JUDITH BASIN COUNTY CWPP

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Document Version History

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Data Product Disclaimer

The Judith Basin County Community Wildfire Protection Plan (CWPP) is a living document that is regularly updated as new information becomes available. Updated versions of the CWPP and associated maps can be found at Disaster & Emergency Services – Judith Basin County, Montana which is a central location to find the most updated version of all CWPP material.

Acknowledgments

The Judith Basin County Community Wildfire Protection Plan Core Team members would like to thank all who contributed their time and expertise towards the development of this critical planning document, including individuals from Judith Basin County Department of Emergency Services and other Judith Basin County officials and personnel, city government, city and rural fire departments, Montana Department of Natural Resources and Conservation, U.S. Forest Service, Bureau of Land Management, and many other engaged stakeholders and members of the public. These contributions were invaluable throughout the process and have created a well-rounded and effective document that will serve Judith Basin County for years to come.

List of Acronyms

Acronym	Definition
BLM	Bureau of Land Management
cNVC	Conditional Net Value Change
CRP	Conservation Reserve Program
CWPP	Community Wildfire Protection Plan
eNVC	Expected Net Value Change
EVT	Existing Vegetation Type
FLAME	Federal Land Assistance, Management, and Enhancement Act of 2009
GET	Ground Evacuation Time
GIS	Geographic Information System
HFRA	Healthy Forests Restoration Act of 2003
HIZ	Home Ignition Zone
HUC	Hydrologic Unit Code
HVRA	Highly Valued Resources and Assets
MTDES	Montana Disaster & Emergency Services
MT DNRC	Montana Department of Natural Resources and Conservation
MWRA	Montana Wildfire Risk Assessment
NEPA	National Environmental Policy Act
NFP	National Fire Plan
NWCG	National Wildfire Coordinating Group
PCL	Potential Control Location
ROS	Rate of Spread
SDI	Suppression Difficulty Index
USDA	United States Department of Agriculture
USFS SAB	U.S. Forest Service Strategic Analytics Branch
WUI	Wildland Urban Interface

Judith Basin County Community Wildfire Protection Plan

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Executive Summary

This document constitutes an updated version of the 2004 Wildland-Urban Interface Wildfire Mitigation Plan for Judith Basin County, effectively the County's Community Wildfire Protection Plan (CWPP). The Healthy Forests Restoration Act of 2003 (HFRA) encourages the development of CWPPs to help communities plan for, respond to, and recover from wildfire events.

This CWPP is a community-based plan focused on identifying and addressing the local threat of wildfire. This living document is updated as needed to use the best available information to characterize current conditions, identify resources and assets susceptible to wildfire, and identify and interpret wildfire risk throughout the County. Information regarding the CWPP can be found online at: Disaster & Emergency Services – Judith Basin County, Montana.

The successful development of the CWPP is the result of collaborative effort by an interdisciplinary CWPP "Core Team," the public, and other stakeholders who submitted feedback during public meetings, public engagement opportunities, and a formal public comment process. This feedback has resulted in a comprehensive CWPP that encompasses a wide variety of perspectives and experience.

Notable components of this CWPP include identification and clarification of the Wildland Urban Interface (WUI), prioritized areas within the County, a detailed implementation and monitoring plan and action table, and recommendations to reduce structural ignitability and wildfire risk.

These elements of the CWPP fulfill HFRA requirements and provide decision-makers and stakeholders with a useful and current tool to address the local risk of wildfire. This updated CWPP also facilitates the implementation of eligible projects that reduce wildfire risk, increase wildfire response capacity, and provide public education regarding wildfires and associated risk.

The CWPP also summarizes the regulatory environment surrounding the development of a CWPP along with a characterization of the County including demographics, government structure, land use, and the fire environment.

The implementation plan developed for the CWPP consists of goals, objectives, strategies, and projects that align with federal, state, and local goals while also meeting the unique needs of the County. This implementation plan interfaces directly with a detailed action plan, consisting of individual projects collaboratively developed by the CWPP Core Team, the public, and stakeholders. The projects within the action plan are organized according to relative wildfire risk per fire district, which facilitates effective planning that aligns with resource allocation and existing planning frameworks.

The Judith Basin County CWPP is a comprehensive resource that characterizes current conditions and available resources, identifies and interprets wildfire risk, and provides next steps intended to mitigate that risk and provide the public with recommendations to reduce structural ignitability. The updated elements developed throughout this process also facilitate access to a variety of funding opportunities to implement the strategies and achieve the goals and objectives outlined within the CWPP.

How to Use This Plan

The CWPP is meant to be read and used by both technical and general audiences and is organized to allow intuitive navigation to sections of particular interest while also maintaining logical flow throughout the document. The following overview provides a brief summary of the three sections of the CWPP.

Section 1: Introduction and Background

This section provides relevant information characterizing Judith Basin County as it relates to topics addressed within Section 2 and Section 3 of the CWPP. Topics covered within this section relate to the purpose, need, and requirements of a CWPP document; the relationship of the CWPP to other active plans, policies, and regulations applicable to the County; and public engagement and collaboration.

Section 2: Wildland Urban Interface & Risk Assessment

Section 2 contains a summary of baseline information for Judith Basin County, including government, land use, and demographics. The fire environment is also characterized, including descriptions of topography, hydrology, climate, vegetation, fuels, and fire history. This section also reviews wildfire risk assessment data across the County and provides context for interpretation. At-risk and underserved communities are also characterized with respect to federal definitions as they relate to the CWPP process.

Section 3: Implementation

This section explains how the CWPP integrates with the National Cohesive Strategy; outlines various resources for homeowners to reduce structural ignitability; characterizes the County's current capacity for wildfire response efforts; and provides a detailed action plan outlining applicable goals, objectives, strategies, and projects identified through the CWPP update process. This section also includes priority areas for wildfire risk reduction throughout the County.

Virtual CWPP Resources

County Website: Disaster & Emergency Services – Judith Basin County, Montana

CWPP Story Map: Judith Basin County Community Wildfire Protection Plan

Section 1: Introduction and Background

1.1 Community Wildfire Protection Plans

Following decades of fire suppression, changing climate, and subsequently increasing frequency of catastrophic wildfire events, lawmakers identified the need to equip individual communities with tools and funding to address the growing risks posed by wildfire. HFRA was enacted in 2003, outlining a basic process for at-risk communities to do this by creating a CWPP. A CWPP is a planning document that assists communities in preparing for, responding to, and recovering from wildfire. CWPPs can vary widely across communities based on unique local needs and priorities. HFRA further encourages hazardous fuel management and community participation to reduce the risk of large wildfires and directs federal land management agencies to prioritize authorized hazardous fuel reduction projects that provide for the protection of at-risk and/or underserved communities that implement CWPPs. Communities are encouraged to create CWPPs to plan for wildfire mitigation activities and tailor the plans to their unique environment.

Figure 1 Firefighters in Judith Basin County

This document constitutes Judith Basin County's updated CWPP, which will guide planners, fire departments, citizens, and other stakeholders in preventing, responding to, recovering from, and living with wildfire. A newly published CWWP is required for the County to be eligible for millions of dollars of federal funding to implement projects that mitigate wildfire risk.

CWPP Requirements

Though the content in CWPPs can vary based on the landscape, needs, and values of a given county, HFRA identifies four basic requirements for counties seeking federal funding. These requirements include:

- Collaboration,
- Prioritized fuel reduction,
- Recommendations to reduce structure ignitability, and
- Agreement on final CWPP contents by the local government, local fire departments, and the state entity responsible for forest management, such as the Montana Department of Natural Resources and Conservation (MT DNRC).

Collaboration

CWPPs must be developed through a collaborative process involving local and state representatives, federal agencies, and other interested parties. Ideally, this collaboration will engage a broad diversity of stakeholders to ensure the CWPP reflects the best local knowledge, receives broad community buy-in, and accounts for ongoing and planned future projects. The 2025 CWPP was developed collaboratively by an interdisciplinary team of local county, city, and fire department representatives; wildfire response personnel; subject matter specialists; and state and federal agency representatives, hereafter referred to as the "Core Team" (Table 1).

The Core Team

Table 1 Core Team Members

Name	Role
Judith Basin County & Local Government	
Mike Howell	Judith Basin County Disaster and Emergency Services Coordinator
Steve Hedstrom	Judith Basin County Fire Warden / Raynesford Fire Chief
Tater Erickson	Judith Basin County Deputy Fire Warden / Hobson Fire Chief
Fred Reed	Stanford Fire Chief
Brent Miller	Stanford Mayor
State	
Keith Woods	DNRC Northeastern Land Office Fire Management Officer
Katherine Sears	DNRC Northeastern Land Office Community Preparedness & Fire Prevention
Josh Stoychoff	DNRC Northeastern Land Office Lewistown Unit Manager
Sarah Kleinhanzl	DNRC Community Wildfire Resilience Specialist
Jocee Hedrick	DNRC Northeastern Land Office Area Manager
Federal	
Jay Peterman	BLM Fuels Program Manager
Shannon Bonney	North Central BLM Office
Matt Plagenz	USFS Fuels Management Officer
Cody Werdin	USFS Fire Engine Operator

Prioritized Fuel Reduction

CWPPs must include prioritization of fuel reduction projects by identifying priority areas and treatment methods to protect at-risk communities and essential infrastructure. Often, CWPPs will consider recent, ongoing, and planned future projects and will serve as an implementation plan for years to come. The 2025 CWPP provides spatial priority mapping across the County through the use of planning areas (see Appendix C). Recommended treatment methods are incorporated into the CWPP via the inclusion of strategies (Appendix A) and proposed projects within the Action Table (Appendix B).

Reduce Structural Ignitability

CWPPs must recommend measures to reduce structural ignitability. These measures can be implemented by private citizens to prevent loss and damage to their property in the event of wildfire. The 2025 CWPP provides an overview of the concepts and recommendations useful for reducing structural ignitability in the Fire Adapted Communities and Living with Fire sections.

Final Approval & Signatures

The CWPP must be approved and signed by the Judith Basin County commissioners, chiefs of local fire departments, and a MT DNRC representative. To highlight the level and breadth of agreement for the 2025 CWPP, the updated Judith Basin County CWPP is approved and signed by additional signatories representing diverse stakeholders. Additional signatories include the Standford Mayor along with representatives from Bureau of Land Management (BLM) and the United States Forest Service (USFS).

Timeline of the Community Wildfire Protection Plan Update Process

The update process was initiated in August of 2024 and concluded in July of 2025. The final CWPP was signed into effect by all signatories in July of 2025 (Table 2).

Table 2 Community Wildfire Protection Plan Update Timeline

Milestone/Event	Date
CWPP Process Begins	August 28, 2024
CWPP Core Team Workshop	October 30, 2024
Open House Public Meeting (Stanford, MT)	March 5, 2024
Preliminary Draft CWPP	March 17, 2025
Draft CWPP for Public Review	April 16, 2025
Virtual Public Meeting	April 21, 2025
Public Comment Period (30 days)	April 21, 2025 – May 21, 2025
Final Draft CWPP	June 9, 2025
Final CWPP Completed	July 18, 2025
CWPP Signed into Effect	July 2025

1.2 Relationship to Other Plans, Policies, and Regulations

Conformance with relevant plans, policies, and regulations at federal, state, and local levels are important components of an effective CWPP. The 2025 CWPP conforms with the following plans, laws, and policies to maintain consistency and standardization.

National

National Fire Plan

Established in 2000, the National Fire Plan (NFP) addresses five key points: firefighting, rehabilitation, hazardous fuel reduction, community assistance, and accountability. In order to implement actions related to these five key points, the NFP seeks to ensure sufficient firefighting resources for the future; rehabilitate and restore fire damaged ecosystems; reduce the amount of flammable fuels in forests, and established the Wildland Fire Leadership Council (DOI and USDA 2025). The National Fire Plan also encourages the creation of a CWPP. This 2025 CWPP aligns with the key points and actions of the NFP by enabling Judith Basin County to mitigate the risk of wildfire using resources available as a result of the NFP and in conformance with its key points.

Healthy Forests Restoration Act

The Healthy Forest Restoration Act of 2003 (P.L. 108-148) encourages hazardous fuel management and community participation to reduce the risk of large wildfires. HFRA directs federal land management agencies to prioritize authorized hazardous fuel reduction projects that provide for the protection of at-risk communities that implement CWPPs and their watersheds. HFRA includes a definition for the WUI and provides standards or criteria for designating the WUI. It also provides flexibility for communities (and counties) to delineate the WUI based on their risk and needs. Communities are encouraged to create CWPPs to plan for wildfire mitigation activities and tailor the plans to their unique environment. HFRA requires CWPPs to meet three requirements: collaboration, prioritized fuel reduction, and treatment of structural ignitability. Collaboratively developed CWPPs must also be approved by the local government, local fire department, and the state. This 2025 CWPP has been prepared in compliance with HFRA requirements and recommendations.

Federal Land Assistance, Management, and Enhancement Act and The National Cohesive Strategy

The Federal Land Assistance, Management, and Enhancement (FLAME) Act of 2009 (P.L. 111-88) establishes the need for hazardous fuel reduction funding and community wildfire risk assessments across the nation. The FLAME Act also created the National Cohesive Wildland Fire Management Strategy (National Cohesive Strategy) to manage wildland fire more effectively across the nation. The National Cohesive Strategy outlines three goals to restore and maintain landscapes, create fire adapted communities, and improve wildfire response (Wildland Fire Leadership Council 2023; US DOI and USDA 2014; DOI and USDA 2014). This 2025 CWPP aligns with the three goals established by the National Cohesive Strategy (see Section 3: Implementation).

State

Montana Forest Action Plan

The Montana Forest Action Plan is a comprehensive plan for Montana's forests that is comprised of an assessment of forest conditions, priority areas for focused attention, and goals and strategies for improving forests. The plan also prioritizes the revision of CWPPs through the "Foster Fire-Adapted Communities" strategy (Montana Forest Action Advisory Council 2020).

Local

Central Montana Regional Hazard Mitigation Plan 2024-2029

This CWPP aligns and conforms with all emergency management plans developed by the Montana Disaster & Emergency Services (MTDES) for Central Montana, including Judith Basin County (2024 Draft).

1.3 Public Engagement and Collaboration

The CWPP update process began in August 2024 and continued for one year, consisting of public engagement efforts such as building a representative CWPP Core Team, developing publicly available informational resources, creating a central online location for CWPP information, soliciting stakeholder feedback, and providing CWPP information and opportunities for engagement through social media, press, and public meetings. Public engagement efforts provided multiple opportunities for public engagement, both virtually and in person, to ensure the inclusion of all interested stakeholders. The draft CWPP was made available to the public during a 30-day public comment period. Substantive public comments were incorporated into the final CWPP.

1.4 Summary of Updates to the CWPP

Core features of the Judith Basin County 2025 CWPP include an updated WUI boundary and delineation, consideration of new risk assessment data and current conditions throughout Judith Basin County, and spatial prioritization mapping. Judith Basin County looks very different today than it did 21 years ago when the previous plan was written. In that time, a plethora of tools and resources related to identifying, interpreting, and mitigating wildfire risk have become available. The 2025 CWPP accounts for these changes and opens new doors to access grant funding and implement risk reduction projects that protect lives, property, critical infrastructure, and other high-value resources not accounted for in the 2004 CWPP.

