Wildfire Mitigation Plan

Mountrail-Williams Electric Cooperative

Date: May 2025

Revision: 1.0

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Document Information

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Revision History

Revision History			
Revision	Effective Date	Initials	Description
Rev. Draft	April 1, 2025	AV	Initial review of Wildfire Mitigation Plan.
Rev. 1.0	May 28, 2025	AV	Initial approval.

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1 Introduction/Executive Summary

For Mountrail-Williams Electric Cooperative (MWEC), which aims to safely deliver reliable electricity, wildfire mitigation is without question a top priority. While an electric utility can never fully eliminate the risk of fire, MWEC is committed to taking practical actions available to prevent the devastation that a wildfire could bring to the people and communities we serve. This wildfire mitigation plan (WMP) lays out the steps we are taking to do so.

1.1 Purpose of the Plan

The WMP describes MWEC's strategies, guidelines, and procedures to mitigate the threat of electrical equipment ignited wildfires, and addresses the unique features of its service territory, such as topography, weather, infrastructure, grid configuration, and areas most prone to wildfire risks. This includes the maintenance of its transmission and distribution (T&D) assets as well as the management of vegetation in the rights-of-way (ROW) that contain these assets.

MWEC's Board of Directors reviews and approves the Plan as needed, while the General Manager is responsible for its implementation. The WMP is a living document that will receive regular reassessment as projects and initiatives are completed.

1.2 Objectives of the WMP

The main objective is the implementation of an actionable plan to maintain reliability, increase safety, and minimize the likelihood that MWEC's assets may be the origin or contributing factor in the ignition of a wildfire. This plan was developed to be consistent with current industry best management practices to comply with current North Dakota state law and the effective edition of the National Electric Safety Code (NESC). To help develop the Plan, MWEC compared emerging technologies that not only reduce the likelihood of a service interruption but also minimize the risk of ignition from the fault causing the outage.

The secondary objective is to measure, through the annual evaluation of certain performance metrics, the effectiveness of the specific wildfire mitigation strategies. Where a particular action, program component, or protocol proves unnecessary or ineffective, MWEC will assess whether modification or replacement is suitable.

1.3 Utility Profile and History

Mountrail-Williams Electric Cooperative is a not-for-profit member-owned electric distribution cooperative serving northwestern North Dakota. MWEC was created in 1991 through the merger of Mountrail Electric Cooperative, Inc. and Williams Electric Cooperative, Inc. Today, Mountrail-Williams owns and operates approximately 475 miles of transmission lines, 69 related substations/switch yards, and over 5,000 miles of distribution lines, which are interconnected with the facilities of the Western Area Power Administration – Upper Great Plains Region and Basin Electric Power Cooperative (BEPC).

MWEC is governed by a nine-member Board of Directors. The Board appoints the General Manager, who is responsible for the cooperative's overall management and operations. Mountrail-Williams is a member-owner of Upper Missouri G & T Electric Cooperative, Inc. (UMPC) and a Class C member of BEPC.

MWEC is one of seventeen rural electric cooperatives in North Dakota and is a member of the National Rural Electric Cooperative Association (NRECA) and North Dakota Association of Rural Electric Cooperatives (NDAREC).

1.4 The Service Area

MWEC has a main office is in Williston, ND, and two satellite office locations in New Town, ND and Stanley, ND. All locations have warehouse facilities. The addresses of these locations are:

- New Town, ND
  - 250 4th St. S., New Town, ND 58763
- Stanley, ND
  - 6150 82nd Ave. NW., Stanley, ND 58784
- Williston, ND
  - 218 58th St. W., Williston, ND 58802

A majority of MWEC's service area is in Mountrail and Williams counties in northwestern North Dakota, including a portion of the Fort Berthold Indian Reservation. MWEC also serves members in the following North Dakota counties: Burke, Divide, Ward, and McLean; and in the following Montana counties: Roosevelt and Sheridan.

MWEC's service area is comprised of approximately 5,366 square miles. Mountrail County comprises approximately 1,942 square miles, Williams County comprises approximately 2,148 square miles. The Fort Berthold Indian Reservation comprises approximately590 square miles and is in Mountrail County.

MWEC's service area (Figure 1) consists of isolated hills amid rolling, hilly, semi-arid stretches. It spans approximately 106 miles east to west and approximately 66 miles north to south. The elevation ranges from approximately 1900 feet to approximately 2502 feet above sea level. The majority of MWEC's southern border is established by Lake Sakakawea.

Its surface land is principally crop and grasslands, used for agriculture and livestock pastureland. In addition to the agricultural uses, the land also supports a robust oil and gas industry. The service area also includes rural residences and some urban areas.

Due to MWEC's flat topography, most of MWEC's facilities and poles are accessible. Typically, MWEC locates facilities along maintained section and township roads as well as county and state highways. However, there are instances where poles must be accessed by going off-road.

The climate in MWEC's service area is continental and is characterized by large variances in temperature, both on a seasonal and daily basis. [1] Precipitation ranges from low to moderate, and air flow through the region creates windy conditions. On average, January is the coldest month, and July is the warmest month. Figure 2 and Figure 3 show the average monthly temperatures, precipitation and wind speed, for both Williams and Mountrail counties.

