47.7% of the building value) are associated with residential housing. The Hazus model estimated 29 parcels' buildings will be at least moderately damaged (>10% damage). Zero buildings are estimated to be completely destroyed.

The total economic loss estimated for the flood is \$17.81 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 \$5.7 million dollars. 68% of the estimated losses were related to the business interruption of the region. Residential occupancies made up 25.44% 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, total building losses, and estimated total economic losses are shown in Table 19. The distribution of economic losses for Waseca County is depicted in Figure 18, and the three most populated cities in Waseca County with potential economic loss are displayed in Figure 19, Figure 20, and Figure 21.

Table 19. Waseca County Total Economic Loss from 100-Year Flood

General Occupancy	Total Parcels with Buildings	Parcels with Damaged Buildings	Total Building Exposure	Total Economic Loss	Building Loss
Agricultural	1,103	0	\$287,277,000	\$5,691,000	\$427,000
Commercial	360	0	\$170,285,000	\$4,061,000	\$172,000
Education	13	0	\$59,100,000	\$668,000	\$17,000
Government	74	0	\$52,549,000	\$1,818,000	\$6,000
Industrial	12	0	\$8,744,000	\$3,000	\$0
Religious/Non-Profit	54	0	\$13,566,000	\$1,042,000	\$15,000
Residential	5,970	55	\$539,418,000	\$4,531,000	\$1,369,000
Total	7,586	55	\$1,130,939,000	\$17,814,000	\$2,006,000

Figure 18. 100-Year Flood Building-Related Loss Estimates, by Census Block, Waseca County

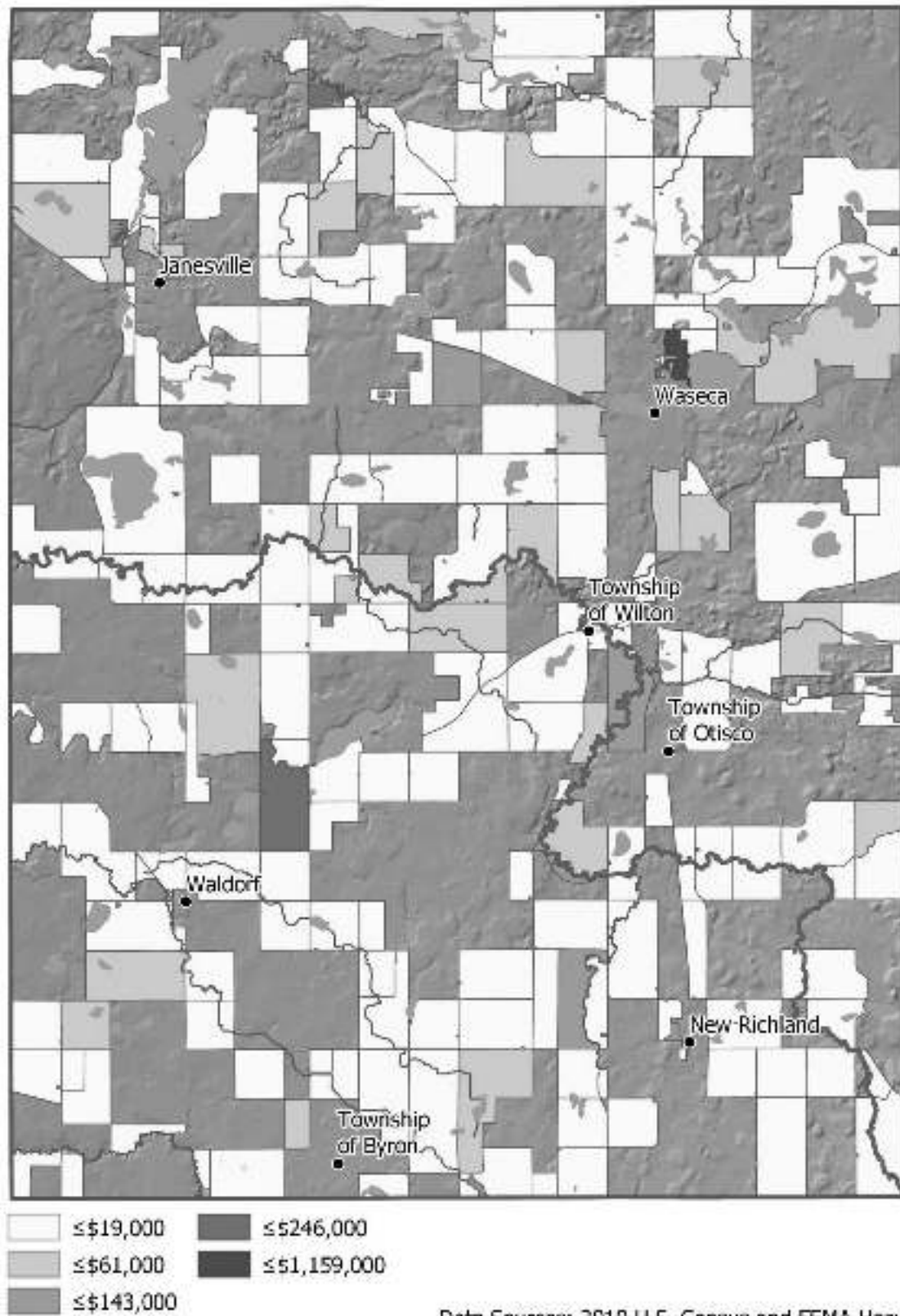


Figure 19. 100-Year Flood Building-Related Loss Estimates, by Census Block, Waseca City

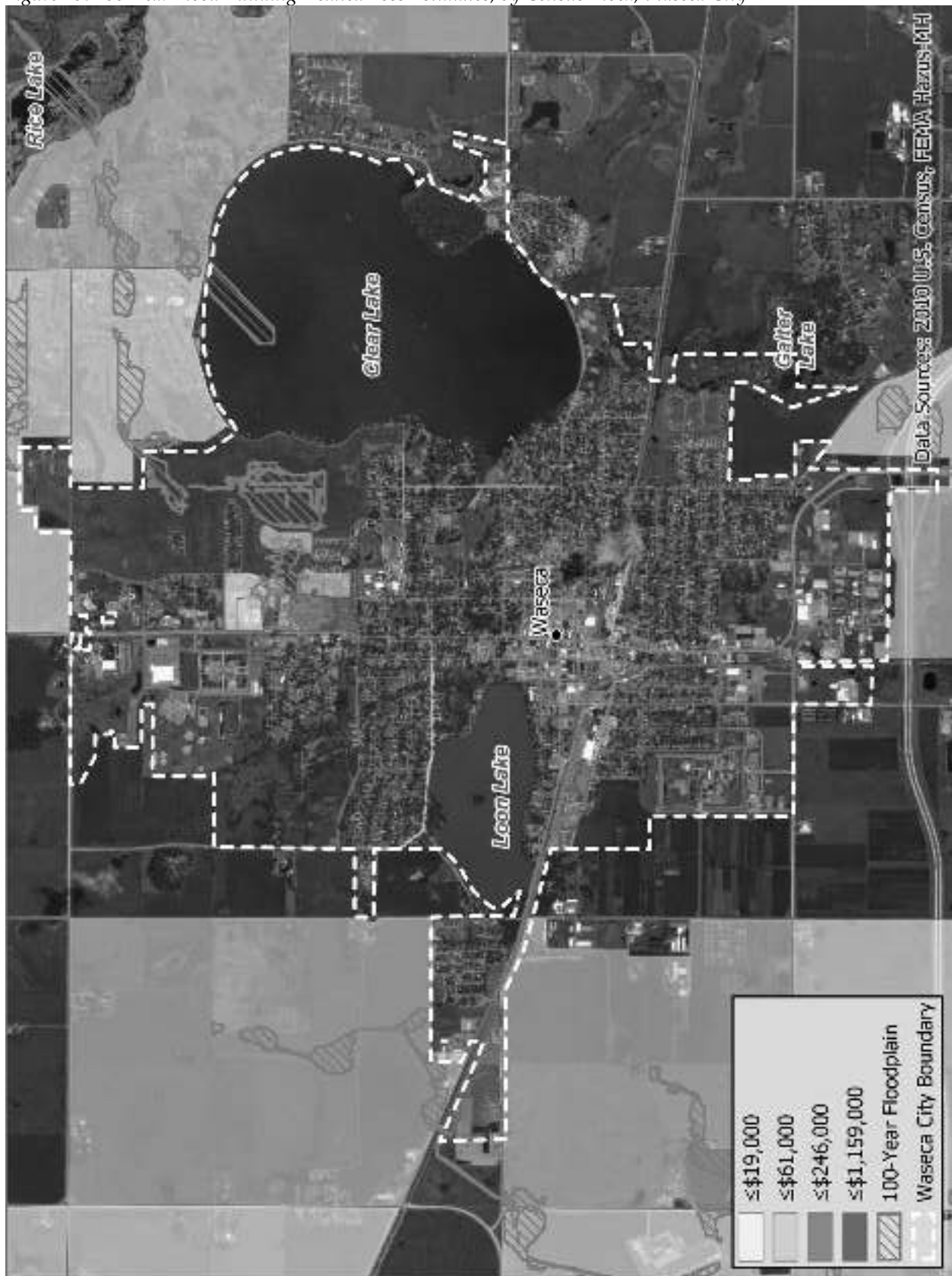


Figure 20. 100-Year Flood Building-Related Loss Estimates, by Census Block, Janesville



Figure 21. 100-Year Flood Building-Related Loss Estimates, by Census Block, New Richland



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 20. These potentially high loss census blocks, used for the loss estimation and the Hazus output floodplain, are shown in Figure 22, Figure 23, and Figure 24. 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 20. Census Blocks with the Greatest Estimated Losses which Contain Buildings in the 100-Year Floodplain

Census Block Number	Total Estimated Loss	City
271617904003001	\$1,159,000	Waseca City
271617904003018	\$231,000	Waseca City
271617901002022	\$143,000	Janesville

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 21.

Table 21. Waseca County Properties with Highest Building/Contents Value with Potential Building Flood Damage

Parcel ID	Total Value of Building(s) + Building's Contents on Parcel	Class Description	Building Area (ft ²)
140-270-200	\$1,289,233	Residential – Nursing Home	15,640
174-830-150	\$1,114,296	Residential - Multi-dwellings (10 to 19 units)	16,692
070-160-900	\$701,946	Agriculture	6,545
172-170-040	\$677,689	Commercial – Retail Trade	37,138
174-830-090	\$497,835	Residential - Multi-dwellings (10 to 19 units)	7,458
090-120-800	\$429,944	Commercial – Retail Trade	5,843
154-760-050	\$277,624	Education – Grade School	1,510
151-002-225	\$261,482	Commercial – Retail Trade	3,554
171-600-050	\$252,960	Single Family Dwelling	1,910
171-610-050	\$231,836	Single Family Dwelling	1,668
Total	\$5,734,845		

Figure 22. Census Block #271617904003001 and 100-Year Floodplain in Waseca City



Figure 23. Census Block #271617904003018 and 100-Year Floodplain in Waseca City



Figure 24. Census Block #271617901002022 and 100-Year Floodplain in Janesville



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). One of the essential facilities included in the Hazus analysis falls within the flood boundary (Table 22). A map of the NRHEG High School and floodplain is shown in Figure 25.

Table 22. Waseca County Essential Facility within the 100-Year Flood Boundary

Type	Name	Site Address	City
School	NRHEG High School	306 Ash Ave. S	New Richmond

Figure 25. Waseca County Essential Facilities in 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 155 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 18 people (out of a total population of 19,136) may seek temporary shelter in public shelters.

Hazus Debris Generation Analysis

Hazus estimates the amount of debris that may be generated by the flood based on best practice assumptions made using year built and occupancy class. 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 428 tons of debris would be generated. Of the total amount, finishes comprises 92% of the total, structure comprises 4% of the total, and foundation comprises 3% of the total. If the debris tonnage is converted into an estimated number of truckloads, it would require 18 truckloads (@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 between 2004 and 2010: 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 (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 – Waseca 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 including debris management.

Public Warning and Notification – In the event of emergencies or hazardous conditions that require timely and targeted communication to the public, Waseca County utilizes CodeRED Emergency Notification System along with IPAWs. This can be area-specific if needed. Waseca County also utilizes the local news media, the county website, the county Facebook page and the Sheriff's Office Facebook page to get messages out to the public.

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. Waseca County and the cities of Waseca, New Richland and Janesville all participate in the NFIP. The city of Waldorf does not.

Waseca County Office of Planning & Zoning – Waseca County Planning & Zoning administers land use and zoning ordinances for rural portions of Waseca 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.

Waseca County Shoreland Ordinance – The Waseca County Shoreland Ordinance (which is contained in the Waseca County Unified Development Code) was adopted by the Waseca 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.

Waseca County Highway Department – The Waseca County Highway Department is responsible for the maintenance and construction of 383 miles of road in Waseca County. The Highway Department is also responsible for the inspection of 81 county and township bridges. The Highway crew consists of the county engineer, assistant county engineer and two engineering technicians.

Program Gaps and Deficiencies

Floodplain Mapping – Floodplain mapping needs to be updated for Waseca County as the most current one on file was done in 1985.

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 Waseca 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.

Figure 26. Armistice Day Blizzard, 1940



The greatest numbers of blizzards historically have occurred in the months of January, followed by March and November, respectively. Waseca 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. Drivers and homeowners without emergency plans and kits are vulnerable to the life-threatening effects of heavy snowstorms 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 Waseca 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. The NCEI has recorded two ice storms, in 1996 and 1998. No deaths, injuries, or property damage resulted from the events in Waseca County.

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 Waseca County will occur is highly probable.

Severe Winter Storm History in Waseca County

The NCEI has recorded 50 winter storms, 14 heavy snow events and 13 blizzards in Waseca County since 1996. None of the severe winter events that have been recorded by the NCEI have caused any deaths, injuries or property damages.

An overview of some of the most notable recent winter weather is provided in Table 23 below.

Table 23. Notable Recent Winter Weather Events in Waseca County

Date	Type	Cost	Deaths	Injuries	Description
1/22/2018	Blizzard	<i>unknown</i>	0	0	A major winter storm turned into a blizzard with gusts up to 40 mph and snowfall amounts ranging from 14-17 inches across Waseca County.
2/23/2017	Winter Storm	<i>unknown</i>	0	0	Waseca County received 13 inches of snow.
1/8/2015	Blizzard	<i>unknown</i>	0	0	A cold front moved across the region with winds gusting up to 50 mph. Roads became hazardous with several accidents reported.
2/20/2014	Blizzard	<i>unknown</i>	0	0	Winds gusted at 45 mph amidst heavy snowfall, led to whiteout conditions for several hours causing numerous road closures due to impassible conditions.
May 2013	Winter Storm	<i>unknown</i>	NA	NA	Over one foot of snow fell on southeast Minnesota. The storm snarled roads, delayed and closed schools and downed power lines. Snowfall totals of 9.4 inches in the city of Waseca were recorded. Heavy May snowfall in southern Minnesota is rare and the last time any southern Minnesota observer reported snowfall totals of similar magnitude was in 1938 (State Climatology Office, 2013).
12/10/2010	Blizzard	<i>unknown</i>	0	0	Eight inches of snow fell across Waseca County, causing whiteout conditions which caused plows to be pulled off the road for several hours.

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 Waseca 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 Waseca 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 – Waseca 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, Waseca County utilizes CodeRED Emergency Notification System along with IPAWs. This can be area-specific if needed. Waseca County also utilizes the local news media, the county website, the county Facebook page and the Sheriff's Office Facebook page to get messages out to the public.

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

School Closings – All school districts within Waseca 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 – Generator backup power is provided to the Waseca County Sheriff's Office, which includes the jail, 911 dispatch center and EOC.

Snow Removal – The Waseca County Highway Department has capabilities for snow removal and road treatment in order to maintain safe winter driving conditions. The department carries out snow

removal and ice control operations on county roads. MnDOT handles snow removal on all state highways within Waseca County. All other city and township jurisdictions either have their own equipment for snow removal or contract for services to do so.

Program Gaps or Deficiencies

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

Power Lines – Above-ground power lines are susceptible to damage due to ice and windstorms. Locating lines underground where it is feasible and cost effective, as is occurring in some parts of Waseca County, can reduce damages and potential power outages.

4.4.7 Extreme Cold

Winter in Waseca 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 Waseca 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 Waseca County

According to the NCEI, there have been 16 extreme cold weather events in Waseca County since 1996, the first was recorded in January of 1996 and the last extreme cold event was recorded in January of 2018. No deaths, injuries or property damage were reported.

One of the coldest air masses sideswiped Minnesota on January 20-21, 2011. Wind chills as low as -36° F occurred in the county.

One of the more severe arctic outbreaks in the past ten years had a grip on Minnesota during the week of January 12-16, 2009. During this time, wind chills ranging from -44° F to 35° F hit Waseca County.

January is the coldest month on average in the city of Waseca, with an average low of 1° F. The lowest temperature ever recorded in Waseca County occurred in 1924, when it fell to -37° F (Intellicast, 2018).

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, 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 Waseca 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 – Waseca 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, Waseca County utilizes CodeRED Emergency Notification System along with IPAWs. This can be area-specific if needed. Waseca County also utilizes the local news media, the county website, the county Facebook page and the Sheriff's Office Facebook page to get messages out to the public.

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

Program Gaps and Deficiencies

Backup Power – Not all county and city facilities have backup power if needed.

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 or job-related activities are also 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 Waseca County

July is the hottest month on average in the city of Waseca, with an average high temperature of 82° F. The highest temperature ever recorded in Waseca is 106° F, which occurred in both May 1934 and July 1936 (Intellicast, 2018).

The NCEI has recorded 9 instances of extreme heat in Waseca County since 1999, with no reported deaths, injuries or property damages.

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).

Recent 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 temperature, 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 Waseca 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 – Waseca 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, Waseca County utilizes CodeRED Emergency Notification System along with IPAWs. This can be area-specific if needed. Waseca County also utilizes the local news media, the county website, the county Facebook page and the Sheriff's Office Facebook page to get messages out to the public.

Program Gaps and Deficiencies

Plans or Programs – There are no formal plans or programs in place for cooling shelters if needed during extreme heat.

Backup Power – Not all county and city facilities have backup power if needed.

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 Waseca County

The nationwide drought of 2011-2012 brought 80% of the state under severe drought conditions by November 2012. The drought was so severe it caused some houses to sink 3 to 4 inches into the ground, costing homeowners tens of thousands of dollars. In July 2012, a four-bedroom home in Waseca was damaged due to the shifting ground beneath the foundation of the house, costing approximately \$20,000 in damages (Baier, 2013).

Overall, the hazard rank for drought in Waseca County is low. A drought may not have a severe impact on human life due to decreased water access; however, the economic impact on farmers can be significant. A drought would also have a detrimental impact on the local economy due to stunting growth of agricultural 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 of 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 Waseca 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

Emergency Operations Plan – Waseca 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.

Burning Regulations and Restrictions – Waseca County regulates when burning permits can be issued and when there are burn bans. If there are dry conditions, a burn ban will be activated.

Waseca County SWCD Precipitation Monitoring Program – The Waseca SWCD has been participating in a statewide precipitation monitoring program since 1978. Rain gauges are provided to volunteers who submit monthly precipitation records to the SWCD. The data is sent to the State Climatologist and is used to study and document precipitation and weather patterns for the state.

Program Gaps and Deficiencies

Wellhead Protection Plan – Only one city, Waseca, maintains a Wellhead Protection Plan. The other cities should have this plan in place within the next 24 months. (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.)

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 Waseca County

Wildfire was ranked as a low risk by Waseca County. The Minnesota DNR responded to 7 fires in Waseca County between 2006 and 2017. A total of 5 out of the 7 fires took place over a 4-day period in October, 2006. All 7 fires were human-caused and burned a total of 63 acres. This data includes fires not only on state lands, but also rural private lands for which there is not another agency with primary responsibility. These fires are mapped in Figure 27.

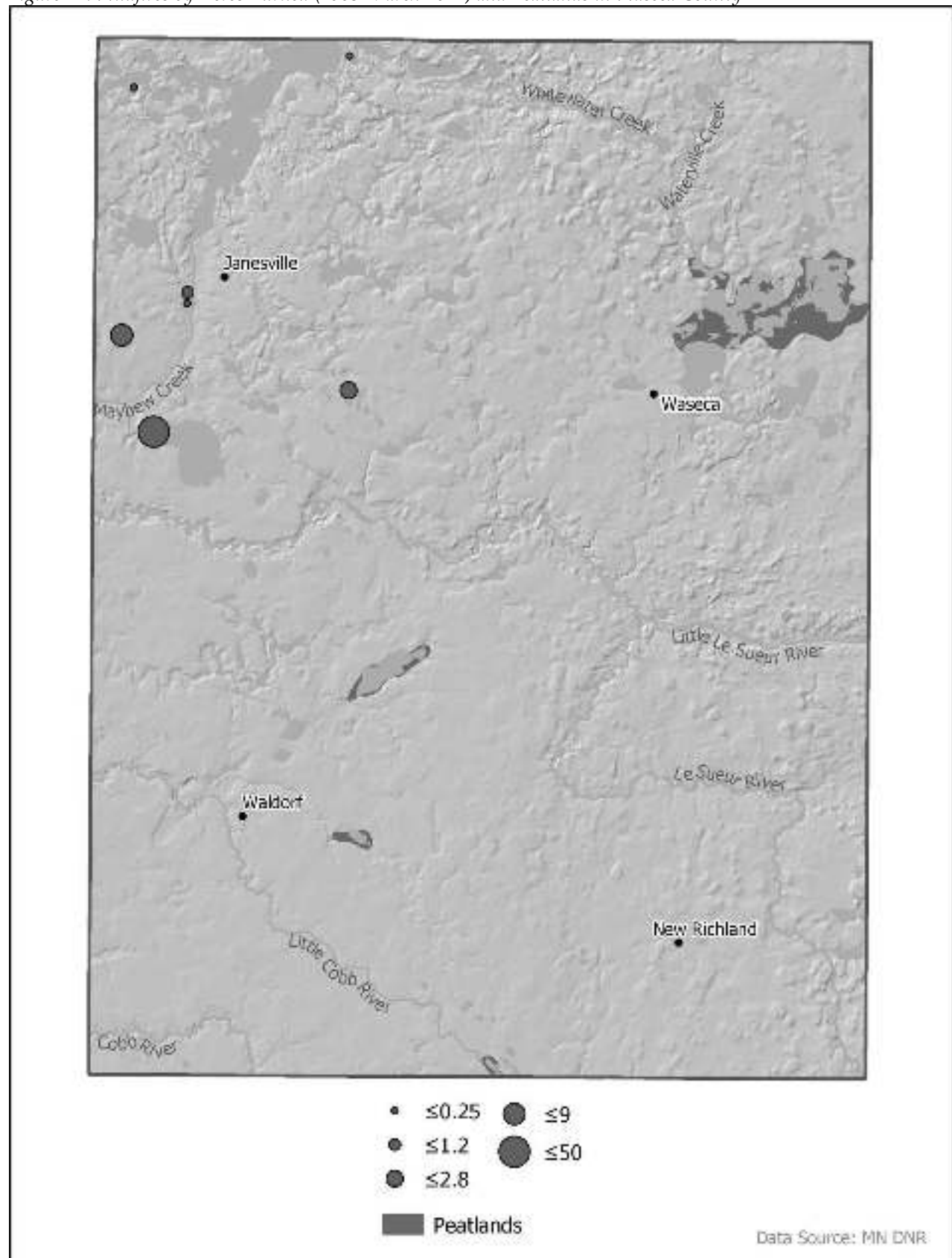
Wildfire and Climate Change

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 Waseca 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 27. Wildfires by Acres Burned (1985-March 2017) and Peatlands in Waseca County



Plans and Programs in Place

Burning Regulations and Restrictions – Waseca County regulates when burning permits can be issued and when there are burn bans. If there are dry conditions, a burn ban will be activated.

Mutual Aid Agreements – All of the fire departments in Waseca County, New Richland Ambulance and North Ambulance have mutual aid agreements with the other departments. Written mutual aid agreements are on file with each city.

Fire Prevention Week – Fire Prevention Week is held annually each October. Most city fire departments participate and provide an opportunity for citizens and students to learn fire safety and hot topics/trends. In addition, local media assists in sharing fire safety information to the public.

Program Gaps or Deficiencies

Water Access – Waseca County has no access to water resources in the outlying rural area. There is access to lakes and streams if necessary by utilizing a floating strainer and suction from a pumper. However, there needs to be a lake or stream close to the structure.

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 Waseca County

Some areas of rural Waseca County have had issues with soil erosion, particularly dealing with sedimentation runoff in areas of the county dominated by agriculture. In addition to runoff concerns within Waseca County, the loss of prime farmland due to both wind and water erosion is another major concern.

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 Waseca County using the Soil Erodibility Factor (K-Factor), 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 Waseca County are 0.32 or less.

The vulnerability of each jurisdiction to soil erosion and landslides has not changed due to any development in the last 5 years.

Plans and Programs in Place

Emergency Operations Plan – Waseca 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, Waseca County utilizes CodeRED Emergency Notification System along with IPAWS. This can be area-specific if needed. Waseca County also utilizes the local news media, county website and the Sheriff’s Office Facebook to get messages out to the public.

Waseca County SWCD State Cost Share Program – The Waseca County Soil and Water Conservation District (SWCD) provides a state cost-share program to assist landowners with the implementation of conservation practices that protect and improve water quality by controlling soil erosion and reducing sedimentation. Landowners, including governmental agencies, may apply for cost-share assistance through the SWCD. In accordance with state guidelines, SWCDs can provide cost-share funds up to 75% of the total eligible costs of an approved practice. Primary practices must be designed to meet the purpose of the practice, for an effective life of not less than 10 years from the date it is approved for final payment. Primary eligible practices that may be approved by the District Board include critical area stabilization; grass waterways; waste management; riparian buffer strips; sediment retention; erosion or water control; and streambank, shoreland and roadside terraces.

Waseca County SWCD Tree Program – The Waseca County Soil and Water Conservation District (SWCD) has a conservation tree program to provide landowners with an affordable way to purchase trees and shrubs for conservation practices, such as windbreaks, shelterbelts, living snowfences and wildlife habitat. Many of the county’s shelterbelts, farmsteads, field windbreaks, wildlife habitat and reforestation efforts have been started as a result of the SWCD Tree Program. It is based on a first-come, first-serve basis, with trees typically available for pick-up at the end of April or beginning of May.

Waseca County SWCD Public Outreach & Education – The Waseca County SWCD has a booth at the Waseca County Fair, Steele County Fair, and the Minnesota State Fair to provide outreach and education to the public about local soil and water conservation and programs available for assistance.

Program Gaps and Deficiencies

None 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 Waseca County

Table 24 below summarizes data on Waseca County’s 11 dams based on data from the National Inventory of Dams and Waseca County. They are also mapped in Figure 28. None of the dams have Emergency Action Plans. There are no levees in Waseca County.

Table 24. Dam Data for Waseca County

Dam Name	Owner	River	Primary Purpose	Year Built	NID Height	Dam Type
Buffalo Lake	MN DNR	Le Sueur River tributary	Unknown	1973	6'	N/A
Clear Lake	Waseca County Highway Department	Crane Creek tributary	Unknown	1937	8'	Concrete
Elysian Lake	MN DNR Wildlife	Mayhew Creek	Unknown	1947	8'	Gravity, Earth
Goose Lake	MN DNR		Unknown	N/A	4'	N/A
Janesville Wildlife	MN DNR	Le Sueur River tributary	Flood control	1973	12'	Earth
Moonan Marsh	Waseca County	Crane Creek	Flood control	1967	13'	Gravity, Earth
Reeds Lake	MN DNR		Unknown	N/A	3'	N/A

Dam Name	Owner	River	Primary Purpose	Year Built	NID Height	Dam Type
Silver Lake	MN DNR	Bull Run Creek	Unknown	1937	6'	N/A
St. Olaf Lake	MN DNR	Le Sueur River tributary	Unknown	1940	7'	Unknown
Watkins Lake	MN DNR Waters	Crane Creek	Flood control	1938	7'	Gravity
Willis Lake	MN DNR	Mayhew Creek tributary	Fish and Wildlife pond	N/A	9'	Earth

Dam Failure and Climate Change

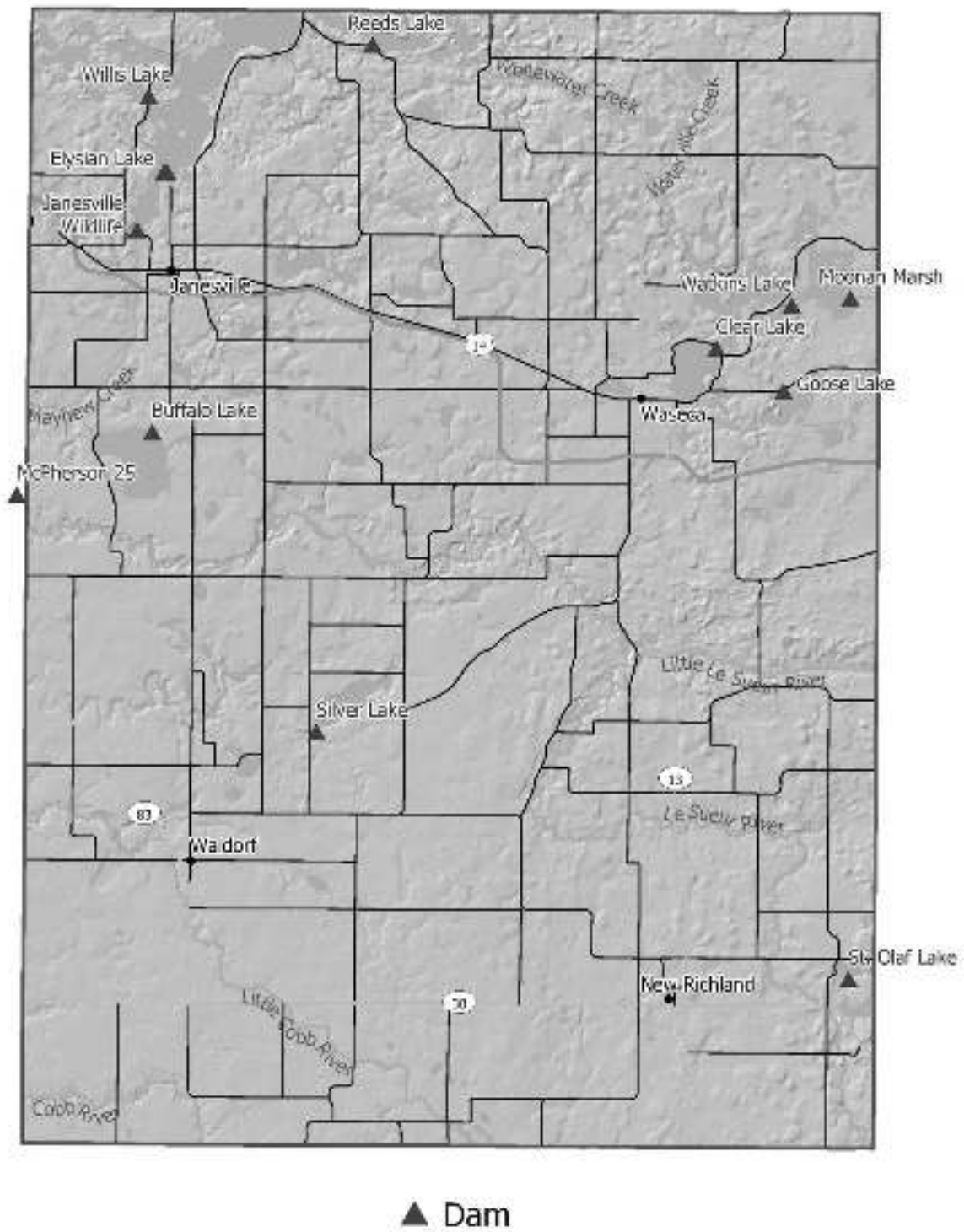
Dams are designed based on assumptions about a river's annual flow behavior that will determine the volume of water behind the dam and flowing through the dam at any one time. Changes in weather patterns due to climate change may change the expected flow pattern. It is conceivable that bigger rainfalls 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.

Figure 28. Dams in Waseca County



Data Source: MN DNR

Plans and Programs in Place

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.

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 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.

Public Warning and Notification – In the event of emergencies or hazardous conditions that require timely and targeted communication to the public, Waseca County utilizes CodeRED Emergency Notification System along with IPAWS. This can be area-specific if needed. Waseca County also utilizes the local news media, county website and the Sheriff's Office Facebook to get messages out to the public.

Program Gaps and Deficiencies

Shifting of Dam – Erosion and shifting of the Elysian Dam has caused concern of structure failure, which could flood Highway 14. Repair or water control doors could be a possible solution on this structure.

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 Waseca County as related to hazard mitigation.
- *Appendix K:* As part of the Waseca 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 Waseca 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 25 below shows which jurisdictions in Waseca County participate in the National Flood Insurance Program (NFIP). Only the city of Waldorf is not participating in the NFIP; however, the city does not have FEMA mapped high-risk areas.

Table 25. NFIP Participation in Waseca County

Jurisdiction Name	NFIP y/n	FEMA Mapped High-Risk Areas
Elysian	Yes	Yes
Janesville	Yes	No

Jurisdiction Name	NFIP y/n	FEMA Mapped High-Risk Areas
New Richland	Yes	No
Waldorf	No	No
Waseca	Yes	No
Waseca County	Yes	Yes

Data current as of 8/16/2017

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. Waseca County has one repetitive loss property, which has had 2 losses, with an average payment of \$9,942. 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 Waseca County, see Section 4.4.5 *Flash Flood and Riverine Flood*.

5.1.2 Plans and Ordinances

Waseca 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, Comprehensive Plan and Wellhead Protection 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 Waseca 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 Waseca County as prone to a number of natural hazards. The steering committee members understand that although hazards cannot be eliminated altogether, Waseca 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 Waseca County Plan (Table 26). This framework will allow

for integration of the mitigation actions that are listed by Waseca 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 26. 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/erosion.

5.3 Mitigation Action 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 27 below:

Table 27. 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 ordinances • NFIP Community Rating System • Capital improvement programs • Open space preservation • Shoreline codes • Stormwater management regulations and master plans

Mitigation Strategy	Description	Example Mitigation Actions
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
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 28 provides criteria that were taken into consideration in the process.

5.3.1 Hazard Mitigation Actions

Waseca County and its included municipalities share a common Multi-Hazard Mitigation Plan and worked closely to develop it. Local leaders work together with the Waseca County Emergency Management Director 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 Waseca County and the cities of Janesville, New Richland, Waldorf and Waseca.