When updating the WUI and CWPP, the interdisciplinary team used newly available science to inform the decision-making process and prioritize future projects. In 2020, DNRC released the Montana Wildfire Risk Assessment (MWRA), which uses the best available science to evaluate

current wildfire risk across the entire state (DNRC 2020). Importantly, it accounts for developments and changing conditions that occurred since the original CWPP was published in 2004, including increasing residential development within wildland areas and changing forest conditions. The MWRA also provides information regarding potential wildfire risk for areas that may be developed in the future. The data products generated by the MWRA are an invaluable resource for identifying and interpreting wildfire risk, the susceptibility of resources to fire damage, and more. This tool was integral to the development of a modern and effective CWPP that protects local communities by accurately characterizing wildfire hazard and risk throughout Judith Basin County.

The updated WUI and MWRA were used together to prioritize ongoing and proposed fuel reduction projects (see Prioritization Process). This prioritization framework helps unlock federal funding that is only available to counties with updated CWPPs and prioritized projects. By integrating the best available science, evaluating current conditions, and prioritizing projects, the 2025 CWPP is a user-friendly, informative, and effective planning document for local leaders and communities.

Section 2: Wildland Urban Interface & Risk Assessment

2.1. Wildland Fire and Judith Basin County

County Overview

Located in central Montana, Judith Basin County is bordered by Chouteau County to the north, Cascade County to the west, Fergus County to the east, and Meagher and Wheatland Counties to the south.

Totaling 1,871 square miles, Judith Basin County is the 36th largest county in the state of Montana. The majority of Judith Basin County is privately owned (65%), and the USFS oversees 26% of the land in the southeast portion of the county. The State of Montana manages 9% of lands scattered throughout and the remaining 1% of lands are administered by the BLM as shown in Map 10 (Appendix C) (Headwaters Economics 2023).

Land Use

Much of Judith Basin County is characterized by rural landscapes with small urban areas, namely Stanford, which is the county seat, Hobson, and Geyser. Key transportation routes throughout the county include MT Highway 80 (MT-80), which runs east/west and U.S Highway 87 (US-87) which runs north/south. In Judith Basin County, approximately 72% of the land is classified as farmland, with an average farm size of 2,409 acres, where hay is the top crop and cattle are the primary livestock (Montana State University Extension 2021). In addition to agricultural uses, the county supports recreation opportunities such as camping, hiking, mountain biking, hunting, and fishing in the Lewis & Clark National Forest (Central Montana Tourism Office 2025).

Critical Infrastructure

Within Judith Basin County, critical infrastructure was identified through the Homeland Infrastructure Foundation-Level Database. Types of critical infrastructure within the County include:

- Highways
- Railroads
- Transmission lines
- Communications sites

Demographics

As of 2023, the estimated total population of Judith Basin County was 2,093 (U.S Census Bureau 2023) with much of the population concentrated in Stanford and small towns along US- 87. As shown in Table 3, Judith Basin County has experienced steady growth from 2020 to 2023, attributable primarily to migration from outside the county. The poverty rate of Judith Basin County falls above the national average at 13.7% (U.S Census Bureau 2023) (Table 3).

Table 3 Summary of Selected Demographic Metrics for Judith Basin County, MT

U.S. Census Bureau Metric	Value
Population	
Population estimates, July 1, 2023, (V2023)	2,093
Population estimates base, April 1, 2020, (V2023)	2,016
Population, percent change - April 1, 2020 (estimates base) to July 1, 2023, (V2023)	3.8%
Population, Census, April 1, 2020	2,023
Population, Census, April 1, 2010	2,072
Age and Sex	
Persons under 5 years, percent	5.1%
Persons under 18 years, percent	18.6%
Persons 65 years and over, percent	28.2%
Female persons, percent	48.8%
Race and Hispanic Origin	
White alone, percent	97.3%
White alone, not Hispanic or Latino, percent	94.2%
Hispanic or Latino, percent	3.2%
Asian alone, percent	0.5%
Two or More Races, percent	0.9%
Black or African American alone, percent	0.1%
American Indian and Alaska Native alone, percent	1.1%
Native Hawaiian and Other Pacific Islander alone, percent	0.1%
Housing	
Housing Units, July 1, 2023, (V2023)	1,249
Owner-occupied housing unit rate, 2019-2023	75.3%
Median value of owner-occupied housing units, 2019-2023	$214,200
Median selected monthly owner costs -with a mortgage, 2019-2023	$1,224
Median selected monthly owner costs -without a mortgage, 2019-2023	$485
Median gross rent, 2019-2023	$502
Building Permits, 2023	NA
Families & Living Arrangements	
Households, 2019-2023	907
Persons per household, 2019-2023	2.26
Living in same house 1 year ago, percent of persons age 1 year+, 2019-2023	94.1%
Language other than English spoken at home, percent of persons age 5 years+, 2019-2023	3.3%
Computer and Internet Use	
Households with a computer, percent, 2019-2023	91.5%
Households with a broadband Internet subscription, percent, 2019-2023	85.0%
Health	
With a disability, under age 65 years, percent, 2019-2023	6.3%

U.S. Census Bureau Metric	Value
Persons without health insurance, under age 65 years, percent	11.1%
Income & Poverty	
Median household income (in 2022 dollars), 2019-2023	$55,417
Per capita income in past 12 months (in 2022 dollars), 2019-2023	$38,715
Persons in poverty, percent	13.7%

Fire Environment

Evaluating factors that influence fire behavior and activity is a critical component of an effective CWPP and serves to provide a characterization of the fire environment within Judith Basin County. Fire behavior is influenced by physical characteristics that vary across the landscape such as topography, hydrology, climate, and vegetation. These characteristics, combined with ignition sources, constitute the fire environment.

Topography & Hydrology

Physical characteristics such as elevation, topography, and slope angle influence fire behavior on the landscape. A thorough understanding of these components informs effective and proactive fire management and fire suppression.

Judith Basin County encompasses substantial portions of the Little Belt and Highwood Mountains, separated by coulees, buttes, and the Cayuse Basin. Elevations range from approximately 4,000 feet in the basin bottom to roughly 9,000 feet in the mountains. Big Baldy Mountain, on the border of Judith Basin and Cascade Counties, is the highest point in the region at 9,183 feet. The Little Belt and Highwood Mountains are particularly rugged compared to other mountain ranges in the region, and the terrain is generally characterized by steep slopes and open meadows. Steep slopes facilitate rapid fire growth and spread, which can increase risk to firefighting personnel and reduce opportunities for fuels treatments due to difficulty accessing rugged terrain (NWCG 2024).

Judith Basin County is characterized by several perennial and ephemeral streams that drain from the surrounding mountains and flow northeast into the Missouri River. The Judith River and Arrow Creek are the largest streams in the county and flow from the Little Belt and Highwood Mountain ranges, making the system highly snowmelt dependent. Smaller tributaries located within Judith Basin County include Warm Spring and Cottonwood Creeks. The majority of Judith Basin County is a part of the Missouri-Musselshell sub-region (Hydrologic Unit Code (HUC) 1004) with small portions of the western side supplying the Missouri-Marias sub-region (HUC 1003). The county contributes to the Judith (HUC 10040103), Arrow (HUC 10040102), and Belt (HUC 10030105) sub-basins (Montana State Library 2022).

Climate

Annual precipitation in Stanford averaged 17.04 inches between 1991-2020 with May and June being the wettest months and December through February being the driest. Average annual temperatures range from 31.5 – 56.5°F, with a 30-year annual average of 44°F (PRISM Climate Group 2020). The prevailing winds in Judith Basin County primarily come from the west and northwest, driven by the Pacific westerlies that dominate much of Montana. Typical wind speeds range from 10 to 20 mph, though stronger gusts are common, with winter and spring being the windiest seasons (National Renewable Energy Laboratory 2004). Fire season in Judith Basin County is typically from May to September, with most fire activity occurring in the summer months when fuels are driest.

Vegetation

In the context of fire management, vegetation is often referred to as fuel and heavily influences fire behavior and resultant intensity and severity. Vegetation in Judith Basin County is described using the LANDFIRE Existing Vegetation Type (EVT) model, consisting of groups of existing vegetation communities based on field data, satellite imagery, and modelling (LANDFIRE 2023a).

Judith Basin County is represented by 68 EVT models, with six of these models representing nearly 70% of the land area (LANDFIRE 2023a). EVT models that cover 5% or less land area, or represent non burnable areas such as rock, scree, and urban pavement are included as "other." The models detailed in Table 4 represent the majority of land cover and burnable fuels within Judith Basin County. The six vegetation types listed in Table 4 are the most common in Judith Basin County.

Table 4 Existing Vegetation Type in Judith Basin County

LANDFIRE Existing Vegetation Type (EVT)	Area (acres)	Percentage of Judith Basin County
Northern Rocky Mountain Lower Montane-Foothill-Valley Grassland	231,109	19
Western Cool Temperate Close Grown Crop	161,990	14
Middle Rocky Mountain Montane Douglas-Fir Forest and Woodland	150,930	13
Rocky Mountain Lodgepole Pine Forest	103,057	9
Northwestern Great Plains Mixedgrass Prairie	89,501	7
Western Cool Temperate Wheat	76,414	6
Other[1]	382,682	32
Total	**1,195,683**	**100**

[1] Models representing 5% or less land area or non-burnable fuels are classified as 'Other'.

Northern Rocky Mountain Lower Montane-Foothill-Valley Grassland

Northern Rocky Mountain Lower Montane-Foothill-Valley Grassland is the most common EVT present in Judith Basin County, representing 19% of the total County area (Table 4). It is made up of mostly grasses and forbs with a minor shrub component. Bluebunch wheatgrass (*Pseudoroegneria spicata*), meadow fescue (*Festuca campestris*), Idaho fescue (*Festuca idahoensis*), and needle-and-thread grass (*Hesperostipa comata*) are dominant species in this EVT. Three-flowered avens (*Geum triflorum*), northern bedstraw (*Galium boreale*), and harebell (*Campanula rotundifolia*) are also present. Potential shrub species include Big Sagebrush (*Artemisia* tridentata), Common Juniper (*Juniperus* communis), and Serviceberry (*Amelanchier* alnifolia) (Crawford et al. 2018).The historically frequent fire regime of this EVT maintains the grassland ecosystem by slowing shrub invasion and creating habitat fragmentation, restricting shrub seed dispersal. The fire return interval is variable but historically less than 20 years. The contemporary fire regime suggests that the overall frequency of fire is suppressed. Reduced fire frequency has resulted in EVT conversion into trees and deciduous shrublands in some areas. Additionally, human activities such as grazing and land development, along with the prolific increase in invasive species such as cheatgrass (*Bromus*

tectorum), Spotted knapweed (*Centaurea stoebe spp. microcanthos*), and Kentucky bluegrass (*Poa pratensis*) have resulted in a shift from the historical fire regime (Crawford et al. 2018).

Western Cool Temperate Close Grown Crop

Western Cool Temperate Close Grown Crop is the second most common EVT present in Judith Basin County, representing 14% of the total County area (Table 4).This EVT is made up of agricultural lands consisting of crops such as wheat, barley, and dry peas that are typically broadcast or drill-seeded (NRCS 2015). Most agricultural lands in Judith Basin County practice dryland farming without extensive irrigation (NRCS 2020). Resulting crop yields create an abundant supply of continuous fuels with extremely low fuel moisture, increasing wildfire risk. Harvesting in late summer and early fall also poses a risk via increased ignition potential during the hottest and driest time of year.

Middle Rocky Mountain Montane Douglas-Fir Forest and Woodland

The Middle Rocky Mountain Montane Douglas-fir Forest and Woodland EVT is the third most common EVT within Judith Basin County, comprising 13% of the landscape (Table 4). This EVT consists of Douglas fir (*Pseudotsuga menziesii)* forests with a woody understory. Common understory vegetation includes common ninebark (*Physocarpus malvaceus),* Rocky Mountain juniper (*Juniperus scopulorum),* and creeping Oregon grape (*Mahonia repens)* (L.K. Vance and Luna 2017). Historically, Douglas-fir dominated systems have been characterized by a low-severity, high frequency fire regime with a fire return interval of 25-45 years (L.K. Vance and Luna 2017). Today, human influences such as climate change and fire suppression have modified the fire regime to a more variable and often higher severity regime. The woody understory present in this system also contributes to high-severity, stand-replacing fires by acting as a ladder to carry flames into the canopy, increasing fire severity.

Rocky Mountain Lodgepole Pine Forest

Rocky Mountain Lodgepole pine forest makes up 9% of Judith Basin County, making it the fourth largest EVT in the County (Table 4). Rocky Mountain Lodgepole Pine Forest is primarily made up of lodgepole pine (*Pinus contorta)* with shrub or grass understories. Common shrubs include bearberry (*Arctostaphylos uva-ursi)* and snowbrush ceanothus (*Ceanothus velutinus)* (L.K. Vance, Luna, and Cooper 2017). Lodgepole pine forests have adapted to a historic fire regime of infrequent, stand-replacing fires by bearing serotinous cones containing seeds that release only when subjected to extreme heat. This adaptation facilitates the establishment of large, even-aged stands soon after a wildfire event (L.K. Vance, Luna, and Cooper 2017). Contemporary changes in climate and fire exclusion in the Northern Rockies has created homogeny throughout lodgepole pine forests, increasing susceptibility to mountain pine beetle outbreaks and lodgepole pine dwarf mistletoe infestations (L.K. Vance, Luna, and Cooper 2017).

Northwestern Great Plains Mixedgrass Prairie

Northwestern Great Plains Mixedgrass Prairie, in which grasses and forbs dominate, is the fifth largest EVT present in Judith Basin County, representing 7% of the total County area (Table 4). Western wheatgrass (*Pascopyrum smithii*), green needlegrass (*Nassella viridula*), needle-and-thread (*Hesperostipa comata*), blue grama (*Bouteloua gracilis*), and fescue (*Festuca* ssp.) are important species in this EVT (Menard and Kindscher 2015). This EVT has historically had low severity, patchy fires due to natural fire breaks in topography with a fire return interval of 8-12 years. Fire, grazing, and drought are the primary drivers of dynamic processes in this system. However, human activities such as fire suppression and land development, along with the prolific increase in invasive species such as cheatgrass (*Bromus tectorum)*, have resulted in a shift from the historical fire regime. Woody encroachment due to fire suppression, such as an increase in sagebrush (*Artemisia* sp.) or

ponderosa pine (*Pinus ponderosa*), increases the size, continuity, and abundance of surface fuels, contributing to larger wildfires in this EVT (Menard and Kindscher 2015).

Western Cool Temperate Wheat

Western Cool Temperate Wheat represents 6% of Judith Basin County, making it the sixth largest EVT in the County (Table 4). This EVT is comprised of agricultural lands cultivating temperate wheat crops. In Judith Basin County, wheat production primarily consists of either winter or spring wheat varieties. The dryland farming practices within Judith Basin County encompass temperate wheat production (NRCS 2020).The increased wildfire risk, outlined in the Western Cool Temperate Close-Crop section, also applies due to crop yields creating ample fuel during peak wildfire season.

Fuels

In the context of fire, fuels are defined as any combustible vegetative material and are a primary driver of fire behavior. Fuel models are used to predict fire behavior based on specific fuelbed characteristics such as size, quantity, density, moisture content, and composition. United States Department of Agriculture (USDA) Standard Fire Behavior Fuel Models are a comprehensive set of models used to define and quantify fuel types, and their impacts on fire behavior fuel models correspond to predicted fire behavior and effects through variables such as spread rate or Rate of Spread (ROS) and flame length, which influence fire intensity (Scott and Burgan 2005).