[1] https://gf.nd.gov/wildlife/habitats/climate

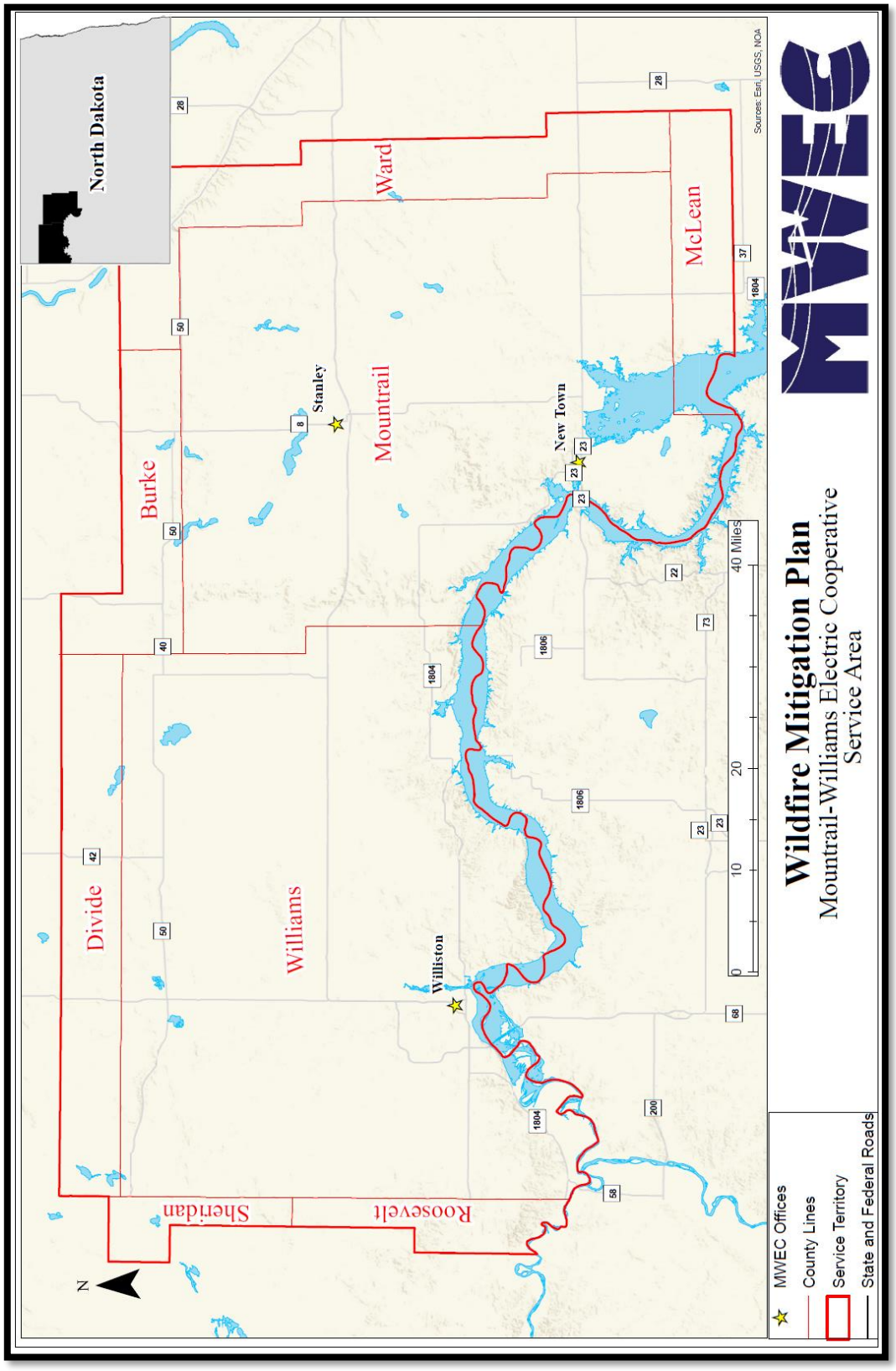


Figure 1. Service Area

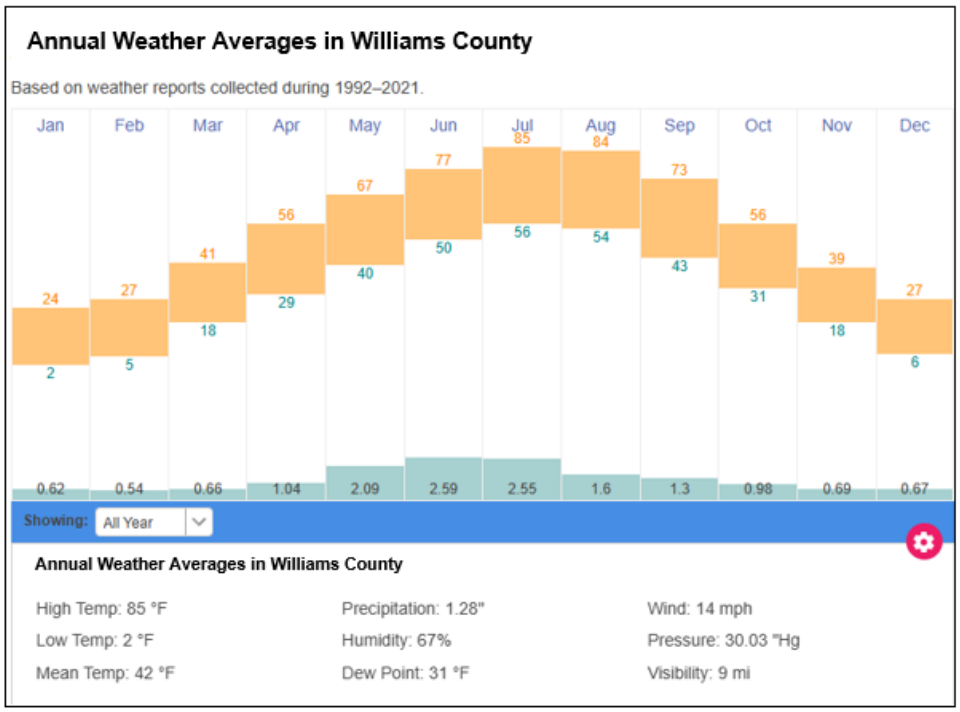


Figure 2. Williams County, ND Historical Weather Data

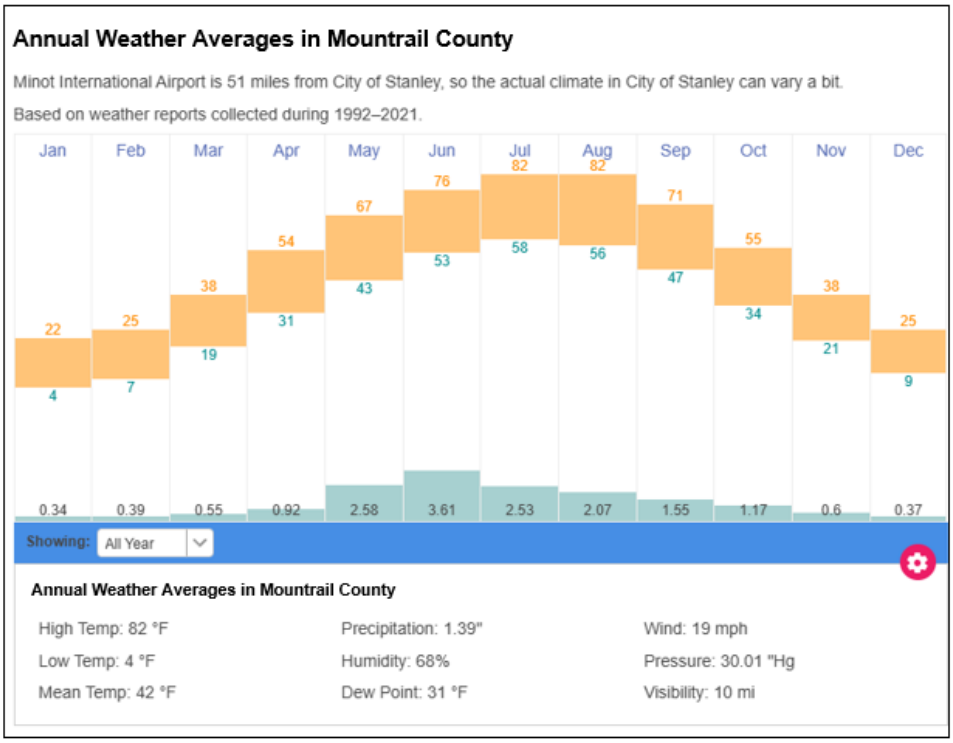


Figure 3. Mountrail County, ND Historical Weather Data

2 Overview of Utility's Fire Prevention Strategies

This WMP integrates and interfaces with MWEC's existing operations plans, asset management, and engineering principles, which are subject to change. Future iterations of the WMP will reflect changes to these strategies and will incorporate new best management practices as they are developed and adopted.

Table 1 summarizes MWEC's five mitigation components with associated strategies and activities that support MWEC's ongoing commitment to wildfire prevention and mitigation.

Table 1. Mitigation Strategies/Activities

DESIGN AND CONSTRUCTION
Strategic undergrounding of distribution lines
Oil circuit recloser to vacuum-type breaker change-out
Covered jumpers and animal guards
Avian protection construction standards
Increased overhead wire spacing to reduce wire to wire contact
Substation perimeter fencing for security and protection
INSPECTION AND MAINTENANCE
Infrared inspections of substation equipment
Wood pole inspection and testing
Transmission & distribution routine and detailed inspections
Transmission & distribution system vegetation management plan
OPERATIONAL PRACTICES
Work procedures and Fire Hazard training for people working in locations with elevated fire risk conditions
Community outreach/wildfire safety awareness
Contractor/staff safety training and orientation for vegetation management work
Alternate recloser practices
Fire suppression equipment on worksite during elevated fire risk
Provide liaison to the county's emergency services departments during fire event
Comprehensive vegetation management practices at substations, switchyards, and storage facilities

SITUATIONAL AWARENESS
Weather monitoring in the service area
24/7 dispatch coverage, system monitoring
Monitoring active fires in the surrounding areas
Increased installation of facility cameras
RESPONSE AND RECOVERY
Coordination with local emergency management departments
Line patrols before re-energization
Incident Command System (ICS) plan

3 Utility Asset Overview

Power is provided to MWEC members by way of electric facilities. These include substations, switchyards, overhead and underground transmission lines, and overhead and underground distribution line assets. MWEC has a main headquarters office, and two satellite offices. Each office has business, shop and warehouse facilities. MWEC provides electrical service to over 19,000 locations, across 5,000 miles of distribution line and 475 miles of transmission lines.

As a member of UMPC, located in Sidney Montana, MWEC retains first right to certain low-cost federally owned hydroelectric resources. MWEC buys 100% of its wholesale power from the UMPC. In turn UMPC purchases its power from BEPC headquartered in Bismarck, North Dakota.

MWEC's local power network is a part of Southwest Power Pool (SPP), which is a Regional Transmission Organization (RTO). SPP's electrical grid serves 14 states, which span from the Canadian border to north Texas. Major SPP transmission corridors with 115kV, 230kV, 345kV, and 500kV lines carry power into and through its service area.

Table 2 provides a high-level description of MWEC's T&D assets.

Table 2. Asset Overview

ASSET CLASSIFICATION	ASSET DESCRIPTION
Transmission Line Assets	Approximately 475 miles of conductor, transmission structures and switches at 115 kilovolts (kV).
Distribution Line Assets	Approximately 4,000 miles of overhead (OH) and 1,000 miles of underground (UG) conductor, cabling, transformers, voltage regulators, capacitors, switches, lined protective devices operating at or below 24.9 kV.
Substation Assets	Major equipment such as power transformers, voltage regulators, capacitors, reactors, protective devices, relays, open-air structures, switchgear, and control houses in 64 substations and 5 switchyard facilities.

4 Risk Analysis and Risk Drivers

4.1 Fire Risk Drivers Related to Construction and Operations

MWEC staff evaluated other utility fire causes and applied its knowledge and experience to determine the critical potential risk drivers. The categories listed below were identified as having the potential for causing powerline sparks and ignitions:

- Equipment/facility failure
- Foreign contact (trees, animals, etc.)
- Vehicle/machinery impact
- Standard expulsion fuses
- Cross-phasing
- Age and type of assets
- Vandalism

4.2 Fire Risk Drivers Related to the Service Area

The prairies of northwestern North Dakota have been subject to fires. MWEC's typical wildfire season varies from year to year. Weather has always played a significant role in defining MWEC's wildfire season. One important factor is the presence of snow cover, which in most

cases dramatically reduces the risk of wildfires. Even with little or no snow cover, weather still dictates wildfire danger. Temperature, humidity, dryness, high winds and lightning all play a major role in increasing the risk of wildfire danger.

4.3 Key Risk Impacts

Ignitions caused by the aforementioned risk drivers have many possible outcomes. The list below outlines some of the worst-case scenarios, the prevention of which is the impetus for the development of this WMP:

- Personal injuries or fatalities to the public, employees, and contractors
- Damage to public and/or private property
- Damage and loss of MWEC owned infrastructures and assets
- Impacts to reliability and operations
- Damage claims and litigation costs, as well as fines from governing bodies
- Damage to MWEC's reputation and loss of public confidence

4.4 Wildfire History and Outlook

Historically, MWEC's service area has had small to medium sized wildfires. Table 3 shows the wildfire history over the past eleven years. Figure 4 shows that same data in map format. These symbols are graduated in size. MWEC's service area has experienced 313 wildfire incidents ranging from Small to Very Large sized. The two recent October 2024 wildfires were classified as Very Large. These represented approximately 0.6% of our total wildfires. The remaining were classified as follows: 4 of 313 (~1.3%) have been Large sized; 20 of 313 (~6.4%) have been Medium sized; and 287 of 313 (~91.7%) have been Small sized wildfires.

Recent trends of increasingly hotter and drier summers are also causing fire hazards to develop more frequently, indicating that the threat of wildfires in MWEC's service area may be increasing. Understanding this, MWEC personnel are determined to provide safeguards to limit fires caused directly, or indirectly, from MWEC assets or personnel. contact with MWEC's system.

Table 3. Historic Wildfire Data 2014-2024

Year	Incident Name	Acres	Heinselman Classification
2024	Ray West	36,846.13	Very Large (>=10,000)
2024	Ray East	30,548.51	Very Large (>=10,000)
2021	13 Mile Fire	2,505.97	Large (1,000 to <=9,999 acres)
2021	Cow Creek Fire	2,300.00	Large (1,000 to <=9,999 acres)
2024	Adeline Drive	1111.00	Large (1,000 to <=9,999 acres)
2019	Green Needle	1,068.05	Large (1,000 to <=9,999 acres)
2021	FDH-MTLG17-85	810.11	Medium (100 to <=999 acres)
2024	State Line Fire	760.00	Medium (100 to <=999 acres)
2021	210427	756.00	Medium (100 to <=999 acres)
2021	Mutual Aid to Bainville FD	727.83	Medium (100 to <=999 acres)
2020	Lindberg Fire	700.00	Medium (100 to <=999 acres)
2023	RAIL	556.52	Medium (100 to <=999 acres)
2021	George Olson Pasture 1	500.00	Medium (100 to <=999 acres)
2021	Cp rail	400.00	Medium (100 to <=999 acres)
2020	Epping FD MA	300.00	Medium (100 to <=999 acres)
2021	New Town Mutual Aid 1	300.00	Medium (100 to <=999 acres)
2024	2024046805	250.00	Medium (100 to <=999 acres)
2023	white earth valley	207.00	Medium (100 to <=999 acres)
2019	04/13/2019	200.00	Medium (100 to <=999 acres)
2023	2023037690	200.00	Medium (100 to <=999 acres)
2023	Martin	189.00	Medium (100 to <=999 acres)
2024	4-29-2023	160.00	Medium (100 to <=999 acres)
2021	Unknown	150.00	Medium (100 to <=999 acres)
2021	Coons Field	100.00	Medium (100 to <=999 acres)
2021	Hayland Fire	100.00	Medium (100 to <=999 acres)
2023	2022053195	100.00	Medium (100 to <=999 acres)
2014-2025	287 - Miscellaneous Small Wildfires	1.0-99.99	Small (<100 Acres)

1) "National Interagency Fire Center." National Interagency Fire Center, 31 Dec. 2024, data-nifc.opendata.arcgis.com/. Accessed 1 Jan. 2025.

2) Peterschick, Phillip. "October 2024 Williams County Wildfires - ND." GIS Chief at State of North Dakota, Department of Emergency Services, 11 Oct. 2024. Accessed 10 Jan. 2025.

