

LaMoure County

Multi-Hazard Mitigation Plan



2025 - 2030



City of Berlin
City of Dickey
City of Edgeley
City of Jud
City of Kulm
City of LaMoure
City of Marion
City of Verona

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LaMoure County

Multi-Hazard Mitigation Plan Update

DRAFT PLAN

XXXX 2025

Prepared for:

LaMoure County Emergency Management
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Foreword

The 2025 LaMoure County Multi-Hazard Mitigation Plan was developed in collaboration with local and county mitigation and resilience stakeholders. The primary contractor was Paramount Planning Group, LLC in partnership with the LaMoure County Emergency Management Department. These two parties collaborated in the review and updating of the previous Multi-Hazard Mitigation Plan which was approved by FEMA in 2020.

Key revisions and overarching themes of the 2025 LaMoure County Multi-Hazard Mitigation Plan include:

- Addition of community profiles including basic characteristics and other information
- Revision of community capabilities and verification of critical facilities and vulnerabilities
- County-wide risk assessment
- Review and update of mitigation strategies
- Update to hazard identification and occurrences
- Community outreach and stakeholder involvement

Authority

Federal Government: Hazard Mitigation Plans are required on the local level under the Code of Federal Regulations (CFR) Title 44 – 201.6 – Local Mitigation Plans. “A local government must have a mitigation plan approved pursuant to this section in order to receive HMGP project grants and in order to apply for and receive mitigation project grants under all other mitigation grant programs.” The Robert T. Stafford Disaster Relief and Emergency Assistance Act (PL 100-707), of 1988 also highlights the requirement of a mitigation plan that “outlines processes for identifying the natural hazards, risks, and vulnerabilities of the area under the jurisdiction of the government” in section 322. This was later amended by the Disaster Mitigation Act of 2000.

Legislative Government: The North Dakota Century Code, Chapter 37-17.1-02, requires that the North Dakota Department of Emergency Services (NDDDES) “Provide for a statewide emergency management system embodying all aspects of prevention, mitigation, preparedness, response, and recovery and incorporating the principles of the national incident management system and its incident command system, as well as other applicable federal mandates.” The North Dakota Department of Emergency Services administers mitigation guidance and funding to state and local applicants following a Presidentially declared disaster.

Local Government: Local governments play an essential role in implementing effective mitigation, both before and after disaster events. Each local government will review all damages, losses, and related impacts to determine the need or requirement for mitigation action and planning whenever seriously affected by a disaster, or when applying for state or federal recovery assistance. In LaMoure County the County Board of Commissioners is responsible for carrying out plans and policies.

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SECTION I: INTRODUCTION

A. Introduction

The intent of this plan is to reduce the consequence and severity of natural hazards on the people and property of LaMoure County, North Dakota through the identification of high probability hazards and the development of risk-based mitigation projects.

Hazard Mitigation is defined as any action taken to reduce or eliminate long term risk to people and property from natural disasters. Hazard Mitigation has been a priority for the Federal Emergency Management Agency (FEMA) and reducing the effects of disasters on citizens is one of the federal government's goals, as well as the State of North Dakota and LaMoure County Emergency Management. By utilizing specific projects, policies, codes, and measures, it is possible to achieve the aforementioned goal.

Hazard Mitigation is considered one of the most cost-effective tools by reducing the impact of disasters on people and property. According to the Federal Insurance and Mitigation Administration, every \$1 spent on mitigation, saves \$6 in future losses¹, and a \$7 to \$1 savings on riverine flooding specifically². This highlights the importance of multi-jurisdictional and county Hazard Mitigation Planning. The National Institute of Building Sciences estimates that the government saves approximately \$930 million from Federal outlays by utilizing hazard mitigation dollars, while increasing federal tax revenues.

Local Multi-Hazard Mitigation Plans are required by the Disaster Mitigation Act of 2000 in order to be eligible for certain federal disaster assistance and hazard mitigation grants and funding programs and must be updated every 5 years. Eligibility requires each community (incorporated cities and county) to adopt the Multi-Hazard Mitigation Plan (MHMP) through local legal boards.

This Multi-Hazard Mitigation Plan represents the efforts of LaMoure County and its combined local governments to fulfill the responsibility for hazard mitigation planning.

B. Scope

This plan is developed to cover all of LaMoure County and its eight incorporated cities of Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, and Verona. It also serves the concerns and needs of the 32 townships and other entities participating in this plan. The plan covers all federally declared disasters, as well as other hazard occurrences and emergencies that have occurred in the county. This plan evaluates and ranks (Low, Moderate, High) the major hazards affecting LaMoure County as determined by frequency, impact, injuries, and deaths.

¹ [Mitigation Saves Fact Sheet](#)

² [Every \\$1 Invested in Disaster Mitigation Saves \\$6 | The Pew Charitable Trusts](#)

C. Purpose

The 2025 LaMoure County Multi-Hazard Mitigation Plan was written to help guide all hazard mitigation projects in the county and promote sound decision making in efforts to protect citizens, critical facilities, infrastructure, private property, and the environment from natural and human-caused hazards. The plan uses local risk assessments, hazard occurrences, and community profiles, and takes in local citizen input to form hazard mitigation action items.

C.1 Plan Goals

After review and discussion with the LEPC, while functioning as the LaMoure County MHMP Planning Team, it was decided to retain the 2020 LaMoure County MHMP goals.

- Reduce the impacts of flooding to people and property
- Enhance the public's awareness of hazards
- Reduce impacts of severe summer and winter weather to people and property
- Reduce impacts of drought and wildland fires to people and property
- Reduce impacts of human-caused threats to people and property

D. Planning Process

For more detailed information, please see Section VI; Plan Development Process

It is vital that hazard mitigation planning and emergency management planning in general has significant public input and participation from all communities and stakeholders affected. This played a major part in the development of this plan and is a key consideration for mitigation actions, priority rankings, and mitigation strategies throughout this document.

The LaMoure County MHMP planning team is headed by the LaMoure County Emergency Management Director, who is also the primary point of contact. Paramount Planning is the lead planning consultant contracted to work with county emergency management to assist in gathering information and primary development of the plan. Members of the LaMoure County MHMP Planning Team include representatives from the public and government sectors. Below is a table identifying the team members but does not represent the entirety of individuals involved in the planning process.

D.1 LaMoure County MHMP Planning Team

Name	Jurisdiction/Agency	Title
Kimberly Robbins	LaMoure County	Emergency Manager / 9-1-1 Coordinator LEPC Secretary/Treasurer LaMoure Ambulance volunteer
Christine Schmidt	LaMoure County	Emergency Services Administrative Assistant
Bob Flath	LaMoure County	County Commissioner LaMoure Fire Volunteer

Frank Balak	Central Health Valley District (Jamestown)	Regional Emergency Preparedness and Response Coordinator
Greg Hanson	Marion Fire Department	Fire Chief
Art Hagebock	LaMoure Printing	Owner-Publisher of <i>LaMoure County Chronicle</i> and <i>Litchville Bulletin</i> LaMoure Fire Volunteer
Clint Knudsen	Marion Fire Department	Marion Fire Volunteer
Mike Vogel	LaMoure Fire District	Fire Chief
Grant Mathern	Edgeley Fire Department	Fire Chief
Alan Nitschke	City of Jud	Council member / Fire Chief Edgeley and Jud volunteer ambulance EMT
Zeb Mahin	City of Kulm	Council member / Fire Dept / Ambulance volunteer
Doug Hintzman	Kulm Ambulance	Kulm Ambulance and Fire Dept volunteer
Fallon Kelly	LaMoure County	State's Attorney for LaMoure and Ransom Counties
Julianne Racine	NDSU Extension	LaMoure County Extension Agriculture Agent
Brittany Rasmussen	North Dakota Department of Emergency Services (Fargo)	Southeast Regional Emergency Manager
Jessica Duffy	LaMoure County Public Health	Director of Nursing LaMoure Ambulance volunteer
Paul Ostendorf	Industry	Manager Edgeley Fire Volunteer
Darrick Nitschke	LaMoure County Highway	Highway Superintendent
Nancy Noot	LaMoure Ambulance	Ambulance volunteer – Ambulance office manager
Bob Fernandes	LaMoure County Sheriff's Office	Sheriff
Lavern Anderson	Edgeley Ambulance Service	Ambulance volunteer
Blain Johnson	Paramount Planning	President
Kelli Matzek	Paramount Planning	Mitigation Specialist

D.2 Participation Challenges

Like many areas in the upper Midwest, LaMoure County residents were hard at work at their full-time jobs, many of which include farming. Farming is a time intensive job, particularly during the spring, summer, and fall seasons when planting, haying, and other harvesting activities require long days in the fields. The timing of this plan update led to some challenges in terms of public participation in the planning process. Public participation was requested through the newspaper, website, public events, and other outlets during various points in the process, but feedback and involvement from the general public was minimal, though higher than expected. The planning team worked diligently on public

outreach throughout the plan development process. Each jurisdiction did participate, but additional engagement opportunities would have been preferred with additional time.

E. Review of Existing Plans and Information

Included in the development of this plan process was the review and incorporation of existing plans, studies, reports, assessments, and other technical information. The following is a list of the documents used in the development of the plan.

E.1 Documents and Plans Used

Some of the following documents are newly used, some were checked and updated, and a few were carried over from the previous plan if the information was left unchanged.

Title	Author	Year	Description	Used In
Agricultural Census	US Department of Agriculture	Annual	Community profiles/Hazard	Sec. II, III
American Fact Finder	US Census Bureau	2023	Community facts and figures	Sec. II
LaMoure County Emergency Operations Plan	LaMoure County EM	2018	Countywide Emergency Operations Plan	Sec. III
LaMoure County THIRA	LaMoure County EM	2024	THIRA	Sec. I, IV
LaMoure County Hazard Mitigation Plan	LaMoure County	2020	Previously approved Hazard Mitigation Plan	Entire document
FEMA Flood Map Service Center	FEMA	2025	Floodplain maps	Sec. III
NFIP Rating System	FEMA	June 2025	Flood Hazard, NFIP	Sec. III
Storm Events Database	NOAA	Ongoing	Storm Events History and Probability	Sec. III, Appendix
North Dakota Multi-Hazard Mitigation Plan	North Dakota Department of Emergency Services	2024	Statewide Hazard Mitigation Plan	Sec. III
Natural Resources Conservation Service; Upper James River Hydrologic Unit Profile	NRCS	2007	Hydrologic Profile of Upper James River	Sec. III
Community Status Book Report – North Dakota	FEMA	2025	National Flood Insurance Participation	Sec. II, III
American Community Survey	U.S. Census	2023	Demographic information	Sec. II

E.2 Resources Referenced and Data Used

Jurisdiction/Agency	Data obtained
911 / Emergency Management	Alert & Warning Procedures Communication Capability Disaster Procedures (EOP) Tier II Reporting Community Education
Berlin City Commission	Zoning policies Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability
Dickey City Commission	Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability
Edgeley City Commission	Zoning policies Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability
LaMoure County Emergency Management	Hutterite Community information
Jud City Commission	Hazard impacts, risk level City Budget/Financing Local development Communication capability
Kulm City Commission	Zoning policies Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability
LaMoure City Commission	Zoning policies Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability
LaMoure County Commission	Zoning policies Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability
LaMoure County Auditor	Zoning policies

	Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability
Marion City Commission	Zoning policies Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability
North Dakota GIS	Transportation Map
North Dakota Department of Water Resources	Map of water supply
U.S. Census of Agriculture	Agricultural employment data
Verona City Commission	Zoning policies Building codes Hazard impacts, risk level City Budget/Financing Local development Communication capability

F. Integration into Existing Planning Mechanisms

The cities of Jud, Kulm, and Verona identified having some components of comprehensive plans and the cities of Berlin, Edgeley, Kulm, LaMoure, Marion, and Verona having zoning codes separate from the county. However, many of the communities are small and do support county level planning efforts.

This hazard mitigation plan will be considered when building codes are developed and updated, with the plan also being considered with new development or construction. Each community will consider integrating the requirements of the LaMoure County MHMP into their plans, policies, codes, and procedures as they are updated.

F.1 Integration Opportunities

A summary of how the multi-hazard mitigation plan can be integrated into existing frameworks is listed below:

- Use of the MHMP will help the county's Local Emergency Operations Plan meet the goal of protecting the public citizens and property from natural hazards.
- The county should incorporate MHMP components into updates to the THIRA.
- Initiate zoning ordinances and public education in conjunction with new NFIP maps and flood projects.
- Develop incentives and allocate LaMoure County resources for cities, businesses, and citizens to pursue hazard mitigation projects.

- Partner with other agencies, organizations, and groups to support hazard mitigation activities and goals identified in this plan.
- Use MHMP to inform officials and decision-makers when developing codes, policies, and procedures.
- Use the MHMP to inform new zoning and building codes and into Land Use Plans, along with other future related plans and policies.
- When comprehensive plan updates are conducted by Jud, Kulm, and Verona, the MHMP should be referenced and incorporated where possible.
- Townships with zoning controls could be encouraged to integrate mitigation actions into their codes, policies, and/or procedures.

G. Plan Maintenance and Involvement

The LaMoure County Hazard Mitigation Plan is considered a living document, meaning it should be updated, revised, and referenced as needed. It is required to be updated and approved by FEMA at a minimum of every 5 years, though LaMoure County will work to ensure that an annual review takes place. Gathering data annually for incorporation at the five-year update will greatly reduce the research collection phase of the plan update and reduce the time and cost of the plan update.

Annual evaluations will be led by the LaMoure County Emergency Manager with additional assistance, as needed. The LaMoure County Local Emergency Planning Committee (LEPC) will meet annually to review the MHMP beginning in 2027 where they will suggest updates and review hazard occurrences over the previous year. The committee will also review the MHMP goals and objectives, mitigation projects, and address current and expected hazards to note for future incorporation. The committee will also review the risk assessment portion of the plan to determine if any information needs to be updated or modified and to what extent. Plan amendments are possible should the annual review determine that an important change is needed before the next 5-year update.

The LaMoure County Emergency Manager is ultimately responsible for contacting plan participants across the county that were involved in the planning process and are signatories on this plan to get risk, hazard, and mitigation project updates after emergency or hazard events occur. Connecting with existing and new stakeholders and organizing appropriate public meetings before the next plan update will be the responsibility of the LaMoure County Emergency Manager. Changes will also be accepted via written requests from citizens, businesses, or cities.

Jurisdictions that are interested in hazard mitigation projects or funding should contact the county emergency manager to get more information or to begin the funding application process.

The revised plan (changed or unchanged) will be posted on the LaMoure County webpage (<https://lamourecountynd.com/emergency-management>) for a period of no less than 2 weeks.

G.1 Maintenance & Public Involvement

Timeline	Responsibility	Update Description
Continuous	County Emergency Manager	Note of hazards, mitigation projects, and new development/risks as they develop
Continuous	County Emergency Manager	Solicitation of community input/ideas
Annually	LEPC	Annual review with stakeholders
Annually	County Emergency Manager	City and county mitigation projects/strategies
Every 5 Years	LaMoure County	NDES and FEMA 5-Year complete update

H. Acknowledgements

Numerous elected officials, city and county staff, and members of the public participated in the planning process. The project would not have been possible without the assistance of the LaMoure County MHMP Planning Team members, local City Council members and staff, and members of the public who participated in the public meetings and events or completed the survey.

Guidance from state and FEMA staff was instrumental in completing the project.

SECTION II: Community Profiles

A. LaMoure County Overview

Identifying community characteristics, vulnerabilities, and hazard risk is a critical component to this plan as it ensures communities are continuing to consider a variety of hazards and their potential impact. This section highlights the overall county profile as well as the eight city jurisdictions within the county to target population centers for hazard mitigation strategies.

A.1 Population, Geography, and History

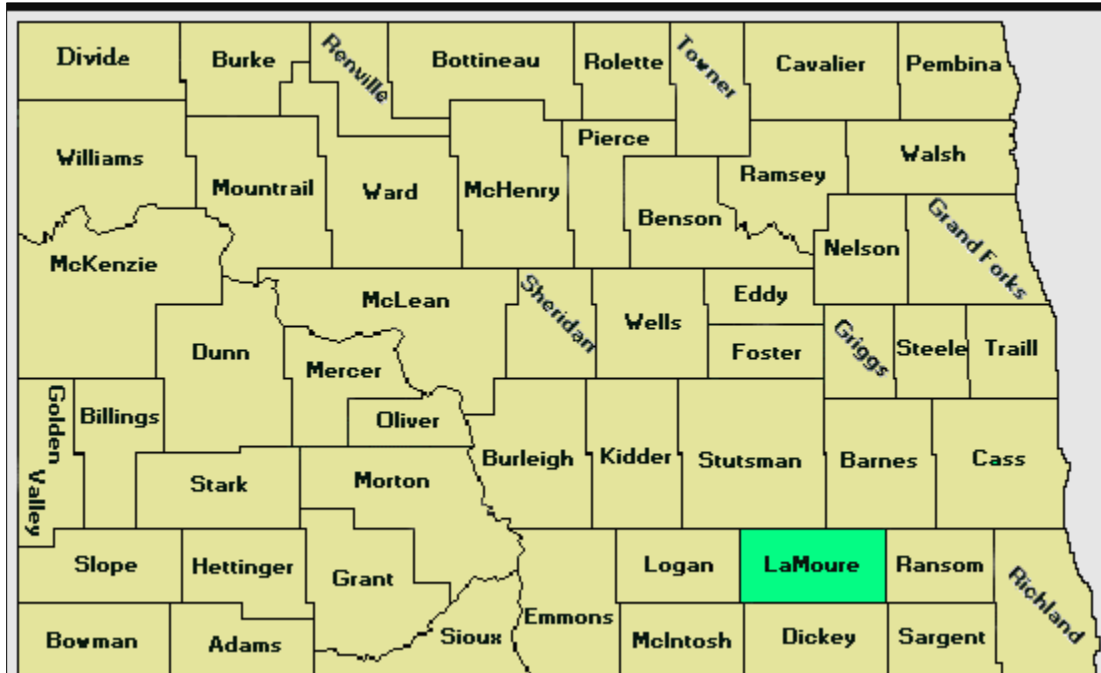
Table 2.1 - LaMoure County Population by Community

Community	Population (2023 ACS 5-Year Est.)	% of County
Adrian Township	130	3.17%
Badger Township	74	1.80%
City of Berlin	45	1.10%
Black Loam Township	45	1.10%
Bluebird Township	32	0.78%
Dean Township	265	6.45%
City of Dickey	42	1.02%
City of Edgeley	672	16.36%
Gladstone Township	130	3.17%
Glen Township	41	1.00%
Glenmore Township	16	0.39%
Golden Glen Township	161	3.92%
Grand Rapids Township	55	1.34%
Grandview Township	22	0.54%
Greenville Township	60	1.46%
Henrietta Township	75	1.83%
City of Jud	37	0.90%
Kennison Township	74	1.80%
City of Kulm	476	11.59%
City of LaMoure	703	17.12%
Litchville Township	28	0.68%
City of Marion	152	3.70%
Mikkelson Township	96	2.34%
Nora Township	68	1.66%
Norden Township	21	0.51%
Ovid Township	24	0.58%

Pearl Lake Township	10	0.24%
Pomona View Township	12	0.29%
Prairie Township	45	1.10%
Raney Township	12	0.30%
Ray Township	62	1.51%
Roscoe Township	8	0.19%
Russell Township	37	0.90%
Ryan Township	54	1.31%
Saratoga Township	28	0.68%
Sheridan Township	20	0.49%
Swede Township	11	0.27%
City of Verona	114	2.78%
Wano Township	41	1.00%
Willowbank Township	109	2.65%
LaMoure County	4,107	100%

The largest population of the county at 17.12%, resides in the county seat of LaMoure while 16.36% of the population is within the City of Edgeley. The City of Kulm also has a significant population for the county. The other cities and townships in the county have less than 300 people each.

LaMoure County, ND

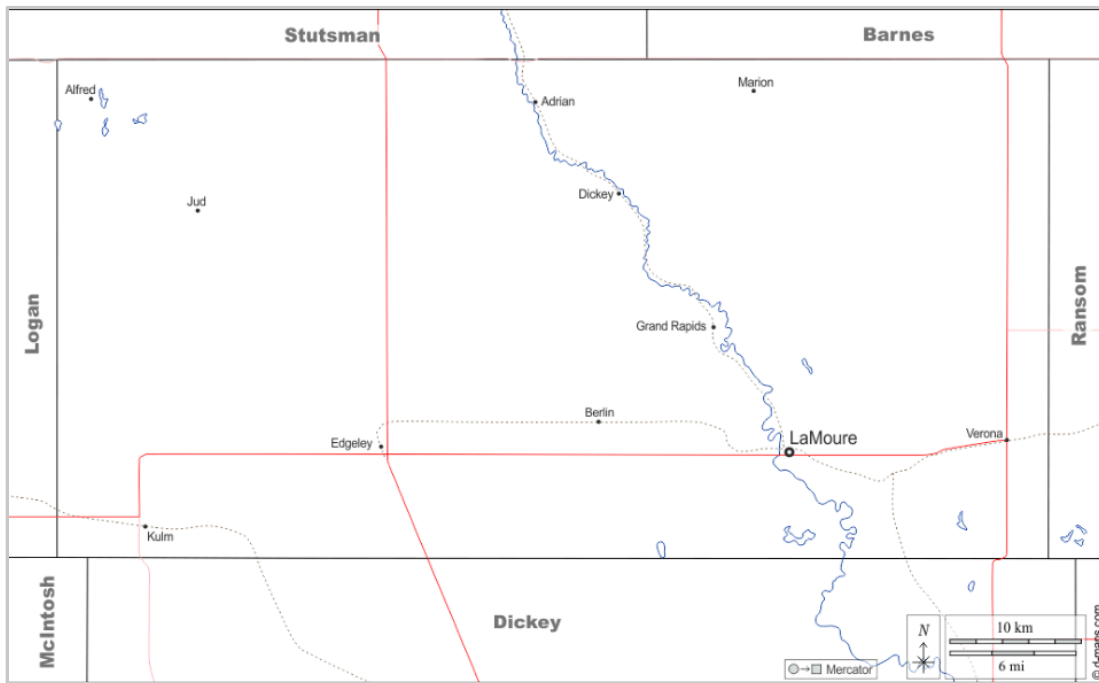


Source: theusgenweb.org



Source: ND Aerial Photography Dissemination Mapservice

LaMoure County is located in southeast North Dakota. The county borders Stutsman and Barnes Counties on the north, Ransom County to the East, Dickey and McIntosh Counties to the South and Logan County to the West. LaMoure County was created in 1873 and later organized in 1881.



In 1884, LaMoure was decided as the county seat by a majority of eighty-six votes. Nine hundred and ninety-one votes were cast in total. Grand Rapids had been the county seat until that time as it was the only town when the county was created.

A.2 Land and Population Changes

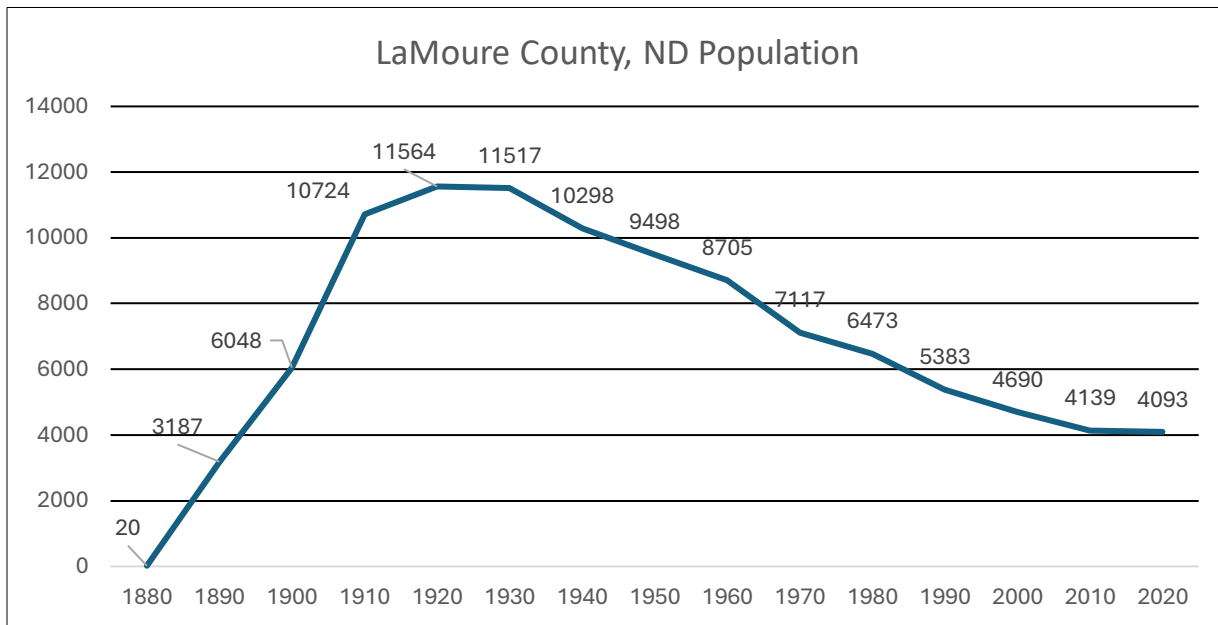
The county's total area is 733,440 acres, making it smaller than the state's median county size of 739,000 acres and the 29th largest county in North Dakota by total area. The county includes eight incorporated cities: Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, and Verona. At the 2023 American Community Survey, 2,241 of LaMoure County's 4,107 people lived in cities. The county has a few inhabited, unincorporated communities including Alfred and Nortonville.

There are also two Hutterite colonies (Fairview and Willowbank) located in the county. The total population of the county's rural locations are estimated to be 1,866. They are primarily included in this plan as reference points.

Table 2.2 - Population Trends

Area	2010	2020	% Change 2010 – 2020	American Community Survey Est. 2023
Berlin	34	31	-11.3%	45
Dickey	42	42	0.0%	42
Edgeley	563	585	3.9%	672
Jud	72	65	-9.7%	37
Kulm	354	368	4.0%	476
LaMoure	889	764	-14.1%	703
Marion	133	125	-6.0%	152
Verona	85	59	-30.6%	114
LaMoure County	4,139	4,093	-1.1%	4,107

The county is generally older than the state overall, with a media age of 46.7 and 26.9 percent of residents at least 65 years of age. Nearly 98% of county residents identify themselves as “White alone.” As of the 2023 American Community Survey, the estimated median household income for LaMoure County was \$70,263, less than the state’s median household income of \$76,525. Population trends for the county are shown in the Population Graph below.



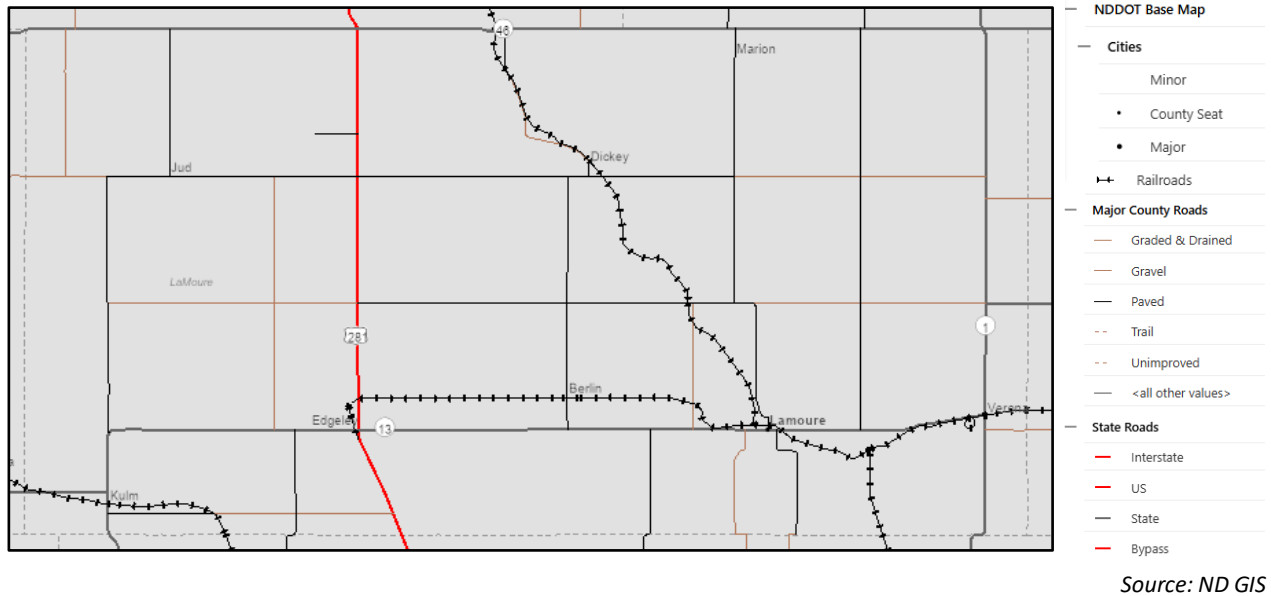
The county has generally experienced declining population from 1920 to present day. More detailed information about population trends in the county and its cities are summarized in Table 2.2. Most cities experienced population decline between 2010 and 2020.

A.3 Economy and Transportation

The agricultural industry is the driving force of the LaMoure County economy. The industry is tracked by annual survey through the National Agricultural Statistics Service. The county’s primary economic driver continues to be the agricultural industry as the area has very fertile soils, making cropland valuable and important in the local economy.

In 2023, the largest industries in LaMoure County were Agriculture, Forestry, Fishing & Hunting; Health Care & Social Assistance; and Retail Trade.

A general map of the county, including major features and neighboring jurisdictions, is shown in the map on the following page. Major roadways include State Highways 1, 13, 27, 46, 56, and US Highway 281. The county is served by three railroad lines. One railroad line cuts across the southwest corner of the county while passing through Kulm. A second line follows the James River south from Jamestown through Adrian. The third railroad line runs from the east through Verona, LaMoure, Berlin before ending at Edgeley.



County Jurisdictions:

Cities (8):

Berlin
Dickey
Edgeley
Jud
Kulm
LaMoure
Marion
Verona

Townships (32):

Adrian	Golden Glen	Nora	Roscoe
Badger	Grand Rapids	Norden	Russell
Black Loam	Grandview	Ovid	Ryan
Bluebird	Greenville	Pearl Lake	Saratoga
Dean	Henrietta	Pomona View	Sheridan
Gladstone	Kennison	Prairie	Swede
Glen	Litchville	Raney	Wano
Glenmore	Mikkelson	Ray	Willowbank

Unincorporated Communities (4):

Adrian	Grand Rapids
Alfred	Nortonville

A.4 Hazard Rankings

The hazard rankings identified below are taken from the “MHMP Local Jurisdiction Input Form” which were completed by city and county leadership and are included in the appendices. Additional information on the matrix and parameters used can be found in Section IV – Risk Assessment of this plan.

	Severe Summer Weather	Severe Winter Weather	Flooding	Drought	Wildland Fire	Hazardous Material Release	Urban Fire	Geologic Hazards	Dam Failure	Infectious Disease & Pest Infestation	Space Weather	Transportation Incident	Civil Disturbance	Cyber Attack	Criminal, Terrorist, Nation/State Attack
Berlin	H	H	M	H	H	M	M	L	L	M	M	M	M	H	H
Dickey	H	H	H	H	H	M	H	L	L	M	L	M	L	L	M
Edgeley	M	H	M	L	L	L	L	L	L	L	L	L	L	H	L
Jud	H	H	M	M	M	H	H	L	L	M	M	M	M	H	H
Kulm	H	H	L	M	M	L	M	L	L	L	L	L	L	L	L
LaMoure	M	M	H	M	L	L	L	L	L	L	L	L	L	L	L
Marion	H	H	H	M	L	L	M	L	L	M	M	M	M	M	M
Verona	H	H	H	M	H	M	M	L	L	M	L	M	L	M	M
LaMoure County	H	H	M	H	M	M	M	L	M	M	L	M	L	M	M

A.5 Overview of Community Issues & Concerns

LaMoure County overall has experienced a variety of hazards over the past five years. In addition to the global COVID-19 pandemic, the county has contended with flooding and ice storms among other hazards. Many communities identified flood protection activities and the importance of maintaining power to critical facilities as important mitigation opportunities for LaMoure County.

A.5.a Critical Facilities

An important element to hazard mitigation planning is to determine critical facilities that may need special consideration during the preparation of mitigation action items and the risk assessment. Critical facilities fall into several categories:

- Facilities that are essential to the health and welfare of the entire population and may become especially important following hazard events.
- Utility systems whose disruption would have a significant impact.
- Facilities containing a high density of population, especially those containing vulnerable populations - examples include schools, retirement homes and large employers.

- Facilities that are a key element to the local economy and could cause significant economic damage if their function was disrupted.
- Historic, cultural, and natural resource areas that are important to the community.

CITY OF BERLIN



Source: landsat.com

Community Characteristics

Population (2023 ACS): 45

Area: 0.10 sq mi

Elevation: 1,467 feet

Incorporation Date: June 30, 1903

NFIP Participant: No

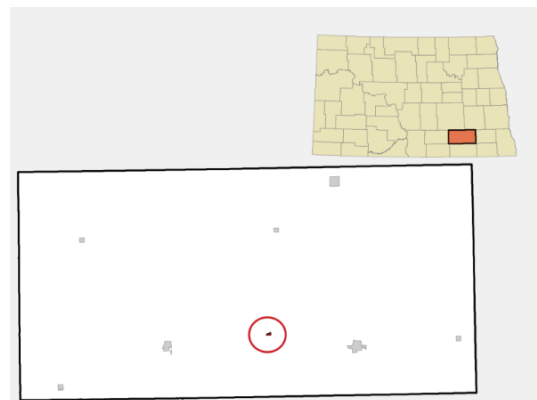
FIRM Date: N/A

Median Age: 34.4 years

Percentage of Population 65+ Years Old: 11.1%

Housing Units (2023 ACS): 14

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 0%



Community Summary

The City of Berlin is located in the southcentral part of LaMoure County. The 2023 American Community Survey (ACS) identified 45 people living in Berlin, up from 31 in the 2020 U.S. Census and 34 in the 2010 census.

In the past five years, a new agricultural personal storage shop building was built along with a new community shop building. The changes in development since 2020 have not significantly increased the community's vulnerabilities to the identified hazards in this plan.



Hazard Rankings

The hazard rankings below are derived from city specific feedback collected from the MHMP Local Jurisdiction Input Form completed by city leaders.

Hazard	Probability	Impact	Risk Class - 2025	Risk Class - 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Highly Likely	Critical	High	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Highly Likely	Critical	High	High
Flooding	Possible	Limited	Moderate	Moderate
Drought	Likely	Critical	High	Moderate
Wildland Fire	Possible	Critical	High	Moderate
Hazardous Material Release	Likely	Limited	Moderate	High
Urban Fire	Possible	Limited	Moderate	Moderate
Geologic Hazards	Unlikely	Negligible	Low	Low
Dam Failure	Unlikely	Negligible	Low	Low
Infectious Disease & Pest Infestation	Possible	Limited	Moderate	Moderate
Space Weather	Possible	Limited	Moderate	Moderate
Transportation Incident	Likely	Limited	Moderate	Moderate
Civil Disturbance	Likely	Limited	Moderate	Moderate
Cyber Attack	Possible	Critical	High	Moderate
Criminal, Terrorist, Nation/State Attack	Possible	Critical	High	Moderate

Critical Facilities

Name	Description	Occupancy	Value	Address	City	State
Outdoor Warning Siren	Public Notification	NA	\$23,000	107 2 nd Street	Berlin	ND
Community Center	Public Gathering Space/ Information Sharing Site	50	\$100,000	105 2 nd Street	Berlin	ND

Additional Detail:

- The outdoor warning siren is supported by the county with certified maintenance every ten years and is tested monthly from May to October.
- The community has a building for city government and has a portable working generator with internet and office area. There is interest in adding a kitchen area to prepare food.
- A railroad line runs through Berlin before dead-ending at Edgeley.
- Substations for Power and Rural Water are critical and the county will support access to these substations in a disaster. Previously the county had to plow snow or open up roads during ice storms so the utility providers could access the substations.
- Agtegra, a large agricultural facility with chemical storage, has moved outside the city limits.

Tier II Facilities

Company	Facility	Address	City	State	Zip Code
James Valley Grain LLC	Grain storage and handling cooperative	200 Elevator Ave	Berlin	ND	58415

Berlin has one Tier II facility.



Community Issues & Concerns

Official city representatives reviewed and discussed local hazard experiences and vulnerabilities. Below are highlights from the discussion, forms completed, and information researched.

- *Severe Winter Weather:*
 - The city suffered from an ice storm and snow emergency in 2023.
- *Flooding:*
 - The City of Berlin has experienced flooding in the past. The city has no structures at risk from flooding. The biggest impacts to the city caused by flooding are inundated roads that cause significant travel detours.
 - The community has rural water and no river or stream that passes through the community.
- *Hazardous Materials Release:*
 - A railroad line runs through town and there are few structures located very close to main rail lines (not including grain handling facilities.)
 - Main Street is used by vehicles carrying hazardous materials. There is a need to verify signage is in place for hazardous materials transport routes around the city and not through whenever possible.
- *Other vulnerabilities:*
 - Berlin has an estimated five residents who are 65 years of age or older, which is 11.1% of the population.
 - The city is within the radius of quarantine to a large poultry operation.
 - The city experiences long response times for first responders - EMS/utility.
 - Funding should be sought for a backup computer and city email due to cyber-attack and space weather vulnerability.

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>Limited zoning ordinances (updated in 2019) are specific to animal control and tree trimming, working with Henrietta Township Adoption of North Dakota State Building Code (adopted in 2019), though challenges exist with enforcement due to limited staffing City building permits are required</i>
Administrative & Technical	<i>City Council (no staff) Emergency siren</i>
Education & Outreach	<i>Have used water bills, personal social media, city paper, and posted city minutes to share information</i>
Financial	<i>Limited; Retains the ability to issue bonds and levy taxes</i>
Capabilities and resources in the City of Berlin is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities.	

City of Berlin – Continued and New Mitigation Action Items

After reviewing and discussing local hazard experiences and vulnerabilities, official city representatives reviewed mitigation actions included in the previous LaMoure County MHMP. They identified their current status, whether they should be retained in the plan update, and ranked the project's priority as low, moderate, or high. New projects were then added by the official city representatives after consideration of past hazard experiences, potential future hazards, vulnerabilities, and current projects listed.

The responsible agency or official was continued from the last LaMoure County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
L	Severe Summer Weather	Structure and Infrastructure Projects	Install and maintain surge protection on critical equipment	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Critical facility owners	City Budget
J	Severe Winter Weather	Structure and Infrastructure Projects	Encourage utility providers to bury electric power lines when undergoing upgrades or repair	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County, City Admin & Public Works	Electric Coop Funding, Possible FEMA HMA funding for infrastructure retrofit
F	Flooding	Structure and Infrastructure Projects	Improve municipal drainage in cities prone to localized flooding by identifying risk areas and completing projects to reduce the impact	Retain from 2020 MHMP - Ongoing	Low	2026 - 2030	Water Resource District, City Admin & Public Works	City Budget
P	Wildland Fire	Education and Awareness Programs	*Administer fire prevention program and implement best practices during wildfire season	Retain from 2020 MHMP - Ongoing	Low	2026 - 2030	LaMoure County, City Admin	City Budget
S	Hazardous Materials Release	Local Planning and Regulations	Explore shelter and evacuation options in case	Retain from 2020	Low	2026 - 2030	LaMoure County Emergency	City Budget

			of hazardous materials releases	MHMP – Ongoing			Manager, City Admin	
T	Hazardous Materials Release	Local Planning and Regulations	Encourage new businesses with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	Low	2026 – 2030	City Admin	City Budget
U	Hazardous Materials Release	Local Planning and Regulations	Use hazardous materials transport routes around cities and not through them whenever possible	Retain from 2020 MHMP – Ongoing	Moderate	2026 – 2030	LaMoure County Emergency Manager, City Admin	City Budget
W	Infectious Disease & Pest Control; Drought	Local Planning and Regulations	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers	Retain from 2020 MHMP – Ongoing	Moderate	2026 – 2030	LaMoure County, City Admin, LaMoure County Public Health	City Budget
AA	Infectious Disease & Pest Control	Local Planning and Regulations	Develop an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	Moderate	2026 – 2030	LaMoure County Emergency Manager, City Admin	City Budget
CC	Cyber Attack; Space Weather	Structure and Infrastructure Projects	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	High	2026 – 2030	City Admin	City Budget
DD	Space Weather	Structure and Infrastructure Projects	Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a	Retain from 2020 MHMP – Ongoing	Low	2026 – 2030	Critical facility owners / operators	City Budget

			space weather event					
EE	Space Weather	Local Planning and Regulations	Appoint a strategic planning team to consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County	Retain from 2020 MHMP – Incomplete	Low	2026 – 2030	LaMoure County Emergency Manager	City Budget
QQ	Multiple Hazards	Structure and Infrastructure Projects	Acquire and install a new portable generator in Berlin	Retain from 2020 MHMP – Ongoing	High	2026 – 2030	City Admin	City Budget, Possible FEMA HMA 5% Initiative Funding for Generators
LL	Multiple Hazards	Structure and Infrastructure Projects	Construct community shelter in Berlin with potential to meet multiple functions including city government, maintenance and fire equipment storage	Retain from 2020 MHMP – Ongoing	High	2026 – 2030	City Admin	City Budget, Possible FEMA HMA Funding
ZZ	Multiple Hazards	Structure and Infrastructure Projects	Improve community building to serve as shelter area for community residents for use as community building	New	High	2026 – 2030	City Admin	City Budget, Possible FEMA HMA Funding
AAA	Multiple Hazards	Structure and Infrastructure Projects	Identify a permanent rest area/toilet for community park to use throughout the year that works	New	Low	2026 – 2030	City Admin	City Budget

			with sanitary system					
AAB	Wildland Fire	Mitigation Preparedness and Response Support	Communication with rural area on keeping water tanks during harvest and other equipment to prevent fire	New	Medium	2026 – 2030	City Admin	City Budget
AAC	Transportation Incident	Structure and Infrastructure Projects	Prevention of traffic accidents with communication in county on reduce speed area and portable speed sign; determine if solar/ permanent sign could be placed in speed zone	New	Medium	2026 – 2030	LaMoure County, City Public Works	City Budget
AAD	All Hazards	Education and Awareness Program	Pursue funding for a backup computer and city email.	New	Medium	2026 - 2030	City Admin	City Budget
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ Alerting System.	New	Low	2026 – 2030	LaMoure County, City Admin	City Budget
AAF	All Hazards	Education & Awareness Program	Encourage residents' self-sufficiency during emergency events through education before an event	New	Low	2026 – 2030	City Admin	City Budget

*Program was previously identified as the Firewise program; the identified city priority list was removed

City of Berlin – Completed Mitigation Action Items

As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Multiple Hazards	Replace warning siren in Berlin with louder siren	OO	Completed	The City of Berlin replaced their storm siren with a larger siren to cover the entire city. The city obtained grant funding for the project.
Multiple Hazards	A generator was purchased	QQ	Completed	A generator has been purchased, and the community is working to install it.

Other Completed Mitigation Action Items

- A community building was completed to meet multiple functions, including as a shelter.

CITY OF DICKEY



Source: landsat.com

Community Characteristics

Population (2023 ACS): 42

Area: 0.22 sq mi

Elevation: 1,362 feet

Incorporation Date: April 23, 1907

NFIP Participant: No

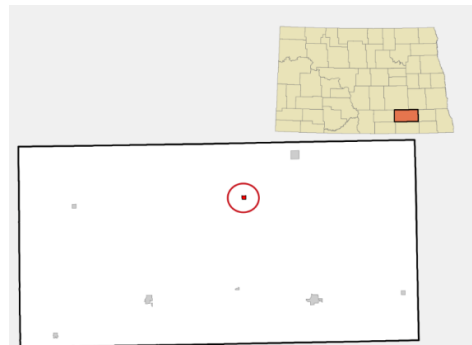
FIRM Date: N/A

Median Age: 38.6

Percentage of Population 65+ Years Old: 19.6%

Housing Units (2023 ACS): 22

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 0%



Community Summary



The City of Dickey is in the northcentral part of LaMoure County. The 2023 American Community Survey (ACS) identified 42 people living in Dickey, which is the same number from the 2010 and 2020 U.S. Census.

In the past five years, a few new homes and shops were built. The shops may be for personal use or running a small business out of the shop. A few new homes and shops are expected in the next five years as well. The changes in development since 2020 have not significantly increased the community's vulnerabilities to the identified hazards in this plan.

The city performs monthly testing and five-year maintenance cycles of outdoor warning sirens.

The largest capital improvement project in the City of Dickey is the reconstruction of County Road 35 that connects with County Road 61 to the East. However, County Road 35 has been ground to gravel which limits traffic to the community from the west.

Hazard Rankings

These hazard rankings are derived from city specific feedback collected from the MHMP Local Jurisdiction Input Form completed by city leaders.

Hazard	Probability	Impact	Risk Class - 2025	Risk Class - 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Highly Likely	Catastrophic	High	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Highly Likely	Catastrophic	High	High
Flooding	Highly Likely	Critical	High	High
Drought	Highly Likely	Critical	High	Moderate
Wildland Fire	Likely	Critical	High	Moderate
Hazardous Material Release	Possible	Limited	Moderate	Moderate
Urban Fire	Likely	Critical	High	Moderate
Geologic Hazards	Unlikely	Negligible	Low	Low
Dam Failure	Possible	Negligible	Low	Low
Infectious Disease & Pest Infestation	Possible	Limited	Moderate	Moderate
Space Weather	Unlikely	Negligible	Low	Moderate
Transportation Incident	Possible	Limited	Moderate	Moderate
Civil Disturbance	Unlikely	Negligible	Low	Moderate
Cyber Attack	Possible	Negligible	Low	Moderate

Criminal, Terrorist, Nation/State Attack	Possible	Limited	Moderate	Moderate
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Critical Facilities

Name	Description	Occupancy	Value	Address	City	State
Outdoor Warning Siren	Public Notification	NA	\$10,000	304 Main St	Dickey	ND
Town Hall / Community Center	Community building with kitchen	30		304 Main St	Dickey	ND
LaMoure County Highway Shop – Dickey	Equipment and fuel storage	5	\$102,000	415 5 th Ave S	Dickey	ND

Additional Detail:

- The outdoor warning siren is supported by the county with certified maintenance every ten years and is tested monthly from May to October.
- Substations for Power and Rural Water are critical and the county will support access to these substations in a disaster. Previously the county had to plow snow or open up roads during ice storms so the utility providers could access the substations.



Tier II Facilities

Company	Facility	Address	City	State	Zip Code
LaMoure County Highway Department	Road Shop	Main St	Dickey	ND	58431

The one identified Tier II Facility in Dickey is the LaMoure County Highway shop that houses the county plow, fuel, and equipment.

Community Issues & Concerns

Official city representatives reviewed and discussed local hazard experiences and vulnerabilities. Below are highlights from the discussion, forms completed, and information researched.

- *Severe Winter Weather:*
 - The city suffered an ice storm in 2023 when they experienced power outages and tree damage.

- County Road 35 is the only paved road out of town and is limited to the east.
- *Severe Summer Weather:*
 - The city has experienced wind damage from various severe summer weather events.
- *Flooding:*
 - The City of Dickey has experienced flooding in the past.
 - The city park is in a floodplain and has experienced minimal damage from James River flooding.
 - The largest areas at risk from flooding is within the floodplain associated with the James River and its tributaries. This directly impacts the cities of Dickey, LaMoure, and the village of Adrian.
 - Past versions of the LaMoure County MHMP was used to work on floodplain management.
- *Other vulnerabilities:*
 - Dickey has an estimated nineteen residents who are 65 years of age or older, which is 45.2% of the population. An aging community is identified by the city as a vulnerability.
 - The City of Dickey does not have municipal sewer or water; residents have individual wells and septic.
 - The city relies on local farmers for generators.
 - Due to limited city funds, residents are reliant on their neighbors.