Judith Basin County is represented by 25 fuel models. GR2, NB3, and TU5 fuel models cover nearly 80% of the total acreage of the County (Table 5) (LANDFIRE 2023b). GR2 fuels are described as “low load, dry climate grass” environments, consisting of moderately coarse, grassy fuels with moderate continuity. These fuels are highly influenced by precipitation and have a low moisture of extinction, which is the fuel moisture content at which combustion cannot be sustained independently (Scott and Burgan 2005). GR2 fuels are present in 39% of the land area in Judith Basin County (Table 5). NB3 fuels are described as “agricultural land maintained in a nonburnable condition,” however, if these fuels are allowed to cure before harvest such as with wheat production, the fuels become highly flammable (Scott and Burgan 2005). NB3 fuels, such as those present in the Western Cool Temperate Close-Grown Crop and Wheat EVTs, represent 24% of the land area in Judith Basin County (Table 5). The TU5 fuel model represents a “very high load, dry climate timber-shrub” environment. Fire behavior in the TU5 model is described as having moderate flame length and spread rate (Scott and Burgan 2005). The main carrier of fire in the TU5 model is woody understory or brush, characteristic of the Middle Rocky Mountain Montane Douglas-fir Forest and Woodland EVT. TU5 fuels represent 15% of the land area in Judith Basin County (Table 5).

Smaller component fuel models in the county include the GS2 and TL3 models (LANDFIRE 2023b). The GS2 fuel model is a “moderate load, dry climate grass-shrub” system with a high rate of spread and moderate flame length (Scott and Burgan 2005). Within Judith Basin County, 8% of the land area is dominated by GS2 fuels (Table 5). The TL3 model is defined by “moderate load conifer litter” present on forest floors. The ROS for the TL3 model is very low, with low flame lengths (Scott and Burgan 2005). TL3 fuels represent 6% of the county (Table 5).

Table 5 Fuel Model Acreage in Judith Basin County

Fuel Model (Scott and Burgan 2005)	Area (acres)	Percentage of Judith Basin County
GR2 – Low Load, Dry Climate Grass	467,216	39
NB3 – Agricultural	281,355	24
TU5 – Very High Load, Dry Climate Timber-Shrub	180,369	15
GS2 – Moderate Load, Dry Climate Grass-Shrub	98,494	8
TL3 – Moderate Load Conifer Litter	72,640	6
Other[1]	95,612	8
Total	1,195,683	100

[1] Models representing less than 3% of land area or non-burnable fuels are classified as other.

Fire History

Understanding fire history is an important component to interpreting current fire activity and preparing for future wildfires. There have been 30 recorded wildfires in Judith Basin County history, burning a total of 64,913 acres The Bear Three fire (1990) burned 33,213 acres, and the Sandpoint fire (1985) burned 10,427 acres, making them the two largest fires within the county (NIFC 2025b). Of the recorded wildfire ignition points in Judith Basin County, 34% can be attributed to human causes, 21% to natural causes such as lightning, and 45% remain undetermined/unknown (NIFC 2025a). Changing climatic conditions and fire suppression policies have interrupted the natural fire regime across the western United States, leading to longer fire seasons, more intense fires, and a build-up of fuels. These factors present new challenges for communities living with wildfire.

2.2. The Wildland Urban Interface

WUI Overview

The concept of the WUI has a variety of definitions ranging widely in detail and extent according to federal, state, and local sources. At its simplest, the WUI has been described as the area where wildland fuels meet human development, representing an area of increased risk to life, property, and infrastructure. However, the definition of the WUI has evolved in various ways to encompass local community characteristics and values. In recent years, the definition of the WUI has been at the forefront of various legal challenges as it relates to federal agencies' use of the streamlined National Environmental Policy Act (NEPA) processes permitted through HFRA. The precedent set by such cases suggests that communities define the WUI according to HFRA requirements, with deviations from this definition clearly justified within the CWPP. These cases have also acknowledged the right of a community to extend the boundaries of the WUI beyond the HFRA WUI requirements to meet their needs, though such deviations must be clearly justified.

Defining and delineating the WUI serves to ensure that areas with increased risk to life, property, and infrastructure are appropriately accounted for during decision-making processes. The delineation of the WUI also facilitates access to funding for projects intended to reduce that risk. Per HFRA recommendations, Judith Basin County has updated the WUI to encompass the unique needs of the community and meet the definition of the WUI as defined by HFRA.

WUI Components

The updated Judith Basin County WUI is comprised of the 'Functional WUI' data layer developed by MT DNRC and Pyrologix, LLC. and additional components determined by the Core Team during the CWPP update process (DNRC 2020). Map 1 in Appendix C displays the combined extent of the updated WUI.

MT DNRC Functional WUI

The MT DNRC Functional WUI is a 30-meter resolution raster dataset that maps the WUI where structures meet, or intermingle with, undeveloped wildland vegetation (i.e., burnable land cover greater than 200 meters from a building centroid). This data layer provides a starting point for WUI designation within a county. Per state statute MCA 76-13-145, the official WUI designation for each county is determined through the completion and/or update of a CWPP. This layer consists of data obtained from the "Structures & Addresses Framework" dataset from the Montana State Library Geographic Information System (GIS) Clearinghouse and fuels information from the calibrated LANDFIRE 2016 Remap (LF 2.0.0) FM40 layer. Land with structures within 200 meters of a building centroid was classified as Direct, Indirect, or Limited Exposure WUI.

- "**Direct Exposure**" WUI is burnable[1] wildland that contains or is near a structure located on or surrounded by burnable land cover. Directly exposed structures could benefit from both the hardening of the structure to resist ignition and the reduction of fuel in the home ignition zone to reduce the structure's exposure to heat and embers.

- "**Indirect Exposure**" WUI is nonburnable land that contains or is near a structure and is within 900 m of burnable land cover (Caggiano et al. 2020). Indirectly exposed structures could benefit from the hardening of the structure to resist ignition from embers and nearby structures.

- "**Limited Exposure**" WUI is nonburnable land that contains a structure but is greater than 900 m from burnable land cover.

- "**Critical Fireshed"** is the Burnable Land Area within about 1,500 m (1 mile) of a group of structures, dependent on structure density, but does not itself contain structures.

- "**Nonburnable Fireshed**" is the nonburnable land cover within 1,500 m (1 mile) of a group of structures but does not itself contain structures.

- "**Non-WUI**" is all land more than 1,500 m (1 mile) from a group of structures.

- "**Water**" is the portion of the landscape covered by open water.

The Functional WUI map provides a broad overview of where structures are located, what their relative level of exposure is, and the burnable lands around those structures.

Core Team Determined Additional Components

Additional community resources were identified by the Core Team that would be heavily impacted in the event of a wildfire and are included in the WUI boundary. A more detailed justification for these additions can be found in Table 8 in Appendix E. These resources and their buffers are listed below and shown in Figure 2.

- **Conservation Reserve Program (CRP) Lands** that were not already included in the Functional WUI:

[1] Nonburnable land cover as defined for the MT DNRC Function WUI data layer is where the mapped fire-behavior fuel model is 91-99; burnable is all other fuel models.

- The CRP, implemented by the USDA, encourages farmers and landowners to remove environmentally sensitive acreage from agricultural production and plant conservation cover, such as native grasses, trees, and riparian buffers. Landowners who enroll in CRP agree to implement specific conservation practices, such as planting native grasses, trees, or other beneficial vegetation, and refrain from farming or ranching on the land for a specified period (usually 10-15 years).

- **Roads Critical to Ingress/Egress** includes the following roads that were not included in the Functional WUI with a ½-mile buffer (1-mile total width):
  - MT HW 427
  - Big Otter Creek Road
  - Dry Wolf Road
  - Running Wolf Road
  - South Fork Judith River Road (FS Road 487)

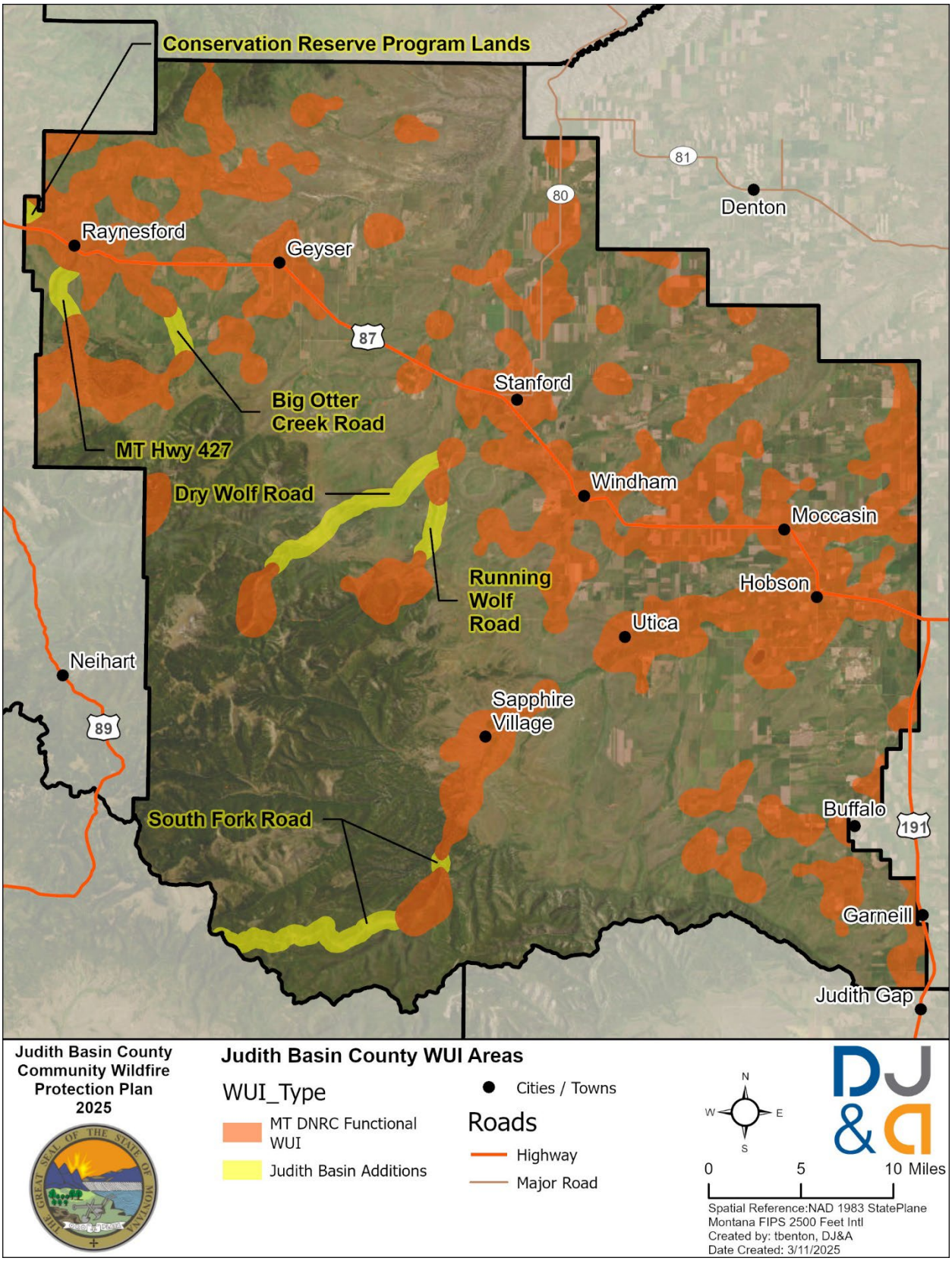

Figure 2 MT DNRC Functional WUI and Judith Basin County Additions

At-Risk Communities

HFRA requires CWPPs to consider at-risk communities in all essential aspects of the plan. As defined in the Act, “at-risk communities” have the following characteristics:

- A group of homes and other structures with basic infrastructure and services,
- Located within or adjacent to federal lands with conditions conducive to large-scale wildfire, and
- Wildfire poses a significant threat to human life or property (16 USC § 6511, Sec. 101(1)).

Per HFRA, all CWPPs must engage at-risk communities throughout the planning process, prioritize fuel projects around these communities, and recommend measures to reduce structure ignitability in these communities. The 2025 CWPP meets these requirements for the three at-risk communities identified in 65 FR 751, ‘Urban Wildland Interface Communities Within the Vicinity of Federal Lands That Are At High Risk From Wildfire’:

- Geyser,
- Hobson, and
- Stanford.

Underserved Communities

Underserved communities are not explicitly defined within the HFRA, though federal and state guidance offers several metrics which can be implemented to determine if a community is underserved. The Community Wildfire Defense Grant Program highlights areas of “low income” or areas with a social vulnerability score of 0.75 or higher as being qualified for “underserved community” status (Wildfire Risk to Communities Project 2022), with the definition of “low income” in Montana being a household income that is 80% of the state median household income. At the time of analysis, the state median household income was $50,331 and the median household income for Judith Basin County was $55,417 (U.S Census Bureau 2023). Though these communities were considered, they were not explicitly included as a separate WUI component as they were already included in other resource buffers. Future updates of the CWPP will continue to consider these communities and incorporate them, if necessary.

2.3. Wildfire Risk

Wildfire risk is made up of several components that together characterize the total risk posed to a structure, community, or resource. According to MT DNRC, wildfire risk is “the combination of likelihood and intensity (together called “hazard”) and exposure and susceptibility (together called “vulnerability”)” (DNRC 2025). The relationships of these interrelated concepts are illustrated in Figure 3.

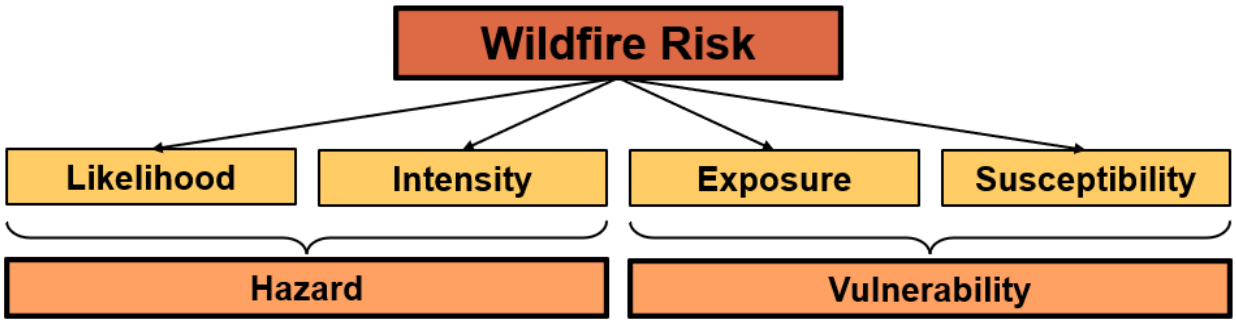

Figure 3 Components of Wildfire Risk

The concept of wildfire hazard is focused on wildlands themselves. Wildfire likelihood is driven by factors such as topography, weather conditions, and potential ignition sources. Wildfire intensity is a measure of the energy expected from a wildfire and is predicted based on total fuel types, fuel load, and topography. Together, likelihood and intensity represent wildfire hazard.

The concept of wildfire vulnerability, meanwhile, is focused on the communities and structures located within or adjacent to wildlands. Homes and structures located in areas where direct or indirect wildfire impacts may occur are considered to be exposed to wildfire. The characteristics and materials of the structures determine the likelihood of damage when exposed to wildfire, known as wildfire susceptibility. Together, wildfire exposure and susceptibility characterize the total vulnerability of communities and associated life and property when a wildfire occurs (DNRC 2025).

As a composite of several discrete but interrelated concepts, wildfire risk provides a single key metric for understanding the real-world threat of wildfire to homes, communities, and resources. The Montana Wildfire Risk Assessment (DNRC 2020) used recent LANDFIRE data, historical wildfire occurrence and weather patterns, and wildfire simulations to provide an updated picture of wildfire risk across the state (DNRC 2020). Since its completion, this assessment has been instrumental for counties updating their CWPPs.