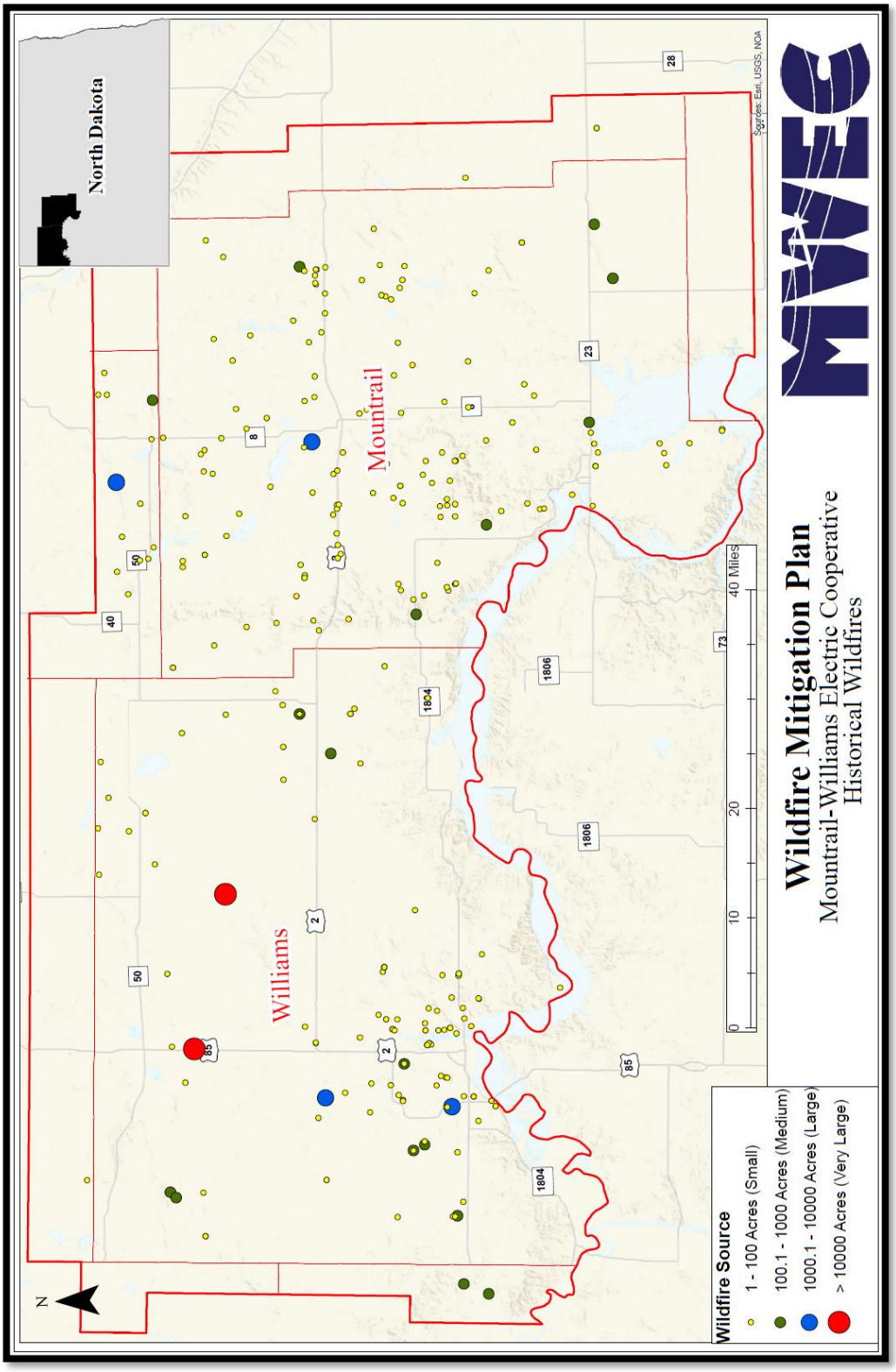


Figure 4. Historic Wildfire Perimeters 2014-2024 (All wildfires > 1 acre)

4.4.1 Wildland Urban Interface

The United States Forest Service (USFS) defines the wildland urban interface (WUI) as a place where humans and their development meet or intermix with wildland fuel. Communities that are within 0.5 miles of the zone are included. According to the USDA Forest Service, the land area considered WUI grew by 42.9% in North Dakota from 1990 to 2010, with the number of homes increasing by 27.8%[2]. There are now over 52,234 homes in North Dakota located in the WUI[3].

The WUI is composed of both interface and intermix communities. The distinction between these is based on the characteristics and distribution of houses and wildland vegetation across the landscape. Intermix WUI refers to areas where housing and wildland vegetation intermingle, while interface WUI refers to areas where housing is in the vicinity of a large area of dense wildland vegetation. Figure 5 illustrates the distribution of WUI areas in the service area.

The USFS has established five classes of WUI in its assessment:

- **WUI Intermix**: Areas with ≥16 houses per square mile and ≥50 percent cover of wildland vegetation
- **WUI Interface:** Areas with ≥16 houses per square mile and <50 percent cover of vegetation located <1.5 miles from an area ≥2 square miles in size that is ≥75 percent vegetated
- **Non-WUI Vegetated (no housing):** Areas with ≥50 percent cover of wildland vegetation and no houses (e.g., protected areas, steep slopes, mountain tops)
- **Non-WUI Vegetated (very low housing density):** Areas with ≥50 percent cover of wildland vegetation and <16 houses per square mile (e.g., dispersed rural housing outside neighborhoods)
- **Non-WUI Vegetated (Low and Very Low Housing Density):** Area with <50 percent cover of wildland vegetation and <49.42 houses per km2 (e.g., agricultural lands and pasturelands)•
- **Non-WUI Vegetated (Medium and High Housing Density):** Area with <50 percent cover of wildland vegetation and ≥49.42 houses per km2 (e.g., urban and suburban areas, which may have vegetation but not dense vegetation)