Table 29 lists all mitigation actions for Waseca 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 (see Table 28), 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 28. Criteria for Mitigation Action Priority Ranking

Ranking	Criteria
High Priority	<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	<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	<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 2013 Waseca 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 29. Waseca 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 Waseca County residents are aware of and sign-up for the County's CodeRed Emergency Notification System, and continue to identify ways to bring hazard information to non-English speaking residents in the County.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	A link for CodeRed community sign up is provided on the Waseca County and Cities of Waseca, Janesville, and New Richland websites and Facebook pages. Communities will be encouraged to post information on CodeRed sign up in city newsletters or with utility bills. In rural areas, putting flyers in common community sites might spur sign up. Reminders are also posted using the Waseca County Sheriff's Office Facebook Page. The ability to reach non-English speaking residents is addressed under the Access and Functional needs portion of the Waseca County Emergency Operations Plan. "ECHO" is one method the County has to use for reaching non-English speaking residents.	County, municipal funding
2	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.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning, City Admin/ Planning depts.	This is an ongoing effort of Waseca County Planning & Zoning as well as the Waseca County SWCD for water use planning. Local jurisdictions will be encouraged to update their local Comp Plans with a mitigation focus following completion of our 2018 Multi-Hazard Mitigation Plan.	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Local Planning & Regulations	Continue to update the Waseca County and city-level Emergency Operation Plans to ensure that they adequately detail the needed steps to respond to all-hazards.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	The WC EOP is updated on an annual basis to address new HSEM MNWALK requirements. Local jurisdictions are also encouraged to develop and maintain local level EOP's.	County, municipal funding
4	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place in the event that local emergency services are disrupted or unable to respond.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers, and local fire depts.	Waseca County and local cities maintain mutual aid agreements with neighboring jurisdictions for emergency response. All local fire departments also have MAA's in place to support both structure and wildland fire suppression response as needed. The city of Waseca is also a mutual aid members with MRWA, the Minnesota rural Water Association for water and wastewater emergencies.	County, municipal funding
5	All-Hazards	Local Planning & Regulations	Continue to partner with long-term care facilities/group homes/childcare facilities to work toward planning and implementation of emergency plans for all-hazard events.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management and WC Public Health in coordination with City Emergency Managers & individual facility managers	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
6	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on the dangers of natural hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Information is distributed to the public via websites, Sheriff's Office Facebook, city of Waseca Facebook page, city of Waseca website and Facebook page, the city of Waseca Fire Department Facebook page, city of Waseca newsletters, handouts, and public presentations. Additional information is provided during the NWS severe weather awareness weeks in spring and winter.	County, municipal funding
7	All-Hazards	Mitigation Preparedness & Response Support	Expand the use of GIS resources that are available to support emergency management planning and response at the County and local level.	Ongoing	Moderate	2018-2022	Waseca County	WC Emergency Management, WC GIS	WC Emergency Management and WC GIS will continue to work together to find ways that GIS data can support and enhance our emergency response and recovery efforts, such as identification of locations of vulnerable populations and mapping used in damage assessments.	County funding
8	All-Hazards	Local Planning & Regulations	Develop a countywide Continuity of Operations Plan (COOP) that identifies how the execution of essential functions will continue to be performed during a wide range of emergencies, including natural disasters.	New	High	2018-2022	Waseca County	WC Emergency Management in coordination with County Administration and other departments	Waseca County elected officials and county staff will work together to develop and adopt an all-hazards COOP plan for the county. Planning for staff transition and continuity planning will also be considered.	County 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	Local Planning & Regulations / Mitigation Preparedness & Response Support	Work with businesses within the community that are considered "critical infrastructure" to ensure they are prepared to remain functional in the event of flooding or severe weather that results in severe power outage.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management, WC Public Health, and City of Waseca Emergency Management	<p>WC Emergency Management, WC Public Health, and city emergency managers will work with respective businesses within their communities to encourage management to secure backup power & develop emergency plans to support continuity of service.</p> <p><i>In the city of Waseca,</i> Walmart is considered critical as they provide food, groceries, and mass food preparation.</p> <p><i>In the city of New Richland,</i> the meat market, grocery store, Casey's gas station and CFS gas station do not have any backup power. This would cause an issue for residents to get gas or food if power was down for an extended period of time.</p>	County funding, Private business funding (i.e., Walmart)
10	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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. While most notifications are provided through CodeRed notifications, not all residents are signed up and NOAA weather radios are an important way to receive emergency weather alerts.	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	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's Severe Weather Awareness Weeks in April and November each year.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Public outreach is conducted to educate residents on the dangers of severe winter and summer storms and highlights the importance of preparing for severe weather before it strikes. Local cities are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
12	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Identify critical facilities or infrastructure that do not have backup power in the event of a major power outage resulting from severe winter or summer storms. <i>(Critical facilities may include police/fire departments, EOC, 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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Not all county & city government buildings and schools have backup power generators to ensure energy in the event of a severe power outage. Waseca County and each jurisdiction will work to identify their respective critical facilities that should have backup power.	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
13	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that require backup power.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Waseca 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 funding for Generators
14	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural & municipal electrical coops to identify and address mitigation measures for aboveground power lines that are susceptible to damage from severe winter or summer storms in order to reduce potential power outages.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning and Zoning, WC Highway Dept., City Public Works in cooperation the appropriate utility company.	<p>The County and cities will work with appropriate utility service providers as needed to evaluate areas of concern. Service providers for Waseca County include:</p> <ul style="list-style-type: none"> • Steele/Waseca Coop • Janesville Utilities • Waseca Utilities • Minnesota Valley Electric • BENCO (Blue Earth Nicollet, Faribault Coop) • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense. Other mitigation measures may include overhead strengthening measures or trimming of nearby trees to reduce power outages due to falling tree limbs during storms.</p>	Rural or Municipal Electric Coop funding, Possible FEMA HMA funding for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
15	Severe Winter & Summer Storms	Education & Awareness Programs	Work to raise public awareness of the danger of downed power lines due to severe winter or summer storms (wind, snow, and ice).	New	High	2018-2022	Waseca County, Electric Utility Providers	WC Emergency Management in cooperation with rural & municipal electric coops	Waseca County Emergency Management will work in cooperation with the electric utility companies (listed above) to share information at existing public events such the annual FarmAmerica event. Other avenues of outreach may include holding hometown meetings or presenting at local schools.	County / Utility Company funding, FEMA HMA grant funding for 5 Percent Initiative Projects
16	Severe Summer Storms	Education & Awareness Programs	Continue to provide/participate in 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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management in collaboration with local cities and NWS	Waseca County offers two SKYWARN classes on an annual basis for first responders and local residents that wish to be trained as volunteers. Waseca County has a group of approximately 25 trained spotters who, when the NWS sends out a spotter activation for our county, are called on to go out and spot in different areas within the county.	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
17	Severe Summer Storms	Education & Awareness Programs	Continue to ensure that all warning sirens in the County are up-to-date and that the public is informed on the reasons for their use. Install new or upgrade siren warning systems where needed.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	<p>Waseca County has a system of emergency warning sirens throughout the county. Sirens are activated when the National Weather Service notifies Dispatch that there are high winds of 70 mph or greater or tornado conditions that pose risk to public safety.</p> <p>Waseca County and each city participates in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. The public is educated on the use of sirens during Severe Weather Awareness Week and other reminders posted on the Sheriff's Office Facebook during tornado season. All public schools also participate in annual tornado drills.</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
18	Severe Summer Storms	Structure and Infrastructure Projects	Identify areas where vulnerable populations are susceptible to tornadoes or extreme wind events (i.e. schools, campgrounds, or mobile home parks) and evaluate for construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management in coordination with City Emergency Managers	Waseca County Emergency Management will work with all city emergency managers to evaluate areas of need for storm shelters or safe rooms. Currently there are two designated storm shelters in the county located in the Waseca County EOC and Central Intermediate School. Current locations identified as priority areas for a community safe room include Kiesler's Campground & RV Resort, located on the outskirts of the city of Waseca and the Waseca County Solid Waste/Recycling Facility for the protection of employees and customers.	County, municipal funding
19	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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management, WC Public Health, in coordination with City Emergency Managers	Any community safe room projects that the County is involved in will be part of the Waseca Emergency Management program. FEMA grant funding may be sought to support an eligible safe room project.	County, municipal funding, Possible FEMA HMA funding for Safe Room Construction

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
20	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may lead to contaminated drinking water.	Ongoing	High	2018	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning Dept., MN Dept. of Health and local city and township public works depts.	The city of Waseca wellhead protection plan is completed, and the cities of Janesville, Waldorf and New Richland are expected to be completed in 2018. 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 a community's drinking water. Cities work directly with the Minnesota Department of Health (MDH) on the development or update of wellhead protection plans to ensure they meet State requirements.	MDH Source Water Protection grant funding for wellhead improvement projects
21	Flooding	Local Planning & Regulations	Work with MN DNR to update the County's digital floodplain insurance rate maps (DFIRM) from 1985.	Ongoing	Moderate	2018-2022	Waseca County	WC Planning & Zoning Dept., MN DNR	According to the MN DNR, the Estimated FEMA Map Modernization Status for Waseca County is to develop a preliminary map in 2020.	MN DNR
22	Flooding	Local Planning & Regulations	Continue to participate in the National Flood Insurance Program (NFIP) and enforce local floodplain ordinances to ensure that new construction is built above regulatory flood protection elevation.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning Dept., local city planning depts.	WC Planning & Zoning administers land use and zoning ordinances for rural portions of Waseca County, including for floodplains and shoreland. The Cities of Janesville, New Richland, Waldorf, and Waseca all participate in the NFIP. Cities develop and enforce local floodplain ordinances.	County, municipal funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
23	Flood	Mitigation Preparedness & Response Support	Purchase equipment needed to respond to flood events including portable lights, generators, sandbag machines, water pumps, and portable water dams.	Ongoing	Moderate	2018-2022	Waseca County	WC Emergency Management	Waseca County Emergency Management will continue to work on finding funding to purchase items still needed.	County funding, other potential funding (not yet identified)
24	Flooding	Structure and Infrastructure Projects	<p>Identify areas of concern and appropriate mitigation measures to reduce future flood-related risks and damages to culverts, ditches, roads, and bridges in the county.</p> <p>(Examples of mitigation solutions may include but are not limited to culvert and ditch improvements, raising road beds, installation of water retention or water diversion, and replacement of aging or failing bridges.)</p>	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Highway Dept. and local city / township public works	<p>Waseca County and local jurisdictions maintain an annual inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.</p> <p>The WC Highway Department is responsible for the maintenance and construction of 383 miles of road in the County. The Highway Dept. is also responsible for the inspection of 81 county and township bridges as well as maintenance of culverts and drainage ditches for county roads. Local municipalities' public works work to monitor and address any problem areas for drainage at the local level.</p> <p>Maintenance and enhancement of the County's drainage system is identified as a priority in the Waseca County Local Water Management Plan Amendment (2015-2018).</p>	County, municipal funding, Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
25	Flooding	Structure and Infrastructure Projects	Develop stormwater management plans and improve stormwater management systems (i.e., sewers and holding facilities) at the county and city level to address future high-impact rain events throughout the County.	Ongoing	New	2017-2021	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning Dept & WC SWCD in coordination with local city / township Planning/ Public Works depts.	Stormwater Management is addressed as a priority in the Waseca County Local Water Management Plan Amendment (2015-2018). Local jurisdictions are be responsible for development of municipal stormwater management plans & projects.	County, municipal funding, SWCD, and Possible MPCA/PFA grant funding. Possible FEMA HMA funding 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
26	Flooding	Structure & Infrastructure Systems / Natural Systems Protection	Improve/install culverts, water storage & retention on the east side of New Richland Highway 13.	New	High	2018-2022	Waseca County, New Richland	WC Highway Dept. and WC SWCD in coordination with City of New Richland Public Works dept. & MnDOT	This area has experienced repetitive flooding that has been managed with sandbagging during high rain events as an emergency measure to reduce flood damages. Culvert improvements, along with water storage & retention measures have been identified as mitigation measures to reduce future flood impacts.	County, municipal funding, MnDOT, SWCD grant funding programs and Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit
27	Flooding	Local Planning & Regulations	Identify properties that experience repetitive damage from flooding and work with property owners on property acquisition & structure demolition or relocation and turn the flood-hazard area into open-space.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning Dept, and local city / township public works	This is an ongoing effort of Waseca County Planning & Zoning in conjunction with local jurisdictions that have experienced repetitive flooding.	County, municipal funding, Possible FEMA HMA grant funding for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
28	Flooding /Erosion	Structure & Infrastructure Systems / Natural Systems Protection	Address culvert improvements and vegetation management along the Le Sueur River to reduce water overflow and resulting erosion during high precipitation events.	New	High	2018-2022	Waseca County	WC Highway Dept., WC SWCD, Townships' public works and MN DNR	Waseca County Building & Grounds Maintenance Dept. has identified this culvert project as a priority to help mitigate flood issues along areas of the Le Sueur River. Shoreland and Natural Corridor Management is identified as a priority in the Waseca County Local Water Management Plan Amendment (2015-2018).	County / SWCD funding, MN DNR, and Possible FEMA HMA grant funding for Soil Stabilization
29	Wildfire	Natural Systems Protection	Evaluate rural areas in the county to install dry hydrants to support wildfire suppression.	New	Low	2018-2022	Waseca County	WC Emergency Management in coordination with local fire chiefs and MN DNR Forestry	Wildfire is ranked as a low-risk hazard for Waseca County. However, there is no access to water resources in outlying areas not supported by a municipal water source. WC Emergency Management and local fire departments will consider areas where there is access to lakes and streams that might support a dry hydrant in order to better support wildland fire suppression.	County, municipal funding, fire dept. funding, or Possible MN DNR Firewise Grant funding
30	Dam Failure	Structure and Infrastructure Projects	Work with DNR to improve infrastructure of Lake Elysian dam.	New	High	2018-2022	Waseca County	WC Emergency Management, WC Highway Dept., WC Planning & Zoning in coordination with MN DNR	Waseca County will continue to work with the DNR for help in completing this task. Erosion and shifting of the Elysian Dam has caused concern for structure failure, which could flood Highway 14. Repair or water control doors could be a possible solution on this structure.	County or MN DNR funding

#	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County Comments on Planning Mechanisms for Implementation	Possible Funding
31	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	Waseca County	WC Emergency Management, WC Public Health in collaboration with 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 Facebook, radio, and local newspapers. Emergency information is provided for emergency services offices and hospitals. All Schools work to educate students on the dangers of extreme heat and cold as well.	County, municipal funding
32	Extreme Temps (Hot / Cold)	Mitigation Preparedness & Response Support	Develop plans to respond to extreme temperatures situations in Waseca County.	Ongoing	Moderate	2018-2022	Waseca County	WC Emergency Management and WC Public Health	In the event of a severe heat event that posed risk to public safety, Waseca County Emergency Management would work with Waseca County Public Health 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.	County Budget
33	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought. Enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management in collaboration with SWCD and local cities	Promoting water conservation during periods of drought is a standing effort of the County and local governments, as well as the USDA and Farm Service Agency (FSA) Office.	County, municipal funding

5.3.2 Mitigation Actions by Community

This plan is a multi-jurisdictional plan that covers Waseca County, its school districts and the cities of Janesville, New Richland, Waldorf and Waseca. Planning team members from each community participated directly in the development of local mitigation action charts for implementation. The Waseca 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 Waseca 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 Waseca County MHMP.

The Waseca County Emergency Management Director 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 Waseca County Emergency Management Director will work with the Waseca County Local Emergency Planning Committee (LEPC) to serve as the committee to help monitor, review, evaluate and update the Multi-Hazard Mitigation Plan. The LEPC meets every other month and consists of representatives from Waseca County Emergency Management, Public Health, and other county departments, as well as representatives from the cities of Janesville, New Richland, Waldorf and Waseca. Additional stakeholders will be added based on need. If necessary, the Waseca County Emergency Management Director 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 Waseca 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 Waseca 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 Waseca County Emergency Management Director so that progress notes may be maintained for the next plan update.

6.2 Implementation

Waseca 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 Waseca County and its jurisdictions (see Section 5.3.1, *Hazard Mitigation Actions*). The cities of Janesville, New Richland, Waldorf and Waseca 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 Waseca 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.

Regulation: Regulation is an important mitigation tool for Waseca County. Regulation plays a particularly important role for land use, access to structures and the protection of water resources and public health.

6.3 Continued Public Involvement

Continued public involvement is critical to the successful implementation of the Multi-Hazard Mitigation Plan (MHMP). The Waseca County Emergency Management Director and the steering committee members from the participating jurisdictions of the cities of Janesville, New Richland, Waldorf and Waseca 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 Waseca 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 disaster events, Waseca 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 Waseca County Emergency Management Director.
- 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 – Waseca County Critical Facilities
Appendix C – Waseca 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 (2009-2016)
Appendix I – Works Cited
Appendix J – Waseca County Plans & Programs In Place
Appendix K – Local Mitigation Capabilities Assessment Report
Appendix L – Jurisdictional Questionnaires

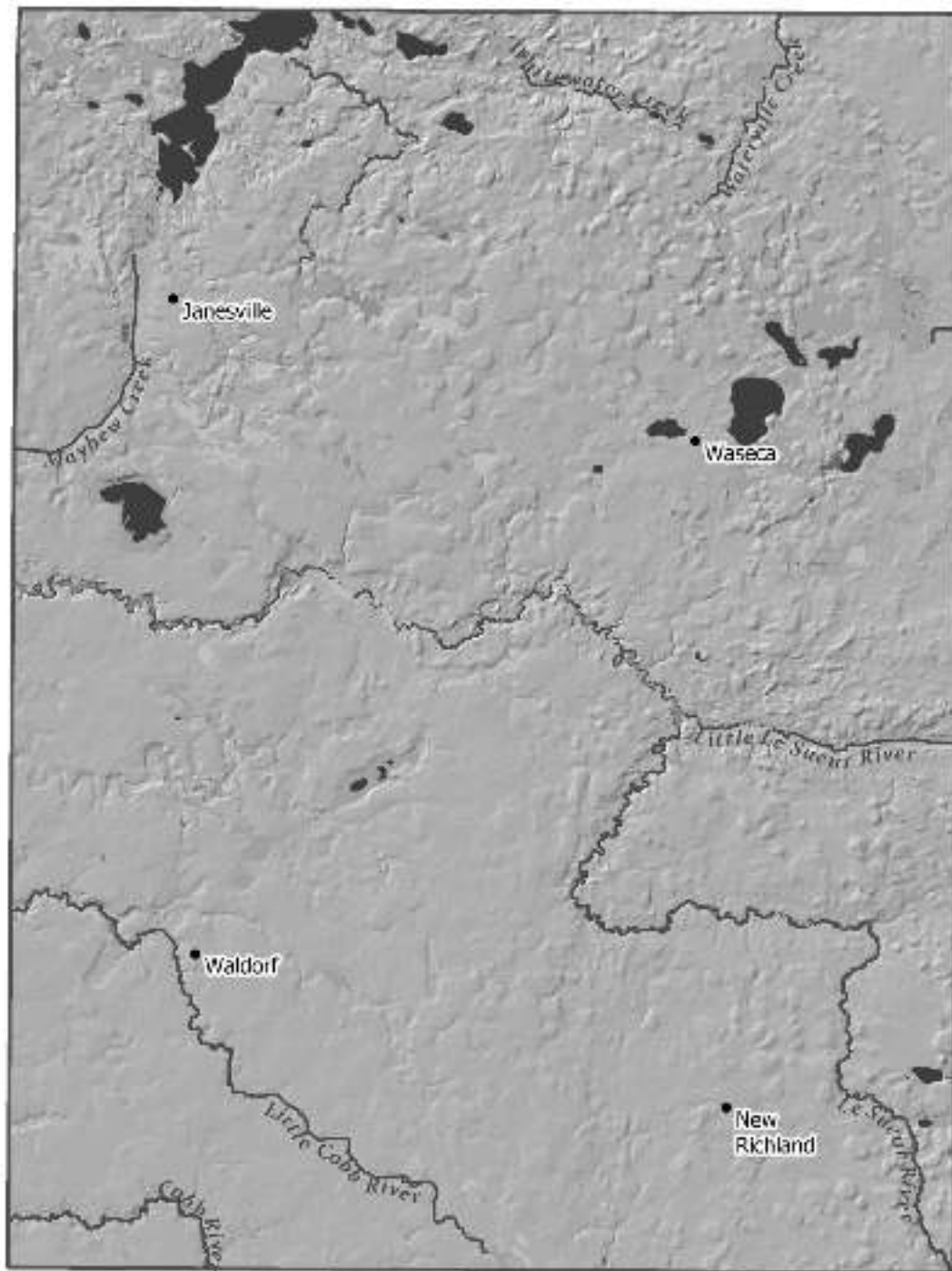
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Appendix A

Waseca County Maps

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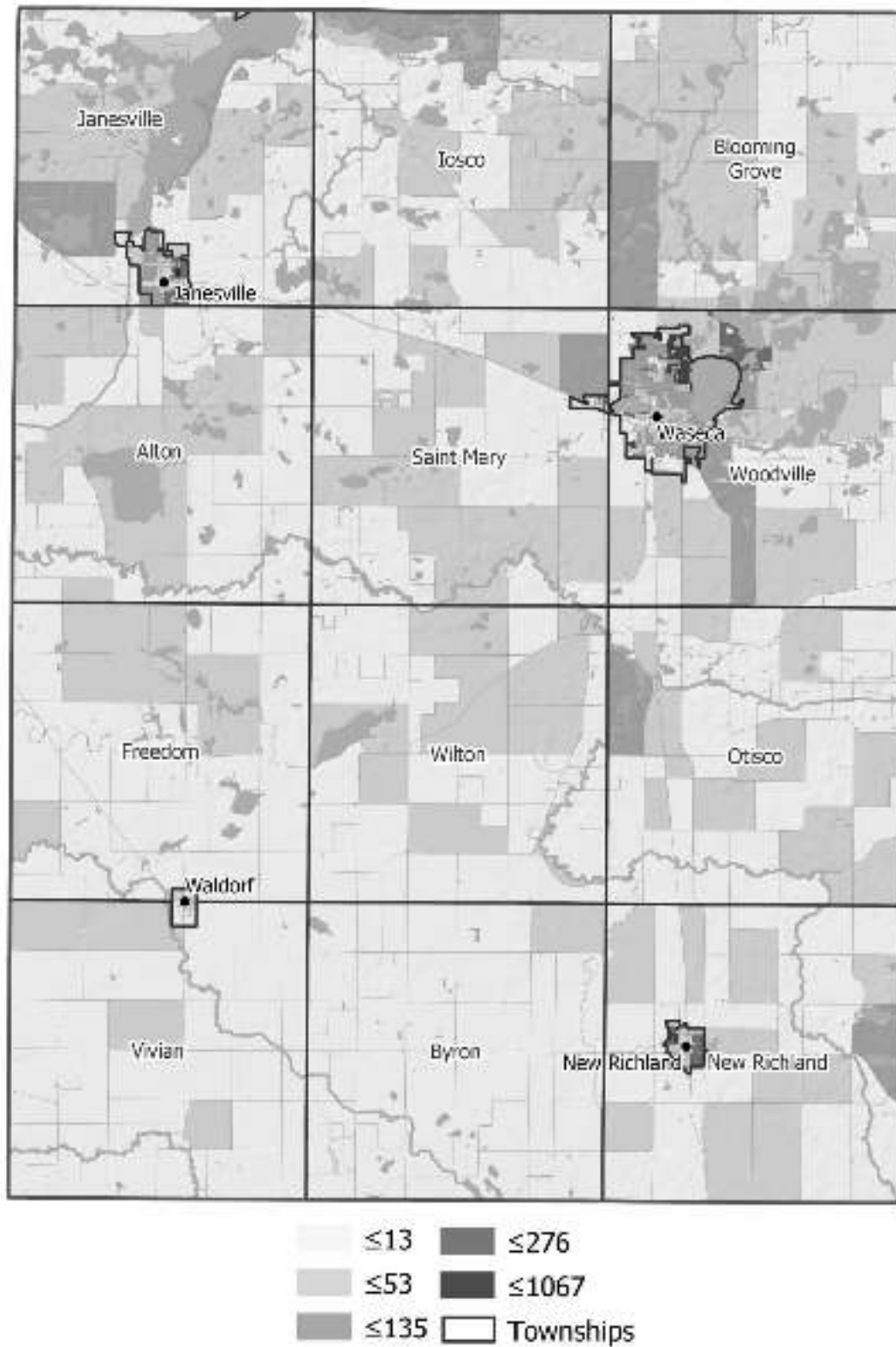
Figure A - 1. Hydrography of Waseca County



- | | |
|----------------------------------|-------------------------------------|
| Seasonally Flooded Basin or Flat | Shrub Swamp |
| Wet Meadow | Wooded Swamp |
| Shallow Marsh | Municipal and Industrial Activities |
| Deep Marsh | Riverine Systems |
| Shallow Open Water | |

Data Source: MN DNR

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



Data Sources: MN DNR, U.S. Census

Figure A - 3. Fire Departments and Fire Response Times (in minutes) in Waseca County

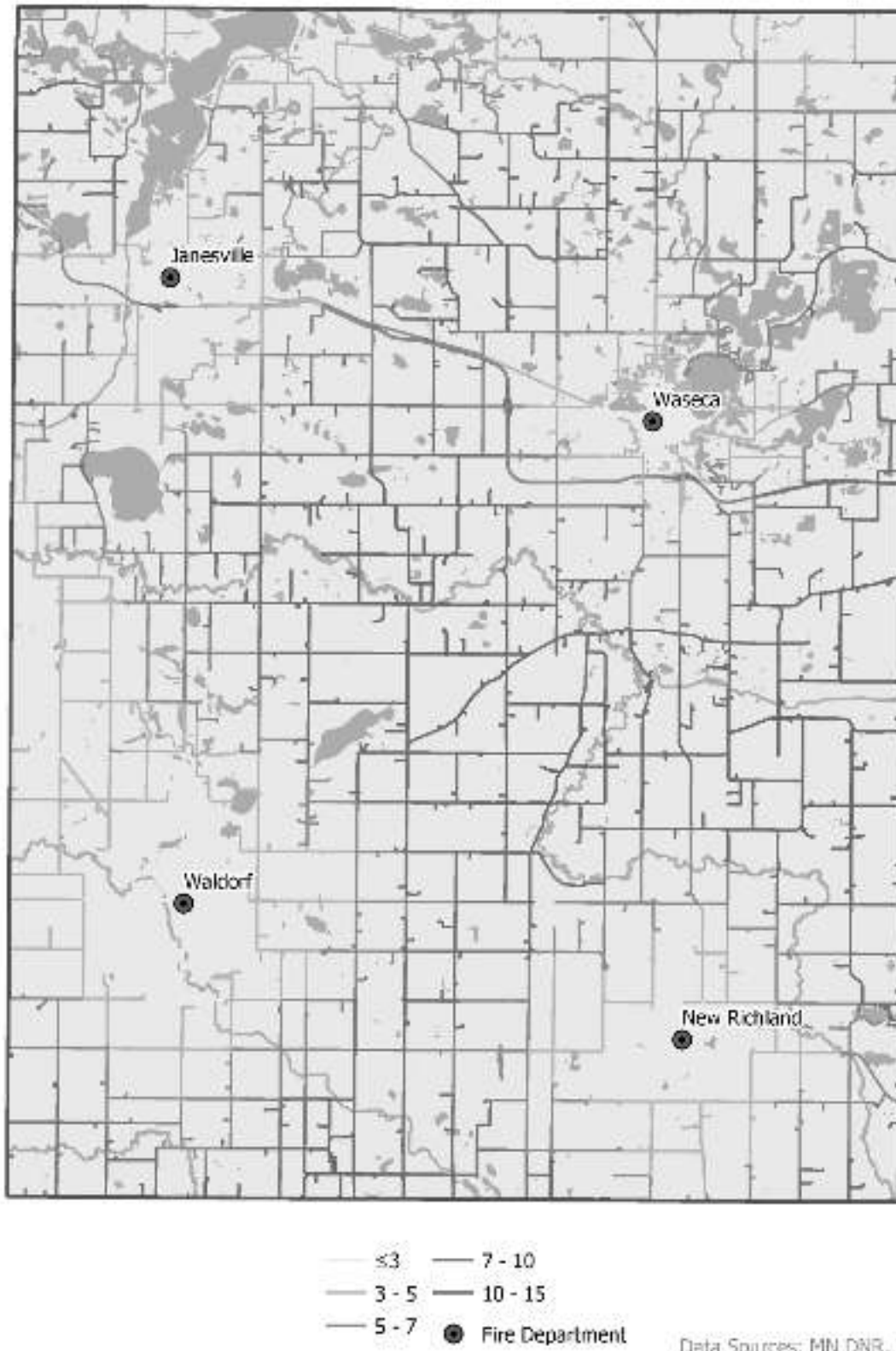


Figure A - 4. Waseca County Public Safety and Government Services

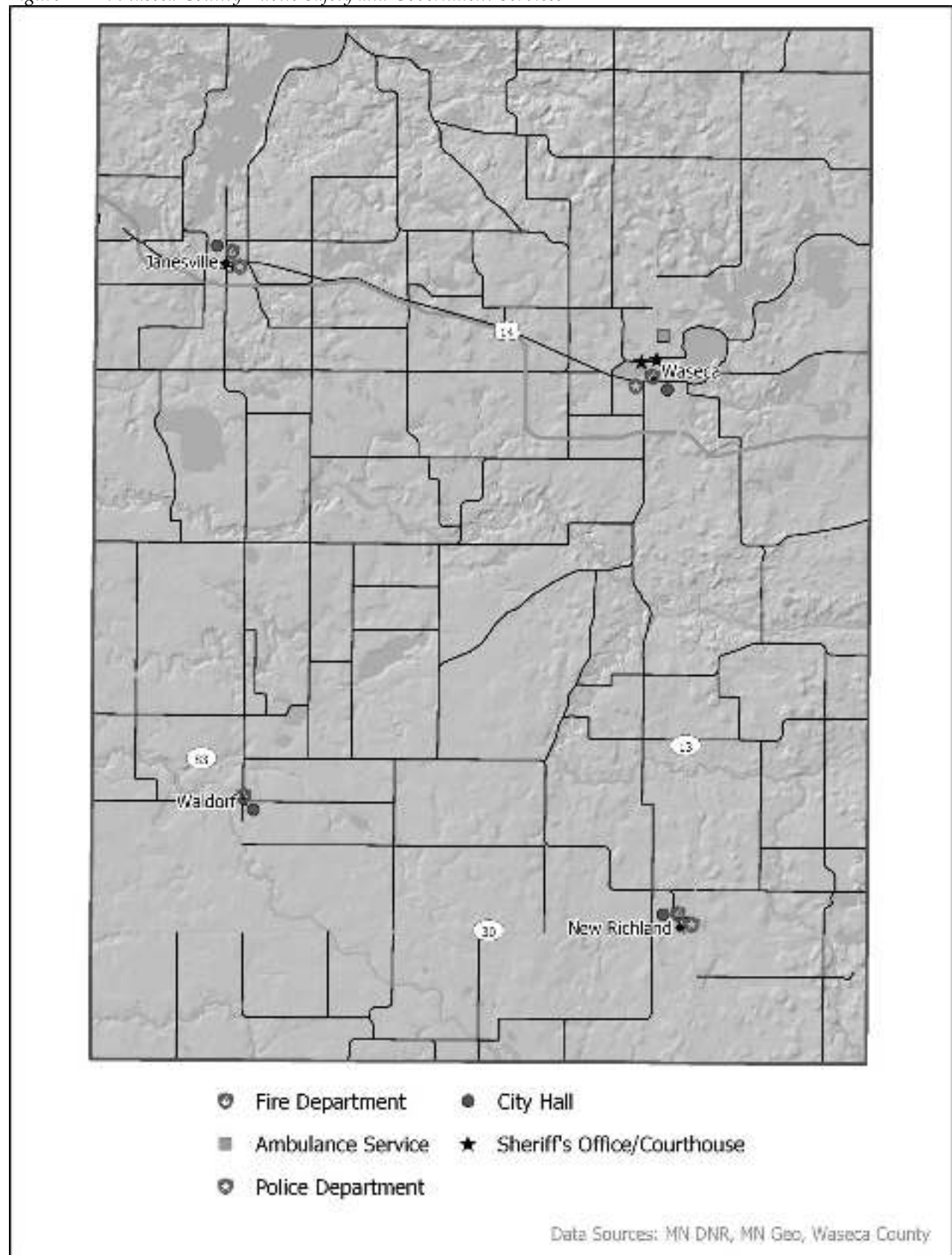
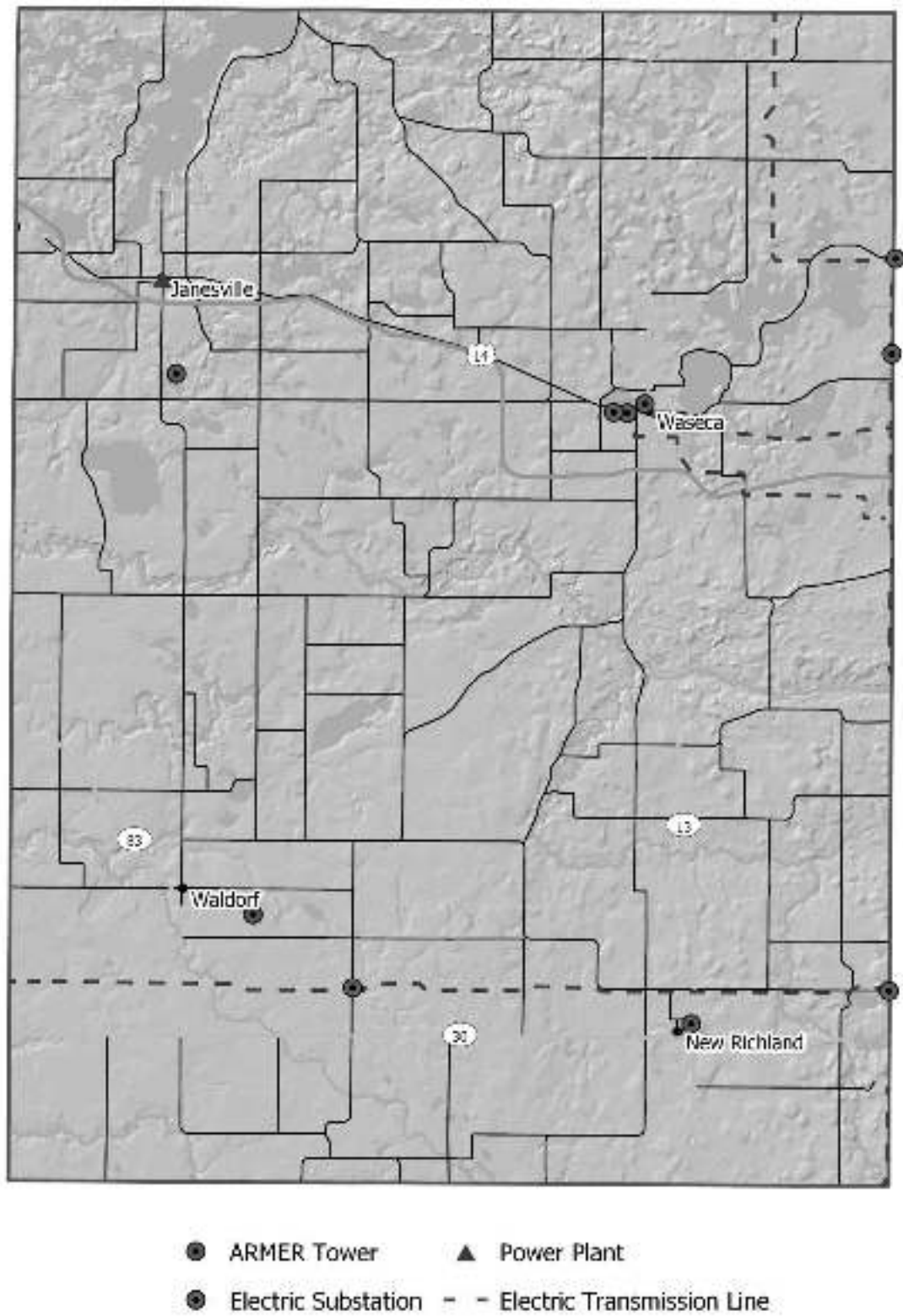