Risk Assessment & Community Base Map

Using the best available data and local knowledge and input, the CWPP Core Team developed a community base map for Judith Basin County (Appendix E). Wildfire risk within the Community Base Map was evaluated using data and findings from the Montana Wildfire Risk Assessment (DNRC 2020).

Risk Assessment

The Montana Wildfire Risk Assessment was completed in 2020 by Pyrologix for the MT DNRC (DNRC 2020). This detailed quantitative analysis of wildfire risk across the state of Montana serves as an integral resource for understanding and interpreting wildfire risk throughout Judith Basin County. The MWRA considers various components that contribute to wildfire risk including likelihood of a fire burning, the intensity of a fire if one should occur, exposure of assets and resources based on their locations, and the susceptibility of those assets and resources to wildfire. Data outputs related to the MWRA consist of spatially explicit maps and data layers including risk to homes, wildfire threat, wildfire risk, wildfire potential impacts, and fire model inputs and fuelscape along with numerous supporting data layers. For the purposes of the 2025 CWPP, the CWPP Core Team identified two data sources most relevant and appropriate for characterizing and interpreting wildfire risk within Judith Basin County. These data sources include total wildfire risk (expected net value

change (eNVC)) and risk to potential structures (conditional net value change (cNVC)). These data layers serve to characterize wildfire risk of both current and potential assets and resources throughout Judith Basin County. More information regarding the MWRA along with online maps and resources can be found at the MT DNRC website.[2]

Wildfire Risk (eNVC)

Total wildfire risk within the MWRA was evaluated through an effects analysis that quantifies wildfire risk as the expected value of net response or eNVC. To evaluate wildfire risk, the MWRA characterized anticipated response of identified, mapped highly valued resources and assets (HVRAs) should they be exposed to wildfire. The anticipated response was then translated into a measure of total wildfire risk across Judith Basin County as it relates to these identified HVRAs.

Risk to Potential Structures (cNVC)

Risk to potential structures is also referred to as 'Hazard in Context' within the MWRA and represents an integration of wildfire likelihood and intensity with generalized consequences or responses to a home anywhere on the landscape should a fire occur. This metric is useful as it can "predict" the risk of both future and current homes by evaluating the wildfire risk if a home were to occur at any point across the landscape. Response of these hypothetical homes to wildfire is assumed to be negative with the degree of damage correlated with increasing wildfire intensity.

Additional Data Sources for Risk (USFS SAB)

The CWPP Core Team employed recent data released by the U.S. Forest Service Strategic Analytics Branch (SAB) to further inform Judith Basin County of risks to aid in wildfire mitigation planning. These data were developed to empower the wildland fire community in analytics, strategic planning, and risk-informed decision support to improve firefighter safety and management efficiency and effectiveness. More information along with online maps and resources can be found at the Risk Management Assistance (RMA) website.[3] Though these analytics have been developed as tools for wildland firefighters, risk information can be extended further to the larger community and help to inform decisions in wildfire mitigation and planning. For this purpose, three key analytics were used by the CWPP Core Team to develop maps for Judith Basin County that include the WUI (Appendix E) and are described below.

Firefighter Estimated Ground Evacuation Time (GET)

Wildland firefighters and outdoor recreationists are often in remote settings with multiple hazards that can cause life-threatening injuries. Prompt access to medical care is key to reducing injury consequences. Originally developed in 2013, the firefighter estimated ground evacuation time (GET) model is a spatially explicit quantification of ground evacuation time to the nearest relevant medical facility, which is designed to help evaluate potential firefighter safety risks and inform safe and effective fire response strategies (Campbell et al. 2024). This spatial model of wildland firefighter estimated GET has been used when developing operational response strategies in the contiguous United States.

Potential Control Location Suitability (PCL)

During active fire incidents, decisions regarding where and how to safely and effectively deploy resources to meet management objectives are often made under rapidly evolving conditions, with limited time to assess management strategies or for development of backup plans if initial efforts prove unsuccessful. Topography and fuels are significant factors affecting potential fire spread and burn severity. The Potential Control Location Suitability (PCL) uses these relationships to quantify the

[2] https://mwra-mtdnrc.hub.arcgis.com/
[3] RMA Dashboard | Strategic Analytics Branch

effects of topography, fuel characteristics, road networks, and fire suppression effort to develop a predictive model of potential fire control locations spanning a range of fuel types, topographic features, and natural and anthropogenic barriers to fire spread (O'Connor, Calkin, and Thompson 2017). This spatial model of PCL has been used to reduce unnecessary exposure for fire responders, coordinate pre-fire planning for operational fire response, and as a network of locations to incorporate into spatial fire planning to better align fire operations with land management objectives in the contiguous United States.

Wildfire Suppression Difficulty Index (SDI)

The Wildfire Suppression Difficulty Index (SDI) model integrates potential fire behavior, vegetation cover types, topography, road and trail networks, existing fuel breaks, and fireline production potential to map the operational effort necessary for fire suppression. SDI models have been used to assess the effects of fuel breaks and other landscape treatments on the future operating environment and as an aid for identifying safer control opportunities (Rodriguez y Silva et al. 2020). In summary, the aim of this model is to reduce the uncertainty and increase the efficiency of suppression operations through assessment of landscape conditions and incorporation of expert knowledge into planning in the contiguous United States.

Section 3: Implementation

3.1. Integrating the National Cohesive Strategy

The Federal Land Assistance, Management, and Enhancement Act of 2009 (FLAME) aims to provide improved resources and funding opportunities for wildfire suppression on federal lands (43 USC § 1748). As part of this effort, Congress required the development of a cohesive strategy to ensure nationwide consistency of wildfire management on federal, state, local, and tribal lands. Known simply as the National Strategy, it was developed cooperatively by a wide variety of governments and land management agencies, wildfire experts, and public stakeholders. The National Strategy guides wildfire planning efforts by establishing core guidelines to be used when developing CWPPs and emergency responses, prioritizing projects, and educating and equipping the public to protect their property from wildfire.

The National Cohesive Strategy focuses on three goals:

- Restoring and maintaining resilient landscapes,
- Fire adapted communities, and
- Safe and effective wildfire response.

The interdisciplinary team incorporated each of these national priorities when preparing the CWPP, thereby ensuring consistency with the National Strategy. The result is a CWPP which prioritizes healthy and functional ecosystems through treatment activities, equips property owners with the knowledge and resources to protect their homes against wildfire, and identifies wildfire response capacity.

Restore and Maintain Resilient Landscapes

Though a natural and essential component of the ecosystem, the role of wildland fire has been altered through fire suppression, changing climatic conditions, declining forest health, increasing human activity, and human development and alteration of the landscape. These changes have resulted in conditions that reduce landscape resiliency and increase the potential for increased wildfire activity and severity. Landscape restoration through proactive management reinstates resiliency and promotes natural fire activity across the landscape to maintain the beneficial ecological impacts of wildfire while mitigating risk. Once restored, ongoing maintenance through management is essential to perpetuate healthy, resilient landscapes.

Restoration and maintenance on the landscape can be achieved through various management actions related to vegetation and fuels, including prescribed fire; managing wildfire for resource objectives; and mechanical, biological, and chemical fuels treatments. Mechanical, biological, and chemical fuels treatments include thinning, commercial harvest, slash and underburning, slash and pile burning, herbicide application, reseeding, replanting, and more. Given the scale of fuels treatments needed to restore resilient landscapes, prioritization is critical to allocate resources effectively. These various treatment types can be implemented in priority areas where feasible and sustainable to reduce wildfire risk, improve ecological conditions, and achieve fire adapted and resilient landscapes.

Fire Adapted Communities

The National Wildfire Coordinating Group (NWCG) defines a fire adapted community as a community that “takes mitigation actions so they can live with wildfire without harm and without extensive wildfire

suppression efforts" (USFS 2025). Promoting fire adapted communities focuses on adaptation through fire mitigation strategies, public education, and applicable policies and regulations. Fire mitigation strategies may include using fuel treatments and individual homeowner action to help protect life and property during a wildfire event. Public education and outreach about wildfire preparedness can help the public understand their role in promoting fire adapted communities and protecting private property. Updating policies and regulations like building and subdivision codes can ensure fire resilience for future development.

Living with Fire

Building fire adapted communities is a constantly evolving process that includes taking actions to reduce the risk of wildfire, educating residents about becoming fire-adapted, and designing tools that support the community. Fire is a natural part of the ecosystem, but communities at risk can take steps to reduce negative impacts to property when wildfires occur.

Steps that homeowners can take to become more fire adapted include reducing the ignition potential of their home and the 100-200 feet of area surrounding it, called the Home Ignition Zone (HIZ). This involves home hardening (using ignition resistant construction materials and techniques) and maintaining adequate defensible space within the HIZ through management of vegetation and other combustible materials on the property. An ignition-resistant HIZ reduces the risk of loss by creating a home and property that is better able to defend itself from wildfire. The National Fire Protection Association's Firewise Program provides guidelines that help inform homeowners about specific actions for home hardening and HIZ treatments. The MT DNRC provides free wildfire risk home assessments to all Montana homeowners that include a wildfire risk rating as well as recommendations for specific actions homeowners can take to reduce their vulnerability to wildfire.

Recommendations to Reduce Structural Ignitibility

Resource managers reduce the risk of wildfire damage to private property through fuel reduction projects on state and federal lands, establishing fuel breaks and buffers, and wildfire suppression. However, property owners are responsible for helping create fire adapted communities by reducing the structural ignitability of their own property. In many cases, these efforts incorporate the same techniques used by local, state, and federal resource managers.

Measures to reduce structural ignitability vary from property to property depending on parcel size; the location of structures within the parcel; building age, construction, and materials; existing vegetation and fuel loads; access to water; and more. Despite property-level variation, the same basic concepts apply in all cases.

Fire propagation requires fuel. Reducing the ignition potential within the HIZ, with priority given to the home/structure and the first five feet surrounding it, is the most effective way for structures to withstand a wildfire. One of the most common ways that homes catch fire is by wind-driven embers which can travel up to a mile away from active wildfires and ignite buildings by landing on flammable exterior materials, or indirectly by igniting flammable vegetation or materials located close to the home, resulting in direct flame contact or radiant heat exposure to the home (Restiano et al. 2020). As such, property owners can reduce structural ignitibility by preventing flames and embers from accessing fuels within the building itself, a technique known as "hardening." Implementing hardening and creating ignition resistant homes and properties, collectively, saves homes and creates fire adapted communities. Common techniques for reducing structural ignitability include:

Building or retrofitting structures with ignition resistant materials and techniques (i.e., Class A roofing, ignition resistant siding, boxed eaves, covered gutters, metal gutters kept clear of debris, screened vents, etc.

Keeping the area 5-30 feet from the home clean and green by providing adequate spacing between trees, removing ladder fuels and ground litter, keeping vegetation healthy and hydrated, and using walkways, patios, or driveways to create fuel breaks.

Maintaining a non-combustible zone within five feet surrounding the home by removing all flammable materials and vegetation, using ignition resistant ground cover and sparsely placed fire adapted plants if vegetation is desired.

Clearing flammable materials away from propane tanks and firewood stacks and ensuring that both are located at least 30 feet away from the home.

Pruning trees 6-10 feet up from the base of the tree and keeping lawns well-watered and mowed.

Homeowner Resources

Because each property is unique, organizations such as Firewise/USA;[4] Ready, Set, Go!;[5] Keep Montana Green;[6] and the Fire Adapted Learning Network[7] provide resources to help residents determine the best options for reducing structural ignitibility. These resources include further reading and recommendations, illustrations, step-by-step guides, evacuation checklists, and more that can be used when planning, completing projects, or discussing wildfire preparedness within a community.

Additionally, MT DNRC Community Preparedness Specialists are available to conduct free wildfire home risk assessments and site visits for property owners.[8] The MT DNRC also provides guidance for homeowners interested in mitigating wildfire risk within their communities including suggestions for home hardening, evacuation planning, and reducing ignition potential. More information can be found on MT DNRC webpages.[9,10]

Grants and Funding

There are several opportunities for grants and funding available to communities and organizations to promote fire adapted communities. Although there is not currently a grant program available to assist individual homeowners with home hardening, local governments can use grant funds to support the development of programs that serve this purpose in addition to providing funding for projects that

[4] https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA
[5] https://www.wildlandfirersg.org/s/?language=en_US
[6] https://www.keepmontanagreen.com/
[7] https://fireadaptedmontana.org/
[8] https://dnrc.mt.gov/Forestry/Resources/request-a-site-visit
[9] https://dnrc.mt.gov/Forestry/Wildfire/fire-prevention-and-preparedness
[10] https://www.mtfireinfo.org/pages/prevention

mitigate wildfire risk on adjacent federal and state lands. Grant funding is available to private landowners for fuels reduction through the DNRC Hazardous Fuels Reduction Grant.[11] Additionally, there are several grants available through the MT DNRC to local governments to increase fire response capacity, such as the Cooperative Fire Protection Capacity Grant and the Rural Fire Capacity Grant. Having an updated CWPP allows Judith Basin County to access more funding sources, including the Community Wildfire Defense Grant, to increase wildfire preparedness and mitigate wildfire risk (DNRC 2023).

Education and Outreach

Wildfire mitigation strategies are most effective when there is robust participation from all stakeholders. It is important to engage the community through education and outreach to mitigate the human hazards of wildfire. Public education campaigns such as Ready, Set, Go! and Firewise/USA bring communities together to prepare for wildfire. Becoming a Firewise/USA community gives residents access to resources, funding, and community support (Firewise USA 2022). There are currently no Firewise/USA communities in Judith Basin County, but residents can take action to organize a Firewise community at any time (Firewise USA 2022). Many education and outreach efforts are already underway in the County.

Safe and Effective Wildfire Response

One of the most important roles of a CWPP is to identify wildfire response capacity and processes. The interdisciplinary team that developed the CWPP included members of the Judith Basin County Office of Emergency Management, community preparedness and wildfire prevention specialists, and both federal and local fire department representatives. As a result, the CWPP has identified specific strategies to increase wildfire response capacity and improve communication across various resource groups.

Resources & Capacity

Local firefighting resources are skilled, trained, and equipped to respond to WUI wildfire incidents and often work closely with federal and state wildland firefighting resources supplied by the USFS, BLM, and MT DNRC. Mutual aid agreements are also in place among local fire departments and federal agencies throughout the County as well as adjacent counties. Fire resources are currently insufficient to meet suppression needs, and increased capacity is essential to ensure that wildfire response can effectively respond to, confine, and manage wildfire incidents. The CWPP includes detailed strategies and projects that support increased fire response capacity.

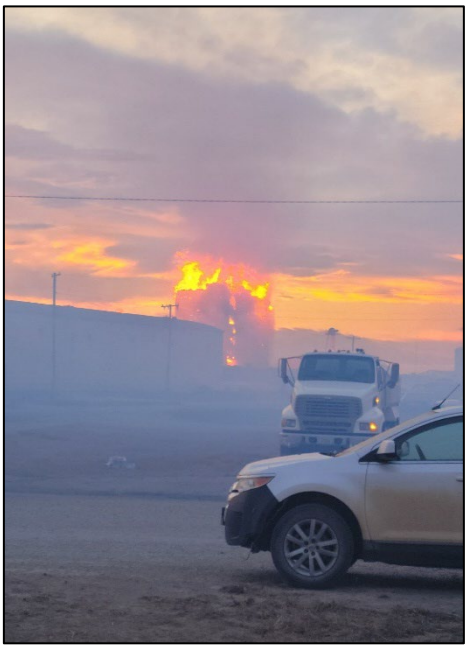

Figure 4 Judith Basin County responds to a fire in nearby Fergus County.