[2] https://www.nrs.fs.fed.us/data/wui/state_summary/

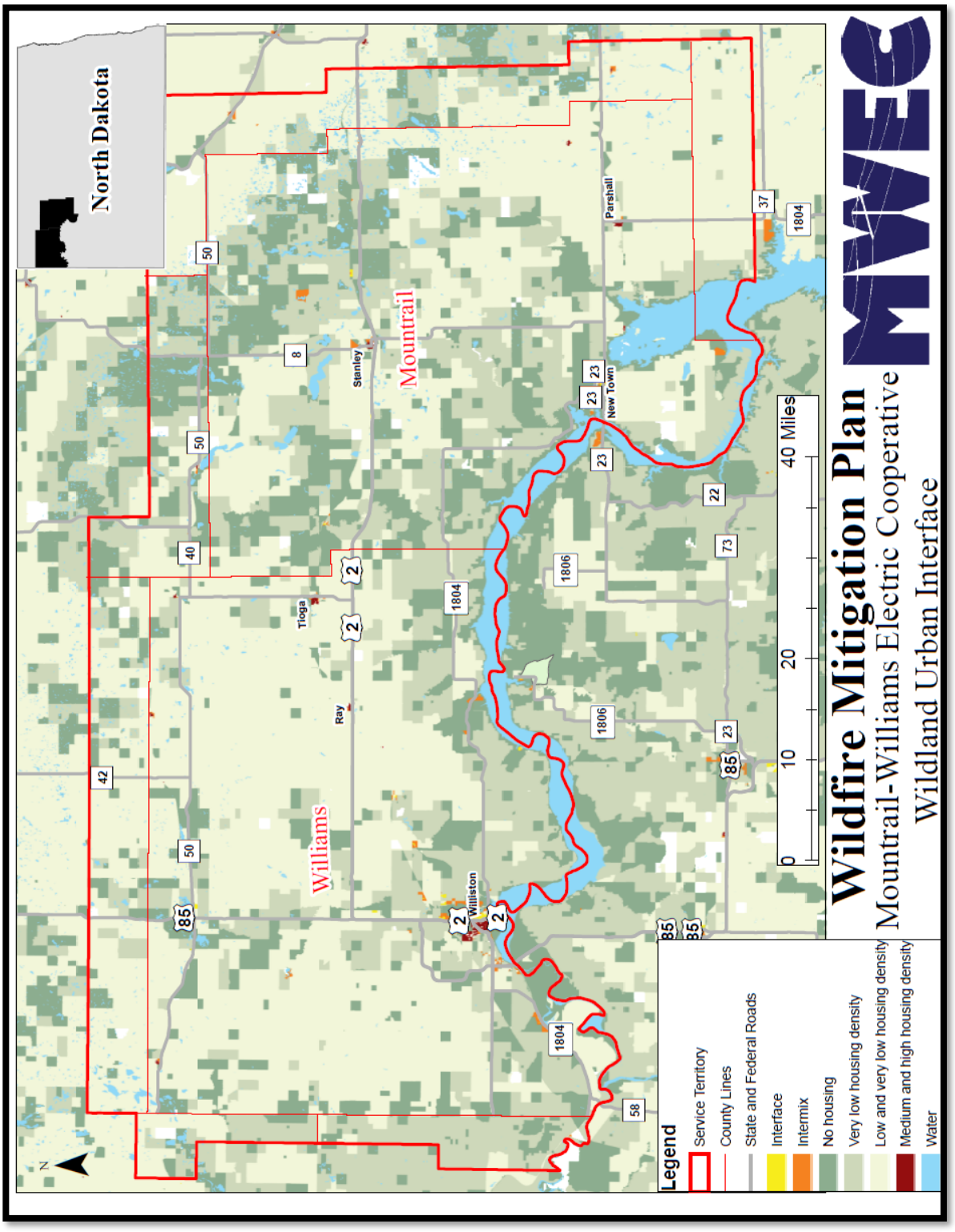


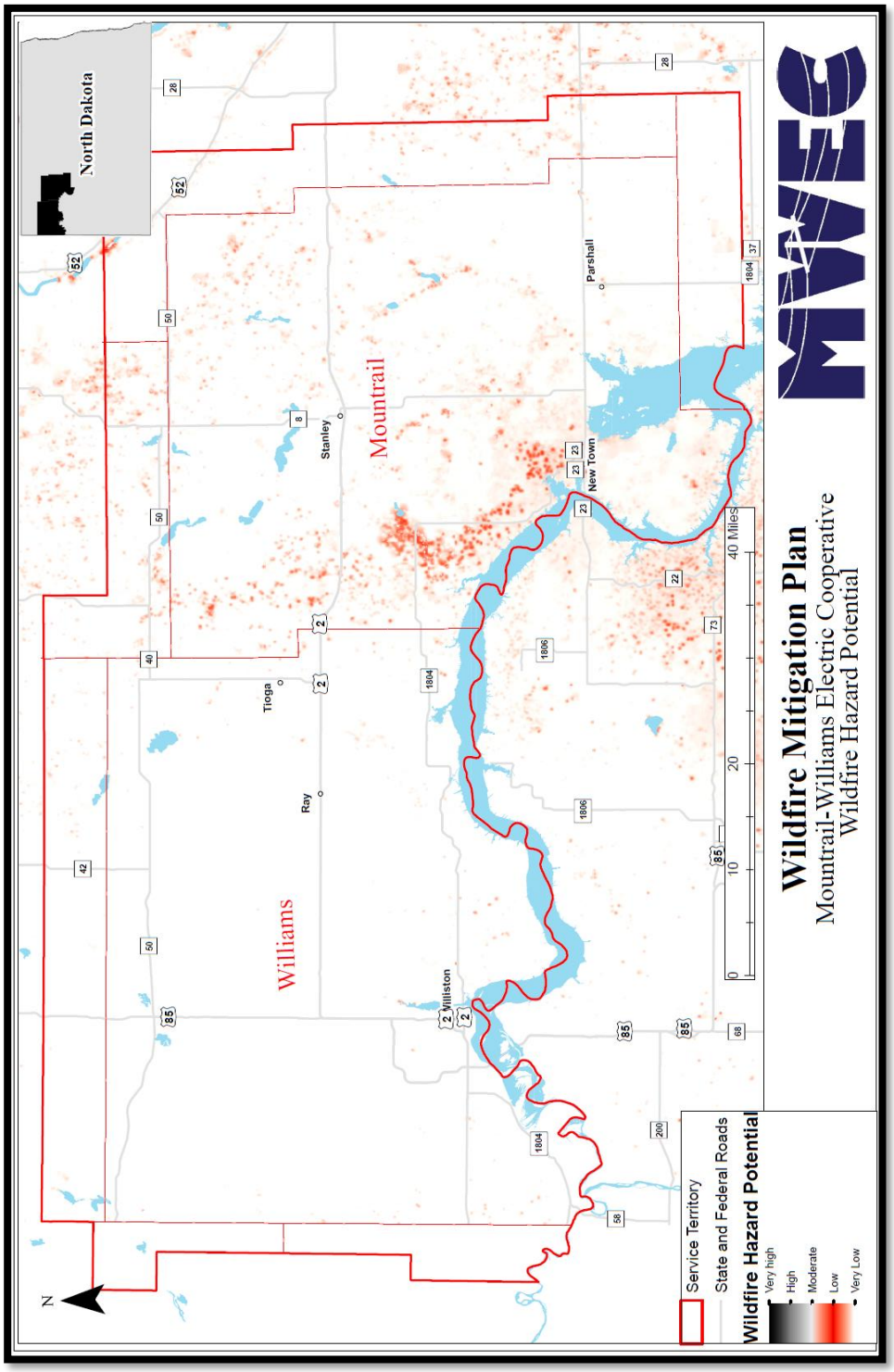
Figure 5. Wildlife Urban Interface

4.5 Fire Threat Assessment Mapping

A key element of MWEC's Fire Threat Assessment is the Wildfire Hazard Potential (WHP) map (Figure 6). The WHP is the wildfire risk mapping used to determine MWEC service territory areas that have increased potential for wildfire. These areas contain risk factors such as extreme topography, fuels accumulation, vegetation types, tree mortality, etc. The map may be used to identify areas that may require enhanced vegetation management, shortened inspections intervals, alternative inspection methods or equipment replacement.

MWEC's WHP was built upon spatial datasets of wildfire likelihood and fire intensity using the Large Fire Simulator (FSim), as well as spatial fuels and vegetation data from Landfire 2014, and point locations of historic fire occurrence (ca. 1992-2015). The objective of the map is to depict relative potential for wildfire that would be difficult for suppression resources to contain and for long-term strategic fuels management planning. On its own, WHP is not an explicit map of wildfire threat or risk, but when paired with spatial data depicting highly valued resources and assets such as structures or powerlines, it can approximate relative wildfire risk to those specific resources and assets.

The WHP map may be used to prioritize vegetation management activities, determining the location for focused recloser operational protocols, and future sectionalizing studies and associated remedial actions.



3) Scott, Joe H.; Gilbertson-Day, Julie W.; Moran, Christopher; Dillon, Gregory K.; Short, Karen C.; Vogler, Kevin C. 2020. Wildfire Risk to Communities: Spatial datasets of landscape-wide wildfire risk components for the United States. Fort Collins, CO: Forest Service Research Data Archive. Updated 25 November 2020. https://doi.org/10.2737/RDS-2020-0016

Figure 5. Wildfire Hazard Potential

5 Wildfire Prevention Strategy and Practices

5.1 Transmission and Distribution System Operational Practices

5.1.1 De-energization – Public Safety Power Shutoff

A Public Safety Power Shutoff (PSPS) preemptively de-energizes power lines during high wind events combined with hot and dry weather conditions. When considering de-energization, MWEC examines the impacts on fire response, water supply, public safety, and emergency communications.

MWEC considers the external risks and potential consequences of de-energization while striving to meet its main priority of protecting the communities and members we serve. They include:

- Potential loss of water supply to fight wildfires due to loss of production wells and pumping facilities.
- Negative impacts to emergency response and public safety due to disruptions to the internet, radio communications, and mobile phone service during periods of extended power outages.
- Loss of key community infrastructure and operational efficiency that occurs during power outages.
- Medical emergencies for members of the community requiring powered medical equipment or refrigerated medication.
- The lack of heating and air conditioning can negatively impact medically vulnerable populations.
- Negative impacts on medical facilities.
- Traffic congestion resulting from the public evacuation in de-energized areas can lengthen response times for emergency responders.
- Negative economic impacts from local businesses during an outage.
- The inability to open garage doors or motorized gates during a wildfire event can lead to injuries and fatalities.
- Loss of natural gas production and processing and its effects on electric generation.

The risks and potential consequences of initiating a PSPS are significant and extremely complex. Based on the above considerations, MWEC reserves the option of implementing a PSPS when conditions dictate. While MWEC believes the risks of implementing a PSPS far outweigh the chances of its electric overhead distribution system igniting a catastrophic wildfire, the PSPS provides a last resort tool and another mitigation option in a potential crisis.

On a case-by-case basis, MWEC will consider de-energizing a portion of its system in response to a known public safety issue or response to a request from an outside emergency management/response agency. Any de-energizing of the lines will likely be performed in coordination with key local partner agencies; however, the final determination is made by MWEC.

5.1.2 Recloser Operational Practices

There are two types of faults that exist on the power system: temporary and permanent. Temporary outages are caused by a "temporary" condition such as a tree limb falling into overhead conductor. The initial fault occurs when the tree limb contacts the conductor. The recloser measures an electrical current higher than the values programmed and then opens the electrical path to de-energize the electrical system downstream of that device which includes the portion of the line that the tree limb fell onto. That tree limb then continues to fall to the ground allowing the fault condition to go away. After a programmed amount of time, the recloser then closes the electrical path downstream and the line becomes energized. Since the tree limb is no longer in the line, the power is restored. A permanent fault exists if the tree limb makes contact and does not fall to the ground remaining in contact with the overhead conductor. The purpose of reclosers is to avoid power outages under temporary fault conditions and improve overall system reliability. All reclosers installed on the MWEC electrical system are microprocessor controlled and have at least two main operating conditions which include: normal conditions and Hot-Line Tag (HLT). Normal conditions are when the system is operating as designed for normal day-to-day operations. HLT is used when there is an immediate threat to personnel working on an energized line and provides the most sensitivity possible which can cause unnecessary outages. Some of the reclosers on the MWEC system also have an operating condition called non-reclose. Non-reclose is used when there is an increased risk to equipment. Non-reclose opens for a fault the same as under normal operations but does not reclose after opening. Reclosers are programmed with different settings for each of the operating conditions described above, and those settings are how the device works under the applicable operating conditions.

MWEC uses reclosers from different manufacturers to protect the electrical system so not all have the same capabilities. Due to these differences in capabilities and to explain the operational practices used, we will define the reclosers on the MWEC system to Remote, Local, and Transmission. Remote reclosers are installed on the distribution system and are monitored and controlled at MWEC headquarters. Local reclosers are also on the distribution system and can only be operated by personnel located at the device itself. Transmission Reclosers are on the transmission system and can be operated from MWEC headquarters.

The majority of Local reclosers have the two main operating conditions outlined above, Normal and HLT. MWEC intends to maintain reliability and mitigate wildfire risk through the creation of an Elevated Fire Risk (EFR) operating condition using a combination of HLT and EFR settings. The intent of the EFR operating condition is to allow MWEC to change how reclosers function remotely from MWEC headquarters so all reclosers operate under HLT or EFR settings, as needed. MWEC Engineering has identified the applicable reclosers that require EFR settings to circumvent the Local reclosers operation. This will allow MWEC to go from Normal operating conditions to EFR operating conditions quickly to balance the focus on public safety during an EFR event and maintaining reliability during Normal conditions. These settings are addressed in technical detail in the *MWEC Engineering Practices* document.

MWEC continually monitors recloser operations as they occur and analyzes recloser operations as needed. This allows MWEC engineering to evaluate the effectiveness of reclosers under different operating conditions and continually improve the overall reliability of electric service. This also allows MWEC to possibly identify causes of faults along with the location of the fault. This can shorten the total outage times in areas of our community, especially in areas where access to power lines is more challenging.

Consideration for public safety from the disruption of the power supply is covered in other sections of this document and would also apply to recloser operational practices. Section 5.1.1 discusses external risks and potential consequences of de-energization. Under section 6.1.1 these risks are mitigated through communication and prioritization.

Transmission reclosers are either controlled by MWEC or the Western Area Power Administration (WAPA). All transmission reclosers controlled by MWEC will be set to non-reclose during an EFR event. WAPA controlled transmission reclosers are outside the control of MWEC.

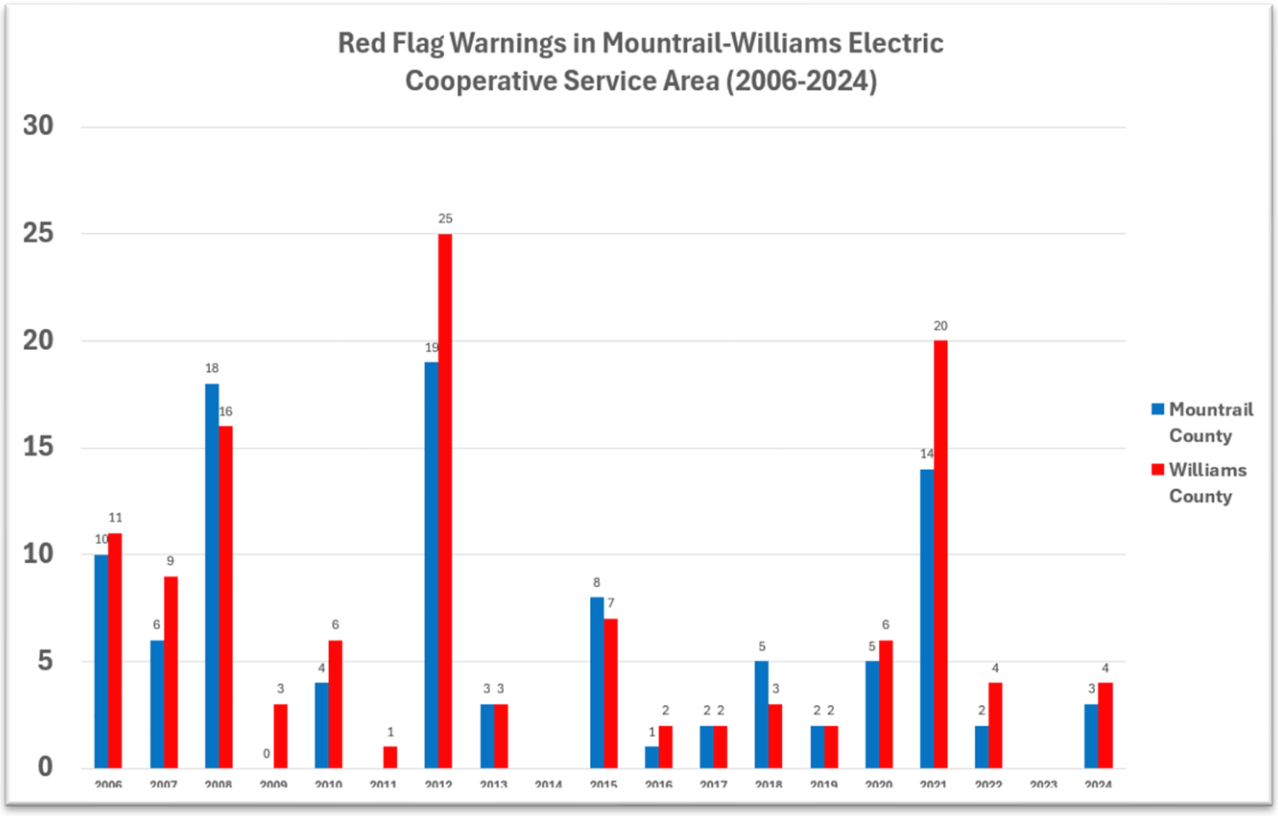
5.1.3 Situational Awareness

Situational assessment is the process by which current operating conditions are determined. Situational Awareness is the understanding of the working environment, which creates a foundation for successful decision making and the ability to predict how it might change due to various factors.