Figure A - 5. Waseca County Utilities and Communication Infrastructure



Data Sources: MN DNR, MN Geo, MN DOT

Figure A - 6. Waseca County Transportation Infrastructure

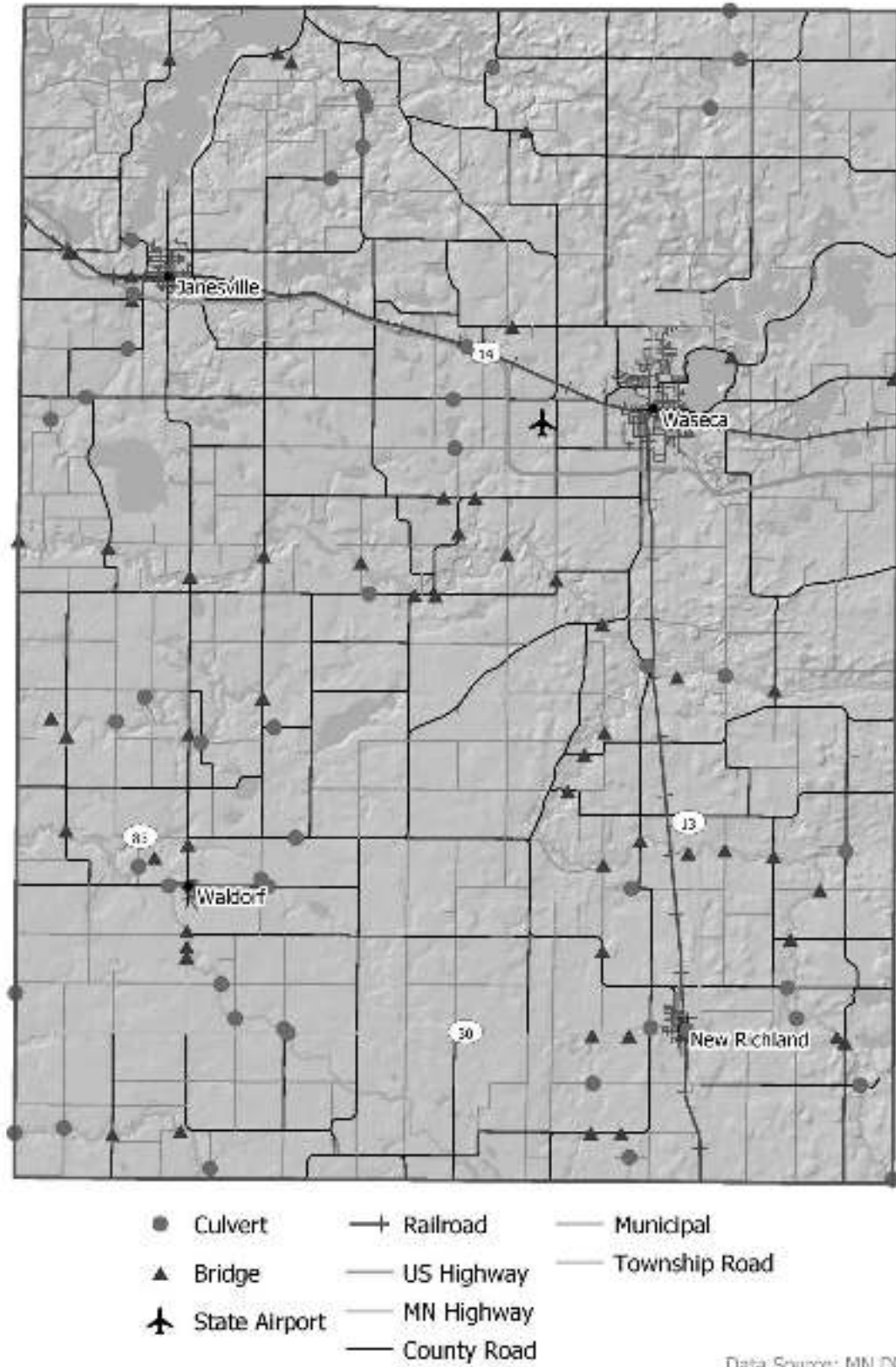


Figure A - 7. Waseca County Land Cover, National Land Cover Database, 2011

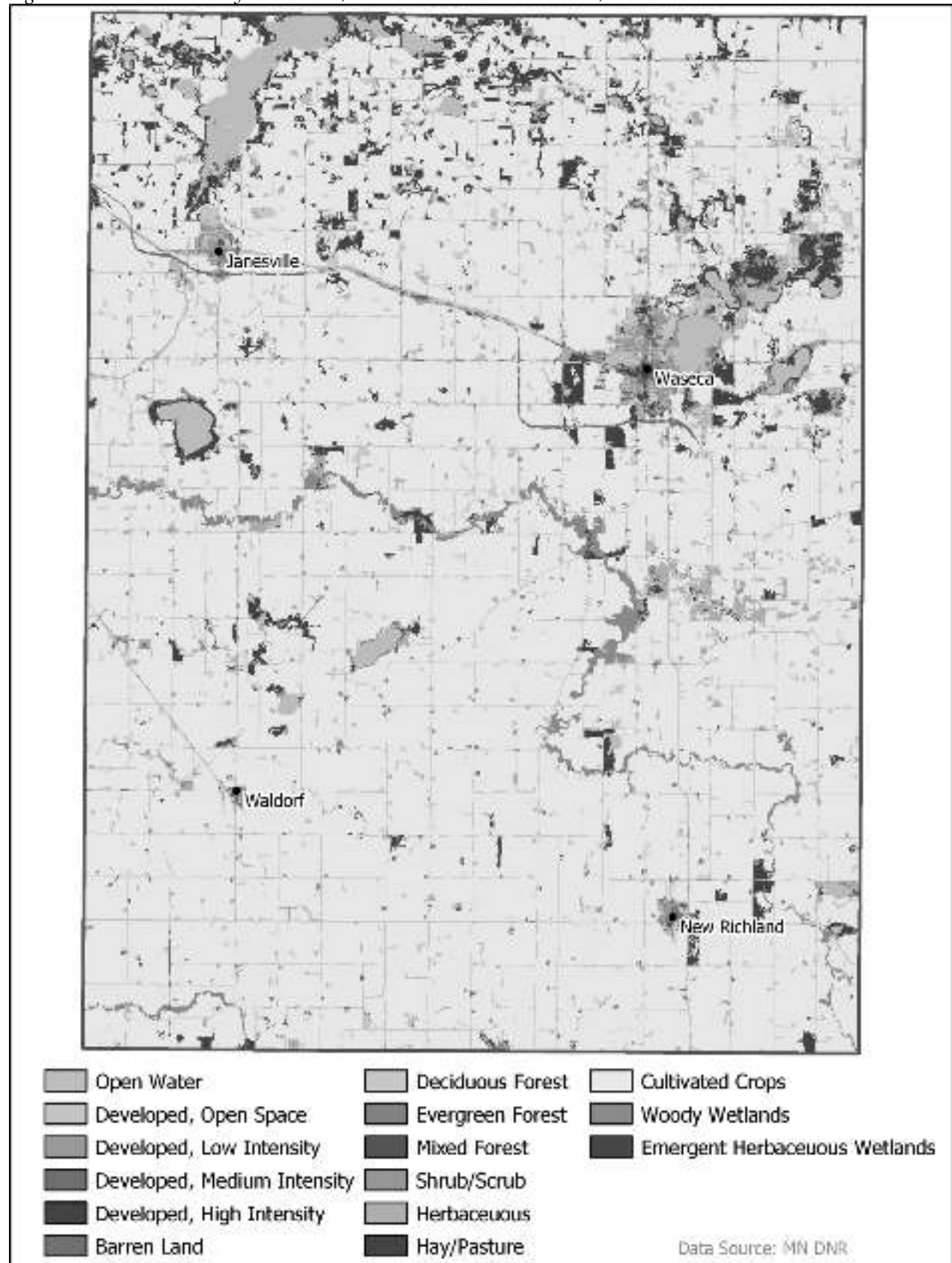
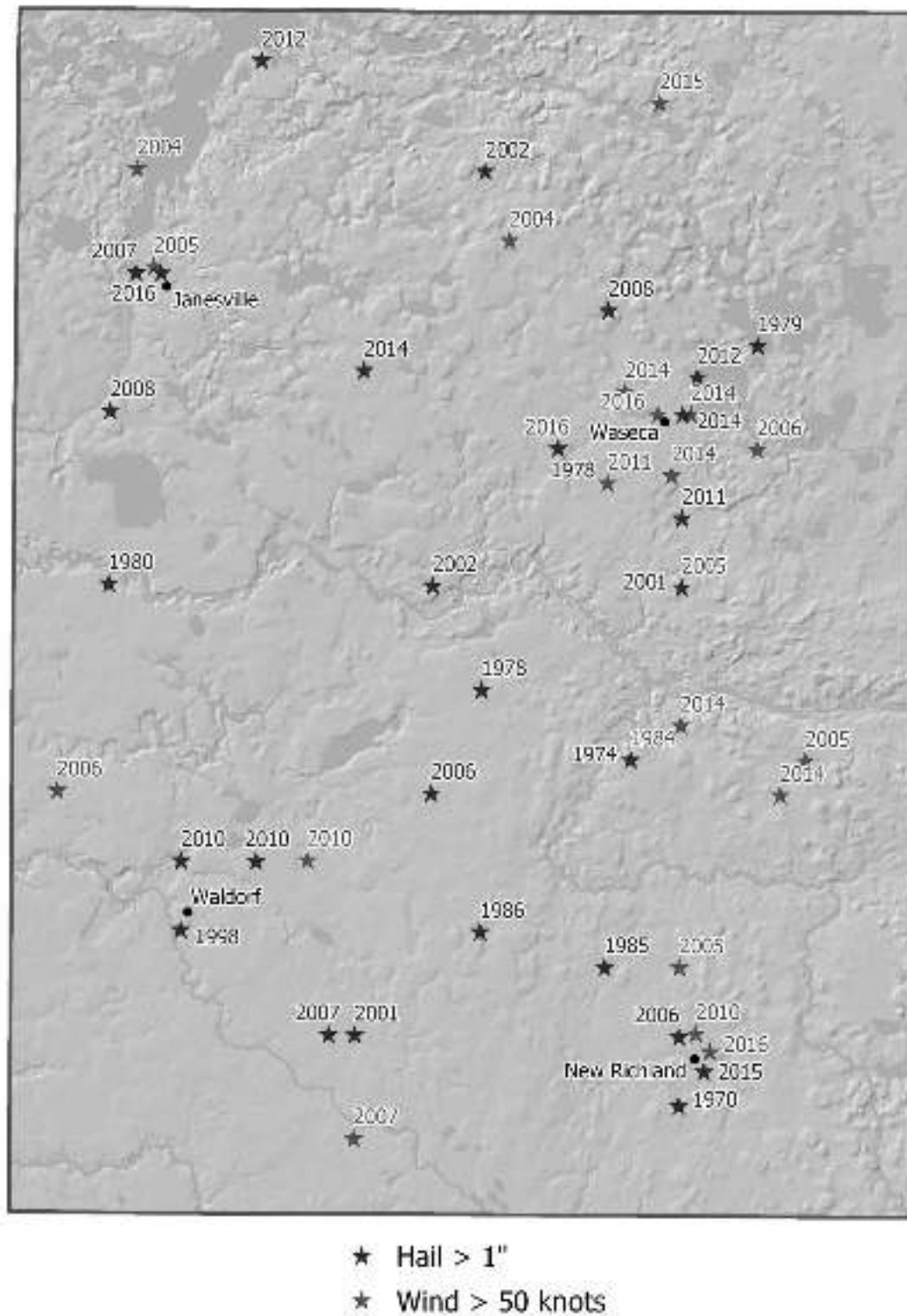


Figure A - 8. Waseca County Land Ownership by Agency



Data Source: MN DNR

Figure A - 9. Most Recent Severe Wind and Hail Storms in Waseca County



Data Sources: MN DNR, NCEI

Figure A - 11. Dams in Waseca County

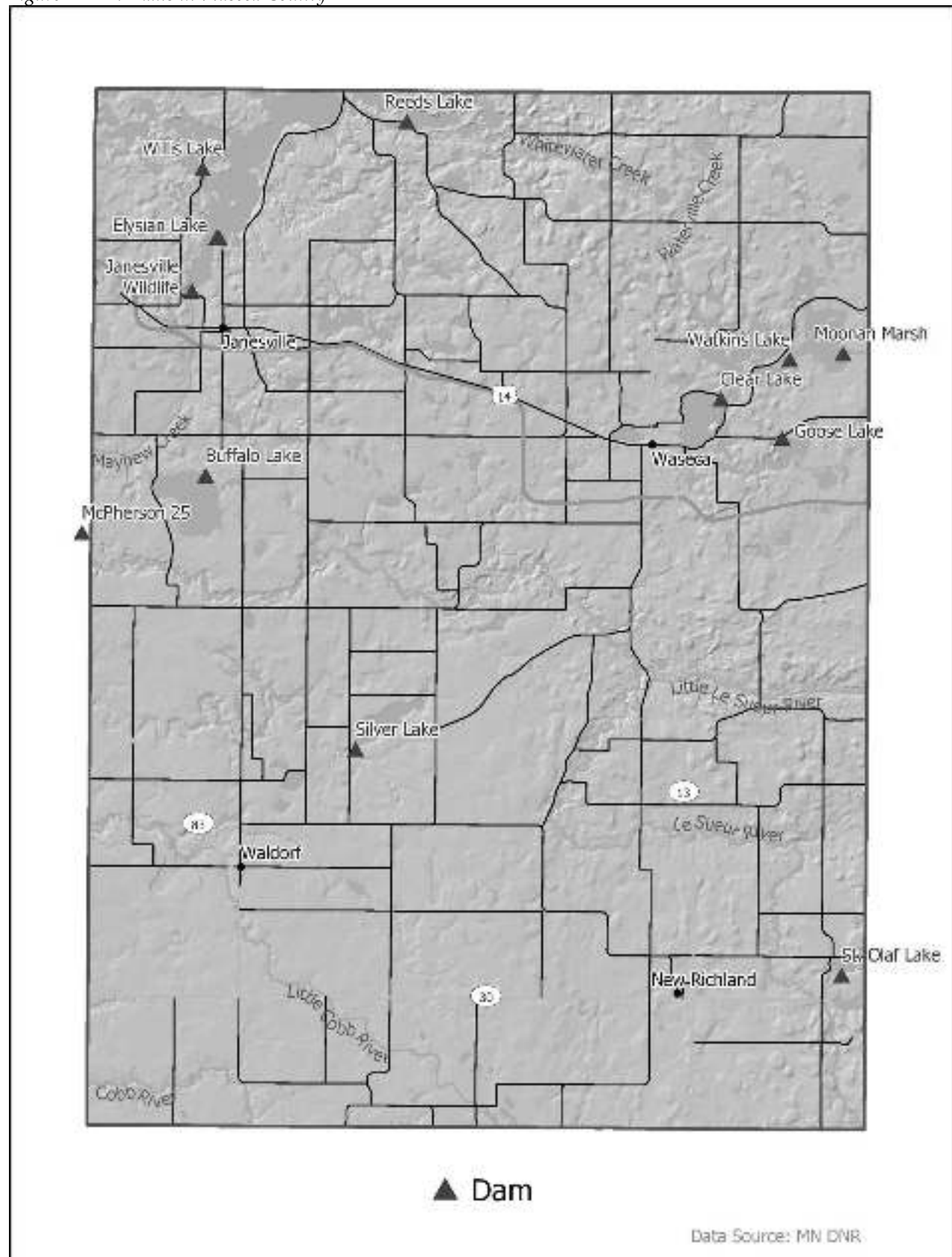
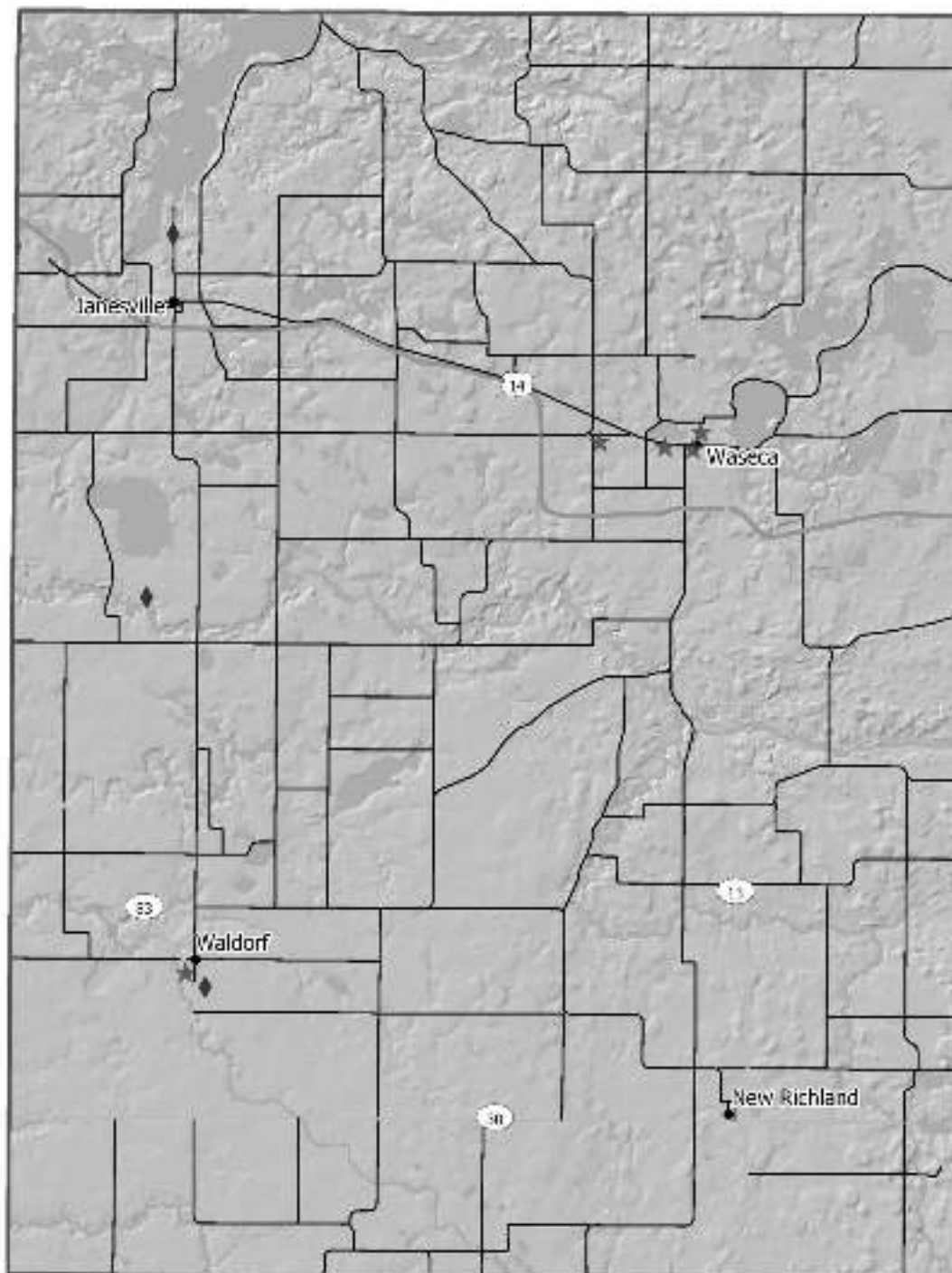


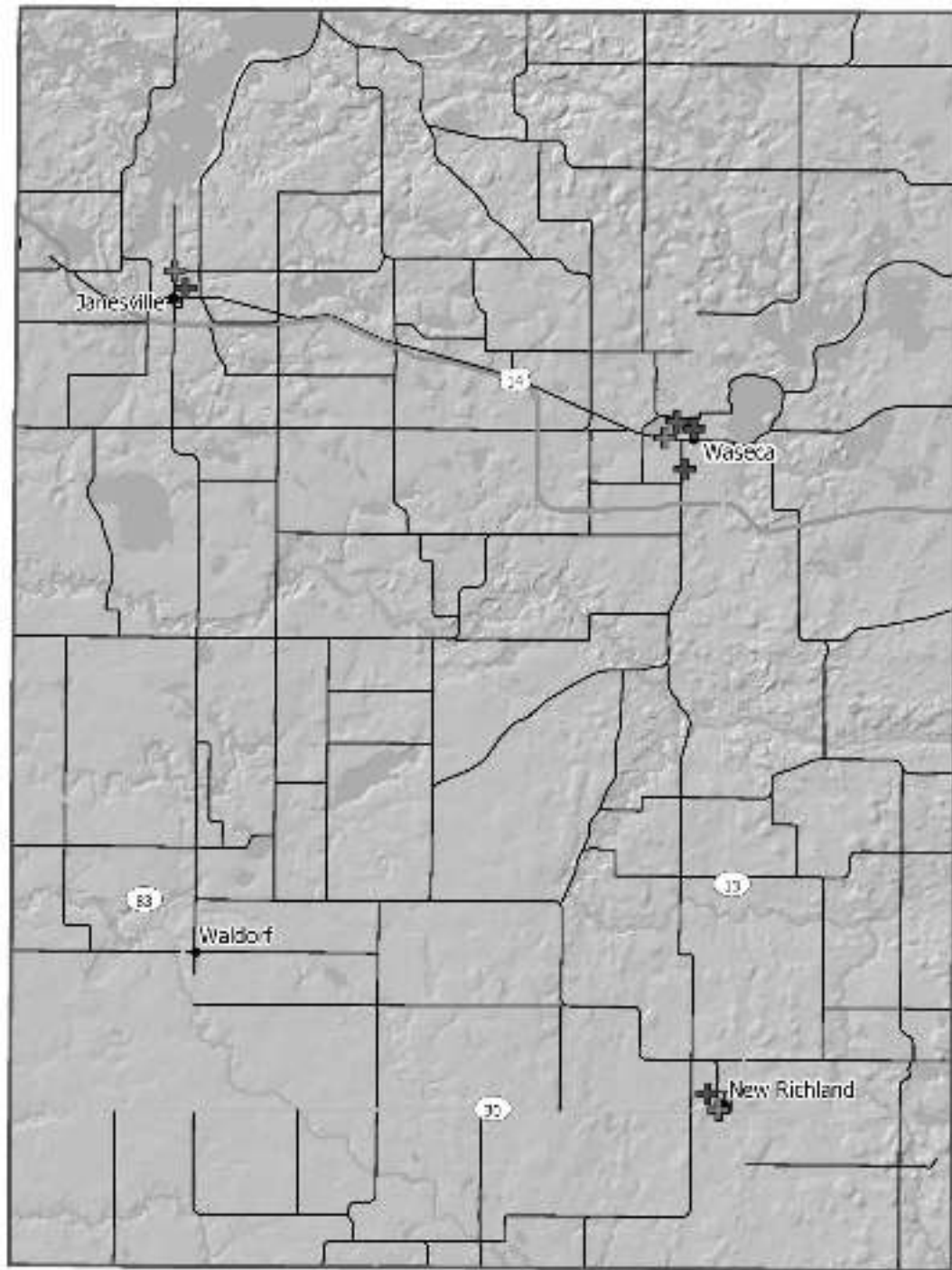
Figure A - 12. Sites with Hazardous or Chemical Waste in Waseca County



◆ Unpermitted Dump Site ★ Voluntary Investigation Cleanup

Data Sources: MN DNR, MPCA

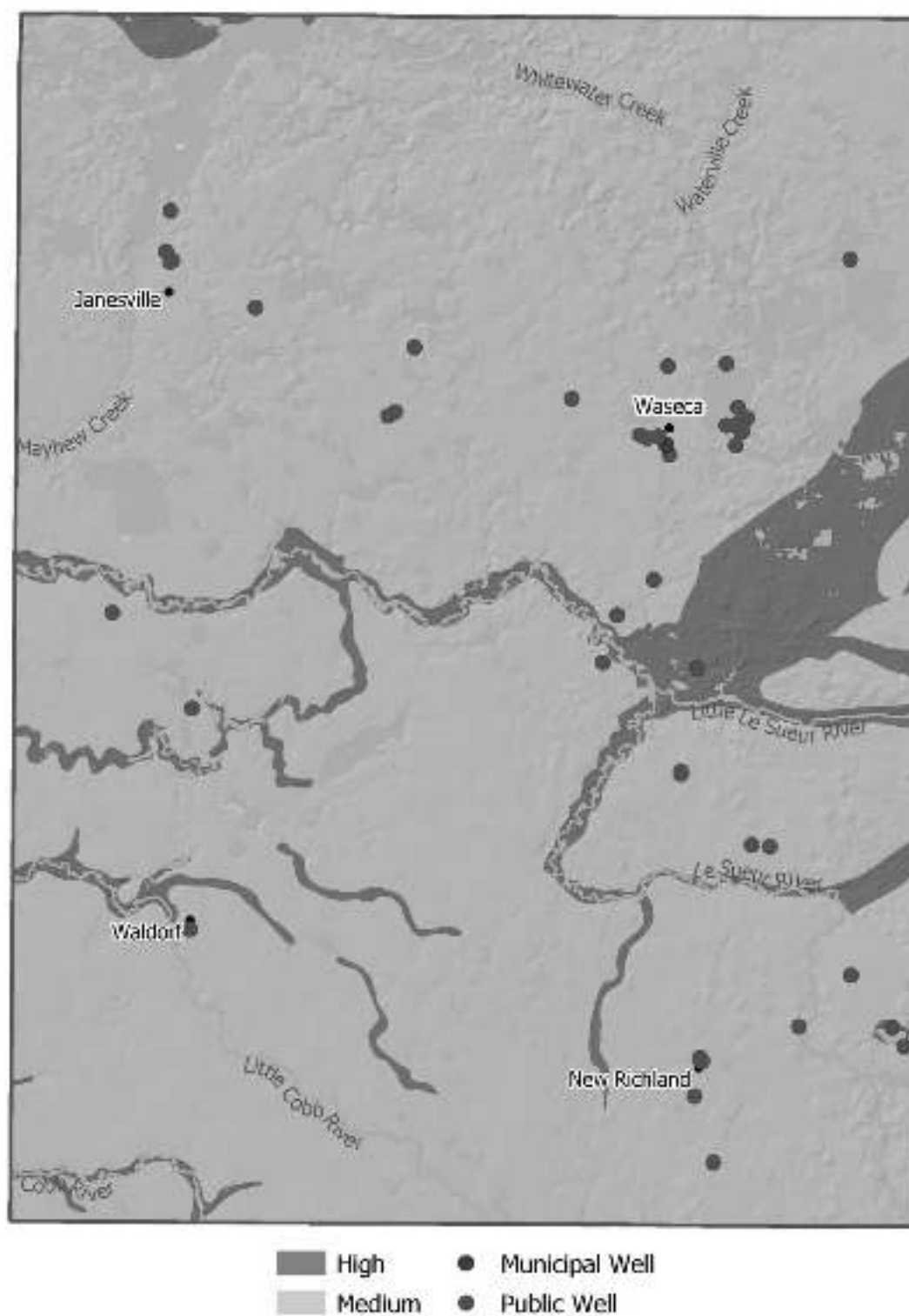
Figure A - 13. Health Care Providers in Waseca County



- ⛶ Hospital
- ⛶ Clinic
- ⛶ Nursing Home

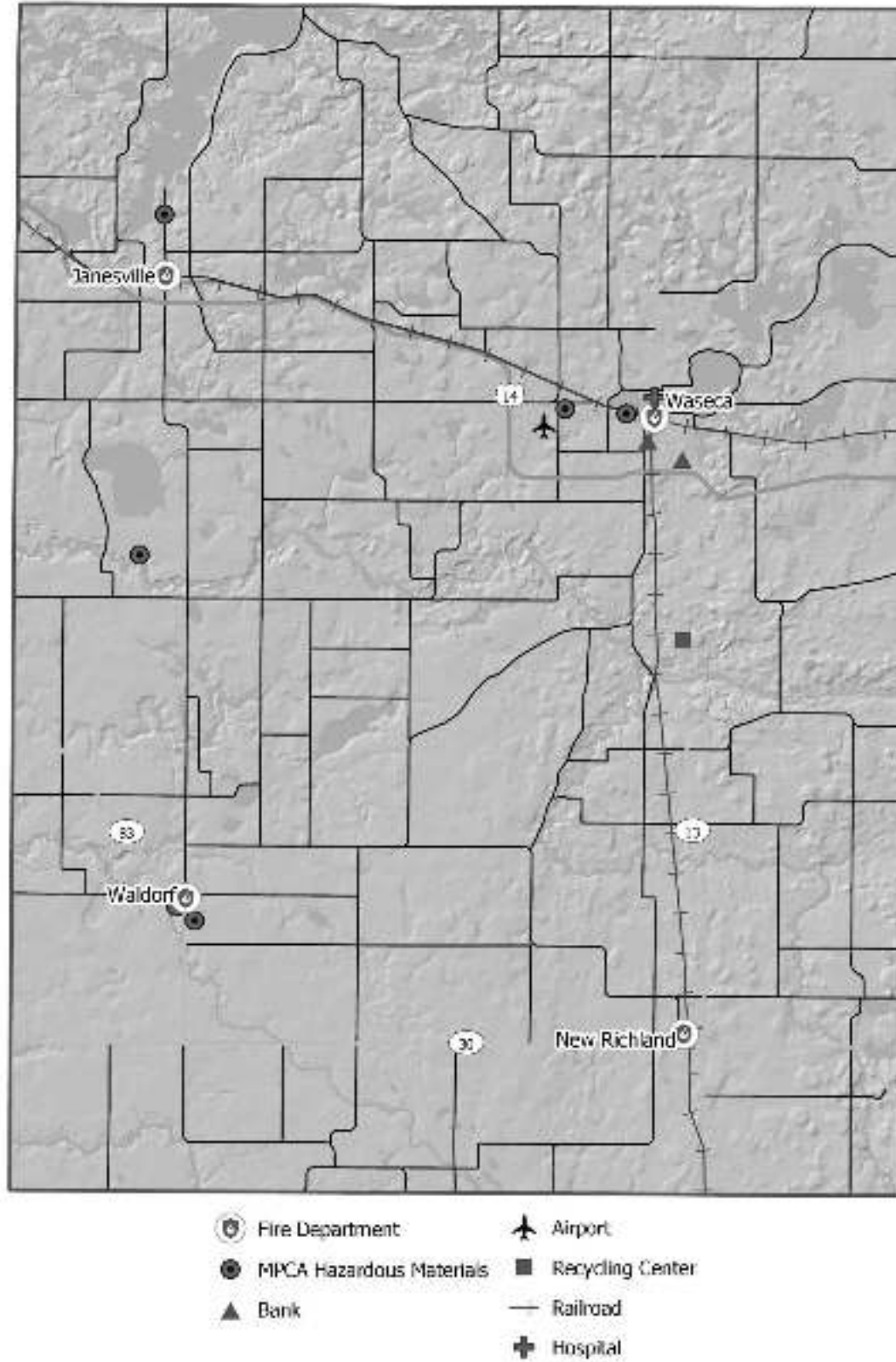
Data Sources: MN DNR, MN Geo, Waseca County