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>Adoption of North Dakota State Building Code City building permits are required - Building permits are \$1 which has a very limited effect on building regulations and gathers limited information, though challenges exist with enforcement due to limited staffing</i>
Administrative & Technical	<i>City Council City Park Board</i>
Education & Outreach	<i>Community postings at local business, word of mouth, county newspaper</i>
Financial	<i>Limited; Can levy taxes yet have not issued bonds.</i>
Capabilities and resources in the City of Dickey is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities.	

City of Dickey – Continued and New Mitigation Activities

After reviewing and discussing local hazard experiences and vulnerabilities, official city representatives reviewed mitigation actions included in the previous LaMoure County MHMP. They identified their

current status, whether they should be retained in the plan update, and ranked the project's priority as low, moderate, or high. New projects were then added by the official city representatives after consideration of past hazard experiences, potential future hazards, vulnerabilities, and current projects listed.

The responsible agency or official was continued from the last LaMoure County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
J	Severe Winter Weather	Structure and Infrastructure Projects; Mitigation Preparedness and Response Support	Encourage utility providers to bury electric power lines when undergoing upgrades or repair	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	Electric Coop Funding, Possible FEMA HMA funding for infrastructure retrofit
N	Infectious Disease & Pest Infestation	Structure and Infrastructure Projects	Remove abandoned structures that could harbor pests and be high risks for urban fire	Retain from 2020 MHMP – Ongoing	High*	2026 – 2030	City Admin	City Budget
P	Wildland Fire	Education and Awareness Programs	**Administer fire prevention program and implement best practices during wildfire season	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County, City Admin	City Budget
T	Hazardous Materials Release	Local Planning and Regulations	Encourage new business with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	High	2026 – 2030	City Admin	City Budget
W	Infectious Disease & Pest Infestation; Drought	Mitigation Preparedness and Response Support	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers	Retain from 2020 MHMP – Ongoing	Moderate	2026 – 2030	City Admin, LaMoure County Public Health	City Budget

AA	Infectious Disease & Pest Infestation	Local Planning and Regulations	Maintain an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	Moderate	2026 – 2030	LaMoure County Emergency Manager; City Admin, LaMoure County Public Health	City Budget
CC	Cyber Attack; Space Weather	Local Planning and Regulations	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget
DD	Space Weather	Structure and Infrastructure Projects	Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Critical facility owners / operators	City Budget
EE	Space Weather	Local Planning and Regulations	Appoint a strategic planning team to consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager	City Budget
TT	Flooding	Education & Awareness Program	Hold a flood risk meeting for property owners in the City of Dickey	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager, Mayor of Dickey	City Budget
AAG	Flooding	Local Planning and Regulations	Adopt a Floodplain Management Program and	NEW	High	2026 - 2030	City Admin	City Budget

			Floodplain Ordinance					
AAH	Infectious Disease & Pest Infestation; Urban Fire	Structure and Infrastructure Projects	Pursue funding to remove an old elevator to prevent pest infestation and urban fire.	New	Moderate	2026 - 2030	City Admin	City Budget
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ Alerting System.	New	Low	2026 – 2030	LaMoure County, City Admin	City Budget
AAF	All Hazards	Education & Awareness Program	Encourage residents’ self-sufficiency during emergency events through education before an event	NEW	Low	2026 – 2030	City Admin	City Budget

*The old elevator in town is a fire risk and urban fire; cats are a problem.

**Program was previously identified as the Firewise program; the identified city priority list was removed

City of Dickey – Completed Mitigation Action Items

As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Flooding	Improve municipal drainage in cities prone to localized flooding by identifying risk areas and completing projects to reduce the impact	F	Completed	None provided.

Other Completed Mitigation Action Items

- The city maintains grass to protect against wildfire.

CITY OF EDGELEY



Source: Landsat.com

Community Characteristics

Population (2023 ACS): 672

Area: 0.75 sq mi

Elevation: 1,565 ft

Incorporation Date: November 17, 1914

NFIP Participant: Yes

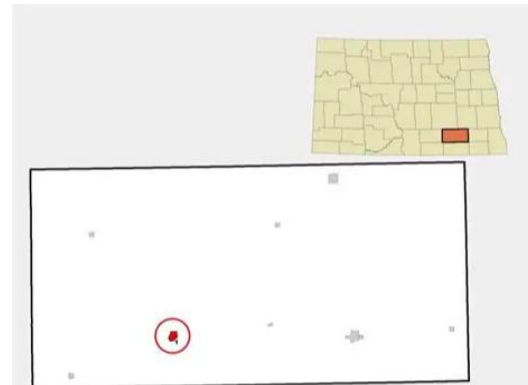
FIRM Date: 06/18/25

Median Age: 55.6

Percentage of Population 65+ Years Old: 33.3%

Housing Units (2023 ACS): 324

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 0.6%



Community Summary



The City of Edgeley is located in the Southwest quadrant of LaMoure County. The 2023 American Community Survey (ACS) identified 672 people living in Edgeley, which is an increase of over 100 people since the 2010 U.S. Census and it is the second largest city in LaMoure County.

In the past five years, there have been multiple commercial properties built, remodeled and added onto. There have been no new residential

developments, but several new homes were constructed. The changes in development since 2020 have not significantly increased the community's vulnerabilities to the identified hazards in this plan.

The city is served by three different power sources.

Hazard Rankings

These hazard rankings are derived from city specific feedback collected from the MHMP Local Jurisdiction Input Form completed by city leaders.

Hazard	Probability	Impact	Risk Class - 2025	Risk Class - 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Likely	Limited	Moderate	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Highly Likely	Critical	High	High
Flooding	Possible	Limited	Moderate	High
Drought	Unlikely	Limited	Low	Moderate
Wildland Fire	Unlikely	Limited	Low	Moderate
Hazardous Material Release	Unlikely	Limited	Low	High
Urban Fire	Unlikely	Limited	Low	Moderate
Geologic Hazards	Unlikely	Limited	Low	Low
Dam Failure	Unlikely	Limited	Low	Low
Infectious Disease & Pest Infestation	Unlikely	Limited	Low	Moderate
Space Weather	Unlikely	Limited	Low	Moderate
Transportation Incident	Unlikely	Limited	Low	Moderate
Civil Disturbance	Unlikely	Limited	Low	Moderate
Cyber Attack	Possible	Critical	High	Moderate
Criminal, Terrorist, Nation/State Attack	Unlikely	Limited	Low	Moderate

Critical Facilities

Name	Description	Occupancy	Value	Address	City	State
Edgeley Public School	Academia	300 Students in Pre-K to 12 th grade in one building; Skill Center across street	\$12,000,000	307 6 th St	Edgeley	ND
NWS Cooperative Network Weather Station	Weather Station	NA	\$5,000	Not publicly available	Edgeley	ND
Edgeley Campground	Camping, Electrical and swimming pool	22 electric and water and sewer; outside bathroom	\$10,000	709 Main St	Edgeley	ND
CHS Feed Plant	Animal Feed Production	NA	\$2,000,000	8170 Highway 13	Edgeley	ND
Manor St. Joseph	Licensed Basic Care Facility	26 beds	\$3,000,000	404 4 th Ave	Edgeley	ND
Edgeley Medical Facility Mall	Health Clinic, Pharmacy, Physical Therapy and other health office	NA	\$1,500,000	503, 519 Main St	Edgeley	ND
Edgeley Veterinary Services	Vet Clinic	NA	\$500,000	341 9 th Ave E	Edgeley	ND
Edgeley Municipal Airport	Airport	NA	\$1,900,000	8050 Highway 13	Edgeley	ND
Outdoor Warning Siren	Public Notification	NA	\$10,000	600 3 rd St	Edgeley	ND
National Guard Armory	National Guard offices and community room and kitchen	50	\$1,200,000	508 1 st Ave W	Edgeley	ND

LaMoire County Highway Shop – Edgeley	Equipment and fuel storage	5	\$36,000	101 3 rd St	Edgeley	ND
Edgeley Fire & Rescue	Fire Department		\$400,000	107 6 th Ave E	Edgeley	ND



Additional Detail:

- A railroad line runs through Verona, LaMoire, and Berlin before dead-ending at Edgeley.
- The outdoor warning siren is supported by the county with certified maintenance every ten years and is tested monthly from May to October.
- Substations for Power and Rural Water are critical and the county will support access to these substations in a disaster. Previously the county had to plow snow or open up roads during ice storms so the utility providers could access the substations.

Tier II Facilities

Company	Facility	Address	City	State	Zip Code
Allied Agronomy	Agricultural chemicals	502 1 st St	Edgeley	ND	58433
Allied Energy	Fuel/oil	109 Industrial Park	Edgeley	ND	58433
CHS Inc	Agricultural Feed Plant	8170 Highway 13	Edgeley	ND	58433
LaMoire County Highway	Transportation fuel	505 4 th Ave SE	Edgeley	ND	58433
Nextera Energy	Wind Energy	402 Main St	Edgeley	ND	58433

The Tier II Facilities identified in the City of Edgeley, ND are mostly agriculturally based.

Community Issues & Concerns

Official city representatives reviewed and discussed local hazard experiences and vulnerabilities. Below are highlights from the discussion, forms completed, and information researched.

City representatives identified railroad lines, flash flooding and localized ponding as specific hazard vulnerabilities for the community.

- **Severe Winter Weather:**
 - The city suffered an ice storm in December 2022. There was extensive damage to trees and some properties as well as power outages.
- **Hazardous Materials Spill:**
 - There are a handful of structures in Edgeley located close to the railroad. The city had a private, vacated building with fuel oil in the basement that has been mediated.
- **Urban Fire:**
 - The city lost a large grain elevator structure in a November 2022 fire.
- **Flooding:**
 - The city would like to lessen flooding issues for properties near the current water pass-through.
 - The city identified that additional zoning would prevent new construction in the current floodplain.
 - Flash flooding and localized ponding were identified as flooding concerns.
 - The City of Edgeley has experienced flooding in the past and was included in a Flood Insurance Rate Map in June of 2025.
 - In some instances, temporary levees have been needed in the southeast part of the city to prevent impacts.
 - The City of Edgeley would like to see water diverted in order to reroute rainwater around the city. This may first need a study of a new water diversion system.
- **Other vulnerabilities:**
 - Reported in the 2023 American Community Survey, Edgeley has an estimated 224 residents who are 65 years of age or older, which is 33.3% of the population.



Grain Elevator Fire in Edgeley at Allied Agronomy – ValleyNews Live

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>Edgeley Rural Fire Department</i> <i>Zoning ordinances (updated in 2025)</i> <i>Adoption of North Dakota State Building Code (adopted in 2025)</i> <i>Building permits are required – residential or commercial permit required for new construction, addition, or alteration of existing</i>

	<i>structures, though challenges exist with enforcement due to limited staffing Floodplain Ordinance (2025) Comprehensive Plan (2025)</i>
Administrative & Technical	<i>City Council City Park Board Edgeley Emergency Planning Commission Airport Board Fire Board Ambulance Board Job Development Authority City Auditor is the designated Floodplain Manager</i>
Education & Outreach	<i>Education: The local Fire and Ambulance first responders continue their education through training. Outreach: NDSU Extension provides education. Everything Edgeley Facebook page and School Facebook pages; www.edgeley.com website page; Postings at local businesses and churches</i>
Financial	<i>Limited; the city is able to issue bonds and levy taxes</i>
Capabilities and resources in the City of Edgeley is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities.	

City of Edgeley – Continued and New Mitigation Activities

After reviewing and discussing local hazard experiences and vulnerabilities, official city representatives reviewed mitigation actions included in the previous LaMoire County MHMP. They identified their current status, whether they should be retained in the plan update, and ranked the project's priority as low, moderate, or high. New projects were then added by the official city representatives after consideration of past hazard experiences, potential future hazards, vulnerabilities, and current projects listed.

The responsible agency or official was continued from the last LaMoire County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
F	Flooding	Structure and Infrastructure Projects	Improve municipal drainage in cities prone to localized flooding by identifying risk areas and completing	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Public Works	City Budget, Possible FEMA HMA funding

			projects to reduce the impact					
H	Multiple Hazards	Structure and Infrastructure Projects	Identify and acquire backup generators for all critical facilities in a prioritized manner	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, Critical Facility Owners	City Budget, Possible FEMA HMA 5% Initiative Funding for Generators
J	Severe Winter Weather	Structure and Infrastructure Projects	Encourage utility providers to bury electric power lines when undergoing upgrades or repair	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County, City Admin & Public Works	Electric Coop Funding, Possible FEMA HMA funding for infrastructure retrofit
N	Infectious Disease & Pest Infestation; Urban Fire	Structure and Infrastructure Projects	Remove abandoned structures that could harbor pests and be high risks for urban fire	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City Admin	City Budget
O	Multiple Hazards	Education and Awareness Programs	Maintain ongoing training and equipment upgrades to fight urban and wildland fires, and hazardous materials releases	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Local Fire Department	City Budget
P	Wildfire Fire	Education and Awareness Programs	* Administer fire prevention program and implement best practices during wildfire season	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Local Admin coordinating with Local Fire Department	City Budget
S	Hazardous Materials Release	Local Planning and Regulations	Explore shelter and evacuation options in case of hazardous materials release	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
T	Hazardous Materials Release	Local Planning and Regulations	Encourage new business with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City Admin	City Budget

U	Hazardous Materials Release	Local Planning and Regulations	Use hazardous materials transport routes around cities and not through them whenever possible	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
W	Infectious Disease & Pest Infestation; Drought	Local Planning and Regulations	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County, City Admin, LaMoure County Public Health	City Budget
AA	Infectious Disease & Pest Infestation	Local Planning and Regulations	Develop an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager, City Admin, LaMoure County Public Health	City Budget
CC	Cyber Attack; Space Weather	Structure and Infrastructure Projects	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget
DD	Space Weather	Structure and Infrastructure Projects	Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Critical facility owners / operators	
EE	Space Weather	Local Planning and Regulations	Appoint a strategic planning team to consider the long-term impacts of a major space weather event	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager	County Budget

			and develop a strategic plan to mitigate the impacts on LaMoure County					
AAI	Flooding	Natural Systems Protection	Conduct a study on a new water diversion system to guide water flow to outside edge of town instead of through the middle as it is currently	New	Moderate	2026 - 2030	City Admin	City Budget, Possible FEMA HMA Funding
AAJ	Flooding	Structure and Infrastructure Projects	Lessen the flooding issues for properties near the current water pass-through; Water diversion system to reroute rainwater around the city.	New		2026 - 2030	LaMoure County Emergency Manager; City Admin	City Budget, Possible FEMA HMA Funding
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ Alerting System.	New	Moderate	2026 – 2030	LaMoure County, City Admin	City Budget
AAF	All Hazards	Education & Awareness Program	Encourage residents' self-sufficiency during emergency events through education before an event	NEW	Low	2026 – 2030	City Admin	City Budget

*Program was previously identified as the Firewise program; the identified city priority list was removed

City of Edgeley – Completed Mitigation Action Items

As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Severe Summer Weather	Install and maintain surge protection on critical equipment	L	Completed	Surge protection on critical equipment was installed and is being maintained.
Severe Summer Weather	Identify or construct emergency shelters for community parks / campgrounds	M	Completed	Emergency shelters were identified or constructed for community parks/campgrounds.
Flooding	Replaced existing culvert by school and outlet culvert by park with larger culverts in Edgeley	MM	Completed	The culvert by the school and outlet culvert by the park were replaced with larger culverts.
Flooding	Organize a floodplain management workshop to be presented by the ND NFIP Coordinator for all NFIP participating community floodplain managers	XX	Completed	A floodplain management workshop was organized and presented to NFIP participating community floodplain managers.

Other Completed Mitigation Action Items

- Current zoning rules prevent new construction in the current flood plain.

CITY OF JUD



Source: landsat.com

Community Characteristics

Population (2023 ACS): 37

Area: 0.25 sq miles

Elevation: 1,742

Incorporation Date: May 6, 1909

NFIP Participant: No

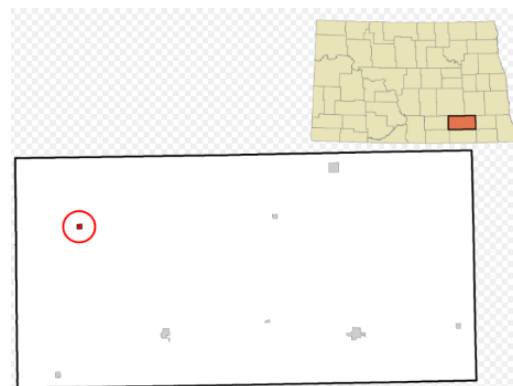
FIRM Date: No

Median Age: 54.1

Percentage of Population 65+ Years Old: 27%

Housing Units (2023 ACS): 19

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 5.3%



Community Summary

The City of Jud is located in the western area of LaMoure County. The 2023 American Community Survey (ACS) identified 37 people living in Jud, showing a continued decrease in population. The 2020 Census identified a population of 65 and a population of 72 in 2010.

In the past five years, the local agronomy center has expanded outside of city limits. The local café was purchased, but it is unclear what will open in its location. There was no anticipated development identified. The changes in development within the City of Jud since 2020 have not significantly increased the community's vulnerabilities to the identified hazards in this plan.

Hazard Rankings

These hazard rankings are derived from city specific feedback collected from the MHMP Local Jurisdiction Input Form completed by city leaders.

Hazard	Probability	Impact	Risk Class - 2025	Risk Class - 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Highly likely	Catastrophic	High	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Highly likely	Catastrophic	High	High
Flooding	Possible	Limited	Moderate	Moderate
Drought	Likely	Limited	Moderate	Moderate
Wildland Fire	Possible	Limited	Moderate	Moderate
Hazardous Material Release	Possible	Critical	High	Moderate
Urban Fire	Possible	Critical	High	Moderate
Geologic Hazards	Unlikely	Negligible	Low	Low
Dam Failure	Unlikely	Negligible	Low	Low
Infectious Disease & Pest Infestation	Possible	Limited	Moderate	Moderate
Space Weather	Possible	Limited	Moderate	Moderate
Transportation Incident	Possible	Limited	Moderate	Moderate
Civil Disturbance	Possible	Limited	Moderate	Moderate
Cyber Attack	Possible	Critical	High	Moderate
Criminal, Terrorist, Nation/State Attack	Possible	Critical	High	Moderate

Critical Facilities

Name	Description	Occupancy	Value	Address	City	State
Service Dogs for America	Dog training facility	NA	\$225,000	920 Short St	Jud	ND

Community Center	Community Center with kitchen area	50	\$125,00	515 Logie St	Jud	ND
Outdoor Warning Siren	Public Notification	NA	\$10,000	510 Ravely St	Jud	ND
LaMoure County Highway Shop – Jud	Equipment and fuel storage	5	\$102,000	510 Pearl Ave	Jud	ND
Dakota Heritage Bank	Bank	NA	\$195,000	520 Logie St	Jud	ND



Additional Detail:

- The dog training facility was identified as a major industry and employer in the community.
- The outdoor warning siren is supported by the county with certified maintenance every ten years and is tested monthly from May to October.
- Substations for Power and Rural Water are critical and the county will support access to these substations in a disaster. Previously the county had to plow snow or open up roads during ice storms so the utility providers could access the substations.

Tier II Facilities

Company	Facility	Address	City	State	Zip Code
Economy Oil, Inc	Fuel Oil	Ravely St	Jud	ND	58454
LaMoure County Highway Dept	Transportation Oil	Ravely St	Jud	ND	58454

There are two Tier II Facilities identified in the City of Jud, ND with fuel oil. There are agricultural-based facilities in town that are farmer owned and based and do not submit TIER II reports.

Community Issues & Concerns

Official city representatives reviewed and discussed local hazard experiences and vulnerabilities. Below are highlights from the discussion, forms completed, and information researched.

- *Severe Winter Weather:*
 - The city was significantly impacted by an ice storm in December 2022. The City of Jud was the last city to restore power in LaMoure County as residents were without power for over five days with significant winter storm clean up.
- *Flooding:*
 - The city identified minor flooding has occurred in the past five years.
 - The lagoon system was identified as an aging system.
 - Pooling occurs on the west end of town.
 - The city identified that updating local ordinances would be helpful for the community.
- *Other vulnerabilities:*
 - Reported in the 2023 American Community Survey, Jud has an estimated 10 residents who are 65 years of age or older, which is 27% of the population.
 - Minimizing drops in water pressure was identified as a mitigation goal by the city.

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>Jud Fire Protection District Comprehensive Plan (2020)</i>
Administrative & Technical	<i>City Council City Park Board</i>
Education & Outreach	<i>Word of mouth, calling neighbors, paper postings in the mall commons area, City Facebook page</i>
Financial	<i>Limited; the city is able to issue bonds and levy taxes</i>
Capabilities and resources in the City of Jud is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities.	

City of Jud – Continued and New Mitigation Activities

After reviewing and discussing local hazard experiences and vulnerabilities, official city representatives reviewed mitigation actions included in the previous LaMoure County MHMP. They identified their current status, whether they should be retained in the plan update, and ranked the project's priority as low, moderate, or high. New projects were then added by the official city representatives after consideration of past hazard experiences, potential future hazards, vulnerabilities, and current projects listed.



The responsible agency or official was continued from the last LaMoure County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
J	Severe Winter Weather	Structure and Infrastructure Projects	Encourage utility providers to bury electric power lines when undergoing upgrades or repair	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County, City Admin & Public Works	Electric Coop Funding, Possible FEMA HMA funding for infrastructure retrofit
L	Severe Summer Weather	Structure and Infrastructure Projects	Install and maintain surge protection on critical equipment	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Critical facility owners	
O	Multiple Hazards	Education and Awareness Programs	Maintain ongoing training and equipment upgrades to fight urban and wildland fires and hazardous materials releases	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Local Fire Department	City Budget
P	Wildland Fire	Education and Awareness Programs	* Administer fire prevention program and implement best practices during wildfire season	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Local Admin coordinating with Local Fire Department	City Budget

S	Hazardous Materials Releases	Local Planning and Regulations	Explore shelter and evacuation options in case of hazardous materials releases	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
T	Hazardous Materials Releases	Local Planning and Regulations	Encourage new businesses with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget
U	Hazardous Materials Releases	Local Planning and Regulations	Use hazardous materials transport routes around cities and not through them whenever possible	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
AAK	Hazardous Materials Releases	Local Planning and Regulations	Maintain or purchase a new sign to route hazardous materials transport around cities and not through them	NEW	Moderate	2026 - 2030	City Admin	City Budget
W	Infectious Disease & Pest Infestation; Drought	Local Planning and Regulations	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County, City Admin, LaMoure County Public Health	City Budget
AA	Infectious Disease & Pest Infestation	Local Planning and Regulations	Develop an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager, City Admin, LaMoure County Public Health	City Budget

CC	Cyber Attack; Space Weather	Structure and Infrastructure Projects	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City Admin	City Budget
DD	Space Weather	Structure and Infrastructure Projects	Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Critical facility owners / operators	
EE	Space Weather	Local Planning and Regulations	Appoint a strategic planning team to consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager	County Budget
PP	Multiple Hazards	Structure and Infrastructure Projects	Acquire and install a new fixed generator in Jud	Retain/ Updated from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget, Possible FEMA HMA 5% Initiative Funding for Generators
AAL	Multiple Hazards	Structure and Infrastructure Projects	Upgrade equipment, including backup power and automation of the freshwater well house	NEW	Moderate	2026 - 2030	City Admin	City Budget
AAM	Flooding	Structure and Infrastructure Projects	Review the aging lagoon system and pooling on the	NEW	Moderate	2026 - 2030	City Admin	City Budget

			west end of town					
AAN	Multiple Hazards	Local Planning and Regulations	Update local ordinances	NEW	Moderate	2026 – 2030	City Admin	City Budget
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ Alerting System.	NEW	Moderate	2026 – 2030	LaMoure County, City Admin	City Budget
AAF	All Hazards	Education & Awareness Program	Encourage residents' self-sufficiency during emergency events through education before an event	NEW	Low	2026 – 2030	City Admin	City Budget

*Program was previously identified as the Firewise program; the identified city priority list was removed

City of Jud – Completed Mitigation Action Items

As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Urban Fire; Wildland Fire	Upgrade equipment with a new tanker/pumper fire truck in Jud	NN	Completed	The existing equipment was aging out and a new pumper/tanker was the highest priority project. A pumper truck was purchased and training for the fire department and first responders was completed.

Other Completed Mitigation Action Items

- Critical facilities in Jud have emergency power available. A standby generator has been installed at the fire hall, a high-powered mobile generator is for sewer and water systems, and an additional mobile generator is available for other needs.

- The City of Jud purchased two portable generators. The upkeep of portable generators is an ongoing task.
- After an outdoor warning siren was damaged during an ice storm, the siren was then repaired. Maintenance of county outdoor warning sirens is identified for continuation.

CITY OF KULM



Source: landsat.com

Community Characteristics

Population (2023 ACS): 476

Area: 0.38 sq miles

Elevation: 1,972 feet

Incorporation Date: January 13, 1897

NFIP Participant: No

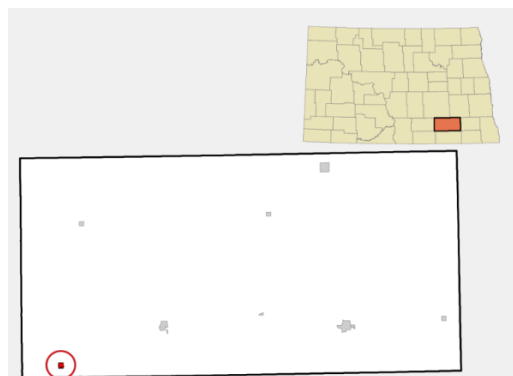
FIRM Date: No

Median Age: 33.4 years

Percentage of Population 65+ Years Old: 18.7%

Housing Units (2023 ACS): 192

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 0%



Community Summary

The City of Kulm is located in the southeastern region of LaMoure County. The 2023 American Community Survey (ACS) identified 476 people living in Kulm, which shows a steady increase in population. The 2010 US Census identified Kulm with a population of 354 and a 2020 population of 368.

In the past five years, the city added a coffee shop and a pavilion. A new clinic and a residential home are being built in 2025. The changes in development since 2020 have not significantly increased the community's vulnerabilities to the identified hazards in this plan.



Hazard Rankings

These hazard ranking are derived from city specific feedback collected from the MHMP Local Jurisdiction Input Form completed by city leaders.

Hazard	Probability	Impact	Risk Class - 2025	Risk Class – 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Highly Likely	Critical	High	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Highly Likely	Critical	High	High
Flooding	Possible	Negligible	Low	Moderate
Drought	Likely	Limited	Moderate	Moderate
Wildland Fire	Likely	Limited	Moderate	Moderate
Hazardous Material Release	Unlikely	Limited	Low	High
Urban Fire	Possible	Limited	Moderate	Moderate
Geologic Hazards	Unlikely	Negligible	Low	Low
Dam Failure	Unlikely	Negligible	Low	Low
Infectious Disease & Pest Infestation	Possible	Negligible	Low	Moderate
Space Weather	Unlikely	Negligible	Low	Moderate
Transportation Incident	Possible	Negligible	Low	Moderate
Civil Disturbance	Unlikely	Negligible	Low	Moderate
Cyber Attack	Possible	Negligible	Low	Moderate
Criminal, Terrorist, Nation/State Attack	Possible	Negligible	Low	Moderate

Critical Facilities

Name	Description	Occupancy	Value	Address	City	State
Kulm Elementary School	Academia	96 students (PK – 8 th grades)		217 2 nd Ave SE	Kulm	ND

Kulm High School	Academia	33 students (9 th – 12 th grades)				
Kulm Community Center	Fire and ambulance housed in building as well as city office and community space	100	\$750,000	10 1 st St SW	Kulm	ND
Kulm Fire Station	Volunteer Fire Department			10 1 st St SW	Kulm	ND
Kulm Ambulance	Ambulance & EMS services			10 1 st St SW	Kulm	ND
Kulm City Campground and Swimming Pool	Public access overnight campground; public swimming pool outdoor	100	\$2 Million	200 3 rd Ave SE	Kulm	ND
Kulm Municipal Airport	Airport transportation buildings and equipment	20	\$1.1 Million	614 Manhattan Dr	Kulm	ND
Outdoor Warning Siren	Public Notification	NA	\$10,000	10 1 st St SW	Kulm	ND
LaMoure County Highway Shop – Kulm	Equipment and fuel storage	5	\$103,000	308 3 rd St NW	Kulm	ND

Additional Detail:

- The city identified day cares, a medical facility, school, airport and park as vulnerable facilities.
- Each organized city in LaMoure County has outdoor warning sirens that are supported by LaMoure County to test during the summer months; the county has also provided maintenance to support this notification.
- The city has a community center that houses the fire department and city offices and has a large community room and kitchen that has a permanent generator.
- The city has a Housing Authority and Development Corporation that has helped identify low income and new housing developments and support new economic development. The Kulm Housing Authority also owns a 4-plex housing complex
- The city has three overnight/RV camping parks. One is owned and maintained by the city.
- The outdoor warning siren is supported by the county with certified maintenance every ten years and is tested monthly from May to October.
- Substations for Power and Rural Water are critical, and the county will support access to these substations in a disaster. Previously the county had to plow snow or open up roads during ice storms so the utility providers could access the substations.



Tier II Facilities

Company	Facility	Address	City	State	Zip Code
Allied Agronomy	Crop management services	202 1 st St NW	Kulm	ND	58456
Allied Energy	Serves customers with gas and ethanol blends	2 Main Ave N	Kulm	ND	58456
LaMoure County		308 3 rd St NW	Kulm	ND	58456

Community Issues & Concerns

Official city representatives reviewed and discussed local hazard experiences and vulnerabilities. Below are highlights from the discussion, forms completed, and information researched.

Like most jurisdictions in LaMoure County, the City of Kulm is subject to a variety of hazards, including severe summer and winter weather.

- *Severe Winter Weather:*
 - The city was significantly impacted by an ice storm in December 2022.
- *Flooding:*
 - The city identified the repair of flooded streets as an important step toward restoration.
 - Lagoon monitors were identified as an opportunity to help protect the community from future disasters.

- *Other vulnerabilities:*
 - Reported in the 2023 American Community Survey, Kulm has an estimated 89 residents who are 65 years of age or older, which is 18.7% of the population.

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>Kulm Rural Fire Department Zoning Ordinance (2016) Comprehensive Plan Adoption of North Dakota State Building Code (adopted in 2016) Building code Building permits are required – Permits are approved by the council before the project can begin and then turned into the county to be assessed, though challenges exist with enforcement due to limited staffing</i>
Administrative & Technical	<i>City Council Kulm Airport Authority Kulm Park Board – Kulm Swimming Pool Board Kulm Country Club Board Kulm Fire Department Kulm Ambulance Kulm Hometown events Kulm Development Corporation</i>
Education & Outreach	<i>Kulm Messenger – LaMoure County Chronicle, Facebook page, and Flyers</i>
Financial	<i>Limited</i>
Capabilities and resources in the City of Kulm is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities. The local boards within the city have accessed grants and levied special taxes for support.	

City of Kulm – Continued and New Mitigation Action Items

After reviewing and discussing local hazard experiences and vulnerabilities, official city representatives reviewed mitigation actions included in the previous LaMoure County MHMP. They identified their current status, whether they should be retained in the plan update, and ranked the project's priority as low, moderate, or high. New projects were then added by the official city representatives after consideration of past hazard experiences, potential future hazards, vulnerabilities, and current projects listed.

The responsible agency or official was continued from the last LaMoure County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
F	Flooding	Structure and Infrastructure Projects	Improve municipal drainage in cities prone to localized flooding by identifying risk areas and completing projects to reduce the impact	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City Public Works	City Budget
J	Severe Winter Weather	Structure and Infrastructure Projects	Encourage utility providers to bury electric power lines when undergoing upgrades or repair	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County, City Admin & Public Works	Electric Coop Funding, Possible FEMA HMA funding for infrastructure retrofit
L	Severe Summer Weather	Structure and Infrastructure Projects	Install and maintain surge protection on critical equipment	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Critical facility owners	City Budget
M	Severe Summer Weather	Structure and Infrastructure Projects	Identify or construct emergency shelters for community parks/campgrounds, such as Kulm City Campground and Swimming Pool	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin, LaMoure County Emergency Management, Public Safety Officials	City Budget, Possible FEMA HMA funding
N	Infectious Disease & Pest Infestation; Urban Fire	Structure and Infrastructure Projects	Remove abandoned structures that could harbor pests and be high risks for urban fire	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget
O	Multiple Hazards	Local Planning and Regulations	Maintain ongoing training and equipment upgrades to fight urban and wildland fires and hazardous materials releases	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Local fire department	City Budget
P	Wildland Fire	Education and Awareness Programs	* Administer fire prevention program and implement best practices during wildfire season	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Local Admin coordinating with Local Fire Department	City Budget

S	Hazardous Materials Release	Education and Awareness Programs	Explore shelter and evacuation options in case of hazardous materials releases	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
T	Hazardous Materials Release	Education and Awareness Programs	Encourage new business with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City Admin	City Budget
U	Hazardous Materials Release	Local Planning and Regulations	Use hazardous materials transport routes around cities and not through them whenever possible	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
W	Infectious Disease & Pest Infestation; Drought	Local Planning and Regulations	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County, City Admin, LaMoure County Public Health	City Budget
AA	Infectious Disease & Pest Infestation	Local Planning and Regulations	Develop an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager, City Admin, LaMoure County Public Health	City Budget
CC	Cyber Attack; Space Weather	Structure and Infrastructure Projects	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	City Admin	City Budget
DD	Space Weather	Structure and Infrastructure Projects	Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Critical facility owners/operators	City Budget

EE	Space Weather	Local Planning and Regulations	Appoint a strategic planning team to consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager	County and Budget
AAO	Flooding	Structure and Infrastructure Projects	Purchase and installation of Lagoon Monitors to notify city staff when there is heavy rain fall so the city is alerted to sewage backup in nearby homes	NEW	Low	2026 - 2030	City Admin	City Budget
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ Alerting System.	New	Moderate	2026 – 2030	LaMoure County, City Admin	City Budget
AAF	All Hazards	Education & Awareness Program	Encourage residents' self-sufficiency during emergency events through education before an event	NEW	Low	2026 – 2030	City Admin	City Budget

*Program was previously identified as the Firewise program; the identified city priority list was removed

City of Kulm – Completed Mitigation Action Items

As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Multiple Hazards	Identify and acquire backup generators for all critical facilities in a prioritized manner	H	Completed	A water tower generator was recently purchased. The city now has stationary generators on its community building and water tower to protect public works, city offices, and responder buildings.
Multiple Hazards	Acquire and install a new fixed generator in Kulm	RR	Completed	

Other Completed Mitigation Action Items

- The LaMoure County Local Emergency Planning Committee has a back-up paging detector with battery back up in the Kulm Community Center that receives pages for all LaMoure County based fire and ambulance services.

CITY OF LAMOURE



Source: landsat.com

Community Characteristics

Population (2023 ACS): 703

Area: 1.32 sq miles

Elevation: 1,309 feet

Incorporation Date: November 5, 1883

NFIP Participant: Yes

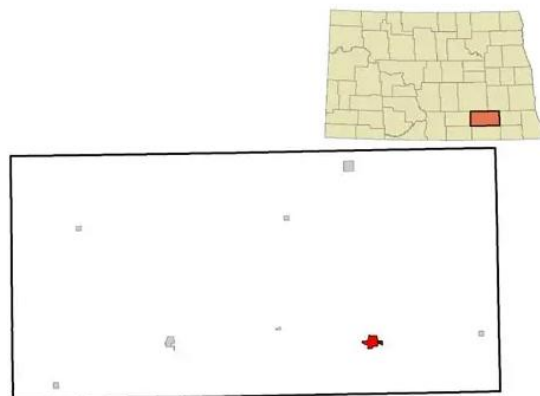
FIRM Date: 06/18/25

Median Age: 49.1

Percentage of Population 65+ Years Old: 28.9%

Housing Units (2023 ACS): 313

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 3.2%



Community Summary

The City of LaMoure is located in southeastern LaMoure County and is situated alongside the James River. Although the county seat and the city with the highest population in LaMoure County, the population has continued to decline. In 2010, the population was 889 and it declined to 764 in 2020.

In the past five years, a new swimming pool and water tower have been built. The changes in development since 2020 have not significantly increased the community's vulnerabilities to the identified hazards in this plan.



Hazard Rankings

These hazard ranking are derived from city specific feedback collected from the MHMP Local Jurisdiction Input Form completed by city leaders.

Hazard	Probability	Impact	Risk Class – 2025	Risk Class – 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Highly Likely	Limited	Moderate	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Highly Likely	Limited	Moderate	High
Flooding	Highly Likely	Critical	High	High
Drought	Possible	Limited	Moderate	Moderate
Wildland Fire	Unlikely	Limited	Low	Moderate
Hazardous Material Release	Unlikely	Limited	Low	High
Urban Fire	Unlikely	Limited	Low	Moderate
Geologic Hazards	Unlikely	Limited	Low	Low
Dam Failure	Unlikely	Limited	Low	Low
Infectious Disease & Pest Infestation	Unlikely	Limited	Low	Moderate
Space Weather	Unlikely	Limited	Low	Moderate
Transportation Incident	Unlikely	Limited	Low	Moderate
Civil Disturbance	Unlikely	Limited	Low	Moderate
Cyber Attack	Unlikely	Limited	Low	Moderate
Criminal, Terrorist, Nation/State Attack	Unlikely	Limited	Low	Moderate

Critical Facilities

Name	Description	Occupancy	Value	Address	City	State
Lamoure Elementary	PK – 8 th grade	188 students		105 6 th St SE	LaMoure	ND
LaMoure High School	9 – 12 th grade; Public Health Point of Dispensing (POD)	80 students				
Benedictine St. Rose Skilled Care and Assisted Living	Skilled Care and Assisted Living facilities	40 residents and 44 beds in skilled care; 12 apartments in assisted		315 1 st St SE	LaMoure	ND
LaMoure County Courthouse	Government Building; Historic Building on registrar list	100	\$13,000,000	202 4 th Ave NE	LaMoure	ND
Outdoor warning sirens	Notification system	NA		100 10 th Ave NE	LaMoure	ND
Emergency Response Center	Gathering and/or coordination space			315 3 rd St SE	LaMoure	ND
Community Volunteer EMS of LaMoure	Hospital			300 4 th St SE	LaMoure	ND
LaMoure County Highway Shop	Equipment and fuel storage	10	\$675,000	505 4 th Ave SE	LaMoure	ND
Memorial Park Siren	Outdoor Warning and shelter (to	100	\$300,000	9797 66 th St SE	LaMoure	ND

and Storm Shelter	be completed 11/2025)					
LaMoure Fire Station	Fire Department			102 1 st St NE	LaMoure	ND

Additional Detail:

- The city identified day care centers, assisted living facilities, skilled nursing facilities, and the school as vulnerable facilities.
- Each organized city in LaMoure County has outdoor warning sirens that are supported by LaMoure County to test during the summer months; the county has also provided maintenance to support this notification. The outdoor warning siren is supported by the county with certified maintenance every ten years and is tested monthly from May to October.
- The city has an emergency response building which houses the first responders and includes a meeting room and small offices.
- The County Courthouse is located within the city.
- The city has a Housing Authority and Development Corporation that has helped identify low income and new housing developments and supports new economic development.
- The mobile home lots were recently vacated and overnight camping with electrical is limited to Lake LaMoure.
- Substations for Power and Rural Water are critical and the county will support access to these substations in a disaster. Previously the county had to plow snow or open up roads during ice storms so the utility providers could access the substations.



Tier II Facilities

Company	Facility	Address	City	State	Zip Code
CHS	Comprehensive agricultural services	10246 Highway 13	LaMoure	ND	58458
Dickey Rural Telephone Cooperative	Communications facility	25 Center St E	LaMoure	ND	58436
Good Oil Company	Vehicle maintenance	10217 Highway 13 E	LaMoure	ND	58458
Larson Grain Co	Agronomy company	103 1 st Street NE	LaMoure	ND	58458
Titan Machinery, Inc	Farming equipment sales	10233 Highway 13	LaMoure	ND	58458

Community Issues & Concerns

Official city representatives reviewed and discussed local hazard experiences and vulnerabilities. Below are highlights from the discussion, forms completed, and information researched.

The City of LaMoure has experienced similar weather events as other local jurisdictions, such as severe summer and winter weather hazards. The city has railroad lines and experiences overland flooding, river flooding, and localized ponding during snow melts and large rain events in the spring and summer. The city wishes to provide shelter during long-term events and to provide permanent flood protection which would involve adding material or replacing the current landscape berms to provide certified dikes on the southwest and west side of town.

- *Other vulnerabilities:*
 - Reported in the 2023 American Community Survey, the City of LaMoure has an estimated 203 residents who are 65 years of age or older, which is 28.9% of the population.
 - The City of LaMoure has experienced flooding in the past and was included in a Flood Insurance Rate Map in June of 2025.

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>Zoning Ordinance Floodplain Ordinance (June 2025) Adoption of North Dakota State Building Code Require building permits, though challenges exist with enforcement due to limited staffing LaMoure Fire District (formed in 2025)</i>
Administrative & Technical	<i>City Council LaMoure City Park Board LaMoure Airport Authority Board Lake LaMoure Recreational Area Board LaMoure Ambulance Board LaMoure Housing Authority Board LaMoure Community Development Board City Auditor is the designated Floodplain Manager</i>
Education & Outreach	<i>Education: The Auditor has completed NFIP training. Outreach: Local newspaper and social media</i>
Financial	<i>Limited; the city is able to issue bonds and levy taxes</i>
Capabilities and resources in the City of LaMoure is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities. The local boards within the city have accessed grants and levied special taxes to support.	

City of LaMoure – Continued and New Mitigation Activities

After reviewing and discussing local hazard experiences and vulnerabilities, official city representatives reviewed mitigation actions included in the previous LaMoure County MHMP. They identified their current status, whether they should be retained in the plan update, and ranked the project's priority as low, moderate, or high. New projects were then added by the official city representatives after consideration of past hazard experiences, potential future hazards, vulnerabilities, and current projects listed.

The responsible agency or official was continued from the last LaMoure County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
F	Flooding	Structure and Infrastructure Projects	Improve municipal drainage in cities prone to localized flooding by identifying risk areas and completing projects to reduce the impact	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Water Resource District, City Admin & Public Works	City Budget
H	Multiple Hazards	Structure and Infrastructure Projects	Identify and acquire backup generators for all critical facilities in a prioritized manner	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager, Critical Facility Owners	
J	Severe Winter Weather	Structure and Infrastructure Projects	Encourage utility providers to bury electric power lines when undergoing upgrades or repair	Retain from 2020 MHMP – Incomplete	Moderate	2026 - 2030	LaMoure County, City Admin & Public Works	Electric Coop Funding, Possible FEMA HMA funding for infrastructure retrofit
L	Severe Summer Weather	Structure and Infrastructure Projects	Install and maintain surge protection on critical equipment	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Critical facility owners	

N	Infectious Disease & Pest Infestation; Urban Fire	Structure and Infrastructure Projects	Remove abandoned structures that could harbor pests and be high risks for urban fire	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget
O	Multiple Hazards	Education and Awareness Program	Maintain ongoing training and equipment upgrades to fight urban and wildland fire and hazardous materials releases	Retain from 2020 MHMP – Ongoing	Moderate	2026 – 2030	Local Fire Department	City Budget
P	Wildland Fire	Education and Awareness Programs	* Administer fire prevention program and implement best practices during wildfire season	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Local Admin coordinating with Local Fire Department	City Budget
S	Hazardous Materials Release	Local Planning and Regulations	Explore shelter and evacuation options in case of hazardous materials release	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
T	Hazardous Materials Release	Local Planning and Regulations	Encourage new business with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	City Admin	City Budget
U	Hazardous Materials Release	Local Planning and Regulations	Use hazardous materials transport routes around cities and not through them whenever possible	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget

W	Infectious Disease & Pest Control; Drought	Local Planning and Regulations	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County, City Admin, LaMoure County Public Health	City Budget
Z	Dam Failure	Local Planning and Regulations	If need is established, restrict future development in the impact area of potential significant dam failure	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
AA	Infectious Disease & Pest Infestation	Local Planning and Regulations	Develop an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager, City Admin, LaMoure County Public Health	City Budget
CC	Cyber Attack; Space Weather	Structure and Infrastructure Projects	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	City Admin	City Budget
DD	Space Weather	Structure and Infrastructure Projects	Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Critical facility owners / operators	

EE	Space Weather	Local Planning and Regulations	Appoint a strategic planning team to consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager	County and City Budget
AAP	Multiple Hazards	Structure and Infrastructure Projects	Construction of a community center in order to provide shelter and protection during major storms or long-term outages; serves as a central location for operations	NEW	High	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget, Possible FEMA HMA funding
AAQ	Flooding	Structure and Infrastructure Projects	Purchase and install permanent flood protection measures; landscaping berms on the southwest and west side of town	NEW	Moderate	2026 - 2030	City Admin	City Budget, Possible FEMA HMA funding
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications	NEW	Low	2026 – 2030	LaMoure County, City Admin	City Budget

			through the NDDEQ Alerting System.					
AAF	All Hazards	Education & Awareness Program	Encourage residents' self-sufficiency during emergency events through education before an event	NEW	Low	2026 – 2030	City Admin	City Budget
AAR	Flooding	Structure and Infrastructure Projects	**Acquire property located within the floodway	NEW	Low	2026 - 2030	City Admin	City Budget, Possible FEMA HMA funding
AAS	Multiple Hazards	Structure and Infrastructure Projects	Construction of a community center in order to provide shelter and protection during major storms or long term outages as well as provide a central location for operations.	NEW	High	2026 - 2030	City Admin	City Budget, Possible FEMA HMA funding
AAT	Multiple Hazards	Structure and Infrastructure Projects	Update the lift station generator.	NEW	High	2026 - 2030	City Admin	City Budget, Possible FEMA HMA funding

*Program was previously identified as the Firewise program; the identified city priority list was removed.

**The property at 602 4th Ave NW is an example of a property within the James River floodway and is included within the new FIRM. The property should be purchased and used for green space.

City of LaMoure – Completed Mitigation Action Items

As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Dam Failure	Complete Emergency Action Plan for Lake LaMoure Dam failure	Y	Completed	An Emergency Action Plan for Lake LaMoure Dam failure was completed.
Multiple Hazards	Install warning siren at Lake LaMoure	KK	Completed	A new emergency siren was installed at Lake LaMoure.
Flooding	Organize a floodplain management workshop to be presented by the ND NFIP Coordinator for all NFIP participating community floodplain managers	XX	Completed	A floodplain management workshop was held with NFIP participating community floodplain managers.

Other Completed Mitigation Action Items

- The city put in a drainage ditch for water to move to the river.
- Gates to control the flow of water through the storm drain system were completed.
- Security was upgraded at their emergency center.
- A new police vehicle and equipment was purchased.

The following mitigation action item was included in the 2020 LaMoure County MHMP but is being removed from the 2025 plan update.

- Identify or construct emergency shelters for community parks/campgrounds

CITY OF MARION



Source: landsat.com

Community Characteristics

Population (2023 ACS): 152

Area: 1.00 sq mi

Elevation: 1,457 feet

Incorporation Date: December 9, 1910

NFIP Participant: Yes

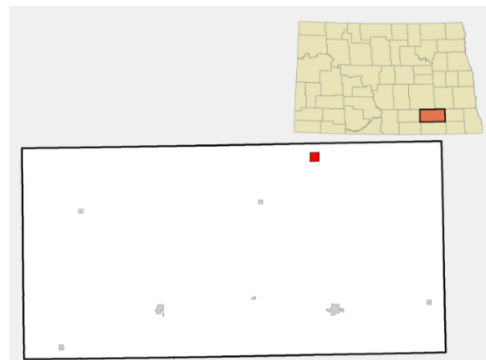
FIRM Date: 06/18/25

Median Age: 57

Percentage of Population 65+ Years Old: 25.7%

Housing Units (2023 ACS): 68

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 1.5%



Community Summary



The City of Marion is located in the North part of LaMoure County. The 2023 American Community Survey (ACS) identified 152 people living in Marion, up from 125 in the 2020 US Census and 133 in the 2010 US Census.