Preparation & Prevention

In the County, wildfire preparation and prevention activities are a cooperative effort between city, county, state, and federal agencies. Fire preparedness actions may include public education, home hardening, clearing of the home ignition zone, or planning for evacuation. Fire prevention actions include campaigns to educate the public about the dangers of human-caused fires and risk reduction measures,

[11] https://dnrc.mt.gov/Grants-and-Loans/

such as fire restrictions or burn bans. Although fire is a natural part of the ecosystem, some fires may pose a threat to human life or property. The CWPP facilitates the development of new programs to support wildfire preparedness and prevention throughout the County.

Mobilization

When a wildfire occurs in the County, a response crew is mobilized. Response crews are mobilized based on several factors, including the location of the fire and availability of resources. Local fire departments and volunteer fire departments are mobilized through the Judith Basin County Dispatch.

Emergency Management

The Central Montana Regional Hazard Mitigation Plan (2024-Draft) provides a detailed overview of how the region, including Judith Basin County, has planned to respond to emergencies ranging from flood to wildfire. Coordination of firefighting, emergency medical services, and technical rescue activities in the event of an emergency such as a wildfire is also outlined within the plan. The Disaster and Emergency Service's website also provides extensive resources to help individuals throughout the County learn more about available resources and proactively plan for emergency events.[12]

Post-Fire

Recovering from a wildfire is a difficult task for a community. Homes, businesses, and other community assets may have been lost or damaged during the fire. Residents returning to their homes may face significant property damage, even if the home did not burn. Soil in burned areas is unstable, often resulting in flash flooding and landslides. Post-fire recovery planning helps mitigate safety hazards to the community and identifies resources to help residents recover from wildfire. Although the County does not currently have a post-fire recovery plan, the CWPP promotes the development of such a plan, along with other public education and wildfire response strategies. To aid communities following a disaster, Montana Disaster and Emergency Services has compiled a list of resources to assist individuals dealing with the aftermath of a disaster event.[13]

[12] https://jbcountymt.gov/disaster-emergency-services
[13] https://des.mt.gov/Recovery/Recovery-Program

3.2. Implementation

Goals, Objectives, & Strategies

The CWPP implementation plan (Appendix A) and associated action table (Appendix B) were developed to clearly outline roles, responsibilities, and timelines for various projects that will facilitate the implementation and achievement of the goals, objectives, and strategies outlined within the CWPP. The CWPP defines goals, objectives, and strategies as follows:

Goal: A broad, long-term desired result.

> **Objective**: A measurable, specific plan that serves to achieve a **Goal.**
>
> > **Strategy**: A method to achieve a specific **Objective.** Multiple **Projects** can relate to a given Strategy.

Action Plan

The action plan consists of various projects with assigned types, responsibilities, and timeframes. Using the National Strategy priorities (Restoring and Maintaining Landscapes, Fire-Adapted Communities, and Response to Wildfires) as overarching goals, the Core Team, with public input, developed each objective to further specify the goal. These objectives are then narrowed down further into methods that can be planned and implemented, called strategies. Each strategy involves at least one stakeholder but often requires the collaborative efforts of multiple interested stakeholders from the County, federal and state agencies, local fire departments, and other entities. Other stakeholder groups may be integrated into the action plan (Appendix B) as new strategies are developed in the coming years and roles are further defined. Wherever possible, timelines to complete each strategy are included within the action table to best capture the overarching timeline to facilitate achievement of larger goals and objectives defined for the CWPP.

Monitoring

To accurately and consistently monitor progress towards the goals, objectives, and strategies outlined within the CWPP, an annual review of the action plan will be conducted during which any completed strategies will be updated, and any pending additions or revisions to the CWPP document or the associated CWPP story map will be implemented. The annual review will also consider substantive changes to other plans, policies, and regulations identified in Section 1.2: Relationship to Other Plans, Policies, and Regulations (e.g., updates to the Montana Forest Action Plan) and/or substantive changes to data used to develop the WUI and risk assessment for this CWPP identified in Section 2: Wildland Urban Interface & Risk Assessment. Projects identified in the Action Plan will be reviewed annually to track progress and to provide further guidance in their implementation with use of the Project Monitoring Plan (Appendix B). In order to remain relevant and useful, CWPPs should be fully updated every five years; the next CWPP update should occur in 2030 (DNRC 2022).

Prioritization Process

This CWPP identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types of treatments that will protect one or more at-risk communities and essential infrastructure.

A GIS analysis was completed to determine a spatial representation using a combination of three risk layers (Risk to People and Property; Risk to Critical Infrastructure; and Risk to Potential Structures). These layers were intersected with WUI components to form a composite matrix that assigns “weight” or “points” to aid prioritization. The adjective rates of “Low” to “Very High” for each layer were reclassified to integers (1-7). Then using the formula: Risk to People and Property or Risk to Critical

Infrastructure (whichever integer is higher) + (Risk to Potential Structures x 2). The results ranged from 0 to 21 and were grouped as follows:

- Low = 0 to 4
- Moderate = 5 to 10
- High = 11 to 15
- Very High = 16 to 21

Using these values, a spatial layer was developed to show prioritization across the WUI. This spatial mapping of priorities will allow Judith Basin County to interpret which areas should be prioritized and which management actions are appropriate. Priority levels are shown as low, moderate, high, and very high based on the WUI and Risk Assessment intersections (see Map 6 in Appendix C).

Priority areas delineated by MT DNRC for fuels reduction projects have also been incorporated into this CWPP and are shown in Appendix C (Map 7). These areas represent lands within the County that are eligible to receive MT DNRC grants intended to reduce the risk of wildfire through fuels treatments. MT DNRC's priority areas consist of three "tiers," with "Tier 1" representing the highest priority, and "Tier 3," the lowest priority. These priority areas do not include federal lands, which are not eligible for applicable MT DNRC grants. Additional information regarding these priority areas can be found through the MT DNRC website, once the dataset has been made publicly available.

3.3. Future Actions

The 2025 CWPP is designed to function as a living document with updates occurring as needed. It is anticipated that additional goals, objectives, and strategies will be added as conditions and needs change for Judith Basin County, and that the format of the action plan will facilitate easy integration of these elements.

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Appendices

Appendix A: Implementation – Goals, Objectives, and Strategies

Goal: A broad, long-term desired result

Objective: A measurable, specific plan that serves to achieve a **Goal**

Strategy: A method to achieve specific **Objectives.** Multiple **Projects** can relate to a given **Strategy**.

Goal 1: Restore and Maintain Landscapes

Objective 1.1 Reduce fuel loading by supporting and implementing fuels treatments

Strategy 1.1.1 Implement the following fuels treatments to accomplish resource objectives: thinning, prescribed fire, commercial harvest, slashing, underburning, pile burning, chipping, thinning, prescribed/targeted grazing on both publicly and privately owned land

Objective 1.2 Promote characteristic wildfire activity appropriate to natural fire regimes and resource objectives

Strategy 1.2.1 Identify strategic locations for new fuel breaks and buffers

Strategy 1.2.2 Improve and maintain existing fuel breaks and buffers

Strategy 1.2.3 Identify, improve, and maintain road buffers

Strategy 1.2.4 Facilitate and maintain cross-boundary collaboration to implement fuels reduction projects across multiple jurisdictions including privately held lands

Strategy 1.2.5 Implement treatments that promote characteristic wildfire activity on the landscape

Objective 1.3 Implement post-fire recovery activities

Strategy 1.3.1 Support the implementation of recovery and restoration activities such as reseeding and replanting following wildfire events

Strategy 1.3.2 Support the development and implementation of a Judith Basin County Post-Fire Recovery Plan that provides a framework for efficient and effective allocation of resources after a wildfire event

Strategy 1.3.3 Increase local capacity for post-fire response personnel and resources

Objective 1.4 Reduce insect and disease outbreaks and spread

Strategy 1.4.1 Support and implement projects that use approved methods to control insect and disease such as micronutrients, pesticides, attractants, aggregants, anti-aggregants, and pheromones

Strategy 1.4.2 Fuels thinning to prevent the spread of insects and disease outbreaks

Strategy 1.4.3 Monitor aerial surveys to detect trends in outbreaks

Objective 1.5 Use the best available science to inform CWPP goals, objectives, and strategies

Strategy 1.5.1 Facilitate the collection and/or analysis of updated data such as aerial imagery, surveys, etc. that would improve the implementation of projects associated with this CWPP

Goal 2: Fire Adapted Communities

Objective 2.1 Improve and maintain public education to reduce wildfire risk and structural ignitability

Strategy 2.1.1 Improve public access to existing educational resources

Strategy 2.1.2 Develop new educational opportunities/programs for residents

Strategy 2.1.3 Support and implement efforts to increase capacity for additional personnel, groups, or programs to implement and coordinate services that support fire adapted communities within Judith Basin County

Strategy 2.1.4 Provide an updated platform for public access to CWPP resources that integrates with existing resources

Strategy 2.1.5 Establish a CWPP Monitoring Committee to ensure that the CWPP remains updated, relevant, and is communicated effectively among stakeholders

Objective 2.2 Support and implement mitigation treatments within priority areas within the County

Strategy 2.2.1 Continue to develop projects within the WUI and priority areas within Judith Basin County

Objective 2.3 Reduce human-caused ignitions

Strategy 2.3.1 Work with utility companies to reduce ignition risk and identify opportunities for mitigation

Strategy 2.3.2 Improve and maintain public communication to reduce human-caused ignitions

Strategy 2.3.3 Provide training and resources for using prescribed fire on private lands

Goal 3: Wildfire Response

Objective 3.1 Increase/improve water supply for fire suppression

Strategy 3.1.1 Identify additional water resources

Strategy 3.1.2 Support the implementation of design alternatives that improve fire suppression and response capabilities within subdivision planning documents

Strategy 3.1.3 Construct additional water resources for fire suppression

Objective 3.2 Improve emergency notification and information communications

Strategy 3.2.1 Identify methods to increase communication efficacy and accessibility in the event of a wildfire

Strategy 3.2.2 Ensure communication and notification methods are inclusive of vulnerable populations

Strategy 3.2.3 Support the development of mitigation actions and planning related to wildfire smoke public health issues

Strategy 3.2.4 Consider wildfire smoke responses in future planning efforts

Strategy 3.2.5 Support the procurement and designation of funding to mitigate public health risks and issues related to wildfire smoke

Objective 3.3 Facilitate and maintain cross-boundary collaboration to improve wildfire response efforts

Strategy 3.3.1 Coordinate with neighboring agencies and landowners to identify potential opportunities for collaboration

Strategy 3.3.2 Establish a Judith Basin County Wildfire Response Working Group to improve communications and collaborative response efforts across groups and jurisdictions

Objective 3.4 Improve emergency response and mobilization efforts

Strategy 3.4.1 Develop an evacuation plan that identifies evacuation routes, reception/distribution areas, shelter locations, staging areas, and access control points

Objective 3.5 Increase response capacity

Strategy 3.5.1 Obtain funding for additional personnel, training, and equipment to improve wildfire response capacity and efficacy

Appendix B: Implementation – Action Table and Project Monitoring Plan

Table 6 Judith Basin County Community Wildfire Protection Plan Update Action Plan

Project Name	**Goal 1:** Restore and Maintain Landscapes **Goal 2:** Fire-adapted Communities **Goal 3:** Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Ongoing Projects					
Ingress/Egress Road Condition Assessment and Improvement	Goals 1 and 3	Judith Basin County	1.2.3 and 3.5.1	Ongoing	Identify and assess critical ingress/egress routes in coordination with Judith Basin County Road Department.
Dry Wolf Fuels Reduction	Goal 1	BLM	1.1.1 and 1.2.5	6/25 to 10/25 and winter 2026/2027	This is a cut/pile project to help restore a healthy, diverse, fire-resilient forest structure by reducing stand density and fuel loadings over 167 acres. The work is expected to start in June 2025 and be completed by October 2025. The handpiles will be burned in winter 2026/2027.
Otter Creek Fire Department Training	Goal 2	Otter Creek Fire Dept.	2.1.3	Ongoing annually	Hands on training over Labor Day Weekend.
South Fork Fuels Reduction	Goals 1 and 2	USFS	1.1.1, 1.2.2, 1.2.5, and 2.2.1	2026	Thinning and piling unit along south fork road to create a viable fuel break and return south facing slopes to historical fire regime.
Woodchopper Road Clearing	Goals 1 and 3	USFS	1.2.1, 1.2.3, and 3.4.1	Ongoing	Thinning and piling of 1 chain on either side of the Woodchopper Road and Stud Horse trail for better ingress/egress access.

Project Name	**Goal 1:** Restore and Maintain Landscapes **Goal 2:** Fire-adapted Communities **Goal 3:** Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Arch Coulee RX	Goal 1	USFS	1.2.1, 1.2.2, and 1.4.2	2025 or 2026	1,958 Acre low intensity broadcast burn near Woodchopper Road.
Proposed Projects					
Judith Basin County CWPP Online Story Map Maintenance	Goal 2	Judith Basin County	2.1.1 and 2.1.4	Summer 2025 – Ongoing	Maintain and update Story Map with CWPP updates and resources.
Judith Basin CWPP Update	Goal 2	Judith Basin County (and other agencies)	2.1.5	2030	Update plan including potentially new WUI boundaries based on developments in the county (i.e., new critical infrastructure, such as water lines or pipelines).
CWPP Progress Report	Goal 2	Multiple agencies	2.2.5	Annually on CWPP sign date	Annual monitoring and updating of CWPP Action Table; reporting accomplishments and successes. Coordination and leadership by county and DNRC.
Create Post-Fire Plan	Goal 1	Judith Basin County (and other agencies)	1.3.2	2025 – Ongoing	Establish a Post-Fire Recovery Team that will create and maintain a post-fire resource and action plan.
Judith Basin Fire Guide	Goals 2 and 3	Judith Basin County (and other agencies)	2.1.1 and 3.2.1	2025 – Ongoing with updates	A guide available to Judith Basin County residents that includes information such as water sources, equipment, emergency routes, etc.

Project Name	**Goal 1:** Restore and Maintain Landscapes **Goal 2:** Fire-adapted Communities **Goal 3:** Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Limestone Canyon Fuel Reduction	Goal 1	Judith Basin County (and other agencies)	1.1.1	Ongoing	Downed timber has created a large fire hazard.
Sapphire Village Water Needs Assessment	Goal 3	Judith Basin County (and other agencies)	3.1.1 and 3.1.3	TBD	Complete an assessment of fire suppression water needs and address those needs.
Increased air support for fire suppression	Goal 3	Judith Basin County (and other agencies)	3.5.1	TBD	Procure funding for air support for fire suppression.
Public Engagement Programs	Goal 2	DNRC leading with Judith Basin County (and other agencies)	2.1.1, 2.1.2, and 2.1.3	TBD	Implement education and outreach programs intended to further engage and educate Judith Basin County residents, particularly those living in the WUI, on reducing wildfire risk and increasing adaptation to wildfire. Example locations: Sapphire Village; Arrowwood Estates; Limestone Canyon
Airport Water Support	Goal 3	Judith Basin County (and other agencies)	3.1.1 and 3.1.3	TBD	Increase the volume of water available for fire suppression at the airport.