Figure A - 14. Waseca County Aquifer Vulnerability and Public/Municipal Wells



Data Sources: MN DNR, MN Dept. of Agriculture

Figure A - 15. Critical Facilities in Waseca County



Data Sources: MN DNR, Waseca County

Figure A - 16. Critical Facilities in Waseca

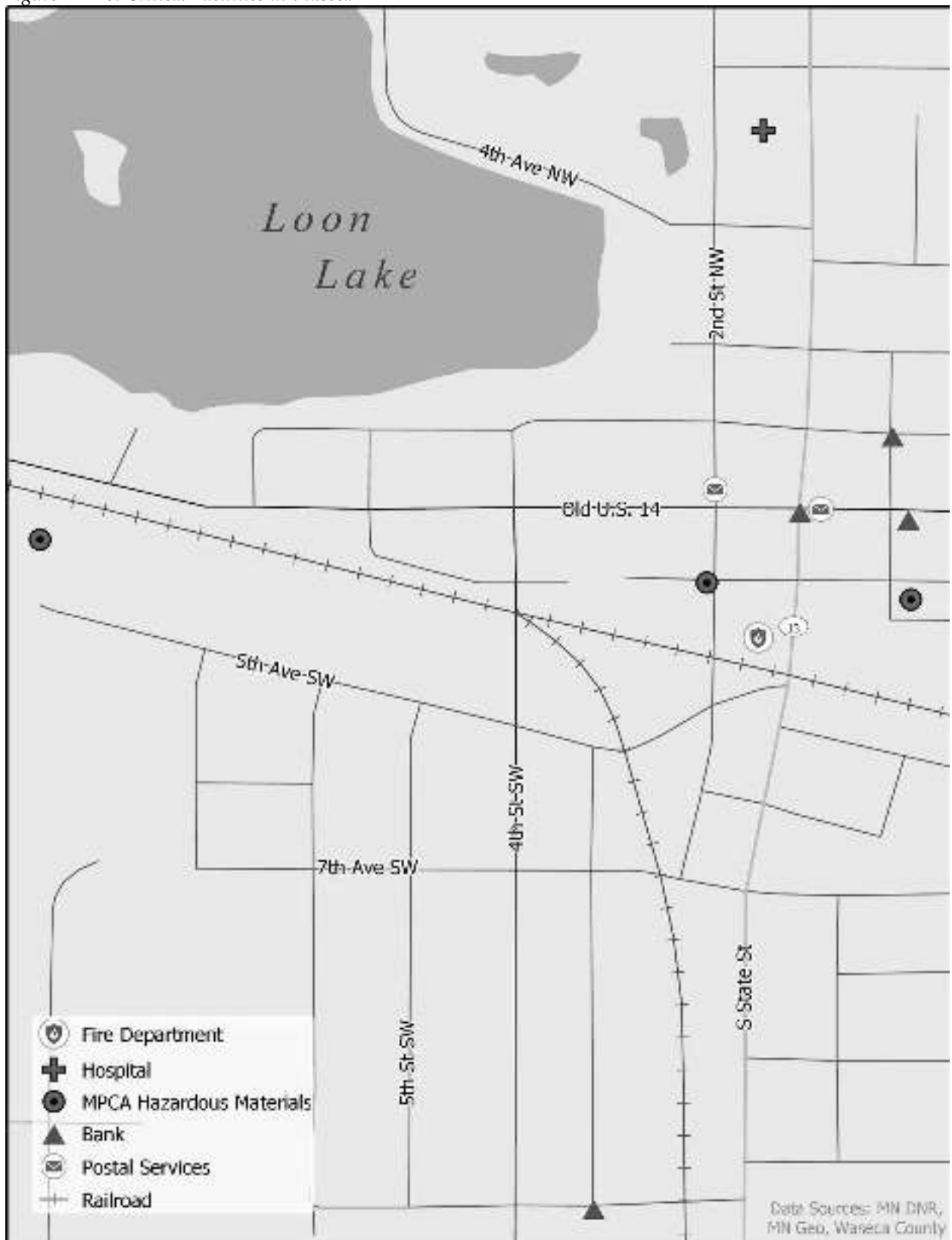


Figure A - 17. Critical Facilities in Janesville

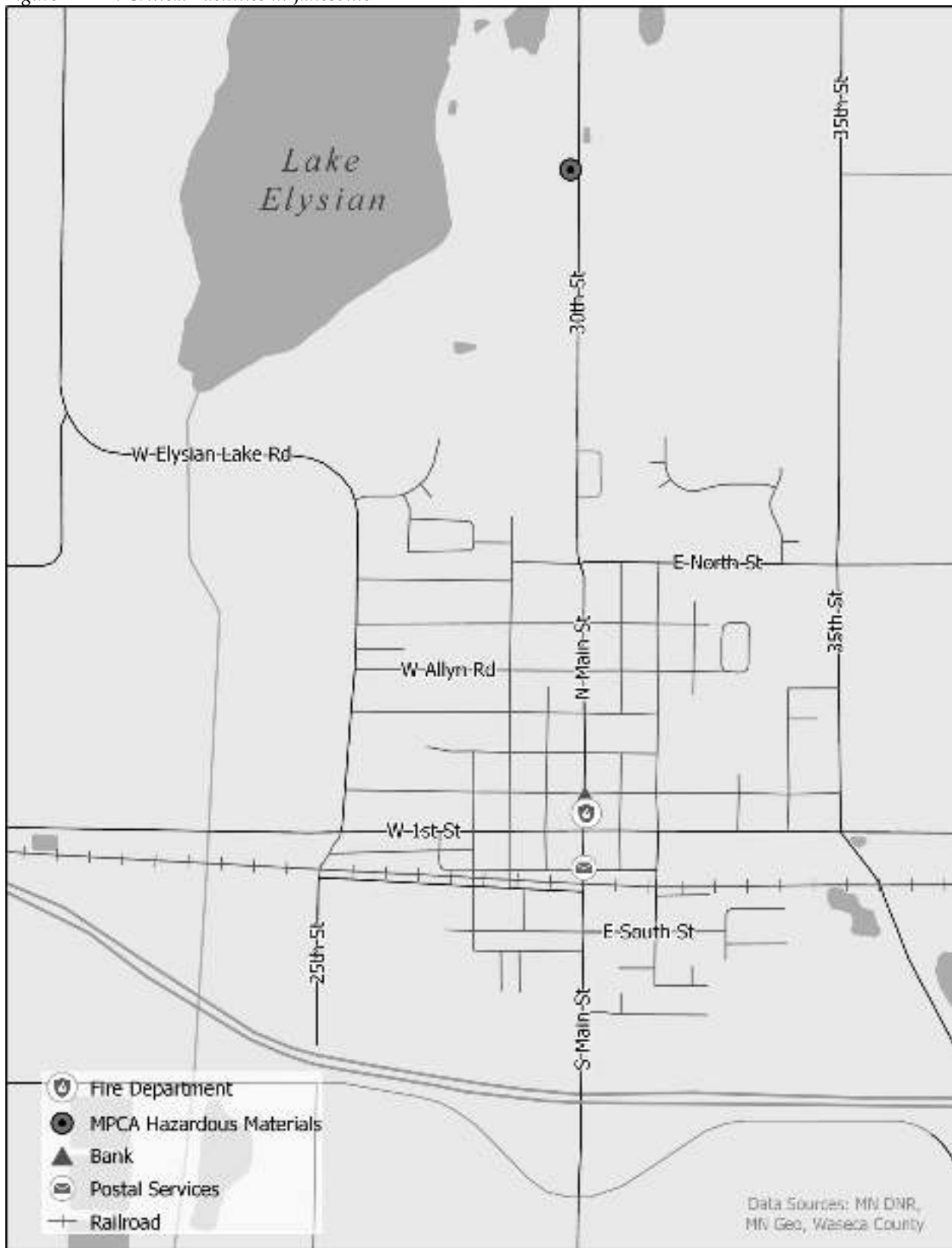


Figure A - 18. Critical Facilities in New Richland

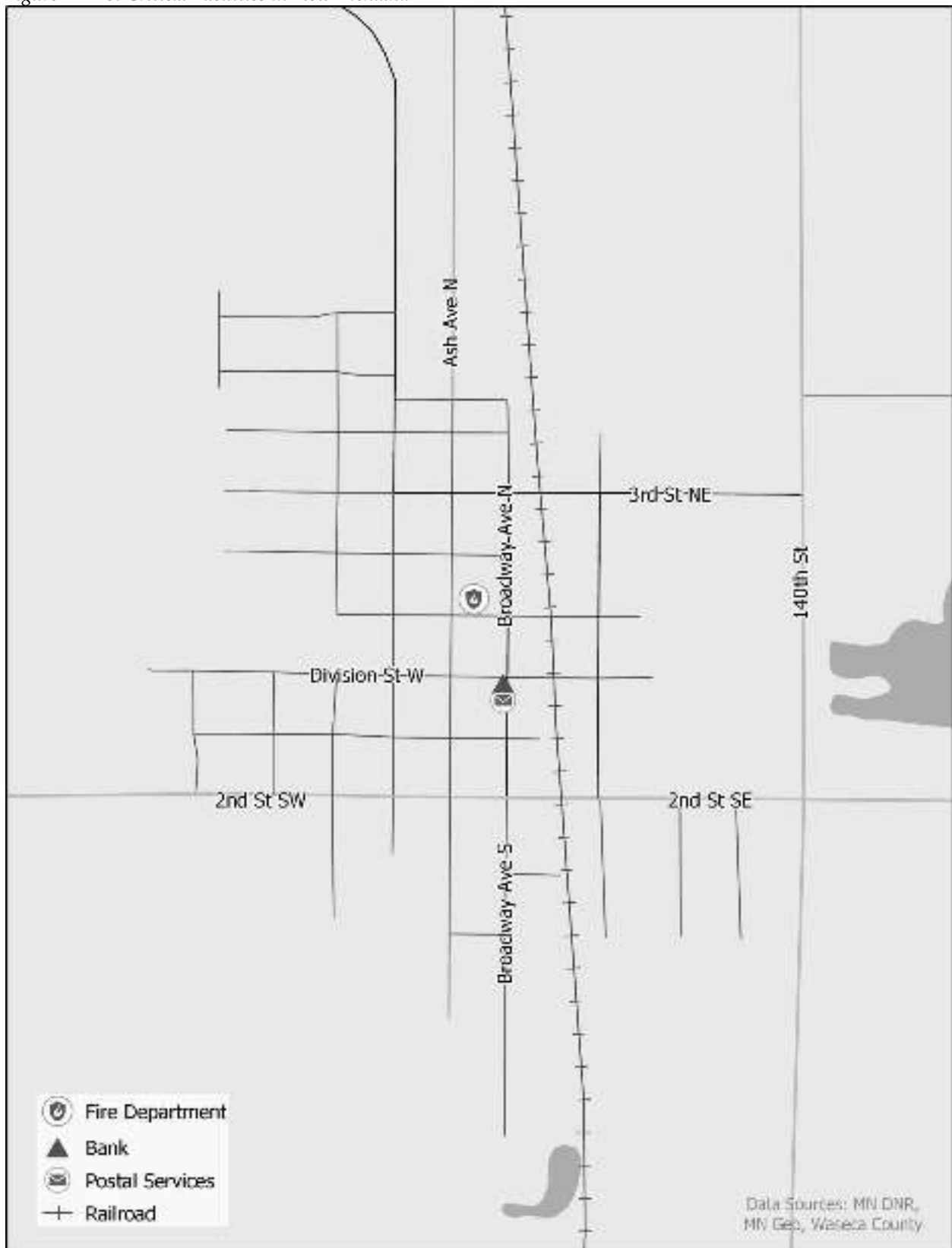


Figure A - 19. Critical Facilities in Waldorf

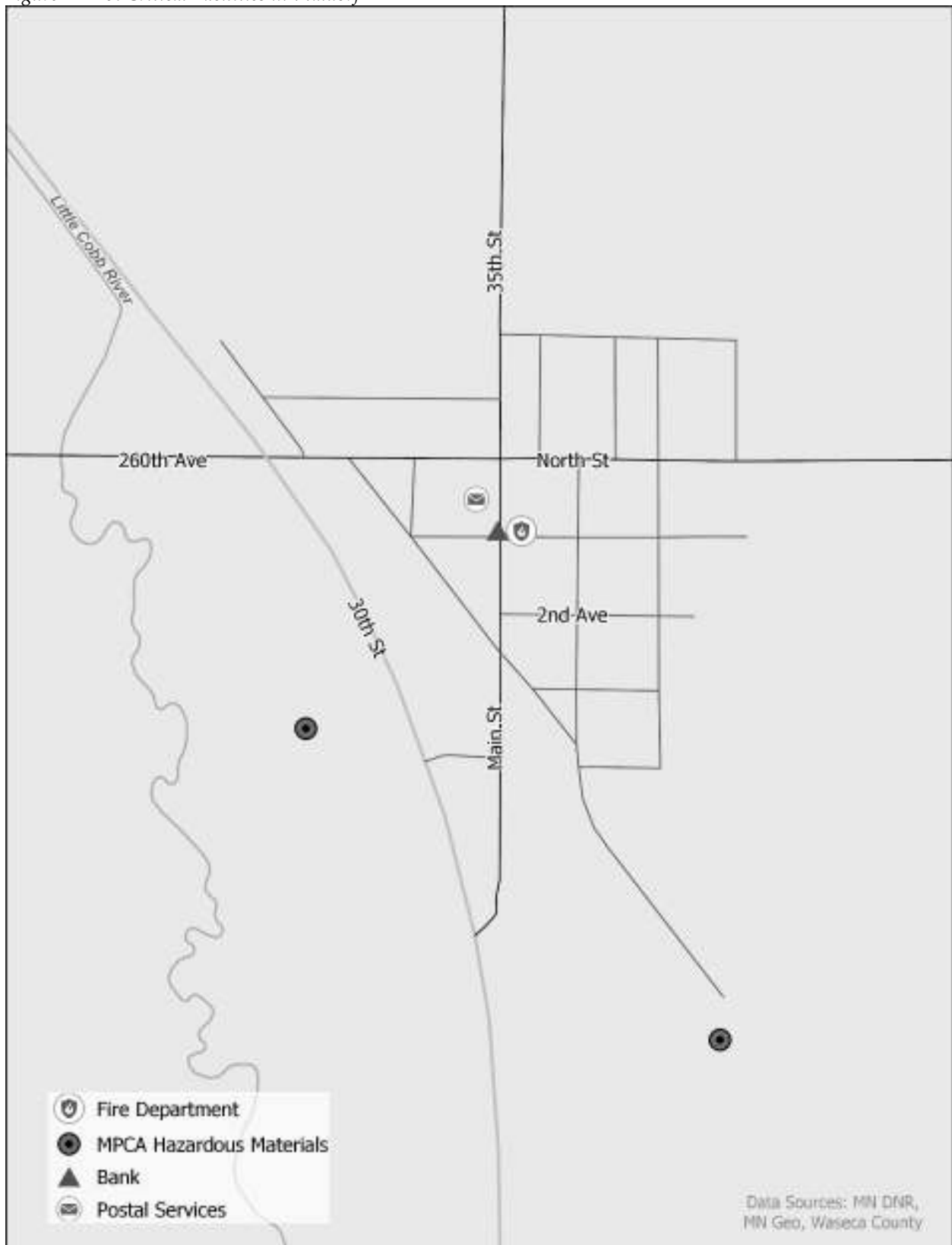


Figure A - 20. Wildfires by Acres Burned (1985-March 2017) and Peatlands in Waseca County

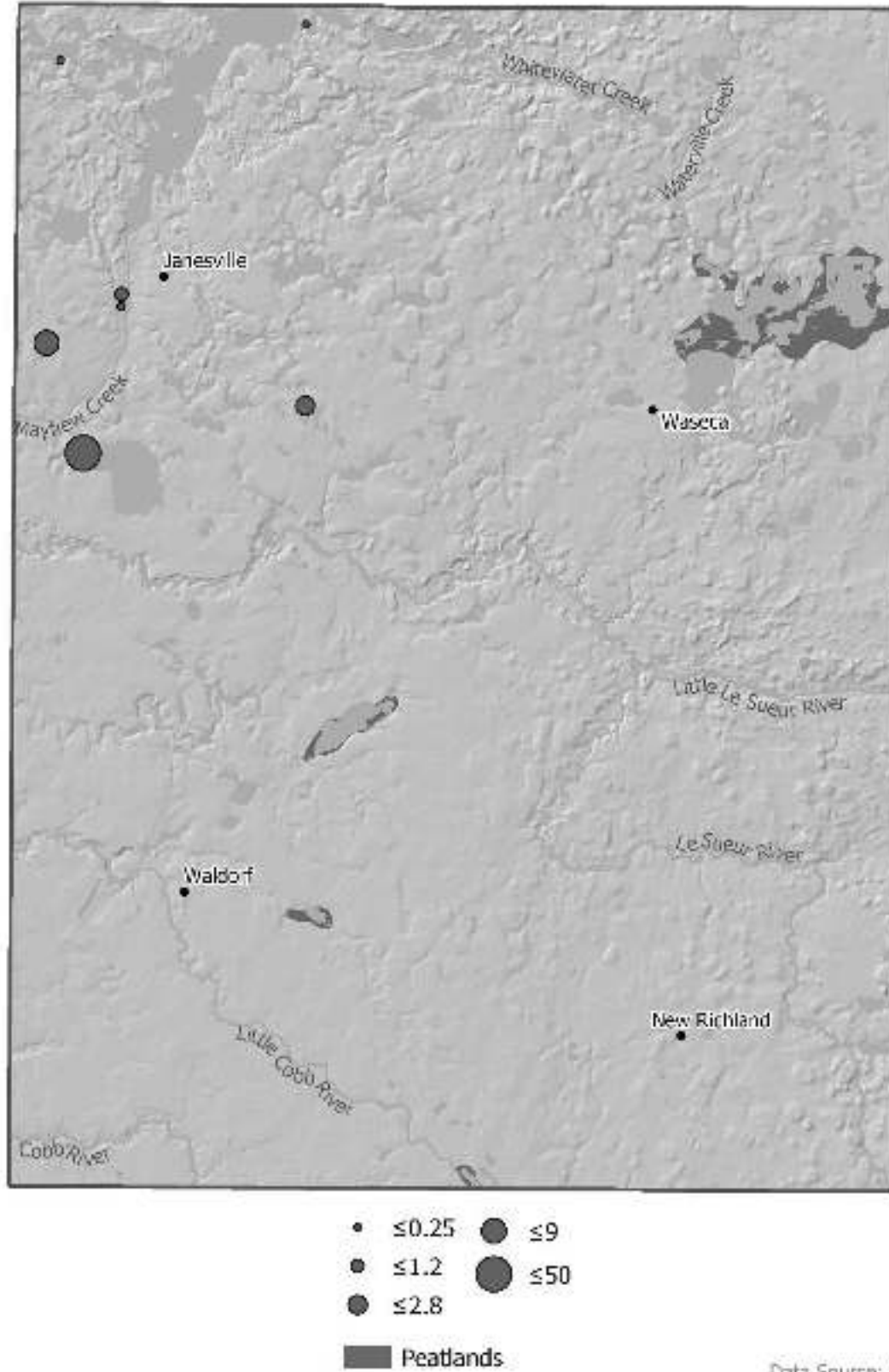


Figure A - 21. 100-Year Flood Building-Related Loss Estimates, by Census Block, Waseca County



Figure A - 22. 100-Year Flood Building-Related Loss Estimates, by Census Block, Waseca City



Figure A - 23. 100-Year Flood Building-Related Loss Estimates, by Census Block, Janesville



Figure A - 24. 100-Year Flood Building-Related Loss Estimates, by Census Block, New Richland



Figure A - 25. Census Block #271617904003001 and 100-Year Floodplain in Waseca City



Figure A - 26. Census Block #271617904003018 and 100-Year Floodplain in Waseca City



Figure A - 27. Census Block #271617901002022 and 100-Year Floodplain in Janesville

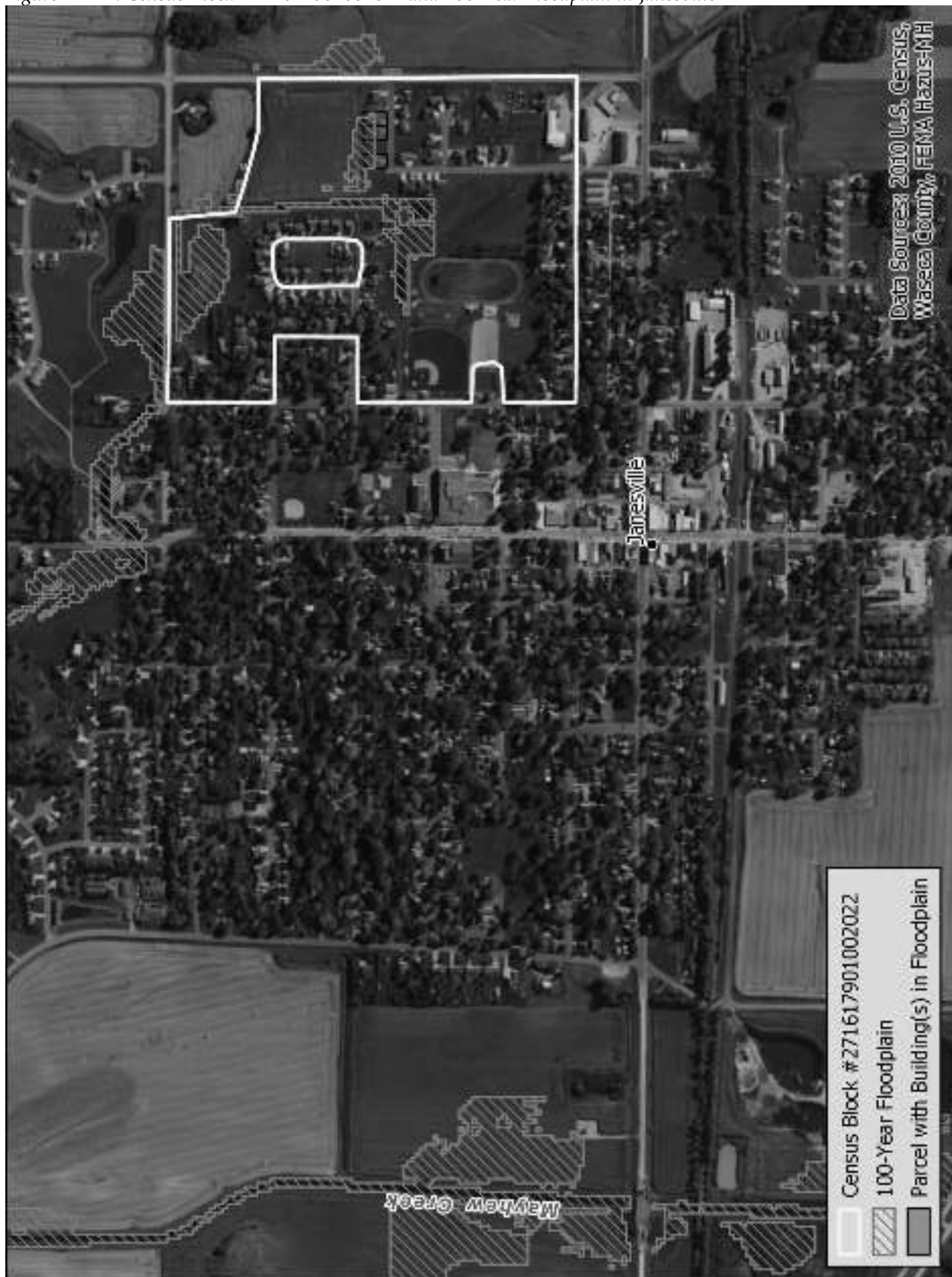


Figure A - 28. Waseca County Essential Facilities in 100-Year Floodplain



Figure A - 29. Feedlots in Waseca County

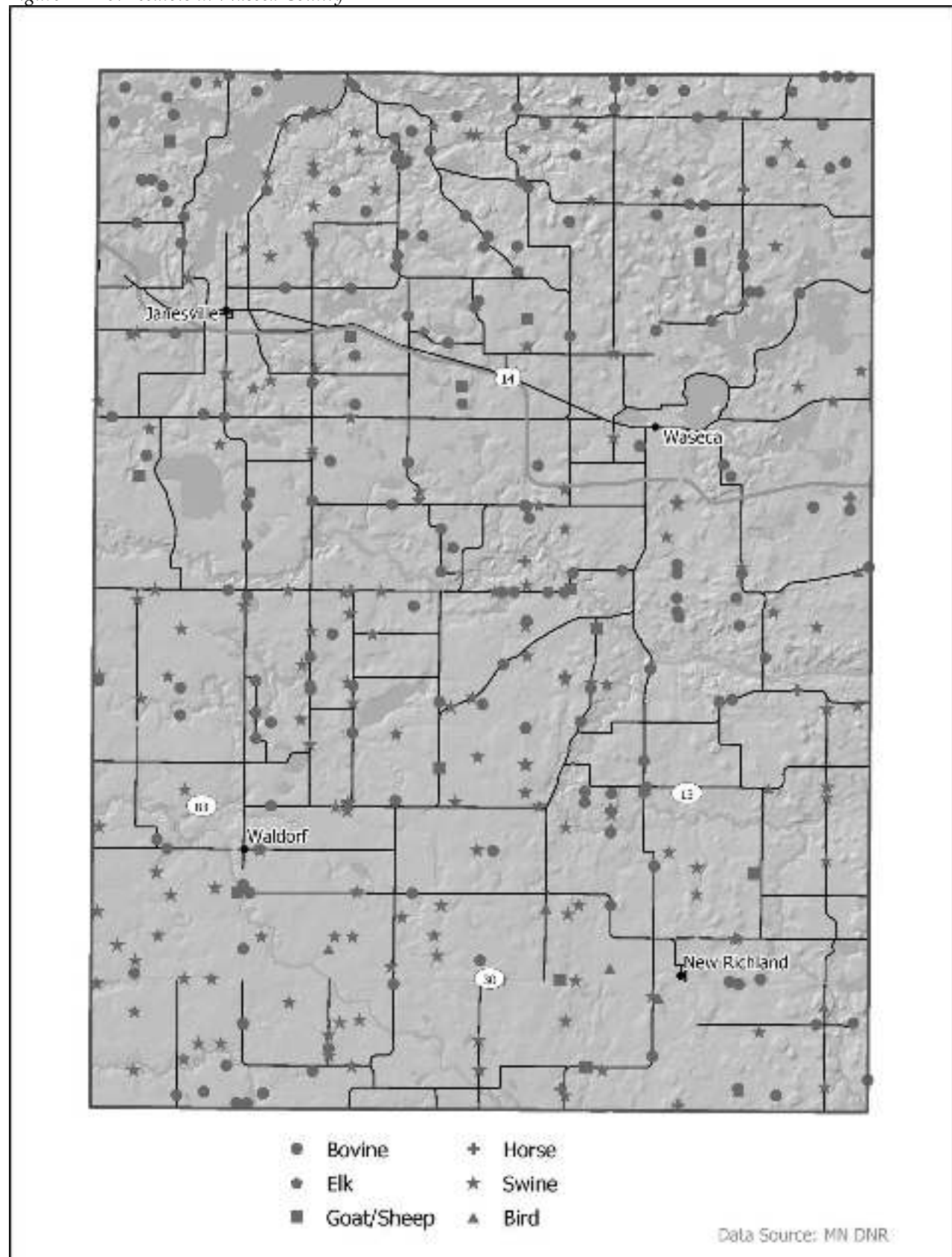


Figure A - 30. Soil Erodibility (K Factor) as Percentage in Waseca County

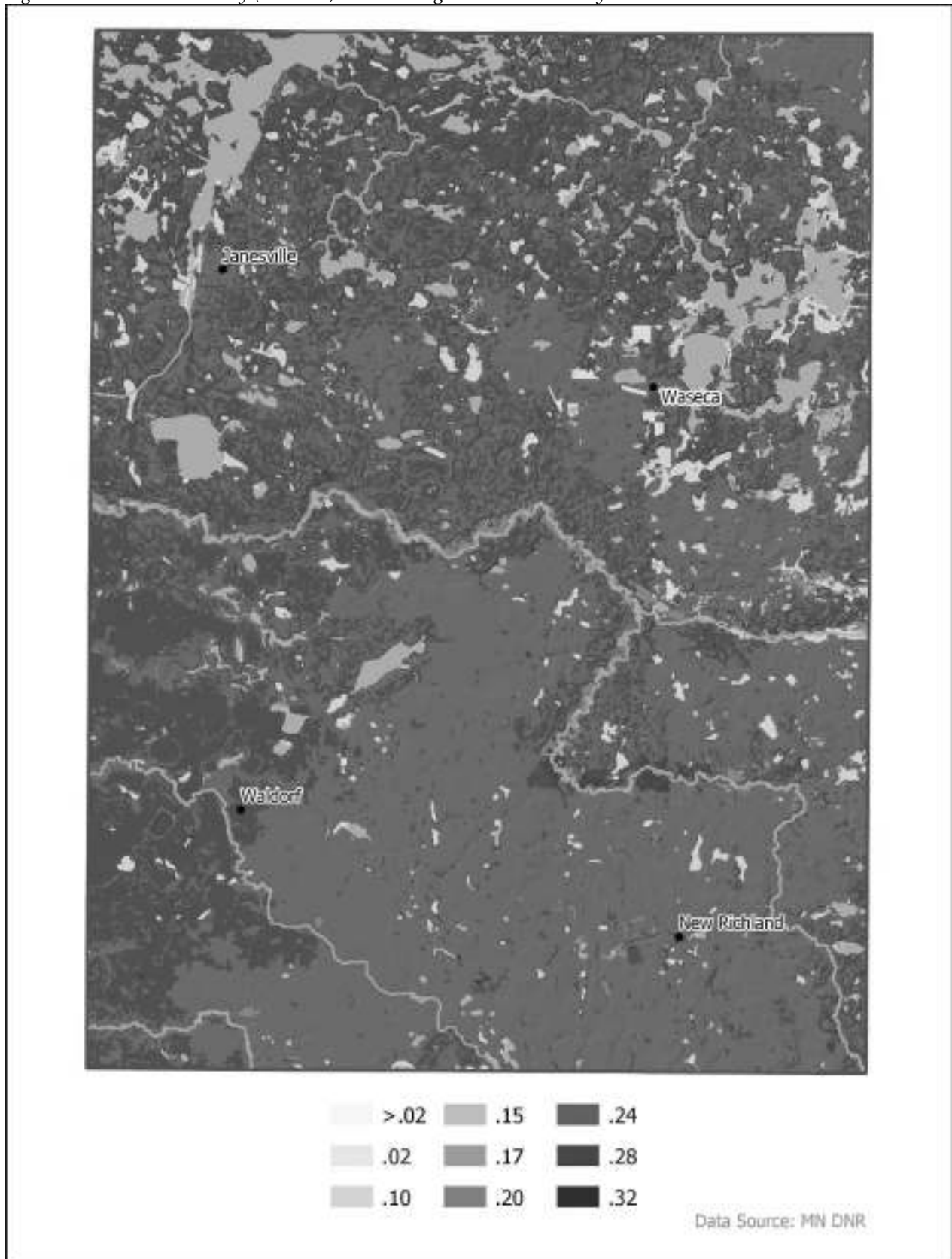
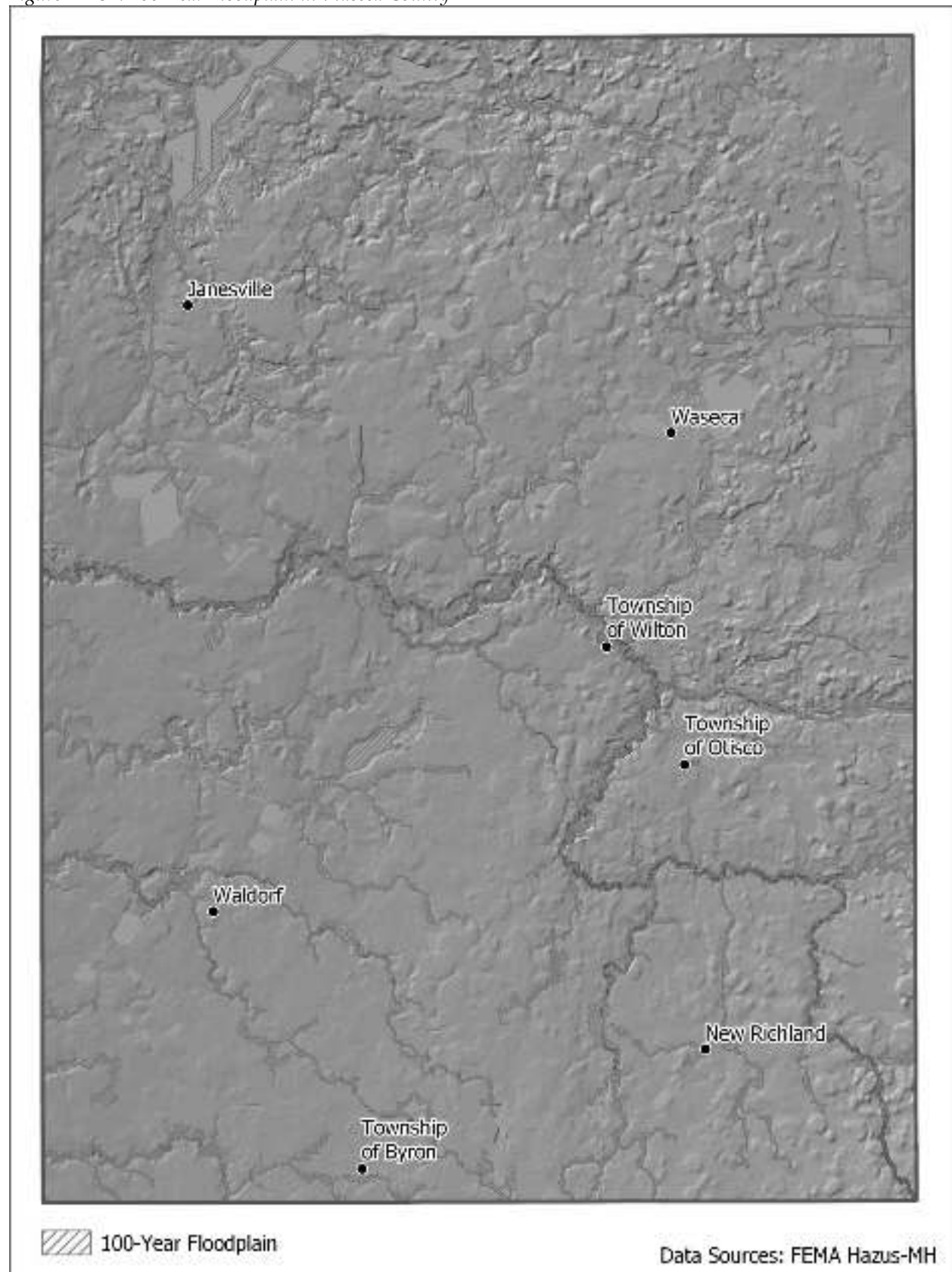


Figure A - 31. 100-Year Floodplain in Waseca County



Appendix B

Waseca County Critical Facilities

Agriculture & Food

Birds Eye	400 4th Street SW	Waseca	MN	56093
AURI	12298 350th Ave	Waseca	MN	56093
All American Foods	1501 2nd Street SE	Waseca	MN	56093
The Mill	310 2nd Avenue SW	Waseca	MN	56093

Banking & Finance

Diversified Credit Union	299 Johnson Ave SW	Waseca	MN	56093
Janesville State Bank	201 N. Main St.	Janesville	MN	56048
Roundbank	200 2nd Street NE	Waseca	MN	56093
Roundbank	102 S. Main St	Waldorf	MN	56091
State Bank of New Richland	103 N Broadway Ave	New Richland	MN	56072
First National Bank of Waseca	101 N State St	Waseca	MN	56093
United Prairie Bank	1509 N. State St	Waseca	MN	56093
Wells Fargo	220 Elm Ave E	Waseca	MN	56093

Chemical and Hazardous Materials

Guardian Energy LLC	4745 380th Avenue	Janesville	MN	56048
Crystal Valley	7800 Highway 14	Janesville	MN	56048
Watsonwan Farm Service	1st St NW	New Richland	MN	56072
Chemical Storage	University Dr	Waseca	MN	56093

Commercial Facilities

Will Company	301 4th Ave SE	Waseca	MN	56093
Terra -Therm Inc	13148 240th Avenue	New Richland	MN	56072
Repnet Manufacturing	280 University Ave SE	Waseca	MN	56093

Communications

Streamline	409 9th Ave NW	Waseca	MN	56093
Verizon	2103 State St. N	Waseca	MN	56093
Mediacom	1504 2nd Street SE	Waseca	MN	56093
Consolidated Communications (<i>critical service provider outside of county</i>)	221 E Hickory St	Mankato	MN	56001
Jaguar Communications (<i>critical service provider outside of county</i>)	213 S. Oak Avenue	Owatonna	MN	55060

Dams			
Buffalo Lake			
Clear Lake			
Elysian Lake			
Goose Lake			
Janesville Wildlife			
Moonan Marsh			
Reeds Lake			
Silver Lake			
St. Olaf Lake			
Watkins Lake			
Willis Lake			

Emergency Services				
Janesville Police	101 N. Mott St	Janesville	MN	56048
New Richland Police	203 N. Broadway Ave	New Richland	MN	56072
Waseca Police	508 S State St	Waseca	MN	56093
Waseca County Sheriff	122 3rd Avenue	Waseca	MN	56093
Janesville Fire	219 N Main Street	Janesville	MN	56048
New Richland Fire	205 N Broadway Ave	New Richland	MN	56072
Waldorf Fire	119 S. Main St	Waldorf	MN	56091
Waseca Fire	177 2nd Ave SE	Waseca	MN	56093
North Ambulance	1508 4th Street NE	Waseca	MN	56093

Energy				
City of Janesville - Powerplant	219 N. Main St.	Janesville	MN	56048
Great River Energy - Substation		Matawan	MN	
Great River Energy - Substation		St. Olaf	MN	
Southern MN Municipal Power Assn.	Sub station	Loon Lake	MN	
Southern MN Municipal Power Assn.	Sub station	Waseca	MN	56093
Xcel - Substation		Meriden	MN	
Waseca Solar Farm LLC		Waseca	MN	56093
Centerpoint Energy- Waseca	12510 440th Ave	Waterville	MN	56091

Government Facilities				
Waseca County Courthouse	307 North State St	Waseca	MN	56093
Waseca City Hall	508 State St S	Waseca	MN	56093
Waseca County Public Safety Building	303 S. State Street	Waseca	MN	56093
New Richland City Hall	203 Broadway Ave N	New Richland	MN	56072

Government Facilities

Janesville City Hall	410 W. Grove St	Janesville	MN	56048
Waldorf City Hall	119 S. Main Street	Waldorf	MN	56091
Federal Correctional Institute	1000 University Dr	Waseca	MN	56093
Dept of Corrections Office	505 1/2 State St S	Waseca	MN	56093
Waseca County Recycling Center	31080 State Hwy 13	Waseca	MN	56093
US Dept of Ag	105 22nd Ave NE	Waseca	MN	56093

Healthcare and Public Health

Mayo Health System	501 State St N	Waseca	MN	56093
Mayo Clinic Health System	312 N. Main St	Janesville	MN	56048
Mayo Clinic Health System	318 1st Street SW	New Richland	MN	56072
Waseca County Public Health	299 Johnson Ave SW	Waseca	MN	56093

Manufacturing

Birds Eye	400 4th Street SW	Waseca	MN	56093
Winegar Inc.	1209 State St S	Waseca	MN	56093
Emerson Network Power	299 Johnson Ave SW	Waseca	MN	56093
Delta - Waseca Inc.	1400 2nd St SE	Waseca	MN	56093
Corchran's	1340 South State St	Waseca	MN	56093

Postal and Shipping

USPS	114 2nd St NW	Waseca	MN	56093
Fed Ex	123 E Elm Ave	Waseca	MN	56093
USPS	141 Broadway Ave	New Richland	MN	56072
USPS	101 N. Main Street	Janesville	MN	56048

Transportation

Waseca Municipal Airport	35493 110th St	Waseca	MN	56093
Canadian Pacific Railway	800 5th Ave SW	Waseca	MN	56093
Lenz Bus Service	34664 139th St	Waseca	MN	56093
Smart Bus	South State St	Waseca	MN	56093
Flying Time Tax	402 3rd Ave SE	Waseca	MN	56093
Palmer Bus Service	1601 5th St SE	Waseca	MN	56093
Palmer Bus Service	PO Box 70	Janesville	MN	56048

Water				
City of Janesville - Water Tower	205 E Front St	Janesville	MN	56048
City of Janesville - Well	809 N. Main St	Janesville	MN	56048
City of New Richland - Water Tower	114 1st St SE	New Richland	MN	56072
City of New Richland - Water Treatment and Well #1	235 N. Broadway Ave	New Richland	MN	56072
City of New Richland - Well #2 and #3	231 N. Broadway Ave	New Richland	MN	56072
City of Waldorf - Water Treatment Facility	211 S. Main Street	Waldorf	MN	56091
City of Waldorf - Well	211 S. Main Street	Waldorf	MN	56091
City of Waseca - Well #1	507 2nd Street SW	Waseca	MN	56093
City of Waseca - Well #2	721 5th Ave SW	Waseca	MN	56093
City of Waseca - Well #3	611 5th Ave SW	Waseca	MN	56093
City of Waseca - Well #5	100 19th Ave NW	Waseca	MN	56093
City of Waseca - Well #6	Maplewood Park	Waseca	MN	56093
City of Janesville - Lift Station	West St and First St	Janesville	MN	56048
City of Janesville - Lift Station	511 1/2 Allyn Cir.	Janesville	MN	56048
City of Janesville - Lift Station	508 Cedar St.	Janesville	MN	56048
City of Janesville - Lift Station	522 1/2 Oakwood Dr	Janesville	MN	56048
City of Janesville - Wastewater Treatment Facility	County Road 55	Janesville	MN	56048
City of New Richland - Lift Station	217 3rd St NE	New Richland	MN	56072
City of New Richland - Lift Station	716 N. Elm Ave	New Richland	MN	56072
City of New Richland - Wastewater Treatment Facil	601 W. Division St	New Richland	MN	56072
City of Waldorf - Wastewater Treatment Facility	North of Blashack St	Waldorf	MN	56091
City of Waseca - Lift pump	8th Ave NE	Waseca	MN	56093
City of Waseca - Lift Station	916 11th Ave NW	Waseca	MN	56093
City of Waseca - Lift Station	11th Ave SE	Waseca	MN	56093
City of Waseca - Lift Station	125 13th Ave NE	Waseca	MN	56093
City of Waseca - Lift Station	2501 6th St NE	Waseca	MN	56093
City of Waseca - Lift Station	6th Ave NE	Waseca	MN	56093
City of Waseca - Lift Station	7th Ave NW	Waseca	MN	56093
City of Waseca - Lift Station	1113 E. Elm Ave	Waseca	MN	56093
City of Waseca - Lift Station	801 8th St NE	Waseca	MN	56093
City of Waseca - Lift Station	1224 E. Elm Ave	Waseca	MN	56093
City of Waseca - Lift Station	14360 Hwy 14 E	Waseca	MN	56093
City of Waseca - Lift Station	400 University Ave	Waseca	MN	56093
City of Waseca - Wastewater Treatment Facility	35408 110th St	Waseca	MN	56093