In the past five years, new homes have been added to the community. The changes in development since 2020 have not significantly increased the community's vulnerabilities to the identified hazards in this plan.

Hazard Rankings

These hazard ranking are derived from city specific feedback collected from the MHMP Local Jurisdiction Input Form completed by city leaders.

Hazard	Probability	Impact	Risk Class – 2025	Risk Class – 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Likely	Critical	High	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Likely	Critical	High	High
Flooding	High Likely	Critical	High	High
Drought	Possible	Limited	Moderate	Moderate
Wildland Fire	Unlikely	Limited	Low	Moderate
Hazardous Material Release	Unlikely	Limited	Low	Moderate
Urban Fire	Possible	Limited	Moderate	Moderate
Geologic Hazards	Unlikely	Limited	Low	Low
Dam Failure	Unlikely	Limited	Low	Low
Infectious Disease & Pest Infestation	Possible	Limited	Moderate	Moderate
Space Weather	Possible	Limited	Moderate	Moderate
Transportation Incident	Possible	Limited	Moderate	Moderate
Civil Disturbance	Possible	Limited	Moderate	Moderate
Cyber Attack	Possible	Limited	Moderate	Moderate
Criminal, Terrorist, Nation/State Attack	Possible	Limited	Moderate	Moderate

Critical Facilities

Name	Description	Occupancy	Value	Address	City	State
Litchville-Marion Public School	Public School Pre-K to 12 th Grade	300	\$20,000,000	104 2 nd St	Marion	ND

	Day Care is attached to the Public School				Marion	ND
Outdoor Warning Siren	Public Notification	ND	\$10,000	309 Main Ave	Marion	ND
Community Center	Community Room with kitchen	100	\$115,000	303 Main Ave	Marion	ND
Marion Fire Department	Public service and government			309 Main Ave	Marion	ND

Additional Detail:

- The outdoor warning siren is supported by the county with certified maintenance every ten years and is tested monthly from May to October.
- Substations for Power and Rural Water are critical and the county will support access to these substations in a disaster. Previously the county had to plow snow or open up roads during ice storms so the utility providers could access the substations.

Tier II Facilities

Company	Facility	Address	City	State	Zip Code
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There are no Tier II Facilities identified directly in the City of Marion, ND although there is a large commercial grain handling elevator. The other agricultural facility with TIER II reports are just outside city limits.

Community Issues & Concerns

Official city representatives reviewed and discussed local hazard experiences and vulnerabilities. Below are highlights from the discussion, forms completed, and information researched.

The City of Marion has experienced flooding, a windstorm, and an ice storm in the past two years. These weather hazards have led to a loss of fifty percent of the trees in town.

- **Windstorms:**
 - For the numerous windstorms, there was damage to housing and buildings during the last windstorm. Power lines were also down during the ice and windstorm.
- **Flooding:**
 - The road going west out of town was flooded and raised, yet with the rising Boom Lake elevation it closed again. Boom Lake has a temporary dike system in place as continued high water has left the city unable to remove the temporary dikes for two years and until a permanent solution is available.
- **Other vulnerabilities:**

- The city identified additional vulnerabilities to overland flooding and localized ponding during snowmelts and big rains.
- Reported in the 2023 American Community Survey, Marion has an estimated 39 residents who are 65 years of age or older, which is 25.7% of the population.
- The City of Marion has experienced flooding in the past and was included in a Flood Insurance Rate Map in June of 2025.

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>Marion Rural Fire Department Zoning Ordinance Floodplain Ordinance (June 2025) Building Permits, though challenges exist with enforcement due to limited staffing Adoption of North Dakota State Building Code</i>
Administrative & Technical	<i>City Council Park Board</i>
Education & Outreach	<i>None – relies on county education and outreach</i>
Financial	<i>Limited; the city is able to issue bonds and levy taxes</i>
Capabilities and resources in the City of Marion is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities.	

City of Marion - Continued and New Mitigation Action Items

After reviewing and discussing local hazard experiences and vulnerabilities, official city representatives reviewed mitigation actions included in the previous LaMoure County MHMP. They identified their current status, whether they should be retained in the plan update, and ranked the project's priority as low, moderate, or high. New projects were then added by the official city representatives after consideration of past hazard experiences, potential future hazards, vulnerabilities, and current projects listed.

The responsible agency or official was continued from the last LaMoure County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

City of Marion – Continued and New Mitigation Activities

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
F	Flooding	Structure and Infrastructure Projects	Improve municipal drainage in cities prone to localized	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	Water Resource District, City Admin & Public Works -	City Budget

			flooding by identifying risk areas and completing projects to reduce the impact					
J	Severe Winter Weather	Structure and Infrastructure Projects	Encourage utility providers to bury electric power lines when undergoing upgrades or repair	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County, City Admin & Public Works	Electric Coop Funding, Possible FEMA HMA funding for infrastructure retrofit
L	Severe Summer Weather	Structure and Infrastructure Projects	Install and maintain surge protection on critical equipment	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Critical facility owners	City Budget
O	Multiple Hazards	Education and Awareness Programs	Maintain ongoing training and equipment upgrades to fight urban and wildland fires and hazardous materials releases	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Local Fire Department	City Budget
P	Wildland Fire	Education and Awareness Programs	* Administer fire prevention program and implement best practices during wildfire season	Retain from 2020 MHMP – Incomplete	Moderate	2026 - 2030	Local Admin coordinating with Local Fire Department	City Budget
S	Hazardous Materials Release	Local Planning and Regulations	Explore shelter and evacuation options in case of hazardous materials release	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget

T	Hazardous Materials Release	Local Planning and Regulations	Encourage new business with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City Admin	City Budget
W	Infectious Disease & Pest Infestation; Drought	Local Planning and Regulations	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County, City Admin, LaMoure County Public Health	City Budget
AA	Infectious Disease & Pest Infestation	Local Planning and Regulations	Develop an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin, LaMoure County Public Health	City Budget
CC	Cyber Attack; Space Weather	Structure and Infrastructure Projects	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget
DD	Space Weather	Structure and Infrastructure Projects	Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Critical facility owners / operators	City Budget
EE	Space Weather	Local Planning and Regulations	Appoint a strategic planning team to	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager	County and City Budget

			consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County					
VV	Multiple Hazards	Structure and Infrastructure Projects	**Acquire and install a new fixed generator in Marion	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City Admin	City Budget, Possible FEMA HMA 5% Initiative Funding for Generators
XX	Flooding	Education and Awareness Program	Organize a floodplain management workshop to be presented by the ND NFIP Coordinator for all NFIP participating community floodplain managers	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Floodplain Managers	City Budget
AAU	Flooding	Structure and Infrastructure Projects	Complete the permanent lake drain by draining down Boom Lake and reduce flooding	NEW	High	2026 - 2030	City Admin	City Budget
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ	NEW		2026 – 2030	LaMoure County, City Admin	City Budget

			Alerting System.					
AAF	All Hazards	Education & Awareness Program	Encourage residents' self-sufficiency during emergency events through education before an event	NEW	Low	2026 – 2030	City Admin	City Budget

*Program was previously identified as the Firewise program; the identified city priority list was removed.

**Although the city already has generators for the fire station and community hall, they are working to obtain additional generators for lift stations.

City of Marion – Completed Mitigation Action Items

As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Flooding	Evaluate the effectiveness of the authorized short term emergency drain and the benefit/cost of a permanent drain to protect city infrastructure from impacts of continued rising waters along Marion's west edge	YY	Completed	A cost-benefit analysis was completed for a permanent drain to protect city infrastructure from the impacts of continued rising waters along Marion's western edge.

Other Completed Mitigation Action Items

- The city installed emergency levees, which are still located around town.

The following mitigation action item was included in the 2020 LaMoure County MHMP but is being removed from the 2025 plan update.

- Use hazardous materials transport routes around cities and not through them whenever possible.

CITY OF VERONA



Source: landsat.com

Community Characteristics

Population (2023 ACS): 114

Area: 0.25 sq mi

Elevation: 1,391 feet

Incorporation Date: May 5, 1905

NFIP Participant: No

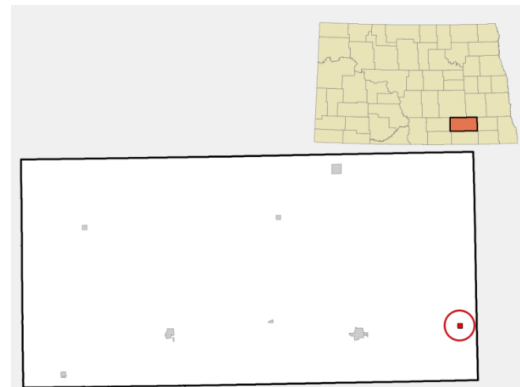
FIRM Date: No

Median Age: 36.7

Percentage of Population 65+ Years Old: 9.6%

Housing Units (2023 ACS): 47

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 12.8%



Community Summary

The City of Verona is located in the southeast quadrant of LaMoure County. The 2023 American Community Survey (ACS) identified 114 people living in Verona, up from 59 in the 2020 US Census and 85 in the 2010 US Census.



In the last five years, there were three new homes built along with the remodeling of another. The changes in development since 2020 have not significantly increased the community's vulnerabilities to the identified hazards in this plan.

Hazard Rankings

These hazard rankings are derived from city specific feedback collected from the MHMP Local Jurisdiction Input Form completed by city leaders.

Hazard	Probability	Impact	Risk Class - 2025	Risk Class - 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Highly Likely	Catastrophic	High	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Highly Likely	Catastrophic	High	High
Flooding	Likely	Critical	High	Moderate
Drought	Possible	Limited	Moderate	Moderate
Wildland Fire	Likely	Critical	High	Moderate
Hazardous Material Release	Possible	Limited	Moderate	High
Urban Fire	Possible	Limited	Moderate	Moderate
Geologic Hazards	Unlikely	Negligible	Low	Low
Dam Failure	Unlikely	Negligible	Low	Low
Infectious Disease & Pest Infestation	Possible	Limited	Moderate	Moderate
Space Weather	Unlikely	Negligible	Low	Moderate
Transportation Incident	Possible	Limited	Moderate	Moderate
Civil Disturbance	Unlikely	Negligible	Low	Moderate
Cyber Attack	Possible	Limited	Moderate	Moderate
Criminal, Terrorist, Nation/State Attack	Possible	Limited	Moderate	Moderate

Critical Facilities

Name	Description	Occupancy	Value	Address	City	State
Bear Creek Lodge	Community Center and short-term living	300	\$6,000,000	205 7 th St	Verona	ND
Outdoor Warning Siren	Public Notification	NA	\$10,000	Fire Hall	Verona	ND
Verona Fire Hall	Fire service	30	\$309,000	205 4 th St	Verona	ND
Lift Station	Municipal wastewater collection system	NA			Verona	ND



Additional Detail:

- The outdoor warning siren is supported by the county with certified maintenance every ten years and is tested monthly from May to October.
- Substations for Power and Rural Water are critical and the county will support access to these substations in a disaster. Previously the county had to plow snow or open up roads during ice storms so the utility providers could access the substations.

Tier II Facilities

Company	Facility	Address	City	State	Zip Code
Dickey Rural Telephone	Telephone and internet	321 3 rd Ave	Verona	ND	58490
Good Oil Company	Fuel oil	10217 Highway 13	Verona	ND	58490
James Valley Grain LLC	Grain handling terminal	300 Dakota Ave	Verona	ND	58490

There are three Tier II Facilities identified in the City of Verona, ND.

Community Issues & Concerns

Official city representatives reviewed and discussed local hazard experiences and vulnerabilities. Below are highlights from the discussion, forms completed, and information researched.



City representatives identified railroad line crossings and Highway 1 and 13 as hazard vulnerabilities. Power outages due to a variety of hazards was also identified as a concern.

- *Other vulnerabilities:*
 - Reported in the 2023 American Community Survey, Verona has an estimated 11 residents who are 65 years of age or older, which is 9.6% of the population.

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>Verona Rural Fire Department Zoning Ordinance Comprehensive Plan Adopted the North Dakota State Building Code Building Permits, though challenges exist with enforcement due to limited staffing</i>
Administrative & Technical	<i>City Council City Park Board</i>
Education & Outreach	<i>Searching for a new program for local cell phone/text city notifications Emails, post in the post office, and publish minutes in the Chronicle IPAWS CodeRed</i>
Financial	<i>Limited; TIF can levy taxes</i>
Capabilities and resources in the City of Verona is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities.	

City of Verona – Continued and New Mitigation Action Items

After reviewing and discussing local hazard experiences and vulnerabilities, official city representatives reviewed mitigation actions included in the previous LaMoire County MHMP. They identified their current status, whether they should be retained in the plan update, and ranked the project's priority as low, moderate, or high. New projects were then added by the official city representatives after consideration of past hazard experiences, potential future hazards, vulnerabilities, and current projects listed.

The responsible agency or official was continued from the last LaMoure County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

City of Verona – Continued and New Mitigation Activities

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
J	Flooding	Structure and Infrastructure Projects	Encourage utility provider to bury electric power lines when undergoing upgrades or repair	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County, City Admin & Public Works	Electric Coop Funding, Possible FEMA HMA funding for infrastructure retrofit
L	Severe Summer Weather	Structure and Infrastructure Projects	Install and maintain surge protection on critical equipment	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Critical facility owners	City Budget
N	Infectious Disease & Pest Infestation; Urban Fire	Structure and Infrastructure Projects	Remove abandoned structures that could harbor pests and be high risks for urban fire	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget
O	Multiple Hazards	Local Planning and Regulations	Maintain ongoing training and equipment upgrades to fight urban and wildland fires and hazardous materials releases	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	Local Fire Department	City Budget
S	Hazardous Materials Release	Local Planning and Regulations	Explore shelter and evacuation options in case of hazardous materials releases	Retain from 2020 MHMP - Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
T	Hazardous Materials Release	Local Planning and Regulations	Encourage new business with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget

U	Hazardous Materials Release	Local Planning and Regulations	Use hazardous materials transport routes around cities and not through them whenever possible	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin	City Budget
W	Infectious Disease & Pest Infestation; Drought	Local Planning and Regulations	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers; this should include, but is not limited to Avian Influenza and Emerald Ash Borer	Retain from 2020 MHMP – Ongoing	Moderate	2026 – 2030	LaMoure County, City Admin, LaMoure County Public Health	City Budget
AA	Infectious Disease & Pest Infestation	Local Planning and Regulations	Develop an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager, City Admin, LaMoure County Public Health	City Budget
CC	Cyber Attack; Space Weather	Structure and Infrastructure Projects	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	City Admin	City Budget
EE	Space Weather	Local Planning and Regulations	Appoint a strategic planning team to consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County; Harden electrical	Retain from 2020 MHMP – Ongoing	Moderate	2026 - 2030	LaMoure County Emergency Manager; Critical facility owners / operators	County and City Budget;

			components and systems for critical facilities					
UU	Multiple Hazards	Structure and Infrastructure Projects	Resolve operational issues with lift station generator in Verona	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City Admin	City Budget
AAV	Multiple Hazards	Structure and Infrastructure Projects	Install a chemical toilet for the public park on Main Street	NEW	Moderate	2026 - 2030	City Admin	City Budget
AAW	Multiple Hazards	Structure and Infrastructure Projects	Add a back-up generator at the water house	NEW	Moderate	2026 – 2030	City Admin	City Budget, Possible FEMA HMA 5% Initiative Funding for Generators
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ Alerting System.	NEW	Moderate	2026 – 2030	LaMoure County, City Admin	City Budget
AAF	All Hazards	Education & Awareness Program	Encourage residents' self-sufficiency during emergency events through education before an event	NEW	Low	2026 – 2030	City Admin	City Budget

*Program was previously identified as the Firewise program; the identified city priority list was removed

City of Verona – Completed Mitigation Action Items

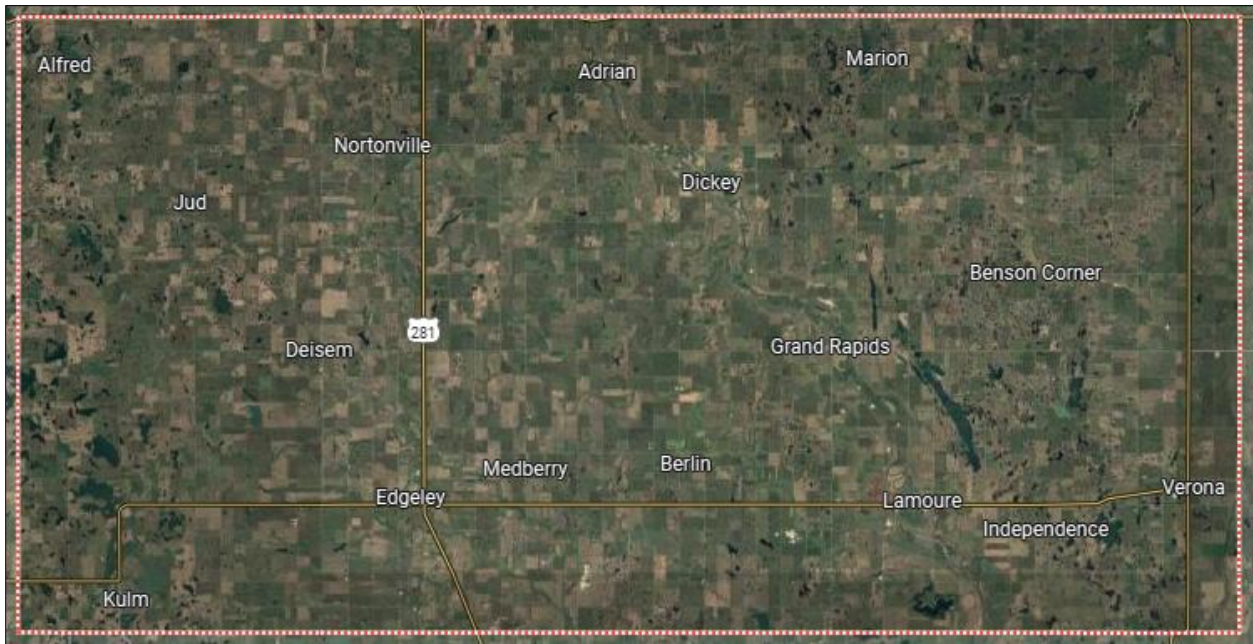
As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Flooding	Develop and implement a plan to eliminate flooding at Verona's west end	WW	Completed	The city dug a ditch to help local drainage.

Other Completed Mitigation Action Items

- In the past five years, the city dug a ditch to help local draining in the southwest lot.
- Trees were planted on north lots to help with the effects of wind and snow hazards.
- The city has maintained the outdoor warning siren.
- Some power lines have been buried by the Ottertail Power Company.
- A lift station has power backup in the case of a power outage.

LAMOURE COUNTY



Source: landsat.com

Community Characteristics

Population (2023 ACS): 4,107

Area: 733,402 acres

Elevation: Highest point at 2,047 ft

Incorporation Date: January 4, 1873

Organized October 17, 1881

NFIP Participant: Yes

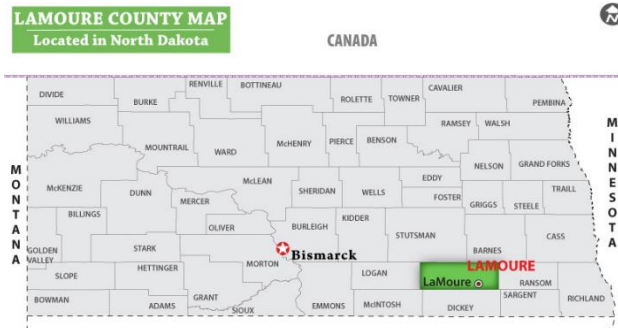
FIRM Date: 06/18/25

Median Age: 46.7

Percentage of Population 65+ Years Old: 26.9%

Housing Units (2023 ACS): 1,712

Percentage of mobile homes and other types of units outside 1- and 2-unit structures: 2.7%



Community Summary

LaMoure County is in the southeast part of North Dakota. The 2023 American Community Survey (ACS) identified 4,107 people living in LaMoure County, down from the 2010 US Census of 4,139. In the last

five years, LaMoure County has had new homes and schools built. In addition, a wind tower development occurred in a western, rural area of the county and buildings at the county park and courthouse were constructed.

The county anticipates the addition of power cells, wind towers, power transmission lines, and a new county highway shop to be added.

Hazard Rankings

These hazard ranking are derived from feedback collected from the MHMP Local Jurisdiction Input Form completed by county leaders.

Hazard	Probability	Impact	Risk Class - 2025	Risk Class - 2020
Severe Summer Weather (Hail, High Wind, Thunderstorm, Tornado, Lightning, Excessive Heat)	Highly Likely	Critical	High	High
Severe Winter Weather (Blizzard, Extreme Cold, Wind Chill, High Wind, Heavy Snow, Winter Storm, Winter Weather, Ice Storm)	Highly Likely	Critical	High	High
Flooding	Likely	Limited	Moderate	High
Drought	Likely	Critical	High	Moderate
Wildland Fire	Likely	Limited	Moderate	High
Hazardous Material Release	Possible	Limited	Moderate	Moderate
Urban Fire	Possible	Limited	Moderate	Moderate
Geologic Hazards	Unlikely	Negligible	Low	Low
Dam Failure	Possible	Limited	Moderate	Low
Infectious Disease & Pest Infestation	Possible	Limited	Moderate	Moderate
Space Weather	Unlikely	Negligible	Low	Moderate
Transportation Incident	Possible	Limited	Moderate	Moderate
Civil Disturbance	Unlikely	Limited	Low	Moderate
Cyber Attack	Likely	Limited	Moderate	Moderate
Criminal, Terrorist, Nation/State Attack	Possible	Limited	Moderate	Moderate

Critical Facilities

Name	Description	Occupancy	Value	Address	Jurisdiction	State
Historic Courthouse	Building on the historic registrar list	100	\$13,000,000	202 4 th Ave NE	LaMoure	ND
LaMoure County Highway Shop	Equipment and fuel storage	10	\$675,000	505 4th Ave SE	LaMoure	ND

LaMoure County Highway Shop – Benson Corner	Equipment and fuel storage	5	\$86,000	6404 County Road 60	Litchville	ND
LaMoure County Highway Shop – Edgeley	Equipment and fuel storage	5	\$36,000	101 3 rd St	Edgeley	ND
LaMoure County Highway Shop – Kulm	Equipment and fuel storage	5	\$103,000	308 3 rd St NW	Kulm	ND
LaMoure County Highway Shop – Dickey	Equipment and fuel storage	5	\$102,000	415 5 th Ave S	Dickey	ND
LaMoure County Highway Shop – Jud	Equipment and fuel storage	5	\$102,000	510 Pearl Ave	Jud	ND
Memorial Park Siren and Storm Shelter	Outdoor Warning and shelter (to be completed 11/2025)	100	\$300,000	9797 66 th St SE	LaMoure	ND
Litchville Fire Station	Fire Department			503 3 rd Ave	Litchville	ND

The critical facilities are largely located within the city profiles. Skilled and assisted living facilities, day cares, clinics, medicals prescription stores, first responder and community buildings, banks were generally identified as vulnerable areas across the county. Power substations and Rural Water substations are also considered critical as well as cellular service and radio towers that are privately owned.

Tier II Facilities

Company	Responding Fire Department	Address	City	State	Zip Code
AgriPartners, Inc	Edgeley	8262 Hwy 46	Montpelier	ND	58472
Agtegra Cooperative	LaMoure	7147 County Road 62	Berlin	ND	58415
Allied Agronomy	Jud	5924 74th Ave SE	Jud	ND	58454
Allied Agronomy	Edgeley	7155 Highway 281	Edgeley	ND	58433
Central Power Electric Coop	LaMoure	7390 93 rd Ave SE	Berlin	ND	58415
Central Power Electric Coop	LaMoure	6102 93 rd Ave SE	Dickey	ND	58431
Central Power Electric Coop	Edgeley	7293 Highway 281	Edgeley	ND	58433
Central Power Electric Coop	Edgeley	5403 81 st Ave SE	Edgeley	ND	58433
Central Power Electric Coop	Kulm	7411 County Road 33	Kulm	ND	58456
Central Power Electric Coop	LaMoure	10403 Highway 13	LaMoure	ND	58458
Central Power Electric Coop	LaMoure	7292 99 th Ave SE	LaMoure	ND	58458
CHS Inc	Litchville	10802 Highway 46	Litchville	ND	58461
Dickey Rural Telephone Cooperative	Edgeley	8174 Highway 46	Edgeley	ND	58433
LaMoure County Highway Dept	Marion	6404 County Road 60	Litchville	ND	58431
Plains Grain and Agronomy	Marion	10238 Highway 46	Marion	ND	58466
Larson Grain Co	Marion	5630 County Road 63	Adrian	ND	58472

Robert's Ag Air Service	LaMoure	7357 County Road 60	LaMoure	ND	58458
US Fish & Wildlife Service	Kulm	6887 77 th St SE	Kulm	ND	58456
US Navy	LaMoure	7290 99 th Ave SE	LaMoure	ND	58458
Western Area Power Administration	Edgeley	8213 Highway 13	Edgeley	ND	58433

Community Issues & Concerns

LaMoure County representatives identified a variety of weather-related hazards vulnerabilities. The county has experienced flooding in the past five years with four Presidentially declared FEMA disasters. In addition, strong winds have taken down trees, droughts hurt crops and vegetation, and several blizzards closed roads and forced businesses to close due to hazardous driving conditions. The county and cities have received state assistance due to excessive snow removal for the winter of 2022-2023.

- Flooding:
 - Flooding can impact the rural areas and each community.
 - The James River flows southeasterly through the central part of LaMoure County and impactful overland flooding occurs.
 - Areas of stream and creek flooding include: James River, Bone Hill Creek, Maple Creek, Cottonwood Creek and other unnamed creeks.
 - Areas of large land locked depressions or pot holes that have continued to fill and overtake land are: Boom Lake, Twin Lake, and Flood Lake areas.
- Winter weather affects all of LaMoure County and blizzards occur on an annual basis.
- Other vulnerabilities:
 - Reported in the 2023 American Community Survey, LaMoure County has an estimated 1,106 residents who are 65 years of age or older, which is 26.9% of the population.
 - Railroad tracks cross primarily in rural areas, but highway crossings are also a vulnerability.
 - The lack of a county jail and county hospital were identified as vulnerabilities.
 - Wind and drought were also identified as community concerns.

Local Capability Assessment

Category	Capabilities
Planning & Regulatory	<i>County Board</i> <i>County Staff – including an Emergency Manager</i> <i>Tree Planting Policy (adjacent to roadways)</i> <i>Sewer Codes</i>

Administrative & Technical	<i>Zoning Ordinance (2025) – Floodplain Ordinance Building Permits – in relation to flood hazard mitigation, challenges can occur with enforcement due to limited staffing</i>
Education & Outreach	<i>Social media (Public Health, NDSU Extension, Sheriff's Office), Local paper, County Website, NDSU Extension provides safety days in elementary schools and workshops, National Weather Service provides SkyWarn Training, Sheriff implementing ALICE training, First Responder Training</i>
Financial	<i>Limited; LaMoure County has the ability to issue bonds and levy taxes per century code</i>
Capabilities and resources in LaMoure County is limited by population, funding, and staff. There is currently no ability to expand or improve on the above capabilities.	

LaMoure County – Continued and New Mitigation Action Items

After receiving information on the MHMP update process, county board and key county staff members were asked to complete two forms. The first requested information on past hazard experiences and vulnerabilities along with existing local regulations, funding and communication opportunities, and recent and pending development. The second form asked for a review of mitigation action status from the previous LaMoure County MHMP and requested identification of new projects with a ranking tied to each - low, moderate, or high.

The responsible agency or official was continued from the last LaMoure County MHMP if it was a continued action item. The timeframe and potential funding streams were identified by the project planning team and verified by an official city representative.

LaMoure County – Continued Mitigation Activities

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
A	Flooding	Education and Awareness Programs	Conduct NFIP workshop to educate public about benefits of flood insurance	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager	County Budget
B	Flooding	Local Planning and Regulations	Complete FIRM and establish floodplain management to prevent development in at-risk areas	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	County and city floodplain managers	County Budget

D	Flooding	Structure and Infrastructure Projects	Elevate commonly flood-impacted roads and bridges, and evaluate and pursue further opportunities to mitigate potential impacts to roads and property	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Road Supervisor and LaMoure County Emergency Manager	County Budget, Possible FEMA HMA funding
E	Flooding	Structure and Infrastructure Projects	Use hydrology and hydraulic studies to properly understand flow in the county's watersheds and make roadway improvements per study findings	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Commission, Road Supervisor, and Emergency Manager	County Budget, Possible FEMA HMA funding
I	Severe Winter Weather; Flooding	Education and Awareness Programs	Further implement the county road open/closed map so residents can see the status of roads in winter storm and flood events	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	County Road Supervisor	County Budget
J	Severe Winter Weather	Structure and Infrastructure Projects	Encourage utility providers to bury electric power lines when undergoing upgrades or repairs	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County, City Admin & Public Works	Electric Coop funding; Possible FEMA HMA funding for infrastructure retrofit
L	Severe Summer Weather	Structure and Infrastructure Projects	Install and maintain surge protection on critical equipment	Retain from 2020 MHMP – Ongoing	Medium	2026 - 2030	Critical facility owners	City Budget
M	Severe Summer Weather	Structure and Infrastructure Projects	Identify or construct emergency shelters for community parks/campgrounds	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County governing bodies, emergency management, and public safety officials	County Budget; Possible FEMA HMA funding
O	Multiple Hazards	Education and Awareness Programs	Maintain ongoing training and equipment upgrades to fight	Retain from 2020	Medium	2026 - 2030	Relevant fire departments	County and City Budgets

			urban and wildland fires, and hazardous materials releases	MHMP – Ongoing				
P	Wildland Fire	Education and Awareness Programs	* Administer fire prevention program and implement best practices during wildfire season	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County, City Admin	County Budget
Q	Wildland Fire	Local Planning and Regulations	Develop a strategy to determine prioritized locations and optimum volumes of water storage for fire fighting	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Rural fire departments	County or City Budgets
T	Hazardous Materials Release	Local Planning and Regulation	Encourage new business with TIER II materials to locate outside city limits	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	City governing bodies	County or City Budgets
W	Infectious Disease & Pest Infestation; Drought	Local Planning and Regulations	Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Governing bodies in LaMoure County including LaMoure County Public Health	County or City Budget
X	Infectious Disease & Pest Infestation; Drought	Local Planning and Regulations	Develop an emergency response plan that includes coordination with local livestock producers	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	Local FSA and USDA staff, LaMoure County Public Health	County or City Budget
AA	Infectious Disease & Pest Infestation	Local Planning and Regulations	Develop an insect control system during periods of standing water	Retain from 2020 MHMP – Ongoing	Low	2026 - 2030	LaMoure County Emergency Manager, Local Governing Bodies, LaMoure County Public Health	County or City Budget

CC	Cyber Attack; Space Weather	Structure and Infrastructure Projects	Develop and maintain data system backup on a regular basis	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	County Staff	County Budget
DD	Space Weather	Structure and Infrastructure Projects	Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event	Retain from 2020 MHMP – Ongoing	Moderate / High	2026 - 2030	Critical facility owners / operators	County or City Budget
FF	Multiple Hazards	Education and Awareness Programs	Public education	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager	County Budget; Possible FEMA HMA funding
GG	Multiple Hazards	Local Planning and Regulations	Establish a robust communication system for all elements of the LaMoure County emergency response team	Retain from 2020 MHMP – Ongoing	High	2026 -2030	LaMoure County Emergency Manager	County Budget
II	Multiple Hazards	Local Planning and Regulations	Develop a plan to increase the First Responder level of training and equipment	Retain from 2020 MHMP – Ongoing	High	2026 - 2030	LaMoure County Emergency Manager	County Budget

*Program was previously identified as the Firewise program; the identified city priority list was removed

LaMoure County – New Mitigation Activities

	Hazard	Mitigation Strategy	Mitigation Action	Status	Priority Ranking	Time frame	Responsibility	Possible Funding
AAE	Wildland Fire	Education and Awareness Programs	Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ Alerting System.	NEW	Moderate	2026 – 2030	County Staff	County Budget

AAF	All Hazards	Education & Awareness Program	Encourage residents' self-sufficiency during emergency events through education before an event	NEW	Low	2026 – 2030	County Staff	County Budget
U	Hazardous Materials Release	Local Planning and Regulations	Use hazardous materials transport routes around cities and not through them whenever possible	NEW	Low	2026 – 2030	County Staff	County Budget
S	Hazardous Materials Release	Local Planning and Regulations	Explore shelter and evacuation options in case of hazardous materials releases	NEW	Low	2026 - 2030	LaMoure County Emergency Manager	County Budget
AAX	Severe Winter Weather	Structure and Infrastructure Projects	Identify warm places to house people stranded or without power during winter storm or extreme cold winter conditions	NEW	Moderate	2026 – 2030	LaMoure County Emergency Manager	County Budget; Possible FEMA HMA funding
U	Hazardous Materials Release	Local Planning and Regulations	Use hazardous materials transport routes around cities and not through them whenever possible	NEW	Low	2026 - 2030	County Staff	County Budget
H	Multiple Hazards	Structure and Infrastructure Projects	Identify and acquire backup generators for all critical facilities in a prioritized manner	NEW	High	2026 - 2030	LaMoure County Emergency Manager	County Budget; Possible FEMA HMA funding
AAV	Flooding	Local Planning and Regulations	Identify a process for implementing the new flood hazard mitigation ordinance	NEW	Moderate	2026 - 2030	LaMoure County Emergency Manager	County Budget
AAZ	Cyber Attack	Local Planning and Regulations	Work with IT on training and equipment to stay ahead of cyber attacks	NEW	High	2026 – 2030	LaMoure County IT Staff	County Budget
BBB	Flooding	Local Planning and Regulations	Encourage cities to adopt ordinances for land use permitting	NEW	Moderate	2026 – 2030	County staff	County Budget
CCC	Flooding	Structure and Infrastructure Projects	Mitigation work for the Boom Lake project to prevent	NEW	High	2026 – 2030	LaMoure County	County Budget

			flooding in the City of Marion				Emergency Manager	
DDD	Flooding	Structure and Infrastructure Projects	Replace old culverts with box culverts	NEW		2026 – 2030	LaMoure County staff	County budget
EEE	Flooding	Structure and Infrastructure Projects	Replace and/or raise bridges	NEW		2026 – 2030	LaMoure County Engineer	County budget

LaMoure County – Completed Mitigation Action Items

As part of the mitigation action items review by city officials, completed mitigation actions were also identified and included below.

Hazard	Past Mitigation Action	2020 MHMP ID	Status	Comment on Removal
Flooding	Increase official government social media presence in the county to keep residents informed of flood waters and actions	G	Completed	Made plan to work with NDSU Extension and Public Health and Sheriff office Facebook pages, use of county website as described in county communication plan
Flooding	Organize a floodplain management workshop to be presented by the ND NFIP Coordinator for all NFIP participating community floodplain managers	XX	Completed	Presented at Township meeting, held meetings at courthouse
Multiple Hazards	Obtain drone or similar technology and certified staff that can be used to access visual context for multiple hazards	BB	Completed	Sheriff's Office purchased one and has trained operator
Multiple Hazards	Ensure county has a communication tool to reach all cell phones locally or county wide to inform of CTN attack or other significant emergencies	HH	Completed	The county uses CodeRED, LETS and IPAWS for communication
Multiple Hazards	Establish a table-top training program on a rotating annual basis to address response to critical incidents: transportation incidents, infectious diseases, and cyber attack	JJ	Completed	County IPPW – recent ICS county wide workshop

Flooding	Have a contact list to ensure residents along the James River can be contacted during rising water	C	Completed	The county uses CodeRED and IPAWS for communication

Other Completed Mitigation Action Items

- Made plan to work with NDSU Extension and Public Health and Sheriff office Facebook pages, used county website as described in county communication plan.
- County added new building codes/zoning laws related to sewer which affects building regulations according to State Law.
- Road restrictions occur as needed annually to protect roads from freeze-thaw cycles and during flooding events.
- Flooded road crossings have been mitigated with large box culvert replacements.
- A storm shelter is under construction.
- Support exists for outdoor warning sirens, NFIP management, and permitting.
- Backup power to first responder communication system (eDispatches) was added.
- The county has IPAWS communication capabilities.
- Communication occurs during wildfire season.
- Updated studies from the North Dakota Department of Water Resources on Boom Lake and Twin Lakes capacity; install stilling wells to monitor lake levels throughout the year.
- Sheriff has deputies trained in ALICE and presents to employees, schools and communities on response to criminal/terrorist attack
- Dakota Valley Rural Electric received HMGP funds to replace lines
- LaMoure County Emergency Operations Plan (EOP) includes an updated shelter list of local churches
- County shop buildings have generators to ensure access to equipment and heat
- Memorial Park County Campground shelter scheduled to be completed by November 2025 – 100-person capacity
- Presented at the annual township meeting and held meetings at the courthouse on the NFIP to educate the public about the benefits of flood insurance
- A recent ICS countywide workshop was held
- SHSP grant funds were used to purchase backup data systems at the county courthouse
- Adopting and supporting North Dakota's SIRN project and working with State Radio

Other items were removed from the 2020 LaMoure County MHMP Mitigation Action items

- Establish an ordinance on temporary/camping permits and direct access to storm shelters (Severe Summer Weather)
- Survey the number and type of hazardous materials passing through LaMoure County (Hazardous materials release)
- If need is established, restrict future development in the impact area of potential significant dam failures (Dam failure)

- Appoint a strategic planning team to consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County (Space weather)
- Road improvements to maintain access to Twin Lakes properties (Flooding)
- Improve municipal drainage in cities prone to localized flooding by identifying risk areas, and completing projects to reduce the impact (Flooding)

Additional Mitigation Action Descriptions

The Mitigation Action Items are designated within their respective city and county profiles but are further explained with additional context below.

- A: (Flooding) Conduct an NFIP workshop to educate the public about the benefits of flood insurance. Workshops would be targeted at educating residents not required to buy flood insurance but still at risk for flooding. Technical assistance for a workshop is available from the North Dakota State Water Commission. A workshop could be conducted by the county in a central location, or rotating workshops could be held in each participating NFIP community. Funds are available for public awareness or education campaigns under the HMGP 5% Initiative. – LaMoure County
- B: (Flooding) Complete FIRMs and establish floodplain management to prevent development in at-risk areas. A flood insurance rate mapping project was recently completed. Floodplain management was an area identified as an important next step to mitigate for flooding. – LaMoure County
- D: (Flooding) Elevate commonly impacted roads and bridges and evaluate and pursue further opportunities to mitigate potential impacts to roads and property. County officials have identified a large number of locations where roads are at risk from flooding that disrupts transportation and could cause property damage. Taking these preventative measures can save money and eliminate transportation disruptions. Localized flood mitigation projects are eligible for FEMA funds through the HMGP, PDM and FMA grant programs. - LaMoure County
- E: (Flooding) Use hydrology and hydraulic studies to properly understand flow in the county's watersheds and make roadway improvements per study findings. The James River Flood Insurance Study (FIS) findings are reflected on the recent Flood Insurance Rate Maps (FIRM). Additional analysis may be required to identify additional road and bridge mitigation actions. Hydrology and hydraulic studies that analyze the coincidence of tributary and main stem flooding will address this. Localized flood mitigation projects are eligible for funds through the HMGP, PDM and FMA grant programs. - LaMoure County

- F: (Flooding) Improve municipal drainage in cities prone to localized flooding by identifying risk areas and completing projects to reduce the impact. LaMoure, Edgeley, Marion, Berlin, and Kulm have areas which flood during spring melt, during heavy rains or major flood events.
- H: (Multiple Hazards – Severe Summer Weather, Severe Summer Weather, Space Weather) Identify and acquire backup generators for all critical facilities in a prioritized manner. Blizzards, other severe winter weather, severe summer weather, space weather, and other hazards can cause power outages that may last for days. Power loss can result in equipment or building damage as well as loss of function of critical facilities. Critical facilities should not be limited to those listed in this plan and should include public health. Funds are available for generators under the HMGP and PDM programs. – Edgeley, LaMoure, LaMoure County
- I: (Flooding, Severe Winter Weather) Further implement the county road open/closed map so residents can see the status of roads in winter storm and flood events. Blizzards, other severe winter weather, and flooding can cause blocked or washed out roads and result in stranded motorists. - LaMoure County
- J: (Severe Winter Weather) - Encourage utility providers to bury electric power lines when undergoing upgrades or repairs. Severe winter weather events like the recent ice storm can cause extended power outages. Power outages may cause some critical facilities and residences to be without heat or electricity for essential functions for extended time periods. – Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, Verona, LaMoure County
- L: (Severe Summer Weather) Install and maintain surge protection on critical equipment. Lightning strikes can cause significant damage to essential equipment and data and can occur anywhere within the county, creating vulnerabilities - Berlin, Edgeley, Kulm, LaMoure, Marion, Verona, LaMoure County
- M: (Severe Summer Weather) Identify or construct emergency shelters for community parks/campgrounds, such as Kulm City Campground and Swimming Pool. High winds, hailstorms and tornadoes can overturn or damage mobile homes and RVs and cause personal injury. Properly designed structures on permanent foundations are preferred alternatives. – Kulm, LaMoure County
- N: (Infectious Disease & Pest Infestation; Urban Fire) - Remove abandoned structures that could harbor pests and be high risks for urban fire. Abandoned and dilapidated structures are a potential fire risk identified in the cities of Dickey, Edgeley, Kulm, LaMoure, and Verona.
- O: (Multiple Hazards – Urban Fire, Wildland Fire, Hazardous Materials Release) Maintain ongoing training and equipment upgrades to fight urban and wildland fires and hazardous materials releases. Urban and wildland fires and hazardous materials releases have the potential to impact a large share of LaMoure County’s population. – Edgeley, Jud, Kulm, LaMoure, Marion, Verona, LaMoure County

- P: (Wildland Fire) Administer a fire prevention program and implement best practices during wildfire season. Each jurisdiction's role is to educate residents about wildfire risks and mitigation activities they can do to reduce their individual risk. In addition to public education, the county and each city should evaluate opportunities for fuel reduction activities during wildfire season. Additional resources may be required to implement fuel reduction activities. Wildfire fuels reduction is eligible for funding through the FEMA HMGP and PDM grant programs.— Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, LaMoure County
- Q: (Wildland fire) Develop a strategy to determine prioritized locations and optimum volumes of water storage for firefighting. Fighting wildfires is hampered by lack of available water. This action paves the way for the reduction of property loss and potentially eliminating the threat of fire at the wildland-urban interface. Additional discussion occurred around this topic during the plan update process to partner with local farmers to ensure access to water during dry seasons. LaMoure County
- S: (Hazardous Materials Release) Explore shelter and evacuation options in case of hazardous materials releases. Most of the area within each city is susceptible to impacts from hazardous materials release. Appropriate shelter locations and evacuation routes should be re-evaluated and publicized. – Berlin, Edgeley, Jud, Kulm, LaMoure, Marion, Verona, LaMoure County
- T: (Hazardous Materials Release) Encourage new business with TIER II materials to locate outside city limits. Most of the area within each city is susceptible to impacts from hazardous materials release resulting in risk to the county's population centers. Separation of sites with TIER II materials from population centers will avoid increasing this risk. – Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, Verona, LaMoure County
- U: (Hazardous Materials Release) Use hazardous materials transport routes around cities and not through them whenever possible. Hazardous materials transport happens regularly within and through LaMoure County. Identifying and establishing routes and regulations to minimize risk through the population centers is a low cost way to mitigate this risk. – Berlin, Edgeley, Jud, Kulm, LaMoure, Verona, LaMoure County
- W: (Infectious Disease & Pest Infestation; Drought) Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance to local farmers and ranchers. This includes the North Dakota Department of Agriculture and Board of Animal Health. Agriculture is a key component of the county's economy. Significant droughts, pest infestations, winter storms, summer storms, and flooding all affect the industry and the economy of the entire county. – Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, Verona, LaMoure County
- X: (Infectious Disease & Pest Control; Drought) Develop an emergency response plan that includes coordination with local livestock producers. Potential issues to include the loss of water supply during drought, infectious diseases, severe summer heat, and severe winter weather. LaMoure County

- Z: (Dam Failure) If need is established, restrict future development in the impact area of potential significant dam failures. Although significant impact is thought only to be likely for a Cottonwood Creek Dam failure, it is wise to limit development downstream of any significant dam. – LaMoure
- AA: (Infectious Disease & Pest Infestation) Develop or maintain an insect control system during periods of standing water. Infectious diseases transmitted by mosquitos are an ongoing hazard. Treating insect habitat can effectively reduce the risk of infectious disease. – Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, Verona, LaMoure County
- CC: (Cyber Attack; Space Weather) Develop and maintain data system backups on a regular basis. Loss of critical data can be an expensive or irreparable problem for local governments, critical facilities, and businesses. Data backup systems are a cost-effective solution when properly implemented. – Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, Verona, LaMoure County
- DD: (Space Weather) Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event. Loss of critical facilities electrical systems and functionality from a space weather event could have catastrophic consequences. – Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, LaMoure County
- EE: (Space Weather) Appoint a strategic planning team to consider the long-term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County. Harden electrical components and systems for critical facilities. Widespread, long-term loss of electrical power could lead to loss of life, and disruption of life in LaMoure County. – Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, Verona
- FF: Public Education Hazard-related public education campaigns should include a wide variety of topics. Potential topics include: Hazardous materials awareness, residential protocols for sheltering-in-place, summer and winter weather safety, weather resistant building best practices, flood safety and NFIP promotion, fire weather notifications, and fire prevention best practices. Additional topics for inclusion are water conservation techniques, household preparation for space weather events, security measures against cyber-attacks, hardening electrical and electronic systems, and infectious disease and pest control programs. Funds are available for public awareness or education campaigns under the HMGP 5% Initiative.