MWEC System Operators rely on various resources to monitor evolving fire weather and climatological conditions that may lead to fire events. Sources for weather information include, but are not limited to the following:

- **The National Weather Service (NWS):** The NWS provides on-line predictive fire and weather forecasting tools in the form of a current fire-weather outlook, 2-day, and a 3-8 day outlook. https://www.weather.gov/bis/
- **North Dakota Fire Declarations and Burn Restrictions:** This site reports North Dakota county Burn Restrictions, Fire Danger ratings, Red Flag/Fire Weather Watch and any Governor Fire Danger Declarations. It is updated periodically throughout the day. https://experience.arcgis.com/experience/c5da309af17b4c48a3b953675a77f654/page/Dashboard-Page/?views=Fire-Danger-Ratings
- **ND Wildland Fires Monitor:** This site tracks current active wildfires across the state. The map shows live status information such as size and containment. https://des-ndgov.maps.arcgis.com/apps/dashboards/5c85b736d02d42239a77c0372aae15b8

Figure 7 shows historical Red Flag warnings for MWEC.



4) Daryl Herzmann akrherz@iastate.edu. (n.d.). Iowa Environmental Mesonet. https://mesonet.agron.iastate.edu/plotting/auto/ #73

Figure 6. Historic Red Flag Warnings (2006-2024)

5.2 Infrastructure Inspections and Maintenance

Recognizing the hazards of equipment that operate high voltage lines, MWEC maintains a formal inspection and maintenance program for distribution, transmission, and substation equipment which plays an essential role in wildfire prevention. MWEC currently patrols its system regularly. Table 4 summarizes the inspection schedule for all assets, while the following sections outline inspection practices for the utility.

Table 4. Inspection Plan Summary

ASSET CLASSIFICATION	INSPECTION TYPE	FREQUENCY
Transmission	Routine Inspection	Continuous
	Detailed Inspection	Annually
	Wood Pole Inspection	Every 10 years
Overhead Distribution	Routine Inspection	Continuous
	Detailed Inspection	Every 3 years
	Wood Pole Inspection	Every 10 years
Underground Distribution	Routine Inspection	Continuous
Substation	Routine Inspection	Continuous
	Detailed Inspection	Monthly
	Infrared Inspection	Annually

5.2.1 Definition of Inspection Levels

1. **Routine Inspection:** A simple visual inspection of applicable utility equipment and structures designed to identify obvious structural problems and hazards. Patrol inspections may be carried out during other company business.

2. **Detailed Inspection:** Individual pieces of equipment and structures are inspected visually to identify structural problems and hazards. If any issues are identified, they will be documented and recorded.

3. **Wood Pole Inspection:** Inspections involving sound test, movement of soil, taking samples of the wood pole for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections.

4. **Aerial Inspection:** The line will be inspected using aerial equipment such as helicopter, drone, etc. Use of imagery, infrared, and LIDAR may be employed to find hazards, areas of weakness, damage, and vegetation encroachment.

5.2.2 Routine Inspections

A simple visual inspection of applicable utility equipment and structures designed to identify obvious structural problems and hazards. Routine inspections may be carried out during other company business. All problems or hazards will be addressed and documented through the prioritization of repairs process noted below in Section 5.2.6

5.2.3 Detailed Inspections of Transmission and Distribution Lines

Distribution: Individual pieces of equipment and structures are inspected visually to identify structural problems and hazards. If any issues are identified, they will be documented and recorded. Distribution line patrol inspections will be completed by inspecting one third of the system each year.

Transmission: Aerial inspection will be completed for all transmission using aerial equipment such as helicopter, drone, etc. Use of imagery, infrared, and LIDAR may be employed to find hazards, areas of weakness, damage, and vegetation encroachment. Transmission lines aerial inspections will be completed each year. Upon completion of these detailed inspections and/or aerial inspections all problems or hazards will be addressed and documented through the prioritization of repairs process noted below in Section 5.2.6.

5.2.4 Wood Pole Inspection

To maintain MWEC's wood poles, a formal Wood Pole Inspection Plan was initiated with the goal to inspect 10% of the system each year. Wood pole inspections are carried out on a planned basis to determine whether they have degraded below NESC design strength requirements with safety factors.

A third-party contractor inspects and tests all poles on a cycle meeting the interval recommended in RUS Bulletin 1730B-121. Circuits are identified, mapped, and scheduled for inspection and testing using latest industry standards and practices. Poles suspected of deficiencies are subjected to intrusive inspection to determine and identify problems such as rot, decay, or insect damage.

If during inspection emergency pole(s) are identified, we will dispatch a crew or contractor to complete the changeout of an emergency pole(s) immediately. After test results have been received, all reject poles will be replaced within 12 months of results received. Any problems or hazards identified will be addressed and documented through the prioritization of repairs process noted below in Section 5.2.6.

5.2.5 Substation Detailed Inspection

MWEC personnel complete detailed inspections of MWEC's substation on a monthly cycle. Qualified personnel will perform inspections following all required safety rules to protect themselves, other workers, the public, and the system's reliability.

The substation inspection involves a thorough look at the system to confirm that there are no structural or mechanical deficiencies, hazards, or tree trimming requirements. Individual pieces of equipment and structures receive careful visual examination and routine diagnostic tests as appropriate.

5.2.6 Prioritization of Repairs

MWEC considers and prioritizes maintenance work by assessing the most urgent needs. The inspector will document the overhead and underground systems' condition, recording defects, deterioration, violations, safety concerns, or any other factors requiring attention on the inspection records. The inspection shall focus on identifying any hazards that could affect the system's integrity or the safety of line workers and the public.

Inspection data (overhead & underground) will be prioritized and issued as follows:

Emergency: Conditions that require immediate action to repair a hazard to workers or the public. These will be responded to immediately and appropriate action taken until the hazardous condition is remedied.

High: Conditions that may or will affect the integrity of the system. Service orders designated as high will be prioritized by urgency and will be scheduled to have appropriate repairs made to correct the condition within six months where practical.

Normal: Conditions that require maintenance that can be scheduled to maintain the integrity of the system. Service orders designated as normal will be prioritized by urgency and will be scheduled to have appropriate repairs made to correct the condition within two years where practicable.

Low: Conditions that do not present a situation that could jeopardize the safety of the system, line workers and the public. Service orders designated as low will be prioritized by urgency and will be scheduled to have appropriate repairs made to correct the condition within three years where practicable.

5.3 Vegetation Management (VM)

MWEC's Vegetation Management Guidelines (VMG) supports the goal of delivering safe and reliable services to our members while also reducing the risk of wildfire. Hazardous vegetation means plants, such as trees, shrubs, and grass, which are dry, diseased, dead, or in close proximity to power lines and could come into contact with power lines, especially in dry and windy conditions, and lead to electrical faults or wildfires.[4] To protect and enhance system reliability and reduce possible ignitions, MWEC deploys vegetation activities to mitigate or eliminate hazardous vegetation in areas around MWEC assets and power line corridors. MWEC conducts this work in regular cycles across the service area.

5.3.1 Vegetation Trimming Standards

MWEC's VMG aligns various industry guidelines and regulatory requirements. The American National Standards Institute (ANSI), International Society of Arboriculture (ISA), National Electric Safety Code (NESC) and North American Electric Reliability Corporation (NERC) each direct or influence our program objectives and work execution practices.

ANSI A-300, Part 1 and ISA's Best Management Practices for utility pruning of trees

To the extent possible, MWEC's vegetation management activities align with guidelines and examples set forth by the ANSI A-300, Part 1, and the International Society of Arboriculture (ISA) Best Management Practices for utility pruning of trees. Both present performance guidelines for the care and maintenance of trees, brush, and other woody plants. Internal and contracted teams strive to align work activities with these guidelines; however, field conditions including land usage, available ROW, etc. may limit the extent to which we can apply the guidelines.

National Electric Safety Code (NESC)

MWEC maintains its electrical systems in accordance with the National Electric Safety Code (NESC). The NESC is updated every 5 years and becomes effective the year after its release. The NESC generally requires the pruning or removal of interfering trees.

The 2023 National Electric Safety Code, Vegetation Management Section 218 states:

A. General

1. Vegetation Management should be performed around supply and communication lines as experience has shown to be necessary. Vegetation that may damage ungrounded supply conductors should be pruned or removed.

NOTE 1: Factors to consider in determining the extent of vegetation management required include, but are not limited to: line voltage class, species' growth rates and failure characteristics, right-of-way limitations, the vegetation's location in relation to the conductors,

[4] North Dakota Engrossed Senate Bill No. 2339

the potential combined movement of vegetation and conductors during routine winds, and sagging of conductors due to elevated temperatures or icing.

NOTE 2: It is not practical to prevent all tree-conductor contacts on overhead lines.

2. Where pruning or removal is not practical, the conductor should be separated from the tree with suitable materials or devices to avoid conductor damage by abrasion and grounding of the circuit through the tree.

B. At line crossings, railroad crossings and limited-access highway crossings, or navigable waterways requiring crossing permits.

The crossing span and the adjoining span on each side of the crossing should be kept free from over-hanging or decayed trees or limbs that otherwise might fall into the line.

5.3.2 VM Trimming and Inspection Schedule

Contract VM crews or MWEC perform annual, ground-based inspections of tree conductor clearances and hazard tree identification for MWEC rights-of-way. These ground-based inspections cover approximately one quarter of the system per year. MWEC contracts VM crews to assist in vegetation management work. Proactive maintenance during routine operations and prompt action during emergency events maintain system reliability, a safe work environment, and reduce fire danger. Once VM areas are identified, MWEC personnel and contractors will work to complete service orders for those areas.

Table 5 illustrates the vegetation inspection and trimming cycle for the various circuits based on the nominal voltage.

Table 5. Vegetation Management Schedules

ASSET CLASSIFICATION	OPERATION TYPE	FREQUENCY
115kV Overhead Transmission	Inspection Cycle	Every 4 years
	Trimming Cycle	Every 4 years
7.2 – 24.9 kV Overhead Distribution	Inspection Cycle	Every 4 years
	Trimming Cycle	Every 4 years

5.3.3 Hazard Trees

A Hazard Tree[5] is defined as 'A tree that has structural defects in the roots, stem, or branches that may cause the tree or tree part to fail, where such failure may cause property damage or personal injury.' These trees are sometimes located beyond the easement or ROW. Any tree that is located within the ROW and is considered a hazard tree will be removed or trimmed to

[5] As defined by USDA Forest Service "Urban Tree Risk Management: A Community Guide to Program Design and Implementation"

make safe for conductors, and if not practical the conductors may be moved to a safe location. MWEC will seek permission from the property owner when a hazard tree is to be removed or trimmed and is outside of the ROW. MWEC recognizes it may not have the permission and/or authority to remove or trim the hazard tree.