Project Name	**Goal 1:** Restore and Maintain Landscapes **Goal 2:** Fire-adapted Communities **Goal 3:** Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Fred Ellis Campground	Goal 1	DNRC	1.1 1.2.4	TBD	This is a proposed fuel mitigation project on 80 acres of state land with funding available. The USFS recently completed work in the same area making this a great cross-boundary project. DNRC will look into treating the surrounding private lands, as well.
Adopt official road name list and repair or replace illegible signs, and install new signs	Goal 3	Judith Basin County Road Dept. / Fire Districts	3.4.1	TBD	Many roads are not signed, or the sign is no longer legible. Signs should be installed/replaced for fire response and evacuation purposes.
VFD Equipment and Training Needs Evaluation	Goal 3	Judith Basin County / Fire Districts / DNRC	3.5.1	TBD	Analysis of wildland fire response / equipment needs / training (cross training)

Project Name	**Goal 1:** Restore and Maintain Landscapes **Goal 2:** Fire-adapted Communities **Goal 3:** Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
VFD Equipment and Training	Goal 3	Fire Districts / County / DNRC	3.5.1	TBD	**Purchase digital radios for fire engines**: None of the county fire trucks are equipped with digital radios making it difficult to communicate with other fire departments from other jurisdictions and dispatch. **New fire halls in Raynesford and Hobson rural districts:** Larger fire halls including a training center are needed. With the current fire halls, trucks must be moved outside to conduct training or meetings. This can be an issue during winter and below freezing times. **Fire hall and training center in Stanford:** The current fire hall that the county is using is actually Stanford City property. The fire hall is too small to store all the fire trucks inside year-round. In wintertime the trucks that are stored outside have to be drained of water and winterized. The current fire hall does not have a training center. **Extension of Windham Fire Hall:** Add a training facility/classroom to the existing fire hall.

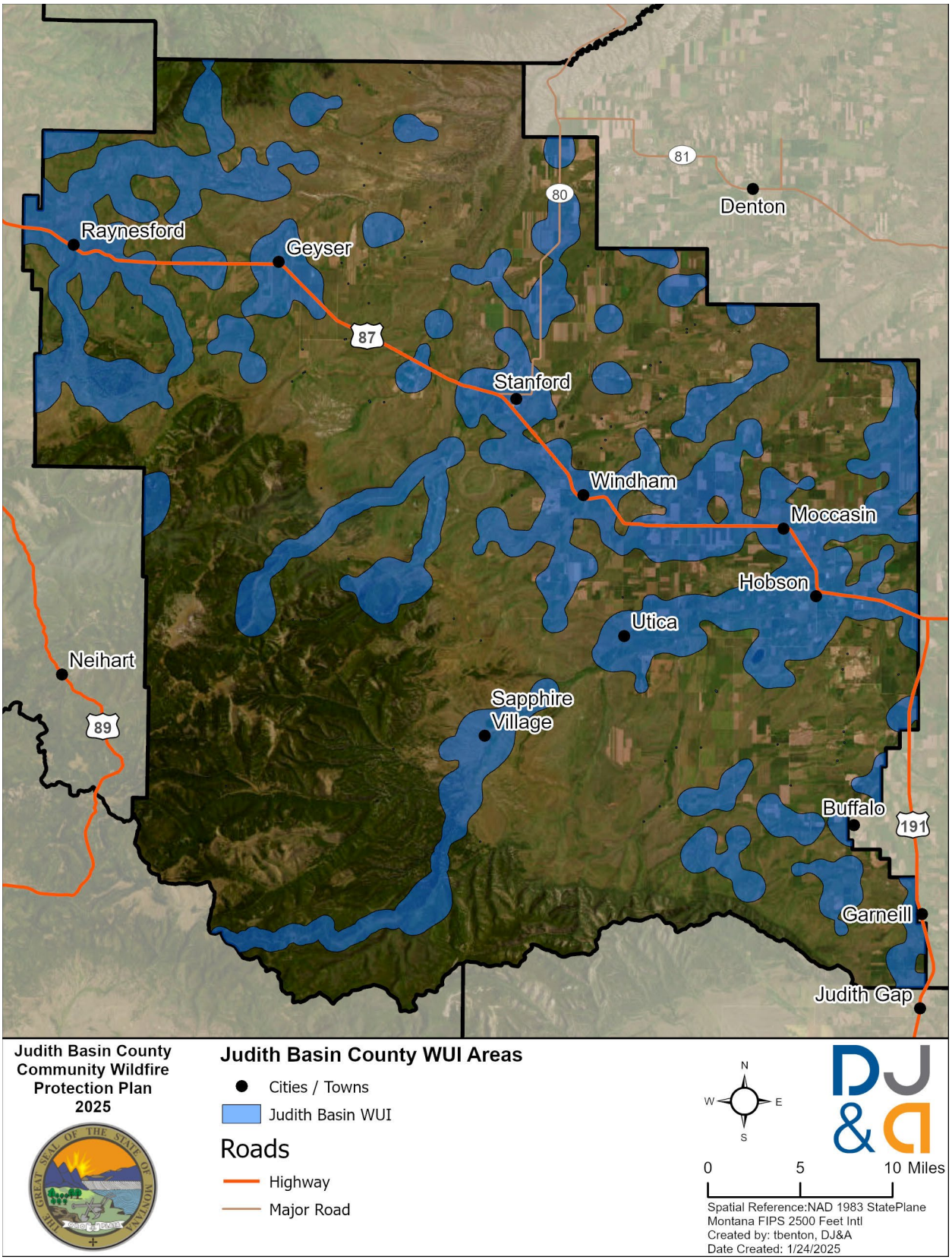
Project Name	**Goal 1:** Restore and Maintain Landscapes **Goal 2:** Fire-adapted Communities **Goal 3:** Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Generator for Stanford water tower	Goal 3	City of Stanford / Judith Basin County	3.1.2	TBD	In the event of power loss, Stanford is at risk of running out of water without backup power.
Identify backup water source for town of Hobson	Goal 3	City of Hobson / Judith Basin County DES	3.1.1	TBD	Until the Musselshell-Judith Rural Water Project delivers water to Hobson, a reliable source of water should be identified for the interim.
Develop a Judith Basin County Communications Plan	Goal 3	Judith Basin County DES	3.4.1 3.5.1	TBD	A communications plan would allow all county personnel to communicate effectively during an emergency.
Assess and improve critical ingress/egress routes	Goal 3	Judith Basin County Road Dept. and DES / Fire Districts	3.4.1	TBD	Fuels treatments and road maintenance should be implemented along critical evacuation routes.
Conduct wildfire risk assessments of high priority areas within Judith Basin County	Goal 2	Judith Basin County / Fire Districts / DNRC	2.1.2	TBD	
Develop evacuation plans of high use recreation areas.	Goal 3	Judith Basin County / Fire Districts / USFS / BLM	3.4.1	TBD	In the event of wildfire near high-use areas, it is important to have evacuation plans for areas such as Dry Wolf, Sapphire Village, and Hay Canyon.

Project Name	**Goal 1:** Restore and Maintain Landscapes **Goal 2:** Fire-adapted Communities **Goal 3:** Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Volunteer recruitment and retention	Goal 3	Judith Basin County / Fire Districts / DNRC	3.5.1	TBD	As volunteers get older, there needs to be active efforts to recruit and retain new volunteers.
Develop a plan to communicate emergency messages/evacuation notices to county residents	Goal 3	County DES	3.2.1	TBD	

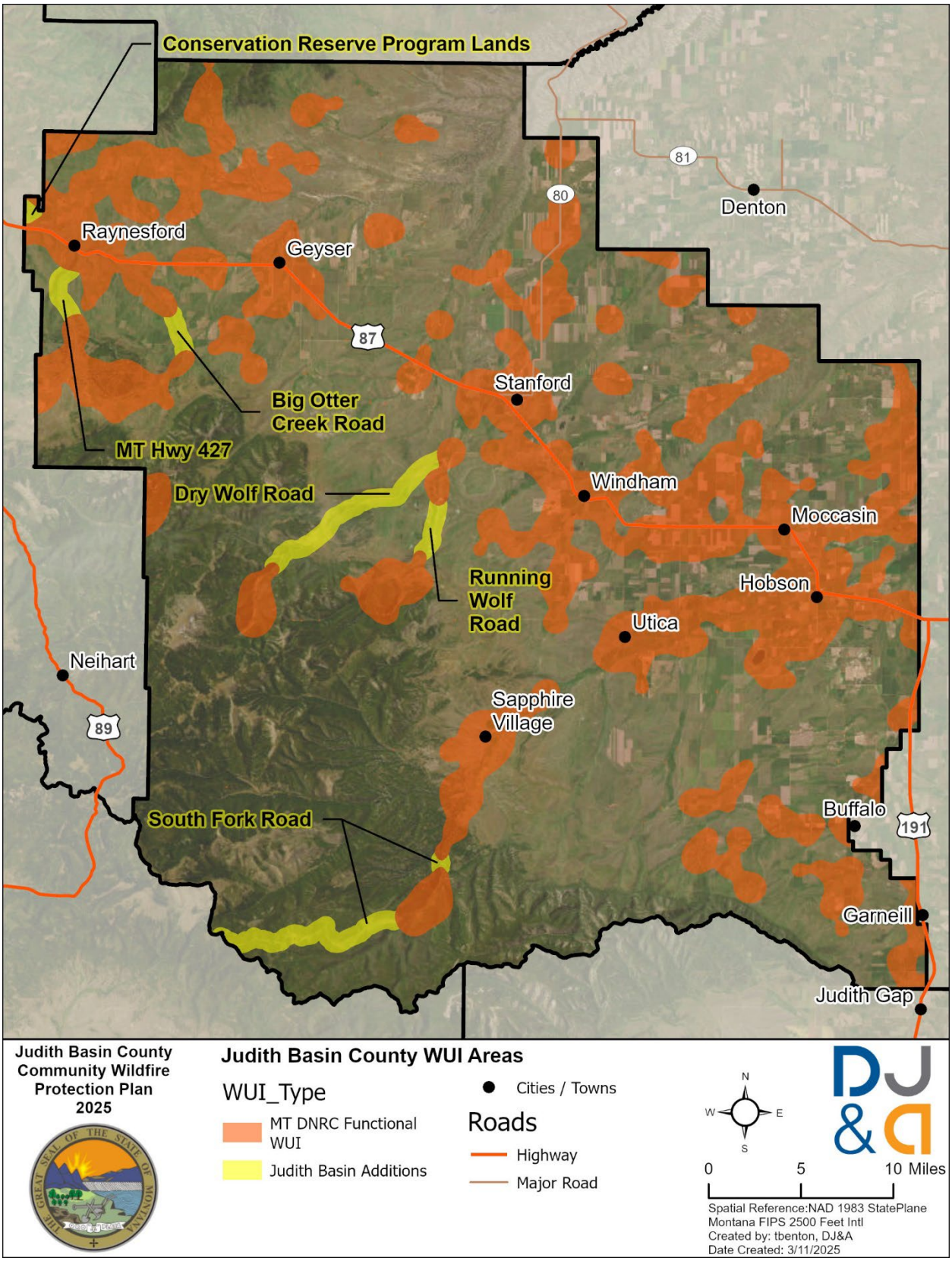
Table 7 Project Monitoring Plan

Project Monitoring Plan **Project Name:** **Project Reviewer/Date:** **Instructions:** Refer to the projects in the Judith Basin County Community Wildfire Protection Plan Update Action Plan to complete this form. This form should be completed for each block within the applicable phase of work. For blocks beyond the phase of work please enter N/A.	
Project Description / Identify Need: Was the work needed to be done clearly described?	
Plan: Was the work planned?	
Implementation: Was the project implemented according to the plan?	
Verification: Did project actions meet the goals, objectives, and expected outcomes?	
Adaptive Management: What changes to the project implementation plan, if any, need to be made to facilitate the execution of the next similar project?	