Water				
Born Well Drilling	1401 State St S	Waseca	MN	56093

Appendix C

Waseca County Hazard Events

The National Centers for Environmental Information (NCEI) storm events 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
Janesville	3/19/2012	EF0	0	0	\$100,000
Waseca	6/17/2009	EF0	0	0	unknown
Janesville	7/14/2003	F0	0	0	unknown
Waterville	8/7/1994	F1	0	0	unknown
Waseca Co.	7/14/1987	F0	0	0	unknown
Waseca Co.	6/7/1984	F1	0	0	\$2,500
Waseca Co.	6/4/1984	F1	0	0	\$250,000
Waseca Co.	6/13/1983	F0	0	0	\$25,000
Waseca Co.	6/28/1979	F1	0	0	\$250,000
Waseca Co.	8/1/1978	F1	0	1	\$2,500,000
Waseca Co.	7/23/1973	F1	0	0	\$25,000
Waseca Co.	7/23/1973	F0	0	0	\$2,500
Waseca Co.	6/18/1973	F0	0	0	\$2,500
Waseca Co.	4/29/1970	F2	0	0	\$250,000
Waseca Co.	4/30/1967	F4	6	22	\$25,000,000
Waseca Co.	4/30/1967	F3	0	0	\$25,000,000
Waseca Co.	4/30/1967	F2	0	0	\$25,000,000
Waseca Co.	6/9/1963	F2	0	0	\$250,000
Waseca Co.	5/14/1961	F2	0	1	\$250,000
Highest Value Property Damage					\$25,000,000

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
Janesville	5/15/2017	0.75	0	0	unknown
Janesville	8/10/2016	1	0	0	unknown
New Richland	6/22/2015	1	0	0	unknown
Janesville	5/25/2015	0.75	0	0	unknown
Waseca	9/20/2014	1	0	0	unknown
Waseca	6/16/2014	0.75	0	0	unknown
Waseca	5/8/2014	0.75	0	0	unknown
Waseca	5/7/2014	1	0	0	unknown

Location or County	Date	Size in Inches	Deaths	Injuries	Property Damage
Janesville	5/7/2014	0.75	0	0	unknown
Waseca	5/3/2012	1	0	0	unknown
Waseca	5/3/2012	0.75	0	0	unknown
Janesville	5/2/2012	1	0	0	unknown
Waseca	5/22/2011	1	0	0	unknown
Waldorf	9/15/2010	1.25	0	0	unknown
New Richland	6/25/2010	1.75	0	0	unknown
Waldorf	6/25/2010	1.75	0	0	unknown
Alma City	4/12/2010	0.75	0	0	unknown
Waseca	6/17/2009	0.75	0	0	unknown
Palmer	6/17/2009	0.75	0	0	unknown
Palmer	6/17/2009	0.88	0	0	unknown
Waseca	7/17/2008	1	0	0	unknown
Waseca	7/17/2008	1	0	0	unknown
Janesville	7/17/2008	1	0	0	unknown
Waseca	5/31/2008	1	0	0	unknown
Palmer	5/31/2008	0.75	0	0	unknown
Palmer	5/31/2008	0.75	0	0	unknown
Janesville	8/21/2007	0.75	0	0	unknown
Waseca	8/11/2007	0.88	0	0	unknown
Waseca	8/11/2007	1	0	0	unknown
Janesville	6/20/2007	1	0	0	unknown
Waseca	5/23/2007	0.75	0	0	unknown
Janesville	4/30/2007	0.88	0	0	unknown
Janesville	3/21/2007	0.75	0	0	unknown
New Richland	3/21/2007	1	0	0	unknown
Waldorf	3/21/2007	0.88	0	0	unknown
New Richland	10/4/2006	0.88	0	0	unknown
Janesville	9/26/2006	0.75	0	0	unknown
Waldorf	8/24/2006	0.75	0	0	unknown
Waseca	7/19/2006	1	0	0	unknown
Janesville	7/19/2006	0.88	0	0	unknown
New Richland	6/14/2006	1	0	0	unknown
New Richland	5/8/2006	1.25	0	0	unknown
Waseca	6/29/2005	0.75	0	0	unknown
Waseca	6/27/2005	1	0	0	unknown
Waldorf	6/27/2005	0.75	0	0	unknown
Waseca	6/27/2005	0.75	0	0	unknown
Waseca	6/12/2004	0.75	0	0	unknown
Otisco	6/11/2004	0.75	0	0	unknown

Location or County	Date	Size in Inches	Deaths	Injuries	Property Damage
New Richland	6/11/2004	0.88	0	0	unknown
St Mary	7/30/2002	1	0	0	unknown
Waseca	7/30/2002	1.75	0	0	unknown
Janesville	6/25/2002	0.75	0	0	unknown
Waseca	6/12/2002	0.88	0	0	unknown
Waseca	5/8/2002	1.75	0	0	unknown
Janesville	5/8/2002	0.75	0	0	unknown
Waseca	6/18/2001	0.75	0	0	unknown
New Richland	6/18/2001	1.75	0	0	unknown
New Richland	5/9/2001	1	0	0	unknown
Waseca	5/1/2001	1.5	0	0	unknown
Waseca	5/1/2001	1.25	0	0	unknown
Waseca	5/1/2001	1	0	0	unknown
Waseca	5/1/2001	1	0	0	unknown
Waseca	9/7/1999	1	0	0	unknown
New Richland	6/27/1998	0.75	0	0	unknown
Matawan	6/27/1998	0.75	0	0	unknown
Waldorf	6/27/1998	1	0	0	unknown
Waseca	6/25/1998	0.75	0	0	unknown
Janesville	5/18/1998	0.75	0	0	unknown
Waseca	4/6/1998	0.75	0	0	unknown
Janesville	7/18/1997	0.75	0	0	unknown
New Richland	7/5/1997	0.75	0	0	unknown
Waterville	8/7/1994	2	0	0	unknown
Waseca Co	8/7/1994	1.75	0	0	unknown
Waseca Co	8/4/1989	1	0	0	unknown
Waseca Co	8/21/1987	1	0	0	unknown
Waseca Co	6/15/1986	1.75	0	0	unknown
Waseca Co	9/8/1985	1	0	0	unknown
Waseca Co	9/8/1985	1	0	0	unknown
Waseca Co	7/3/1985	1	0	0	unknown
Waseca Co	3/26/1985	1.75	0	0	unknown
Waseca Co	7/6/1982	1.5	0	0	unknown
Waseca Co	7/21/1981	1.75	0	0	unknown
Waseca Co	6/28/1981	1.75	0	0	unknown
Waseca Co	6/23/1981	1.75	0	0	unknown
Waseca Co	6/14/1981	1	0	0	unknown
Waseca Co	6/14/1981	1.75	0	0	unknown
Waseca Co	4/27/1981	1.5	0	0	unknown
Waseca Co	4/27/1981	1.75	0	0	unknown

Location or County	Date	Size in Inches	Deaths	Injuries	Property Damage
Waseca Co	9/20/1980	1.75	0	0	unknown
Waseca Co	6/27/1980	1	0	0	unknown
Waseca Co	6/28/1979	1.5	0	0	unknown
Waseca Co	8/1/1978	1	0	0	unknown
Waseca Co	4/3/1978	1.5	0	0	unknown
Waseca Co	4/3/1978	1.75	0	0	unknown
Waseca Co	5/15/1977	0.75	0	0	unknown
Waseca Co	4/14/1977	2.5	0	0	unknown
Waseca Co	6/25/1976	1	0	0	unknown
Waseca Co	7/5/1975	0.75	0	0	unknown
Waseca Co	6/18/1974	1.5	0	0	unknown
Waseca Co	6/15/1970	2.5	0	0	unknown
Waseca Co	7/23/1968	1.25	0	0	unknown
Waseca Co	5/15/1968	1.75	0	0	unknown
Waseca Co	8/14/1958	1.75	0	0	unknown
Highest Value Property Damage					unknown

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
Janesville	9/4/2017	Thunderstorm Wind	50	0	0	unknown
Janesville	7/19/2017	Thunderstorm Wind	52	0	0	unknown
Smiths Mill	7/19/2017	Thunderstorm Wind	52	0	0	unknown
Waseca	6/12/2017	Thunderstorm Wind	50	0	0	unknown
Waseca	6/12/2017	Thunderstorm Wind	55	0	0	unknown
Waseca	6/2/2017	Thunderstorm Wind	56	0	0	unknown
Waseca	8/18/2016	Thunderstorm Wind	51	0	0	unknown
Waseca	6/30/2016	Thunderstorm Wind	53	0	0	unknown
Waseca Co	6/10/2016	High Wind	51	0	0	\$5,000
New Richland	4/24/2016	Thunderstorm Wind	52	0	0	unknown
Waseca	6/17/2015	Thunderstorm Wind	52	0	0	unknown
Waseca	9/20/2014	Thunderstorm Wind	61	0	0	unknown
Waseca	6/16/2014	Thunderstorm Wind	56	0	0	unknown
New Richland	6/16/2014	Thunderstorm Wind	56	0	0	unknown
Otisco	6/16/2014	Thunderstorm Wind	56	0	0	unknown
Otisco	6/16/2014	Thunderstorm Wind	56	0	0	unknown
Waseca	6/16/2014	Thunderstorm Wind	52	0	0	unknown

Location or County	Date	Type	Magnitude (Knots)	Deaths	Injuries	Property Damage
Waseca	5/8/2014	Thunderstorm Wind	61	0	0	\$100,000
Waseca	7/15/2011	Thunderstorm Wind	52	0	0	unknown
Waseca	7/10/2011	Thunderstorm Wind	51	0	0	unknown
Waseca	7/1/2011	Thunderstorm Wind	54	0	0	unknown
Waseca	7/1/2011	Thunderstorm Wind	56	0	0	unknown
Waseca	5/21/2011	Thunderstorm Wind	56	0	0	unknown
Waseca Co	10/26/2010	High Wind	35	0	0	unknown
Waldorf	8/31/2010	Thunderstorm Wind	56	0	0	\$250,000
Waseca	6/26/2010	Thunderstorm Wind	52	0	0	unknown
New Richland	6/17/2010	Thunderstorm Wind	56	0	0	unknown
Waseca Co	10/26/2008	High Wind	50	0	0	unknown
Waseca	8/11/2007	Thunderstorm Wind	60	0	0	unknown
Matawan	7/3/2007	Thunderstorm Wind	52	0	0	unknown
Waseca Co	5/6/2007	High Wind	35	0	0	unknown
Waldorf	9/16/2006	Thunderstorm Wind	52	0	0	unknown
Waseca	7/19/2006	Thunderstorm Wind	52	0	0	unknown
Waseca	8/9/2005	Thunderstorm Wind	55	0	0	unknown
Janesville	8/9/2005	Thunderstorm Wind	52	0	0	unknown
Waseca	6/29/2005	Thunderstorm Wind	52	0	0	unknown
Otisco	6/29/2005	Thunderstorm Wind	52	0	0	unknown
Waseca	6/27/2005	Thunderstorm Wind	52	0	0	unknown
New Richland	6/20/2005	Thunderstorm Wind	52	0	0	unknown
Waseca	6/8/2005	Thunderstorm Wind	52	0	0	unknown
Waseca Co	12/12/2004	High Wind	40	0	0	unknown
Waseca	6/11/2004	Thunderstorm Wind	52	0	0	unknown
Waseca	6/11/2004	Thunderstorm Wind	52	0	0	unknown
Janesville	4/18/2004	Thunderstorm Wind	52	0	0	unknown
Waseca Co	4/18/2004	High Wind	52	0	0	unknown
Janesville	8/21/2003	Thunderstorm Wind	60	0	0	\$50,000
Waseca	7/4/2003	Thunderstorm Wind	52	0	0	unknown
New Richland	7/4/2003	Thunderstorm Wind	50	0	0	unknown
Waseca	6/25/2002	Thunderstorm Wind	50	0	0	unknown
Janesville	6/25/2002	Thunderstorm Wind	50	0	0	unknown
Janesville	5/28/2002	Thunderstorm Wind	52	0	0	unknown
Waseca Co	4/7/2001	High Wind	69	0	0	unknown
Waseca Co	4/5/2000	High Wind	64	0	0	unknown
Matawan	6/5/1999	Thunderstorm Wind	57	0	0	unknown
Waseca Co	3/17/1999	High Wind	55	0	0	unknown
Waseca Co	11/10/1998	High Wind	50	0	0	unknown
Waseca	6/27/1998	Thunderstorm Wind	56	0	0	unknown

Location or County	Date	Type	Magnitude (Knots)	Deaths	Injuries	Property Damage
New Richland	6/27/1998	Thunderstorm Wind	61	0	0	unknown
Waseca Co	4/6/1997	High Wind	51	0	0	unknown
Waseca Co	10/29/1996	High Wind	64	0	0	unknown
Waseca	5/19/1996	Thunderstorm Wind	86	0	0	\$4,000,000
Waseca Co	2/10/1996	High Wind	48	0	0	unknown
Otisco	7/27/1995	Thunderstorm Wind	52	0	0	unknown
Waldorf	7/27/1995	Thunderstorm Wind	82	0	0	unknown
Waldorf	7/27/1995	Thunderstorm Wind	70	0	0	unknown
Waseca	7/14/1995	Thunderstorm Wind	52	0	0	unknown
Waldorf	6/30/1994	Thunderstorm Wind	0	0	0	\$5,000
New Richland	6/17/1994	Thunderstorm Wind	0	0	0	\$50,000
Waseca	8/18/1993	Thunderstorm Wind	0	0	0	unknown
Waseca Co	8/7/1991	Thunderstorm Wind	0	0	0	unknown
Waseca Co	5/28/1991	Thunderstorm Wind	0	0	0	unknown
Waseca Co	9/7/1990	Thunderstorm Wind	0	0	0	unknown
Waseca Co	6/27/1990	Thunderstorm Wind	52	0	0	unknown
Waseca Co	6/2/1990	Thunderstorm Wind	61	0	0	unknown
Waseca Co	8/15/1987	Thunderstorm Wind	74	0	0	unknown
Waseca Co	7/27/1987	Thunderstorm Wind	63	0	0	unknown
Waseca Co	7/27/1987	Thunderstorm Wind	70	0	0	unknown
Waseca Co	7/10/1987	Thunderstorm Wind	79	0	0	unknown
Waseca Co	7/10/1987	Thunderstorm Wind	0	0	0	unknown
Waseca Co	4/26/1986	Thunderstorm Wind	0	0	0	unknown
Waseca Co	4/26/1986	Thunderstorm Wind	59	0	0	unknown
Waseca Co	7/14/1984	Thunderstorm Wind	0	0	0	unknown
Waseca Co	7/14/1984	Thunderstorm Wind	60	0	0	unknown
Waseca Co	6/4/1984	Thunderstorm Wind	0	0	0	unknown
Waseca Co	4/26/1984	Thunderstorm Wind	50	0	0	unknown
Waseca Co	6/30/1983	Thunderstorm Wind	0	0	0	unknown
Waseca Co	5/4/1982	Thunderstorm Wind	0	0	0	unknown
Waseca Co	6/14/1981	Thunderstorm Wind	58	0	0	unknown
Waseca Co	6/13/1981	Thunderstorm Wind	52	0	0	unknown
Waseca Co	4/30/1981	Thunderstorm Wind	61	0	0	unknown
Waseca Co	9/20/1980	Thunderstorm Wind	0	0	0	unknown
Waseca Co	8/18/1980	Thunderstorm Wind	0	0	0	unknown
Waseca Co	8/18/1980	Thunderstorm Wind	56	0	0	unknown
Waseca Co	7/22/1979	Thunderstorm Wind	52	0	0	unknown
Waseca Co	6/19/1979	Thunderstorm Wind	0	0	0	unknown
Waseca Co	6/19/1979	Thunderstorm Wind	0	0	0	unknown
Waseca Co	9/12/1978	Thunderstorm Wind	0	0	0	unknown

Location or County	Date	Type	Magnitude (Knots)	Deaths	Injuries	Property Damage
Waseca Co	7/6/1977	Thunderstorm Wind	52	0	0	<i>unknown</i>
Waseca Co	5/15/1977	Thunderstorm Wind	61	0	0	<i>unknown</i>
Waseca Co	9/10/1975	Thunderstorm Wind	60	0	0	<i>unknown</i>
Waseca Co	4/20/1974	Thunderstorm Wind	0	0	0	<i>unknown</i>
Waseca Co	6/15/1970	Thunderstorm Wind	0	0	0	<i>unknown</i>
Waseca Co	8/6/1968	Thunderstorm Wind	0	0	0	<i>unknown</i>
Waseca Co	5/15/1968	Thunderstorm Wind	0	0	0	<i>unknown</i>
Highest Value Property Damage						\$4,000,000

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

Location or County	Date	Type	Deaths	Injuries	Property Damage
New Richland	9/22/2016	Flood	0	0	<i>unknown</i>
Waseca	9/22/2016	Flash Flood	0	0	<i>unknown</i>
Waseca	9/22/2016	Flash Flood	0	0	<i>unknown</i>
Waseca	9/21/2016	Flash Flood	0	0	<i>unknown</i>
Waseca	9/21/2016	Flash Flood	0	0	<i>unknown</i>
Waseca	8/12/2016	Flash Flood	0	0	<i>unknown</i>
Waseca	6/16/2014	Flash Flood	0	0	<i>unknown</i>
Waseca	6/16/2014	Flash Flood	0	0	<i>unknown</i>
St Mary	3/25/2011	Flood	0	0	<i>unknown</i>
Waldorf	9/23/2010	Flood	0	0	\$1,000,000
Waldorf	9/23/2010	Flash Flood	0	0	<i>unknown</i>
Waseca	6/17/2010	Flash Flood	0	0	<i>unknown</i>
Janesville	3/15/2010	Flood	0	0	<i>unknown</i>
New Richland	3/15/2010	Flood	0	0	<i>unknown</i>
Waldorf	3/15/2010	Flood	0	0	<i>unknown</i>
Wilton	3/15/2010	Flood	0	0	<i>unknown</i>
Matawan	3/15/2010	Flood	0	0	<i>unknown</i>
Waseca	8/19/2007	Flash Flood	0	0	<i>unknown</i>
Waseca Co	9/15/2004	Flood	0	0	<i>unknown</i>
New Richland	8/1/2004	Flash Flood	0	0	<i>unknown</i>
Waseca Co	6/9/2004	Flood	0	0	<i>unknown</i>
Waseca Co	4/1/2001	Flood	0	0	<i>unknown</i>

Location or County	Date	Type	Deaths	Injuries	Property Damage
Highest Value Property Damage					\$1,000,000

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

Location or County	Date	Type	Deaths	Injuries	Property Damage
Waseca Co	4/14/2018	Winter Storm	0	0	unknown
Waseca Co	4/3/2018	Winter Storm	0	0	unknown
Waseca Co	3/24/2018	Winter Storm	0	0	unknown
Waseca Co	3/4/2018	Winter Storm	0	0	unknown
Waseca Co	1/22/2018	Blizzard	0	0	unknown
Waseca Co	3/12/2017	Winter Storm	0	0	unknown
Waseca Co	2/23/2017	Winter Storm	0	0	unknown
Waseca Co	3/23/2016	Winter Storm	0	0	unknown
Waseca Co	2/7/2016	Blizzard	0	0	unknown
Waseca Co	2/2/2016	Winter Storm	0	0	unknown
Waseca Co	12/28/2015	Winter Storm	0	0	unknown
Waseca Co	3/22/2015	Winter Storm	0	0	unknown
Waseca Co	1/8/2015	Blizzard	0	0	unknown
Waseca Co	11/26/2014	Winter Storm	0	0	unknown
Waseca Co	3/4/2014	Heavy Snow	0	0	unknown
Waseca Co	2/26/2014	Blizzard	0	0	unknown
Waseca Co	2/20/2014	Blizzard	0	0	unknown
Waseca Co	1/26/2014	Blizzard	0	0	unknown
Waseca Co	1/16/2014	Blizzard	0	0	unknown
Waseca Co	5/1/2013	Winter Storm	0	0	unknown
Waseca Co	4/22/2013	Winter Storm	0	0	unknown
Waseca Co	4/11/2013	Winter Storm	0	0	unknown
Waseca Co	3/10/2013	Winter Storm	0	0	unknown
Waseca Co	3/4/2013	Winter Storm	0	0	unknown
Waseca Co	2/21/2013	Heavy Snow	0	0	unknown
Waseca Co	12/19/2012	Winter Storm	0	0	unknown
Waseca Co	2/20/2011	Winter Storm	0	0	unknown
Waseca Co	12/20/2010	Winter Storm	0	0	unknown
Waseca Co	12/15/2010	Winter Storm	0	0	unknown
Waseca Co	12/10/2010	Blizzard	0	0	unknown
Waseca Co	12/3/2010	Winter Storm	0	0	unknown
Waseca Co	11/12/2010	Winter Storm	0	0	unknown
Waseca Co	2/7/2010	Winter Storm	0	0	unknown

Location or County	Date	Type	Deaths	Injuries	Property Damage
Waseca Co	1/25/2010	Winter Storm	0	0	unknown
Waseca Co	12/23/2009	Winter Storm	0	0	unknown
Waseca Co	12/8/2009	Blizzard	0	0	unknown
Waseca Co	1/12/2009	Winter Storm	0	0	unknown
Waseca Co	12/20/2008	Winter Storm	0	0	unknown
Waseca Co	12/9/2008	Winter Storm	0	0	unknown
Waseca Co	4/1/2008	Heavy Snow	0	0	unknown
Waseca Co	3/31/2008	Heavy Snow	0	0	unknown
Waseca Co	12/1/2007	Winter Storm	0	0	unknown
Waseca Co	3/1/2007	Winter Storm	0	0	unknown
Waseca Co	2/23/2007	Winter Storm	0	0	unknown
Waseca Co	1/14/2007	Heavy Snow	0	0	unknown
Waseca Co	12/31/2006	Winter Storm	0	0	unknown
Waseca Co	11/9/2006	Heavy Snow	0	0	unknown
Waseca Co	3/12/2006	Winter Storm	0	0	unknown
Waseca Co	3/18/2005	Winter Storm	0	0	unknown
Waseca Co	1/21/2005	Blizzard	0	0	unknown
Waseca Co	1/1/2005	Winter Storm	0	0	unknown
Waseca Co	3/5/2004	Winter Storm	0	0	unknown
Waseca Co	2/1/2004	Winter Storm	0	0	unknown
Waseca Co	1/24/2004	Winter Storm	0	0	unknown
Waseca Co	12/9/2003	Winter Storm	0	0	unknown
Waseca Co	2/11/2003	Blizzard	0	0	unknown
Waseca Co	3/14/2002	Winter Storm	0	0	unknown
Waseca Co	3/8/2002	Winter Storm	0	0	unknown
Waseca Co	2/24/2001	Winter Storm	0	0	unknown
Waseca Co	1/29/2001	Winter Storm	0	0	unknown
Waseca Co	12/28/2000	Winter Storm	0	0	unknown
Waseca Co	1/19/2000	Heavy Snow	0	0	unknown
Waseca Co	10/1/1999	Winter Weather	0	0	unknown
Waseca Co	3/8/1999	Winter Storm	0	0	unknown
Waseca Co	1/22/1999	Winter Storm	0	0	unknown
Waseca Co	1/17/1999	Winter Storm	0	0	unknown
Waseca Co	1/1/1999	Heavy Snow	0	0	unknown
Waseca Co	1/4/1998	Ice Storm	0	0	unknown
Waseca Co	3/13/1997	Winter Storm	0	0	unknown
Waseca Co	1/22/1997	Winter Storm	0	0	unknown
Waseca Co	1/15/1997	Blizzard	0	0	unknown
Waseca Co	12/23/1996	Winter Storm	0	0	unknown
Waseca Co	12/14/1996	Heavy Snow	0	0	unknown

Location or County	Date	Type	Deaths	Injuries	Property Damage
Waseca Co	11/22/1996	Heavy Snow	0	0	unknown
Waseca Co	11/20/1996	Heavy Snow	0	0	unknown
Waseca Co	11/14/1996	Ice Storm	0	0	unknown
Waseca Co	3/23/1996	Heavy Snow	0	0	unknown
Waseca Co	1/28/1996	Blizzard	0	0	unknown
Waseca Co	1/25/1996	Heavy Snow	0	0	unknown
Waseca Co	1/17/1996	Heavy Snow	0	0	unknown
Waseca Co	1/10/1996	Heavy Snow	0	0	unknown
Highest Value Property Damage					unknown

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

Location or County	Date	Type	Deaths	Injuries	Property Damage
Waseca Co	1/1/2018	Extreme Cold/Wind Chill	0	0	unknown
Waseca Co	12/30/2017	Extreme Cold/Wind Chill	0	0	unknown
Waseca Co	12/17/2016	Extreme Cold/Wind Chill	0	0	unknown
Waseca Co	1/17/2016	Extreme Cold/Wind Chill	0	0	unknown
Waseca Co	1/27/2014	Extreme Cold/Wind Chill	0	0	unknown
Waseca Co	1/23/2014	Extreme Cold/Wind Chill	0	0	unknown
Waseca Co	1/5/2014	Extreme Cold/Wind Chill	0	0	unknown
Waseca Co	1/14/2009	Cold/Wind Chill	0	0	unknown
Waseca Co	12/15/2008	Extreme Cold/Wind Chill	0	0	unknown
Waseca Co	2/19/2008	Cold/Wind Chill	0	0	unknown
Waseca Co	2/10/2008	Cold/Wind Chill	0	0	unknown
Waseca Co	1/15/1997	Cold/Wind Chill	0	0	unknown
Waseca Co	12/24/1996	Cold/Wind Chill	0	0	unknown
Waseca Co	2/1/1996	Cold/Wind Chill	0	0	unknown
Waseca Co	1/31/1996	Cold/Wind Chill	0	0	unknown
Waseca Co	1/18/1996	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
Waseca Co	7/21/2016	Excessive Heat	0	0	unknown

Location or County	Date	Type	Deaths	Injuries	Property Damage
Waseca Co	8/25/2013	Excessive Heat	0	0	<i>unknown</i>
Waseca Co	7/18/2011	Excessive Heat	0	0	<i>unknown</i>
Waseca Co	7/30/2006	Heat	0	0	<i>unknown</i>
Waseca Co	8/4/2001	Heat	0	0	<i>unknown</i>
Waseca Co	8/1/2001	Heat	0	0	<i>unknown</i>
Waseca Co	7/30/2001	Heat	0	0	<i>unknown</i>
Waseca Co	7/29/1999	Heat	0	0	<i>unknown</i>
Waseca Co	7/23/1999	Heat	0	0	<i>unknown</i>
Highest Value Property Damage					<i>unknown</i>

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

Location or County	Date	Deaths	Injuries	Property Damage
Waseca Co	9/29/2005	0	0	<i>unknown</i>
Highest Value Property Damage				<i>unknown</i>

Appendix D

Adopting Resolutions

Resolutions to be added to Appendix D by Waseca 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

MINNESOTA DEPARTMENT OF COMMERCE, REVENUE AND FINANCE

DATE: 8/9/2017, 10:00 AM
LOCATION: 1000 W. WASHINGTON
ST. PAUL, MN 55102-1000
www.mn.gov

Webinar Purpose & Goals

Purpose:

Provide an overview of the project and the importance of the project to the state of Minnesota. Provide an overview of the project and the importance of the project to the state of Minnesota.

Goals:

- Provide an overview of the project and the importance of the project to the state of Minnesota.
- Provide an overview of the project and the importance of the project to the state of Minnesota.
- Provide an overview of the project and the importance of the project to the state of Minnesota.
- Provide an overview of the project and the importance of the project to the state of Minnesota.
- Provide an overview of the project and the importance of the project to the state of Minnesota.

Introductions

Minnesota DOR & Finance

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

Other Minnesota Emergency Management

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

John F. Kelly, Director
John F. Kelly, Director

Project Overview

7-County

County	Population
Becker	10,000
Beltrami	10,000
Carlton	10,000
Hubbard	10,000
Itasca	10,000
Lake	10,000
St. Louis	10,000



Why UMD-GAC?

- **Proven experience:** UMD-GAC has a proven track record of providing emergency management services to the state of Minnesota.
- **Proven expertise:** UMD-GAC has a proven track record of providing emergency management services to the state of Minnesota.
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- **Proven expertise:** UMD-GAC has a proven track record of providing emergency management services to the state of Minnesota.

Overview of MHMP Update Process

Key Considerations for Discussion

8/9/2017

EM Roles & Responsibilities

(2) $\lim_{n \rightarrow \infty} \frac{1}{n} \sum_{k=1}^n f\left(\frac{k}{n}\right) = \int_0^1 f(x) dx$ and

- [illegible]

Planning Team Engagement

It is important to understand that the results of this study are not generalizable to the entire population of the United States. The study was conducted in a specific geographic area and with a specific sample of participants. The results may not be applicable to other populations or settings.

1072 *Journal of Interpersonal Violence*

- **Neurofibrils** - the cells with protein subunits called **tau** support some form of **packing** (microtubules) and **transport** of cytoplasmic materials in **neurons** and **glia**
- **Intermediate filaments** - **cellular** support (actin filaments) are **not** found in **neurons** and **glia** (but they are **found** in **astrocytes** and **microglia**)
- **Cellular membranes** - **cellular** support in the **cellular** proteins and **cell-cell** and **cell-matrix** interactions

Public Engagement

Some of the program's goals, the 2004-05 budget of \$1.5 million, and the program's assessment, will be discussed in the planning session and in the final report on the program's findings.

En la actualidad:

1. *What is the purpose of the study?* (The purpose of the study is to determine the effect of the new program on the health of the community.)

Hazard Identification and Risk Assessment

Suppose I understand a natural language (for instance, English) in such a way that I can determine how to use and interpret the singular and plural forms of nouns, the gender of adjectives, the number and gender of pronouns, and the like, but I cannot determine how to use and interpret the singular and plural forms of verbs, the number and gender of pronouns, and the like. Then I understand the natural language in such a way that I can determine how to use and interpret the singular and plural forms of nouns, the gender of adjectives, the number and gender of pronouns, and the like, but I cannot determine how to use and interpret the singular and plural forms of verbs, the number and gender of pronouns, and the like.

1035

- Identify appropriate strategies for transitioning from the pre-pandemic to the post-pandemic world
- Identify the key players in the national and global information security landscape, and their roles in the policy and operational response
- Identify emerging data security and data privacy issues that may be relevant to the information security world in the near future

Mitigation Strategy

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[illegible]

1. Find a 100-page book that has a table of contents.
2. Find a 100-page book that has a table of contents.
3. Find a 100-page book that has a table of contents.
4. Find a 100-page book that has a table of contents.
5. Find a 100-page book that has a table of contents.

Plan Adoption

Notes: 1. All variables are measured in 1997 dollars. 2. Δ represents the first difference operator. 3. The number of observations is 100 for each country. 4. The sample period is 1980–1996.

Log Conditional

- biochemical and molecular biology techniques, and the use of transgenic animals, have allowed the development of a number of assays for the detection of HPA and HCV in clinical samples.

8/9/2017

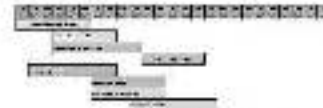
Project Time Line

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan, 2018

Estimated Time Line

Task	Start Date	End Date
1. Develop a multi-hazard mitigation plan for Waseca County	8/1/2017	12/31/2017
2. Review and approve the plan	1/1/2018	3/31/2018
3. Implement the plan	4/1/2018	12/31/2018
4. Review and update the plan	1/1/2019	12/31/2019



Our Recent Experience

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan, 2018

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan

EM Tasks

Waseca County Multi-Hazard Mitigation Plan

- ✓ Review and approve the plan
- ✓ Develop a multi-hazard mitigation plan for Waseca County
- ✓ Review and approve the plan
- ✓ Implement the plan
- ✓ Review and update the plan
- ✓ Review and approve the plan
- ✓ Review and approve the plan

Next Steps

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan

Waseca County Multi-Hazard Mitigation Plan

Questions?

What questions do you have for Waseca County Multi-Hazard Mitigation Plan?

8/9/2017

Contact Information

Stoney Creek, MS, DSE
Stoney Creek Analytic Center
stoney@stoney.com
618-726-7416

George A. Blum
blum@stoney.com | stoney.com/blum

Waseca County

Multi-Hazard Mitigation Plan Update

November 20, 2017 MHMP Planning Team Meeting
Waseca County EOC (Sheriff's Office) – Waseca, MN
9:00 a.m. – 11:00 a.m.

Meeting Summary:

On Monday, November 20, 2017, key county and city representatives, as well as other stakeholders were convened to participate in a Planning Team Meeting for the update of Waseca County Multi-Hazard Mitigation Plan (MHMP). The meeting was facilitated by the University of Minnesota – Duluth Geospatial Analysis Center (GAC) staff and Donnie Hundrieser who are leading the update of the Waseca County MHMP. A total of 16 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 Waseca 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 Waseca 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)
- Mitigation Ideas Working Session (jurisdictional worksheets)

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

From: F.H.
To: clinton@jaredvillemn.gov; Mark.LeFerman@co.waseca.mn.us; Nathan.Bellman@co.waseca.mn.us; Jessica.Beyer@co.waseca.mn.us; Commissioners@co.waseca.mn.us; John.Lidemann@co.waseca.mn.us; Sarah.Berry@co.waseca.mn.us; Judy.Hiller@co.waseca.mn.us; info@cityofwaseca.com; swede@waseca.mn.us; AnnMarie.Biehler@co.waseca.mn.us; Anthony.Martens@cityofrichlandmn.com; Brad.Milbrath@co.waseca.mn.us; kmsae@bop.gov; Dave.Werk@mn.gov; jen@co.waseca.mn.us; joe242@hickorycreek.net; kris.Warkeson@co.waseca.mn.us; jeet@waseca12.mn.us; Megan.Kirby@co.waseca.mn.us; Penry.Vaughn@co.waseca.mn.us; sonia.danpage@mayo.edu; Trevor.Kanewischer@co.waseca.mn.us
Cc: Bernad.Hundrisser@hundrisserconsulting@gmail.com
Subject: Hazard Mitigation Kick Off Meeting
Date: Friday, November 3, 2017 3:11:01 PM

Good Friday Afternoon,

This is our friendly reminder of the All-Hazard Mitigation kick-off meeting set for November 20th. (see information below)

If you have not RSVP'd yet, please do so by next week.

Please note: The RSVP link below is incorrect, so if you could just send me an e-mail with your reply that would be great!!

Also, if you are not able to attend, please try and send someone in your place. I would really like to get everyone's input during this first meeting so UMD has the best information they can get for our plans update.

Thanks and have a great weekend!

Dorcas

From: Dorcas Wright
Sent: Wednesday, October 25, 2017 3:10 PM
To: DorcasL@co.waseca.mn.us; clinton@jaredvillemn.gov; Mark.LeFerman@co.waseca.mn.us; Nathan.Bellman@co.waseca.mn.us; Jessica.Beyer@co.waseca.mn.us; Commissioners@co.waseca.mn.us; John.Lidemann@co.waseca.mn.us; Sarah.Berry@co.waseca.mn.us; Judy.Hiller@co.waseca.mn.us; info@cityofwaseca.com; swede@waseca.mn.us; AnnMarie.Biehler@co.waseca.mn.us; Anthony.Martens@cityofrichlandmn.com; Brad.Milbrath@co.waseca.mn.us; kmsae@bop.gov; Dave.Werk@mn.gov; jen@co.waseca.mn.us; joe242@hickorycreek.net; kris.Warkeson@co.waseca.mn.us; jeet@waseca12.mn.us; Megan.Kirby@co.waseca.mn.us; Penry.Vaughn@co.waseca.mn.us; sonia.danpage@mayo.edu; Trevor.Kanewischer@co.waseca.mn.us
Cc: Bernad.Hundrisser@hundrisserconsulting@gmail.com
Subject: Hazard Mitigation Kick Off Meeting

Good Afternoon,

Your attendance is requested at a Planning Team meeting for the update of the **Waseca County Multi-Hazard Mitigation Plan** on:

Dates: Monday, November 20th, 2017
Time: 9:00 a.m. – 11:00 a.m.
Location: EOC (lower level of the Sheriff's Office)
122 3rd Avenue NW
Waseca, MN 56093

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 Waseca 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. Your input as needed as being part of a County department or city jurisdiction within the county. 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 one jurisdiction 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 Waseca 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 Donnie Hunkeler, an emergency management planning consultant working closely with us on this project.