5.4 Fire Mitigation Construction

The goal of fire mitigation construction is to mitigate the potential of electrical faults that could start wildfire or the damage that wildfire can impart on electrical infrastructure. MWEC is using a two-prong approach to mitigate wildfire risk. One approach is for MWEC to leverage existing strategies that complement wildfire mitigation construction standards. The other approach is to make additional changes to the construction standards solely for the purpose of wildfire mitigation.

MWEC is already using updated construction designs to harden the system as well as for Avian Protection, which also provides direct benefit for wildfire mitigation. Wildfire can start with wildlife making electrical contact and igniting fur or feathers before falling to the ground. Another consideration for construction is around trees creating a risk of conductor to tree contact and increased animal presence. Some examples of MWEC's current design standards which also provide wildfire mitigation are listed below in subsections 5.4.1-5.4.9. MWEC also plans to make additional changes to the current construction standards to mitigate wildfire risks in the future. One possibility being researched is outlined in subsection 5.4.10 and many other possibilities are listed under Emerging Technologies in subsection 5.5.

5.4.1 Steel Poles

Steel poles are installed for system hardening every half mile on new overhead distribution construction for three phase main lines. Steel poles are used for construction of new and replacement of old transmission line structures. Steel poles are fire resistant, but that is not the only benefit. Steel poles are stronger which decreases conductor movement from wind events mitigating faults and other issues that can occur from this movement.

5.4.2 Increased Phase Spacing

10-foot crossarms are installed on all new overhead construction as part of new construction standards developed for avian protection. The fact that the phase conductors are separated by a larger distance decreases the probability of the conductors contacting each other. This practice also decreases animal electrical contact that can cause wildfires.

5.4.3 Undergrounding of Distribution Lines

Undergrounding of distribution lines can increase storm resiliency but also offers a benefit to wildfire mitigation. Two benefits for wildfire mitigation are the elimination of the possibilities for falling conductor and electrical contact with trees or adjacent conductor. The downside is underground cable faults are more difficult to find and repair. Underground construction

increases the cost compared to overhead construction. MWEC incorporates wildfire risk as a metric in selecting system improvement projects that include overhead lines for replacement and if those lines are to be replaced with underground cable.

5.4.4 Burying Underbuild

The definition of underbuild for the WMP is a three-phase distribution line built underneath transmission line on the same structures. Distribution conductor on the same pole as the transmission conductor increases the amount of wind forces the structure may be subjected to and increases the chance of pole failure. Removing the distribution conductor from those structures and replacing the overhead underbuild distribution line with underground cable eliminates the wildfire risks the underbuild imposes. This practice also removes additional risks of electrical contact with trees.

The process of electromagnetic induction is another hazard of concern. When a transmission line is energized, it creates an electromagnetic field. That electromagnetic field can induce currents in underbuild. This energizes the underbuild even though the conductor is not connected to anything that is energized, such as a transformer. In this instance there is no protection and often no way of knowing the line is energized. The underbuild can have an electrical fault without detection. If a conductor on the underbuild falls to the ground, it can create sparks that could ignite a fire.

MWEC's current practice is to install underground instead of underbuild where practical. MWEC is replacing underbuild with underground cable where practicable through an annual work plan.

5.4.5 Phase Spacers

Phase spacers are insulated devices used on power lines to maintain a safe distance between phase conductors. These devices prevent phase to phase electrical faults that cause outages and increase wildfire risk. As part of this WMP, MWEC will consider the potential of wildfire risk for the use of phase spacers where appropriate.

5.4.6 Fiberglass Crossarms

Fiberglass crossarms have traditionally been used to increase structural strength for system hardening which provides a direct benefit to falling conductors. Another benefit is the resistance the fiberglass crossarms have to electrical faults and ignition. MWEC uses fiberglass crossarms extensively and will continue to do so.

5.4.7 Wildlife Coverup

There are devices that are installed over non-insulated electrical components to eliminate or decrease the chances of wildlife electrical contact. Currently MWEC is installing wildlife coverup for all new construction, but not all energized parts are covered. As problem areas are identified for wildlife, the appropriate coverup will be installed. The annual workplan replaces older construction, and this older construction often lacks wildlife coverup. The annual workplan

creation process is indirectly addressing wildlife coverup on old construction. MWEC has multiple vendors that are presenting new products as they are released and MWEC will continue to engage in these vendor presentations.

5.4.8 PulseClosing

PulseClosing is a patented technology used on the IntelliRupter Recloser manufactured by S&C Electric. When the IntelliRupter closes it utilizes this technology to reduce the incident energy that a fault can produce downstream. IntelliRupters have a direct benefit to wildfire mitigation under most operating conditions when reclosers operate under Normal or Alternate protection settings.

5.4.9 Protection

Protection includes devices used on the MWEC electrical system to isolate faults and stop them from damaging equipment. The selection of protection devices and how they react to faults is defined within the latest revision of the document titled *MWEC Engineering Practices.* Some protection devices can have open-air components that create a chance of wildlife electrical contact or open-air arcing. As new protective devices are evaluated, there will be consideration given to device specifications that mitigate wildfire risks.

5.4.10 Fireproofing Poles

Currently MWEC is investigating different materials and technologies to fireproof poles and attachments. Fireproofing poles is intended to reduce the risk of damage from wildfires to poles as well as remove attachments that are not fire retardant and could be considered a fuel source for fire.

5.5 Emerging Technologies

MWEC is researching various technologies for pilot projects for wildfire mitigation and effects on reliability. These pilot projects will serve to evaluate the effectiveness of emerging technologies while controlling unwarranted expenditure on unproven methods. MWEC may elect to integrate these technologies or practices into its existing construction standards and maintenance programs based on the outcomes. The subsections below provide brief descriptions of some of the new technologies MWEC is exploring.

5.5.1 Current Limiting Fuses

Although it is not a new technology, the application of current limiting fuses for wildfire mitigation is new. These fuses are self-contained and do not discharge any sparks or arcs outside of the fuse container. Another industry term for this fuse type is a non-expulsion fuse.

5.5.2 Fault Detection Equipment

The installation of fault detection equipment would help MWEC maintain reliability during times when Recloser Operational Practices are followed in response to elevated fire risk. Currently MWEC has equipment installed both on overhead structures and padmount applications which provide fault current detection. There are many new devices offering fault detection on the market that have potential for various applications. It is anticipated that these devices will also have a net benefit to wildfire mitigation outside the main goal of improved system reliability. It is important that MWEC includes fault detection in decisions for future purchases and continues to innovate new ways to utilize this technology to mitigate wildfire risk and increase reliability.

5.5.3 High Impedance Fault Detection

This is a protection algorithm designed to recognize high impedance faults. High impedance faults have fault currents less than the traditional ground and current protection relays can detect. Examples of high impedance faults include conductor on the cross arm, tree electrical contact, and conductor on the ground. The protection relay can open the circuit under certain high impedance fault conditions instead of letting the conductor remain energized causing arcs and sparks for an indeterminate amount of time.

5.5.4 Falling Conductor Detection

This is a protection algorithm designed to recognize when an overhead conductor breaks and no fault has occurred. The intention is an upstream protective device detects the break in the conductor and opens the circuit prior to the conductor landing on the ground. This technology has the potential to decrease or eliminate the possibility of downed conductors remaining energized.

5.5.5 LiDAR, AI, and Geospatial Analysis

There are new analytic packages available that offer better insight into the terrain, vegetation, soil types, and other system parameters. The data created by these technologies is being leveraged within the utility industry to understand potential problems on electrical systems before they are an actual problem.

5.5.6 Infrared Inspection

Infrared (IR) inspection is conducted on parts of the MWEC electrical system. The current goal has been to detect potential equipment failures before they occur. MWEC will explore an internal pilot project with this technology on overhead distribution lines and equipment.

5.5.7 Drone Inspection Program

Drones are a tool used at many electric utilities to find damaged or faulty equipment and materials on electrical systems. MWEC has been exploring options for the creation of a drone inspection program and will continue to do so.

5.6 Workforce Training

MWEC has developed rules and training programs for its workforce to reduce the likelihood of an ignition. All field staff are:

- Trained on the content of the WMP,
- Trained in proper use and storage of fire extinguishers,
- Required during job briefings to discuss the environmental conditions related to the tasks.
- Required to discuss the potential for ignition, and the location of the available fire abatement tools during times of heightened fire danger.
- Required to report all ignition events to management for follow-up, and
- Encouraged to identify deficiencies in the WMP and bring such information to management.

5.7 5.7 Costs for Implementation

MWEC utilizes an annual budget and workplan. The 2025 budgeted costs that will contribute to the implementation of the WPM, including system improvements and upgrades is approximately $14.9 million. This includes funds allocated for vegetation management, maintenance, system improvement projects, and new construction.

6 Emergency Response

6.1 Preparedness and Response Planning

MWEC utilizes the Incident Command System (ICS) to structure its response efforts during disruptive events, ensuring clear communication, defined roles, and effective decision-making. To maintain readiness, MWEC participates in periodic tabletop exercises and scenario-based training sessions. These activities and after-action reviews of the events allow key MWEC personnel to refine the ICS plan, enhance operational skill in assigned roles, and address any gaps or updates needed in the procedures.

By incorporating ICS and ongoing training into preparedness efforts, MWEC ensures that its team is well-equipped to respond efficiently and effectively to events of any size or scope.

6.1.1 Emergency Management Communication and Coordination

In response to active emergencies, MWEC coordinates closely with county, tribal, and state emergency management departments/agencies, serving as a dedicated partner in mitigation and response efforts. To ensure effective communication and seamless coordination during such events, MWEC provides a representative to the relevant emergency management department/agency during an emergency. This representative acts as a liaison, facilitating real-time information sharing, addressing immediate concerns, and aligning utility operations with broader emergency response strategies.

MWEC's collaboration focuses on prioritizing public safety, restoring critical services, and minimizing disruptions. This partnership extends to supporting resource allocation, contributing to situational assessments, and participating in incident response planning. By integrating utility expertise into emergency operations, MWEC strengthens the collective ability to respond efficiently and effectively to events of any size or scope.

Agencies may include:

- North Dakota Department of Emergency Services
    - Phone: 701-328-8100
    - Toll Free: 800-773-3259
    - Email: nddes@md.gov
- Williams County Emergency Management
    - Phone: 701-577-7707
    - Primary Contact: Mike Smith, Director
- Mountrail County Emergency Management
    - Phone: 701-628-2975
    - Primary Contact: Warren Bogert, Emergency Manager
- MHA Emergency Operations Center
    - Phone: 701-627-7300
    - Primary Contact: Emily Sitting Bear, Director

6.1.2 Jurisdictional Structure

MWEC has considered the jurisdictional structure of the service area when developing and implementing this plan, including those related to wildfires. For MWEC's service territory, the most consequential agency partners in terms of fire prevention are the State of North Dakota and the County governments. The State can issue Burn Restrictions, Fire Danger ratings, and Red Flag warnings as guidance for wildfire protection. County governments usually abide by these restrictions and warnings, but they also can implement similar declarations that affect smaller areas.

These State and County declarations are consequential because they affect all land in the area, regardless of ownership. This means private, public, and commercially managed lands are all subject to the same fire prevention protocols rather than a patchwork of policies and procedures. This homogeneity ensures that protective protocols are understood by all stakeholders in the region and that no areas are afforded less protection than others. Figure 8 illustrates the government and tribal land management within the service area.