Because there are a wide range of mitigation actions that can be completed by property owners and renters, local government should serve as a trusted source of information by sharing guidance and resources through social media, newspaper ads, city websites, and other outreach channels. These efforts, when shared routinely such as sharing one mitigation action a month on outreach channels, encourage residents to take independent action and build community wide resilience. - LaMoure County

- GG: (Multiple Hazards - Flooding, Geologic Hazards, Severe Summer Weather, Severe Winter Weather, Wildland Fire, Space Weather, Dam Failure, Hazardous Materials Release, Urban Fire, Infectious Disease & Pest Infestation, Transportation Incident, Civil Disturbance, Cyber Attack, Criminal Terrorist National Attack) Establish a robust communication system for all elements of the LaMoure County emergency response team. It is vital that all emergency responders in the county obtain, install and train on a robust system that allows high quality radio/cellular communications internally and with the statewide system. - LaMoure County
- II: (Wildland Fire, Urban Fire, Hazardous Materials Release, Transportation Incident, Criminal Terrorist Attack) Develop a plan to increase the First Responder level of training and equipment. The responders closest to the scene of a criminal terrorist nation attack or a transportation incident (especially those involving hazardous materials) may not always be equipped to handle these incidents. Increasing training and equipment availability for them can potentially limit the level of property loss or injury from such incidents. - LaMoure County
- PP: (Severe Summer Weather, Severe Winter Weather, Space Weather, Cyber Attack) Acquire and install a new fixed generator in Jud. A new fixed generator will address limited capacity to maintain power to critical facilities during a variety of events that can cause power outages. - Jud
- QQ: (Severe Summer Weather, Severe Winter Weather, Space Weather, Cyber Attack) Acquire and install a new portable generator in Berlin. It is envisioned that a new fixed generator will be installed in the proposed fire hall/community shelter. Until then a large portable generator will meet current needs while offering future flexibility. - Berlin
- TT: (Flooding) Hold a flood risk meeting for property owners in the City of Dickey. The City of Dickey was recently mapped through a Flood Insurance Study, resulting in some parts of the city being mapped as having a 1% annual chance flood risk. A meeting should be held to explain the results of mapping including flood insurance requirements and costs and alert property owners to opportunities to position themselves for favorable flood insurance rates. - Dickey
- UU: (Flooding, Severe Summer Weather, Severe Winter Weather, Cyber Attack) Resolve operational issues with a lift station generator in Verona. Verona acquired a backup generator for their lift station that has had a recurring operational problem. This must be resolved to protect property from damage and potential health risks. - Verona
- VV: (Severe Summer Weather, Severe Winter Weather, Space Weather, Cyber Attack) Acquire and install a new fixed generator in Marion. A new fixed generator will address limited capacity to maintain power to critical facilities during a power outage. - Marion
- XX: (Flooding) Organize a floodplain management workshop to be presented by the ND NFIP Coordinator for all NFIP participating community floodplain managers. The NFIP participating communities have adopted floodplain regulations and designated a floodplain manager. However, the floodplain managers have a host of other responsibilities for their local

governments, and floodplain management is not an everyday activity. This workshop will refresh their understanding and enhance their floodplain management training, thus enhancing the level of floodplain management for their jurisdictions. - Marion

- ZZ. (Severe Summer Weather, Severe Winter Weather) Improve the community building to serve as a shelter area for residents to use as community building. During inclement weather, residents need a safe space to seek shelter. - Berlin
- AAA. (Flooding) Identify a permanent rest area/toilet for community park to use throughout the year that works with the sanitary system. - Berlin
- AAB. (Wildland Fire) Communication with rural area on keeping water tanks during harvest and other equipment to prevent fire. Fighting wildfires is hampered by lack of available water. This action paves the way for the reduction of property loss and potentially eliminating the threat of fire at the wildland-urban interface. – Berlin
- AAC. (Transportation Incident) Prevention of traffic accidents with communication in county on reduce speed area and portable speed sign; determine if solar/ permanent sign could be placed in speed zone. - Berlin
- AAD. (Space Weather, Cyber Attack) Pursue funding for a backup computer and city email. Increasingly communities are reliant on electronic databases and internet access for day-to-day operations. A backup computer and city email would reduce the risk of continuity interruptions in the event of an intentional or unintentional cyber disruption. - Berlin
- AAE. (Wildland Fire) Public education – source airnow.gov for monitoring Use AirNow.gov platform and sign up for various notifications through the NDDEQ Alerting System. This available monitoring and alert system provides information for communities to use in decision making and future planning. – Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion, Verona, LaMoure County
- AAF. (Multiple Hazards - Geologic Hazards, Dam Failure, Transportation Incident, Civil Disturbance, Criminal Terrorist National Attack) Encourage residents’ self-sufficiency during emergency events through education before an event. Hazard-related public education campaigns should include a wide variety of topics. Potential topics include: Hazardous materials awareness, residential protocols for sheltering-in-place, summer and winter weather safety, weather resistant building best practices, flood safety and NFIP promotion, fire weather notifications, and fire prevention best practices. Additional topics for inclusion are water conservation techniques, household preparation for space weather events, security measures against cyber-attacks, hardening electrical and electronic systems, and infectious disease and pest control programs. Funds are available for public awareness or education campaigns under the HMGP 5% Initiative.

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- AAG. (Flooding) – Adopt a Floodplain Management Program and Floodplain Ordinance. The City of Dickey has experience with past flooding. The city park is in a floodplain and has experienced minimal damage from the James River flooding. Work on the a floodplain management program and floodplain ordinance is an important next step. – Dickey
- AAH. (Infectious Disease & Pest Infestation; Urban Fire) – Pursue funding to remove an old elevator to prevent pest infestation and urban fire. The old elevator in town was identified as a hazard during a community conversation and removal of the structure would reduce fuel for an urban fire. – Dickey
- AAI. (Flooding) - Conduct a study on a new water diversion system to guide water flow to outside edge of town instead of through the middle as it is currently. The city would like to lessen flooding issues for properties near the current pass-through. Flash flooding and localized ponding were identified as flooding concerns in the city. The city would like to see water diverted in order to reroute rainwater around the city, but this may need a study first to understand a preferred location and potential impacts caused by a change. – Edgeley
- AAJ. (Flooding) - Lessen the flooding issues for properties near the current water pass-through; Water diversion system to reroute rainwater around the city. The city would like to lessen flooding issues for properties near the current pass-through. Flash flooding and localized ponding were identified as flooding concerns in the city. The city would like to see water diverted in order to reroute rainwater around the city, but this may need a study first to understand a preferred location and potential impacts caused by a change. – Edgeley
- AAK. (Hazardous Materials Releases) – Maintain or purchase a new sign to route hazardous materials transport around cities and not through them. The rerouting of hazardous material transport around cities lessens the potential hazard of a spill occurring near critical facilities or vulnerable populations. – Jud
- AAL. (Multiple Hazards – Drought, Wildland Fire) – Upgrade equipment, including backup power and automation of the freshwater well house. – Jud
- AAM. (Flooding) – Review the aging lagoon system and pooling on the west end of town. This aging system was identified as a particular vulnerability in the community discussion with additional conversation including the benefits of a possible monitoring and alerting system. – Jud

- AAN. (Flooding, Geologic Hazards, Wildland Fire, Dam Failure) – Update local ordinances. Updating local ordinances to reflect requirements and area-specific needs establishes a mechanism by which the city is able to require residents’ compliance. - Jud
- AAO. (Flooding) - Purchase and installation of Lagoon Monitors to notify city staff when there is heavy rain fall so the city is alerted to sewage backup in nearby homes. This aging system was identified as a particular vulnerability in the community discussion. - Kulm
- AAP. (Flooding, Geologic Hazards, Severe Summer Weather, Severe Winter Weather, Space Weather, Dam Failure, Civil Disturbance, Cyber Attack, Criminal Terrorist National Attack) - Construction of a community center in order to provide shelter and protection during major storms or long-term outages. This community space serves as a central location for operations. – LaMoure
- AAQ. (Flooding) - Purchase and install permanent flood protection measures; landscaping berms on the southwest and west side of town. Flooding was identified as a vulnerability within the city. - LaMoure
- AAR. (Flooding) – Acquire property located within the floodway. The acquisition of properties in floodways have been shown to be cost effective due to the potential for repetitive losses and incurred expenses. - LaMoure
- AAS. (Multiple Hazards - Severe Summer Weather, Severe Winter Weather) - The construction of a community center in order to provide shelter and protection during major storms or long term outages as well as provide a central location for operations. - LaMoure
- AAT. (Multiple Hazards - Severe Summer Weather, Severe Winter Weather, Space Weather, Cyber Attack) – Update the lift station generator. The purchase and installation of generators for critical facilities reduces or eliminates the impact of disruption of those services. - LaMoure
- AAU. (Flooding) – Complete the permanent lake drain by draining down Boom Lake and reduce flooding. Flooding was identified by the City of Marion as a highly likely hazard with the potential for a critical level of impact. - Marion
- AAV. (Multiple Hazards) – Install a chemical toilet for the public park on Main Street - Verona
- AAW. (Multiple Hazards - Severe Summer Weather, Severe Winter Weather, Space Weather, Cyber Attack) – Add a back-up generator at the water house. The purchase and installation of generators for critical facilities reduces or eliminates the impact of disruption of those services during a hazard event. - Verona
- AAX. (Severe Winter Weather) Identify warm places to house people stranded or without power during winter storm or extreme cold winter conditions. - LaMoure County

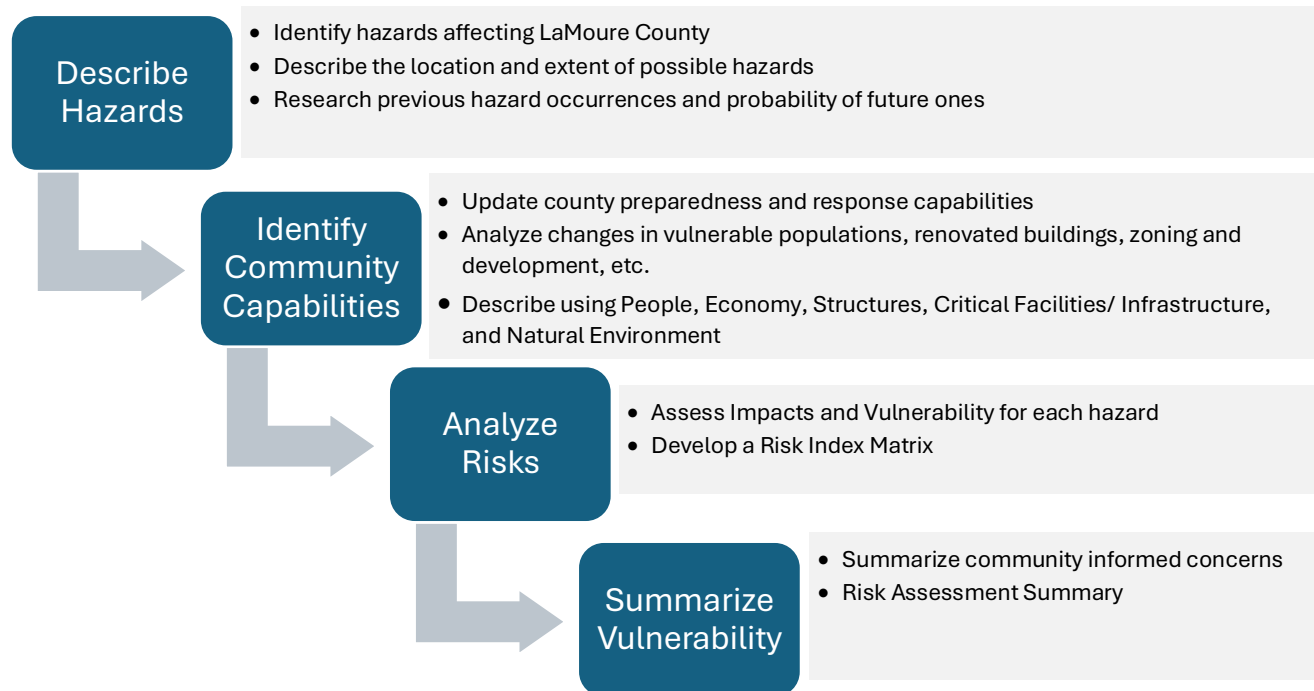
- AAY. (Flooding) Identify a process for implementing the new flood hazard mitigation ordinance. - LaMoure County
- AAZ. (Cyber Attack) Work with IT on training and equipment to stay ahead of cyber attacks. LaMoure County
- BBB. (Flooding) Encourage cities to adopt ordinances for land use permitting. LaMoure County
- CCC. (Flooding) Mitigation work for the Boom Lake project to prevent flooding in the City of Marion. - LaMoure County
- DDD. (Flooding) Replace old culverts with box culverts. Years of flooding and erosion on creeks and the James River require bridges and culverts to be replaced. When funding is available, old culverts are replaced with box culverts. – LaMoure County
- EEE. (Flooding) Replace and/or raise bridges. Years of flooding and erosion on creeks and the James River require bridges and culverts to be replaced. When funding is available, bridges are raised along the James River to prevent flooding. The County Road 34 bridge and Adrian River bridge are set for replacement in late 2025.- LaMoure County

SECTION III: HAZARD IDENTIFICATION

A. Overview of Hazard Identification Process

The LaMoure County Hazard Mitigation Planning Team conducted a complete county risk assessment to determine the potential impacts of natural, technological, and human-caused hazards on the community. This helped in developing mitigation priorities, inform decision-making, and lay a foundation for the mitigation strategies to reduce future losses. The planning team decided to focus on both technological and human-caused disasters, along with natural disasters in this plan.

The team followed a four-step approach to assessing risk:



This section highlights the past major events that have occurred in LaMoure County and details each of the 15 hazards the planning team identified as being the primary threats to the county. Also included is a breakdown of the major presidential disaster declarations for LaMoure County and what previous hazard mitigation funding has been spent on.

Within this section each hazard is defined, the threat to LaMoure County described, the risks to the community explained, the brief/summarized history of each hazard included, and how each jurisdiction ranked those hazards.

B. Presidential Disaster Declaration History

LaMoure County has had 18 Presidentially Declared Disasters since 1998 and a total of 34 since 1957. Below is a table listing those disaster declarations with associated FEMA Disaster Number and total damages associated with that disaster statewide. The most recent federal disaster designation in LaMoure County occurred late in 2023 due to a severe winter storm.

Table 3.1 History of Disaster Declarations

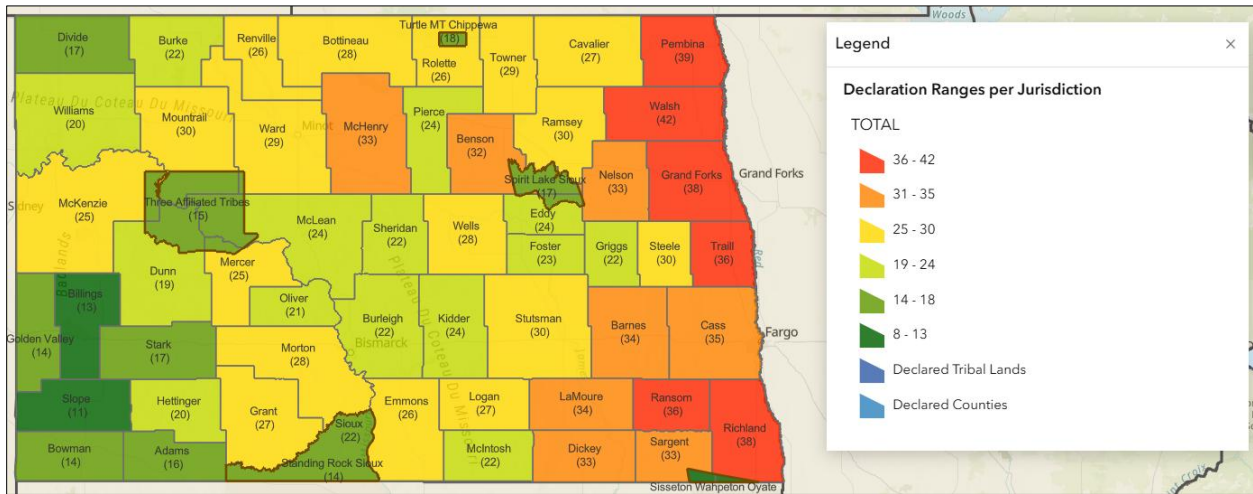
Year	Hazard	Disaster #	Public Assistance Cost
1998	Severe Storms, Flooding, Snow, Ice, Ground Saturation, Landslides, Mudslides & Tornadoes	DR 1220	N/A
1999	Severe Storms, Flooding & Ground Saturation	DR 1279	\$48,334,834.63
2000	Severe Storms & Flooding	DR 1334	\$39,700,101.17
2001	Severe Storms, Flooding & Ground Saturation	DR 1376	\$23,460,073.66
2005	Severe Storms, Flooding & Ground Saturation	DR 1597	\$14,394,156.15
2007	Severe Storms & Flooding	DR 1713	\$2,939,821.65
2009	Severe Storms & Flooding	DR 1829	\$114,432,778.94
2010	Flooding	DR 3309	\$4,872,449.38
2010	Flooding	DR 1907	\$19,679,317.40
2011	Flooding	DR 1981	\$226,819,295.93
2019	Flooding	DR 4444	\$8,253,412.84
2019	Flooding	DR-4475	\$12,807,582.76
2019	Pandemic	DR 4509	\$195,222,914.74
2020	Flooding	DR 4553	\$11,115,243.43
2021	Severe Storm, Straight-line Winds, Flooding	DR 4613	\$2,633,893.77
2022	Severe Winter Storm & Flooding	DR 4660	\$73,421,938.11
2023	North Dakota Flooding	DR 4717	\$5,271,960.71
2023	Severe Winter Storm, Snowstorm & Straight-line Winds	DR 4760	\$11,740,665.90

FEMA Data Visualization: [Disasters and Other Declarations | FEMA.gov](#), August 31, 2025

LaMoure County's FEMA eligible obligated award amounts for the five most recent events were:

- DR 4553 - \$210,662
- DR 4613 - \$47,400
- DR 4660 - \$1,039,258
- DR 4717 - \$99,854
- DR 4760 – Most public infrastructure damage was from rural electrical cooperatives with downed power lines and individual cities. The county chose not to submit.

Figure 3.1 North Dakota Presidential Disaster Declarations 1957 - 2025



Source: [NDDes-ND Presidential Disaster Declarations Viewer \(1957-Present\)](#)

Table 3.2 Historical Hazard Mitigation Projects in LaMoure County (HMGP, PDM, and BRIC)

Year	Project Description	Sub-Grantee	Project Cost
DR1616	Home Buyout – 2 homes in Maple River floodway	City of Edgeley	
DR 1829 – 2009 HMGP	Home Buyout – 2 homes in James River floodway	LaMoure County	\$250,000
DR 1981 – 2011 HMGP	Generators for LaMoure School and LaMoure County Courthouse	LaMoure County	\$300,000
DR 1981 – HMGP	Generators for Kulm Community Building and Lift Station	City of Kulm	\$140,000
DR 1981 – HMGP	Generator for City of Verona Community Center and lift station	City of Verona	\$100,000
2020	COVID-19 Pandemic (HMGP)	North Dakota	\$973,516.46
2023	Outdoor Warning Sirens – new Lake LaMoure	City of LaMoure	\$14,000
2011	Outdoor Warning Siren – New	Memorial Park	\$10,000
2023	Outdoor Warning Siren – Upgrade to larger siren	City of Berlin	\$14,000
PDM – 2019	Storm Shelter in Memorial Park	LaMoure County	\$200,000
PDM – 2018	Update to Multi-Hazard Mitigation Plan	LaMoure County	

*data downloaded from <https://www.fema.gov/media-library/assets/documents/28323>

C. Hazard Identification

The Planning Team used the information gathered from the past LaMoure County MHMP, public meetings, and the State of North Dakota Enhanced Multi-Hazard Mitigation Plan to identify hazards in LaMoure County and which ones to address in this plan update.

The sources used to derive this information came from a number of organizations and sources including, but not limited to, the North Dakota Department of Emergency Services, the Federal Emergency Management Agency (FEMA), the National Weather Service, NOAA, historical documents, and photos along with interviewing local experts during the planning process. Most importantly, the citizens of LaMoure County voiced their opinions on what hazards were most likely to affect them and their communities in public meetings, city questionnaires, and through local feedback opportunities. It was extremely important for the planning team and contractor to visit each of the cities to get an idea of exactly what hazards have affected them and what the jurisdictions have and can do in the future to prevent damages resulting from those hazards in addition to talking with local residents.

The Planning Team decided to continue with the hazards identified in the 2020 plan as they continue to apply realistically to the areas in LaMoure County. Communicable disease was ranked as an independent hazard in the public survey, but the planning team determined it should not be listed separately and instead included with the infectious disease and pest control hazard for the purposes of this plan. Below is a list of hazards considered in this mitigation plan.

Civil Disturbance	Hazardous Materials Release
Criminal Terrorist National Attack	Infectious Disease & Pest Infestation
Cyber Attack	Severe Summer Weather
Dam Failure	Severe Winter Weather
Drought	Space Weather
Flood	Transportation Incident
Geologic Hazards	Urban Fire
	Wildland Fire

Included with each hazard description in this section of the plan, is an identified probability and impact ranking along with an overall risk level. The definitions used to determine the risks are found in Section IV and V of this plan.

Table 3.3 - Risk Class Determination Criteria					
		Impact			
		Negligible	Limited	Critical	Catastrophic
Probability	Unlikely	Low	Low	Moderate	Moderate
	Possible	Low	Moderate	High	High
	Likely	Moderate	Moderate	High	High
	Highly Likely	Moderate	Moderate	High	High

C.1 Drought

All Jurisdictions (County Level)

- Overall Risk: High
- Probability: Likely (*once per decade, approximately 10 percent annual probability*)
- Impact: Critical (*economic impact on the entire county*)

Seasonal Pattern

- None, but impacts may be greater during spring and summer

Duration

- Months/Years

Primary Impacts

- Agricultural loss (crops, livestock)
- Economic loss
- Increased fire potential
- Loss of potable water
- Pest infestation

Hazard Description

Drought is generally defined as a deficiency of precipitation over an extended period. If severe enough, this deficiency has potential to reduce soil moisture and water below the minimum necessary for sustaining plant, animal and human life systems. It is a normal, recurrent phenomenon that takes place in nearly all climate zones.

Droughts are mostly unpredictable and can occur with as little as four-to-six-inch precipitation deficits. It is possible to study the tree rings and other various historical knowledge to determine when droughts have occurred and when they may happen again. Climatologists and forecasters cannot predict droughts but do know that drier than normal conditions alternate with wetter than normal conditions. The threat to cropland and water supplies may be critical if the drought lasts long enough and is severe.

If severe enough, this deficiency has the potential to reduce soil moisture and water below the minimum necessary for sustaining plant, animal, and human life systems. It is a normal, recurrent phenomenon that takes place in nearly all climate zones.

Numerous factors beyond precipitation contribute to the creation of drought conditions. Lower water tables and reduced stream flows or lake levels can influence soil moisture levels. Higher temperatures can cause higher levels of evapotranspiration. This in turn can reduce the atmospheric moisture available, which may result in reduced rainfall. Reduction in trees or other plants may also reduce soil moisture levels and reduced levels of evapotranspiration.

Droughts are often measured by impacts, most notably agricultural damage and municipal water supply shortage. The impacts are highly variable based on water supply source, time of year, amount of water stored in the soil, and meteorological factors such as temperature, humidity and wind. Impacts are also

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greatly affected by human factors such as local water demand and water management practices, but can include business interruptions, increased fire potential, increased public safety use, loss of potable water, livestock injury/death, property and crop damage, loss of primary economic drivers, and economic loss, among others.

Location

Drought occurs at a regional level and is not a micro-climatic event. It generally occurs across the entire geographical area of LaMoure County and is not location specific.

Extent, Previous Occurrences, and Future Probability

Droughts appear gradually, and it is often difficult to pinpoint their beginning and end. Droughts can last multiple years and even persist over decades. Significant droughts in North Dakota occur approximately once per decade. Previous droughts include the 1930s, 1950s, early 1960s, mid 1970s, early 1980s, 1988 through 1991, 2002 through 2008, and 2021.

It is difficult to predict when a drought will appear. Historic trends show that wetter-than-normal periods tend to alternate with drier-than-normal periods. The average annual precipitation in the county is 20.38 inches as recorded by the National Weather Service Cooperative Network weather station near Edgeley. The North Dakota Agricultural Weather Network (NDAWN) has equipment in Edgeley and Marion. In the past 17 years, the lowest rainfall total in Edgeley recorded was 10.68 in 2012 and in Marion it was also the lowest recorded with 13.08 inches, which was after 3 years of FEMA declared flooding disasters. However, numerous factors beyond rainfall contribute to drought status, which can make it difficult to predict and classify droughts.

In 2021, the State of North Dakota suffered from a severe drought, which significantly and adversely impacted the State's agribusiness and livestock production. Farmers, ranchers and livestock producers had inadequate amounts of essential hay and water supplies to sustain livestock herds. Governor Doug Burgum declared a state of emergency and signed Executive Order 2021-13 as North Dakota experienced its worst drought on record. LaMoure County signed a Fire Emergency and Burn Ban Declaration on March 29, 2021.

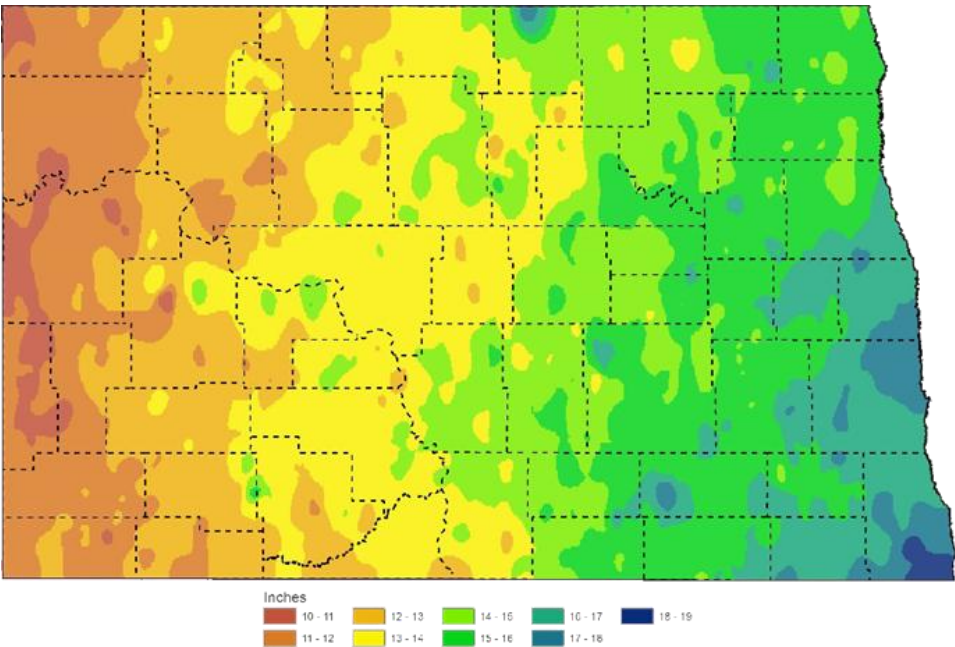
The U.S. Drought Monitor has identified 26 droughts between January 1, 1989 and August 31, 2025 when drought was measured for at least two weeks. The average length of drought is approximately 23 weeks with the longest stretch measured at 79 weeks in 2020 and 2021. (Source: <https://droughtmonitor.unl.edu>)

FEMA's National Risk Index for drought in LaMoure County is "Very Low" with a score of 27.2 which is based on Agricultural (crop only) impacts.

Table 3.4

Average Monthly Precipitation	
Based on station in Edgeley info	
Jan	0.55"
Feb	0.34"
Mar	1.11"
Apr	1.55"
May	3.03"
Jun	3.26"
Jul	2.59"
Aug	2.74"
Sep	2.43"
Oct	1.71"
Nov	0.76"
Dec	0.31"
Total:	20.38"

Figure 3.2 Precipitation Levels in North Dakota



Graphic Source: <https://gf.nd.gov/gnf/conservation/images/plants-habitat/climate-precip.png>

Source: US Climate Data - <https://www.usclimatedata.com/climate/edgeley/north-dakota/united-states/usnd0100>

Precipitation

Moisture is a key component of climate, with North Dakota effectively straddling “the transition from the moist eastern United States and the semiarid West” (Frankson, 2022). A high daily range in temperature is primarily due to the lower heat capacity of dry air and dry soils as compared to humid air and either moist soils or large bodies of water, so that dryer air and dryer soil will both warm and cool at a faster rate than wetter air or soil (Wikipedia: Climate of ND, 2023). (Source: NDDES Climatologist)

Figure 3.3 LaMoure County's Historical Temperature and Precipitation

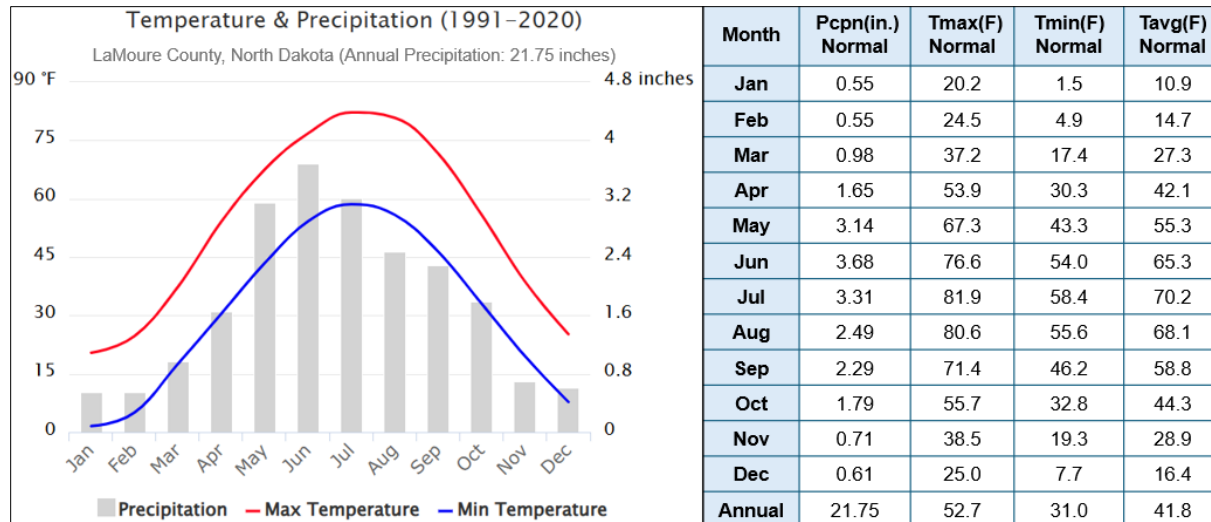
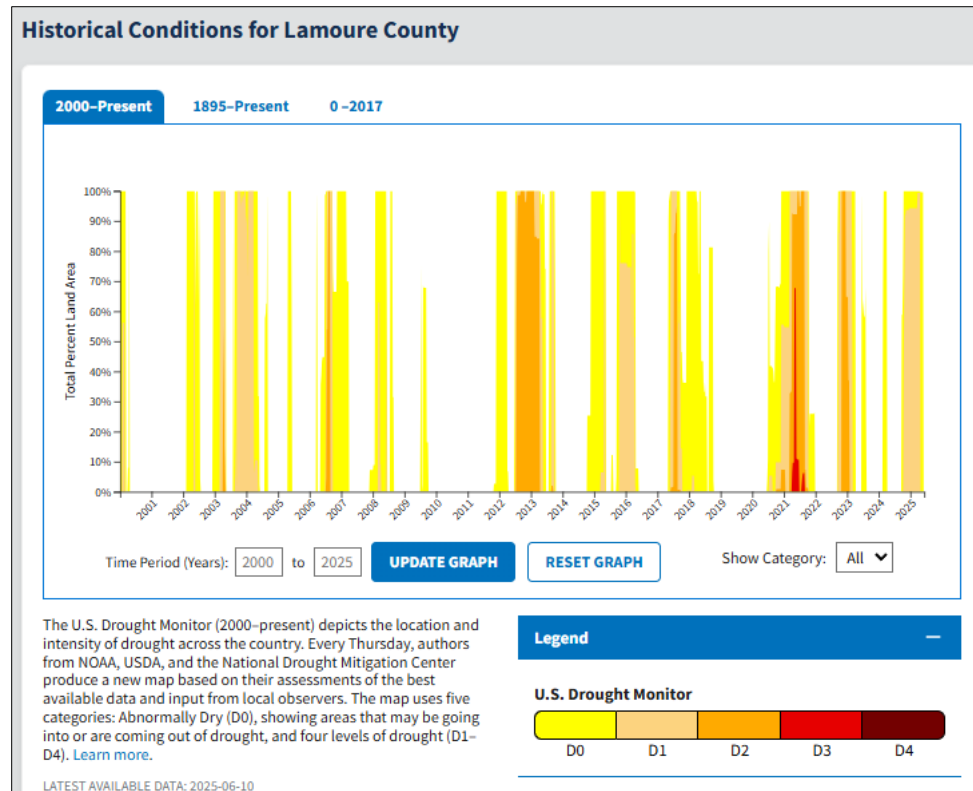


Figure 3.3 above, shows the average monthly precipitation and the range of monthly average high and low temperatures for the LaMoure County area during the most recent 30-year climate normal period, 1991-2020 (XM-ACIS, 2025; Climate Toolbox, 2024; NOAA/CAAG, 2025).

Figure 3.4 Historical Drought Conditions for LaMoure County

Figure 3.4 illustrates the historical conditions for drought in LaMoure County from 2000 to 2025. Yellow indicates abnormally dry conditions as a D0 rating. The red and brown colors indicate extreme and exceptional drought conditions, respectively.



Source: U.S. Drought Monitor: droughtmonitor.unl.edu

Figure 3.5 2020 Drought Severity Index (Palmer)

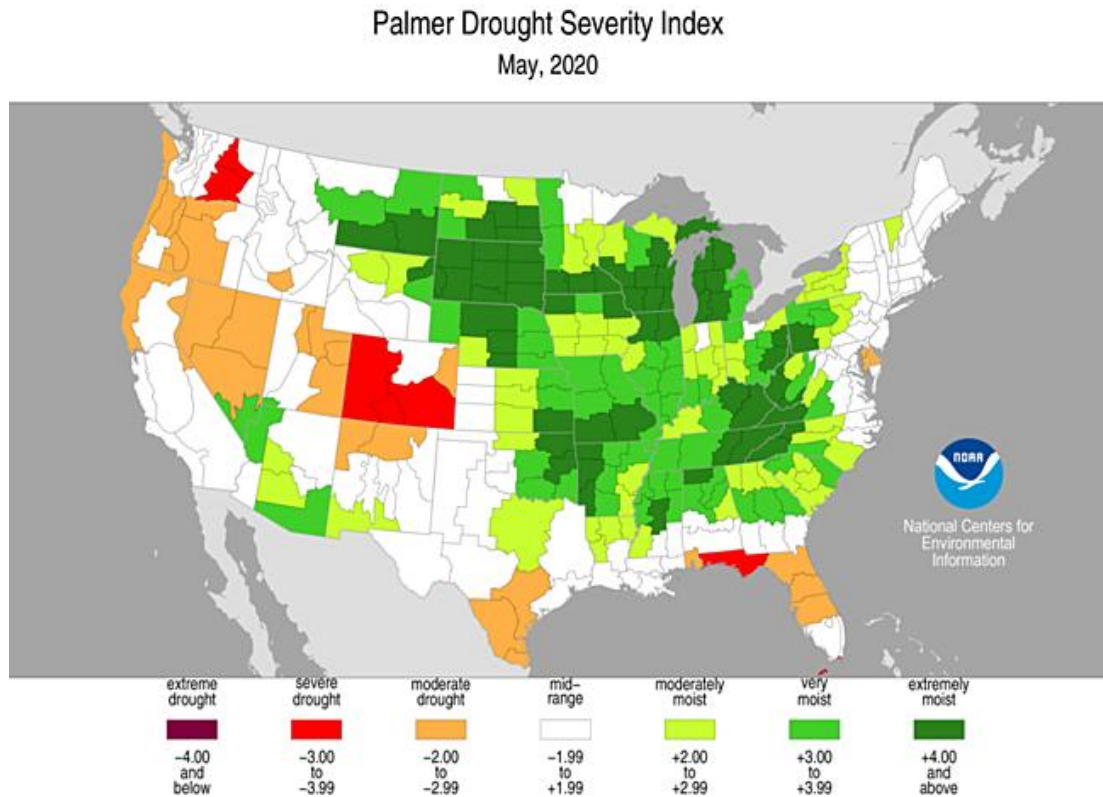
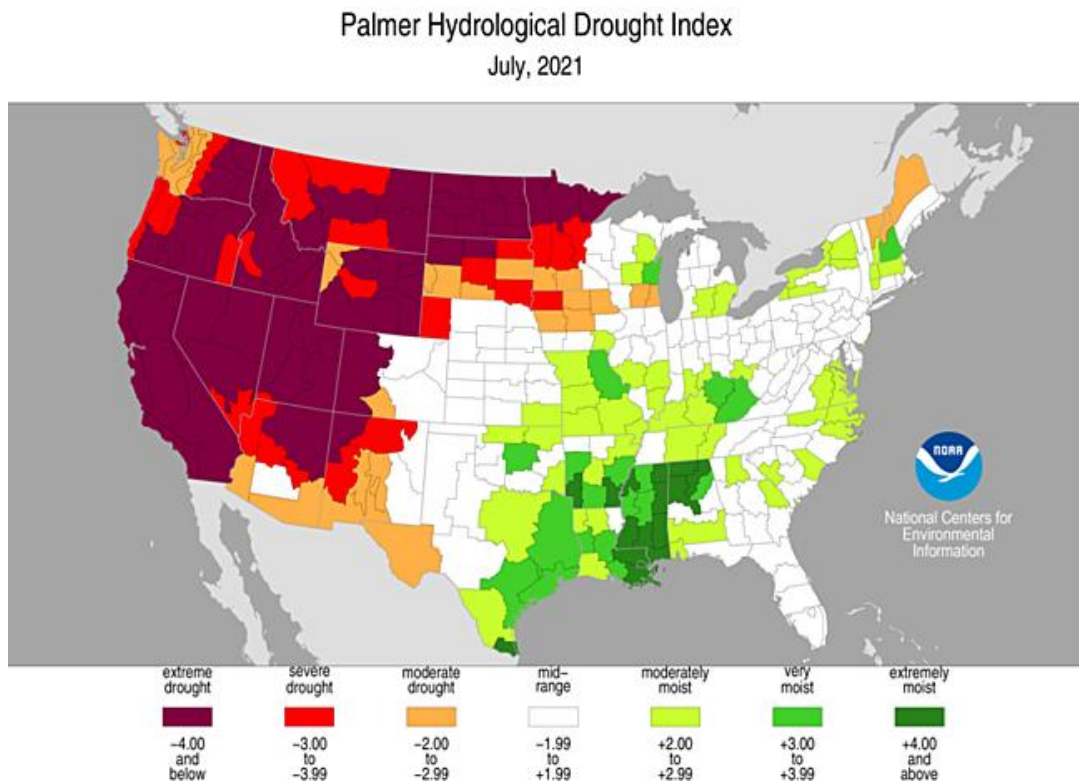


Figure 3.6 2021 Drought Severity Index (Palmer)



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LaMoure County's longest running record of daily maximum and minimum temperature and daily precipitation reports are for the Edgeley area, dating from May 1, 1901, through the present (XM-ACIS, 2025). The NOAA Cooperative Observer station located at 3WNW of Edgeley closed in 2022, but the NDAWN station located at 4WNW of Edgeley has a compatible record. The average annual precipitation for LaMoure County during the most recent 30-year climate normal period is around 21.75 inches, about 2.90 inches higher than the statewide average, while the average annual temperatures is around 41.8°F, about 0.8°F warmer than the statewide average.

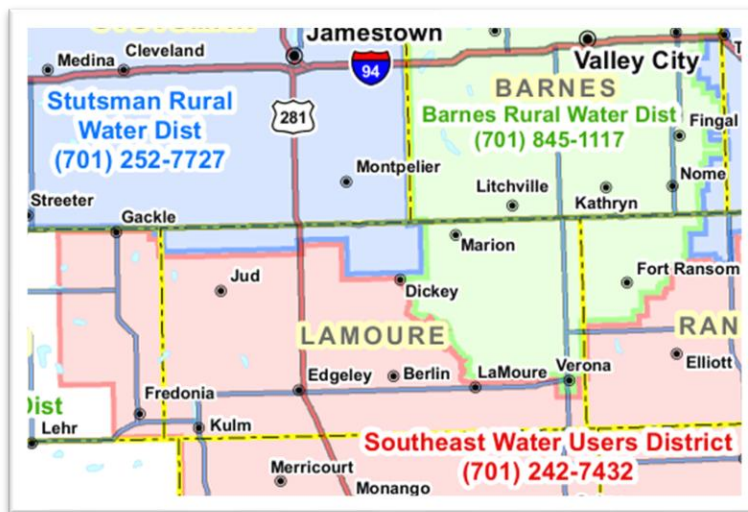
Vulnerability

Population

Drought has no direct impact on human life, but it greatly increases the risk of wildland fire, which is a potentially life-threatening hazard. Drought accompanied by high temperatures can increase the threat of heat-related illness for people who spend a significant amount of time outdoors or do not have adequately cooled homes. The highest recorded temperature in the county (at the Edgeley monitoring station) is 116 degrees Fahrenheit, which was recorded in July 1936. Elderly people are at increased risk of heat-related illness. According to the most recent American Community Survey estimates, approximately 1,106 residents in the county are 65 years of age or older, approximately 26.9% of the county's population. The estimated number of residents age 65 or older for each jurisdiction are included in Section II of this plan.

Figure 3.7 Water Users District

Prolonged drought could potentially affect water supplies. LaMoure County is served by three different rural water districts. A small area along the northern county border is served by Stutsman Rural Water District. The northeastern fourth of the County stretching almost to the City of LaMoure is served by Barnes Rural Water District. The remainder of the County is served by the Southeast Water Users District.



Source: North Dakota Department of Water Resources; April 2023

All cities in LaMoure County receive their water supply from these rural water districts. The rural water districts have water sources that are not considered susceptible to drought. If an extreme drought did reduce available water supply, bottled water could be brought in as an emergency measure. However, a lack of household water could create health and sanitation issues for residents.

LAMOURE COUNTY MULTI-HAZARD MITIGATION PLAN

Critical Facilities

No critical facility in the county is directly physically impacted by drought.

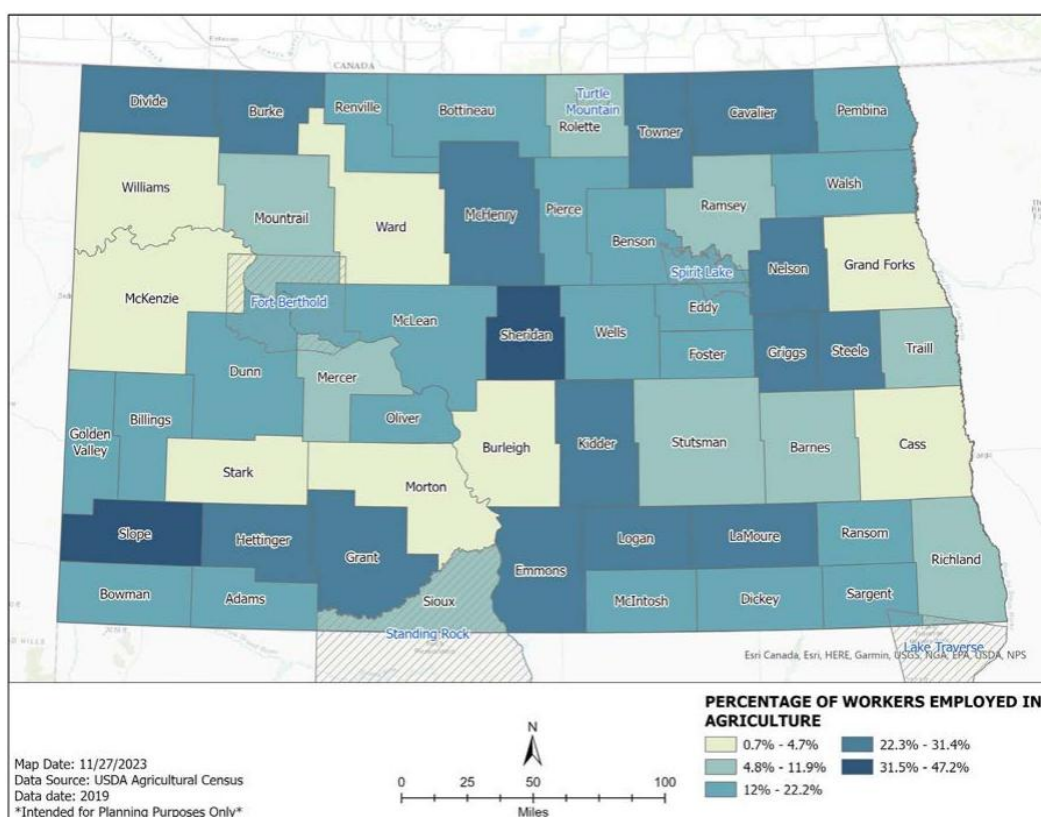
Economic Impact

Drought can have a significant economic impact on agriculture and related industries. According to the 2022 Census of Agriculture, LaMoure County has 543 farms over 697,530 acres, which is down from 571 farms over 726,731 acres in the 2017 census. The 2022 market value of the agricultural crops sold is approximately \$299 million dollars, up from \$226 million dollars in 2017. These agricultural sales are a primary economic driver in the county.

The significance of a drought's impact largely depends on its impact on the local economy. According to the USDA Census of Agriculture (2017) between 22.3% and 31.4% of all county workers are employed in agriculture, which is the largest majority of the local economic driver. This makes LaMoure County's population employed in agriculture among the top 50% of all counties in the state.

Figure 3.8 below shows the Percentage of Workers Employed in Agriculture in LaMoure County as compared with the rest of North Dakota.

Figure 3.8 Percentage of Workers Employed in Agriculture



Source: USDA 2017 Census of Agriculture, 2019 (ND State MAOP)

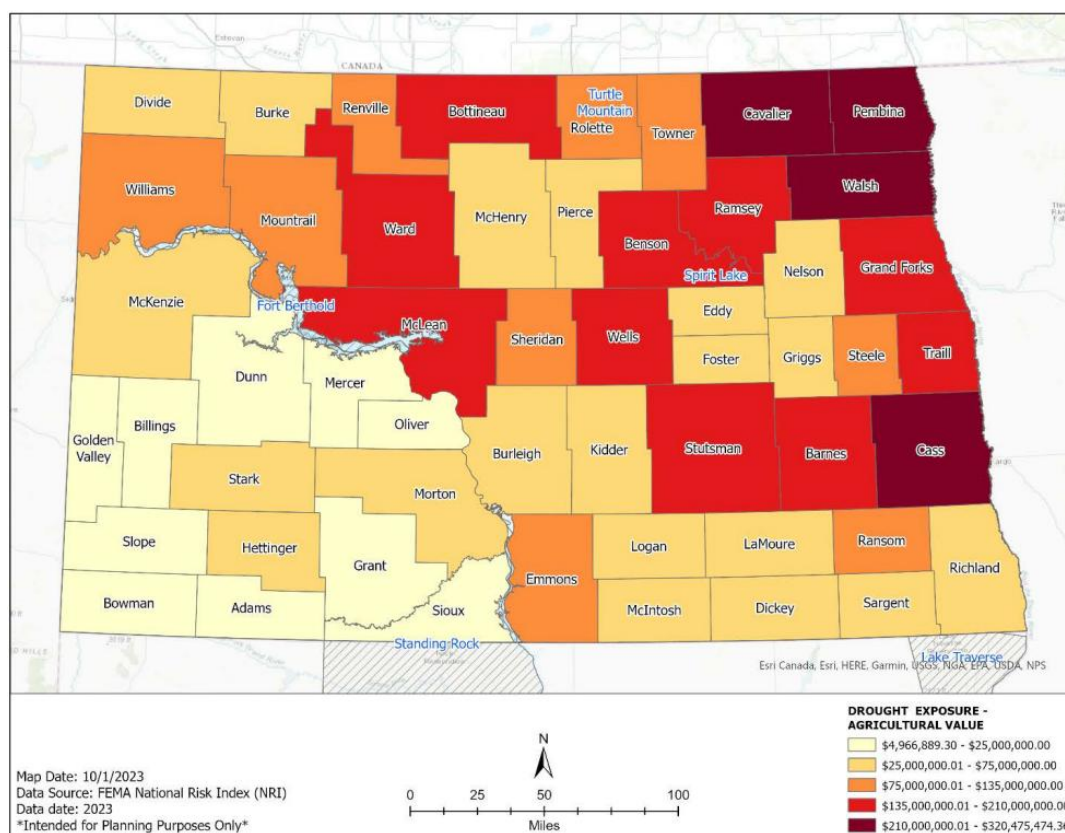
It is difficult to measure direct economic loss for livestock producers. Cattle and calve numbers regularly fluctuate based on a wide number of factors. Impacts on livestock producers include reduced rangeland

LAMOURE COUNTY MULTI-HAZARD MITIGATION PLAN

productivity, high cost/unavailability of water for livestock, disruption of reproductive cycles and the cost of finding supplemental feed or pasture.

Figure 3.9 below shows the agricultural financial values exposed to drought in calendar years 2021 to 2022 ranging in the billions of dollars. Years of extreme drought that see insurance claims opposed to planted and harvested fields mean a section of the workforce was unemployed for the entire season. Even if there is outdoor labor to be performed, it is done so with reduced efficiency and less productivity because drought conditions require working less hours, taking more breaks, and taking longer breaks to remain safe and healthy.

Figure 3.9 Drought Exposure – Agricultural Value



Source: National Risk Index (NRI), 2023 (ND State MAOP)

Additional up-to-date national-level risk can be found at: <https://hazards.fema.gov/nri/map>. At the time of this report, the Risk Index to LaMoure County is **Very Low** when compared to the rest of the U.S. with a score of 26.15. The expected annual loss due to drought is also Very Low (\$1 per \$165.89 of agricultural value).