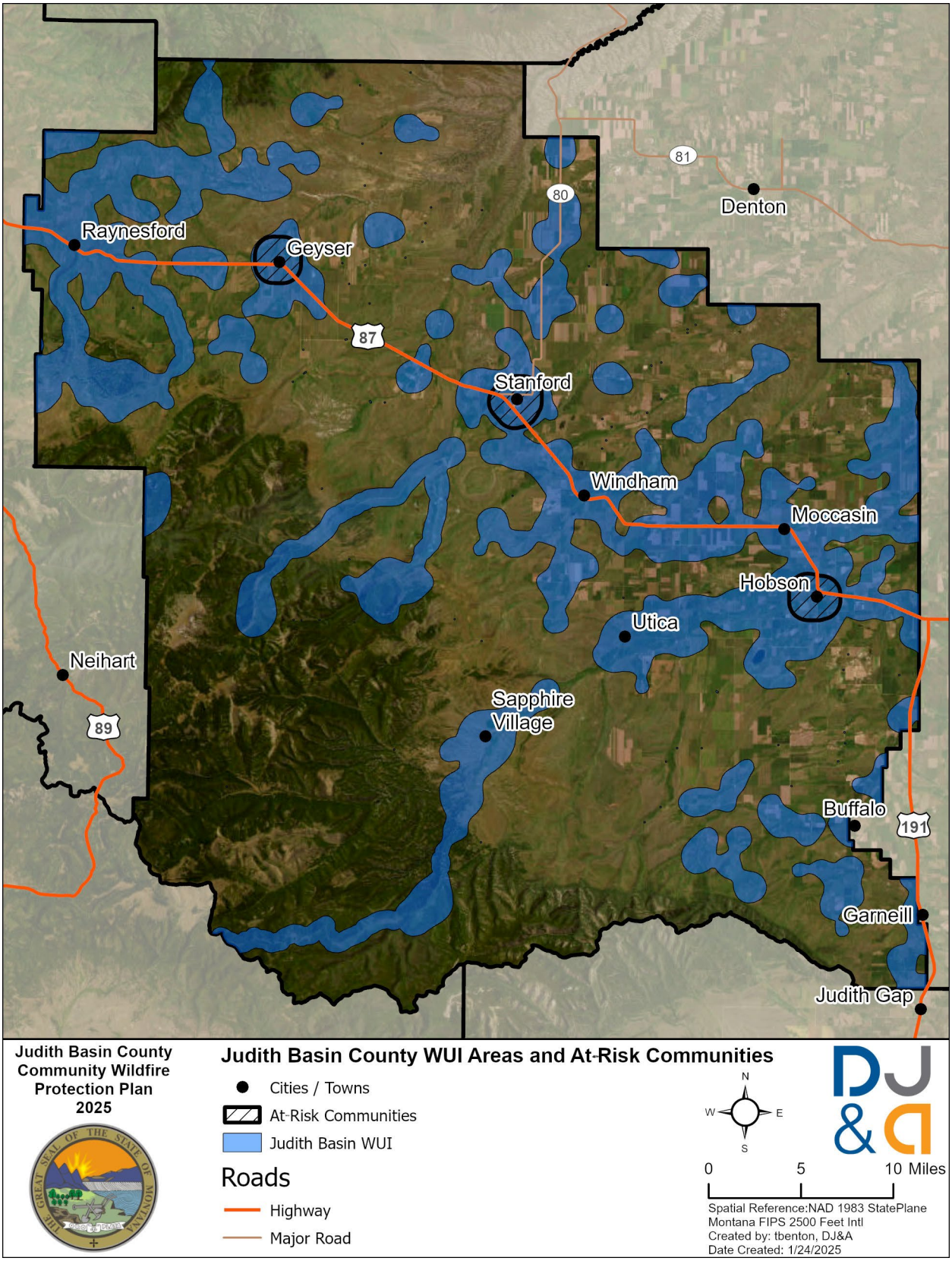
Appendix C: Maps



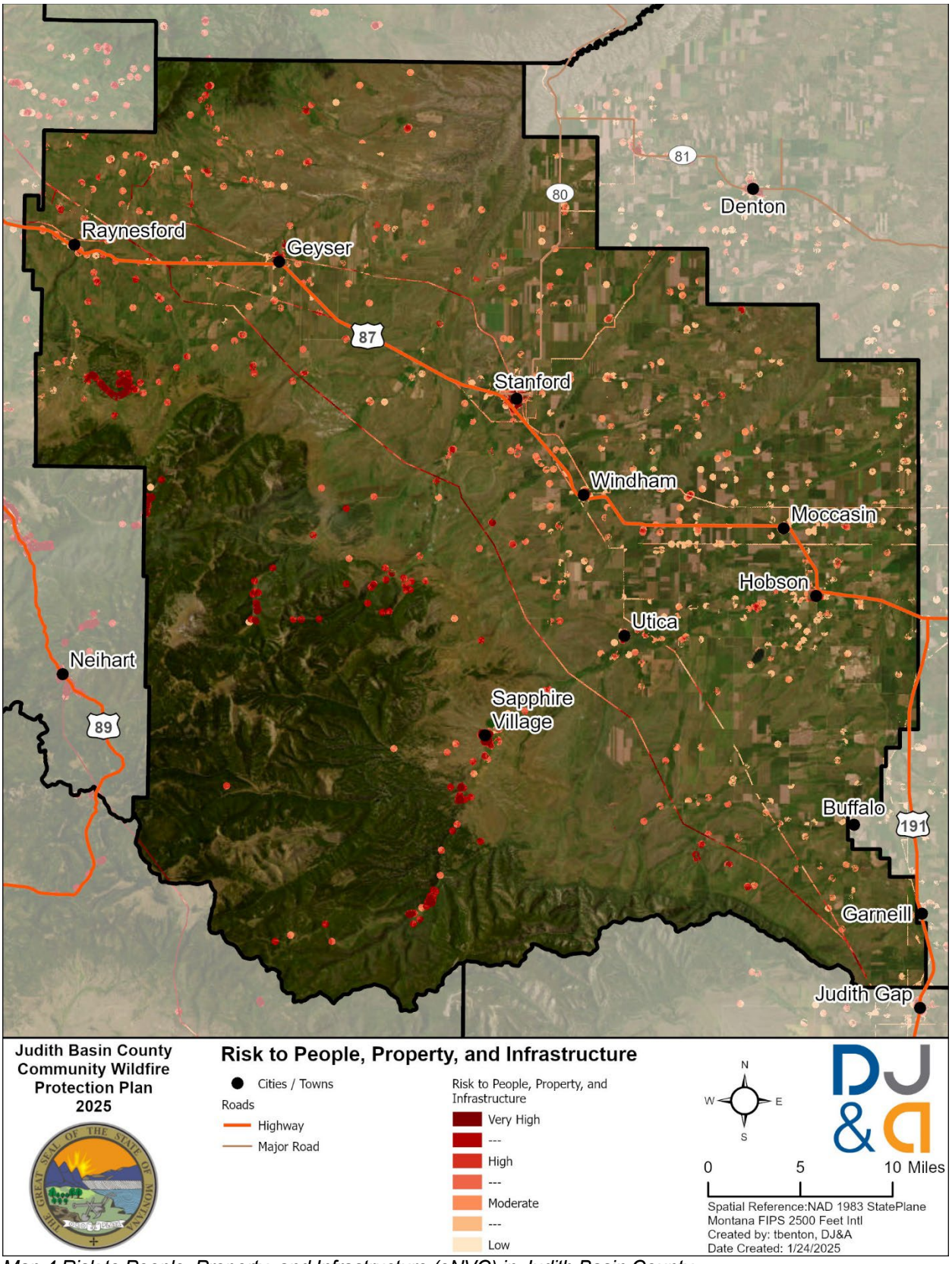
Map 1 Judith Basin County WUI Areas



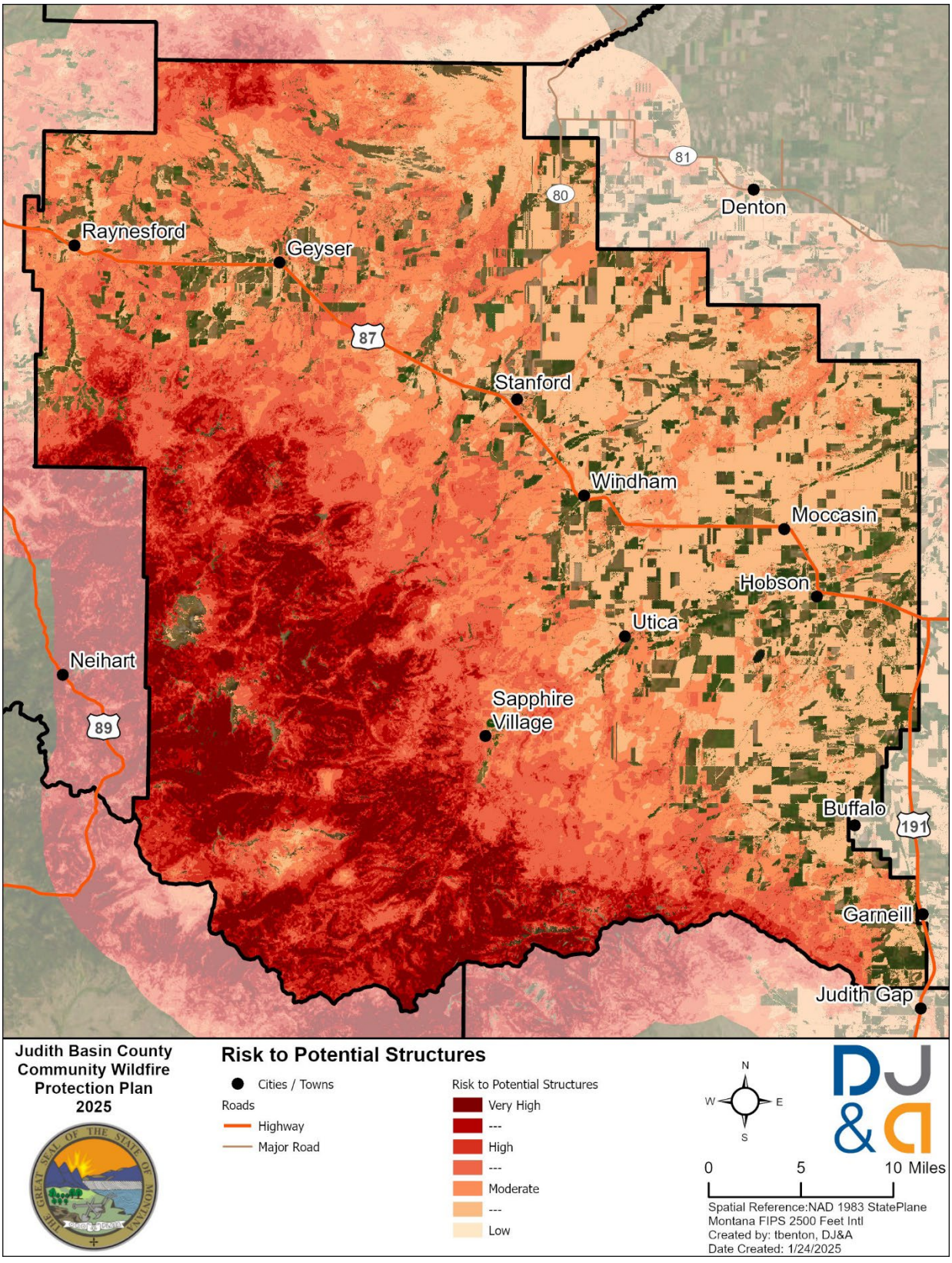
Map 2 MT DNRC Functional WUI and Judith Basin County Additions



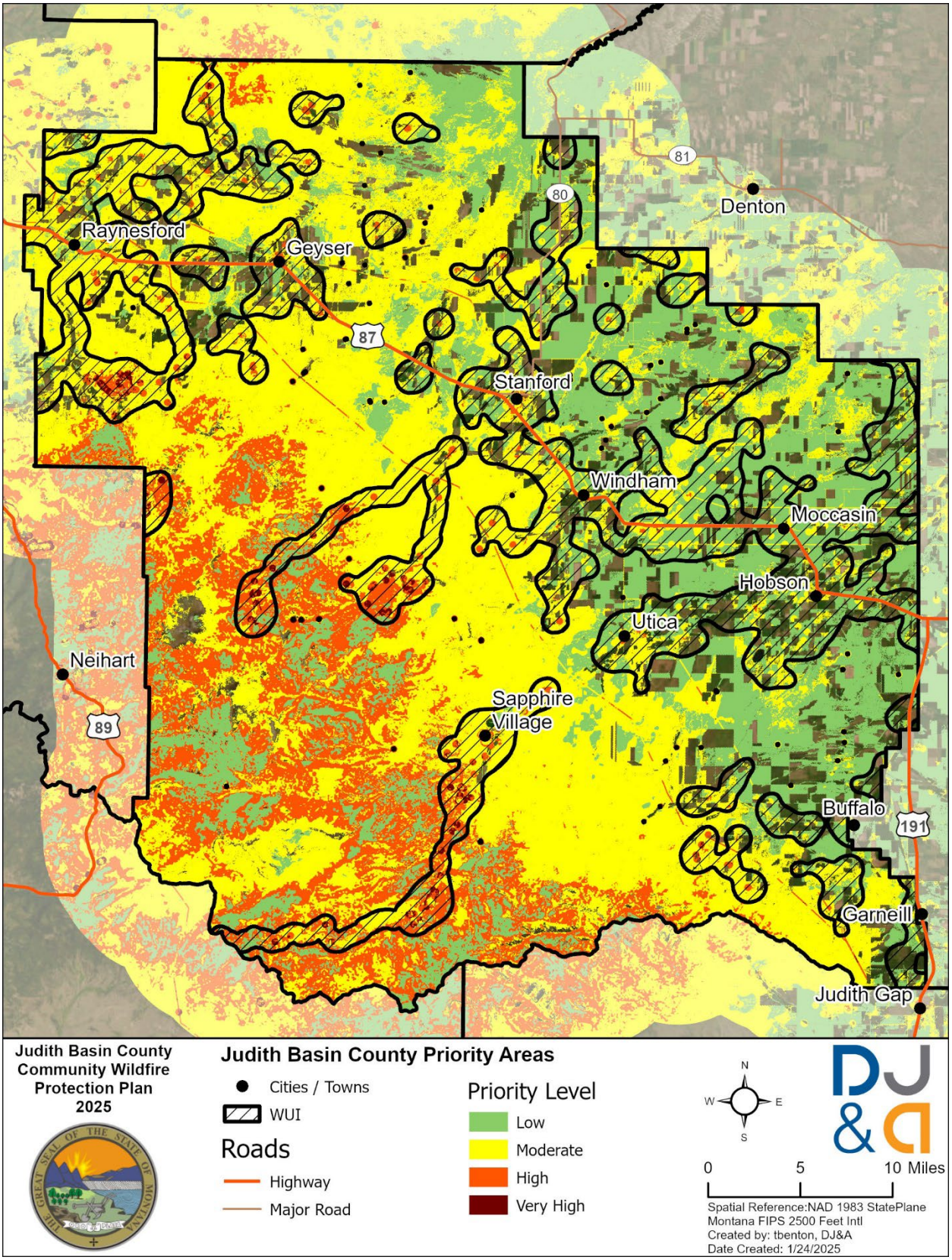
Map 3 Judith Basin County WUI Areas and At-Risk Communities



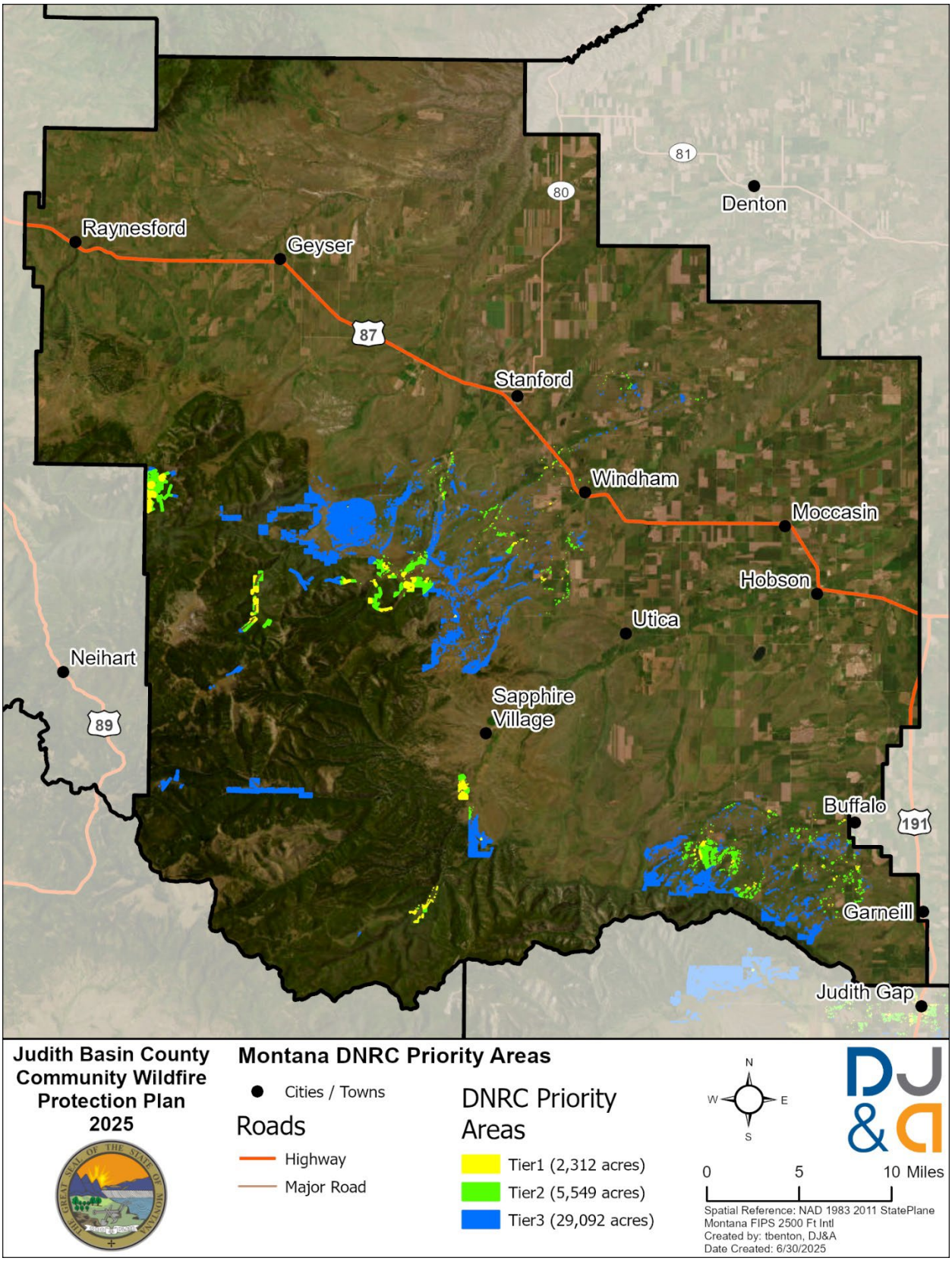
Map 4 Risk to People, Property, and Infrastructure (eNVC) in Judith Basin County