The following describes the various stakeholders or districts with management responsibilities.

MWEC serves the following:

- Counties:
    - Burke County, ND: 221 sq mi
    - Divide County, ND: 331 sq mi
    - McLean County, ND: 160 sq mi

    - Mountrail County, ND: 1,824 sq mi
    - Ward County, ND: 390 sq mi
    - Williams County, ND: 2,071 sq mi
    - Sheridan County, MT, 72 sq mi
    - Roosevelt County, MT, 104 sq mi
- North Dakota State Parks:
    - Lewis & Clark State Park: 536 Acres
- North Dakota Wildlife Management Areas
    - Blacktail Dam: 47 Acres
    - Blue Ridge: 254 Acres
    - Hofflund: 1,500 Acres
    - Lewis and Clark: 11,864 Acres
    - McGregor Dam: 194 Acres
    - Palermo: 39 Acres
    - Smishek Lake: 164 Acres
    - Van Hook: 4,781 Acres
    - White Earth Valley: 276 Acres
- North Dakota Waterfowl Production Areas
    - Audubon Wetland Management District
        - 13 Units: 2,011 Acres
    - Crosby Wetland Management District
        - 44 Units: 8,348 Acres
    - Lostwood Wetland Management District
        - 56 Units: 11,477 Acres
- North Dakota Trust Land
    - Burke County, ND
        - 35 Units: 5,453 Acres
    - Divide County, ND
        - 34 Units: 5,341 Acres
    - McLean County, ND
        - 8 Units: 1,000 Acres
    - Mountrail County, ND
        - 232 Units: 32,450 Acres
    - Ward County, ND
        - 15 Units: 2,397 Acres
    - Williams County, ND
        - 250 Units: 38,399 Acres
- Tribal and Bureau of Indian Affairs Land
    - Fort Berthold Indian Reservation: 590 sq mi
- Federal Lands
    - United States National Wildlife Refuge
        - Des Lacs National Wildlife Refuge: 10,444 Acres
        - Hiddenwood National Wildlife Refuge: 577 Acres
        - Lake Zahl National Wildlife Refuge: 3,872 Acres
        - Lostwood National Wildlife Refuge: 27,332 Acres

        - McLean National Wildlife Refuge: 757.86 Acres
        - Shell Lake National Wildlife Refuge: 1,827 Acres
    - United States Bureau Land Management
        - 36 Units: 1,555 Acres
    - United States Army Corp of Engineers
        - Garrison Dam - Lake Sakakawea: 277,756 Acres

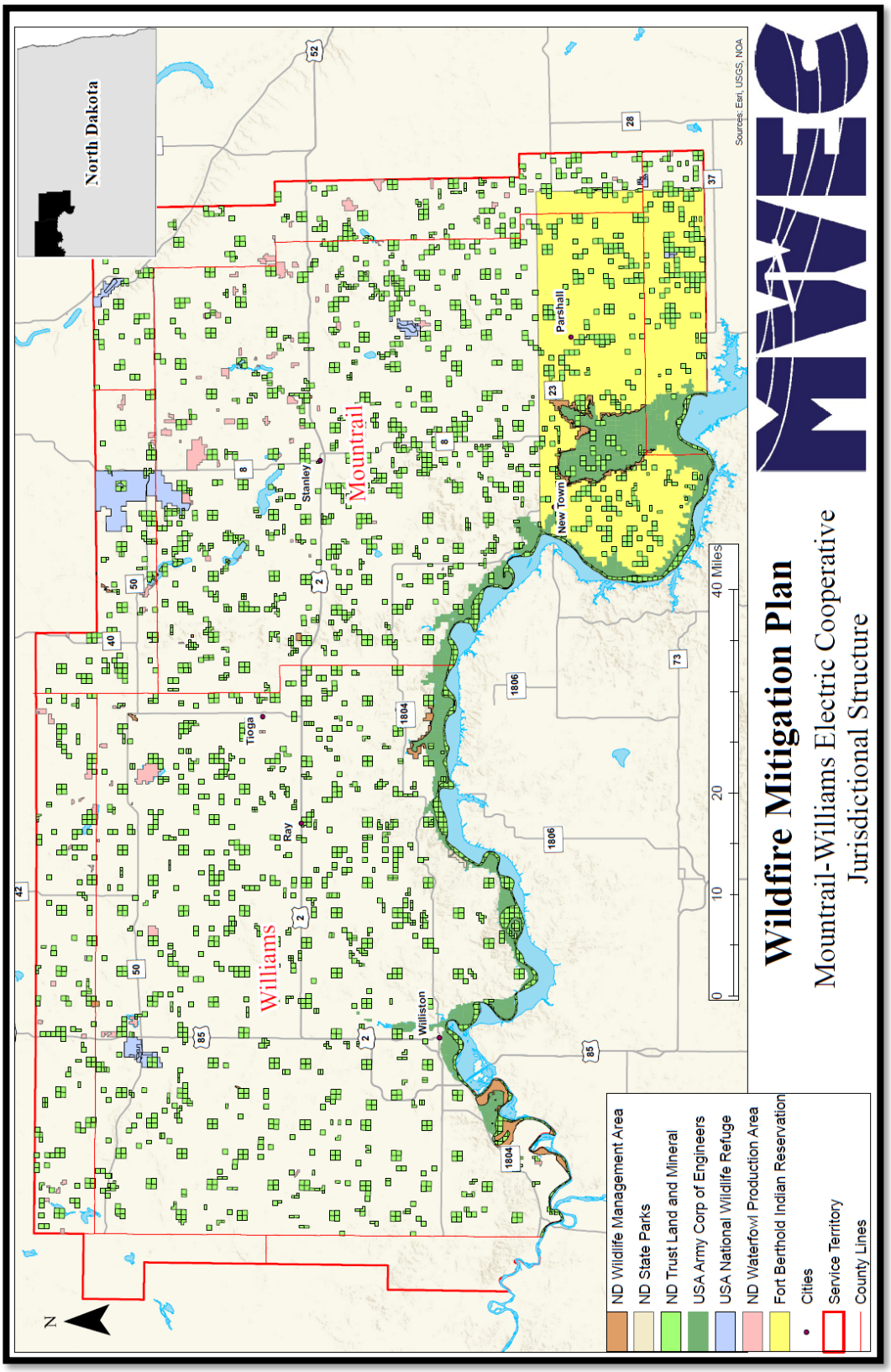


Figure 8. Government and Tribal Land Management

6.1.3 Public Agency and Member Communications for Outages

MWEC is committed to communicating accurate information in a timely matter with target audiences such as members, employees, board members, government agencies, emergency services, media, and the public before, during, and after a wildfire event. Communication ensures MWEC maintains high member satisfaction and loyalty while aligning wildfire mitigation efforts with public safety partners.

MWEC's outage communication strategy consists of three key areas: pre-wildfire preparedness, during-wildfire response, and post-wildfire response. Communication tactics may include press releases, public service announcements (radio/television), social media, web content, email communications, media interviews, photos/videos, on-hold messaging, text alerts, phone calls and robocalls. In addition, pre and post-wildfire response tactics may include the magazine articles, advertising, bill stuffers and other non-time-sensitive communication channels.

Pre-wildfire preparedness key activities:

- Meet with city and county government officials and emergency services as needed to leverage partnership opportunities.
- Meet with key media personnel as needed.
- Incorporate outage resources into cooperative communications throughout the year
    - **Outage Center:** https://mwec.com/outage-center
    - **Service Contact:** 1-800-279-2667 and customerservice@mwec.com

During-wildfire response key activities:

- Partner with local and emergency services on evacuation procedures and safety tips if needed.
- Communicate with members via social media, website, phone calls, and on-hold messaging.

Post-wildfire response key activities:

- If needed, communicate outage, recovery and clean-up efforts.
- Assess communication strategies and effectiveness.

6.1.4 Community Outreach

A key focus for Mountrail-Williams Electric Cooperative (MWEC) is to provide education and information to members throughout the year utilizing various communication tactics. Key education topics include tree trimming, system hardening, infrastructure improvements and new technology. Education is placed in the ND Living magazine, MWEC website, and MWEC Facebook page.

Future Activity

In 2025, MWEC's wildfire communications approach will include the development of a wildfire education campaign. Key education areas may include fire season preparation, defensible space guidelines for property owners and right tree/right placement. Additional wildfire education may be considered when fire-risk is heightened.

6.2 Restoration of Service

If an outside emergency management/emergency response agency requests a power shutdown, or if MWEC elects to de-energize segments of its system due to extreme weather, MWEC staff will patrol the affected portions of the system before the system can be re-energized. Suspect equipment or lines that cannot immediately be patrolled will remain de-energized until MWEC staff can do so. Poles and structures damaged in a wildfire must be assessed and rebuilt as needed prior to re-energization. Periodic customer and media updates of restoration status prior to full restoration will be made.

6.2.1 Service Restoration Process

After a wide-spread outage, MWEC work crews take the following steps before restoring electrical service after a de-energization event. These measures are intended to protect the workers, members, the public, and the system's reliability.

- **Patrol:** Crews patrol every de-energized line to ensure no hazards have affected the system during the outage. If an outage is due to wildfire or other natural disasters, as soon as it is deemed safe, crews inspect lines and equipment for damage and foreign contacts, and estimate equipment needed for repair and restoration. Lines located in remote and rugged terrain with limited access may require additional time for inspection. MWEC personnel may assist in clearing downed trees and limbs as needed.
- **Isolate:** Isolate the outage and restore power to areas not affected.
- **Repair:** After the initial assessment, MWEC staff meet to plan the needed work. Rebuilding commences as soon as the affected areas become safe. Repair plans prioritize substations and transmission facilities, then distribution circuits serving the most critical infrastructure needs. While the goal to reenergize all areas is as soon as possible, emergency services, medical facilities, and utilities may receive first consideration when resources are limited. Additional crew and equipment may be dispatched as necessary.
- **Restore:** Periodic customer and media updates of restoration status before full restoration are posted on social media platforms and MWEC's website. After repairs are made, power is restored to homes and businesses as quickly as possible. Members, local news, and other agencies receive notification of restored electric service.

7 Performance Metrics and Monitoring

7.1 Plan Accountability

Staff responsibility for plan implementation and general communications is described below:

- The Board of Directors makes policy decisions relative to the utility–they are responsible for approving and adopting the Wildfire Mitigation Plan.
- The General Manager (GM) directs management staff responsible for operations, engineering, customer service and finance.
- The Operations Manager (OM) is responsible for the overall execution of the WMP. Staff will be directed as to their roles and responsibilities in support of the plan.

- The Manager of PR/Communications is responsible for communicating with media outlets, cooperative members, key accounts, and health agencies during wildfire emergency events.
- The Safety Coordinator is responsible for communicating with public agencies, first responders, and local emergency management departments during wildfire emergency events.
- The Safety Coordinator determines when and how to notify outside agencies in cases of wildfire emergency events.
- IT/Mapping/Special Projects Manager will be responsible for auditing the targets specified in the WMP to confirm that the objectives of the WMP are met.

7.2 Monitoring and Auditing of the WMP

The WMP will be included as a discussion item on the agenda of regularly scheduled management meetings. The effectiveness of the WMP will be reported to the Board of Directors on an annual basis.

The OM, or their designee, is responsible for monitoring the WMP's execution and the specified objectives. The WMP should be reviewed, and or revised, at least once per year.