Please RSVP to this invitation by November 6th. If you can not attend, please ask to send someone in your place to represent your county department/city jurisdiction/other organization. Also, if someone is not on this e-mail list, but you feel it may benefit to attend this meeting, please feel free to forward the information to them.

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

Thank you,

Denise Wright

Denise Wright - Director
Emergency Management
Waseca County
122 5th Ave NW
Waseca MN 55093
507-836-0804 office
507-500-4527 cell

By failing to prepare, you are preparing to fail
Benjamin Franklin

Waseca County

Multi-Hazard Mitigation Plan Update

Planning Team Meeting

Monday, November 20, 2017, 9:00 a.m. – 11:00 a.m.
Waseca County EOC (Sheriff's Office) – Waseca, MN

Presenting:

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

Agenda:

1. Welcome and Introductions
2. Waseca County MHP 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 Waseca County MHP Update, please contact:

- Denise Wright, Waseca County Emergency Management Director
507-835-0534 / Denise.Wright@co.waseca.mn.us
- Bonnie Hundrieser, UMD Project Team Member
718-343-3488 / hundrieserconsulting@gmail.com

Waseca County 11/20/17 Planning Team Meeting
Participant Sign-in List (18 attendees)

Waseca County MHP Update Monday, November 20, 2017 Planning Team Meeting Participant Sign-in List			
Name	Jurisdiction/Agency/Organization	Title	Email
Travis Salas-Alcaraz	Waseca County E-911 Office	Chief Deputy	travis.salas@co.waseca.mn.us
Chris MacDonald	Waseca Police Department	Captain	chris@co.waseca.mn.us
Benjamin Voight	Waseca Police Department	Chief of Police	benjamin@co.waseca.mn.us
Wayne Olson	Waseca County Rural Leader	Leader Coordinator	wayne.olson@co.waseca.mn.us
Andrew Wickert	New Richmond RMA of New Richmond	Chief of Police/EO Director	andrew@cityofnewrichmond.com
Janet Henry	Waseca County Rural Leader	Director	janet.henry@co.waseca.mn.us
Denise Winkler	Waseca County Emergency Management	Director	denise.winkler@co.waseca.mn.us
Jon Schum	County Services	Director	jonschum@co.waseca.mn.us
Kim Hunsford	Waseca-Waseca CDD - E-911	Operations Manager	kim@co.waseca.mn.us
Jon Schum	Waseca Fire Department	Commander	jon@co.waseca.mn.us
Judy Miller	Waseca County IT	Director	judy.miller@co.waseca.mn.us
David Guma	Waseca Police Department	Chief of Police	david.guma@co.waseca.mn.us
Brian Tomford	Waseca County Maintenance	Director	brian.tomford@co.waseca.mn.us
Tina Lee	Waseca Public Schools	Superintendent	tina@co.waseca.mn.us
Jessica Meyer	Waseca County	Administrator	jessica.meyer@co.waseca.mn.us
Travis Swenberg	Waseca County IT	IT Coordinator	travis.swenberg@co.waseca.mn.us

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

PARTICIPANT SIGN IN SHEET

Name	Agency/Organization	Title	Email
Travis Swenberg	Waseca Co. SO	Chief Deputy CAPAS	travis.swenberg@waseca.mn.us
Kyle Johnson	Waseca PD	Chief of Police	kyle.johnson@waseca.mn.us
John Johnson	Waseca City Public Health	Health Coordinator	john.johnson@waseca.mn.us
Anthony Johnson	WARD / City of MZ	Chief of Police / Fire Division	anthony.johnson@waseca.mn.us
Sarah Berry	Waseca Co. PH	Director of PH	sarah.berry@waseca.mn.us
Teresa Schuchert	Waseca Co. PH	Director of PH	teresa.schuchert@waseca.mn.us
Tom Schuchert	Waseca Co. PH	Director of PH	tom.schuchert@waseca.mn.us
Kim Huxford	Waseca Co. PH	Director of PH	kim.huxford@waseca.mn.us
John Huxford	Waseca Co. PH	Director of PH	john.huxford@waseca.mn.us
Judy Hiller	Waseca Co. IT	IT Director	judy.hiller@waseca.mn.us
David Johnson	Waseca Co. IT	IT Director	david.johnson@waseca.mn.us
Brian Johnson	Waseca County Health	Director	brian.johnson@waseca.mn.us
Tom Lee	Waseca Public Schools	Superintendent	tom.lee@waseca.mn.us
Jessie Ryger	Waseca County	Administrator	jessie.ryger@waseca.mn.us
Travis Swenberg	Waseca County	GIS Coordinator	travis.swenberg@waseca.mn.us

11/26/2017



Agenda

1. Welcome and Introduction
2. Review of the Multi-Hazard Mitigation Plan Update
3. Review of the Multi-Hazard Mitigation Plan Update
4. Review of the Multi-Hazard Mitigation Plan Update
5. Review of the Multi-Hazard Mitigation Plan Update



About your UMD Project Team

UNIVERSITY OF MINNESOTA
DEPARTMENT OF PLANNING AND DEVELOPMENT
COMMUNITY DEVELOPMENT
Office of the Director

- The Geospatial Analysis Center (GAC) at the University of Minnesota-Buffalo is a central hub for Minnesota HSEM to facilitate the development of this plan and to conduct critical analysis, mapping and research for the plan.
- The GAC has worked on 17 M-HMPs (2014-2016) and currently has been working on 17 County M-HMPs across Minnesota.
- Working with the GAC is Bonnie Hurdleser, who is a liaison to Emergency Management and 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 goals:

- Be updated every 5 years
- Identify hazards and their risk to the community
- Include goals, strategies, and mitigation actions
- Address all hazards to the community
- Engage stakeholders and seek public participation

What is Hazard Mitigation?

1. Hazard mitigation is the process of reducing the risk to people and their property from hazards.
2. The planning is the process of government action to identify, plan, and implement measures to reduce the risk to people and their property from hazards.
3. Mitigation is the process of reducing the risk to people and their property from hazards.
4. Mitigation is the process of reducing the risk to people and their property from hazards.

The MHMP Planning Team

An MHMP team is developed with the participation of local government officials, representatives of the community, and other stakeholders. This group is referred to as the Planning Team.

The role of the Planning Team is to:

1. Review the plan and identify areas for improvement.
2. Review the plan and identify areas for improvement.
3. Review the plan and identify areas for improvement.
4. Review the plan and identify areas for improvement.

11/26/2017

Content of the MHMP

- Conceptual plan and visual goals
- Hazard identification
- Assessment of potential impacts and vulnerability analysis
- Assessment of existing conditions
- Mitigation strategies



• Assessment of existing conditions

Waseca County

Waseca County is a rural county located in the north central United States. It is a predominantly agricultural area with a mix of small towns and rural communities.

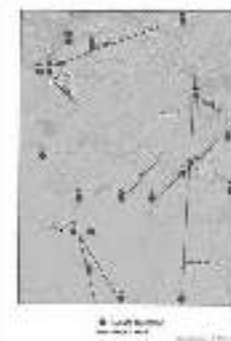
The county is home to a diverse population and a rich cultural heritage. It is a beautiful area with scenic views and a strong sense of community.



Land Cover



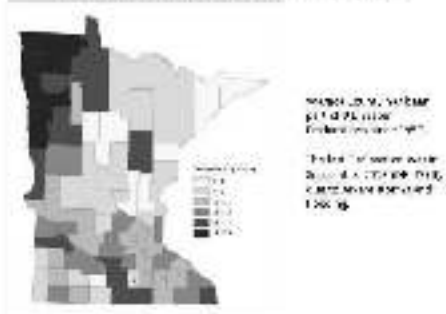
Tornado History



Wildfire History



FEMA-Declared Disasters in Waseca County



11/26/2017

What Hazards are Addressed?

A Multi-Hazard Mitigation Plan looks at natural and human-caused hazards, including:

Hazard	Path	Exposure
Severe Weather	Landslide	Damage to Life
Wildfire	Watershed	Damage to Life
Wildfire	Wildfire	Damage to Life
Wildfire	Wildfire	Damage to Life
Wildfire	Wildfire	Damage to Life

Normal hazards are not required by the FEMA 2012 code address in the MHP.

How are Hazards Identified & Ranked for a Community?

- Federal Hazard Review
- Federal Hazard Review (Hazard Base Data)
- Federal HMP
- Federal Hazard Review (HMP)

Waseca County
FEMA 2012
Waseca County
Waseca County

Hazard	Path	Exposure
Severe Weather	Landslide	Damage to Life
Wildfire	Watershed	Damage to Life
Wildfire	Wildfire	Damage to Life
Wildfire	Wildfire	Damage to Life
Wildfire	Wildfire	Damage to Life

FEMA 2012 Hazard Review

Priorities of Risks Faced by Waseca County (2017)

The following hazards ranking for Waseca County are based on the findings in the MHP plan.

These are provided for discussion for inclusion in the 2017 MHP Update.

Hazard	Path	Exposure
Severe Weather	Landslide	Damage to Life
Wildfire	Watershed	Damage to Life
Wildfire	Wildfire	Damage to Life
Wildfire	Wildfire	Damage to Life
Wildfire	Wildfire	Damage to Life

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.

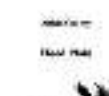
- What plans and programs are in place to support mitigation against the hazard?
- What program gaps or deficiencies exist to support mitigation against the hazard?

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.

Common activities include: building codes, impact fees, zoning regulations, tree ordinances, and structural management regulations.

Local Planning & Regulations Examples



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, relocation, removal, repair, and new construction of flood, seismic, and wind resistant structures; and actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area. This mitigation strategy includes acquisition, removal, repair, and new construction of flood, seismic, and wind resistant structures.

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.

Watershed management and riparian corridor management, wetland management, forest and vegetation management, wildlife refugia, and protection of riparian corridors, wetlands and floodplains.

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.

Examples include public meetings, website development, hazard information cards, and brochures and other educational programs.

Education & Awareness Program Examples



Mitigation Strategy #5: Mitigation Preparedness & Response Support

(Additional language to use in the plan)

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 optional emergency response, but essential services of the office of emergency services.

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 HMMP:

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 mitigate into the new plan.

Next Steps in Developing Actions

1. Identify specific mitigation strategies and actions at the jurisdictional level based on the community 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 funding for eligible mitigation projects that will be prioritized and funded by the project's state or local government.



What mitigation actions are eligible for federal hazard mitigation assistance? The project must be a mitigation project, and the project must be a mitigation project.

Mitigation Grant Eligibility

- Local Units of Government
- All jurisdictions in State
 - City, County, Tribal, or other public
- Local Share = 25%/10%
- Project must be identified in local HMMP plan

Application Process

- Notice of Available Funds
- Application
- Benefit/Cost Analysis
- Environmental Historic Preservation
- State and FEMA review
- Award & 4 year period of performance
- Closeout

Eligible project types

- Acquisition/Elevation/Relocation
 - Substantial or repetitive flood or coastal
 - Threat of human danger (explosion)
- Tornado Safe Rooms (schools, day care, etc.)
- Powerline retrofit/strengthening (power to market)
- 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 developing projects to increase ecosystem services benefits.

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

Historical projects in Waseca County resulting from Hazard Mitigation funding

Year	Project Description	Estimated Cost	Funding Source
2013	Construction of 100' x 100' x 10' concrete structure for floodwater storage and recovery	\$1,000,000	FEMA
2014	Construction of 100' x 100' x 10' concrete structure for floodwater storage and recovery	\$1,000,000	FEMA
Total Estimated Cost for Floodwater Storage and Recovery Projects			\$2,000,000

Source: FEMA Hazard Mitigation Grant Program

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. CHMA 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 HSCM 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 program 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.

DHS HEMA May 2016

- **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 soil, 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 HSEM's website at:
<https://dhs.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 McCloskey, Hazard Mitigation Planner at (651) 201-7455 or James.McCloskey@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:

- ☐ Local Planning & Regulations
- ☐ Structure and Infrastructure Projects
- ☐ Natural Systems Protection

- ☐ Education and Awareness
- ☐ Mitigation Preparedness and Response Support

Mitigation Action:

HAZARD:

/ JURISDICTION:

Mitigation Strategy:

- ☐ Local Planning & Regulations
- ☐ Structure and Infrastructure Projects
- ☐ Natural Systems Protection

- ☐ Education and Awareness
- ☐ Mitigation Preparedness and Response Support

Mitigation Action:

HAZARD:

/ JURISDICTION:

Mitigation Strategy:

- ☐ Local Planning & Regulations
- ☐ Structure and Infrastructure Projects
- ☐ Natural Systems Protection

- ☐ Education and Awareness
- ☐ Mitigation Preparedness and Response Support

Mitigation Action:

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

Following are notes from the Waseca 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 Waseca County MHMP 2018 Update.

Waseca County

Contact: Denise Wright, Waseca County Emergency Management Director

Hazard:	Flooding (City of New Richmond)
Strategy:	Structure and Infrastructure Projects
Action:	Address improvements to culverts and ditches where flooding occurs.
Hazard:	All-Hazards (County-wide)
Strategy:	Education and Awareness
Action:	Increase public information and education on hazards to schools and residents.
Hazard:	Tornado (City of Waseca)
Strategy:	Structure and Infrastructure Projects
Action:	Safe room needed at the campground.
Hazard:	Severe Summer/Winter Storms (County-wide)
Strategy:	Structure and Infrastructure Projects
Action:	Work with utilities to put power lines underground where feasible.

Waseca County

Contact: Judy Miller, Waseca County IT Director

Hazard:	Tornado
Strategy:	Structure and Infrastructure Projects
Action:	Establish a safe room in each community in the County and educate the public.

Waseca County

Contact: *Trevi's Skornberg, Waseca County GIS Coordinator*

Hazard: Tornado
 Strategy: Structure and Infrastructure Projects
 Action: Develop several safe rooms throughout the County to better serve people.

Hazard: Siren Warning Updates
 Strategy: Mitigation Preparedness and Response Support
 Action: Make sure that all warning siren systems are up-to-date and that the public is informed on the reasons for their use.

Waseca County

Contact: *Brian Tomford, Waseca County Maintenance Director*

Hazard: Flooding (Waseca County)
 Strategy: Natural Systems Protection
 Action: Culverts, erosion on Le Sueur River.

Hazard: Flooding (City of New Richland)
 Strategy: Structure and Infrastructure Projects / Natural Systems Protection
 Action: Culverts, storage and retention east side of New Richland Highway 13.

Hazard: High Winds (City of New Richland)
 Strategy: Structure and Infrastructure Projects
 Action: Work with utility to put power lines underground.

Hazard: Tornado (City of Waseca)
 Strategy: Structure and Infrastructure Projects
 Action: Community safe room at Keisler's Campground. Also sewers and holding facilities for flood mitigation.

Waseca County

Contact: *Jon Schiro, Waseca County Court Services Director*

Hazard: All Hazards
 Strategy: Education & Awareness
 Action: Increase public education and awareness for all hazards and signing up for CodeRed.

Waseca County

Contact: *Trevor Kanesvischer, Waseca County Sheriff's Office, Chief Deputy*

Hazard: Flooding (Waseca County)
 Strategy: Structure and Infrastructure Projects
 Action: Where needed in the county install appropriately sized or over-sized culverts, raise road beds, and install water diversion, if necessary.

Hazard: All-Hazards
 Strategy: Mitigation Preparedness and Response Support
 Action: Continue to work on better ways to communicate to the public...We have now have IPAWS.

Hazard: Tornado (City of Weidott)
 Strategy: Structure and Infrastructure Projects
 Action: Secure weather shelter area?

Waseca County

Contact: Jessica Beyer, Waseca County Administrator

Hazard: All-Hazards
 Strategy: Education & Awareness
 Action: Ensure residents are well educated on possible hazards and what they can personally do. Possibly put out a County newsletter once or twice per year to reach cities and schools.

Hazard: All-Hazards
 Strategy: Mitigation Preparedness and Response Support
 Action: Integrate GIS maps into CodeRed.

Hazard: All-Hazards
 Strategy: Local Planning & Regulations
 Action: Ensure that mutual aid agreements are in place.

Waseca County

Contact: Megan Kirby, Waseca County Public Health, Health Coordinator

Hazard: Flooding
 Strategy: Mitigation Preparedness and Response Support
 Action: Ensure there are generators to provide back-up power during emergency situations.

Hazard: Tornado
 Strategy: Structure and Infrastructure Projects / Education and Awareness
 Action: Structural safe rooms are needed at local campgrounds for individuals to go to. Also promote local residents to sign-up for CodeRed (how to & what is for).

Waseca County

Contact: Sarah Berry, Waseca County Public Health, Director

Hazard: Extreme Weather
 Strategy: Local Planning and Regulations
 Action: Continue to partner with Long-term Care Facilities/Group Homes/Childcare to work toward planning and implementation of emergency preparedness plans.

Hazard: Extreme Weather/Flooding
Strategy: Mitigation Preparedness and Response Support
Action: Work with HyVee grocery store to ensure they are prepared to remain functional in the event of flooding or severe weather that results in power outage. HyVee is considered critical infrastructure as used for food, groceries, and mass food preparation.

City of Janesville

Contact: David Uleman, Janesville Police Department, Chief of Police

Hazard: Flooding
Strategy: Local Planning & Regulations / Education and Awareness
Action: Flooding of nursing home was a serious concern in 2016. Additional planning and search went into watershed management. In addition, more public education relating to courses of actions citizens should take in the event of flooding. Continue these education efforts in advance of any future flood event.

Hazard: Tornado
Strategy: Structure and Infrastructure Projects / Education and Awareness
Action: Updating and creation of additional safe room for residents without a basement. Currently only one exists in the High School but I am not sure if it meets requirements to be considered an actual safe room.

City of Waseca

Contact: Kirk Anderson, Waseca Police Department, Captain

Hazard: Flooding/Sewer Back-up
Strategy: Structure and Infrastructure Projects
Action: Lining/replacement of sanitary sewer lines (in-flow & infiltration). Current project, but not full-scale due to budgets and timeline.

Hazard: Gaiher Lake Flooding
Strategy: Structure and Infrastructure Projects
Action: Remove homes or create berm/dam?

City of Waseca

Contact: Penny Knight, Waseca Police Department, Chief of Police

Hazard: Communication Issues
Strategy: Education and Awareness
Action: Key stakeholders/townships do not have internet, cell phones, or access to media. Need IPAWS to improve communication.

Hazard: All-Hazards
Strategy: Local Planning & Regulations
Action: Ensure that mutual aid agreements are in place in the event local emergency services are disrupted or unable to respond.

City of New Richland

Contact: Anthony Martens, New Richland PD/City of New Richland, Chief of Police/PA Director

Hazard:	Flooding
Strategy:	Structure and Infrastructure Projects
Action:	Install storage and retention ponds to help slow down water through town. Look at drainage to redirect water ways to the east and west of town.
Hazard:	Flooding
Strategy:	Mitigation Preparedness and Response Support
Action:	Generator for wastewater plant in event of storm surge and loss of power.
Hazard:	Tornado
Strategy:	Structure and Infrastructure Projects / Education and Awareness
Action:	Work with utility to evaluate where powerlines can be put underground. Raise awareness of local residents of signing up for and receiving emergency notifications from CodeRed.

Steele-Waseca Cooperative Electric

Contact: Kim Huford, Steele-Waseca COOP Electric, Operations Manager

Hazard:	Wind, Snow, and Ice
Strategy:	Education and Awareness
Action:	Public Awareness – hometown meetings, Safety Awareness of Downed Powerlines, local schools and Fair America annual event.
Hazard:	Equipment Failure
Strategy:	Structure and Infrastructure Projects
Action:	Heavy construction practices: Class 4 poles, shorter spans. Put powerlines underground if deemed necessary and technically feasible.
Hazard:	Severe Storms
Strategy:	Mitigation Preparedness and Response Support
Action:	Maintain and train on Emergency Response Plan on an annual basis.

**Waseca County Multi-Hazard Mitigation Plan Update
Planning Team Meeting #2
April 26, 2018, 2:00 p.m. – 4:00 p.m.
Waseca County Sheriff's Office (EOC), Waseca, MN**

Meeting Summary:

On Thursday, April 26, 2018 members of the Waseca County Multi-Hazard Mitigation (MHMP) Planning Team convened to conduct a review and discussion of the draft mitigation action charts developed for Waseca 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 Waseca County MHMP. A total of 14 people attended the meeting, representing Waseca County departments, city / township personnel and other key stakeholders.

The opening Power Point presentation covered a recap 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:

- Waseca County MHMP Mtg. #2 Email Invite
- 4-26-18 Meeting Agenda
- 4-26-18 Meeting Sign In Sheets
- 4-26-18 Power Point Presentation Slides

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

Waseca County Multi-Hazard Mitigation Plan (MHMP) Update

Planning Team Meeting #2

Thursday, April 26, 2018, 2:00 p.m. – 4:00 p.m.
Waseca County EOC (Sheriff's Office) – Waseca, 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 Waseca 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 Waseca County MHMP Update, please contact:

- Denise Wright, Waseca County Emergency Management Director
507-835-0694 / Denise.Wright@co.waseca.mn.us
- Bonnie Hundrieser, UMD Project Team Member
218-343-3468 / hundrieserconsulting@gmail.com

Waseca County 4/26/18 HMP Planning Team Meeting #2
Participant Sign-in List (14 attendees)

Waseca County MHMP Update Thursday, April 26, 2018 Planning Team Meeting #2 Participant Sign-In List			
Name	Jurisdiction / Agency /	Title	Email
Joe Luermann	Waseca County	Assessor	joe.luermann@co.waseca.mn.us
Dan Weydert	RCI/SDP	Safety Manager	dweydart@bop.gov
Rita Markeson	Waseca PD	Sergeant	rkmeson@waseca.mn.us
Megan Kray	Waseca County PH	Health Coordinator	megan.kray@co.waseca.mn.us
Sarah Berry	Waseca County PH	Director	sarah.berry@co.waseca.mn.us
Angela Schrader	WCHS - Waseca	fracture liaison coordinator	schrader.angela@mayo.edu
Cher Brummunk	Waseca SWCD	Admin	cher.brummunk@mnswcd.net
Mark Schaetzke	Waseca SWCD	District Manager	mark.schaetzke@mnswcd.net
Trevor Kowalschke	Waseca Sheriff's Office	Chief Deputy	trevor.kowalschke@co.waseca.mn.us
Jessica Beyer	Waseca County	County Administrator	jessica.beyer@co.waseca.mn.us
Judy Hiler	Waseca County	IT Director	judy.hiler@co.waseca.mn.us
John Underwood	Waseca HD	Fire Chief	
John Tomford	Waseca Maintenance	Director	john.tomford@co.waseca.mn.us
Danise Wright	Waseca County	Director of LM	danise.wright@co.waseca.mn.us

**Waseca County – Multi Hazard Mitigation Plan Update
Planning Team Meeting #2
Thursday, April 26, 2018, 2:00 p.m. – 4:00 p.m.**

PARTICIPANT SIGN IN SHEET

Name	Agency/Organization	Title	Email
1. Joe Udemann	Waseca County	Assessor	joe.udemann@co.waseca.mn.us
2. Dan Wever	Fel Lag	Safety manager	dwever@fel-lag.com
3. Kees Waseca	Waseca P.D.	Captain	kees@co.waseca.mn.us
4. Megan Kivoy	Waseca City PH	Health coordinator	megan.kivoy@co.waseca.mn.us
5. Sarah Bony	Waseca City PH	Director	sarah.bony@co.waseca.mn.us
6. Brad Bell	Waseca City PH	Emergency Planning Director	brad@co.waseca.mn.us
7. Cheri Benemann	Waseca SWCD	Admin	cheri.benemann@waseca.mn.us
8. Mark Schaffke	Waseca SWCD	Director	mark.schaffke@waseca.mn.us
9. Trevor Karsen	Waseca Co. Sheriff's Office	Chief Deputy	trevor.karsen@co.waseca.mn.us
10. Susan Bony	Waseca City Admin	Administrative	susan.bony@co.waseca.mn.us
11. Jack Kivoy	Waseca City Admin	Director of IT	jack.kivoy@co.waseca.mn.us
12. John Kivoy	Waseca City	Fire Chief	john.kivoy@co.waseca.mn.us
13. Brian Tomford	Waseca Maintenance	Director	brian.tomford@co.waseca.mn.us
14. Denise Waseca	Waseca Co. EM	Director	denise.waseca@co.waseca.mn.us
15.			
16.			
17.			
18.			

4/6/2018



Agenda

1. Welcome & Introductions
2. 2018-2019 Meeting Schedule
3. Overview of the 2018-2019 Planning Team Meeting
4. 2018-2019 Meeting Schedule
5. 2018-2019 Meeting Schedule

Waseca County
MINNESOTA

Hazard Mitigation
Planning Meeting #2
Mitigation Action
Chart Review

MHMP – Recap of Key Points

- Waseca County is updating its Multi-Hazard Mitigation Plan (MHMP) to fulfill 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 natural or disaster events.

Who the Plan Covers

This is a multi-jurisdictional plan that covers Waseca County, including the cities of Lonsdale, New Richmond, Wabasha and Waseca.

The plan is a multi-jurisdictional plan that covers Waseca County, including the cities of Lonsdale, New Richmond, Wabasha and Waseca.



Who Needs to Participate

Participation of key county/city and other stakeholders is required:

- County decision makers
- City Government
- Emergency Services
- County Board
- Planning Team

Opportunities for public participation is also required:

- News Release
- News Release, Website
- Online Meeting & Comment Period
- Public Meeting (open house)

Priorities of Risks Faced by Waseca County (2018)

The following hazards ranking for Waseca County are based on the 2018 MHMP.

They are provided for discussion for inclusion in the 2018 MHMP Update.

Waseca County Hazard Ranking	Priority
1. Severe Winter Storms, Heavy Snow, Ice Storms, Blizzards	High
2. Severe Thunderstorms, Heavy Rain, Flooding	High
3. Severe Drought, Heat, Wildfires	High
4. Severe Windstorms, Tornadoes	Medium
5. Severe Earthquakes	Medium
6. Severe Landslides, Mudslides	Medium
7. Severe Air Pollution	Medium
8. Severe Noise Pollution	Medium
9. Severe Radiation	Medium
10. Severe Chemical Hazards	Medium

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 to understand the hazard and implement hazard mitigation to reduce the risk of future damage and property loss from natural hazards.

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 zoning and building codes that allow certain types of development, require specific construction practices, and determine management of vegetation.

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 levee construction, seawall construction, dam removal, and flood insurance. Other examples include flood insurance and flood insurance. The mitigation strategy includes developing/creating 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 include but are not limited to: riparian corridor restoration, wetland management, forest and vegetation management, wetland restoration and preservation, riparian 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, risk communication, hazard information systems, and school-age and adult education programs.

4/6/2018

Education & Awareness Program Examples



Mitigation Strategy #5: Mitigation Preparedness & Response Support

(USFMA added language for use in this slide)

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 services are being actively provided in Waseca County, Minnesota, as part of the efforts of emergency services.

Mitigation Preparedness & Response Support Examples



What Projects May be Eligible for FEMA HMA Funding

- Acquisition/Elevation/Relocation
- Flood-Resistant Construction
- Sand-Bag Construction/Repair
- Power-line strengthening/burying
- Wildlife Mitigation Barriers
- Slope stabilization
- Flood-risk reduction activities
- Additional Projects eligible to conduct a standard B, D



Flooded property: If a property is flooded, FEMA will provide funding to help with the cost of repairs and rebuilding. The amount of funding will depend on the extent of the damage.

Eligible projects: Projects that are eligible for FEMA HMA funding include: acquisition, elevation, relocation, flood-resistant construction, sand-bag construction, power-line strengthening, wildlife mitigation barriers, slope stabilization, and flood-risk reduction activities.

Mitigation Action Chart Overview

- The WMP 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 residents on mitigation measures important to their community.
- Every city will have its own mitigation action chart for local implementation & tracking.

"Hazard" column

Hazard	Location	Severity	Frequency	Impact	Current Mitigation	Proposed Mitigation
--------	----------	----------	-----------	--------	--------------------	---------------------

Each city will have its own mitigation action chart.

Each city will have its own mitigation action chart. The chart will outline the specific mitigation measures that the city will seek to implement over the course of the next 5 years.

4/6/2018

"Mitigation Strategy" column

↓

Item	Category	Location	Priority	Responsible Agency	Estimated Cost	Estimated Start Date	Estimated End Date
1	Public Safety	Waseca	High	Waseca County	\$100,000	2018	2020

Use the drop-down menu to select a mitigation strategy from the list below:

1. Public Safety
2. Environmental
3. Economic
4. Cultural
5. Social
6. Other

"Mitigation Action" column

↓

Item	Category	Location	Priority	Responsible Agency	Estimated Cost	Estimated Start Date	Estimated End Date
1	Public Safety	Waseca	High	Waseca County	\$100,000	2018	2020

Use the drop-down menu to select a mitigation action from the list below:

1. Public Safety
2. Environmental
3. Economic
4. Cultural
5. Social
6. Other

"Status" column

↓

Item	Category	Location	Priority	Responsible Agency	Estimated Cost	Estimated Start Date	Estimated End Date
1	Public Safety	Waseca	High	Waseca County	\$100,000	2018	2020

Use the drop-down menu to select a status from the list below:

1. Completed
2. In Progress
3. Not Started
4. On Hold
5. Cancelled

"Priority Ranking" column

↓

Item	Category	Location	Priority	Responsible Agency	Estimated Cost	Estimated Start Date	Estimated End Date
1	Public Safety	Waseca	High	Waseca County	\$100,000	2018	2020

Use the drop-down menu to select a priority ranking from the list below:

1. High
2. Medium
3. Low
4. Very Low
5. Not Ranked

"Timeline" column

↓

Item	Category	Location	Priority	Responsible Agency	Estimated Cost	Estimated Start Date	Estimated End Date
1	Public Safety	Waseca	High	Waseca County	\$100,000	2018	2020

Use the drop-down menu to select a timeline from the list below:

1. Immediate
2. Short-term
3. Long-term
4. Indefinite

"Jurisdictions" column

↓

Item	Category	Location	Priority	Responsible Agency	Estimated Cost	Estimated Start Date	Estimated End Date
1	Public Safety	Waseca	High	Waseca County	\$100,000	2018	2020

Use the drop-down menu to select a jurisdiction from the list below:

1. Waseca County
2. Waseca City
3. Waseca Township
4. Waseca School District
5. Waseca Fire District

4/6/2018

"Responsibility" column



The responsibility for this plan is shared by the following entities:

- County Planning Department
- Emergency Management
- County Highway Department
- County Public Works Department
- County Sheriff's Office
- County Board of Supervisors

"Comments on Planning Mechanisms for Implementation" column



Comments on the plan should be submitted to the County Planning Department. Comments should be submitted by the following entities:

- County Planning Department
- Emergency Management
- County Highway Department
- County Public Works Department
- County Sheriff's Office
- County Board of Supervisors

"Possible Funding" column



The following entities are responsible for funding the plan:

- County Planning Department
- Emergency Management
- County Highway Department
- County Public Works Department
- County Sheriff's Office
- County Board of Supervisors

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 comments will be considered for the open review period.
- Any resulting revisions will be made, and the plan will be submitted to HSE and FEMA for review and approval.

Appendix F

Public Outreach & Engagement Documentation



**Denise Wright
Director**

122 – 3rd Avenue NW
Waseca, MN 56093

507-835-0894 Direct
507-835-0690 Main

Public Feedback and Participation Invited for Waseca County 2018 Multi-Hazard Mitigation Plan Update

The Waseca 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 Emergency Manager in cooperation with a planning team of representatives from County departments, local municipalities, school districts, and other 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 Waseca County MHMP is a multi-jurisdictional plan that covers Waseca County, including the cities of Janesville, New Richland, Waldorf, and Waseca. The Waseca County MHMP also incorporates the concerns and needs of townships, school districts, and other stakeholders participating in the plan.

Waseca 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.

According to Waseca County Emergency Management Director, Denise Wright, "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 tornadoes 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. Waseca 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 Waseca County Emergency Manager, Denise Wright: (507) 835-0654 or Denise.wright@co.waseca.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

Denise Wright

Waseca County Emergency Management Director

Phone: (507) 835-0654

Email: Denise.wright@co.waseca.mn.us

denise.wright@co.waseca.mn.us

Waseca County Sheriff's Facebook Page Posting – July, 2017 News Release



Waseca County Emergency Management Website Posting - July, 2017 News Release



Waseca County News – Public News Release, July 27, 2017






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Ask for your
HIGHER RATE.

2.90%
0.05%

Public feedback, participation invited for county Multi-Hazard Mitigation Plan update

2017/07/27 11:10 AM

[1](#)
[2](#)
[3](#)
[4](#)
[5](#)

The Waseca County Office of Emergency Management is currently working with the University of Minnesota South-Central Analysis Center (SCAC) to prepare an update of the County's 2013 Multi-Hazard Mitigation Plan (MHMP). The plan is a requirement of the Federal Disaster Mitigation Act of 2002 (DMA 2002) and must be updated every five years to remain eligible for various federal disaster assistance and hazard mitigation funding programs.

Development of the plan is under direction of the county's Emergency Manager in cooperation with a planning team of representatives from county departments, local municipalities, school districts, and other key organizations such as utility providers. The planning team is responsible to provide feedback needed for the plan update, including the various impacts and identification of strategies and reference mitigation activities that may reduce future losses to the County and individual jurisdictions.

Some mitigation activities may be eligible for future FEMA Hazard Mitigation Assistance (HMA) grant funding, such as levee and flood reduction measures, storm abatement and floodproofing of levees, levee and infrastructure repairs, debris mitigation, and park, open space and wetlands projects to provide shoreline protection for people, structures, animals and wildlife.







Additional Facebook Postings of Waseca County July, 2017 News Release Posting



Meteorologist Corey Harguth shared Waseca County Sheriff's Office's post.
July 10 at 2:56pm · 

Here is an opportunity you to way in on how plans in Waseca County are written.



Denise Wright
Director
1221 W 2nd Avenue SW
Waseca, MN 56093
507-835-0804 (work)
507-835-0805 (home)

Public Feedback and Participation Invited for Waseca County 2018 Multi-Hazard Mitigation Plan Update

Waseca County (Office of Emergency Management) is currently working with the Minnesota State Office of Emergency Management (SOM) to prepare an update of the County's 2012 mitigation plan. The plan is a requirement of the Federal Disaster Mitigation Act (2002) and must be submitted to the Federal Emergency Management Agency (FEMA) for approval. The plan is a requirement of the Federal Disaster Mitigation Act (2002) and must be submitted to the Federal Emergency Management Agency (FEMA) for approval.

Waseca County is a multi-jurisdictional entity that covers Waseca County, including the cities, towns, and villages. The Waseca County Sheriff's Office also incorporates various levels of emergency management, including the state, federal, and local levels. The plan is a requirement of the Federal Disaster Mitigation Act (2002) and must be submitted to the Federal Emergency Management Agency (FEMA) for approval.

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Waseca County Sheriff's Office added 2 new photos.
July 18 at 1:58pm · 

Waseca County Emergency Management is seeking public input for its multi-hazard mitigation plan. Please read the attached document and provide any information you feel is vital. Thank you in advance for your interest and participation.

City of New Richland, MN shared Waseca County Sheriff's Office's post.
July 18 at 2:32pm



Public Feedback and Participation Invited for Waseca County 2018 Multi-Hazard Mitigation Plan Update

Waseca County Emergency Management is currently working with the community to update the Waseca County Multi-Hazard Mitigation Plan (MHMP). The plan is a key component of the Federal Disaster Mitigation Act (DMA) and must be updated every five years to reflect changes in the county's hazard profile and to ensure that the plan remains relevant and effective.