Cascading effects of a drought range from an increased risk of wildland fire to health and sanitation issues for residents should household water be limited or unavailable. Beyond agricultural impacts, there is also a greater threat of structure damage in drought-affected areas, as drought increases the risk of wildland fire and may create water shortages that inhibit adequate fire response. Structure vulnerability from wildland fire is discussed in more detail in the wildland fire section of this chapter.

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Drought can also cause a heightened risk of wildfires due to the dry grasses in the rural area. LaMoure County has enacted Burn Restrictions when the drought has caused grasses to be highly susceptible to wildfires.

Harmful Algal Blooms (HABs) are also more common with high temperatures that also contribute during droughts. The North Dakota Department of Environmental Quality provides advisories, watches, and warnings on their website as well as physical signs for Public Access lakes. Lake LaMoure and Twin Lake in LaMoure County are highly susceptible to HABs during dry periods of time. HAB can also affect livestock on small stock ponds.



Source: https://deq.nd.gov/WQ/3_Watershed_Mgmt/8_HABS/Habs.aspx

Future Development

Public water systems are monitored by the North Dakota Department of Health and water permit applications are maintained by the North Dakota Department of Water Resources and US Army Corps of Engineers. The North Dakota Department of Water Resources has a mapping application that allows users to get information about water wells drilled in North Dakota. There are several observation wells drilled in LaMoure County – mostly near the James River - [ND Department of Water Resources MapService](#). These wells can be used to access possible irrigation sites if needed during long periods of drought which can minimize drought impacts to crops if monitored.

Extension of rural water systems to non-participating locations is dependent on availability of funds, level of interest by unserved locations, and programming priorities.

Most communities indicated few anticipated areas of development with more details provided by community in Section II.

Existing Capabilities

Both the USDA Farm Service Agency and the North Dakota State University Extension have field offices located in LaMoure. Both agencies offer general education relating to drought management best practices. The USDA Farm Service Agency field office assists with the distribution of drought indemnity payments to agricultural producers.

The primary water supply comes from rural water districts that depend on two separate aquifers. The Spiritwood aquifer has been evaluated and determined to handle substantial increased usage even in extended drought conditions. The LaMoure aquifer has not been similarly evaluated, so capacity to handle increased demand in extended drought conditions is unknown.



Source: [LaMoure.pdf](#)

Future Drought Considerations

Through the end of the century, it is anticipated that larger and more intense droughts with increasing frequency and/or longer duration of drought periods in North Dakota will occur. Potential impacts include more episodes of extreme heat/heat index with increased human, animal, and crop stress. Drought impacts on vulnerable water users, such as the agricultural industry and municipal systems, could be exacerbated. (*Source: NDDes Climatologist*)

Key Issues and Potential Action Items

Key Issue: Agriculture is the primary driver of the county's economy. A significant drought has the potential to greatly affect the industry and the county as a whole.

- *Potential Action Item:* Continue supporting the USDA Farm Service Agency and North Dakota State University Extension and provide assistance as needed to local farmers and ranchers through education, support, and pre/post incident preparedness and response funding.
- *Potential Action Item:* Develop emergency drought response plan that includes coordination with local livestock producers.

Key Issue: The LaMoure aquifer which is the source of water for the majority of LaMoure County has an unknown capacity to handle increased demand in extended drought conditions such as was experienced in the 1930's.

- *Potential Action Item:* Complete a study to evaluate the capacity of the LaMoure aquifer in times of extended drought with local providers.
- *Potential Action Item:* Investigate the potential to bring former municipal water supply systems and wells back online in case of emergencies.
- *Potential Action Item:* Develop a strategy and materials to educate residents in each community about water saving techniques to help preserve water supplies.
- *Potential Action Item:* Signage at Lake LaMoure and Twin Lake to make the public aware of harmful algal blooms (HABs) conditions and to encourage the reporting of suspect conditions before it becomes severe.

C.2 Flood

LaMoure County:

- Overall Risk: Moderate
- Probability: Likely
- Impact: Limited

Berlin:

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited

Dickey

- Overall Risk: High
- Probability: Highly Likely
- Impact: Critical

Edgeley

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited

Jud

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited

Kulm

- Overall Risk: Low
- Probability: Possible
- Impact: Negligible

LaMoure

- Overall Risk: High
- Probability: Highly Likely
- Impact: Critical

Marion

- Overall Risk: High
- Probability: Highly Likely
- Impact: Critical

Verona

- Overall Risk: High
- Probability: Likely
- Impact: Critical

Seasonal Pattern

- March - October

Primary Impacts

- Agricultural loss (crops, livestock)
- Blocked or washed out roads
- Economic loss
- Human loss and injuries
- Localized evacuation
- Power loss
- Property damage or loss
- Release of hazardous materials



Ice Jams at James River

Hazard Description

A flood is an overflow of water on land that is not normally covered by water. Floods are a natural phenomenon occurring after heavy rains or prolonged periods of wetness but are frequently exacerbated by human-caused changes in the natural landscape.

- A Flash Flood is a sudden onrush of water caused by either heavy rain or a dam failure.
- Riverine flooding occurs when water levels overtop the banks of streams and rivers.
- Ice Jams occur when river water freezes and then partially thaws and the water carries pieces of ice called “floes” downstream and pile up.

Primary causes of flooding in North Dakota include heavy rain/flash flooding, rapid snowmelt/ice jams and increased seasonal moisture. Flooding can occur in riverine zones or flat areas that lack adequate drainage.

Typical insurance policies do not cover flood damages, so the National Flood Insurance Program (NFIP) was created to provide flood insurance for property owners. The NFIP makes flood insurance available to residents in NFIP-participating communities that adopt and enforce floodplain management ordinances and follow other basic requirements.

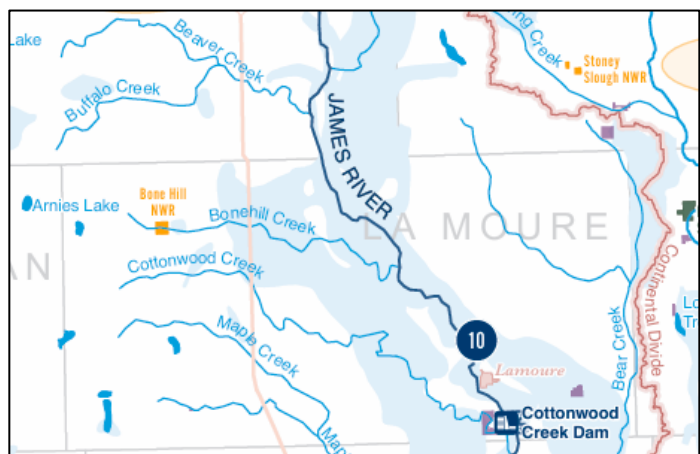
A Flood Insurance Rate Map (FIRM) is created to determine flood insurance rates for each participating community. Typically, the FIRM identifies Special Flood Hazard Areas (SFHA) that have a one percent annual chance of flooding, commonly referred to as the 100-year floodplain. Areas outside the SFHA are considered to be in the Non-Special Flood Hazard Area (NSFHA). Structures in the NSFHA may still be at risk from flooding; according to FEMA, one in every four floods occurs in an NSFHA. Flood insurance is required for all property owners who acquire a loan from a federally regulated, supervised or insured financial institution for the acquisition or improvement of land, facilities or structures located within a SFHA.

Location

LaMoure County has many areas at risk from flooding. The largest area is in the floodplain associated with the James River and its tributaries. This directly impacts the cities of Dickey and LaMoure and the village of Adrian.

The circled number “10” shown on the map is located on the James River in LaMoure County. That location has an annual mean flow of 238 cubic feet per second and a max peak flow of 12,200 (4/15/09) cubic feet per second.

Figure 3.10 James River and Tributaries in LaMoure County



Source: ND State Water Commission

Figure 3.11 James River Basin



Source: www.swc.nd.gov/basins/james_river/james_river.html

The James River originates in central North Dakota between the cities of Harvey and Fessenden and generally flows south-southeast for approximately 710 miles until it empties into the Missouri River near Yankton, South Dakota. The James River has one of the flattest slopes of any river in North America and its drainage basin covers approximately 22,000 square miles.

Although river flooding is most prominent in LaMoure County, the county has seen significant overland flooding as well as land locked lakes with rising levels. Boom Lake in Marion, Twin Lakes northeast of LaMoure and Flood Lake north of Kulm are all three large lakes that have risen over wet years with record participation. These land locked lakes do not have a man-made outlet.

Extent, Previous Occurrences, and Future Probability

LaMoure County was included in 20 flood-related Presidential Disaster Declarations between 1993 and 2024.

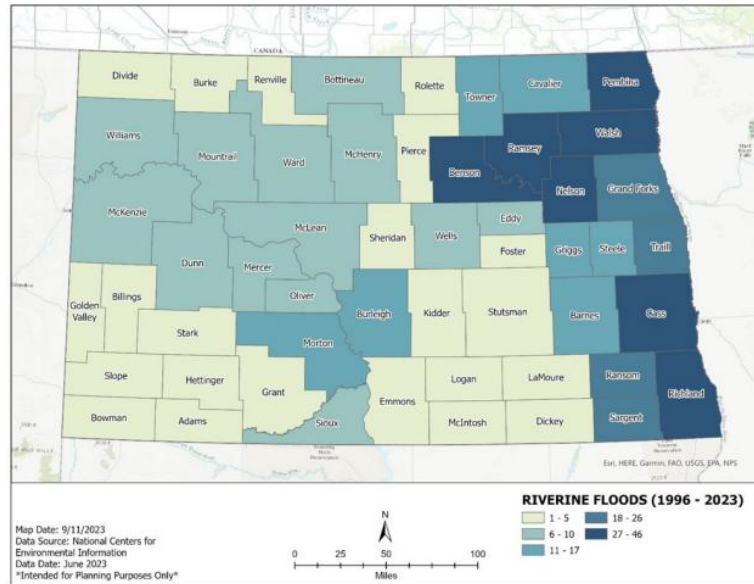
The most significant flooding issues in the county are inundated roadways resulting from heavy precipitation, snowmelt and runoff. This includes riverine flooding from the James River and its tributary creeks, as well as areas with ponding and inadequate drainage.

Since the completion of the Jamestown and Pipestem Dams, the James River has experienced only mild flooding in comparison to many of North Dakota's other river basins.

The USGS contract renewal for the flood gage on the James River at Adrian is reviewed at the LaMoure County Board annually. The county has a cost share agreement with the City of LaMoure. There are gauges at LaMoure and Jamestown, but this location is important as it gives critical levels after several streams merge with the river which impacts the cities of Dickey and LaMoure and the rural areas.

Source: County Board minutes – 5/20/25

Figure 3.12 Riverine Flood Events by County



Source: North Dakota Enhance Mitigation Plan; NRI, 2023

Recent flood events in LaMoure County are summarized in Table 3.5. The county averaged about one flood event every

three years over the last 29 years. Flood event classification criteria and a detailed listing of events can

be found in the appendices.

Table 3.5 Flood Events in LaMoure County, January 1, 2000 – May 31, 2025			
Flood Events	Event Days	Injuries	Deaths
Flood	3	0	0
Flash Flood	7	0	0
Total	10	0	0

Source: National Climatic Data Center Storm Events Database

The National Climatic Data Center Storm Events Database includes brief summaries of significant storm events. A selection of flood events within LaMoure County are summarized below.

- April 2009. Riverine and overland flooding, and flood fighting methods for the City of LaMoure resulting in approximately \$2 million in costs and damages. This included substantial damage to roads and two rural homes that were destroyed.

- April 2010. Riverine and overland flooding and flood fighting methods for the City of LaMoure resulted in approximately \$500,000 costs and damages.
- April 2011. Riverine and overland flooding and flood fighting methods for the City of LaMoure resulted in approximately \$700,000 costs and damages. Overland flooding from the James River damaged roads and houses.
- April 2019. Riverine and overland flooding and flood fighting methods for the Cities of LaMoure and Marion resulted in over \$800,000 costs and damages.
- July 3, 2019. Over 7 inches of rain fell on saturated soils, and several township roads were closed due to overland flooding. This caused an estimated \$50,000 in additional damage in 2019.
- October 10-12, 2019. A blizzard dropped 12 inches of snow that melted in the following days. The snow melt, in addition to Jamestown and Pipestem Reservoir releases, caused flooding in many parts of LaMoure County and left the James River in flood stage for the majority of October and November. This caused over \$200,000 in damage on rural roads, damages to the LaMoure wastewater system, and additional flood fighting costs for the city.
- In June of 2021, the City of Marion experienced a flash flood event resulting in \$400,000 in property damage. Over six inches of rain fell over parts of northeast LaMoure County, with unconfirmed reports of ten inches near Marion. This led to flooding in the City of Marion with water flowing over roads and up to homes. County roads were also flooded with water flowing over causing extensive damage.
- In April of 2023, LaMoure County and townships experienced severe storms, straight-line winds, and flooding events resulting in approximately \$99,000 of damage. This damaged many roads and culverts and washed away gravel.

The National Climatic Data Center Storm Events Database categorizes storm events by location. Between 2000 and 2024 there were 10 flood events in the county, one of which affected Berlin, one that affected Jud, one that affected Marion, one that affected the City of LaMoure, and four that affected Edgeley. Two of the flash flood events affected rural parts of the county. It is worth noting that LaMoure County was included in federal flood disaster declarations that happened in additional years than those recorded by the National Climatic Data Center Storm Events Database.

FEMA defines flooding as water traveling over the ground surface. Although structures in the county have been impacted by flooding, nationally the most common water-based impact on structures in the county is seepage into basements due to saturated soil and/or high-water tables. According to the Insurance Information Institute, water damage affects approximately 14,000 individuals in the US daily with the average insurance payout for these incidents standing at \$11,605. (Source: <https://krapflegal.com/resources/water-damage/water-damage-statistics-key-insights-and-trends-for-homeowners/>)

- The City of Berlin does not participate in the NFIP and does not have structures at risk from flooding. The biggest impacts to the city caused by flooding are inundated roads that create significant travel detours. One road within the city has occasionally been inundated.
- The City of Dickey does not participate in the NFIP but has areas at risk from flooding when the James River overflows its banks. The city park is in a floodplain and has experienced flooding.
- The City of Edgeley is included in the NFIP and has land within the 100-year floodplain. It experienced overland flooding in 2009 and 2019. Several buildings were damaged in 2009. In

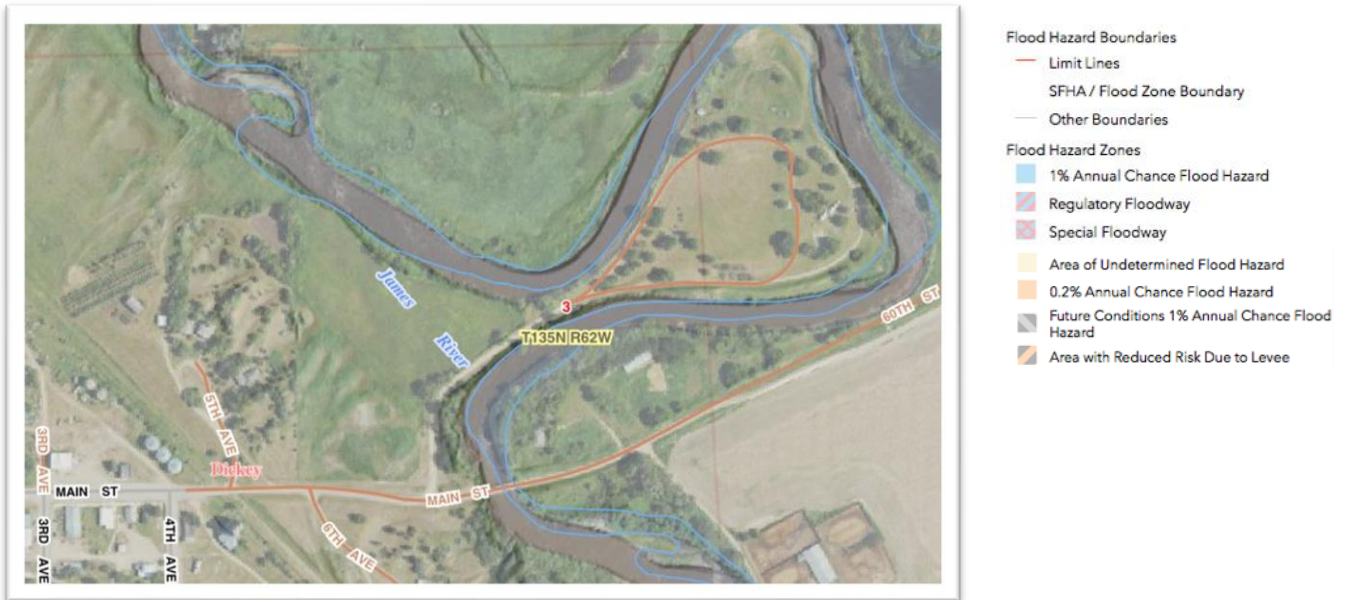
some instances, temporary levees are needed in the southeast part of the city to prevent any impacts, which was implemented and considered successful in 2019.

- The City of Jud is not in a designated floodplain and does not have structures at risk from flooding. In 2005 and 2013, heavy rains caused township roads in the vicinity to be inundated, causing some travel detours.
- The City of Kulm is not in a designated floodplain but does experience minor flooding on a regular basis. It is threatened by overland flooding, especially from the south.
- The City of LaMoure has a FIRM and land within the 100-year floodplain. It experienced flooding in 2009, 2010, 2011, 2016 and 2019. In 2016, a seven-inch rain event caused localized flooding that caused damage to some structures. In 2019, temporary barriers were installed to prevent impacts to some structures. LaMoure owns the Lake LaMoure recreational facility located approximately four miles south of the city. In 2009, the earthen dam was significantly damaged and was subsequently repaired with a concrete spillway.
- The City of Marion has a FIRM and land within the 100-year floodplain. It experienced significant flooding in 1997, 2007, 2019, and 2021. No structures were damaged in these events, but temporary barriers were installed to prevent impacts to some buildings. Increased water levels of lakes on the west side of the city are held back by a levee. Meltwater and stormwater must be pumped over the levee in order to prevent flooding of streets and structures in the city. Boom Lake has a temporary dike system in place as continued high water has left the city unable to remove the temporary dikes for two years and until a permanent solution is available.
- The City of Verona is not in a designated floodplain but does experience threats from overland flooding and localized ponding during spring snow melts.

There are many locations outside cities in LaMoure County that have experienced significant flooding. Two key locations are the Memorial Park facilities near Grand Rapids, and housing located adjacent to Twin Lakes. Over the years, there have been hundreds of county and township road sites which have been damaged by flooding. Total damages exceed \$700,000. Despite many improvements there are still many sites at risk, especially from the James River and its tributary creeks. The impact of these events are inundated roads when the current culvert system cannot keep up with the flows of a significant isolated high rain event. When roads become inundated, individuals may become trapped as they cannot leave their property and emergency services cannot reach them.

Figure 3.13 shows an example of the 1% and 0.2% Annual Chance for flooding in the City of Dickey. The interactive map allows for users to view FEMA flood information. The pot-hole nature of the geography shows just how many low-lying areas can have standing water and the vast majority of the landscape holding water versus a quick runoff.

Figure 3.13 Floodplain Map in the City of Dickey



Source: ndram.dwr.nd.gov

FEMA released updated FIRM Maps for the entire county effective on June 18, 2025. Updated FEMA Flood Maps can be found by entering an address on this webpage: <https://msc.fema.gov/portal/home>

The North Dakota Risk Assessment MapService features an interactive map to assist communities and residents in viewing flood related information overlaid with aerial photos.

The FEMA National Risk Index identifies LaMoure County has having a “Very Low” score of 15.2 for riverine flooding compared to the rest of the U.S.

Vulnerability

Population

The Cities of Edgeley, LaMoure and Marion have Flood Insurance Rate Maps (FIRMs). All 8 cities in LaMoure County have areas with a 1% annual chance of flooding according to the new ND Risk Assessment Map (NDRAM) data.

Flash flooding events can be potentially dangerous, particularly if people try to travel during an event. In 1997, two people were killed when their vehicle went over a bridge that had washed away during a flooding event. This was near the James River during spring flooding.

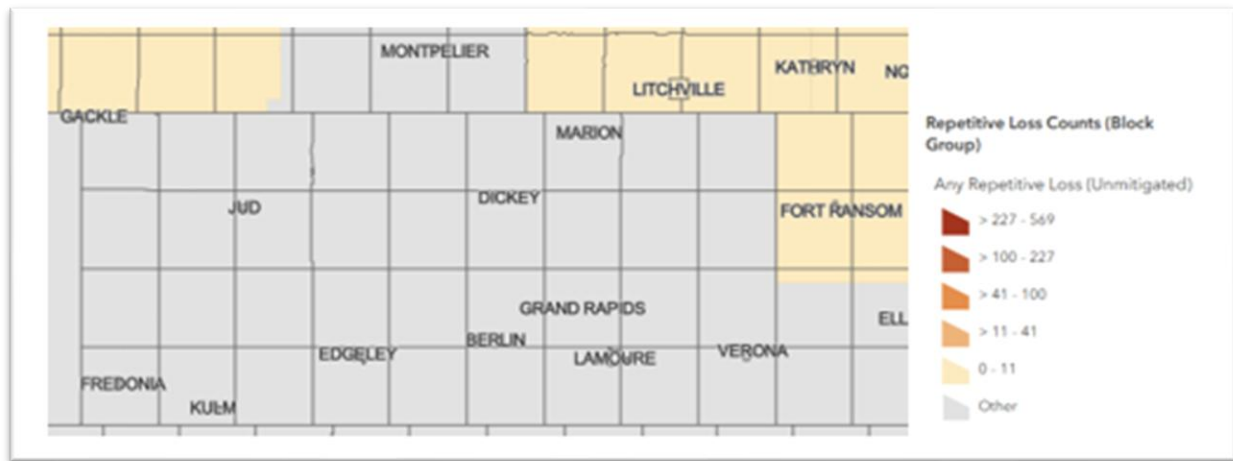
Critical Facilities

The FIRMs for jurisdictions participating in the National Flood Insurance Program indicate 2-3 sites of critical infrastructure or buildings at risk from a 1% annual chance event.

Property

Repetitive loss properties are tracked for communities that participate in the NFIP. There are no repetitive loss properties in LaMoure County as shown in Figure 3.14 below.

Figure 3.14 FEMA Repetitive Loss Counts



Source: <https://fema.maps.arcgis.com>

FIRMs indicate less than 5% of homes in the mapped communities of Edgeley, LaMoure, and Marion would be affected in a 1% annual chance event.

According to NDRAM data an estimated 15% of homes in cities and the rural parts of LaMoure County could be affected by flooding in a 1% annual chance event. The number of other structures in rural LaMoure County located in NDRAM 1% chance areas has not been determined.

Within the eight cities of LaMoure County, the collective residential area located in NDRAM 1% chance areas is approximately 26% of the total residential area. The at-risk area for non-residential structures has not been determined.

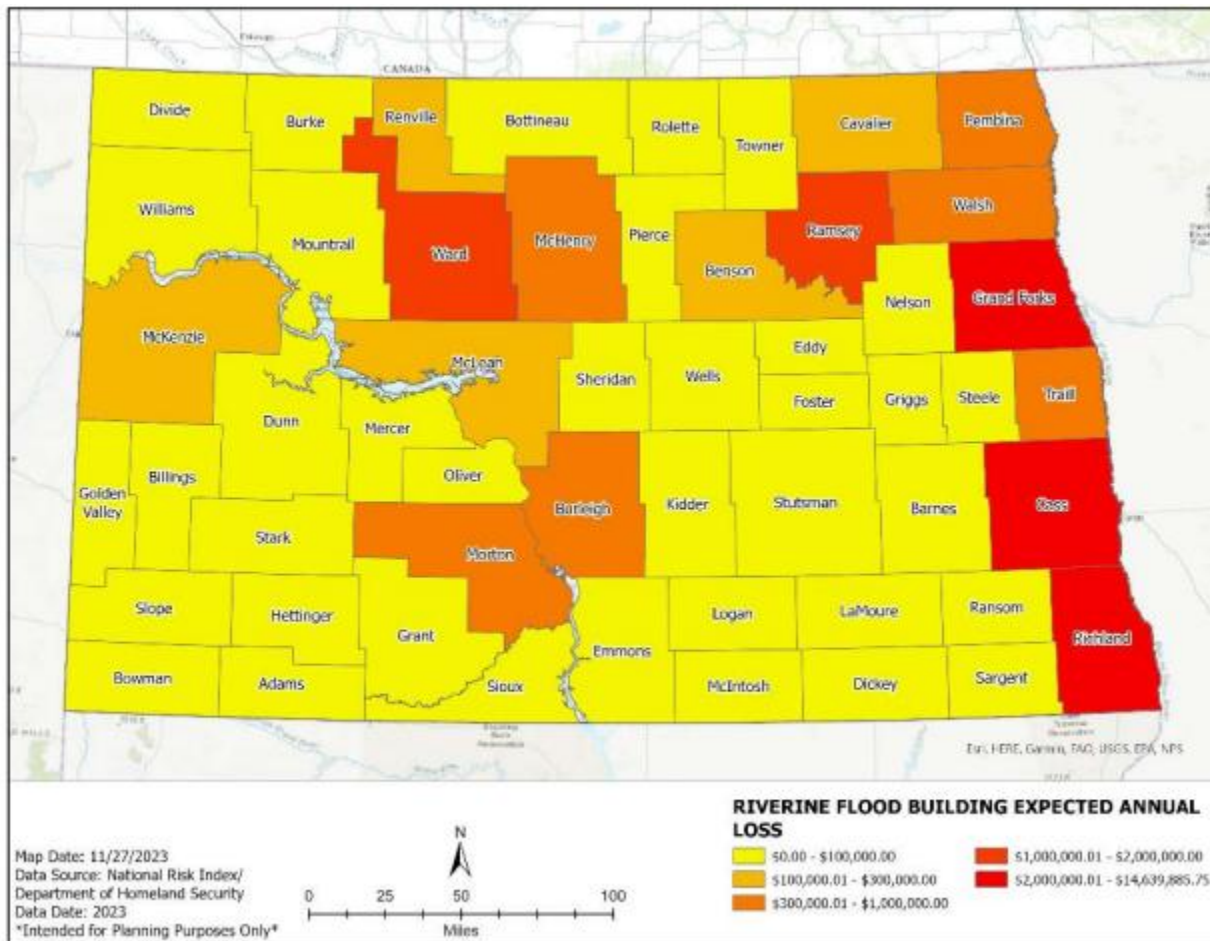
Economic Impact

The statewide Multi-Hazard Mitigation Plan includes information about crop insurance payments from the USDA Risk Management Agency. Flood-related crop insurance payments for flooding in LaMoure County from 2018 - 2022 totaled \$106,245.50 over nine events. According to the ND MHMP, the state should expect \$1,421,743.88 in annualized crop insurance payout based off the 2018-2022 payments, or \$38,014.54 per county event.

The most significant flooding event in terms of recorded damages since 1996 was snowmelt runoff in spring 2009 that resulted in \$1.7 million of damage to homes and rural roads along the James River. A flash flooding event in May 2018 resulted in damages of \$350,000 to cars and homes in Edgeley as well as a 2021 event in Marion in which flash flooding entered basements and led to some minor property damage.

Economic impacts can also occur when residents are unable to leave their homes due to flooded roadways.

Figure 3.15 Anticipated Annual Building Losses Due to Flood Damage



Source: ND Enhance Mitigation Plan; NRI, 2023

Future Development

The cities of Edgeley, LaMoure, and Marion along with Grand Rapids Township and LaMoure County have been participants in the NFIP and have floodplain regulations that limit future growth in high-risk areas.

LaMoure County participates in the NFIP. Floodplain management within townships will be conducted by the county. The remaining jurisdictions are not participants in the NFIP. Typically, these remaining jurisdictions are not as susceptible to major flood risks, but they are still susceptible to localized flooding from rapid snowmelt or heavy rainfall events. Those areas that historically have flooded could potentially be developed or redeveloped because no regulation addresses the issue.

As included in the 2024 – 2029 North Dakota Enhanced Mitigation Plan, it can be expected that through the end of the century, larger, more frequent, and more intense period of heavy precipitation will occur. This could lead to more landscape (areal) flooding, flash flooding and other impacts from additional rainfall. This is anticipated to lead to increased riverine and areal flooding due to higher intensity rainfalls events and potential landscape/runoff changes.

Existing Capabilities

The NFIP participating jurisdictions have floodplain ordinances, but floodplain administration needs improvement to prevent construction in locations at risk from flooding. The recently completed Risk MAP project in North Dakota provides additional information about areas potentially at risk from flooding and can be used as best available information to limit development in flood-prone areas.

LaMoure County Emergency Manager will work directly with the LaMoure County Highway Department and National Weather Service Office in Bismarck when Flash/Aerial Flood events occur. The NDRAM - Risk Assessment MapService (NDRAM) – tool has been shared at the Township Officers meeting as well to encourage townships to address culverts that may cause flooding as well as encouraging new buildings in areas that are less prone to these events.

Figure 3.16 FEMA National Flood Map – City of Edgeley

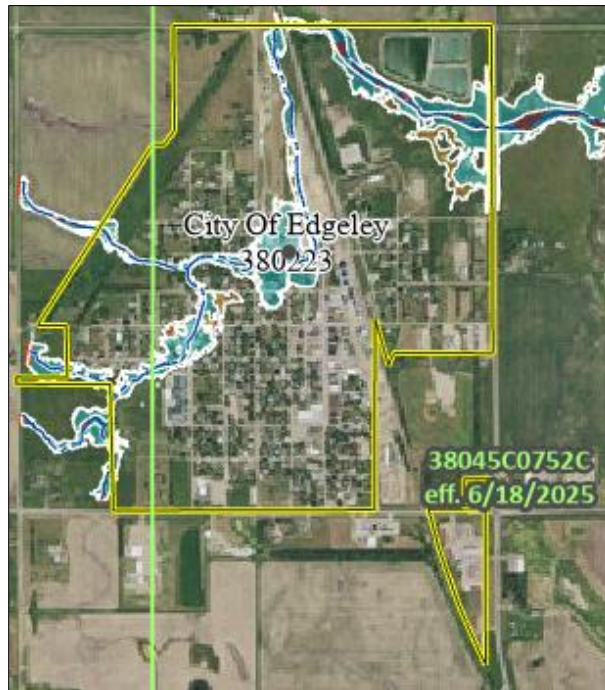


Figure 3.17 FEMA National Flood Map - Township of Grand Rapids

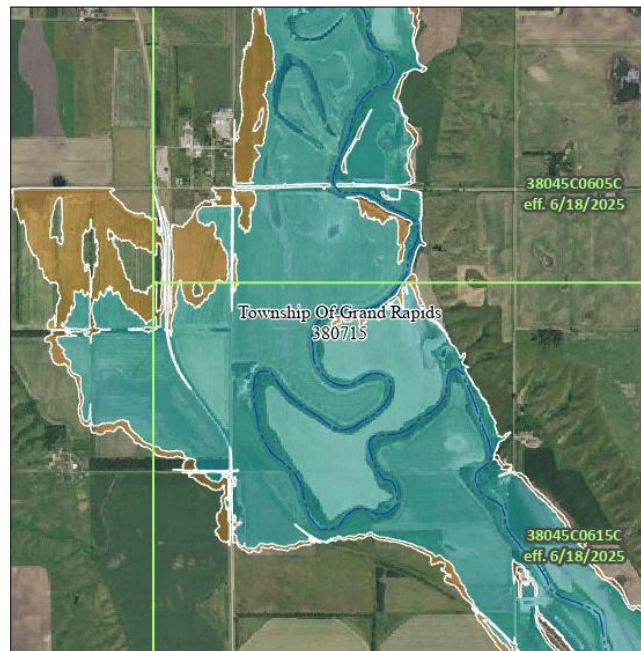


Figure 3.18 FEMA National Flood Map – City of LaMoure



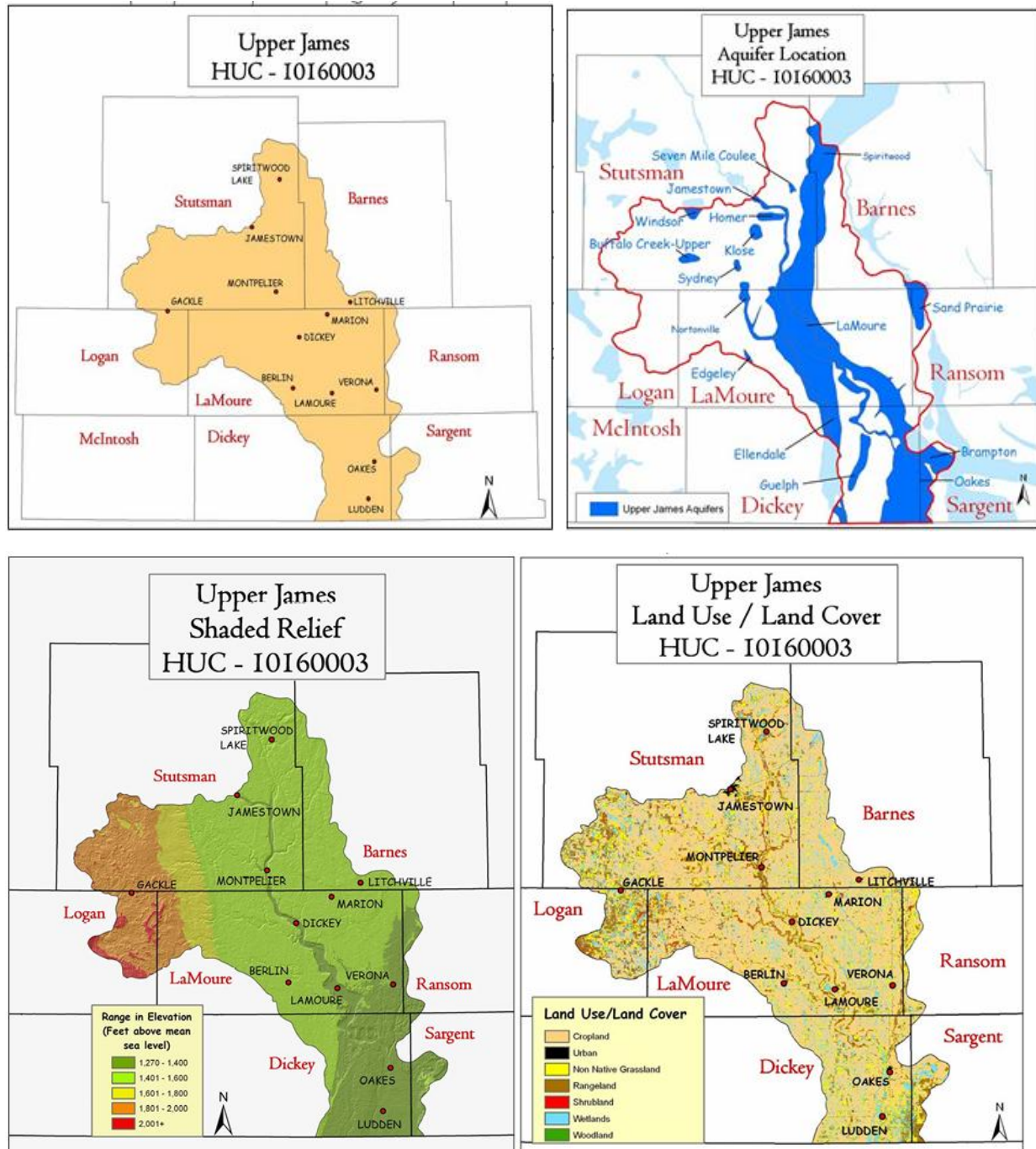
Figure 3.19 FEMA National Flood Map – City of Marion



Hydrology

The Upper James River sub-basin covers the majority of LaMoure County and the James River is the primary waterway traversing the county from North to South.

Figure 3.20 Series of Upper James Aquifer Maps



Source: National Resources Conservation Services (NRCS) – www.nrcs.usda.gov

Key Issues and Potential Action Items

Key Issue: LaMoire County experiences approximately one flood event every three years. Flood events in the county are primarily related to heavy rainfall and snowmelt runoff.

- *Potential Action Item:* Conduct NFIP workshop to educate public about benefits of flood insurance.
- *Potential Action Item:* Improve municipal drainage in cities prone to localized flooding by identifying areas of localized flooding and completing projects to reduce the impact.
- *Potential Action Item:* Consider opportunities to reduce flooding of residential property in cities by moving impacted mobile homes or by creating minor dikes to keep water away from residences.
- *Potential Action Item:* Non-participating jurisdictions consider joining the NFIP.
- *Potential Action Item:* Use results of Risk MAP project to identify potential flooding risks to roads and property, and evaluate opportunities to mitigate potential impacts

Key Issue: Roads and bridges in the county are sometimes washed out or inundated during flooding events.

- *Potential Action Item:* Encourage hydrology studies when available to address impact of overland flooding.
- *Potential Action Item:* Elevate commonly-impacted roads and bridges.
- *Potential Action Item:* Support current culverts with rip-rap or replace aging culverts to prevent washing out during flooding events.

C.3 Geologic Hazards

LaMoure County

- Overall Risk: Low
- Probability: Unlikely (the county is in a low probability area for a significant earthquake and a low susceptibility landslide area; sinkhole risk is undefined)
- Impact: Negligible (no identified risk locations; no history of recorded damage)

Seasonal Pattern

- None

Primary Impacts

- Property damage or loss
- Economic loss
- Human loss and injuries
- Increased stress on medical services

Hazard Description

Geologic hazards include earthquakes, landslides, and sinkholes.

An earthquake is defined by the US Geological Survey (USGS) as a sudden movement of the earth, caused by the abrupt release of strain that has accumulated over a long time. North Dakota is not an area known for earthquake activity; however, many small earthquakes may occur throughout the state.

The USGS defines a landslide as a movement of rock, soil, artificial fill, or a combination thereof on a slope in a downward or outward direction. The primary causes of landslides are slope saturation by water from intense rainfall, snowmelt, or changes in groundwater levels on primarily steep slopes, earthen dams, and the banks of lakes, reservoirs, canals and rivers.

The USGS defines a sinkhole as a depression in the ground that has no natural external surface drainage. The primary cause of sinkholes is typically the dissolution of soluble rock by groundwater when creating underground spaces. If there is not enough support for the land above the spaces, the sudden collapse of the land surface can occur.

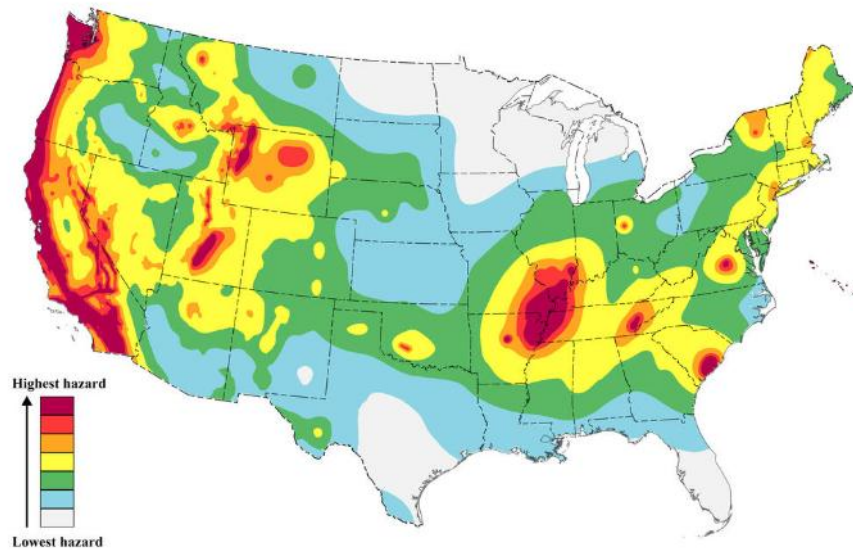
Generally, LaMoure County has sandy soils compared to the silty soils of counties to the east. The sandy and rocky soil drains better when considering the geological hazards. Soil survey data and expansive soil information is available through local Natural Resources Conservation Services (NRCS) office, one of which is located in LaMoure.

Location, Extent, Previous Occurrences, and Future Probability

Figure 3.20 shows potential earthquake hazard areas in the contiguous United States. There is no significant earthquake history in the county. LaMoure County has a two-percent probability of exceeding

a peak ground acceleration of 0.02 to 0.04 in the next 50 years. According to the Pacific Northwest Seismic Network, a ground acceleration of 0.014 to 0.039 can result in a light perceived shaking and no damages.

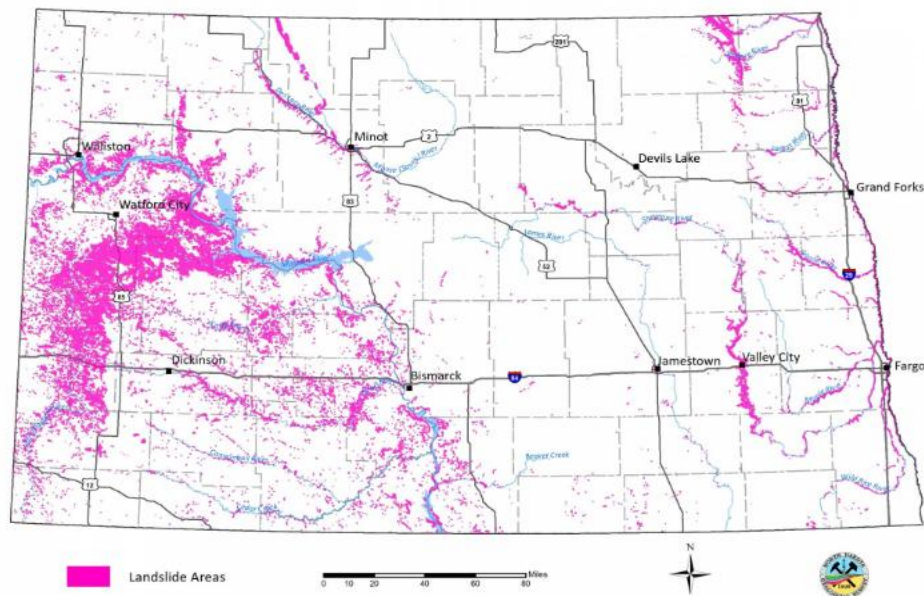
Figure 3.21 Earthquake Hazards Map



Source: USGS

Figure 3.22 illustrates that LaMoure County is in a low incidence landslide area according to the USGS. It is important to note that these areas are delineated at a national scale and not intended for precise analysis. There is no history of landslides in LaMoure County causing significant damage.

Figure 3.22 State Landslide Map



Source: [Landslides | Department of Mineral Resources, North Dakota](#)

There are no known sinkholes or locations susceptible to sinkholes in LaMoure County.

The ND Enhanced Mitigation Plan identifies no abandoned mine locations within LaMoure County. The collapse of those underground structures could lead to the land surface sinking and the formation of a “sinkhole.” The absence of this infrastructure assists LaMoure County in maintaining a low risk of sinkholes.

In addition, the ND MHMP identifies that rapidly changing landscape conditions, expected to increase under future climate scenarios, will likely lead to a more frequent incidence of destabilization of many geologic features. One way in which to measure expansive soils, those that expand when water is added and shrink when they dry out, is through coefficient of linear extensibility (COLE) values. Expansive soils are found across North Dakota.

FEMA’s National Risk Index identifies LaMoure County as having a very low score of an earthquake of just 2.7. The very low score for a landslide in LaMoure County is just 9.6.

No earthquake event in the county has resulted in injuries or fatalities, and according to the USGS the probability of a significant earthquake in the county is very low.

Vulnerability

Population

In the event of a significant earthquake, residents in very old structures may be the most vulnerable. According to the 2020 Decennial Census an estimated 581 housing units in the county were built before 1939. Applying the county’s 2023 estimated average household size of 2.31 to the estimated occupied very old housing units, there are approximately 1,342 persons in the county with an enhanced vulnerability to earthquakes. Note that this analysis does not include structure information for workplaces, which would have a large impact on potential vulnerability for an earthquake during daytime hours.

All 4,107 residents live within the moderate-low susceptibility landslide area. It is important to note that this area is delineated at a national scale and not intended for precise analysis. None of the cities in the county have terrain where landslides are considered feasible. The number of structures built before 1939 in each city is shown below.

- Berlin – 7
- Dickey – 7
- Edgeley – 120
- Jud – 7
- Kulm – 92
- LaMoure – 78
- Marion – 37
- Verona - 16

There are no known instances of sinkholes in LaMoure County. Therefore, the population has a near zero percent vulnerability to sinkholes. The closest known sinkhole is in Stutsman County where in 2023 a large sinkhole in their city was caused due to heavy rains and their concrete/city street system failed.

A risk to the public from landslides would come from falling rocks or sudden landslides along highways or roads for vehicle drivers.

Critical Facilities

According to the USGS Earthquake Hazard Area map shown in Figure 3.21, most of North Dakota is in a low risk area for earthquakes. A potential earthquake in LaMoure County would most likely only result in a light perceived shaking and no damages. The oldest facilities in each jurisdiction would be most likely to experience some damages.

There is no history of landslides in the county causing structure damage. Since there are no known instances of sinkholes in the county, there is assumed to be no critical facilities vulnerable to sinkholes in LaMoure County.

Economic Impacts

Should an earthquake, landslide, or earthquake were to occur, the economic impacts would be directly proportional to the property impacted.

Property

In the unlikely event that an earthquake were to occur, it would most likely only result in a light perceived shaking and no damage. If damage were to occur, it is likely that only the county's oldest structures would be impacted. According to the 2020 Decennial Census an estimated 581 housing units in the county were built before 1939. Age information is not available for other types of structures in the county. The impact on property from earthquakes is believed to be negligible.

No primary structures are believed to be vulnerable to landslides or sinkholes. There is no history of landslides in the county causing structure damage.

Future Development

Regardless of whether local jurisdictions have adopted the State Building Code, construction is supposed to be consistent with its provisions. It includes the 2015 International Building Code, International Residential Code, International Mechanical Code and International Fuel Gas Code published by the International Code Council. The Code includes provisions that prohibit construction on areas with steep slopes and provides general standards that contribute to earthquake resiliency. If enforced, these Codes should limit potential impacts on future development.

Existing Capabilities

Cities, townships, and counties that elect to enforce a building code are responsible for adopting and enforcing the State Building Code but may amend the Code to conform to local needs. Three jurisdictions have adopted the State Building Code. Seven jurisdictions require building permits for significant construction activity. None of the jurisdictions have a designated building inspector/building codes enforcement officer.

The State Building Code prohibits construction on steep slopes and provides general standards that contribute to earthquake resiliency.

NRCS offices have a vast amount of resources on soil surveys and local engineering firms have completed several boring tests near county and state roads to evaluate soils.

Key Issues and Potential Action Items

Key Issue: The county is in an area of minimal hazard for earthquakes.

- *Potential Action Item:* The cities that have not already done so, adopt the North Dakota State Building Code.

Key Issue: Much of county is within a moderate susceptibility/low incidence landslide hazard area as defined by USGS.

- *Potential Action Item:* Identify characteristics of high susceptibility landslide hazard areas and create a landslide hazard susceptibility document for distribution to relevant jurisdictions and organizations within the county.
- *Potential Action Item:* Improve base material, elevate or relocate roads that may be impacted.

C.4 Severe Summer Weather

All Jurisdictions (County Level)

- Overall Risk: High
- Probability: Highly Likely (approximately seven event days per year countywide)
- Impact: Critical (Potential for damages totaling millions of dollars and many fatalities)

Seasonal Pattern

- May – October

Primary Impacts

- Agricultural loss (crops, livestock)
- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Permanent loss of business
- Power loss
- Property damage or loss
- Release of hazardous materials

Hazard Description

Severe summer storms are classified by the National Weather Service as such - if the storm has the potential for wind gusts over 58 mph, hail at least $\frac{3}{4}$ " diameter, or can produce a tornado. These storms are generally relatively localized but can produce heavy rainfall, hail, lightning, and straight-line winds as the primary threats. They occur due to temperature imbalances in the atmosphere with warm moist ground temperatures as a catalyst for development.

The elements of severe summer weather include tornadoes, wind, hail, excessive heat, and lightning.