The OM, or their designee, will update leadership with recommendations or proposed actions to enhance the Plan's objectives and strategies over time. The WMP annual review should align with MWEC's existing business planning process which includes budgeting and strategic planning.

For any fires potentially originating from MWEC equipment, as well as other fires that could impact MWEC facilities, MWEC will, if/when possible, track data. This may include, but is not limited to:

- Weather-related alerts or warnings.
- Operational recommendations/alterations:
    - To any substation equipment, overcurrent devices, or other field equipment.
        - Specific changes, times of change, times of restoration
    - Any communications with field personnel which modifies their normal operating procedures.
- Results of recommendations/alterations:
    - To any substation equipment, overcurrent devices, or other field equipment.
        - Document all operations within the designated time frame.

After each incident a brief report may be generated.

The MWEC Compliance Department will review, on an annual basis, the effectiveness of the WMP. It will monitor the efforts in the following area.

- Inspections
- Data Collection Metrics

- Yearly Performance Metrics
- QA/QC for Pole Testing and Vegetation Management

7.2.1 Identifying Deficiencies in the WMP

The OM will be responsible for ensuring that this WMP meets all necessary guidelines to mitigate the risk of its assets becoming the source or contributing factor of a wildfire. Staff responsible for assigned mitigation areas have the role of vetting current procedures and recommending changes or enhancements to build upon the strategies in the WMP. Either due to unforeseen circumstances, regulatory changes, emerging technologies or other rationales, deficiencies within the WMP will be sought out and reported to the Board of Directors in the form of an updated WMP every two years, or more frequently at MWEC's discretion.

The OM or their designee will be responsible for spearheading discussions on addressing any plan deficiencies and collaborating on solutions when updating the WMP. At any point in time when deficiencies are identified, the OM is responsible for recommending the appropriate policy adjustments. MWEC staff and qualified stakeholders are encouraged to bring any potential deficiencies to the attention of the OM. The OM, along with the appropriate staff, will evaluate each reported deficiency, and if determined to be valid, shall record the deficiency for further action.

7.3 Performance Metrics

To understand whether this Wildfire Mitigation Plan is effective, there must be a basis for measuring the success or failure of the plan and its elements. Towards this end, MWEC has identified several metrics to assess the performance of different aspects of the plan. These metrics quantify the threat environment that MWEC's system operates within and the mitigation responses that MWEC employs. Table 6 outlines the yearly performance metrics.

Table 4. MWEC Yearly Performance Metrics

PERFORMANCE METRIC	RATIONALE	INDICATOR	PERFORMANCE METRIC
Red Flag Warning (RFW) days in service area	Used to adjust annual variation in criteria	Number of RFWs during analysis cycle	N/A, indication of overall threat level for each fire season
Elevated Fire Risk (EFR) Invocations in service area	Used to adjust annual variation in criteria	Number of EFRs during analysis cycle	N/A, indication of overall threat level for each fire season

Number of ignitions (Potentially caused by MWEC facilities)[6]	Effectiveness of fire mitigation plan	Count of Events	Reduction or no material increase
Number of ignitions (Potential Public/Natural caused)	Effectiveness of fire mitigation plan	Count of Events	Reduction or no material increase
Number of fire related Outages	Assess fire related outage information.	Count of Outages	Reduction or no material increase
SAIDI values of fire related Outages	Assess fire related outage information.	Summation of SAIDI values	Reduction or no material increase
Number of tree/vegetation related outages	Assess the impact of VM plan	Count of Outages	Reduction or no material increase
SAIDI of tree/vegetation related outages	Assess the impact of VM plan	Summation of SAIDI values	Reduction or no material increase
Number of animal related outages	Assess the impact of wildlife protection plan	Count of Outages	Reduction or no material increase
SAIDI animal related outages	Assess the impact of wildlife protection plan	Summation of SAIDI values	Reduction or no material increase

7.4 Programmatic QA/QC Processes

7.4.1 Pole Testing QA/QC Process

The OM, or their designee, will conduct, and document, transmission and distribution quality assurance checks to ensure that MWEC preventive maintenance efforts identified during Pole Testing (PT) were completed:

- Via inspection spot checks (a sampling of yearly work)
    - PT work was completed
    - PT Work is completed in a satisfactory manner
- Review of work documentation
    - PT work is completed in a timely manner

[6] MWEC recognizes that it may not be able possible to identify the cause of fires.

- Distribution of PT was consistent with long-term inspection plans.

The OM, or their designee, are also responsible for following-up work on any identified PT issues.

7.4.2 Vegetation Management QA/QC Process

The OM, or their designee, will conduct, and document, vegetation management quality assurance checks to ensure that MWEC VM/tree trimming efforts were completed:

- Via inspection spot checks (a sampling of yearly work)
  - VM work was completed
  - VM work is completed is a satisfactory manner
- Review of work documentation.
  - VM work is completed in a timely manner
  - Distribution of VM work was consistent with long-term vegetation management plan.

The OM, or their designee, are also responsible for following-up work on any identified VM issues.

7.4.3 Detailed Inspection (DI) QA/QC Process

The OM, or their designee, will conduct, and document Detailed Inspection (as defined in Section 5.2.1) quality assurance checks to ensure that MWEC Detailed Inspection efforts were completed:

- Via inspection spot checks (a sampling of yearly work)
  - DI work was completed
  - DI work is completed in a satisfactory manner
- Review of work documentation.
  - DI work is completed in a timely manner
  - Distribution of DI Inspection work was consistent with long-term inspection management plan.

The Detailed Inspections include:

- Transmission Lines
- Distribution Lines
- Substations

The OM, or their designee, are also responsible for following-up work on any identified DI issues.

7.5 Plan Approval Process

7.5.1 Board Presentation

This WMP will be submitted to the MWEC Board of Directors for review and approval. The plan will be updated and submitted to the Board of Directors every two years, or more frequently at MWEC's discretion.[7]

7.5.2 Public Access

MWEC intends to publish the WMP on the MWEC website within 30 days of approval from the MWEC Board of Directors. MWEC will publish an annual report summarizing its compliance with the WMP.

[7] North Dakota Senate Bill No. 2339

Appendix A: Plan and Mapping Disclaimers

WILDFIRE MITIGATION PLAN DISCLAIMER

The information provided in this report was developed by MWEC staff and is intended for MWEC's internal planning purposes only. MWEC does not warrant the accuracy, reliability, or timeliness of any information in this report, and assumes no liability for any errors, omissions, or inaccuracies in the information provided. MWEC shall not be held liable for losses caused by using this information. Portions of the data may not reflect current conditions. Any person or entity who relies on any information obtained from this report, does so at their own risk. This report is presented solely for internal use AS-IS by MWEC staff. MWEC make no representations or guarantees expressed or implied regarding the accuracy or completeness of the report.

WMP MAPPING DISCLAIMER

Maps in this report were created from multiple datasets from various, public, and private sector sources and may include utility Geographic Information System (GIS) data. The geographic information contained in the map(s) is not to be used as a "legal description" or for any purpose other than general planning and reference. Every effort has been made to ensure the accuracy of the map(s), but errors in source documents do occur and inherent mapping ambiguities are not shown.

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Appendix B: Code Citation

Senate Bill No. 2339 [Insert NDCC when known]
25.1247.03000
Sixty-ninth Legislative Assembly of North Dakota

Introduced by

FIRST ENGROSSMENT
with House Amendments ENGROSSED SENATE BILL NO. 2339

Senators Kessel, Bekkedahl, Patten Representatives Novak, J. Olson, Porter

A BILL for an Act to create and enact a new chapter to title 49 of the North Dakota Century Code, relating to strict liability and a wildfire mitigation plan of a qualified utility; and to provide for a report.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. A new chapter to title 49 of the North Dakota Century Code is created and enacted as follows:

Definitions.

As used in this chapter:

1. "Hazardous vegetation" means plants, such as trees, shrubs, and grass, which are dry, diseased, dead, or in close proximity to power lines and could come into contact with power lines, especially in dry and windy conditions, and lead to electrical faults or wildfires.

2. "Qualified utility" means an electric public utility, rural electric cooperative, municipal electric utility, municipal joint action agency, or electric transmission provider as defined in section 49-03-01.5.

3. "Wildfire mitigation plan" means a plan submitted to the commission or the qualified utility's board of directors in accordance with this chapter.

Limitation on strict liability standard for a qualified utility.

A court may not apply a standard of strict liability to a qualified utility in any cause of action alleging the qualified utility caused wildfire related damages.

Wildfire mitigation plan.

1. A qualified utility may prepare a wildfire mitigation plan in accordance with this chapter.

2. A wildfire mitigation plan under this section must include a description of:

a. Areas within the service territory of the qualified utility which may be subject to a heightened risk of wildfire;

b. The procedures, standards, and time frames the qualified utility will use to safely and reliably operate and inspect its infrastructure affected by hazardous vegetation;

c. The procedures and standards the qualified utility will use to perform vegetation management;

d. The modifications or upgrades to facilities and preventative programs the qualified utility will implement to reduce the risk of its electric facilities initiating a wildfire;

e. Procedures for disabling reclosers to mitigate potential wildfires taking into consideration:

(1) The ability of the qualified utility to reasonably disable reclosers and access the proposed power line if it becomes de-energized;

(2) The balance of the risk of wildfire with the need for continued supply of electricity to a community; and

(3) Any potential impact to public safety, first responders, and health and communication infrastructure;

f. Procedures the qualified utility intends to use to restore its electrical system in the event of a wildfire;

g. The costs for implementation of the plan, including system improvements and upgrades;

h. Community outreach and public awareness efforts before and during a wildfire

season; and

i. Potential participation with state or local wildfire protection or mitigation plans.

3. The procedures and standards under this section must be compliant with the American national standards institute standard A300, part 7, and the 2023 national electrical safety code.

Wildfire mitigation plan submission.

1. An electric public utility or electric transmission provider may submit for filing a wildfire mitigation plan to the commission. An electric public utility or electric transmission provider shall publish on its website all wildfire mitigation plans within thirty days of filing. If an electric public utility or electric transmission provider submits a wildfire mitigation plan, the plan must be updated and resubmitted to the commission every two years.

2. A rural electric cooperative, municipal electric utility, or municipal joint action agency may submit a wildfire mitigation plan to its board of directors. The electric cooperative, municipal electric utility, or municipal joint action agency shall publish on its website all wildfire mitigation plans within thirty days of approval from its board of directors. If a rural electric cooperative, municipal electric utility, or municipal joint action agency submits a wildfire mitigation plan, the plan must be updated and reapproved by the board of directors every two years.

3. The preparation and publishing of, and compliance with, the qualified utility's wildfire mitigation plan constitutes a rebuttable presumption that the qualified utility exercised a reasonable standard of care.

Annual report.

1. An electric public utility or electric transmission provider with a wildfire mitigation plan on file may submit an annual report detailing the utility's compliance with the plan to the commission, no later than December thirty-first of each year the plan is effective. If the utility submits an annual report, the utility shall publish the report on its website.

2. A rural electric cooperative, municipal electric utility, or municipal joint action agency

with a wildfire mitigation plan may submit an annual report to its board of directors or governing body summarizing the rural electric cooperative's, municipal electric utility's, or municipal joint action agency's compliance with its approved wildfire mitigation plan. The rural electric cooperative, municipal electric utility, or municipal joint action agency shall publish the report on its website.