The plan is a living document that will be updated as new information becomes available. The plan will be updated every five years to reflect changes in the county's hazard profile and to ensure that the plan remains relevant and effective.

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Waseca County Sheriff's Office added 2 new photos
July 18 at 1:58pm

Waseca County Emergency Management is seeking public input for its multi-hazard mitigation plan. Please read the attached document and provide any information you feel is wise. Thank you in advance for your interest and participation.



Denise Wright
Director
122 - 3rd Avenue NW
Waseca, MN 56093

507-835-0694 Direct
507-835-0960 Main

WASECA COUNTY NEWS RELEASE

August 28, 2018

Public Review and Feedback Invited for Waseca County's Multi-Hazard Mitigation Plan

Waseca 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. Waseca 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/waseca-county-mhmp>. The plan review and comment period will be open until September 21, 2018.

About the Plan

The Waseca County MHMP is a multi-jurisdictional plan that covers Waseca County, including the cities of Janesville, New Richland, Waldorf, and Waseca. The Waseca County MHMP also incorporates the concerns and needs of townships, school districts, and other stakeholders participating in the plan.

Waseca 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 Waseca 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 home parks or schools to protect lives in the event of tornadoes 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 Waseca 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:

Denise Wright

Waseca County Emergency Management Director

Phone: (507) 835-0694

Email: Denise.wright@co.waseca.mn.us

From: Denise Wright
To: Emerson Group: MNPR6282E; adam.ross@reutech@rockcountrymn.com; jf55408@rocktech.net; josh.moen@hotmail.com; clinton@lancastermn.gov; City Of Waldorf: info@cityofwaldorf.com; sarah@waseca.org; jake.polaris@mn-nac.net; Amanda Rehm: "Anthony Martens"; Brad Hilbrich: "amrad@kcp.org"; Dave Wertz: dave.wertz@kcp.org; "emergencymanagement@co.waseca.mn.us"; James Linger: CBI; John Underwood: "joc211@rocktech.net"; Jim Jackson: "Kris Markeson"; "test@waseca.112.mn.us"; Megan Kirby: "Jerry Vough"; Sarah Bern: "schneider.angela@mnso.edu"; Tim Ellis: Trevor Sawewicz
Cc: Bonnie Handwerker: E.M
Subject: Public Review of the All Hazard Plan
Date: Tuesday, August 28, 2018 11:23:59 AM
Attachments: HMP Plan review August 2018.docx

Good Morning!

The Waseca County Multi-Hazard Mitigation Plan draft document is 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.

You may download and comment on the plan at this website: <https://scse.d.umn.edu/waseca-county-mhmp>. Please note that the public review period is open until September 21st.


City Representatives: You are encouraged to **please post** the **attached PDF news release** to your city website, Facebook or twitter 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 "Waseca County Multi-Hazard Mitigation Plan is Open for Public Review".

Thank you,


Denise Wright
 Director - #7101
 Emergency Management
 Waseca County
 122 3rd Ave NW
 Waseca MN 56093
 507-835-0694 office
 507-380-4527 cell

By failing to prepare, you are preparing to fail.
Benjamin Franklin

Waseca County Facebook Page MIHMP News Release Posting, August 30, 2018



Waseca County
23 mins



Denise Wright
Director
122 - 3rd Avenue NW
Waseca, MN 56093
507-635-0904 - Office
507-235-0902 - Home

WASECA COUNTY NEWS RELEASE
August 30, 2018

**Public Review and Feedback Invited for
Waseca County's Multi-Hazard Mitigation Plan**


Waseca 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 (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. Waseca 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.waseca.org/waseca-county-mhmp>. The plan review and comment period will be open until September 21, 2018.


About the Plan
The Waseca County MHMP is a multi-jurisdictional plan that covers Waseca County, including the cities of Jewellville, New Richmond, Wabesa, and Waseca. The Waseca County MHMP also incorporates the concerns and needs of townships, school districts, and other stakeholders participating in the plan.


Waseca 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 tornados, flooding, wildfires, blizzards, straight line winds, ice storms, and droughts which have the potential for affecting not economic loss and personal hardship.

Update of the plan has been under direction of Waseca 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, vehicle repair parks or schools to protect lives in the event of tornados or severe wind events; burying power lines that run full size to heavy trees; for or wind storms; making 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.

 Like

 Comment

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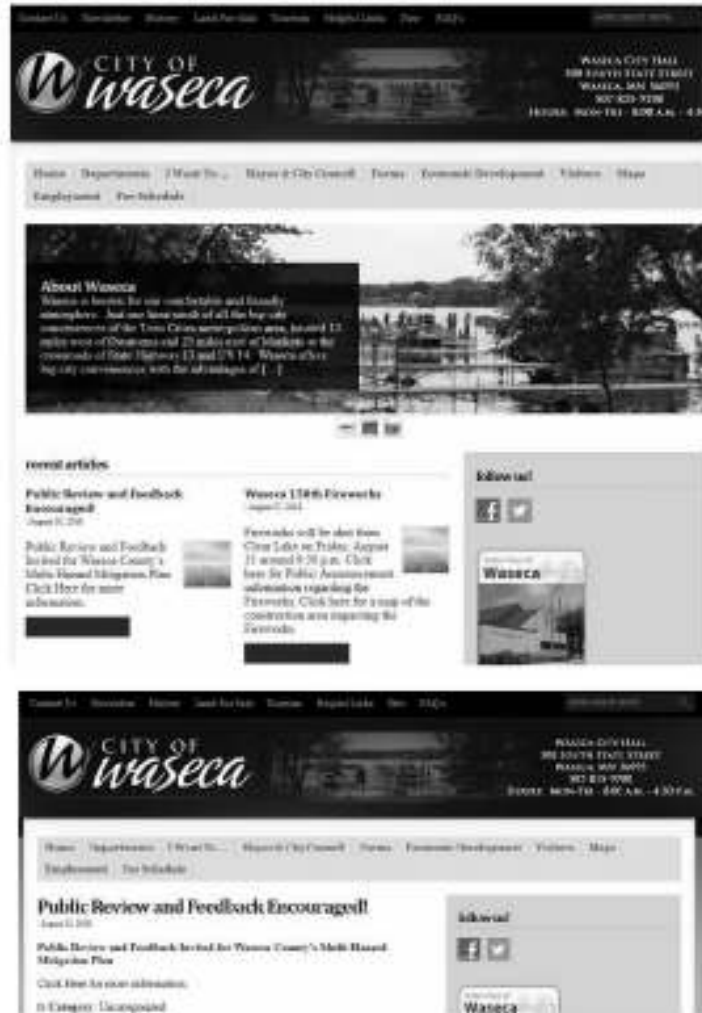
City of Janesville, MN Website
Posting of Waseca County MHMP News Release #2
August, 28, 2018



**City of New Richland, MN Website
Posting of Waseca County MHMP News Release #2
August, 28, 2018**



City of Waseca, MN Website
Posting of Waseca County MHMP News Release #2
August 30, 2018



UMD Webpages for Public Feedback to Waseca County MHMP Update

URL: <https://scse.d.umn.edu/waseca-county-mhmp>

Home Page with Links to Waseca County draft MHMP and Mitigation Action Charts

The screenshot shows the homepage of the University of Minnesota Duluth's Geospatial Analysis Center. The header includes the university logo, name, and tagline "Duluth for Everyone", along with a search bar. Below the header, the page title is "Public Feedback for Waseca County MHMP Update". A sub-header reads "and thank you for your feedback on the draft plan". The main content area is divided into two columns. The left column, titled "Contact Us", lists the email umdp@duluth.umn.edu, phone numbers (218) 725-7438, (719) 710-1101, and (800) 427-2529, and the physical address (1400 Main St, Duluth, MN 55812). The right column features a large image of a car crash and the text "GIVE US YOUR FEEDBACK!". Below the image, a paragraph explains that Waseca County is updating its Multi-Hazard Mitigation Plan and seeks public feedback before submission to the State of Minnesota and FEMA. It lists five links: "Waseca County MHMP 2018 draft", "Waseca County Mitigation Actions", "Jawaska Mitigation Actions", "New Sweden Mitigation Actions", and "Zachary Mitigation Actions". A footer note says "Help us make Waseca County safer from natural disasters!". At the bottom, a text box prompts users to contact umdp@duluth.umn.edu if they have questions or comments.

Waseca County MHMP – Public Online Comment Form

Waseca County MHMP Feedback & Comments

Open online from July 27th 2018. Waseca County Multi-Hazard Mitigation Plan for Waseca County and its residents. This form is for your feedback on the Waseca County Multi-Hazard Mitigation Plan for Waseca County and its residents. Thank you.

Name

Your email will be kept confidential.

Email address

Your email will be kept confidential.

Job Title and Organization

Your email will be kept confidential.

Justification

Your email will be kept confidential.

After reviewing the mitigation actions for your jurisdiction, do you have any ideas for how we can do it better? Please explain in as much detail as possible.

Your email will be kept confidential.

Are there any issues in your community related to natural hazards that we did not address in this plan? Please explain in as much detail as possible.

Your email will be kept confidential.

Does this plan reflect the needs of Waseca County to mitigate against future natural hazards? If not, please explain.

Your email will be kept confidential.

Do you have any other comments or suggestions for the plan? Please explain in as much detail as possible. Please email your comments to info@waseca.org.

Your email will be kept confidential.

How did you find out about this planning effort?

☐ Chicago

☐ Facebook

☐ Waseca County Website Page

☐ County Administrator's Office

☐ County Email

☐ Newspaper

☐ Other

Submit

Have you ever provided this information?

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Google Forms

Appendix G

Mitigation Actions by Jurisdiction

Table G - 1. Mitigation Actions Identified for Implementation by the City of Janesville (2018-2022) (From Waseca County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Janesville 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 Waseca County residents are aware of and sign-up for the County's CodeRed Emergency Notification System, and continue to identify ways to bring hazard information to non-English speaking residents in the County.	Ongoing	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	A link for CodeRed community sign up is provided on the Waseca County and Cities of Waseca, Janesville, and New Richland websites and Facebook pages. Communities will be encouraged to post information on CodeRed sign up in city newsletters or with utility bills. In rural areas, putting flyers in common community sites might spur sign up. Reminders are also posted using the Waseca County Sheriff's Office Facebook Page. The ability to reach non-English speaking residents is addressed under the Access and Functional needs portion of the Waseca County Emergency Operations Plan. "ECHO" is one method the County has to use for reaching non-English speaking residents.	County, municipal funding
2	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.	Ongoing	Moderate	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Planning & Zoning, City Admin/ Planning depts.	This is an Ongoing effort of Waseca County Planning & Zoning as well as the Waseca County SWCD for water use planning. Local jurisdictions will be encouraged to update their local Comp Plans with a mitigation focus following completion of our 2018 Multi-Hazard Mitigation Plan. <i>City Comment: The City needs to update our Comprehensive Plan to address mitigation for natural disasters (i.e., Flooding). Our current comp plan is from 2004 and is designed to plan for the future physical growth of the city and appropriate land uses.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Local Planning & Regulations	Continue to update the Waseca County and city-level Emergency Operation Plans to ensure that they adequately detail the needed steps to respond to all-hazards.	Ongoing	Moderate	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	The WC EOP is updated on an annual basis to address new HSEM MNWALK requirements. Local jurisdictions are also encouraged to develop and maintain local level EOP's. <i>City Comment: The City has an Emergency Operations Plan which addresses all aspects of emergency management during crisis. The Plan is reviewed about every year.</i>	County, municipal funding
4	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place in the event that local emergency services are disrupted or unable to respond.	Ongoing	Moderate	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers, and local fire depts.	Waseca County and local cities maintain mutual aid agreements with neighboring jurisdictions for emergency response. All local fire departments also have MAA's in place to support both structure and wildland fire suppression response as needed.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
5	All-Hazards	Local Planning & Regulations	Continue to partner with Long-term Care Facilities/Group Homes/Childcare facilities to work toward planning and implementation of emergency plans for All-Hazard events.	Ongoing	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management and WC Public Heath in coordination with City Emergency Managers & individual facility managers	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>). <i>City Comment: In our City, the flooding of our nursing home was a serious concern in 2016.</i>	County funding and individual facility funding
6	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on the dangers of natural hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Information is distributed to the public via websites, Sheriff's Office Facebook, city of Waseca Facebook page, city of Waseca website and Facebook page, the city of Waseca Fire Department Facebook page, city of Waseca newsletters, handouts, and public presentations. Additional information is provided during the NWS severe weather awareness weeks in spring and winter.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Local Planning & Regulations / Mitigation Preparedness & Response Support	Work with businesses within the community that are considered "critical infrastructure" to ensure they are prepared to remain functional in the event of flooding or severe weather that results in severe power outage.	New	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management, WC Public Health, and City of Waseca Emergency Management	<p>WC Emergency Management, WC Public Health, and city emergency managers will work with respective businesses within their communities to encourage management to secure backup power & develop emergency plans to support continuity of service.</p> <p>In the city of Waseca, Walmart is considered critical as they provide food, groceries, and mass food preparation.</p> <p>In the city of New Richland, the meat market, grocery store, Casey's gas station and CFS gas station do not have any backup power. This would cause an issue for residents to get gas or food if power was down for an extended period of time.</p>	County funding, Private business funding (i.e., Walmart)
10	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	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. While most notifications are provided through CodeRed notifications, not all residents are signed up and NOAA weather radios are an important way to receive emergency weather alerts.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
11	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's Severe Weather Awareness Weeks in April and November each year.	Ongoing	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Public outreach is conducted to educate residents on the dangers of severe winter and summer storms and highlights the importance of preparing for severe weather before it strikes. All local cities are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
12	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Identify critical facilities or infrastructure that do not have backup power in the event of a major power outage resulting from severe winter or summer storms. <i>(Critical facilities may include police/fire departments, EOC, 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	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Not all county & city government buildings and schools have backup power generators to ensure energy in the event of a severe power outage. Waseca County and each jurisdiction will work to identify their respective critical facilities that should have backup power.	County, municipal funding
13	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that require backup power.	New	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Waseca 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 funding for Generators

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
14	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural & municipal electrical coops to identify and address mitigation measures for aboveground power lines that are susceptible to damage from severe winter or summer storms in order to reduce potential power outages.	New	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Planning and Zoning, WC Highway Dept., City Public Works in cooperation the appropriate utility company.	<p>The County and cities will work with appropriate utility service providers as needed to evaluate areas of concern. Service providers for Waseca County include:</p> <ul style="list-style-type: none"> • Steele/Waseca Coop • Janesville Utilities • Waseca Utilities • Minnesota Valley Electric • BENCO (Blue Earth Nicollet, Faribault Coop) • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense. Other mitigation measures may include overhead strengthening measures or trimming of nearby trees to reduce power outages due to falling tree limbs during storms.</p>	Rural or Municipal Electric Coop funding, Possible FEMA HMA funding for Infrastructure Retrofit
16	Severe Summer Storms	Education & Awareness Programs	Continue to provide/participate in 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	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management in collaboration with local cities and NWS	Waseca County offers two SKYWARN classes on an annual basis for first responders and local residents that wish to be trained as volunteers. Waseca County has a group of approximately 25 trained spotters who, when the NWS sends out a spotter activation for our county, are called on to go out and spot in different areas within the county.	County, municipal funding, NWS funding

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
17	Severe Summer Storms	Education & Awareness Programs	Continue to ensure that all warning sirens in the County are up-to-date and that the public is informed on the reasons for their use. Install new or upgrade siren warning systems where needed.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	<p>Waseca County has a system of emergency warning sirens throughout the county. Sirens are activated when the National Weather Service notifies Dispatch that there are high winds of 70 mph or greater or tornado conditions that pose risk to public safety.</p> <p>Waseca County and each city participates in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. The public is educated on the use of sirens during Severe Weather Awareness Week and other reminders posted on the Sheriff's Office Facebook during tornado season. All public schools also participate in annual tornado drills.</p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Summer Storms	Structure and Infrastructure Projects	Identify areas where vulnerable populations are susceptible to tornadoes or extreme wind events (i.e. schools, campgrounds, or mobile home parks) and evaluate for construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management in coordination with City Emergency Managers	<p>Waseca County Emergency Management will work with all city emergency managers to evaluate areas of need for storm shelters or safe rooms. Currently there are two designated storm shelters in the county located in the Waseca County EOC and Central Intermediate School.</p> <p>Current locations identified as priority areas for a community safe room include Kiesler's Campground & RV Resort, located on the outskirts of the city of Waseca and the Waseca County Solid Waste/ Recycling Facility for the protection of employees and customers.</p> <p><i>City Comment: Currently only one storm shelter exists in the community at the High School, but it is not certain if it meets requirements to be considered an actual safe room. Other locations for construction of a safe room should be considered, as many residences do not have a basement. Janesville has campground which could be considered for a shelter.</i></p>	County, municipal funding
19	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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management, WC Public Health, in coordination with City Emergency Managers	Any community safe room projects that the County is involved in will be part of the Waseca Emergency Management program. FEMA grant funding may be sought to support an eligible safe room project.	County, municipal funding, Possible FEMA HMA funding for Safe Room Construction

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may lead to contaminated drinking water.	Ongoing	High	2018	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Planning & Zoning Dept., MN Dept. of Health and local city and township public works depts.	The city of Waseca wellhead protection plan is completed, and the cities of Janesville, Waldorf and New Richland are expected to be completed in 2018. 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 a community's drinking water. Cities work directly with the Minnesota Department of Health (MDH) on the development or update of wellhead protection plans to ensure they meet State requirements.	MDH Source Water Protection grant funding for wellhead improvement projects
22	Flooding	Local Planning & Regulations	Continue to participate in the National Flood Insurance Program (NFIP) and enforce local floodplain ordinances to ensure that new construction is built above regulatory flood protection elevation.	Ongoing	Moderate	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Planning & Zoning Dept., local city planning depts.	WC Planning & Zoning administers land use and zoning ordinances for rural portions of Waseca County, including for floodplains and shoreland. The Cities of Janesville, New Richland, Waldorf, and Waseca all participate in the NFIP. Cities develop and enforce local floodplain ordinances.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
24	Flooding	Structure and Infrastructure Projects	<p>Identify areas of concern and appropriate mitigation measures to reduce future flood-related risks and damages to culverts, ditches, roads, and bridges in the county.</p> <p>(Examples of mitigation solutions may include but are not limited to culvert and ditch improvements, raising road beds, installation of water retention or water diversion, and replacement of aging or failing bridges.)</p>	New	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Highway Dept. and local city / township public works	<p>Waseca County and local jurisdictions maintain an annual 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 a Public Works Director that addresses road maintenance issues for flooding (culverts, repetitive flooding).</i></p>	County, municipal funding, Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit, also Climate Resilient Mitigation Activities
25	Flooding	Structure and Infrastructure Projects	Develop stormwater management plans and improve stormwater management systems (i.e., sewers and holding facilities) at the county and city level to address future high-impact rain events throughout the County.	Ongoing	New	2017-2021	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Planning & Zoning Dept & WC SWCD in coordination with local city / township Planning/Public Works depts. & MnDOT	Stormwater Management is addressed as a priority in the Waseca County Local Water Management Plan Amendment (2015-2018). Municipalities are responsible for development of local stormwater management plans & projects.	County, municipal funding, SWCD, and Possible MPCA/PFA grant funding. Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Janesville Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
27	Flooding	Local Planning & Regulations	Identify properties that experience repetitive damage from flooding and work with property owners on property acquisition & structure demolition or relocation and turn the flood-hazard area into open-space.	New	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Planning & Zoning Dept, and local city / township public works	This is an ongoing effort of Waseca County Planning & Zoning in conjunction with local jurisdictions that have experience repetitive flooding.	County, municipal funding, Possible FEMA HMA grant funding for Property Acquisition & Structure Demolition or Relocation
33	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought. Enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	High	2018-2022	Waseca County, Janesville , New Richland, Waldorf, Waseca	WC Emergency Management in collaboration with SWCD and local cities	Promoting water conservation during periods of drought is a standing effort of the County and local governments, as well as the USDA and Farm Service Agency (FSA) Office.	County, municipal funding

Table G - 2. Mitigation Actions Identified for Implementation by the City of New Richland (2018-2022) (From Waseca County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of New Richland 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 Waseca County residents are aware of and sign-up for the County's CodeRed Emergency Notification System, and continue to identify ways to bring hazard information to non-English speaking residents in the County.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers	A link for CodeRed community sign up is provided on the Waseca County and Cities of Waseca, Janesville, and New Richland websites and Facebook pages. Communities will be encouraged to post information on CodeRed sign up in city newsletters or with utility bills. In rural areas, putting flyers in common community sites might spur sign up. Reminders are also posted using the Waseca County Sheriff's Office Facebook Page. The ability to reach non-English speaking residents is addressed under the Access and Functional needs portion of the Waseca County Emergency Operations Plan. "ECHO" is one method the County has to use for reaching non-English speaking residents.	County, municipal funding
2	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.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Planning & Zoning, City Admin/ Planning depts.	This is an ongoing effort of Waseca County Planning & Zoning as well as the Waseca County SWCD for water use planning. Local jurisdictions will be encouraged to update their local Comp Plans with a mitigation focus following completion of our 2018 Multi-Hazard Mitigation Plan. <i>City Comment: The City will work to update our Comp Plan to include planning for future disasters (i.e., flooding).</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Local Planning & Regulations	Continue to update the Waseca County and city-level Emergency Operation Plans to ensure that they adequately detail the needed steps to respond to all-hazards.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers	The WC EOP is updated on an annual basis to address new HSEM MNWALK requirements. Local jurisdictions are also encouraged to develop and maintain local level EOP's.	County, municipal funding
4	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place in the event that local emergency services are disrupted or unable to respond.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers, and local fire depts.	Waseca County and local cities maintain mutual aid agreements with neighboring jurisdictions for emergency response. All local fire departments also have MAA's in place to support both structure and wildland fire suppression response as needed.	County, municipal funding
5	All-Hazards	Local Planning & Regulations	Continue to partner with Long-term Care Facilities/Group Homes/Childcare facilities to work toward planning and implementation of emergency plans for All-Hazard events.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management and WC Public Health in coordination with City Emergency Managers & individual facility managers	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	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
6	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on the dangers of natural hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Information is distributed to the public via websites, Sheriff's Office Facebook, city of Waseca Facebook page, city of Waseca website and Facebook page, the city of Waseca Fire Department Facebook page, city of Waseca newsletters, handouts, and public presentations. Additional information is provided during the NWS severe weather awareness weeks in spring and winter.	County, municipal funding
9	All-Hazards	Local Planning & Regulations / Mitigation Preparedness & Response Support	Work with businesses within the community that are considered "critical infrastructure" to ensure they are prepared to remain functional in the event of flooding or severe weather that results in severe power outage.	New	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management, WC Public Health, and City of Waseca Emergency Management	<p>WC Emergency Management, WC Public Health, and city emergency managers will work with respective businesses within their communities to encourage management to secure backup power & develop emergency plans to support continuity of service.</p> <p><i>In the city of Waseca</i>, Walmart is considered critical as they provide food, groceries, and mass food preparation.</p> <p><i>In the city of New Richland</i>, the meat market, grocery store, Casey's gas station and CFS gas station do not have any backup power. This would cause an issue for residents to get gas or food if power was down for an extended period of time.</p>	County funding, Private business funding (i.e., Walmart)

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
10	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	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. While most notifications are provided through CodeRed notifications, not all residents are signed up and NOAA weather radios are an important way to receive emergency weather alerts.	County, municipal funding
11	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's Severe Weather Awareness Weeks in April and November each year.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Public outreach is conducted to educate residents on the dangers of severe winter and summer storms and highlights the importance of preparing for severe weather before it strikes. Local cities are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
12	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Identify critical facilities or infrastructure that do not have backup power in the event of a major power outage resulting from severe winter or summer storms. <i>(Critical facilities may include police/fire departments, EOC, 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	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Not all county & city government buildings and schools have backup power generators to ensure energy in the event of a severe power outage. Waseca County and each jurisdiction will work to identify their respective critical facilities that should have backup power. <i>City Comment: The City wishes to install a generator for the wastewater plant to provide backup power in the event of storm surge and loss of power.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
13	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that require backup power.	New	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Waseca 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 funding for Generators
14	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural & municipal electrical coops to identify and address mitigation measures for aboveground power lines that are susceptible to damage from severe winter or summer storms in order to reduce potential power outages.	New	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Planning and Zoning, WC Highway Dept., City Public Works in cooperation the appropriate utility company.	<p>The County and cities will work with appropriate utility service providers as needed to evaluate areas of concern. Service providers for Waseca County include:</p> <ul style="list-style-type: none"> • Steele/Waseca Coop • Janesville Utilities • Waseca Utilities • Minnesota Valley Electric • BENCO (Blue Earth Nicollet, Faribault Coop) • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense. Other mitigation measures may include overhead strengthening measures or trimming of nearby trees to reduce power outages due to falling tree limbs during storms.</p> <p><i>City Comment: The City will work with our utility to evaluate where power lines can be put underground.</i></p>	Rural or Municipal Electric Coop funding, Possible FEMA HMA funding for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Summer Storms	Education & Awareness Programs	Continue to provide/participate in 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	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management in collaboration with local cities and NWS	Waseca County offers two SKYWARN classes on an annual basis for first responders and local residents that wish to be trained as volunteers. Waseca County has a group of approximately 25 trained spotters who, when the NWS sends out a spotter activation for our county, are called on to go out and spot in different areas within the county.	County, municipal funding, NWS funding
17	Severe Summer Storms	Education & Awareness Programs	Continue to ensure that all warning sirens in the County are up-to-date and that the public is informed on the reasons for their use. Install new or upgrade siren warning systems where needed.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Waseca County has a system of emergency warning sirens throughout the county. Sirens are activated when the National Weather Service notifies Dispatch that there are high winds of 70 mph or greater or tornado conditions that pose risk to public safety. Waseca County and each city participates in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. The public is educated on the use of sirens during Severe Weather Awareness Week and other reminders posted on the Sheriff's Office Facebook during tornado season. All public schools also participate in annual tornado drills.	County, municipal funding

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Summer Storms	Structure and Infrastructure Projects	Identify areas where vulnerable populations are susceptible to tornadoes or extreme wind events (i.e. schools, campgrounds, or mobile home parks) and evaluate for construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management in coordination with City Emergency Managers	Waseca County Emergency Management will work with all city emergency managers to evaluate areas of need for storm shelters or safe rooms. Currently there are two designated storm shelters in the county located in the Waseca County EOC and Central Intermediate School. Current locations identified as priority areas for a community safe room include Kiesler's Campground & RV Resort, located on the outskirts of the city of Waseca and the Waseca County Solid Waste/ Recycling Facility for the protection of employees and customers.	County, municipal funding
19	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	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management, WC Public Health, in coordination with City Emergency Managers	Any community safe room projects that the County is involved in will be part of the Waseca Emergency Management program. FEMA grant funding may be sought to support an eligible safe room project.	County, municipal funding, Possible FEMA HMA funding for Safe Room Construction

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may lead to contaminated drinking water.	Ongoing	High	2018	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Planning & Zoning Dept., MN Dept. of Health and local city and township public works depts.	The city of Waseca wellhead protection plan is completed, and the cities of Janesville, Waldorf and New Richland are expected to be completed in 2018. 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 a community's drinking water. Cities work directly with the Minnesota Department of Health (MDH) on the development or update of wellhead protection plans to ensure they meet State requirements.	MDH Source Water Protection grant funding for wellhead improvement projects
22	Flooding	Local Planning & Regulations	Continue to participate in the National Flood Insurance Program (NFIP) and enforce local floodplain ordinances to ensure that new construction is built above regulatory flood protection elevation.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Planning & Zoning Dept., local city planning depts.	WC Planning & Zoning administers land use and zoning ordinances for rural portions of Waseca County, including for floodplains and shoreland. The Cities of Janesville, New Richland, Waldorf, and Waseca all participate in the NFIP. Cities develop and enforce local floodplain ordinances.	County, municipal funding

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
24	Flooding	Structure and Infrastructure Projects	<p>Identify areas of concern and appropriate mitigation measures to reduce future flood-related risks and damages to culverts, ditches, roads, and bridges in the county.</p> <p>(Examples of mitigation solutions may include but are not limited to culvert and ditch improvements, raising road beds, installation of water retention or water diversion, and replacement of aging or failing bridges.)</p>	New	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Highway Dept. and local city / township public works	<p>Waseca County and local jurisdictions maintain an annual inventory of potential and historical problem areas for flooding and plan for projects based on priority and available funding.</p> <p><i>City Comment: Installing storage and retention ponds to help slow down water through town is a priority. We also need to look at drainage to redirect water ways to the east and west of town. The majority of the mitigation work that needs to be done to deter or eliminate flooding within the City is outside of the City limits. We need to partner with many different entities (county, township, state) to address these issues. We are continuing work with MnDOT and the Le Sueur River Watershed groups on addressing flooding concerns in and around the city of New Richland.</i></p>	County, municipal funding, Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
25	Flooding	Structure and Infrastructure Projects	Develop stormwater management plans and improve stormwater management systems (i.e., sewers and holding facilities) at the county and city level to address future high-impact rain events throughout the County.	Ongoing	New	2017-2021	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Planning & Zoning Dept & WC SWCD in coordination with local city/ township Planning/ Public Works depts.	Stormwater Management is addressed as a priority in the Waseca County Local Water Management Plan Amendment (2015-2018). Municipalities are responsible for development of local stormwater management plans & projects.	County, municipal funding, SWCD, and Possible MPCA/PFA grant funding. Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
26	Flooding	Structure & Infrastructure Systems / Natural Systems Protection	Improve/install culverts, water storage & retention on the east side of New Richland Highway 13.	New	High	2018-2022	Waseca County, New Richland	WC Highway Dept. and WC SWCD in coordination with City of New Richland Public Works dept. & MnDOT	This area has experienced repetitive flooding that has been managed with sandbagging during high rain events as an emergency measure to reduce flood damages. Culvert improvements, along with water storage & retention measures have been identified as mitigation measures to reduce future flood impacts. <i>City Comment: Our main flooding issue that needs to be addressed is the drainage situation to both the East and the West of the city of New Richland. Water tends to build up on the East side of Hwy. 13 as the ditch through town is not capable to handle large amounts of water at one time or an extended rain event. Culverts get progressively smaller to the West edge of town, which creates sort of a bottleneck. The City is currently working with the Isaac Walton League and the Le Sueur River watershed group to address possible grant funding available to assist with flood mitigation.</i>	County, municipal funding, MnDOT, SWCD grant funding programs and Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit
27	Flooding	Local Planning & Regulations	Identify properties that experience repetitive damage from flooding and work with property owners on property acquisition & structure demolition or relocation and turn the flood-hazard area into open-space.	New	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Planning & Zoning Dept, and local city / township public works	This is an ongoing effort of Waseca County Planning & Zoning in conjunction with local jurisdictions that have experience repetitive flooding.	County, municipal funding, Possible FEMA HMA grant funding for Property Acquisition & Structure Demolition or Relocation

#	Hazard	Mitigation Strategy	City of New Richland Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
33	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought. Enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland , Waldorf, Waseca	WC Emergency Management in collaboration with SWCD and local cities	Promoting water conservation during periods of drought is a standing effort of the County and local governments, as well as the USDA and Farm Service Agency (FSA) Office.	County, municipal funding

Table G - 3. Mitigation Actions Identified for Implementation by the City of Waldorf (2018-2022) (From Waseca County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Waldorf 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 Waseca County residents are aware of and sign-up for the County's CodeRed Emergency Notification System, and continue to identify ways to bring hazard information to non-English speaking residents in the County.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	A link for CodeRed community sign up is provided on the Waseca County and Cities of Waseca, Janesville, and New Richland websites and Facebook pages. Communities will be encouraged to post information on CodeRed sign up in city newsletters or with utility bills. In rural areas, putting flyers in common community sites might spur sign up. Reminders are also posted using the Waseca County Sheriff's Office Facebook Page. The ability to reach non-English speaking residents is addressed under the Access and Functional needs portion of the Waseca County Emergency Operations Plan. "ECHO" is one method the County has to use for reaching non-English speaking residents.	County, municipal funding
2	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.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Planning & Zoning, City Admin/Planning depts.	This is an ongoing effort of Waseca County Planning & Zoning as well as the Waseca County SWCD for water use planning. Local jurisdictions will be encouraged to update their local Comp Plans with a mitigation focus following completion of our 2018 Multi-Hazard Mitigation Plan. <i>City Comment: The City will work to update our Comp Plan to include planning for future disasters (i.e., flooding).</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Local Planning & Regulations	Continue to update the Waseca County and city-level Emergency Operation Plans to ensure that they adequately detail the needed steps to respond to all-hazards.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	The WC EOP is updated on an annual basis to address new HSEM MNWALK requirements. Local jurisdictions are also encouraged to develop and maintain local level EOP's. <i>City Comment: Our Emergency Operations plan would fall under the Waseca County Plan.</i>	County, municipal funding
4	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place in the event that local emergency services are disrupted or unable to respond.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers, and local fire depts.	Waseca County and local cities maintain mutual aid agreements with neighboring jurisdictions for emergency response. All local fire departments also have MAA's in place to support both structure and wildland fire suppression response as needed.	County, municipal funding
5	All-Hazards	Local Planning & Regulations	Continue to partner with long-term care facilities/group homes/childcare facilities to work toward planning and implementation of emergency plans for all-hazard events.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management and WC Public Health in coordination with City Emergency Managers & individual facility managers	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	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
6	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on the dangers of natural hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Information is distributed to the public via websites, Sheriff's Office Facebook, city of Waseca Facebook page, city of Waseca website and Facebook page, the city of Waseca Fire Department Facebook page, city of Waseca newsletters, handouts, and public presentations. Additional information is provided during the NWS severe weather awareness weeks in spring and winter.	County, municipal funding
9	All-Hazards	Local Planning & Regulations / Mitigation Preparedness & Response Support	Work with businesses within the community that are considered "critical infrastructure" to ensure they are prepared to remain functional in the event of flooding or severe weather that results in severe power outage.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management, WC Public Health, and City of Waseca Emergency Management	<p>WC Emergency Management, WC Public Health, and city emergency managers will work with respective businesses within their communities to encourage management to secure backup power & develop emergency plans to support continuity of service.</p> <p>In the city of Waseca, Walmart is considered critical as they provide food, groceries, and mass food preparation.</p> <p>In the city of New Richland, the meat market, grocery store, Casey's gas station and CFS gas station do not have any backup power. This would cause an issue for residents to get gas or food if power was down for an extended period of time.</p>	County funding, Private business funding (i.e., Walmart)