Tornadoes are a violently rotating column of air that extends from a thunderstorm to the ground. They can produce winds ranging from 65 MPH to more than 300 MPH and pose severe danger to life and property. Peak tornado season is from June to August, and most occur during evening hours. Tornadoes typically travel from southwest to northeast at a speed between 30 and 70 MPH and are generally on the ground for less than 10 minutes; however, tornado characteristics are highly unpredictable and can change rapidly.

Tornado severity is recorded with the Enhanced Fujita (EF) Scale, which replaced the Fujita (F) Scale in 2007. Wind speed estimates are determined by the damage created by a tornado. The EF Scale includes ratings from zero (65 to 85 MPH wind speeds) to five (wind speeds over 200 MPH).

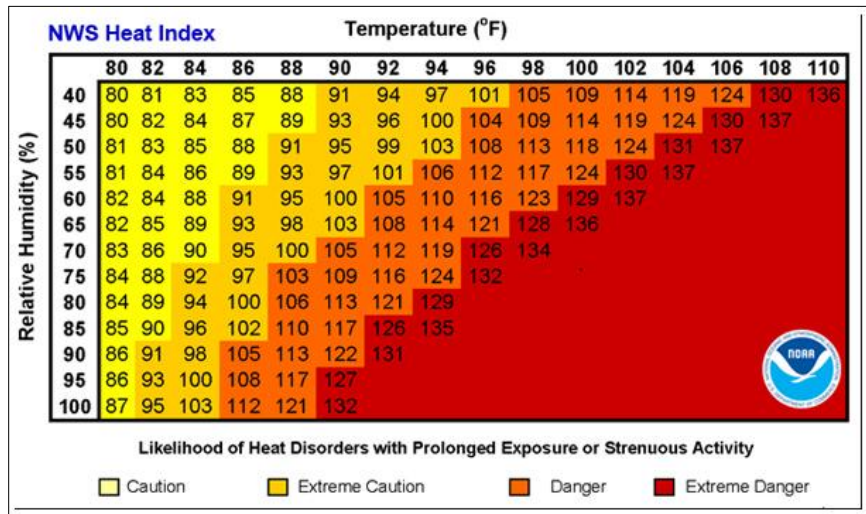
Straight-line winds are a common element of severe summer storms, and typically responsible for most damage associated with the storms.

Severe thunderstorms are defined in the ND MHMP as a rain shower that includes thunder and lightning, hail one inch in diameter or greater, winds exceeding 58 mph and/or a tornado.

Strong winds often form on the leading edge of severe storms, and gusts more than 100 MPH are possible.

Figure 3.23 National Weather Service Heat Index

Excessive heat refers to extreme heat conditions. This includes high temperatures and humidity that can pose serious health risks with prolonged exposure. Excessive heat is often defined as temperatures exceeding 90 degrees Fahrenheit, combined with high humidity levels. The National Weather Service issues an Excessive Heat Warning when temperatures do not drop below 75 degrees Fahrenheit for at least two hours daily.



Hail presents a hazard for property, crops, livestock and occasionally human life. Hail events range from an area of a few acres up to hundreds of square miles, although small events are most common. Hailstones can fall to the surface at more than 100 MPH, and reach more than seven inches in diameter; however, most hailstones do not exceed two inches in diameter.

Lightning strikes pose multiple threats to life and property. A lightning strike can electrocute humans and animals, vaporize materials, cause fire and cause an electrical surge that may damage equipment. Human deaths from lightning strikes are somewhat uncommon. According to the Lightning Safety Council, there was one recorded lightning fatality in North Dakota from 2015-2024. Livestock deaths and property damage are the most common lightning-related threats in North Dakota.

Location

Severe summer weather occurs at a regional level and is not a micro-climatic event. It can occur anywhere across the entire geographical area of the county. As noted in the hazard description, the scale of its elements can vary widely, and the exact location of their occurrences are unpredictable with much warning time.

Extent, Previous Occurrences, and Future Probability

LaMoure County was included in 8 severe summer storm-related Presidential Disaster Declarations between 1993 and 2024.

The most significant severe summer weather issues in the county are tornadoes and hailstorms. Tornadoes pose the largest risk to human life and injury, and hailstorms pose a major risk to crops and property.

Severe summer weather events in LaMoure County are summarized in Table 3.6.

Summer weather classification criteria and a detailed listing of events can be found in the appendices.

Table 3.6 Severe Summer Weather Events in LaMoure County, January 1, 2000 – May 31, 2025

Summer Storm Events	*Event Days	Events
Hail	62	97 events
High Wind / Thunderstorm	43	72 events
Tornado / Funnel Cloud	18	24 events
Lightning	3	3 events
Excessive Heat	5	2 events
Total	131 days	232 events

**Number of days with a reported event*

Source: National Climatic Data Center Storm Events Database

A severe hail event is defined as a storm producing hailstones greater than 0.75 inches in diameter. Common impacts from hail include broken windows, damaged shingles, dented or broken gutters, and damaged vehicles. Heavy hail events can also injure livestock and destroy crops.

A severe wind event is defined as gusts of at least 50 kts or 58 MPH. According to the North Dakota Agricultural Weather Network – NDAWN Station in Edgeley, the highest 5-second average wind speed was 77.3 mph on June 7, 2020. Common impacts from severe winds include broken trees and limbs, damaged agricultural structures and damaged power poles.

There were 24 tornadoes/funnel clouds reported in the county between January 1, 2000 and May 31, 2025, a majority of which were rated at EF0 or EF1. These tornadoes generally resulted in minimal damage, but the impact would be devastating if a large tornado were to directly strike a city or populated area. On July 17, 2011, a tornado rated an EF3 completely destroyed two homes and one injury was reported. This photograph is of the home destroyed and where the injury occurred.



Lightning presents an ongoing risk to people and property in the county. From 2000 to May 31, 2025 there were three lightning events in LaMoure County. Lightning has been documented as a cause of wildland fires and property damage in rural areas of the county.

The National Climatic Data Center Storm Events Database includes brief summaries of significant storm events. More recent event examples with property and crop damage information are included under the “Vulnerability” section below.

The FEMA National Risk Index identifies LaMoure County as having a relatively moderate score of 82.1 for hail, a relatively low score of 34.2 for a heat wave, a very low score of 0.7 for lightning, and a relatively low score of 58.4 for strong winds.

Vulnerability

Population

The entire population is vulnerable to a severe summer storm event. Residents living in homes without a basement or permanent foundations are particularly vulnerable to tornado and wind events. There are approximately 46 mobile homes in LaMoure County according to recent American Community Survey estimates. Applying the county's average household size to the estimated number of mobile homes, there are approximately 107 persons in the county with an enhanced vulnerability to severe summer weather. The estimated percentage of mobile homes in each city is provided in Section II. Additional mobile homes are located in rural areas.

Major recreation areas in the county include Lake LaMoure south of LaMoure, Memorial Park just north of Grand Rapids, Kulm Campground and Edgeley Campground. All of these facilities are especially vulnerable to severe summer weather impacts such as tornadoes because they do not have emergency shelters for such events. An outdoor warning siren was added at Lake LaMoure recently. The Edgeley, Kulm, and Memorial Parks each have an outdoor warning siren that is near and audible to individuals outside when sounded.

Critical Facilities

All critical facilities are vulnerable to a severe summer storm event. Facilities with an increased vulnerability include schools, special care centers, tall buildings or structures, electrical infrastructure and event facilities. Critical facilities for each jurisdiction are included in Section II.

Property / Economic Impact

Severe summer storms can be damaging to both structures and crops.

On June 2, 2015, a hailstorm that occurred in the area of Berlin resulted in \$50,000 of property damage and \$200,000 in crop damage.

According to the NOAA Storm Center Database, a July 2024 hailstorm resulted in \$50,000 in crop damages in the area of Edgeley. This thunderstorm system was impactful across a large area of North Dakota. The storms initially formed in the late afternoon in the vicinity of southwest North Dakota, with additional storms then forming through the late afternoon into the evening. Many locations experienced two-inch diameter hail with this storm, which increased to baseball size over Lincoln. One mile south of Lincoln, a hailstone was measured at 4.5 inches. These storms caused extensive damage to structures and vehicles, resulting in millions of dollars in damage. The strongest wind gust was estimated at 75 mph at McKenna Lake, near Napoleon, Logan County, where four campers were blown over.

In addition to strong winds and hail, tornadoes are also destructive severe summer weather events. On August 9, 2020, there were three tornadoes recorded in or around the City of Berlin. This resulted in \$225,000 in property damage and \$15,000 in crop damage. This tornado touched down west-southwest of Berlin and based on the damage that occurred was rated an EF1. Near the point of touchdown, a pole barn on a farmstead was severely damaged. An overhead door and a bi-fold door were blown in, about one-third of the metal roofing panels were blown off, and the entire structure had an arc towards the north. Additional damage at the farmstead included a laid over van-style trailer and shingle damage to the house. The tornado then proceeded towards the east, causing damage to a corn field. Tornado

winds were estimated, based on the damage done, at around 95 mph, again, EF1. This was the first of three tornadoes this day in LaMoure County, all within 20 minutes of each other.

On June 2, 2024, a thunderstorm occurred resulting in \$1,000,000 worth of property damage. Winds associated with a thunderstorm caused extensive damage, especially to the grain handling complex in the city of Marion. Two large steel grain bins became detached from their footings, with one moving about 100 yards. The top of the grain elevator was blown off. Multiple roofs were damaged, spruce trees were uprooted, and power lines were broken. The loss of power led to a secondary impact with sump pumps shutting down and basements taking on water. The photo shows the elevator destroyed during the June 2, 2024 storm in Marion.



Future Development

Six of the cities in LaMoure County have adopted the State Building Code. The Code includes a provision that buildings must be constructed to withstand a wind load of 75 MPH constant velocity and three-second gust of 90 MPH. Regardless of whether local jurisdictions have adopted the state building code, construction is supposed to be consistent with its provisions. If enforced, the Building Code should limit potential impacts on future development.



Image of Skywarn Outreach Event

Existing Capabilities

All jurisdictions have at least one early warning siren. Additionally, the LaMoure County Park, Memorial Park Campground, has an outdoor warning siren that is tested monthly during the summer. Berlin's warning siren was considered weak and has been replaced in the last five years with a louder siren. The City of LaMoure added an outdoor warning siren to its Lake LaMoure recreational and camping facilities in 2024.

All jurisdictions have a designated public gathering place identified in the LaMoure County Emergency Operations Plan.

Key Issues and Potential Action Items

Key Issue: LaMoure County averages approximately seven days per year with a summer storm event. Severe wind and hail are the most common summer storm events in the county, and tornadoes are also a possibility in the region.

- *Potential Action Item:* Cover windows in select critical facilities with shatter-resistant film.
- *Potential Action Item:* Offer information about weather resistant building best practices.

- *Potential Action Item:* Install and maintain surge protection on critical equipment.
- *Potential Action Item:* Identify or construct emergency shelters for mobile home residents in the cities and recreation areas.

C.5 Severe Winter Weather

All Jurisdictions (countywide)

- Overall Risk: High
- Probability: Highly Likely (Approximately six event days per year countywide)
- Impact: Critical (Potential for high cost damages and fatalities)

Seasonal Pattern

- October – April

Primary Impacts

- Agricultural loss (crops, livestock)
- Blocked roads
- Economic loss
- Exposure risks to people, pets, livestock and wildlife
- Freezing pipes
- Human loss and injuries
- Increased stress on medical services
- Power loss
- Property damage or loss
- School closure
- Vehicle crashes

Hazard Description

Elements of severe winter weather include blizzards, heavy snow, ice storms and extreme cold. These elements can produce life-threatening situations and are a threat to people and property.

A blizzard is defined by the National Weather Service as a storm producing winds of 35 mph or more, with snow and/or blowing snow reducing visibility to less than 0.25 miles for at least three hours. A closely related weather event known as a surface blizzard occurs when heavy winds blow snow that has already fallen. Both traditional and surface blizzards can reduce visibility, disrupting transportation and communication systems in the area.

Heavy snow is defined as six or more inches of snow in 12 hours, or eight or more inches of snow in 24 hours. Heavy snow can damage property and make roads impassable for extended periods.

An ice storm produces heavy and damaging accumulations of ice due to a combination of rain and below freezing surface temperatures.

Accumulated ice can bring down trees and power lines and poses a threat to motorists, pedestrians and livestock.

Extreme cold is a common occurrence in North Dakota during the winter months. Cold temperatures are amplified when combined with wind, creating dangerous wind chills. Exposure to extreme cold

temperatures and wind chill can damage tissue (frostbite) and lower the body's core temperature (hypothermia), presenting a risk to both humans and livestock.

Location

Severe winter weather occurs at a regional level and is not a micro-climatic event. It generally occurs across the entire geographical area of the county.

Extent, Historical Occurrences, and Future Probability

LaMoure County was included in two winter storm-related Presidential Disaster Declarations between 2020 and May 2025. A record low of -41F was recorded at the Edgeley 3WNW COOP station on January 12, 1912.

The most significant severe winter weather issues are blocked roads and power outages. This is a major concern for emergency services access to individuals needing assistance.

Some examples of recent severe winter weather events in LaMoure County are identified below.



December 26, 2023, Ice Storm in Edgeley

- December 26, 2021. A heavy snow event occurred with locations near the City of Kulm receiving 17 inches of snow.
- December 25, 2023. An ice storm occurred resulting in broken trees, broken power poles, and residents were left without power. Over 400 utility poles were broken, along with multiple cross-members. Many miles of power lines throughout the county were down. At one point, 48% of services were without power. The City of Jud was without power until midday on December 29. Travel became nearly impossible given the icy conditions.

A summary of the severe winter weather events in LaMoure County is shown in Table 3.7. Generally classified as "winter storms," extreme cold and wind chill events are most common. Winter weather classification criteria and a detailed listing of events can be found in the appendices.

Winter Storm Events	Event Days	Events
Blizzard	66	43
Extreme Cold/Wind Chill	62	29
High Wind	39	34
Heavy Snow	65	39
Winter Storm	25	15
Winter Weather	8	5
Ice Storm	4	2
Total	269	167

Source: National Climatic Data Center Storm Events Database

Blowing snow resulting in road hazards and blocked roads preventing essential transportation were commonly identified impacts.

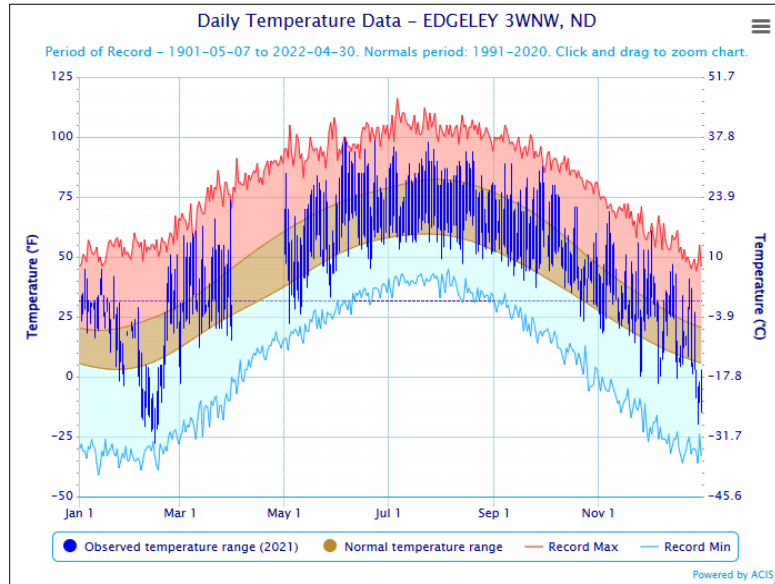
Power loss happens occasionally throughout the county during severe winter storms.

Vulnerability

Population

Residents living in mobile homes, recreational vehicles, or poorly insulated homes may find it difficult to adequately heat their homes during cold temperature events. There are approximately 46 mobile homes in LaMoure County according to recent American Community Survey Estimates. Applying the county's average household size to the estimated number of mobile homes, there are approximately 107 persons in the county with an enhanced vulnerability to severe winter weather. The estimated percentage of mobile homes in each city is provided in Section II. Additional mobile homes are located in rural areas.

Figure 3.24 Daily Temperature Data at Edgeley, ND



Source: <https://xmacis.rcc-acis.org/>

Wind, ice, heavy snow and cold temperatures can combine to create hazardous conditions and “trap” residents in their homes without heat or electricity. Elderly residents may be especially vulnerable to this hazard as they are more likely to have limited mobility, especially in the event of hazardous road conditions. approximately 1,106 residents in the county are 65 years of age or older. The estimated number of residents aged 65 or older by city can be found in Section II.

People required to travel on a daily basis face increased road hazards. According to the 2023 American Community Survey estimate, the labor force in LaMoure County is approximately 2,085 people (50.7 percent of the total population).

Stranded motorists are another vulnerable population. Closed roads and whiteout conditions force them to stop driving and look for temporary shelter.

Critical Facilities

A winter storm event that “traps” fire and ambulance responders within the facility or without access to the facility would severely limit the emergency response capability of the county.

A severe winter storm event would most likely require closure of schools. A winter storm event that begins midday could present issues for students leaving school.

Power outages and loss of heating could impact the elderly and populations that require assistance for daily living who are located in special care facilities.



Property / Economic Impact

It is difficult to estimate the impact of winter storms on property in the county. The most likely damage involves roof collapse due to heavy snow loads and vehicle accidents. Roof collapse is most likely for older structures. According to the 2020 Decennial Census estimates, there are approximately 581 housing units in the county that were built before 1939. Age information is not available for other types of structures in the county.

A winter storm can also result in an increased risk of structure fire due to use of portable heaters and fireplaces during events that involve extremely cold temperatures.

Image of snow at courthouse on March 11, 2019

A severe winter storm can cause significant livestock fatalities. According to the 2022 Census of Agriculture, the market value of livestock sold in LaMoure County was \$18.1 million. Losses vary based on storm severity and duration, but losses to unprotected livestock can be significant following a major storm event. Winter storms in the spring season have the potential to affect calving operations.

Future Development

The potential vulnerability to winter weather in the county is not expected to change in the foreseeable future.

After the significant 2023 ice storm, the communities in LaMoure County have a greater understanding of the large reliance on electricity. LaMoure County has worked with the electrical suppliers to clear roads and assist in bringing their equipment to repair electrical lines. Although expensive, the local electrical companies work to bury lines which helps mitigate power outages, especially in ice storms.

Existing Capabilities

Generators for critical facilities are located at the following cities:

- The City of Jud has a standby generator installed at the fire hall, a high-powered mobile generator for the sewer and water systems, and an additional mobile generator is available for other needs. The city also purchased two portable generators.
- The City of Kulm has a permanent generator at the community center. An additional stationary generator is located at the water tower.
- The lift station at the City of LaMoure has a generator.
- The City of Marion has generators for the fire station and community hall.
- The City of Verona has a generator on their community center and on their lift station.
- The LaMoure County Courthouse has a generator, which is in the City of LaMoure.
- The LaMoure School has a generator and can be opened to the public as a shelter.

Snow removal on rural and city roads is generally timely and effective. Emergency Snow routes are identified and prioritized.

LaMoure County utilizes the Statewide Tree Planting Initiative through the Outdoor Heritage Fund for living snow fence projects. This program pays 75% of the tree planting and fabric installation with landowner qualification. There is also a program through the ND Forest Service called the Windbreak Renovation Initiative which removes non-functional windbreaks and replants them. This program pays 75% of the removal cost and 75% of the replant cost, if qualified.

Table 3.8 - LaMoure County - Miles of Trees Planted					
	2021	2022	2023	2024	2025
Miles of Trees Planted	25.1	25.7	26.1	21.0	28.4

Key Issues and Potential Action Items

Key Issue: LaMoure County averages approximately six days per year with a winter storm event. Severe winter weather events in the county include winter storm, high wind, heavy snow, blizzard, extreme cold/wind chill and ice storm.

- *Potential Action Item:* Coordinate with landowners to identify strategic locations for constructing snow fences.
- *Potential Action Item:* Continue educating residents about winter storm safety.
- *Potential Action Item:* Evaluate opportunities to relocate to optimal locations those critical facilities that are most important to maintain operational readiness during severe winter weather.

Key Issue: A winter storm event that causes a power outage may make it difficult for residents to heat their homes. Elderly residents and residents in mobile homes are the most vulnerable to extreme cold temperatures. Approximately 1,100 residents in the county are over 65 years old.

- *Potential Action Item:* Identify emergency warming shelter(s) and acquire back-up generator(s) to heat shelters and provide electricity during a winter storm event. Promote shelters so residents are aware of their availability.
- *Potential Action Item:* Encourage utility provider to bury electric power lines when undergoing upgrades or repair.
- *Potential Action Item:* Identify and acquire backup generators for all critical facilities in a prioritized manner.
- *Potential Action Item:* Update the LaMoure County snow plow tracking system so the public and first responders can see when and where county roads are open during a snow event.

C.6 Wildland Fire

All Jurisdictions (countywide)

- Overall Risk: Moderate
- Probability: Likely
- Impact: Limited (even though a large wildland fire might cover only a small part of the county, it could potentially cause significant damage and put human lives at risk)

All Cities

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited

Seasonal Pattern

- March – November

Primary Impacts

- Agricultural loss (crops, livestock)
- Blocked roads
- Economic loss
- Explosion
- Hazardous materials release
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation
- Property damage or loss



Hazard Profile

A wildland fire is an unplanned fire, a term which includes grass fires, forest fires and scrub fires either human-caused or natural in origin. Many of the fires occurred in or near urban/suburban areas.

Wildland fires pose increasing threats to people and their property as communities develop in the wildland-urban interface. The wildland urban interface refers to areas where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. The threat exists anywhere that structures are located close to natural vegetation and where fire can spread from vegetation to structures, or from structures to vegetation.

The three major factors that affect the occurrence and severity of wildland fires are the fuels supporting the fire, the weather conditions during a fire event and the topography in which the fire is burning.

These factors affect and increase the likelihood of a fire starting, the speed and direction in which a fire will travel, the intensity at which it burns, and the ability to control and extinguish it. Fuel is the only factor influencing fire behavior that humans have the ability to manage.

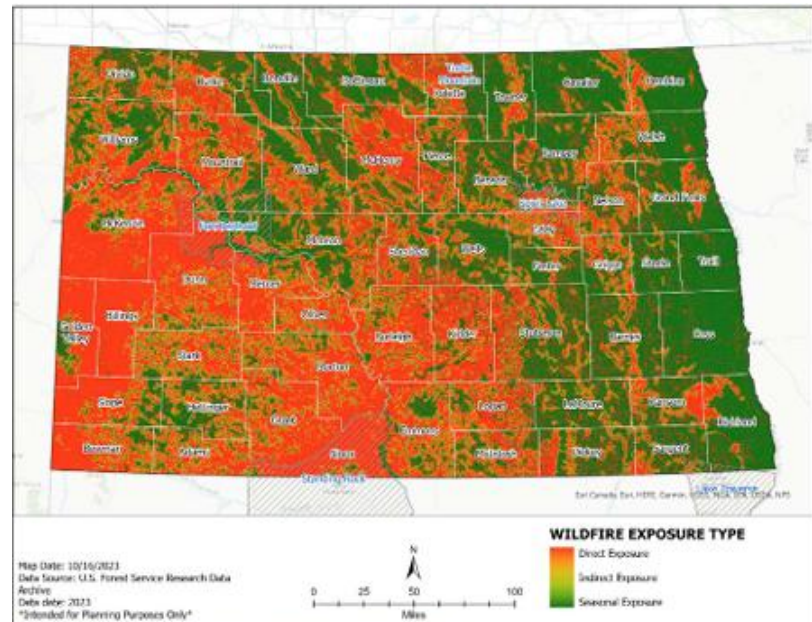
Location

The entire non-urbanized part of the county is at some level of risk from wildland fire. Each city's wildland-urban interface is also at risk from wildland fire.

Extent, Previous Occurrences and Future Probability

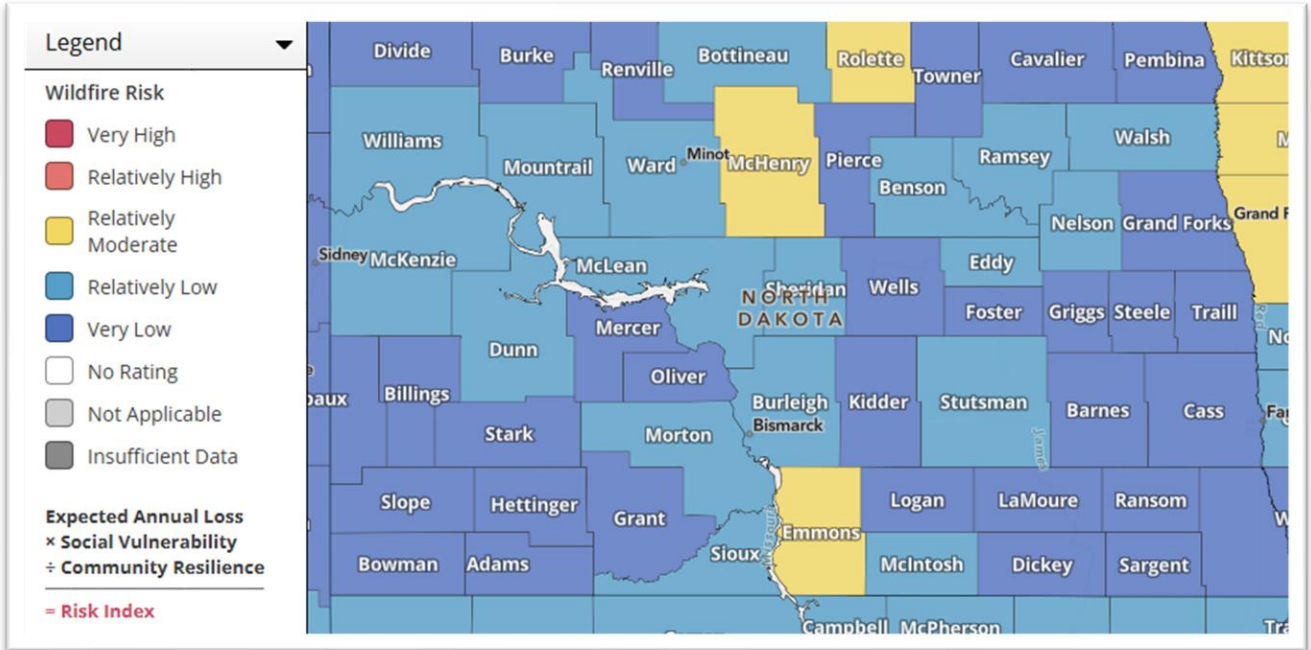
Figure 3.25 North Dakota's Wildfire Exposure Type

Predominate fuel types are classified using the 13 standard fuel models for fire behavior by Anderson. Much of the county is agricultural land, which the Anderson models do not consider to be a significant fuel; however, in times of drought or during harvest season agricultural fields may present a wildland fire risk. The most prevalent fuel in the county is the grass group. The fuel generally burns with a low intensity but can spread quickly. Grass fuel is widely distributed throughout the county. There is very little timber fuel in the county.



As older shelter belts are torn down and replaced, the resulting piles of trees are commonly burned. When properly managed, this is an efficient way to remove the dead trees. One of the larger timber areas of concern is the Lake LaMoure recreational area that has many full-sized trees and little access to the entire area.

Figure 3.26 FEMA Wildfire Risk



Source: [Map | National Risk Index](#)

Figure 3.26 shows FEMA’s National Risk Index identifies LaMoure County has having a very low wildfire risk. The county was identified as having a very low wildfire “Expected Actual Loss” rating as well.

In 2009, the North Dakota Forest Service developed a wildland fire risk assessment for every county in the state based on wildland fire occurrence, fire department response capabilities and weather. The assessment ranked LaMoure County as having a low risk for wildland fire.

On Sunday, October 11, 2015, a dry fall and extremely windy conditions led to a day of grassfires in LaMoure County as well as other parts of North Dakota. Every fire department in LaMoure County was dispatched to at least one fire – many departments had to split their equipment and crews to help others fight fires. In LaMoure County, no homes were destroyed yet one home in neighboring Stutsman County was lost.

A May 12, 2025 article on the North Dakota Emergency Services website identified a break out of fires across North Dakota. Twenty fires had broken out across the state on the previous Sunday with engines and crews having been staged throughout the state to quickly respond and reinforce local firefighter efforts. Two of the twenty fires were in LaMoure County. In total, 60 fire starts were reported over the one weekend, burning over 1,100 new acres.

Figure 3.27 Map of the Wildfire Risk for Verona, ND



Source:

The wildland-urban interface identifies risk areas where fire can spread from vegetation to structures, or from structures to vegetation. Any area where structures are located within or adjacent to wildland environments can be included within the wildland-urban interface. This includes all rural structures in LaMoure County and structures along the edges of each city.



Vulnerability

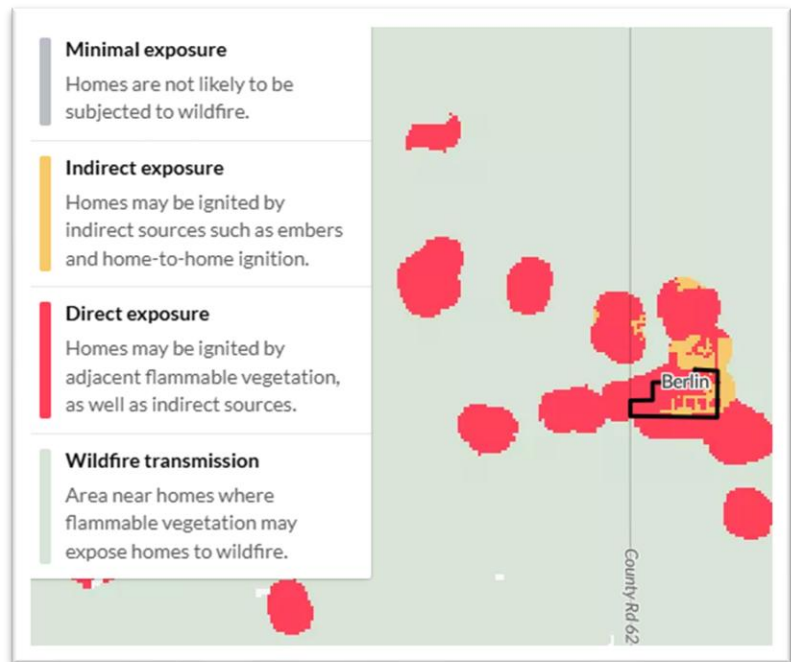
The USDA has an interactive map which allows residents to search for their community and receive information to better understand their risk of wildfire. (Source: [Wildfire Risk to Communities | US Forest Service](#)). The following are summaries of information for each city.

- Berlin has a medium risk of wildfire – higher than 60% of communities in the U.S.
- Dickey has a medium risk of wildfire – higher than 56% of communities in the U.S.
- Edgeley has a medium risk of wildfire – higher than 47% of communities in the U.S.
- Jud has a medium risk of wildfire – higher than 45% of communities in the U.S.
- Kulm has a low risk of wildfire – **lower** than 62% of communities in the U.S.
- LaMoure has a medium risk of wildfire – higher than 64% of communities in the U.S.
- Marion has a medium risk of wildfire – higher than 56% of communities in the U.S.
- Verona is identified by the USDA as having a medium risk of wildfire.

Population

Residents of non-urbanized areas (in the wildland-urban interface) are generally at a higher risk of wildland fire. There are approximately 4,107 residents in the county; of these, an estimated 1,866 live outside of an incorporated city and are at increased vulnerability to wildfire. Assuming an average of 10 percent of residents in incorporated cities live along or near the wildland-urban interface, 224 additional residents are vulnerable to wildland fire. Using these estimates approximately 2,090 residents (51% of total population) in the county are vulnerable to wildland fire.

Figure 3.28 Risk Reduction Zone for Berlin



Source: [Wildfire Risk reduction zones in Berlin, ND - Wildfire Risk to Communities](#)

Air Quality

North Dakota's air is among the cleanest in the United States. North Dakota is one of the handful of states who consistently meet the Federal and State clean air standards.

According to the CDC, most healthy adults and children recover quickly from smoke exposure and will not suffer from long-lasting health effects. However, groups that are at risk of both immediate and long-lasting health effects are higher for those with asthma and other lung diseases, cardiovascular disease, children and pregnant women.

Adults aged 65 and older are at greater risk because they are more likely to already have chronic lung and heart disease. In addition, the body's ability to respond to health challenges generally declines with age. See Section II for details on populations over 65 by jurisdiction.

Critical Facilities

Although nearly all of the county's key facilities are within urbanized areas, which are considered defensible space for wildland fire, several critical facilities are located along the edges of cities near the wildland-urban interface or in rural areas.

Property

The statewide Multi-Hazard Mitigation Plan includes information about crop indemnity payments from the USDA Risk Management Agency.

All residences in the wildland-urban interface are potentially vulnerable to wildland fire. Concern exists for lengthy response times from the local fire departments.

Future Development

There are no requirements for defensible space, adequate water supply, road access, or other measures which might help reduce potential wildland fire risk of future development.

Existing Capabilities

The county website emergency management page provides wildland fire safety notices.

Figure 3.29 North Dakota Watch Center Hot Spot

Local fire protection districts and departments have mutual aid agreements to bring in additional resources when needed.

The North Dakota Watch Center has the capability to look for hot spots. This was successfully activated in the spring of 2025 as LaMoure County fire departments were made aware of one rural fire with this tool.



Source: North Dakota Watch Center – Hot Spots Tool

Wildland fire response in the county is coordinated by several fire districts/departments.

- Edgeley Rural Fire Department
- Jud Fire Protection District
- Kulm Rural Fire Department
- LaMoure Rural Fire Department
- Litchville Rural Fire Department
- Marion Rural Fire Department
- Verona Rural Fire Department

Key Issues and Potential Action Items

Key Issue: LaMoure County experiences a wildland fire greater than 50 acres approximately once per year. Most wildland fires in the county cause minimal property damage.

- *Potential Action Item:* Perform fuel reduction activities in high-risk rural areas.
- *Potential Action Item:* Educate residents about defensible space best practices.
- *Potential Action Item:* Encourage the use of non-combustible materials (stone, brick, stucco, etc.) for new construction in wildland fire hazard areas.
- *Potential Action Item:* Incorporate wildland urban interface guidelines into the county's subdivision regulations.
- *Potential Action Item:* Incorporate automatic burn restrictions when the North Dakota Fire Danger Rating is elevated.

C.7 Space Weather

All Jurisdictions (countywide)

- Overall Risk: Low
- Probability: Unlikely
- Impact: Limited (magnitude could vary widely)

Seasonal Pattern

- None

Primary Impacts

- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation
- Property damage or loss
- Release of hazardous materials
- Structure collapse

Hazard Description

Space Weather is a direct threat to most communities because of the widespread reliance on technological systems. NASA describes space weather as any and all conditions and events on the sun, in the solar wind, in near-Earth space, and in Earth's upper atmosphere that can affect space-borne and ground based technological systems. Generally, it takes the form of particles, electromagnetic energy, and magnetic fields. Space weather events which occur in space near the earth or its atmosphere can be classified as one of three types.

- A geomagnetic storm is a major disturbance of Earth's magnetosphere that occurs when there is a very efficient exchange of energy from the solar wind into the space environment surrounding Earth.
- Solar flares are large eruptions of electromagnetic radiation from the sun lasting from minutes to hours. The sudden outburst of electromagnetic energy travels at the speed of light, therefore any effect upon the sunlit side of Earth's exposed outer atmosphere occurs at the same time the event is observed.
- Solar radiation storms occur when a large-scale magnetic eruption, often causing a coronal mass ejection (CME) and associated solar flare, accelerates charged particles in the solar atmosphere to very high velocities.

These events can affect critical facility infrastructure and technology in various ways. Generally, they can disrupt surface-to-surface and surface-to-orbit communications. Additionally:

- Strong electrical currents driven along Earth's surface during auroral events disrupt electric power grids and contribute to the corrosion of oil and gas pipelines.

- Changes in the ionosphere during geomagnetic storms interfere with high-frequency radio communications and Global Positioning System navigation.
- During polar cap absorption events caused by solar protons, radio communications can be compromised for commercial airliners on transpolar crossing routes.

Location

Space weather events from the sun or asteroids can impact any place on earth and can be expected to have impacts that affect the entire geographical area of the county.

Extent, Previous Occurrences, and Future Probability

There are no recorded catastrophic space weather effects in North Dakota. The nearest recorded storm affected Montreal, Canada on March 13, 1989, when a geomagnetic storm took out their commercial electric power for nine hours, affecting six million people. Other recorded space weather events occurred in September 1859, May 1921, May 1967, and November 2003.

As a reference for magnitude, a space weather event occurred in July 2012 that was not directed toward Earth. If it had been, the effects would have been very more severe than any since the September 1859 “Carrington Event.” The Carrington Event impacted telegraph systems all over Europe and North America. Auroras were seen as far south as the Caribbean in the northern hemisphere. If such an event were to take place now, the effects would be far more devastating. Testimony before Congress as to the level of impact suggests the entire electrical transmission grid could be affected and power plants, substations and transformers that keep the grid operational could be destroyed. Experts disagree about the potential level of impact. Opinions range from disrupting electrical power supply for a few weeks all the way to loss of 90 percent of human lives due to failure of nearly all computer and electrical systems, and ancillary effects. Especially significant potential impacts of major space weather events in LaMoure County include:

- Electrical power for rural LaMoure County runs through six substations. The cities of LaMoure County each have their own substations. It is estimated that it would require from three to six weeks to replace a destroyed substation if the necessary resources were available. A major space weather event would place fixing these substations far down the list of priorities, and the replacement time would be much greater.
- One of the most significant and immediate potential impacts of a space weather event would be disruption or destruction of electronic systems used for healthcare in LaMoure County. Mitigation measures to protect or replace these electronic systems are not in place.
- Emergency communications systems and all other communications systems are critical to emergency notification and response functions in LaMoure County and could be disrupted or destroyed by a major space weather event. Mitigation measures to protect or replace these communications systems are not in place.

Vulnerability

It is assumed that space weather hazards may occur at varying levels of intensity. In lesser levels of intensity some electronic or electrical systems which are more sensitive may fail, but others may continue to function. In greater levels of intensity, more or most electronic or electrical systems may

fail. Vulnerability at greater levels of intensity may include loss of all unhardened or unprotected electrical or electronic systems.

Population

Except in the case of a high intensity solar radiation storm, the direct impacts of a space weather event on people is limited. However, nearly all or all of the LaMoure County population relies directly or indirectly on electricity for normal, essential functions such as heating and cooling, obtaining water, waste disposal, food refrigeration, communications, and transportation. If a space weather event caused the loss of power, the impact for a short time would be an inconvenience for most, but critical to life support for a few. Loss of power for a long time could result in a variety of increasingly serious cascading events.

Critical Facilities

All critical facilities in LaMoure County rely on electrical power to function properly. Many of these critical facilities do not have a backup power source. If these backup power sources were not affected by a space weather event, the critical facilities they support could function in the short term. However, in the case of a high intensity space weather event it is probable that fuel outages would result in the eventual loss of function for all critical facilities.

The resulting impacts in each jurisdiction are as follows:

- Berlin – The City of Berlin has a portable working generator which can be used at the community building.
- Dickey – The City of Dickey has both a town hall and an outdoor warning siren that could be impacted by a space weather event.
- Edgeley – The city is served by three different power sources and does not have any emergency generators. A high intensity space weather event is assumed to disrupt the power supply from all three sources thus leaving all critical facilities without power.
- Jud – All the critical facilities in Jud have emergency power available: a standby generator installed at the fire hall, a high-powered mobile generator for sewer and water systems, and an additional mobile generator for other needs.
- Kulm – Both Kulm’s lift stations have standby generators that would keep them operational in the event of a power outage, and an additional standby generator is in place at the community center. The remaining critical facilities do not have emergency power available.
- LaMoure – In LaMoure, the LaMoure County Courthouse, Benedictine Long-Term Care Facility, and LaMoure Public School each have a standby generator installed. The remaining critical facilities do not have emergency power available.
- Marion – Marion’s primary sanitary lift station has a standby generator, and its fire hall has a mobile generator. The remaining critical facilities do not have emergency power available.
- Verona – Verona’s primary sanitary lift station has a standby generator, as does its community center (Bear Creek Lodge). The remaining critical facilities do not have emergency power available.
- LaMoure County – Generators have been added to county shops.

Property / Economic Impact

The loss of electricity for a short time would primarily impact structures that are heated with electricity or protected from seepage by sump pumps in areas with high water tables. Buildings directly or indirectly dependent on electricity will likely be uninhabitable during winter months.

Future Development

There are no direct Impacts of space weather events on future development. Traditional development patterns would be subject to the same impacts anticipated for existing property, critical facilities, and populations.

Existing Capabilities

The county has two backup paging countywide systems located in Edgeley and Kulm for their fire and ambulance services. The backup paging system in Kulm is served by the generator at the community center.

There are no medical facilities – only long-term care, basic care, and assisted living facilities. Electronic systems are privately or state owned.

Key Issues and Potential Action Items

- *Key Issue:* Widespread, long-term loss of electrical power will lead to loss of life, disruption of life as we know it in LaMoure County.
 - *Potential Action Item:* Encourage household level preparations to mitigate the impacts of sustained widespread power loss.
 - *Potential Action Item:* Harden electrical components and systems for critical facilities (especially emergency response services) against the anticipated impacts of a space weather event.
 - *Potential Action Item:* Appoint a strategic planning team to consider the long term impacts of a major space weather event and develop a strategic plan to mitigate the impacts on LaMoure County.
 - *Potential Action Item:* Add an additional generator at the long-term care facility and assisted care facility in LaMoure to allow them to both fully function building during a long term power outage.

C.8 Dam Failure

All Jurisdictions (Countywide)

- Overall Risk: Low
- Probability: Unlikely (no history of significant failure)
- Impact: Limited (minimal structures within inundation area)

Seasonal Pattern

- None

Primary Impacts

- Agricultural loss (crops)
- Blocked or damaged roads
- Economic loss

Hazard Description

A dam is defined as an artificial barrier across a watercourse or natural drainage area that may impound or divert water. Dams have many potential uses, including hydro-electric power generation, irrigation, flood control, water supply and recreation. Dam structures can be earthen or from manmade materials. Dam failure is a sudden, uncontrolled release of impounded water, and can have a devastating effect on people and property downstream.

The Association of State Dam Officials identifies five primary causes of dam failure, which are often interrelated:

- Overtopping of a dam occurs when water from the reservoir spills over the top of the dam, creating instability in the structure. This can occur during a major flood event if the spillways are not adequately designed or if there is blockage in the spillway.
- Foundation defects, including settlement and slope instability, is a cause of dam failures.
- Piping is a term used to describe the process that occurs as seepage pathways create eroded pipes through a structure. Seepage often occurs around hydraulic structures and earthen features, and if left unchecked can gradually reduce the dam structure's stability.
- Structural failure of materials used to construct the dam is a less common cause of dam failure.
- Inadequate maintenance is also a possible cause of dam failure.

The Association of State Dam Officials and the US Army Corps of Engineers utilize a rating system to determine potential hazard to property or life if a dam were to suddenly fail.

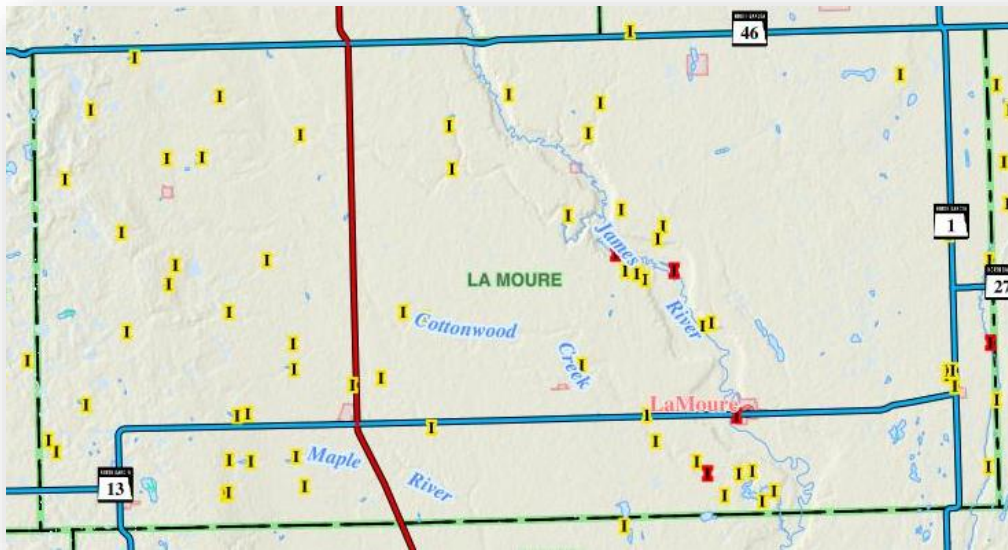
- *Low:* Dams located in rural or agricultural areas where there is little possibility of future development. Failure of low hazard dams may result in damage to agricultural land, township and county roads and farm buildings other than residences. No loss of life is expected if the dam fails.
- *Significant:* Dams located in predominantly rural or agricultural areas where failure may damage isolated homes, main highways, railroads or cause interruption of minor public utilities. Potential for the loss of life may be expected if the dam fails.

- **High:** Dams located upstream of developed and urban areas where failure may cause serious damage to homes, industrial and commercial buildings and major public utilities. Potential for loss of life if the dam fails. High hazard dam reservoirs must be at least 50 acre-feet. According to the statewide Multi-Hazard Mitigation Plan, no North Dakota dams rated as high or medium have failed in recent history; however, there have been failures of low hazard dams and events where dams were damaged. The North Dakota Century Code requires that all dams with greater than 1,000 acre-feet of storage have emergency procedures and safety plans. Safety plans must include a map of the evacuation area, notification directory, name of the dam owner or responsible entity, availability of materials for emergency repairs, and a list of contractors that could provide emergency assistance.

Location

The North Dakota State Water Commission maintains a database of all dams in the county. There are 30 dams in LaMoure County. Cottonwood Creek Dam, also known as Lake LaMoure is the only one classified as a significant hazard. All dam locations in the county are shown in Figure 3. 30

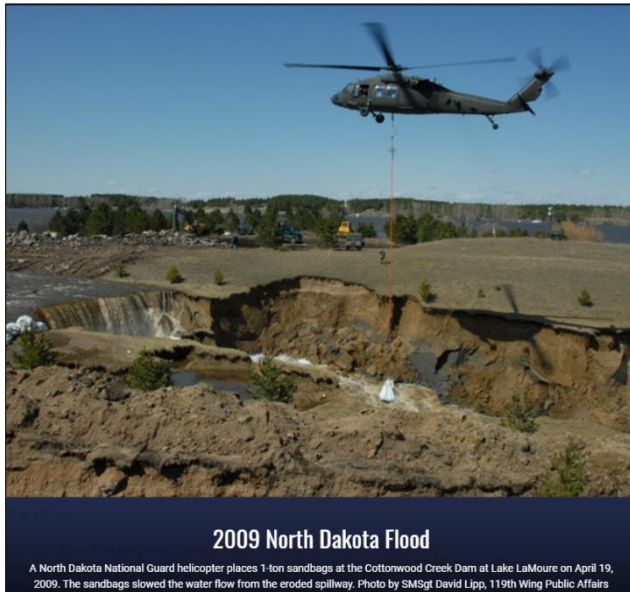
Figure 3.30 Dam Locations



Source: Department of Water Resources

Jamestown Dam and Reservoir in central North Dakota provides flood protection and has a potential municipal water supply for the city of Jamestown, North Dakota. The flood control feature of the Jamestown Dam is effective in reducing flood dangers in Jamestown, North Dakota, and areas downstream along the James River. It is a project of the Bureau of Reclamation and was completed in 1954. Pipestem Dam and Reservoir is owned, operated, and maintained by the U.S. Army Corps of Engineers. Completed in 1973 on Pipestem Creek, it was the second of two dams built by USACE and the Bureau of Reclamation to reduce impacts from flooding on life safety and property in Jamestown, N.D and the James River. Water storage and its release from Pipestem Lake are coordinated with Reclamation who owns Jamestown Dam and Reservoir.

Extent, Previous Occurrences, and Future Probability



In 2009, Cottonwood Creek Dam was at risk of complete failure. The earthen dam was being overtopped and eroded. Emergency efforts, including helicoptering large barriers to help stabilize the situation, were undertaken. Since then, the dam has been rebuilt with a concrete spillway and changes to the downstream outflow area to provide a better buffer for high water release situations.

Cottonwood Creek Dam is located approximately 4 miles south of the City of LaMoure. Failure of the dam would result in water draining primarily southward and following the streambed of Cottonwood Creek for approximately 2.5 miles until it reaches the James River. The Creek runs

under County Road 60 and a township road en route to the James River. It also runs adjacent to one rural homestead. Possible consequences of dam failure include erosion of the Cottonwood Creek channel, damage to bridge structures at the two road crossings noted above, and crop or pastureland flooding.

The remaining 29 dams are classified as low hazard dams, which generally means that the impact of their failure may be damage to agricultural land, crops and scattered farm buildings. There may also be minor road inundation for short time periods, but no loss of life or damage to residences is anticipated from the failure of this class of dam.

The Limesand-Seefeldt Dam, a low hazard dam, was identified by the North Dakota Department of Water Resources in December 2023 in very poor condition. It is located in LaMoure County in the NW ¼ of Sec. 29, T. 135 N., R. 61 W. The James River is approximately one mile downstream. Through coordination with the North Dakota Department of Water Resources, North Dakota Game and Fish as well as local sportsman groups, the dam was lowered to prevent failure and is continually monitored. There is one county road between the dam and the river that would likely be impacted if the dam failed. There is also a public recreation area at the reservoir. The adjacent photo is of an aged and damaged dam outlet.



Two High Hazard Potential Dams exist upstream of a few LaMoure County communities. Jamestown Dam is located on the James River in Stutsman County and provides flood protection. Pipestem Dam is also located in Stutsman County.

The LaMoure County Emergency Management Office has copies of the “US Army Corps of Engineering Emergency Action Plan – Pipestem Dam and Lake Pipestem Creek Jamestown, North Dakota” and

“Emergency Action Plan Jamestown Dam US Department of the Interior US Bureau of Reclamation” reports for reference. LaMoure County also participates in annual operational meetings for these dams as well as full scale exercises or tabletop exercises, when available.

Table 3.9 - LaMoure County Significant Hazard Dams					
Dam Name	Action Plan	Owner	Type	Year Built	Max Storage (acre-feet)
Cottonwood Creek Dam	Yes	City of LaMoure	Recreation	1973	16,839
Jamestown Dam	Yes	U.S. Bureau of Reclamation	Rolled-Earth	1953	230,000
Pipestem Dam	Yes	U.S. Army Corps of Engineers	Embankment	1973	181,650

Source: ND State Water Commission

Vulnerability

Population

There are no cities located in the vicinity or inundation area of Cottonwood Creek Dam. There is an Emergency Action Plan completed for this dam. There is one rural homestead that could possibly be affected by the dam failure.

The cities of LaMoure and Dickey, as well as townships along the James River, would be affected by Jamestown or Pipestem dam failures. These areas are considered in the FEMA FIRM maps. The communities also have plans and extrapolated data to know the time it would take for the water to reach these areas and the expected water height.

Critical Facilities

County Road 60 is a significant route serving the area south of the City of LaMoure. Dam failure could possibly wash out the county road in the vicinity of Cottonwood Creek. No critical facilities are in the inundation path.

Property / Economic Impact

There is one rural homestead that could possibly be affected by the failure of Cottonwood Creek Dam.

Future Development

There are no development regulations that specifically address dam failure inundation areas.

Existing Capabilities

The city of LaMoure identified that they have an emergency action plan for dam failure of the Cottonwood Dam, which is a significant hazard rated dam in LaMoure County. Both the Jamestown and Pipestem dams have action plans and annual contacts are updated with the US Bureau of Reclamation and US Army Corps of Engineers.

LaMoure County participates in annual meetings on the operation of both projects as well as receives updates regarding changes in releases from both dams. LaMoure County has received information on the timing and flood effects of failures of both dams and incorporates this information into local county emergency operation plans. In addition, LaMoure County Emergency management has been invited to tabletop exercises and tours of the dams hosted by the USACE and Bureau of Reclamation.

Key Issues and Potential Action Items

Key Issue: Cottonwood Creek Dam failure would be a significant regional event, but the magnitude of impacts is not defined because no emergency action plan has been completed.

- *Potential Action Item:* Work to communicate action and shared information with the county
- *Potential Action Item:* Restrict future development in the downstream and low-lying areas between Cottonwood Creek Dam and the James River.
- *Potential Action Item:* Repair and harden the Limesand-Seefeldt dam.
- *Potential Action Item:* Review low hazard dams and remove inadequate low hazard dam structures.

C.9 Hazardous Materials Release

LaMoure County

- Overall Risk: Moderate
- Probability: Likely
- Impact: Negligible

Verona

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited

Berlin

- Overall Risk: Moderate
- Probability: Likely
- Impact: Limited

Dickey

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited

Edgeley

- Overall Risk: Low
- Probability: Unlikely
- Impact: Limited

Jud

- Overall Risk: High
- Probability: Possible
- Impact: Critical

Kulm

- Overall Risk: Low
- Probability: Unlikely
- Impact: Limited

LaMoure

- Overall Risk: Low
- Probability: Unlikely
- Impact: Limited

Marion

- Overall Risk: Low
- Probability: Unlikely
- Impact: Limited

Seasonal Pattern

- None

Primary Impacts

- Blocked roads
- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation

Hazard Description

A hazardous material is any substance that has the potential to cause harm to humans, animals or the environment, either by itself or through interaction with other factors. The U.S. Department of Homeland Security defines a hazardous materials release as the “improper leak, discharge, or disposal of hazardous materials or substances which poses a significant threat to human health, safety, property, and the surrounding environment” (DHS, 2023).

Hazardous materials incidents can occur at a fixed facility or while a material is transported. Common hazardous materials incidents at fixed sites include the improper storage, treatment and disposal of hazardous waste at manufacturing and processing facilities. Transportation-related hazardous materials incidents generally occur along major transportation routes such as highways, interstates, pipelines and railroads.

Common hazardous materials found in North Dakota include natural gas, anhydrous ammonia and crude oil. Natural gas is commonly used in North Dakota, often in its refined form of propane or butane. Propane and butane are generally transported as a liquid but will vaporize in the event of an unintended release (butane only vaporizes at temperatures above 32 degrees Fahrenheit). In their gaseous form they are both heavier than air and generally remain close to the ground. Propane and butane are both highly flammable and present the risk of explosion. Exposure to propane and butane can also be a health hazard. Acute exposure can cause asphyxiation, respiratory irritation and physiological damage; however, these effects are most likely to occur in enclosed spaces or areas with poor ventilation.

Anhydrous ammonia is used in manufacturing, refrigeration and fertilizer. It is often stored and transported as a pressurized liquid, but it will vaporize under normal pressure. Anhydrous ammonia has explosive potential, but it requires extremely high temperatures to ignite. It generally only produces a significant health hazard when released in poorly ventilated areas, but when exposed to moisture it can cause a low-lying ammonia fog. Effects of acute anhydrous ammonia exposure include severe irritation to the eyes, respiratory tract, gastrointestinal tract and skin; severe repetitive exposure can cause permanent damage to these tissues. Anhydrous ammonia is not known to be carcinogenic. Crude oil poses a significant risk due to its high flammability. It may release flammable vapors that increase the risk of explosion.

Crude oil also poses several health risks. Exposure to crude oil can come from direct contact, inhalation or ingestion. Acute exposure to crude oil can cause direct effects such as skin irritation, breathing difficulty,

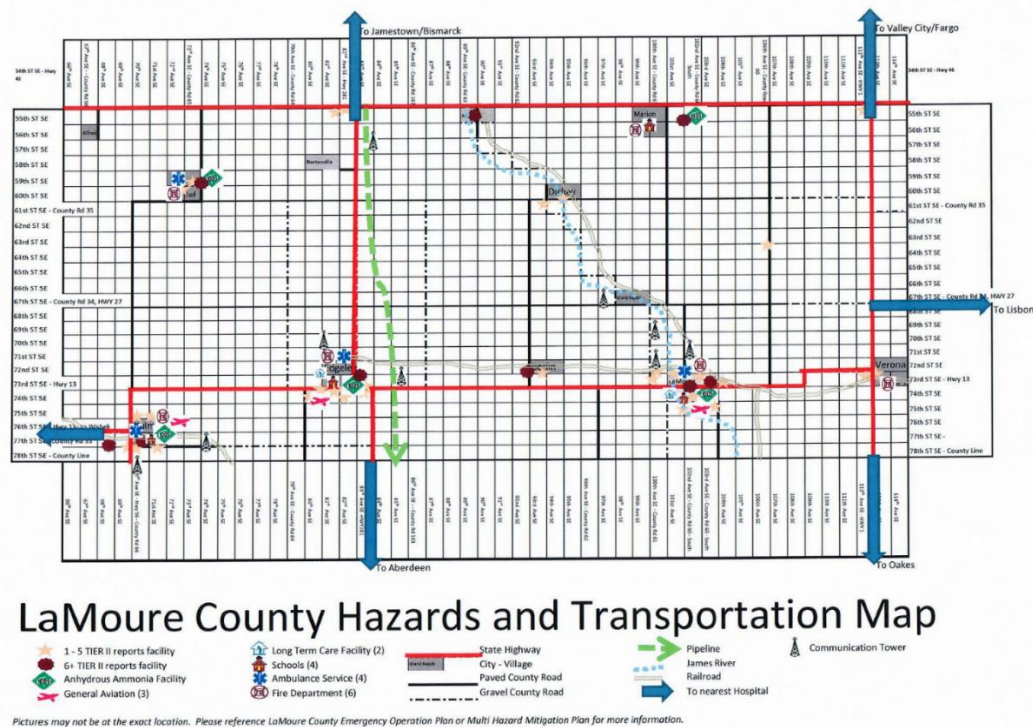
headaches and nausea. Acute exposure may also lead to long-term complications such as lung, liver or kidney damage, and increased cancer risk.

Location

Transportation routes present the most significant risk for a hazardous materials release in LaMoure County. Highways and railroads are the primary transportation routes through the county. US Highway 281 is a major north-south route that experiences moderate traffic volumes, including trucks carrying hazardous materials. Other highways in the county also experience truck traffic. Materials transported on truck through the county include fuel and anhydrous ammonia. Red River Valley & Western Railroad and Dakota Missouri Valley and Western Railroad run through the county roughly along to ND Highway 13 and along a northern portion of the James River. Figure 3.31 identifies the county's transportation maps, illustrating areas of potential hazards.

The Emergency Planning and Community Right-to-Know Act (EPCRA) requires that operators of facilities containing hazardous materials and chemicals must identify themselves to appropriate state and local agencies. North Dakota requires that all hazardous materials operators submit Tier II Chemical Inventory Reports to the county's Local Emergency Planning Committee (LEPC) on an annual basis. Typical Tier II facilities include bulk fuel plants, anhydrous ammonia plants, propane plants, agricultural processing plants and energy producing sites.

Figure 3.31 LaMoure County Hazards and Transportation Map



Source: LaMoure County Emergency Management

Extent, Previous Occurrences, and Future Probability

The National Response Center is an interagency effort managed by the US Coast Guard that catalogs all reported hazardous materials incidents in the United States. The Pipeline and Hazardous Materials Safety Administration (PHMSA) is part of the US Department of Transportation and monitors all transportation related hazardous materials incidents in the United States. Table 3.9 summarizes reported hazardous materials incidents in LaMoure County reported to the National Response Center and PHMSA between 2020 and 2025. There were no reported incidents during the time period.

However, there was a pipeline leak in June 2022 – NRC133-8400. A pinhole leak in a 6-inch distribution pipeline in northern LaMoure County caused approximately 250 gallons to be a loss in a cultivated field. No local first responders were needed at the scene as the company provided clean up and mitigation. The cause appeared to be from a lightning strike.

Figure 3.31 shows major transportation corridors in the county. Tier II facilities and pipelines are not shown on a map due to security concerns, although their hazard areas are utilized to calculate risks and vulnerabilities by the local jurisdictions. Recommendations for initial evacuation in the case of fire for common hazardous materials are shown below:

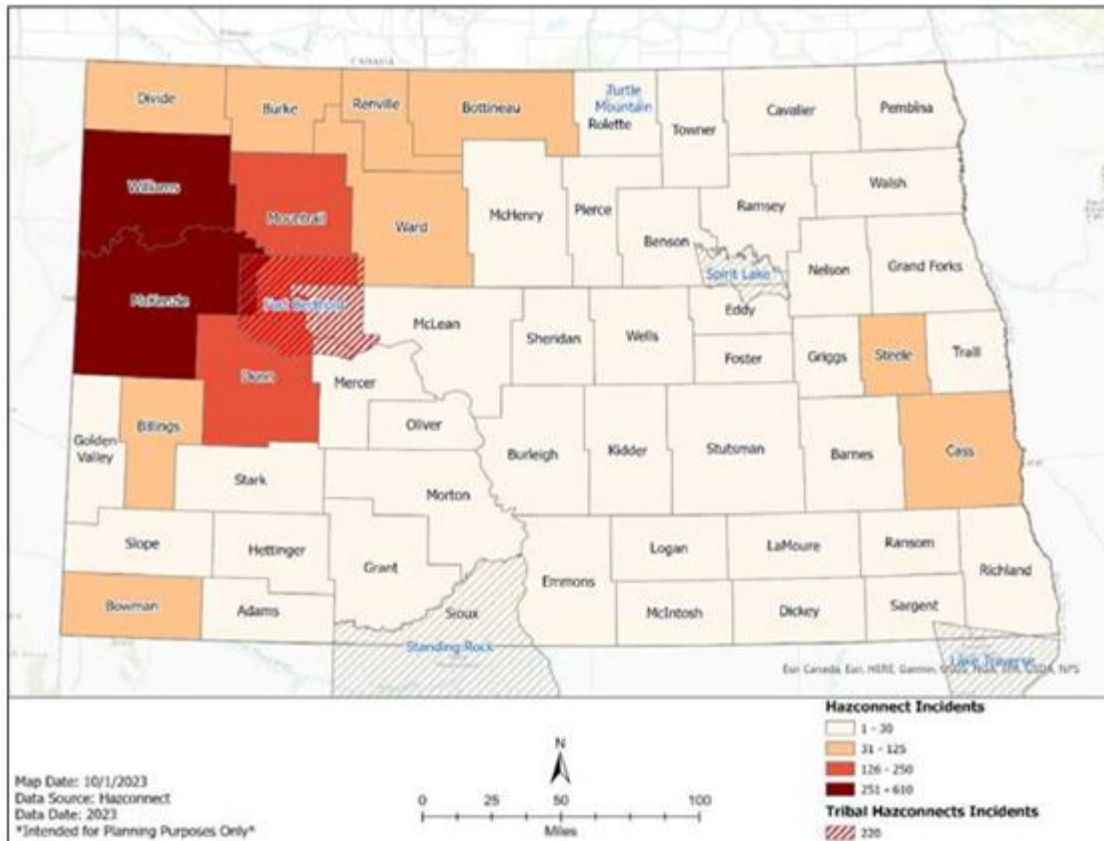
- Crude oil, petroleum and diesel fuel: 1/2 mile evacuation
- Propane, natural gas: 1 mile evacuation
- Anhydrous ammonia: 1 mile evacuation

- Chlorine: 1/2 mile evacuation
- Ammonium nitrate fertilizers: 1/2 mile evacuation

Table 3.10 Hazardous Materials Incidents in LaMoure County 2020 - 2025	
Material	# of Incidents
Liquid Oxygen	0
Train Strike	0
Total	0

Source: National Response Center, PHMSA Incident Reports Database

Figure 3.32 Location of Incidents Reported to the State via HazConnect, 2021 - 2023



Vulnerability

Population

Vulnerable population can be estimated by identifying the intersection of 2020 US Census Blocks and the identified hazard areas. Census blocks in rural areas are generally large, which makes detailed estimates difficult. The total population located within 1 mile of the hazardous materials transportation routes is over 2,000.

Critical Facilities

Nearly all critical facilities in the county are within the 1/2 mile and 1 mile hazard areas.

Property / Economic Impact

Nearly the entirety of each incorporated city is within the 1/2 mile hazard area.

No significant property damage stemming from a hazardous materials release has been reported since 2000.

Future Development

The county's vulnerability to hazardous materials is not expected to change in the foreseeable future.

Existing Capabilities

- Local emergency responders have limited capabilities to respond to hazardous materials releases. Their primary objective and response is to cordon off and evacuate the hazard areas.
- Hazardous materials operators are responsible for clean-up and reclamation of incident sites.
- North Dakota does have regional response teams for Hazardous Material Releases, but these sources are in Jamestown or Fargo which are at least a 60-minute drive time away.

Key Issues and Potential Action Items

Key Issue: Many residents in the county, including all city residents, live in a potential hazard area for a hazardous materials incident.

- *Potential Action Item:* Survey the number and types of hazardous materials passing through the county.
- *Potential Action Item:* Educate first responders and residents about hazardous materials safety.
- *Potential Action Item:* Designate evacuation shelter facility for each city located a safe distance from potential sources of a hazardous materials incident.
- *Potential Action Item:* Explore the possibility of bypasses around populated areas when possible.
- *Potential Action Item:* Consider limiting development in areas with greatest proximity to potential hazardous materials incidents

C.10 Urban Fire

LaMoure County

- Overall Risk: Moderate
- Probability: Possible (history of major incidents)
- Impact: Limited (area of impact could vary widely)

Seasonal Pattern

- None

Primary Impacts

- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation
- Property damage or loss
- Release of hazardous materials
- Structure collapse

Hazard Profile

Fires may begin intentionally (arson) or by accident. Common motives for arson are insurance fraud, vandalism and murder. Common causes of accidental fires are cooking equipment, heating equipment, electrical distribution and lighting equipment, cigarettes, clothes dryer or washer, candles, and spontaneous combustion. According to the NFPA, unattended cooking is the leading cause of structure fires, with frying as the leading type of cooking activity. Heating equipment is the second leading cause of structure fire.

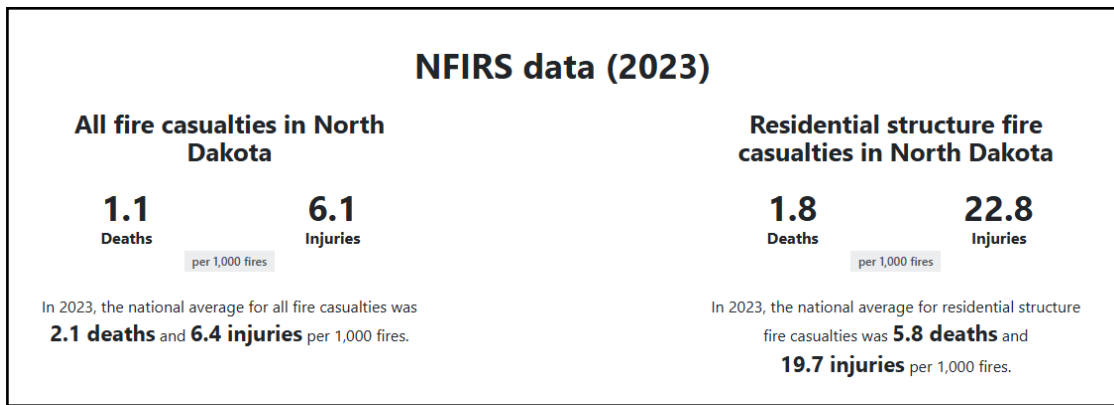
Location

Urban fire events can happen across all the cities in LaMoure County where structures are available as fuel.

Extent, Previous Occurrences, and Future Probability

Urban fire is a threat to all communities. A small flame can begin inside a structure and rapidly turn into a major fire, creating a costly and deadly situation.

According to the North Dakota Fire Marshal Office, North Dakota fire departments reported 51,523 total incidents in calendar year 2024, a decrease of 2,577 or 4.8% from 2023.



Most structure fires are individual disasters and not community wide, but the potential exists for widespread urban fires that displace several businesses or residences. The greatest risk of a multiple-structure urban fire is in historic downtowns. The largest recorded urban fire in the county occurred in downtown Edgeley in the 1952 when an explosion caused a fire to break out and spread to five wooden buildings on the west side of Main Street in Edgeley. One resident was badly burned but survived the fire.

In February 2011, the LaMoure School had a fire. The fire was during a cold winter night and several departments were called to help fight the blaze. One classroom had to be completely redone and the entire high school had smoke damage that caused relocation of the students to the Bear Creek Lodge (former Verona School) for several weeks.

Agricultural facilities, such as grain elevators and dryers, are also at risk for significant fires. The Berlin elevator was completely destroyed by a fire in 2007.

In November of 2022, there was a grain fire elevator at Allied Agronomy in the City of Edgeley. Edgeley Fire Department requested mutual aid from LaMoure and Kulm Fire Departments as well as the Sheriff's Department and Edgeley Ambulance responded.



Aftermath of the elevator fire in Edgeley in 2022

Vulnerability

Population

All residents in urban areas of the county are vulnerable to an urban fire event. The county's eight cities contain approximately 2,241 residents (55% of total population in the county).

Critical Facilities

Critical facilities in historic downtowns generally have a greater vulnerability to urban fire because of close building proximity. Grain elevators and electric substations are often located within cities and may also be vulnerable to fire.

Property / Economic Impact

Property value data for individual structures is not available but it is assumed that a large multi-structure fire could cause damages over \$1 million.

Future Development

Six jurisdictions have adopted the North Dakota State Building Code.

Existing Capabilities

All areas of the county are within the service area of a volunteer fire department. North Dakota does have regional response teams for Technical Rescue and Structural Collapse, but those resources are at least a 60-minute drive in Jamestown or Fargo, creating delayed response times.

Key Issues and Potential Action Items

- *Key Issue:* There is history of large-scale urban fire in the county.
 - *Potential Action Item:* Provide education about fire prevention best practices for local business owners and residents.
 - *Potential Action Item:* Continue response preparation with local fire districts.
 - *Potential Action Item:* Remove abandoned structures that could be a target for arson.
 - *Potential Action Item:* Adopt the North Dakota state building code throughout the county.

C.11 Infectious Diseases and Pest Infestation *

*Although listed separately in the community survey used for the plan update, the LaMoure County MHMP includes “Communicable Disease” as part of “Infectious Diseases” and is not designated as a separate hazard.

All Jurisdictions (Countywide)

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited - agricultural losses could total millions of dollars)

Seasonal Pattern

- Although infectious diseases in humans can be spread year-round, the fall and winter season are more prone for the spread of viruses.
- There is a seasonal pattern for Avian Influenza as detections are higher in the fall and spring because wild birds spread the virus as they migrate to their seasonal homes.

Primary Impacts

- Agricultural loss (crops, livestock)
- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation
- School closure

Hazard Description

Infectious Disease

Infectious disease is an illness caused by an infectious agent such as bacteria, virus, fungi, parasites or toxin. Infectious diseases of particular concern are those that can lead to the loss of human life or widespread loss of crops and livestock. A severe Infectious disease incident has potential for catastrophic effects on human populations and the economy.

There are numerous ways for infectious disease to spread among humans: physical contact with an infected person, contact with contaminated object, bites from animals or insects carrying the disease, or air travel. A widespread occurrence of infection in a community is called an epidemic. Epidemics may lead to quarantines, school and business closures, and stress on medical facilities. A widespread epidemic (often countrywide or worldwide in scope) is referred to as a pandemic. The global COVID-19 pandemic was the most recent, notable pandemic.

Pest Infestation

In line with the North Dakota 2024 – 2029 Enhance Mitigation Plan and the European Environment Information and Observation Network (EIONET), a pest infestation is “the occurrence of one or more pest species in an area or location where their numbers and impact and currently or potentially at intolerable levels.”

Location

Infectious Disease and Pest Infestation

Infectious diseases and pest infestations can happen anywhere in LaMoure County. Wherever there is an infected source able to spread to humans, animals or plants, there is at least some possibility of occurrence. All humans in LaMoure County have the potential to become infected, regardless of where they live, though group settings create a higher likelihood of an infection moving through a population.

Extent, Previous Occurrences, Future Probability

Unfortunately, LaMoure County has a history of infectious diseases and pest infestations. Avian influenza, Emerald Ash Borer, and Aquatic Nuisance Species (ANS) infested waters have all occurred within the county's recent history. Other human focused infectious diseases such as the annual influenza virus and the COVID-19 pandemic were also present in LaMoure County residents. Additional plant diseases in North Dakota have included karnal bunt disease and black stem rust race Ug99.

There is a high probability of each of the pest infestations identified continuing in future years due to the challenging nature of containing their spread.

Infectious Diseases – Animals and Plants

Animal and plant diseases can harm the economy through the loss of livestock and crops. Widespread plant and animal diseases can lead to food shortages. Some animal diseases may cause sickness in humans if proper precautions are not taken with infected animals. Diseases that are a threat to cattle include tuberculosis and anthrax.

HPAI - Highly Pathogenic Avian Influenza (HPAI) is highly contagious and usually fatal to poultry. Cases in wild and domestic birds have experienced significant national outbreaks in 2015 and 2022.

LaMoure County poultry operations have been significantly affected by Avian Influenza and must depopulate when affected. Avian Influenza was first reported in a commercial turkey/chicken flock in 2022. Since this time, the commercial and backyard chicken and poultry operations have significantly been affected in LaMoure County. This is a seasonal outbreak due to the flyover of migrating birds and a complete depopulation for the owners of their flocks. LaMoure County has had a case of highly pathogenic avian influenza as recently as September of 2025.

Table 3.10 2025 Highly Pathogenic Avian Influenza (HPAI) Cases in North Dakota

2025 HPAI Cases in North Dakota			
Date Confirmed	County	Flock Type	Control Zone Status
09/08/2025	Dickey	Backyard Chicken Flock	Active
09/07/2025	LaMoure	Commercial Turkey Flock	Active
08/30/2025	Dickey	Commercial Turkey Flock	Active
05/01/2025	Kidder	Backyard Mixed Flock	Released
04/23/2025	Stutsman	Backyard Chicken Flock	Released
Total number of sites affected: 5			
Total number of counties: 4			

Source: *Avian Influenza in North Dakota* | North Dakota Department of Agriculture

Infectious Diseases – Humans

Epidemics and Pandemics

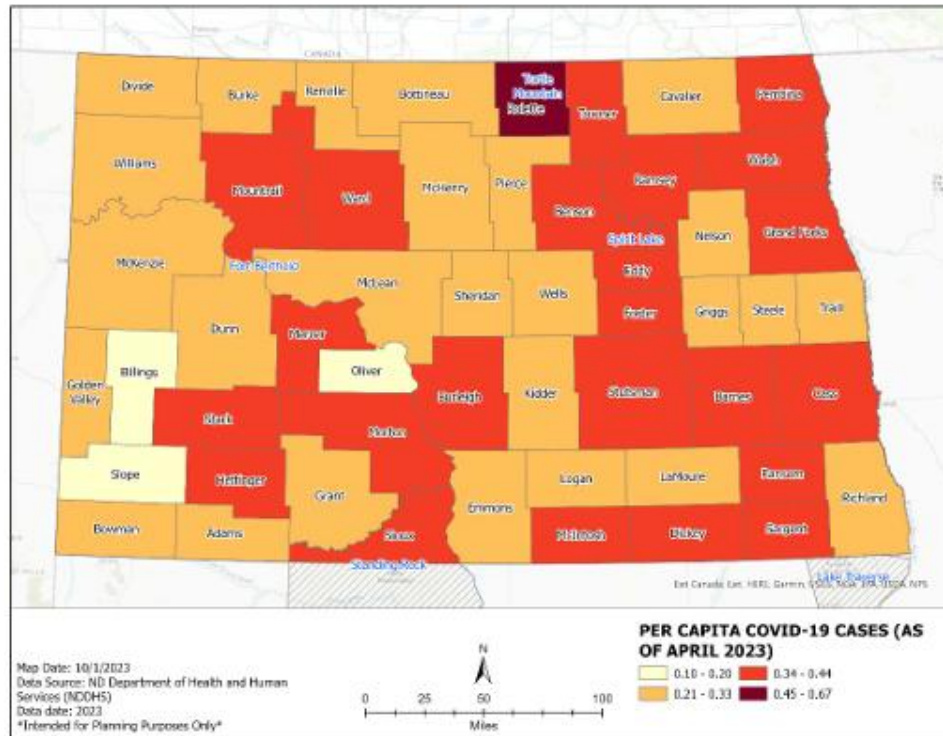
Populations throughout the world are susceptible to epidemics and national pandemics, and LaMoure County residents are no exception, although the generally low population density of the area makes rapid transmission of infectious disease less likely. Although some level of risk can occur anywhere, congregate settings like day cares, schools, and assisted living facilities can facilitate the transmission of infectious diseases more easily.

With an initial number of limited historical events and a recent worldwide pandemic, it is challenging to accurately predict future probabilities, though the highest probability disease outbreak would be the annual influenza outbreak.

Up until 2020, LaMoure County had been fortunate in that it had only experienced a handful of major disease outbreaks since it was founded. The Spanish Flu following World War I killed about 2,700 North Dakotans, infecting over 6,000. The area suffered from outbreaks of West Nile Virus and H1N1 in 2009; fortunately, neither of these incidents had any severe consequences in LaMoure County.

In 2020, the COVID-19 worldwide pandemic created impacts felt even in rural areas across the world. Supply chain disruptions in addition to strain on medical services were just some of the impacts felt in both large and small communities worldwide. With an initial number of limited historical events and a recent worldwide pandemic, it is challenging to accurately predict future probabilities, though the highest probability disease outbreak would be the annual influenza outbreak.

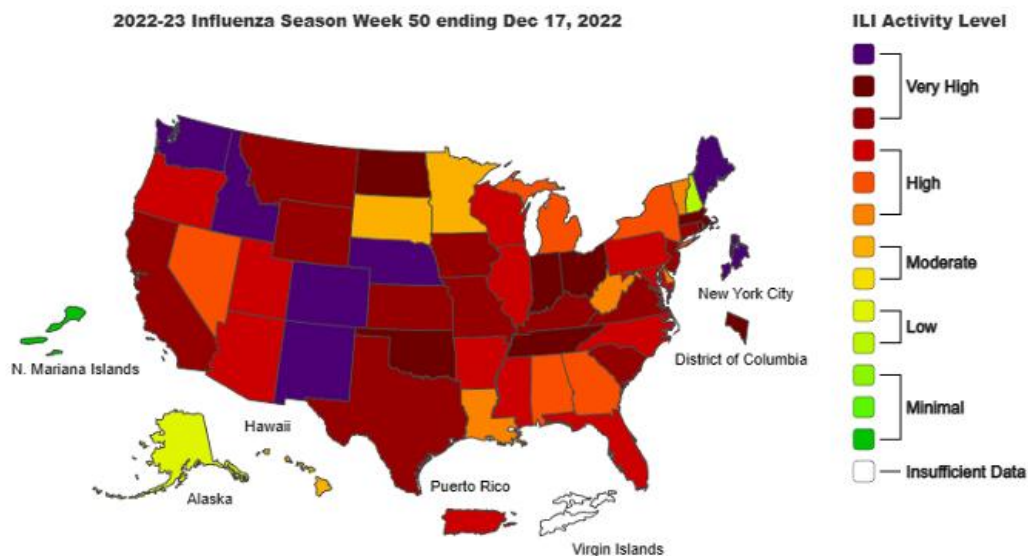
Figure 3.32 Per Capita COVID-19 Cases in April, 2023



Source: North Dakota Department of Health and Human Services, 2023

Influenza occurs in LaMoure County and across the country at varying levels of impact and spread each year and will continue to be present. The map below highlights one week of the 2022 influenza season as the 2022-2023 influenza season was especially active in North Dakota.

Figure 3.33 Influenza Activity Level in December, 2022



Source: [Weekly US Map: Influenza Summary Update | FluView | CDC](#)

Pest Infestation

Emerald Ash Borer - LaMoure County was the first county in North Dakota to report Emerald Ash Borer in 2024. The county has since begun strict restrictions on firewood movement and preventing the spread of the disease. ([Emerald Ash Borer | North Dakota Department of Agriculture](#))



In addition, LaMoure County has *Aquatic nuisance species (ANS)* Infested Waters. ANS are nonindigenous aquatic plants and/or animals that have caused harm to native and desirable species or have a negative effect on aquatic habitats, the environment, or the economy of the state.

Invasive Species - Zebra Mussels have been confirmed in Lake LaMoure, Twin Lakes and the James River. Big Head Carp have been confirmed in the James River in LaMoure County. Silver Carp have also been identified in the James River in lower LaMoure County. The North Dakota Game and Fish Department has rules and regulations pertaining to these ANS. A boat washing station has been placed at Lake LaMoure to prevent further infestation in other lakes. The total economic impact of these infestations is unknown currently.

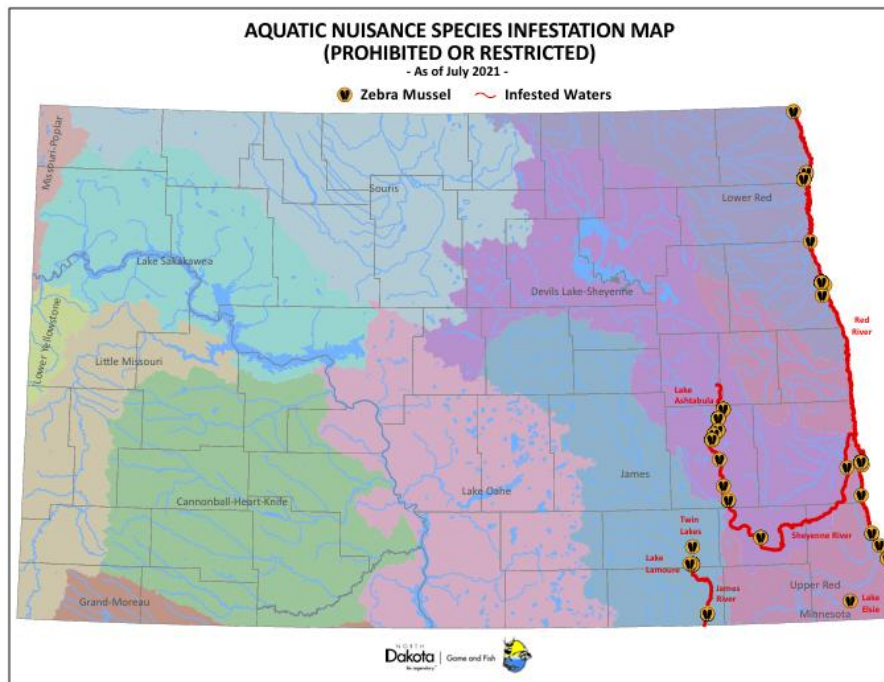
Bighead Carp



Silver Carp



Figure 3.34 Aquatic Nuisance Species Infestation Map



Source: ND Enhanced Mitigation Plan

Vulnerability

Population

Elderly and young persons are most at risk for Infectious disease. The estimated number of residents age 65 or older are provided in Section II. Congregate care facilities and other facilities that have large numbers of people in close quarters can also create vulnerabilities.

According to the North Dakota Department of Health, there were 12,343 cases of influenza for the 2023-2024 influenza season.

Figure 3.35 Influenza and Pneumonia Deaths by Date in 2024

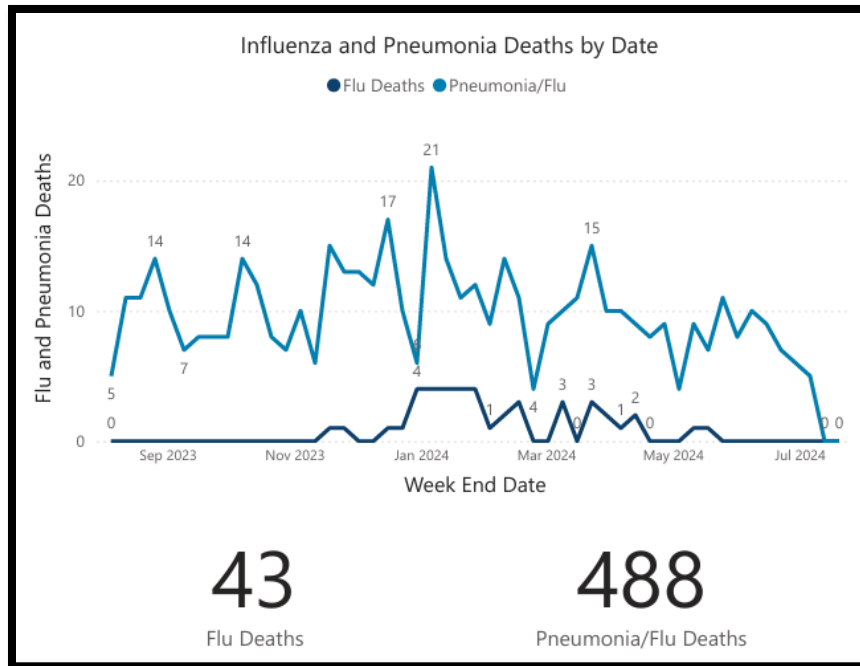
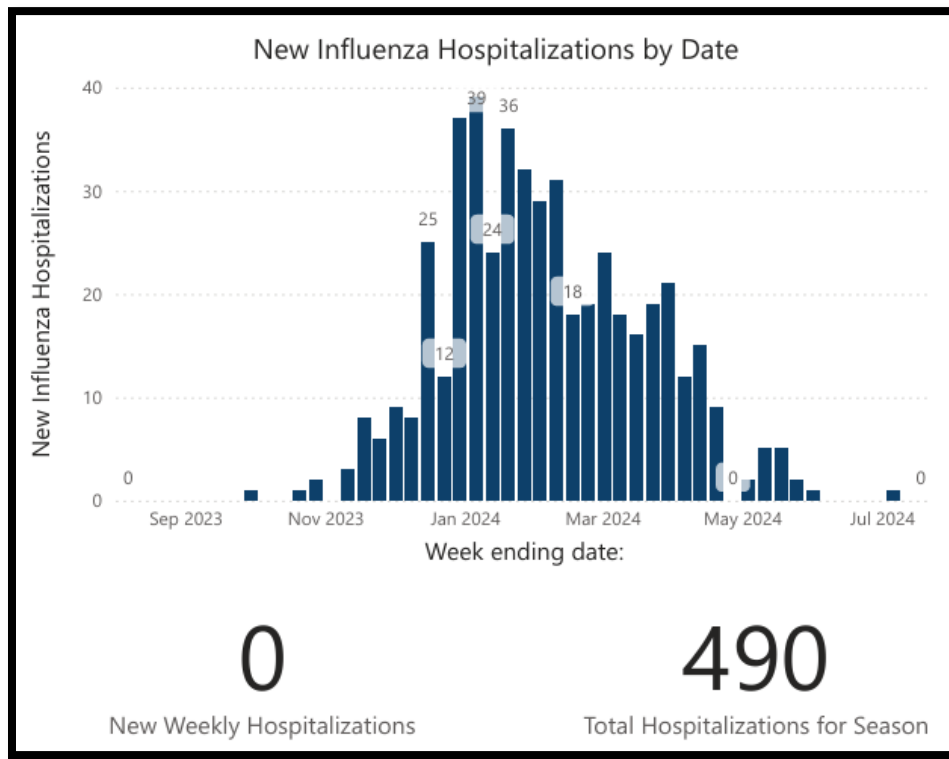


Figure 3.36 New Influenza Hospitalizations by Date



The Hutterian Brethren has two colonies located in LaMoure County. The colonies in LaMoure County have large poultry, hog and agricultural facilities. They rely on the land and grow and produce most of their own food and products. The community has continued to work with government representatives when avian influenza and other pest infestations become a local issue.

In addition, the Hutterian Brethren live in close quarters and have a similar level of vulnerability as to congregate care facilities.

Critical Facilities

Assisted living facilities, hospitals and schools have an increased vulnerability to infectious disease due to the high density and demographics of occupants. Other places of public assembly may also contribute to disease spread. Jurisdictions with these facilities are listed in Section II of this plan.

Property / Economic Impact

The statewide Multi-Hazard Mitigation Plan identified crop losses in the state from 2018 to 2022 averaged \$5,654,099, with wheat losses leading the 16 crops that experienced losses from pests and plant disease.

Future Development

Any minor future development that may occur is not expected to affect the county's physical vulnerability to infectious disease. Potential future development is expected to primarily be low density single-family housing.

Existing Capabilities

The USDA Farm Service Agency has a field office located in LaMoure, and North Dakota State University Extension has a field office also located in LaMoure. Both agencies offer technical assistance to farmers and ranchers for the prevention and treatment of agricultural diseases.

LaMoure County Public Health is located in LaMoure and serves anyone depending on individual program requirements.

There are three general service clinics offering health care in LaMoure County: Sanford Health Clinic located in LaMoure, Sanford Health Clinic in Edgeley, and Kulm Clinic. All three provide a variety of health care services.

There are three veterinary services in LaMoure County: Lisbon Veterinary Service in LaMoure, Edgeley Veterinary Service in Edgeley, and Four Corners Veterinary Service in Kulm.

Key Issues and Potential Action Items

- *Key Issue:* Human and agricultural disease have the potential to greatly impact the health and economy of the county.
 - *Potential Action Item:* Continue supporting the efforts of the USDA Farm Service Agency and NDSU Extension.
- *Key Issue:* Some areas of the county have large amounts of standing water during the spring and summer months, which can attract potentially disease-carrying insects.

- *Potential Action Item:* Develop insect control system during periods of standing water.
- *Potential Action Item:* Provide annual information to producers for Avian Influenza.
- *Potential Action Item:* Continue supporting efforts of the North Dakota Game and Fish departments on the identification and prevention of ANS.

C.12 Transportation Incident

All Jurisdictions (Countywide)

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited (magnitude could vary widely)

Seasonal Pattern

- None

Primary Impacts

- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation
- Property damage or loss
- Release of hazardous materials
- Structure collapse

Hazard Description

Transportation incidents are any large scale vehicular, railroad, aircraft or watercraft accident involving mass casualties. Mass casualties can be defined as an incident resulting in a large number of deaths and/or injuries that reaches a magnitude that overtaxes the ability of local resources to adequately respond.

Location

Transportation incidents can happen anywhere in the county, but are more likely to occur along major highways, along railroad lines, and near airports. There are three airports located in LaMoure County.

Extent, Previous Occurrences, Future Probability

The impacts of transportation incidents are most significant because of the loss of life or major injury. In rural communities, even relatively small incidents may overtax local resources because of the limited resources available to the communities. Another significant hazard associated with these incidents may be a hazardous materials release. Other hazards that may precipitate a transportation incident include severe winter weather and flooding. It should also be noted that the hazard of terrorist attacks has also been aimed at transportation infrastructure and transit systems. These events can affect critical infrastructure systems and local economies in various ways. Generally, they can block major transportation systems for extended periods of time. Additionally, strong electrical currents driven along Earth's surface during auroral events disrupt electric power grids and contribute to the corrosion of oil and gas pipelines.

In 2023, a man was killed when the semi-trailer in front of the vehicle lost a rock from the load that was being driven, and the rock went through the windshield of the following vehicle. In 2022, wind caused a two-vehicle collision on Highway 281, north of Edgeley causing one fatality and one serious injury. In 2024, a woman was injured in a utility vehicle accident in a muddy field.

(<https://www.kfyrtv.com/2024/08/18/2-injured-man-arrested-after-utv-crash-lamoure-county/> <https://www.kxnet.com/north-dakota-news/1-killed-1-seriously-injured-in-lamoure-county-trailer-crash>)

There are 150 miles of state and federal highways in LaMoure County and 60 miles of RRVW or DMVW railroad lines. The two interstate highways do not pass through LaMoure County. However, highway or U.S. routes are 1,875 miles long and pass north to south through the county. They continue on to the Canadian Border and south to Texas which brings significant traffic to the area. While the presence of these major transportation facilities in the county are a basis for local risk, this risk is compounded because hazardous materials are transported regularly along the state highways and the railroad.

Additionally:

- There are three airports in LaMoure County. They are located near Edgeley, Kulm, and LaMoure. An aircraft crash is statistically more likely to take place during takeoffs or landings at these airports than elsewhere. The airport near LaMoure has a landing/takeoff zone directly on State Highway 13 and County Road 60.
- Railroad crossings are another significant point of risk for transportation incidents when a collision between motor vehicles and trains takes place.

Vulnerability

Population

The population of LaMoure County is not generally vulnerable to transportation incidents. The largest potential vulnerability stems from inhabited structures located close to railroads and major roadways.

Critical Facilities

Several critical facilities are located along state highways and railroads. They could potentially have access limited because of a transportation incident. Additionally, the highways and railroads themselves are critical infrastructure that could be disrupted for a significant time period.

Property / Economic Impact

Potential property damage from a transportation incident is most likely when a major transportation route is situated close to major structures. A review of structures situated very close to major roadways in LaMoure County found that there are:

- 2 structures at risk in Kulm
- 8 structures at risk in LaMoure
- 1 structure at risk in Verona

A review of structures situated very close to main rail lines in LaMoure County found that (not including grain handling facilities) there are:

- 3 structures at risk in Berlin

- 5 structures at risk in Edgeley
- 4 structures at risk in Kulm
- 1 structure at risk in LaMoure
- 2 structures at risk in Verona

Future Development

Potential future development property damage from a transportation incident is unlikely as long as appropriate setback requirements are adhered to during development.

The State of North Dakota Department of Transportation (NDDOT) is continually looking to make highways and intersections safer. There is a planned roundabout for the intersection of Highway 13 and 281 in Edgeley in 2026. NDDOT has also added lights to many county road and State Highway crossings/intersections to improve safety.

The LaMoure County Road Department budget is limited and LaMoure County has not been able to maintain all of the paved highways. Over the last 5 years, the county has ground some the paved highways into gravel. The county will need to look at maintaining or removing additional paved highways in the future.

Existing Capabilities

Local emergency response capabilities in LaMoure County include seven ambulances provided by three EMT certified ambulance squads and one substation ambulance. The ambulance and fire departments are served by volunteers. The services work together to ensure each ambulance is staffed.

All local fire departments have CPR/First Aid/Light Rescue and fire response certifications.

The Oakes and Jamestown hospitals have emergency rooms but are classified as Level V and Level IV trauma centers, respectively. The nearest Level II trauma centers are in Bismarck and Fargo.

Key Issues and Potential Action Items

- *Key Issue:* LaMoure County's very rural setting results in limited resources being available to respond to transportation incidents.
 - *Potential Action Item:* Develop a plan to increase the ambulance responder level of training and equipment.
 - *Potential Action Item:* Develop a plan to reward emergency response staff in ways that encourage them to stay in LaMoure County and to increase their skill levels while recruiting additional responders.
 - *Potential Action Item:* Encourage airports to relocate further outside city limits and away from major highways and railroads.

C.13 Civil Disturbance

All Jurisdictions (Countywide)

- Overall Risk: Low
- Probability: Unlikely
- Impact: Limited

Seasonal Pattern

- None

Primary impacts

- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation
- Property damage or loss
- Release of hazardous materials
- Structure collapse

Hazard Description

Civil disturbance is a term used to describe situations where law enforcement and security do not have the resources they need to maintain public order. Civil disturbance can occur when large groups, organizations, or distraught individuals act with potentially disastrous or disruptive results.

Many issues can cause civil disturbance, but most are due to political grievances, economic disputes or social discord, terrorism, or foreign agitators. Additionally, civil disturbance can result following a disaster that creates panic in the community. Civil disturbances are criminal actions and not protected by the 1st Amendment. Forms of civil disturbances may range from groups blocking sidewalks, roadways, and buildings to mobs rioting and looting to gang activity. They can be either spontaneous or planned events.

Location

The location of a civil disturbance could occur any place in LaMoure County.