#	Hazard	Mitigation Strategy	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
10	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	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. While most notifications are provided through CodeRed notifications, not all residents are signed up and NOAA weather radios are an important way to receive emergency weather alerts.	County, municipal funding
11	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's Severe Weather Awareness Weeks in April and November each year.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Public outreach is conducted to educate residents on the dangers of severe winter and summer storms and highlights the importance of preparing for severe weather before it strikes. Local cities are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
12	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Identify critical facilities or infrastructure that do not have backup power in the event of a major power outage resulting from severe winter or summer storms. <i>(Critical facilities may include police/fire departments, EOC, 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	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	Not all county & city government buildings and schools have backup power generators to ensure energy in the event of a severe power outage. Waseca County and each jurisdiction will work to identify their respective critical facilities that should have backup power.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
13	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that require backup power.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	Waseca 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 funding for Generators
14	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural & municipal electrical coops to identify and address mitigation measures for aboveground power lines that are susceptible to damage from severe winter or summer storms in order to reduce potential power outages.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Planning and Zoning, WC Highway Dept., City Public Works in cooperation the appropriate utility company.	<p>The County and cities will work with appropriate utility service providers as needed to evaluate areas of concern. Service providers for Waseca County include:</p> <ul style="list-style-type: none"> • Steele/Waseca Coop • Janesville Utilities • Waseca Utilities • Minnesota Valley Electric • BENCO (Blue Earth Nicollet, Faribault Coop) • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense. Other mitigation measures may include overhead strengthening measures or trimming of nearby trees to reduce power outages due to falling tree limbs during storms.</p>	Rural or Municipal Electric Coop funding, Possible FEMA HMA funding for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Summer Storms	Education & Awareness Programs	Continue to provide/participate in 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	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management in collaboration with local cities and NWS	Waseca County offers two SKYWARN classes on an annual basis for first responders and local residents that wish to be trained as volunteers. Waseca County has a group of approximately 25 trained spotters who, when the NWS sends out a spotter activation for our county, are called on to go out and spot in different areas within the county.	County, municipal funding, NWS funding
17	Severe Summer Storms	Education & Awareness Programs	Continue to ensure that all warning sirens in the County are up-to-date and that the public is informed on the reasons for their use. Install new or upgrade siren warning systems where needed.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	Waseca County has a system of emergency warning sirens throughout the county. Sirens are activated when the National Weather Service notifies Dispatch that there are high winds of 70 mph or greater or tornado conditions that pose risk to public safety. Waseca County and each city participates in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. The public is educated on the use of sirens during Severe Weather Awareness Week and other reminders posted on the Sheriff's Office Facebook during tornado season. All public schools also participate in annual tornado drills.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Summer Storms	Structure and Infrastructure Projects	Identify areas where vulnerable populations are susceptible to tornadoes or extreme wind events (i.e. schools, campgrounds, or mobile home parks) and evaluate for construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management in coordination with City Emergency Managers	Waseca County Emergency Management will work with all city emergency managers to evaluate areas of need for storm shelters or safe rooms. Currently there are two designated storm shelters in the county located in the Waseca County EOC and Central Intermediate School. Current locations identified as priority areas for a community safe room include Kiesler's Campground & RV Resort, located on the outskirts of the city of Waseca and the Waseca County Solid Waste/ Recycling Facility for the protection of employees and customers.	County, municipal funding
19	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	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management, WC Public Health, in coordination with City Emergency Managers	Any community safe room projects that the County is involved in will be part of the Waseca Emergency Management program. FEMA grant funding may be sought to support an eligible safe room project.	County, municipal funding, Possible FEMA HMA funding for Safe Room Construction

#	Hazard	Mitigation Strategy	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may lead to contaminated drinking water.	Ongoing	High	2018	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Planning & Zoning Dept., MN Dept. of Health and local city and township public works depts.	The city of Waseca wellhead protection plan is completed, and the cities of Janesville, Waldorf and New Richland are expected to be completed in 2018. 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 a community's drinking water. Cities work directly with the Minnesota Department of Health (MDH) on the development or update of wellhead protection plans to ensure they meet State requirements.	MDH Source Water Protection grant funding for wellhead improvement projects
22	Flooding	Local Planning & Regulations	Continue to participate in the National Flood Insurance Program (NFIP) and enforce local floodplain ordinances to ensure that new construction is built above regulatory flood protection elevation.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Planning & Zoning Dept., local city planning depts.	WC Planning & Zoning administers land use and zoning ordinances for rural portions of Waseca County, including for floodplains and shoreland. The Cities of Janesville, New Richland, Waldorf, and Waseca all participate in the NFIP. Cities develop and enforce local floodplain ordinances.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
24	Flooding	Structure and Infrastructure Projects	<p>Identify areas of concern and appropriate mitigation measures to reduce future flood-related risks and damages to culverts, ditches, roads, and bridges in the county.</p> <p>(Examples of mitigation solutions may include but are not limited to culvert and ditch improvements, raising road beds, installation of water retention or water diversion, and replacement of aging or failing bridges.)</p>	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Highway Dept. and local city / township public works	<p>Waseca County and local jurisdictions maintain an annual 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 of Waldorf has a maintenance supervisor whose responsibilities include but not limited to maintenance of water, waste water and our roads.</i></p>	County, municipal funding, Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit, also Climate Resilient Mitigation Activities
25	Flooding	Structure and Infrastructure Projects	Develop stormwater management plans and improve stormwater management systems (i.e., sewers and holding facilities) at the county and city level to address future high-impact rain events throughout the County.	Ongoing	New	2017-2021	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Planning & Zoning Dept & WC SWCD in coordination with local city / township Planning/ Public Works depts..	<p>Stormwater Management is addressed as a priority in the Waseca County Local Water Management Plan Amendment (2015-2018). Municipalities are responsible for development of local stormwater management plans & projects.</p> <p><i>City Comment: The City is currently in the process of a new Storm and Sewer system with our engineers. We are awaiting funding to get the entire Waste Water and Storm Sewer Runoff project started so we can improve everything.</i></p>	County, municipal funding, SWCD, and Possible MPCA/PFA grant funding. Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Waldorf Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
27	Flooding	Local Planning & Regulations	Identify properties that experience repetitive damage from flooding and work with property owners on property acquisition & structure demolition or relocation and turn the flood-hazard area into open-space.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Planning & Zoning Dept, and local city / township public works	This is an ongoing effort of Waseca County Planning & Zoning in conjunction with local jurisdictions that have experience repetitive flooding.	County, municipal funding, Possible FEMA HMA grant funding for Property Acquisition & Structure Demolition or Relocation
33	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought. Enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management in collaboration with SWCD and local cities	Promoting water conservation during periods of drought is a standing effort of the County and local governments, as well as the USDA and Farm Service Agency (FSA) Office.	County, municipal funding

Table G - 4. Mitigation Actions Identified for Implementation by the City of Waseca (2018-2022) (From Waseca County Master Mitigation Action Chart)

#	Hazard	Mitigation Strategy	City of Waseca 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 Waseca County residents are aware of and sign-up for the County's CodeRed Emergency Notification System, and continue to identify ways to bring hazard information to non-English speaking residents in the County.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	A link for CodeRed community sign up is provided on the Waseca County and Cities of Waseca, Janesville, and New Richland websites and Facebook pages. Communities will be encouraged to post information on CodeRed sign up in city newsletters or with utility bills. In rural areas, putting flyers in common community sites might spur sign up. Reminders are also posted using the Waseca County Sheriff's Office Facebook Page. The ability to reach non-English speaking residents is addressed under the Access and Functional needs portion of the Waseca County Emergency Operations Plan. "ECHO" is one method the County has to use for reaching non-English speaking residents.	County, municipal funding
2	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.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning, City Admin/Planning depts.	This is an ongoing effort of Waseca County Planning & Zoning as well as the Waseca County SWCD for water use planning. Local jurisdictions will be encouraged to update their local Comp Plans with a mitigation focus following completion of our 2018 Multi-Hazard Mitigation Plan. <i>City Comment: The city of Waseca has a 2013 Comprehensive Plan that is designed to plan for the future physical growth of the city and appropriate land uses for the next 10-15 years.</i>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
3	All-Hazards	Local Planning & Regulations	Continue to update the Waseca County and city-level Emergency Operation Plans to ensure that they adequately detail the needed steps to respond to all-hazards.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	<p>The WC EOP is updated on an annual basis to address new HSEM MNWALK requirements. Local jurisdictions are also encouraged to develop and maintain local level EOP's.</p> <p><i>City Comment: The City has an emergency operations plan, however it requires an update since it is currently outdated. The Waseca School District also has an Emergency Action Plan and will be updating the plan starting in January of 2018.</i></p>	County, municipal funding
4	All-Hazards	Local Planning & Regulations	Continue to ensure that mutual aid agreements are in place in the event that local emergency services are disrupted or unable to respond.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers, and local fire depts.	<p>Waseca County and local cities maintain mutual aid agreements with neighboring jurisdictions for emergency response. All local fire departments also have MAA's in place to support both structure and wildland fire suppression response as needed.</p> <p><i>City Comment: In addition to Fire Dept. Mutual Aid Agreements, the city of Waseca is a mutual aid member with MRWA, the Minnesota rural Water Association for water and wastewater emergencies.</i></p>	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
5	All-Hazards	Local Planning & Regulations	Continue to partner with long-term care facilities/group homes/childcare facilities to work toward planning and implementation of emergency plans for all-hazard events.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management and WC Public Health in coordination with City Emergency Managers & individual facility managers	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
6	All-Hazards	Education & Awareness Programs	Continue to promote education & awareness on the dangers of natural hazards and emergency preparedness for schools, individuals, families, and businesses.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf , Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Information is distributed to the public via websites, Sheriff's Office Facebook, city of Waseca Facebook page, city of Waseca website and Facebook page, the city of Waseca Fire Department Facebook page, city of Waseca newsletters, handouts, and public presentations. Additional information is provided during the NWS severe weather awareness weeks in spring and winter.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
9	All-Hazards	Local Planning & Regulations / Mitigation Preparedness & Response Support	Work with businesses within the community that are considered "critical infrastructure" to ensure they are prepared to remain functional in the event of flooding or severe weather that results in severe power outage.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management, WC Public Health, and City of Waseca Emergency Management	<p>WC Emergency Management, WC Public Health, and city emergency managers will work with respective businesses within their communities to encourage management to secure backup power & develop emergency plans to support continuity of service.</p> <p>In the city of Waseca, Walmart is considered critical as they provide food, groceries, and mass food preparation.</p> <p>In the city of New Richland, the meat market, grocery store, Casey's gas station and CFS gas station do not have any backup power. This would cause an issue for residents to get gas or food if power was down for an extended period of time.</p>	County funding, Private business funding (i.e., Walmart)
10	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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. While most notifications are provided through CodeRed notifications, not all residents are signed up and NOAA weather radios are an important way to receive emergency weather alerts.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
11	Severe Winter & Summer Storms	Education & Awareness Programs	Continue to promote / participate in the National Weather Service's Severe Weather Awareness Weeks in April and November each year.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	This is an ongoing effort of Waseca County Emergency Management. Public outreach is conducted to educate residents on the dangers of severe winter and summer storms and highlights the importance of preparing for severe weather before it strikes. Local cities are encouraged to participate and share this information through their own local channels such as Facebook and city websites.	County, municipal funding
12	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Identify critical facilities or infrastructure that do not have backup power in the event of a major power outage resulting from severe winter or summer storms. <i>(Critical facilities may include police/fire departments, EOC, 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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Not all county & city government buildings and schools have backup power generators to ensure energy in the event of a severe power outage. Waseca County and each jurisdiction will work to identify their respective critical facilities that should have backup power. <i>City Comment: The city of Waseca has a Utilities Director who can address any utility outages and issues with the waste water treatment plant.</i>	County, municipal funding
13	Severe Winter & Summer Storms	Mitigation Preparedness & Response Support	Purchase and install generator hook-ups and encourage local generator purchases for identified critical facilities that require backup power.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Waseca 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 funding for Generators

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
14	Severe Winter & Summer Storms	Structure and Infrastructure Projects	Work with rural & municipal electrical coops to identify and address mitigation measures for above-ground power lines that are susceptible to damage from severe winter or summer storms in order to reduce potential power outages.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning and Zoning, WC Highway Dept., City Public Works in cooperation the appropriate utility company.	<p>The County and cities will work with appropriate utility service providers as needed to evaluate areas of concern. Service providers for Waseca County include:</p> <ul style="list-style-type: none"> • Steele/Waseca Coop • Janesville Utilities • Waseca Utilities • Minnesota Valley Electric • BENCO (Blue Earth Nicollet, Faribault Coop) • Xcel Energy <p>Areas of concern will be evaluated to see where putting lines underground may be feasible and make sense. Other mitigation measures may include overhead strengthening measures or trimming of nearby trees to reduce power outages due to falling tree limbs during storms.</p> <p><i>City Comment: The city of Waseca Electric Utility Department has oversaw the implementation of converting overhead electric services to underground to minimize outages during storm events & installation of various systems redundancies (since 2013 and ongoing).</i></p>	Rural or Municipal Electric Coop funding, Possible FEMA HMA funding for Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
16	Severe Summer Storms	Education & Awareness Programs	Continue to provide/participate in 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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management in collaboration with local cities and NWS	Waseca County offers two SKYWARN classes on an annual basis for first responders and local residents that wish to be trained as volunteers. Waseca County has a group of approximately 25 trained spotters who, when the NWS sends out a spotter activation for our county, are called on to go out and spot in different areas within the county.	County, municipal funding, NWS funding
17	Severe Summer Storms	Education & Awareness Programs	Continue to ensure that all warning sirens in the County are up-to-date and that the public is informed on the reasons for their use. Install new or upgrade siren warning systems where needed.	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management & City Emergency Managers	Waseca County has a system of emergency warning sirens throughout the county. Sirens are activated when the National Weather Service notifies Dispatch that there are high winds of 70 mph or greater or tornado conditions that pose risk to public safety. Waseca County and each city participates in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month. The public is educated on the use of sirens during Severe Weather Awareness Week and other reminders posted on the Sheriff's Office Facebook during tornado season. All public schools also participate in annual tornado drills.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
18	Severe Summer Storms	Structure and Infrastructure Projects	Identify areas where vulnerable populations are susceptible to tornadoes or extreme wind events (i.e. schools, campgrounds, or mobile home parks) and evaluate for construction or retrofit of safe rooms or storm shelters.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management in coordination with City Emergency Managers	<p>Waseca County Emergency Management will work with all city emergency managers to evaluate areas of need for storm shelters or safe rooms. Currently there are two designated storm shelters in the county located in the Waseca County EOC and Central Intermediate School.</p> <p>Current locations identified as priority areas for a community safe room include Kiesler's Campground & RV Resort, located on the outskirts of the city of Waseca and the Waseca County Solid Waste/ Recycling Facility for the protection of employees and customers.</p> <p><i>City Comment: The City will work with Waseca County Emergency Management and the Kiesler's Campground & RV Resort operator to explore the possibility of constructing a safe room.</i></p>	County, municipal funding
19	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	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management, WC Public Health, in coordination with City Emergency Managers	Any community safe room projects that the County is involved in will be part of the Waseca Emergency Management program. FEMA grant funding may be sought to support an eligible safe room project.	County, municipal funding, Possible FEMA HMA funding for Safe Room Construction

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
20	Flooding	Local Planning & Regulations	Ensure that wellhead protection plans are in place to address flooding that may lead to contaminated drinking water.	Ongoing	High	2018	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning Dept., MN Dept. of Health and local city and township public works depts.	The city of Waseca wellhead protection plan is completed, and the cities of Janesville, Waldorf and New Richland are expected to be completed in 2018. 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 a community's drinking water. Cities work directly with the Minnesota Department of Health (MDH) on the development or update of wellhead protection plans to ensure they meet State requirements. <i>City Comment: The City Council adopted a Well Head Protection Plan - approved by the Minnesota Department of Health (2016).</i>	MDH Source Water Protection grant funding for wellhead improvement projects
22	Flooding	Local Planning & Regulations	Continue to participate in the National Flood Insurance Program (NFIP) and enforce local floodplain ordinances to ensure that new construction is built above regulatory flood protection elevation.	Ongoing	Moderate	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning Dept., local city planning depts.	WC Planning & Zoning administers land use and zoning ordinances for rural portions of Waseca County, including for floodplains and shoreland. The Cities of Janesville, New Richland, Waldorf, and Waseca all participate in the NFIP. Cities develop and enforce local floodplain ordinances.	County, municipal funding

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
24	Flooding	Structure and Infrastructure Projects	<p>Identify areas of concern and appropriate mitigation measures to reduce future flood-related risks and damages to culverts, ditches, roads, and bridges in the county.</p> <p>(Examples of mitigation solutions may include but are not limited to culvert and ditch improvements, raising road beds, installation of water retention or water diversion, and replacement of aging or failing bridges.)</p>	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Highway Dept. and local city / township public works	<p>Waseca County and local jurisdictions maintain an annual 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 of Waseca has an annual capital improvement plan to address road and utility improvement projects that include culvert and drainage improvements to reduce over-the-road repetitive flooding. The City has a City Engineer and a Public Works Supervisor who can address road maintenance issues for flooding (culverts, repetitive flooding events).</i></p>	County, municipal funding, Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit, also Climate Resilient Mitigation Activities

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
25	Flooding	Structure and Infrastructure Projects	Develop stormwater management plans and improve stormwater management systems (i.e., sewers and holding facilities) at the county and city level to address future high-impact rain events throughout the County.	Ongoing	New	2017-2021	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning Dept & WC SWCD in coordination with local city / township Planning/ Public Works depts..	<p>Stormwater Management is addressed as a priority in the Waseca County Local Water Management Plan Amendment (2015-2018). Municipalities are responsible for development of local stormwater management plans & projects.</p> <p><i>City Comment: The City has a comprehensive sanitary sewer plan that identifies phased improvements to alleviate sanitary sewer backup incidents. The City is a MS4 (Municipal Separate Storm Sewer System) regulated community and has plans for addressing storm sewer maintenance. The City needs additional funding to improve antiquated utility systems. We need larger storm sewers to handle a significant increase in rain events and additional storm water retention areas to hold surface water from the increased number of rain events we are experiencing annually. Flooding/ Sewer Backup is an issue. Lining/ replacement of sanitary sewer lines (in-flow & infiltration) is a current project, but not full-scale due to budgets and timeline.</i></p>	County, municipal funding, SWCD, and Possible MPCA/PFA grant funding. Possible FEMA HMA funding for Localized Flood Reduction Projects or Infrastructure Retrofit

#	Hazard	Mitigation Strategy	City of Waseca Mitigation Action	Status	Priority Ranking	Time-frame	Jurisdictions	Responsibility	County/City Comments on Planning Mechanisms for Implementation	Possible Funding
27	Flooding	Local Planning & Regulations	Identify properties that experience repetitive damage from flooding and work with property owners on property acquisition & structure demolition or relocation and turn the flood-hazard area into open-space.	New	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Planning & Zoning Dept, and local city / township public works	<p>This is an ongoing effort of Waseca County Planning & Zoning in conjunction with local jurisdictions that have experienced repetitive flooding.</p> <p><i>City Comment: The City needs additional funding to buy out properties and improve roads that experience repetitive flooding. Gaiter Lake flooding is an issue where it may be beneficial to remove homes or create berm/dam. The City has looked into the MN DNR program to buy out flood prone properties.</i></p>	County, municipal funding, Possible FEMA HMA grant funding for Property Acquisition & Structure Demolition or Relocation
33	Drought	Local Planning & Regulations / Education & Awareness Programs	Promote water conservation measures to residents during periods of drought. Enforce water conservation ordinances when needed (i.e., that prohibit watering lawns during drought).	Ongoing	High	2018-2022	Waseca County, Janesville, New Richland, Waldorf, Waseca	WC Emergency Management in collaboration with SWCD and local cities	Promoting water conservation during periods of drought is a standing effort of the County and local governments, as well as the USDA and Farm Service Agency (FSA) Office.	County, municipal funding

Appendix H

Past Mitigation Action Review

Status Report (2013-2017)

Waseca County – Past Mitigation Action Review Status Report (2013-2017)

Following is a report on the status of each of the mitigation actions that were included in the 2013 Waseca 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

The following mitigation actions from the 2013 MHMP have been completed and will be removed from the plan update.

- (Severe Storms) Continue providing Code Red early warning system to County Residents. *(CodeRED is used for weather warnings established/issued by the National Weather Service. Other emergent notifications are issued by Emergency Management/Sheriff's Office or through IPAWS)*
- (Severe Storms) Ensure that County residents have easy access to a storm shelter. *(Storm Shelters are provided at the EOC (Emergency Operations Center) and CIS (Central Intermediate School) with shelter teams and protocols in place)*

NOT COMPLETED (DELETE)

The following mitigation actions from the 2013 MHMP have been deemed as not relevant and will be removed from the plan update.

- (Severe Storms) Ensure placement of severe weather radios in schools and county buildings. *(Most notifications are now provided over cell phones and/or CodeRED Notifications. In 2017 Waseca County implemented IPAWS into the CodeRED notification system.)*
- (All-Hazards) Seek out funding for the creation of a brochure for the public detailing how to survive for 72-hours on your own in the event of a large scale disaster. *(Information may be obtained from websites at no charge.)*
- (All-Hazards) Evaluate options for a Somali language hotline. *(The need is not that great in this area.)*
- (All-Hazards) Collaborate with Red Cross to enhance translation options available to County Emergency Services Employees. *(Will work with ECHO on this information.)*

NOT COMPLETED (ONGOING/KEEP FOR PLAN UPDATE)

The following mitigation actions from the 2013 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.

- (Flood) Evaluate funding sources for new equipment needed to respond to flood events including portable lights, generators, sandbag machines, water pumps, and portable water dams.
(Continue to work on finding funding to purchase items still needed.)
- (Flood) Ensure County floodplain maps accurately reflect the most up to date data available.
(Most current floodplain maps are dated 1985. We are working on getting more current maps.)
- (Flood) Work with individual Waseca County communities to develop a wellhead protection plan.
(Waseca is completed. Janesville, Waldorf and New Richland are expected to be completed in 2018.)
- (Severe Storms) Construction of Storm Shelters and Safe Rooms for unprotected populations (campgrounds, mobile home parks, schools). *(Shelters have been provided for these populations at the EOC and CIS School. The construction of a shelter at a specific location would need to follow all required guidelines).*
- (Severe Storms) Evaluate possibility of running community drills that cover disaster events such as a tornado or hazardous material spill. *(Exercises and drills are a grant requirement each year.)*
- (Severe Storms) Seek out funding to bury power lines to critical County facilities.
(Some areas have been completed. Work continues in other areas.)
- (Severe Storms) Continue participating in Severe Weather Awareness Week and Severe Winter Weather Week. *(Providing information to the community will continue during these weeks on an annual basis.)*
- (Dam Failure) Work with DNR to improve infrastructure of Lake Elysian dam. *(Continue to work with the DNR for help in completing this task.)*
- (All-Hazards) Review and evaluate current staff training to ensure they are capable of carrying out the Emergency Operations Plan.
(Trainings and workshops will be provided to include all new staff.)
- (All-Hazards) Distribute educational material to the public via websites, handouts, and public presentations. *(Information will be provided on an as needed basis and during severe weather and winter awareness weeks.)*
- (All-Hazards) Create a staff transition plan to ensure that knowledge and expertise of existing staff is carried on to successors. *(This plan needs to be created.)*

- (All-Hazards) Continue Emergency Community Health Outreach program, which works to bring hazard information to non-English speaking County residents. *(Continue to work on providing this information to non-English speaking residents.)*
- (All-Hazards) Continue reviewing the Emergency Operations Plan to ensure it adequately details the needed steps to respond to all potential hazards. *(Review and update of the EOP is done on an annual basis per the MNWALK.)*

Appendix I

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Appendix J

Waseca County Plans & Programs in Place

Planning & Regulatory

<i>Plans/Programs</i>	<i>Yes/No</i>
Comprehensive/Master Plan	yes
Capital Improvements Plan	?
Economic Development Plan	?
Emergency Operations Plan	yes
Continuity of Operations Plan	no
Transportation Plan	yes
Stormwater Management Plan	?
Community Wildfire Protection Plan	no
FireWise Program	?
Water Conservation/Emergency Preparedness Plan	?
Wellhead Protection Plan	yes
Database of dry hydrants/well access	?
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)	?
Flood insurance rate maps	yes
Acquisition of land for open space and public recreation uses	?
School closing policy/communications plan in event of inclement weather/temperatures	yes
Storm shelters (list all locations)	yes
Warning sirens (list all locations)	yes
SKYWARN Program	yes
CodeRED Mass Notification System	yes
Severe Weather Awareness Week	yes
Winter Weather Awareness Week	yes
NOAA Weather Radios	?
THIRA	yes

Administrative & Technical

<i>Administration</i>	<i>Yes/No</i>
Planning Commission	yes
Mitigation Planning Committee	yes
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	yes
Mutual aid agreements	yes
<i>Staff</i>	<i>Yes/No</i>
Chief Building Official	yes
Floodplain Administrator	yes
Emergency Manager	yes

Community Planner (County Planning & Zoning Dept.)	yes
Civil Engineer	yes
GIS Coordinator	yes
<i>Technical</i>	<i>Yes/No</i>
Warning systems/services (Reverse 911, outdoor warning signals)	yes
Hazard data and information	?
Hazus analysis	?

Education & Outreach

<i>Program/Organization</i>	<i>Yes/No</i>
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	yes
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	no
StormReady certification	yes
Firewise Communities certification	no
Public-private partnership initiatives addressing disaster-related issues	no

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Appendix K

Local Mitigation Capabilities

Assessment Report

As part of the 2018 Waseca 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.

CITY OF JANESVILLE, MN

Submitted By: Clinton Rogers (City Adm) and David Ulmen (Police Chief)

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- We have a Comprehensive Plan (2004) that is designed to plan for the future physical growth of the city and appropriate land uses.
- We have Capital Improvement Plan (CIP) which addresses and schedules street improvement projects that include storm sewer utility improvements.
- The City has an Emergency Operations Plan which addresses all aspects of emergency management during crisis. The Plan is reviewed about every year.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- Our Police Chief is the City’s designated Emergency Manager.
- The City has a web-based GIS program which identifies the location and age of our infrastructure.
- We have a City Engineer and a Public Works Director that addresses road maintenance issues for flooding (culverts, repetitive flooding).

Q3. What programs are in place to help accomplish mitigation in your community?

- The City has an Emergency Operations Plan, as stated above.
- The City’s fire department has mutual aid agreements with our surrounding communities.
- Our school practices tornado drills.

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 severe flooding and storms in 2010 and 2016.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- We should update our Comprehensive Plan to address greater hazard mitigation, i.e., Flooding
- We could look at efforts in public education for better preparedness / awareness for residents.

CITY OF NEW RICHLAND, MN

Submitted By: Anthony Martens, Chief of Police / Emergency Management Director

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- Currently our City participates in the National Flood Insurance Program (NFIP).
- We are continuing work with the MN DOT, and Le Sueur River Watershed groups on addressing flooding concerns in and around the city of New Richland.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The Chief of Police is designated as the Emergency Management Director and is certified as an Emergency Management Professional by the State of MN.
- Our City is able to utilize the County GIS person to assist if necessary.
- Our first responders are continuously part of the discussion to address flooding concerns.

Q3. What programs are in place to help accomplish mitigation in your community?

- The City participates in the counties Code Red system and individuals are able to sign up for that.
- The local schools participate in tornado drills regularly.
- The City participates in annual severe winter/spring weather awareness weeks.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- We are currently working with the Isaac Walton League and the Le Sueur River watershed group to address possible grant funding available to assist with flood mitigation.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- One of the biggest gaps and deficiencies is the lack of funding to handle mitigation projects. Additionally the majority of the mitigation that needs to be done to deter or eliminate flooding within the City is outside of the City limits. Residents are leery to spend funding outside of City limits without guarantee of effect.
- We need to partner with many different entities (county, township, state) to address these issues.
- We need to develop our own hazard mitigation plan as well as utilizing the counties.

CITY OF WALDORF, MN

Submitted By: Bruce Urbatch, Mayor

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- The city of Waldorf currently participates in the National Flood Insurance Program (NFIP).
- Our Emergency Operations plan would fall under the Waseca County Plan.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The Fire Chief is the designated Emergency Manager for the city of Waldorf.
- The city of Waldorf has a maintenance supervisor whose has many responsibilities which include but not limited to maintenance of water, waste water and our roads.
- For any GIS needs, the city would contact the County GIS department for assistance.

Q3. What programs are in place to help accomplish mitigation in your community?

- The city of Waldorf is part of the County's CodeRED Emergency Notification System.
- Any severe weather participation would fall under the direction of the county.
- The City's Fire Department educates homeowners on fire safety and has mutual aid agreements with surrounding fire departments.

Q4. What funding or other resources are available to help accomplish mitigation in your community?

- Any type of resources would fall under the County.

Q5. What program gaps or deficiencies do you feel exist that are a barrier to accomplishing mitigation in your community?

- As always, funding is an issue.

CITY OF WASECA, MN

Submitted By: Penny Vought, Chief of Police

Q1. What plans, authorities, or policies are in place to help accomplish mitigation in your community?

- The city of Waseca has a 2013 Comprehensive Plan that is designed to plan for the future physical growth of the city and appropriate land uses for the next 10-15 years.
- The city of Waseca has a City code that has established a Floodplain Ordinance. The City participates in the National Flood Insurance Program (NFIP).
- The city of Waseca has an annual capital improvement plan to address road and utility improvement projects that include culvert and drainage improvements to reduce over-the-road repetitive flooding.
- The city has a comprehensive sanitary sewer plan and related updates that identifies phased improvements to implement to alleviate sanitary sewer backup incidents.
- The city is a MS4 (Municipal Separate Storm Sewer System) regulated community and has plans for addressing storm sewer maintenance.
- The city has a well head protection and drinking water management supply plan to protect our drinking water supply.
- The city Council adopted a Well Head Protection Plan - approved by the Minnesota Department of Health (2016).
- The Waseca Fire Department is currently undergoing a strategic planning process – which may include some mitigation processes/plans.
- The Waseca Fire Department has an ongoing partnership with the city of Waseca utilities dealing with infrastructure capabilities and status water supply.
- The Waseca Fire Department has an ongoing partnership with the city of Waseca Building and Inspection division relating to fire code and safety.
- The Waseca Fire Department has an automatic Mutual Aid agreement with other local fire departments.

Q2. What staff (organizational capacity) are in place to help accomplish mitigation in your community?

- The city of Waseca has a designated emergency manager position currently held by the Chief of Police.
- Members of the Waseca Police Department attend a monthly Emergency Management meeting. Members also include the Waseca County Emergency Manager, members of the Waseca Fire Department, School Superintendent, members of the Waseca County Sheriff's Office, New Richland Police Chief, Janesville Police Chief, Waseca County Public Health members, Waseca Federal Correctional Institute, and members of the Mayo Health System-Waseca.
- The city of Waseca has its own GIS Specialist.
- The city of Waseca has a City Engineer and a Public Works Supervisor who can address road maintenance issues for flooding (culverts, repetitive flooding events).
- The city of Waseca has a Utilities Director who can address any utility outages and issues with the waste water treatment plant.
- The city's Manager, City Engineer, Finance Director, Utilities Director, Police Chief, and Police Captain are all certified in the ICS and NIMS coursework of 100, 200, 700, 800 and 300 level courses.

Q3. What programs are in place to help accomplish mitigation in your community?

- The city of Waseca is a MMUA (Minnesota Municipal Utilities Association) Mutual member through City Council authorization.
- The Waseca City Council approved an equipment rental reimbursement schedule based on FEMA guidelines.
- The city of Waseca has an Emergency Alert System (Code Red) that is advertised on its website and residents are instructed to sign up for it on the Waseca County website where there is a link to sign up. The information has also appeared on the City of Waseca Facebook page.
- The city of Waseca participates in statewide testing of emergency sirens as well as testing them on the first Wednesday of each month.
- The city is a member of MNWARN (Minnesota Water/Wastewater Utilities Agency Response Network) which provides equipment and personnel in an emergency situation such as extra pumps.
- The Waseca School District has an Emergency Action Plan and will be updating the plan starting in January of 2018.
- The Waseca School District abides by MN State Statute 121A.037 – School Safety Drills.

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 September of 2014 severe wind event and the September of 2016 extreme flood event.
- The City has looked into the MN DNR program to buy out flood prone properties.
- Public Facilities Authority (PFA) low interest loans &/or forgivable interest loans (grants) from State & Federal agencies is available to the City.
- Minnesota Department of Health (MDH) grant/matching grant for abandoned private well location and sealing as part of Wellhead Protection requirements is available to the City.

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 buy out properties and improve roads that experience repetitive flooding.
- The City needs additional funding to improve antiquated utility systems.
- It is necessary for the city of Waseca to update their Emergency Operations Plan since it is outdated and information, staff and agencies have probably changed.

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Appendix L

Jurisdictional Questionnaires

As part of the Waseca 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.

CITY OF JANESVILLE, MN

Submitted By: Clinton Rogers, City Administrator

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, 2010, we had rain storms that caused some damage to public infrastructure. We were able to use FEMA funds to help repair catch basins, some drainage issues, our golf course area, and a lift station. In September, 2016 we experienced the major rains that affected so many properties in our area. Janesville did not suffer as much as the immediate Waseca area, but there was some damage (mainly private properties). We did not receive much in FEMA assistance last year.

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? Public works has made some improvements to culverts, catch basins, and our main lift station.

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.

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 could look at increasing efforts in public education for better preparedness.

CITY OF NEW RICHLAND, MN

Submitted By: Anthony Martens, Chief of Police / Emergency Management Director

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 the last 5 years we have experienced severe weather causing substantial flooding within the city of New Richland. This event taxed resources and incurred costs for recovery to the city of New Richland. This is the second "100 year" flood that we have sustained in the last 7 years.

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 had discussions locally about what we can do to reduce the damage and vulnerability to our city, however the majority of the actions require assistance or cooperation with Waseca County and the Ditch Authority.

In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events? I think that we are seeing more rain events

that are lasting longer and dropping more rain than we have in the last few years. Additionally, there is a belief that agricultural drainage into the ditches may be contributing more water to the watershed than has been in the past.

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 main issue that needs to be addressed is the drainage situation to both the East and the West of the city of New Richland. Water tends to build up on the East side of Hwy. 13 as the ditch through town is not capable to handle large amounts of water at one time or an extended rain event. Culverts get progressively smaller to the West edge of town which creates sort of a bottleneck.

CITY OF WALDORF, MN

Submitted By: Bruce Urbatch, Mayor and DeeAnn Britton, City Clerk

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 the flood in September of 2016, which caused damage to the basements of the homes in Waldorf.

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 are in the process of a new Storm and Sewer system with our engineers.

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.

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 awaiting funding to get the entire Waste Water and Storm Sewer Runoff project started so we can improve everything.

CITY OF WASECA, MN

Submitted By: Danny Lenz, City Manager / Penny Vought, Chief of Police

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. On September 21, 2016 Waseca received approximately 14 inches of rain. We experienced significant localized flooding that resulted in community-wide public and private property damage, due to overwhelmed sanitary and storm sewer systems resulting in flooded streets that inundated the majority of homes in town either through sewer backups or overland flooding.

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 conducted the City's first ever surface water management plan, dedicated funding for surface water management projects, have mapped the City's sanitary sewer system and have dedicated funding to a comprehensive and extensive sewer lining project.
- The City has installed chlorine leak detection systems at 5 Municipal Well locations; and chlorine and sulfur dioxide leak detection systems at the Waste Water Treatment Plant (both about 2012).
- The City installed 2 Water Tower water mixing pumps to reduce water tower freezing and improve chlorine mixing (2017).
- The city of Waseca Electric Utility Department has done the following:
 - A. Oversaw the implementation of converting overhead electric services to underground to minimize outages during storm events & installation of various systems redundancies (since 2013 and ongoing).
 - B. Raising of critical electric switchgear (2015 & 2016).
 - C. Substation improvements/ rehabilitation of high voltage transformers to improve system reliability and capacity (2011-2014).
 - D. Installation of substation transformer circuit switchers to reduce outages (2017 and ongoing for several more years).

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 an increase in flooding due to high rain events.

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 larger storm sewers to handle a significant increase in rain events and additional storm water retention areas to hold surface water from the increased number of rain events we are experiencing annually.

BLOOMING GROVE TOWNSHIP, MN

Submitted By: Laurel Remund, Township Supervisor

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 extensive FEMA repairs to our roads caused by extreme rainfalls.

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 encourage residents to take shelter and

precautions during storms and outages. We keep our culverts and ditches clean and roadways are well-maintained. Road closures are set up if necessary and our phone numbers are available to residents.

In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events? Our major concern with our township is a change in weather patterns in our area causing extreme rains in September/October for the past seven years.

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? Our biggest need is an emergency plan. We don't have shelter or accommodations for anyone in our small town hall except in extreme emergency.

JANESVILLE TOWNSHIP, MN

Submitted By: Brad Carlson, Clerk

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. Flooding has caused road and culvert damage.

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.

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.

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 probably need to replace a lot culverts and there isn't a budget to do it.

NEW RICHLAND TOWNSHIP, MN

Submitted By: Gary Strenge, Clerk

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 damage from flooding.

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.

In the past 5 years, has anything changed that you feel has increased your community's vulnerability to future severe weather or disaster events? More extreme rain events.

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? No feedback provided.

WILTON TOWNSHIP, MN

Submitted By: Norman Gehring, Clerk

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 severe winds and flooding to roads and homes.

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 made culvert improvements where over-the-road flooding has occurred.

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 more flooding due to an increase in high-rain events.

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? Our residents need to be better prepared.