Extent, Previous Occurrences, Future Probability

Civil disturbances can lead to increased criminal court cases in LaMoure County. LaMoure County has had the following criminal cases each year:

- 2021 – 106
- 2022 – 55

- 2023 – 59
- 2024 - 70

Events that can be classified as civil disturbances have been very limited in North Dakota. There have been two documented events in the last fifty years:

- 1969 – Zip to Zap event. This event was initiated as a large-scale party during a college break but turned into a riot when tensions arose between students and authorities.
- 2016 – Dakota Access Pipeline (DAPL) event. This event was initiated when protestors gathered to express their opposition to the construction of the pipeline. It turned into multiple criminal activities including rioting, vandalism, theft, criminal trespass, terroristic threats, and arson. While the event started with a few hundred protestors it grew into a group estimated at nearly 10,000 participants.

Despite the very rural location of both these documented events, the civil disturbances turned into large scale events requiring law enforcement capacity significantly beyond local resources. Neither event had been anticipated, and local resources were quickly overwhelmed. Communication channels are so immediate and widespread that similar events can be initiated with little to no advance warning to local law enforcement officials.

Impacts from civil disturbances can range from using up limited budgets for local law enforcement to property damage or destruction to potential injury and loss of life. The cost of responding to the DAPL event have been estimated in the neighborhood of \$38 million. Other potential impacts may include disruption of transportation systems and environmental damage.

Although civil disturbances of varying degrees can occur anywhere, it is considered a low probability in most of LaMoure County.

Vulnerability

Population

Since the two documented civil disturbances in North Dakota happened in very rural settings, it should not be presumed that it could not occur in LaMoure County. With the right provocation or initiative such an incident can happen anywhere. Therefore, the entire population of LaMoure County could be considered vulnerable.

Critical Facilities

Similarly, because of the historical precedence in North Dakota, it is not safe to rule out any location or critical facility as being potentially impacted by a civil disturbance.

Property / Economic Impact

It is not safe to rule out any property as being vulnerable to a civil disturbance event. Any residential or commercial building could be impacted. In rare cases, crops could be affected should the civil disturbance event be located in close proximity or be related to the event's impetus.

Future Development

There is a low level of probability that future development in LaMoure County would bring about civil disturbance activities, but the threat does exist.

Existing Capabilities

The DAPL incident provided a lot of information being used in North Dakota to be prepared for similar events. Local law enforcement officials have participated in planning at a regional level for responses to civil disturbances.

Local Law Enforcement work with regional law enforcement teams as well as the Highway Patrol to support each other in civil disturbances.

The National Guard maintains a post in the City of Edgeley. They are also a resource that may be activated for a civil disturbance.

Key Issues and Potential Action Items

- *Key Issue:* The key issue for civil disturbance is unpredictability.
 - *Potential Action Item:* Assuming resource availability will always be a factor, the chief actionable strategy is to be able to gain access to outside resources in a timely manner. Therefore, the action item is to develop collaborative approach to needed resources and to assessing risk.

C.14 Cyber Attack

LaMoure County

- Overall Risk: Moderate
- Probability: Likely
- Impact: Limited

Seasonal Pattern

- None

Primary Impacts

- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation
- Property damage or loss
- Release of hazardous materials
- Structure collapse

Hazard Description

A “Cyber Attack” is the attack or hijack of information technology infrastructure critical to the functions controlled by computer networks, such as operating, financial, communications, and trade systems. Any cyber-attack that creates unrest, instability, or negatively impacts confidence of citizens/consumers can be considered cyber terrorism.

Computer security incidents are an ongoing threat and require due diligence to address accordingly to mitigate any potential disruption to critical infrastructure. There are seven common types of cyber-attacks that governments, businesses and people are at risk to, as described below.

- Socially engineered malware. A normally trusted site is compromised, and the attackers embed malware into the site. Users of the site are tricked into downloading malware onto their computers through a Trojan Horse.
- Password phishing attacks. Emails are designed to look like they are from trusted vendors and users are prompted to enter their passwords to access the content from the email. The site the user is taken to save the password the user provides, which attackers can use to access the real site and the user’s information.
- Unpatched software. Cyber attackers can access software on users’ computers if the software patches are not up to date.
- Social media threats. Friend or application install requests are designed to mask malware or phishing attempts. Users who accept these requests are tricked into providing their email, downloading malware, or otherwise giving cyber attackers access to their computer and data.

- Advanced persistent threats. Cyber attackers gain access to an organization's data using phishing or Trojan Horse attacks. These attacks typically target multiple employees to trick at least one into providing their password or downloading the malware.
- Distributed denial of service. An attack in which multiple compromised computer systems attack a target, such as a server, website or other network resource and cause a denial of service for users of the targeted resource.
- Doxing. Discovery and release of personally identifiable information.

To ensure a quick and proper response to cyber-attacks, systems vulnerable to cyber terrorism should have an incident response plan to minimize negative impacts.

Location

Cyber-attacks can happen anyplace in LaMoure County where there is internet access. A cyber-attack could occur or impact any location in the county. It could occur anywhere in the United States and potentially still have impacts to the county and its people, businesses, governments, and infrastructure. Such attacks can be small scale and localized or affect major segments of the United States.

Extent, Previous Occurrences, Future Probabilities

There were three known large scale cyber-attacks in North Dakota in recent years.

- 2016 DAPL event doxing. Discovery and release of personally identifiable information.
- 2017 UND website distributed denial of service. Discovery and release of personally identifiable information.
- 2018 phishing attack on a North Dakota company. Discovery and release of personally identifiable information.

In a recent cyber-attack, many local grocery stores were affected which can cause supply issues. (<https://www.newscoopnd.org/cyber-attacks-grocery-stores-and-the-ripple-effect-in-rural-north-dakota/>)

Vulnerability

Population

Cyber-attacks can impact individuals by loss of privacy, loss of financial resources, loss or corruption of critical information, loss of time spent resolving or responding to attacks, and several other negative consequences.

Critical Facilities

Cyber attacks can disrupt electronic operations or functions of critical facilities resulting in potentially catastrophic direct and indirect consequences.

Property

Property, facilities and infrastructure can be damaged or destroyed by a cyber-attack incident.

Future Development

Cyber attacks are not anticipated to impact future development patterns or levels.

Existing Capabilities

Standard cyber-attack protection is in place through the County's internet service provider. LaMoure County has participated in the Cybersecurity and Infrastructure Security Agency (CISA) Hygiene Vulnerability Scanning Program. In addition, county employees complete quarterly Cybersecurity Awareness Training provided by the North Dakota Department of Information and Technology.



Key Issues and Potential Action Items

Key Issue: Critical facilities and local organizations are at risk from cyber-attacks.

- *Potential Action Item:* Develop educational materials on best practices to harden electronic systems of critical facilities and local organizations and encourage their implementation.
- *Potential Action Item:* Encourage employees and small businesses to incorporate training to identify phishing attacks and other malware attacks.

C.15 Criminal Terrorist National Attack

LaMoure County

- Overall Risk: Moderate
- Probability: Possible
- Impact: Limited

Seasonal Pattern

- None

Primary Impacts

- Economic loss
- Human loss and injuries
- Increased stress on medical services
- Localized evacuation
- Property damage or loss
- Release of hazardous materials
- Structure collapse

Definition/Hazard Profile

For the purposes of this profile, Criminal Terrorist Nation/State Attack includes chemical attacks, biological attacks, radiological attacks, nuclear attacks, explosive attacks, food/food production attacks, and armed assaults. These can broadly be defined as any intentional adversarial human-caused incident, domestic or international, that causes mass casualties, large economic losses, [large infrastructure damage] or widespread panic in the country.

Threat

Such attacks can result in a variety of hazards. For example, terrorists might compromise a dam leading to catastrophic dam failure. Other hazards that can be intentionally initiated by human actions given the appropriate materials and motivation include infectious disease, transportation incidents, hazardous material releases, utility or communication failures, [cyber attacks] and wildland fires.

Impacts

The magnitude of impacts from such attacks can vary based on the scale of targets, the capacity and resources of the attackers, the degree of effort in preparation and instigation of the attacks, and the degree of mitigation in place to reduce impacts.

History

Illustrating this range in magnitude are the following examples.

- September 11, 2001 attack on the World Trade Center and the Pentagon. This attack killed 2,977 people and injured thousands more, as well as causing billions in damages, and disrupting business and government activities throughout the United States.
- January 21, 1995 attack on the underground phone cable system in Fargo. This attack caused \$1 million in damages and interrupted phone service for 20,000 people.

Location, Extent, Historical Occurrences, Future Probability

Location of these kinds of events can theoretically be anywhere in LaMoure County. Historically in the United States, a higher likelihood exists at places of public assembly or on critical facilities or infrastructure.

Threats to or in North Dakota of Criminal Terrorist Nation/State Attacks are a reality which may not be commonly recognized. Between 2018 and 2022, ten Terrorism Screening Center encounters occurred in North Dakota, none of which were identified in LaMoure County. Between 2018 and 2023, there were 27 reports of a possible nexus to terrorism sent to the FBI according to the North Dakota MHMP.

Vulnerability

Population

Terrorist and Nation/State attacks are commonly aimed at major population centers where the degree of impact may be more significant. Such attacks on LaMoure County are extremely unlikely due to its low population density and lack of targets of national significance. Some types of such attacks may have nationwide impacts that do affect LaMoure County. However, criminal attacks may result from different motivations, be less predictable, and more likely in rural areas like LaMoure County. The active shooter type incident is completely unpredictable and could happen at any location.

Critical Facilities

Terrorist and Nation/State attacks are commonly aimed at targets with national significance and are extremely unlikely in LaMoure County due to a lack of such targets. Some types of such attacks may have nation-wide impacts that do affect LaMoure County. However, criminal attacks may result from different motivations, be less predictable, and more likely in rural areas like LaMoure County. Level of security in local critical facilities is also likely to be lower than in more heavily populated parts of North Dakota or the United States.

Property

As noted previously Criminal Terrorist Nation/State Attacks are not likely to be focused on rural places like LaMoure County. If such attacks were to occur in the county, most of these incidents would likely have limited impacts to property.

Future Development

As noted previously Criminal Terrorist Nation/State Attacks are not likely to be focused on rural places like LaMoure County. Therefore, such attacks are not anticipated to impact potential future development patterns.

Existing Capabilities

The primary response capability in LaMoure County is the Sheriff's Department. As noted previously there are ongoing efforts to organize coordinated responses in North Dakota in the case of city disturbances and criminal terrorist nation/state attacks.

Key Issues and Potential Action Items

Key Issue: The most likely Criminal Terrorist Nation/State Attack incident affecting LaMoure County is likely to be a criminal attack such as an active shooter.

- *Potential Action Item:* Develop educational materials on best practices to enhance security at locations with perceived risk of such attacks and encourage their implementation.
- *Potential Action Item:* Provide ALICE training to schools and other facilities where needed to be able to respond to armed assailants or other violent critical incidents.

SECTION IV: RISK ASSESSMENT

A. Overview of Risk Assessment

FEMA defines risk as the potential for damage or loss created by the interaction of natural hazards with assets, such as buildings, infrastructure, or natural and cultural resources in relation to hazard mitigation.

Other FEMA definitions used across the LaMoure County Multi-Hazard Mitigation Plan include:

- **Probability** – Probability of future hazard events means the likelihood of the hazard occurring or reoccurring. It may be defined in historical frequencies, statistical probabilities, hazard probability maps and/or general descriptors (e.g., unlikely, likely, highly likely). If general descriptors are used, they must be quantified or defined in the plan. For example, “highly likely” could be defined as “100% chance of occurrence next year” or “one event every year.”
- **Impact** – Impacts are the consequences or effects of each hazard on the participant’s assets identified in the vulnerability assessment. For example, impacts could be described by referencing historical disaster damages with an estimate of potential future losses (such as percentage of damage vs. total exposure).
- **Vulnerability** – Another term understandably and easily misconstrued. Vulnerability is a description of which assets, including structures, systems, populations and other assets as defined by the community, within locations identified to be hazard-prone, are at risk from the effects of the identified hazard(s). Based on the hazard mitigation questionnaires that were returned by each jurisdiction, the following hazard risk assessment matrix was developed using hazards, and their perceived impact prioritized by each community.

Based on the hazard mitigation questionnaires that were returned by each jurisdiction, the following hazard risk assessment matrix was developed using hazards, and their perceived impact prioritized by each community.

B. LaMoure County Combined Risk

The following matrix was developed through discussions with jurisdictional stakeholders as well as completed “MHMP Local Jurisdiction Input” Forms, a sample of which can be found in Appendix D. This matrix involves the sixteen identified hazards that affect the county and how each community views the risk of each hazard on their jurisdiction. It was determined that the same fifteen hazards that were used in the 2020 LaMoure County MHMP would be included in the 2025 LaMoure County MHMP update. The term “communicable disease” was listed separately within the community survey for respondents to consider, but for the purposes of the plan’s inclusion, communicable disease will be combined with the infectious disease hazard.

LaMoure County Community Risk Matrix

The profiles include an analysis of the probability and impact of each event to determine overall hazard risk. These terms are defined similarly to their use in the North Dakota Multi-Hazard Mitigation Plan.

Probability is the likelihood that the hazard event will occur within the county in future years. Impact is the percentage of residents and property, and the extent to which critical facilities could be significantly affected by the hazard event in a worst-case scenario. Criteria used to determine probability, impact and overall risk class are shown below and further detailed in the plan appendices. When possible, historical data from previous events was utilized to help inform the future probability. Impact was assessed primarily on significant proximity to a hazard. Risk class is determined for the rural areas of the county (unincorporated areas) and each incorporated city.

Probability of Occurrence and Magnitude Ranking System

To rank each hazard and determine the probability of occurrence for each hazard, the following table highlights the ranking system and categories used.

Ranking	Description/Degree of Risk and Probability	Occurrence Rate
Unlikely	Extremely rare with no documented history of occurrences or events. Annual probability of less than 0.001.	Every 100 years or less
Possible	Rare occurrences with at least one documented or anecdotal historic event. Annual probability of between 0.01 and 0.001.	Every 10 to 100 years
Likely	Occasional occurrences with at least two or more documented historic events. Annual probability between 0.1 and 0.01.	Every 1 to 10 years
Highly Likely	Frequent events with a well-documented history of occurrence. Annual probability is greater than 0.1.	Annually or more

Ranking	Description/Degree of Affected Area	Critical Facility Impact
Negligible	Less than 10% of jurisdiction is affected	No critical facilities affected
Limited	10% - 25% of jurisdiction affected	Or one critical facility is affected for one week or less
Critical	25% - 50% of jurisdiction is affected	Or at least one critical facility is affected for 7 – 30 days
Catastrophic	More than 50% of jurisdiction is affected	Or at least one critical facility is affected for more than 30 days

C. Risk Rating

Low: Impacts are negligible or limited at the same time the probability is less than 0.01

Moderate: Despite negligible or limited impacts, the higher probability of an event raises the risk class above low, or although very low probability, the level of impact raises the risk class above low

High: High levels of impact raise the risk class to high when the event probability is 1% or more

Table #. Risk Class Determination Criteria					
		Impact			
		Negligible	Limited	Critical	Catastrophic
Probability	Unlikely	Low	Low	Moderate	Moderate
	Possible	Low	Moderate	High	High
	Likely	Moderate	Moderate	High	High
	Highly Likely	Moderate	Moderate	High	High

LaMoure County Community Risk Matrix

Through analyzing the previous Hazard Mitigation Plan, the 2024 LaMoure County THIRA, planning team discussions, and jurisdictional feedback, the following table was agreed upon as accurately identifying the risk of each hazard to areas of LaMoure County.

	Severe Summer Weather	Severe Winter Weather	Flooding	Drought	Wildland Fire	Hazardous Material Release	Urban Fire	Geologic Hazards	Dam Failure	Infectious Disease & Pest Infestation	Space Weather	Transportation Incident	Civil Disturbance	Cyber Attack	Criminal, Terrorist, Nation/State Attack
Berlin	H	H	M	H↑	H↑	M↓	M	L	L	M	M	M	M	H↑	H↑
Dickey	H	H	H	H↑	H↑	M	H↑	L	L	M	L↓	M	L↓	L↓	M
Edgeley	M↓	H	M↓	L↓	L↓	L↓	L↓	L	L	L↓	L↓	L↓	L↓	H↑	L↓
Jud	H	H	M	M	M	H↑	H↑	L	L	M	M	M	M	H↑	H↑
Kulm	H	H	L↓	M	M	L↓	M	L	L	L↓	L↓	L↓	L↓	L↓	L↓
LaMoure	M↓	M↓	H	M	L↓	L↓	L↓	L	L	L↓	L↓	L↓	L↓	L↓	L↓
Marion	H	H	H	M	L↓	L↓	M	L	L	M	M	M	M	M	M
Verona	H	H	H↑	M	H↑	M↓	M	L	L	M	L↓	M	L↓	M	M
LaMoure County	H	H	M↓	H↑	M	M	M	L	M↑	M	L↓	M	L↓	M	M
↓ Identifies a decrease in risk ranking since 2020 MHMP										↑ Identifies an increase in risk ranking since 2020 MHMP					

LaMoure County Hazard Risk Rating

Severe Summer and Winter Weather remained the highest identified risks across the jurisdictions from the 2020 MHMP. Flooding had the third highest ranking with only the City of Kulm identifying it as a low risk hazard.

The differences from the 2020 LaMoure County MHMP and this 2025 MHMP shows a number of identified hazard risk levels were identified as having decreased. The chart above identifies with an arrow if a risk rating increased or decreased from the 2020 plan.

Community Survey Results

Over 100 residents of LaMoure County completed a Hazard Survey. They represent members of the LEPC, high school students, Township representatives, and other members of the public. For a description of the outreach events, see the appendices. Residents were asked a variety of questions on the survey to gauge what hazards were top of mind. Below are the survey results as of August 2025.

1. When thinking of **Natural Hazards** that could affect LaMoure County, select the top 3 from the list below.

Severe Summer Weather	62
Landslide/Debris Flow	1
Severe Winter Weather	85
Windstorm	27
Flooding	56
Drought	26
Wildland Fire	24
Communicable Disease	1
Space Weather	0

2. When thinking of **Technological Hazards** that could affect LaMoure County, select the top 3 from the list below.

Urban Fire	40
Transportation Incident	53
Civil Disturbance	9
Cyber Attack	47
Criminal Terrorist National Attack	12
Hazardous Material Release	58
Dam Failure	17
Shortage/outage of Critical Material	35

The results of the survey align closely with the results from the city and county representative forms. Severe Summer Weather, Severe Winter Weather, and Flooding were the top three hazards identified in the survey as natural hazards that could affect LaMoure County.

As mentioned previously, though listed separately in the community survey results, “communicable disease” will be included in the areas of the plan that reference infectious diseases.

D. Plans and Programs in Place

When trying to effectively implement hazard mitigation projects and reduce risk and vulnerability in a community, it is vital to have an understanding of what types of plans and programs are already in place and being implemented on the local level. This can help inform decision making and be incorporated into the Multi-Hazard Mitigation Plan. The following is a list of some LaMoure County plans, programs, outreach strategies, and certifications considered in this plan.

Planning and Regulatory

Plans/Programs	Yes/No	Comments
Acquisition of land for open space and public recreation uses	No	
Building permits	Yes	Cities of Dickey, Marion, Edgeley
Burning permits/restrictions	Yes	When appropriate via county board
Capital Improvement Plan	Yes	LaMoure County has capital investment each year based on spending plans for infrastructure
Community Wildfire Protection Plan	No	
Comprehensive/Master/Strategic Plan	Yes	Jud, Kulm, and Verona have identified they have components of a Comprehensive Plan.
Continuity of Operations Plan	Yes	Included as part of the EOP
County Culvert Policy	Yes	Size based inventory and payment type
Database of dry hydrants/well access	No	
Economic Development Plan	Yes	Some cities have Economic Development committees; County is open to economic development, but not zoned and does not have a planning committee
Emergency Operations Plan	Yes	Updated annually
Firewise Program	No	
Flood Insurance Rate Maps	Yes	Cities of LaMoure and Edgeley, LaMoure County
Floodplain Ordinances	Yes	LaMoure County, Cities of Marion (June 2025)
Floodplain Development Permit	Yes	County - Floodplain permits are reviewed quarterly by the LaMoure County Commission.
Housing Study	No	
Mass Notification System	Yes	CodeRed and IPAWS
Natural Hazard specific ordinances (stormwater, steep slope, wildfire)	No	
NOAA Weather Radios	Yes	Radios are available at the Courthouse and schools
NOAA Weather-Ready Nation Ambassador	Yes	LaMoure County

Preparedness Month Activities (September)	Yes	LaMoure County shares information with the public
School closing policy/communications plan in event of inclement weather	Yes	Each school has their own
Severe Weather Awareness Week	Yes	LaMoure County shares information with the public
Skywarn Program	Yes	Quarterly, every 2 – 3 years in person
ND State Building Code	Yes	The cities of Berlin, Dickey, Edgeley, LaMoure, Marion, and Verona have adopted the state building code.
Storm Shelters (list of all locations)	Yes	One is scheduled for completion in 2025 at Memorial Park – Grand Rapids
Stormwater Management Plan	Yes	ND Department of Water Resources
Subdivision Ordinances	No	
THIRA	Yes	LaMoure County's Plan
Transportation Plan	Yes	Included in the Emergency Operations Plan
Warning sirens	Yes	All jurisdictions have at least one early warning siren.
Water Conservation/Drought Plan	Yes	Per NDSU Extension Office and ND Department of Water Resources
Water Management Plan	Yes	The City of LaMoure is included in the North Dakota Water Development Plan (2021).
Wellhead Protection Plan	Yes	The City of LaMoure participated in North Dakota's Wellhead Protection Program (2024).
Winter Weather Awareness Week	Yes	LaMoure County shares information with the public
Zoning Ordinances	Yes	As of December 27, 2024 , 18 townships have zoning ordinances. The cities of Berlin, Edgeley, Kulm, LaMoure, Marion, and Verona have zoning ordinances.

Administrative and Technical

Plans/Programs	Yes/No	Comments
Local Emergency Planning Committee	Yes	Meets quarterly
Mitigation Planning Committee	No	Responsibility of the LEPC
Mutual Aid Agreements	Yes	
Planning Commission	No	
Staff	Yes/No	Comments
Chief Building Official	No	
Civil Engineer		Contract through KLJ
Community Planner	No	

Emergency Manager	Yes	Kimberly Robbins
Floodplain Administrator	Yes	Kimberly Robbins (LaMoure County)
GIS Coordinator	No	State and County Resources are used
Soil Conservation	Yes	LaMoure County Soil Conservation District – Susan Muske
Water Resource Board	Yes	Kerry Ketterling (LaMoure County Water Resource Board)
Weed Officer	Yes	Al Ulmer (LaMoure County Weed Board)
Zoning Official	No	
Technical	Yes/No	Comments
Hazard Data and information	Yes	Spill.ND.Gov
HAZUS Analysis	Yes	Spill.ND.Gov
Warning Systems/Services	Yes	Spill.ND.Gov

Education & Outreach

Plans/Programs	Yes/No	Comments
Firewise Communities Certification	No	
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs, etc	Yes	Local Emergency Planning Committee (county) Edgeley Emergency Response Committee; Local Lions; 4-H youth and FFA youth groups volunteer and promote preparedness and function needs
Natural disaster or safety related school programs	Yes	NDSU Extension provides school safety programing for elementary students that provides weather safety and various farm and first aid; Local telephone company provides 911 education; Sheriff visits schools often and invited to many school fire drills
Ongoing public education or information program (e.g. fire safety, household preparedness, environmental education, etc)	Yes	You are the help until help arrives, Ready.gov Use of the County Paper to provide press releases on Burn Restrictions, How to prepare, Winter Weather, etc; County Website provides information Prepared with Pedro FEMA books in English and Spanish distributed at local 4-H event; Annual Fire Prevention Week and EMS week with school age children
Public-private partnership initiatives addressing disaster-related issues	Yes	Working with long-term care facilities doing exercises, tabletop-full scale.

		TRANSCAER-Hazmat Training for first responders.
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Financial

LaMoure County's overall financial capability relies on tax revenues and successful grant applications. With a small tax base of under 5,000 residents, the county needs to be fiscally conservative to ensure operability; this also means as the population declines, the county receives less financial support each year. Financial support for emergency management, preparedness, and related resources and equipment is limited due to these financial constraints but is appropriate for an effective program.

The County Auditor serves as the Chief Financial Officer and has control of budgets. LaMoure County has an Auditor and two Deputy Auditors.

The following cities are able to issue bonds and levy taxes: Dickey, Edgeley, Marion

C. Asset Inventory

The following essential facility dataset was identified through research using local, state, and federal resources. This list includes critical infrastructure and essential facilities in addition to Tier II facilities for reference.

Infrastructure Type	# of Facilities	Locations
Agriculture and Food	1	USDA Farm Service Agency has a field office located in LaMoure and ND State University Extension has a field office in LaMoure as well.
Banking and Finance	6	Each city has a bank except for Verona and Dickey
Chemical and Hazardous Materials		See Tier II facilities, included in Section II
Commercial Facilities	~20	Several minor
Communications	2 radio towers 5 cell towers	Cell towers, ham operators, county towers (radio communication repeater)
Dams (High/Significant Hazard)	4	Cottonwood Creek Dam, Lake LaMoure – within LaMoure County Pipestem and Jamestown Dams – within Stutsman County to the north
Defense (Military)	2	National Guard (Edgeley) and Navy Tower (LaMoure)
Education	4	Public Schools: Edgeley, Kulm, Litchville-Marion, LaMoure
Emergency Services	9	Ambulances – LaMoure, Edgeley, Kulm Fire-Jud, Kulm, Edgeley, Marion, Verona, LaMoure
Energy		NuStar Pipeline
Government	2	NWS Cooperative Network Weather Station
Healthcare and Public Health	3	There are three general service clinics offering healthcare in LaMoure County and they are located in Edgeley, Kulm, and LaMoure.

		LaMoure County Public Health is located in LaMoure.
Information Technology	0	Contacted out of county
Manufacturing		See Tier II list, included in Section II
National Monuments	0	
Nuclear	0	
Postal and Shipping	5	Kulm, Jud, Marion, Verona and LaMoure
Transportation	3	Edgeley Municipal Airport, LaMoure Rott Municipal, Kulm Municipal Airport Highway 281 and Highway 13, also county roads
Water	3	Southeast Water Users, Barnes Rural Networks, Stutsman County Rural Water

D. Future Development

The past couple of decades have seen very little in the way of any significant new development in LaMoure County. The population trend is decreasing and most cities in the county are slowly losing residents over time, so there is no anticipation for any sizeable development outside the occasional new home or building constructed. Commercial land use and settlement patterns have also remained constant and unchanging in the past decade, with similar trends to continue. However, it is important to note that counties in southeast North Dakota (Dickey, Stutsman and Cass County) have seen large Artificial Intelligence Data Centers built. Large wind towers and battery cells have been discussed yet their status in LaMoure County is unknown. Agricultural grain handling and fertilizer storage locations have trended to consolidate into large terminal size operations, and this could see development near any of the cities. Local jurisdictions, however, will continue to include development considerations in hazard mitigation projects and future zoning/code enforcement that may influence development.

The 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 leaders actively involved in the monitoring, evaluation, and update of the MHMP and local mitigation projects. The director will also keep local governments informed through continued planning and project implementations, including educational outreach, especially if future development may happen.

E. Vulnerable Populations

In planning for hazards, it is important to consider citizens and residents within LaMoure County that may be more susceptible to harm from hazard events and incorporate them into existing and future plans. Vulnerable populations usually suffer one or more disadvantages compared to the general population and primarily include the young, elderly, handicapped/disabled, minorities, low income and homeless, along with other smaller sects of the population.

LaMoure County has few areas that are more vulnerable to hazards than others, though several facilities within the county should be identified as possible areas of concern. The table on the next page is a compilation of the planning team's analysis of vulnerable areas and facilities within the county:

Name	Location	Type of Facility	Vulnerability
Elderly Populations	Edgeley, Jud, LaMoure	Unknown	City population aged 65 and over is greater than 25%
Edgeley Public School	City of Edgeley	Education	A young population provides a variety of vulnerabilities including around weather extremes, but also in a lack of accessible resources.
Willowbank Colony School (Part of Edgeley School District)	Rural Edgeley	Education	
Kulm Elementary and High School	City of Kulm	Education	
Fairview Colony School (Part of LaMoure School District)	Rural LaMoure	Education	
LaMoure Elementary and High School	City of LaMoure	Education	
Litchville Marion School	City of Marion (and Litchville)	Education	Low-income residents may have fewer resources available when an emergency occurs and may rely more on assistance from others.
LaMoure County Housing	All cities can use this to get a discount for low-income housing	Residential	
Manor St. Joseph	City of Edgeley	Residential Licensed Basic Care Facility	
Benedictine St. Rose Skilled Care and Assisted Living	City of LaMoure	Skilled nursing and residential care	
Day cares	Most communities		

This list is not meant to be comprehensive. Singular or small areas of any part of the county may be vulnerable in their own way due to a variety of reasons.



Local Fire Departments visit elementary school annually during Fire Prevention week.

Economy

The LaMoure County economy is heavily dependent on the agriculture industry in nearly every facet of life. According to the 2020 Census of Agriculture, LaMoure County has 523 farms over 928,239 acres. The 2017 market value of the crops that these farms grow and harvest is \$280.6 million dollars. This is an important consideration when planning for hazards and their impacts on communities. While heavy emphasis is duly put on citizens and infrastructure, any major damage to the open fields of crops can do major damage to the economic function of any of the communities in LaMoure County. Large wind storms and hail storms can severely damage wheat and bean fields, as can prolonged standing water, excessive heat and excessive cold. Protecting fields from overland flooding and drainage issues is a top priority for many of the citizens and active mitigation projects such as field tiling, culvert opening, mowing, and other forms of maintenance are ongoing, usually done by the farmer themselves with little or no assistance from state or federal programs. Some of these considerations were not specifically spelled out in this plan but should nevertheless be identified and considered in future mitigation projects and planning.

SECTION V: MITIGATION STRATEGY

The goal of mitigation is to protect lives and property by reducing the future impacts of hazards which can include property damage, disruption to local and regional economy, the amount of public and private funds spent to assist with recovery. With appropriate mitigation, communities can reduce their vulnerability while building more disaster-resistant communities. The LaMoure County Mitigation Actions are based on previous hazard occurrences and the risk assessment provided in Section IV.

A. Community Capability Assessments

Identifying community characteristics, vulnerabilities, and hazard risk is a critical component and foundational element of this plan. The capability assessment identifies the hazards at highest risk to individual communities, regulations, policies, and procedures that contribute to the lessening of disaster effects. The assessment also provided some information on the types of mitigation actions and potential future projects that can effectively reduce the impact of future hazards. As part of the LaMoure County MHMP update, each city within the county was asked to fill out a “Local MHMP Input Form” to rank and prioritize the local hazards, mitigation capabilities, vulnerabilities, new development, updated plans/policies and program gaps. The appendices contain all of the reports from each city in LaMoure County and many county representatives.

National Flood Insurance Program (NFIP)

The NFIP is a federal program designed to mitigate future flood losses for private and public structures nationwide through community-enforced building and zoning ordinances. The program was also designed to provide access to federally supported, affordable flood insurance protection and promote homeowners obtaining general risk insurance. (<https://www.fema.gov/national-flood-insurance-program>, Accessed on August 10, 2025.)

Participation in the NFIP is based on an agreement between local communities and the federal government that states that the community is adopting and enforcing a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas (SFHAs), which the federal government will make flood insurance available within the community as a financial protection against flood losses.

In LaMoure County, three cities and two townships, in addition to LaMoure County, are currently participating in the NFIP. (<https://www.fema.gov/cis/ND.html>)

CID	Community	County	Initial FHBM	Initial FIRM	Current Eff. Map Date	Reg-Emerg Date
380223A	City of Edgeley	LaMoure	07/25/75	04/01/86	06/18/25	04/01/86
380715A	Township of Grand Rapids	LaMoure	-----	06/18/25	06/18/25	06/18/25
380086A	LaMoure County	LaMoure	-----	06/18/25	06/18/25	06/18/25

380042A	City of LaMoure	LaMoure	11/16/73	03/25/80	06/18/25	03/21/80
380188A	City of Marion	LaMoure	02/21/75	04/22/80	06/18/25 (M)	04/22/80

Communities not in the National Flood Program

CID	Community	County	Initial FHB	Initial FIRM Identified	Current Eff. Map Date	Sanction Date
385377A	City of Berlin	LaMoure	-----	06/18/25	06/18/25	06/18/26
385378A	City of Dickey	LaMoure	-----	06/18/25	06/18/25	06/18/26

As of June 2025, updated FEMA maps were adopted for portions of LaMoure County.

Repetitive Loss Properties

Repetitive Loss (RL) properties are defined as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period since 1978. The National Flood Insurance Fund has paid almost \$3.5 billion dollars on claims for RL properties and is the largest draw out of the fund, making effective mitigation for these properties very important.

There are currently no repetitive or severe repetitive loss properties in LaMoure County.

*For more information on flooding, see Section III. Flood.

B. Mitigation Goals

It was determined through public meetings, feedback from surveys, and planning team discussions that the following goals should be adopted for this plan period (2025 – 2030). These goals remain the same as in the 2020 plan, which were revised from the previous plan. These goals describe the overall focus that LaMoure County agencies, departments, organizations, and citizens should prioritize in an effort to mitigate risk from relevant threats and hazards.

1. Reduce the impacts of flooding to people and property.
2. Enhance the public's awareness of hazards
3. Reduce impacts of severe summer and winter weather to people and property
4. Reduce impacts of drought and wildland fires to people and property
5. Reduce impacts of human-caused threats to people and property

The LEPC discussed the mitigation goals at the July 2025 meeting and determined the county should retain the five goals as stated in the 2020 LaMoure County MHMP.

C. Mitigation Actions and Project Strategies

The mitigation actions in this plan are summarized into five main strategy types. The first four are described by FEMA in both the Local Mitigation Planning Handbook and the Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards. Also included in this plan is a fifth strategy for mitigation actions for projects that do not directly align with the other four. The fifth strategy is currently being employed for new hazard mitigation plans by the State of Minnesota which the planning team found suitable for LaMoure County purposes. These mitigation strategies are found in the table below.

Strategy	Description	Examples
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.	<ul style="list-style-type: none"> • Zoning • Capital improvement programs • Building codes • Open space preservation • Regulations • Emergency Planning
Structure and Infrastructure Projects	Actions that involve the construction of structures to reduce the impact of a hazard, such as dams, levees, floodwalls, retaining walls, safe rooms, tornado shelters; and actions that involve the modification of existing buildings or structures to protect them from a hazard or remove them from the hazard area.	<ul style="list-style-type: none"> • Dam construction • Levee construction • Floodwalls • Retaining walls • Tornado shelters • Elevation changes • Storm shutters
Natural Systems Protection	Actions that preserve or restore the functions of natural systems in addition to minimizing hazard losses.	<ul style="list-style-type: none"> • Sediment and erosion control • Stream corridor restoration • Watershed management • Wetland restoration • Aquifer Storage
Education and Awareness Programs	Actions that inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them.	<ul style="list-style-type: none"> • Outreach programs • Real estate disclosure • Hazard information centers • Adult and school-age education programs

Mitigation Preparedness and Response Support	This is an additional mitigation strategy with the intent of covering preparation and actions that protect life and property during a natural disaster but can be viewed as mitigation.	<ul style="list-style-type: none"> • Warning systems • Emergency response services • Evaluation of county mitigation • Working with key partners
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Project Ranking and Prioritization

After developing a list of mitigation actions for LaMoure County and its jurisdictions, it was important to analyze which ones should be prioritized first and which are the most important. In review, the planning team used the FEMA evaluation criteria (STAPLEE) which includes the following information:

Socially Acceptable

Will the proposed action adversely affect one segment of the population?

Technically Feasible

Does it solve the problem or only a symptom? How effective is the action in avoiding or reducing future losses?

Administratively Possible

Can the community provide the necessary support? (Staff, experts, time, funding)

Politically Acceptable

Is there public and official support for the project to ensure its success?

Legal

Does the community have authority to implement the proposed action? Will there be any legal consequences or community liability?

Environmentally Sound

How will the action impact the environment? (Land, water, endangered species)

Economical

Are there current funding sources that can be used to implement the action? Does the cost seem reasonable for the protection it will provide? What is the future burden on the local tax base?

The Master Mitigation Actions Chart found in the next section details each of the mitigation actions identified in this plan. Each action identifies the hazard, mitigation strategy category, actions needed to address it, the status of the action whether it is 'on-going' or 'new', the priority ranking, timeline for implementation, the jurisdictions who will implement this action, the responsible party to carry through

the implementation, and comments on how the project will be implemented and potential funding streams to make it happen.

Criteria for Mitigation Action Priority Ranking

Ranking	Criteria
High Priority	Methods for reducing risk from the hazard are technically reliable. <ul style="list-style-type: none"> • The community or 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 measures are cost-effective. • The mitigation measures protect lives and property permanently or for a long time. • There is no significant impact to the environment, nature, or wildlife.
Moderate Priority	Mitigation methods are established. <ul style="list-style-type: none"> • The County has limited experiences with these kinds of measures. • Some mitigation measures are eligible for federal grants. • There is a limited range of effective mitigation measures for the hazard. • Mitigation measure are cost-effective only in limited circumstances. • Mitigation measures are effective for a reasonable period of time. • There is some impact to the environment, nature, or wildlife.
Low Priority	Methods for reducing risk from the hazard are not well-established, not reliable, or are experimental. <ul style="list-style-type: none"> • The County has little or no experience with this kind of measure. • Mitigation measures are ineligible under federal grant programs. • There is a very limited range of mitigation measures for the hazard. • The mitigation measure has not been proved cost effective and is likely to be very expensive compared to the magnitude of the hazard. • The long-term effectiveness of the measure is relatively poor or is not known. • There is significant impact to the environment, nature, or wildlife.

Project Implementation

After the revised LaMoure County Multi-Hazard Mitigation Plan is formally adopted, it will use the priority ranking/analysis to focus on which projects to undertake. Mitigation projects that are eligible for state and federal grant programs, and when county funds are available will be considered. The Local Emergency Planning Committee (LEPC) will be the coordinating agency for all mitigation project implementation decisions. The LEPC has the capacity to organize resources, prepare grant applications, and oversee project implementation, monitoring, and evaluation. Coordinating organizations may include local, county, or regional agencies that can implement activities and programs. The county Emergency Manager would be involved for mitigation project administration. Several state and local regulations, policies, and legal documents provide a framework that helps corral LaMoure County's

hazard mitigation projects. A sample of these regulations/plans is provided in Section IV. Risk Assessment.

SECTION VI: Plan Development Process

A. Planning Process Narrative

For the update of the 2020 FEMA approved LaMoure County Multi-Hazard Mitigation Plan, due in 2025, LaMoure County decided to obtain the professional services of a contractor to assist in the revision and development of an updated plan. After a contractor was hired, a discussion was had on the immediate need for a planning team. It was decided to follow a similar path as the last one taken, by utilizing the Local Emergency Planning Committee (LEPC) as the primary membership for the team. This was preferable because the membership already had experience with hazard mitigation and knew what type of information was needed in the plan. It was decided additional analysis would need to be carried out, which would primarily be between the contractor and the county emergency management staff. Numerous emails, calls, meetings, and information exchange occurred between ____ of 2025 and ____ of 2025 to ensure a smooth planning process. Additional representatives, agencies, and departments (planning team) were convened at specific intervals throughout the process including the county hazard priorities and mitigation project ideas discussion in _____, and the draft plan review in _____.

It was determined early on there may be community participation struggles

The planning team decided that three meetings of the LEPC would suffice for the development of this plan and additional meetings beyond that would be possible, but could be too much according to previous experience. The draft plan updates were shared and reviewed in September 2025 to the emergency manager for initial feedback and changes, and then in October to the public for review. After meeting with staff from NDDES in September 2025, the planning team reached back out to any city who did not provide adequate input-feedback.

B. Timeline

The previous LaMoure County Multi-Hazard Mitigation Plan was approved by FEMA in 2020 and is due to expire in 2025. For the plan update, LaMoure County decided to elicit the professional services of a contractor for assistance in an update of the 2020 plan. Bids for a contractor were opened on January 4, 2025, with a final contract being awarded to Paramount Planning Group, LLC on March 10, 2025. Below is a list of execution dates for various project goals and tasks and a description of each event.

Date	Project Item	Location
October 29, 2023	Proposal submitted to LaMoure County on behalf of Paramount Planning Group, LLC	Submitted via email
January and February 2025	Proposal and planning process discussions	Phone calls and emails
February 6, 2025	Local Emergency Planning Committee (LEPC) Mtg #1 – Develop hazard survey, discuss contractor	In Person

	proposals and make recommendation for County Commission	
February 13, 2025	Local Outreach to LaMoure County Township Officers	In Person
February 18, 2025	Project awarded to Paramount Planning	County Courthouse
March 3, 2025	Planning Team, Process Discussion and Onboarding	Via phone call
March 4, 2025	Contract signed by County Commission	County Courthouse
March 10, 2025	Contract signed and fully executable by Paramount Planning	Carlton, MN
March 2025	Initial outreach call with LaMoure County Emergency Management and Paramount Planning to discuss development and timeline of plan	Via phone call
March 19, 2025	Initial meeting with LaMoure County Emergency Management, Paramount Planning, and NDES staff	Virtual (Microsoft Teams)
March 27, 2025	Planning Team Call: Stakeholder Outreach Strategy	Virtual (Microsoft Teams)
March, April 2025	Research and outreach relating to updated plan	N/A
April 8, 2025	Local Emergency Planning Committee (LEPC) Meeting #2 Kick-Off Meeting – Mitigation Project, Timeline	Virtual (Microsoft Teams)
April 28, 2025	Local Outreach to High School seniors	In person
May 15, 2025	Planning Team Call: Public Outreach/Stakeholder Engagement; City Council Meetings	Virtual (Microsoft Teams)
June 19, 2025	Planning Team Call: Public Outreach/Stakeholder Engagement; City Council Meetings	Virtual (Microsoft Teams)
June 23, 2025	Local Outreach to public – LaMoure County Achievement Days	In person
July 9, 2025	Press Release - Plan process	LaMoure County Chronicle; Litchville Bulletin
	City Council Meetings to discuss plan update and solicit feedback on changes since the last plan update	Virtual (Microsoft Teams) and In-

July 8, 2025 July 14, 2025 July 14, 2025 July 14, 2025 July 14, 2025 August 4, 2025 August 6, 2025 August 6, 2025	on hazard experiences, local development, past mitigation action status, and new mitigation needs. - City of Berlin (public meeting) - City of LaMoure (public meeting) - City of Kulm (public meeting) - City of Verona (public meeting) - City of Dickey (public meeting) - City of Jud (public meeting) - City of Marion (public meeting) - City of Edgeley (public meeting)	Person at City Council meeting locations
July 15, 2025	LaMoure County Commissioner Meeting (<i>public meeting</i>) to discuss plan update	LaMoure County Courthouse; Virtual (Microsoft Teams)
July 31, 2025	Planning Team Call: City Council Meetings; Timeline	Virtual (Microsoft Teams)
August 5, 2025	LaMoure County Commissioner Meeting (<i>public meeting</i>)	LaMoure County Courthouse; Virtual (Microsoft Teams)
August 7, 2025	Local Planning Emergency Committee (LEPC) Meeting #3	Virtual (Microsoft Teams)
August 25, 2025	Planning Team Call	Via phone call
September 4, 2025	Planning Team site visits	In Person
September 19, 2025	Meeting held with NDDDES staff, LaMoure County Emergency Management Staff and Paramount Planning staff to discuss dam hazards and mitigation action items	Virtual (Microsoft Teams)
October 2025	Completion of Section II (Community Profiles)	N/A
October 2025	Southeast Region Emergency Management meeting – discussed county MHMPs	
October 23, 2025	Local Emergency Planning Committee Meeting #4 Review of draft plan	In person at Edgeley Ambulance Hall and virtual attendance
November, 2025	Incorporate draft plan updates	N/A


November 12, 2025	Press Release - Draft plan review	LaMoure County Chronicle; Litchville Bulletin
November 12, 2025	Public Comment Period Opened for draft plan Neighboring jurisdiction review	Project website
December 2, 2025	Public Comment Period Closed for draft plan	N/A
December, 2025	Draft Plan finalized and submitted to NDDDES for review	N/A
January 2026	Local City and County Adoptions signed, additional feedback and participation was conducted with city staff and neighboring jurisdictions	Local City Council and County Board meeting locations
TBD 2026	Plan submitted to FEMA for review	N/A

C. Public Engagement

LaMoure County Emergency Management staff was active in engaging with the public throughout the plan update. This included attending the county-wide township officers meeting and other public events such as church events and 4-H achievement days when allowed to present Hazard Mitigation. Other opportunities to present were found with the local high school government class as well as local city open houses.

Members of the MHMP Planning Team attended eight city council meetings to discuss the LaMoure County MHMP Update. Many of the public meetings also had online access to live stream the meetings, increasing the accessibility for the public to attend. Two county board meetings also included information provided information on the plan project for the elected officials and public in attendance.

A public website was used to provide information on the plan update. The LaMoure County Emergency Management website links to a project site hosted by Paramount Planning.



LaMoure County Hazard Mitigation Plan

LaMoure County updating the Multi-Hazard Mitigation Plan

LaMoure County will work the team from Paramount Planning to provide a review and update the plan. The plan will look at all hazards that may affect LaMoure County residents.

Please take a look:


<https://www.paramountplanning.net/pages/lamourecountymhmp.php>

The previous plan was approved on June 24, 2020, through June 2, 2025, for LaMoure County and the Cities of Berlin, Dickey, Edgeley, Jud, Kulm, LaMoure, Marion and Verona. [FINAL LaMoure County MHMP 7-2020 ReducedSize.pdf](#)

FEMA requires state, tribal, territorial and local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects. Jurisdictions must update their hazard mitigation plans and re-submit them for FEMA approval every five years to maintain eligibility.

Please take the [LaMoure County Hazard Survey](#). We appreciate your input. Print and email the survey to: krobbins@nd.gov or drop at the LaMoure County Courthouse - 202 4th Ave NE, LaMoure, ND 58458.

<https://www.fema.gov/hazard-mitigation-plan-requirement>




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(701) 429-1737

OUR HOURS
MON-FRI: 9:00 - 5:00PM
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LaMoure County Multi-Hazard Mitigation Plan



Project Description

LaMoure County Emergency Management, the Local Emergency Planning Committee (LEPC), the City of LaMoure, the City of Kulm, the City of Edgeley, the City of Jud, the City of Verona, the City of Marion, the City of Berlin, and the City of Dickey, other key stakeholders from LaMoure County, and local communities are preparing a Multi-Hazard Mitigation Plan in 2025. This plan will be for LaMoure County and each municipality incorporated within it.

A Multi-Hazard Mitigation Plan provides a strategy for reducing the impacts of natural, technological, and adversarial hazards in the county and its communities. The plan includes two primary elements:

Risk Assessment - The plan includes a description of 15 different hazards in the county and its communities. Each hazard is evaluated to determine risks and vulnerabilities for each jurisdiction.

Mitigation Strategy - Includes mitigation actions to reduce the impact of significant hazards in each jurisdiction. The actions are organized into an implementation plan that includes goals and priorities, actions, responsibilities, and a timeline.

FAQ's

- + What is a hazard mitigation plan?
- + Why is this plan important?
- + How is a hazard mitigation plan assembled?
- + How can the public become involved?

Project Documents

Planning documents will be posted here.

The Hutterian Brethren has two colonies located in LaMoure County. The elders of the community have access and use the internet, telephones and local paper. They disseminate communication through their colony. [Geographic Location - HutteritesHutterites](#)

Stakeholder Participation

Collaboration with neighboring jurisdictions: The Southeast region of North Dakota Emergency Managers met at the North Dakota Emergency Management Conference in Bismarck on Wednesday, September 10th. Cass and LaMoure Counties are both updating their Multi-Hazard Mitigation Plans and discussed project ideas. Cass and LaMoure Counties followed up at a meeting on Friday, September 19th to discuss hazard mitigation items. LaMoure and Dickey County Emergency Managers met on Friday, September 12th and discussed their Multi-Hazard Mitigation Plan updates.



October 23, 2025 LEPC Meeting