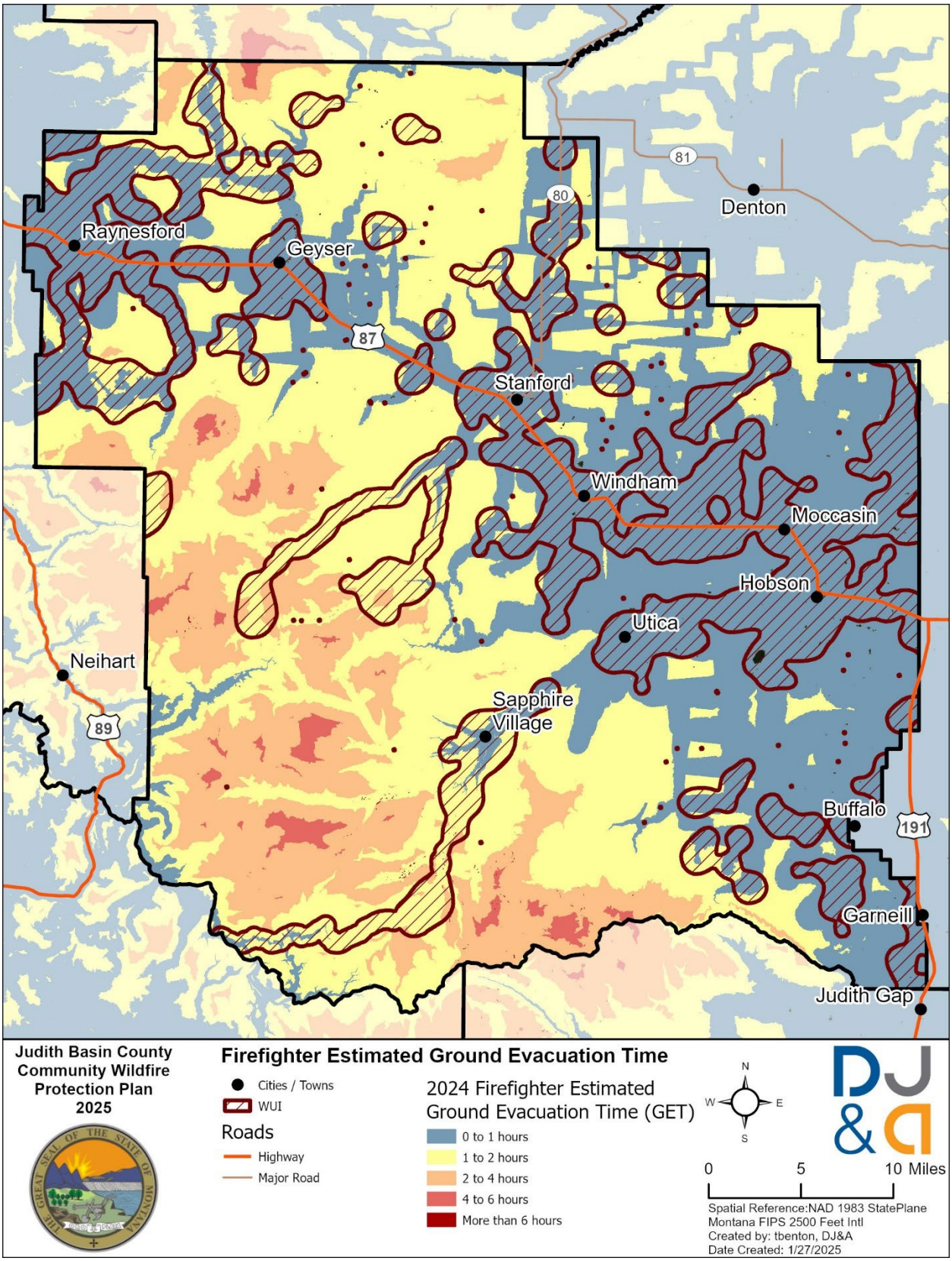
Map 5 Risk to Potential Structures (cNVC) in Judith Basin County



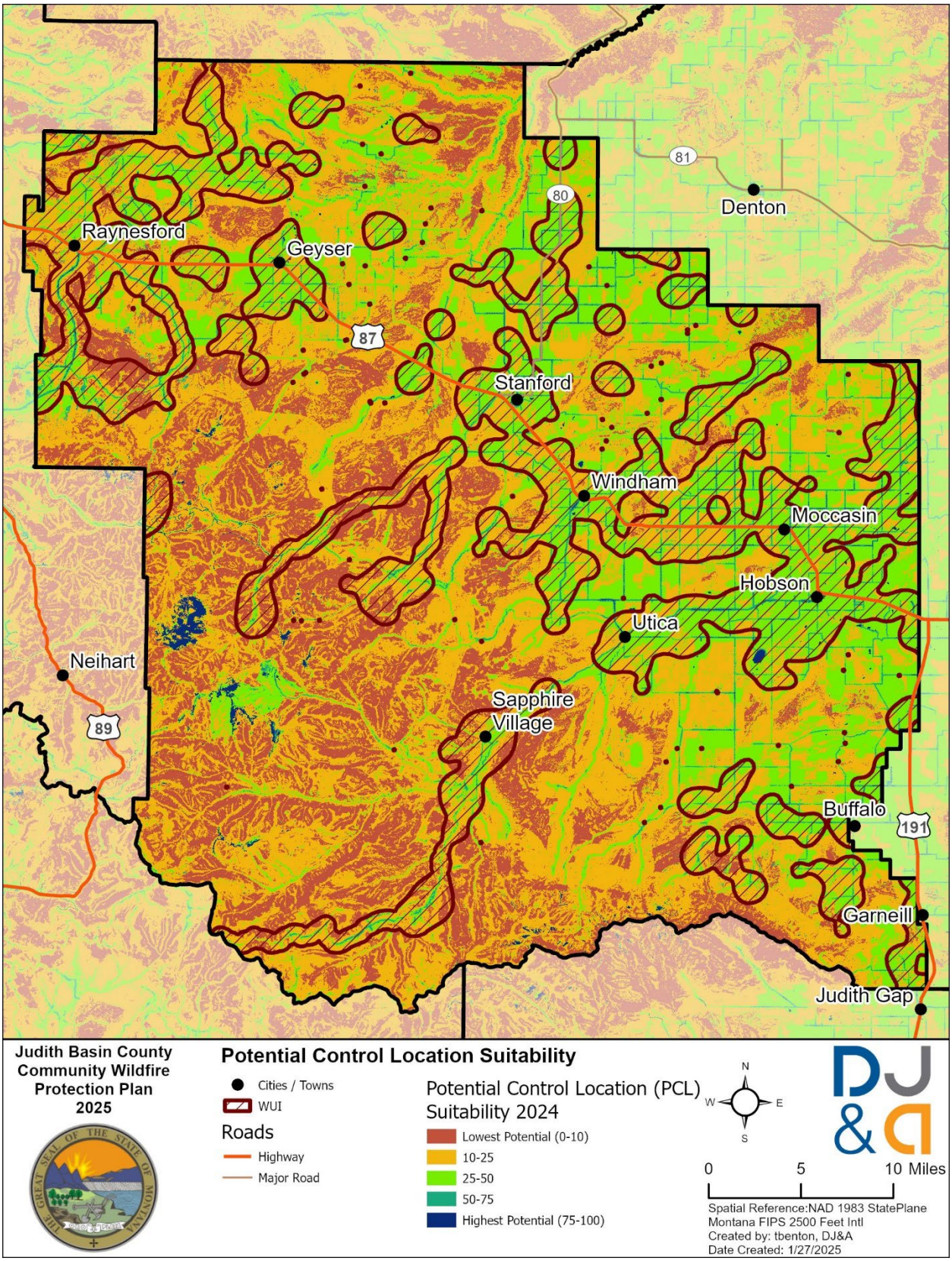
Map 6 Community Base Map with Priority Areas and WUI in Judith Basin County



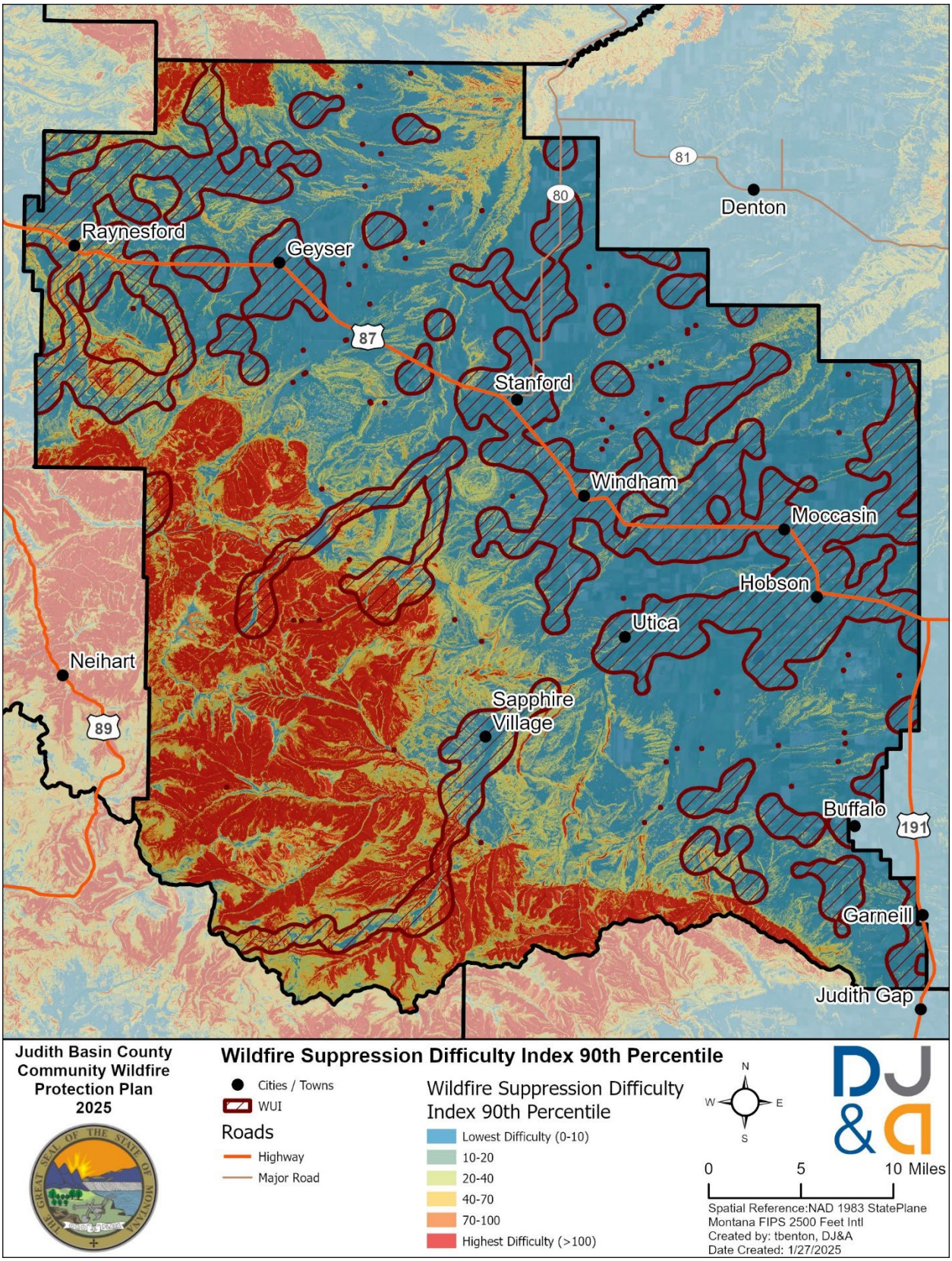
Map 7 State Funded Grant Priority Areas (2025-2028, MT DNRC)



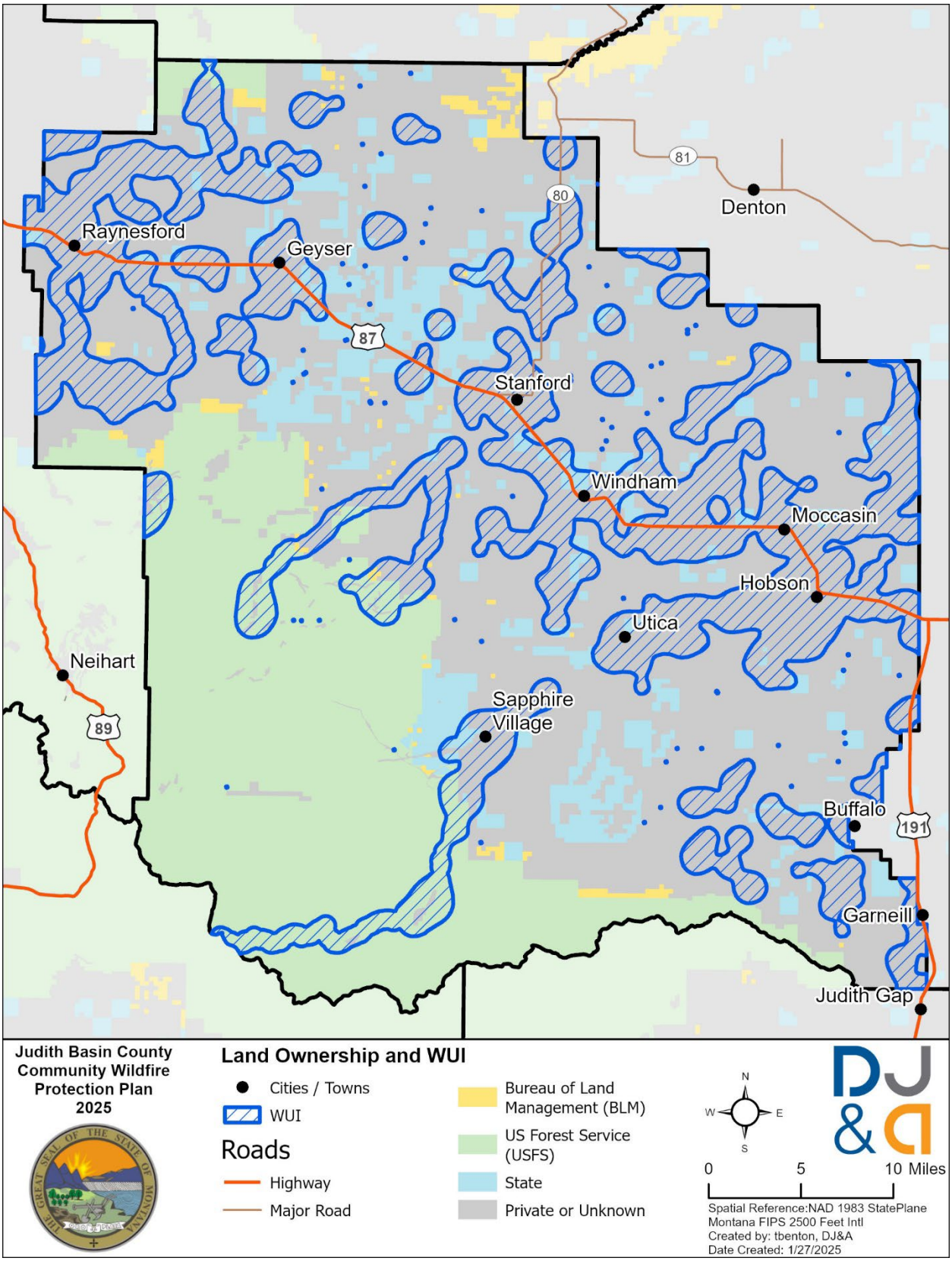
Map 8 Firefighter Estimated Ground Evacuation Time (GET) and WUI in Judith Basin County



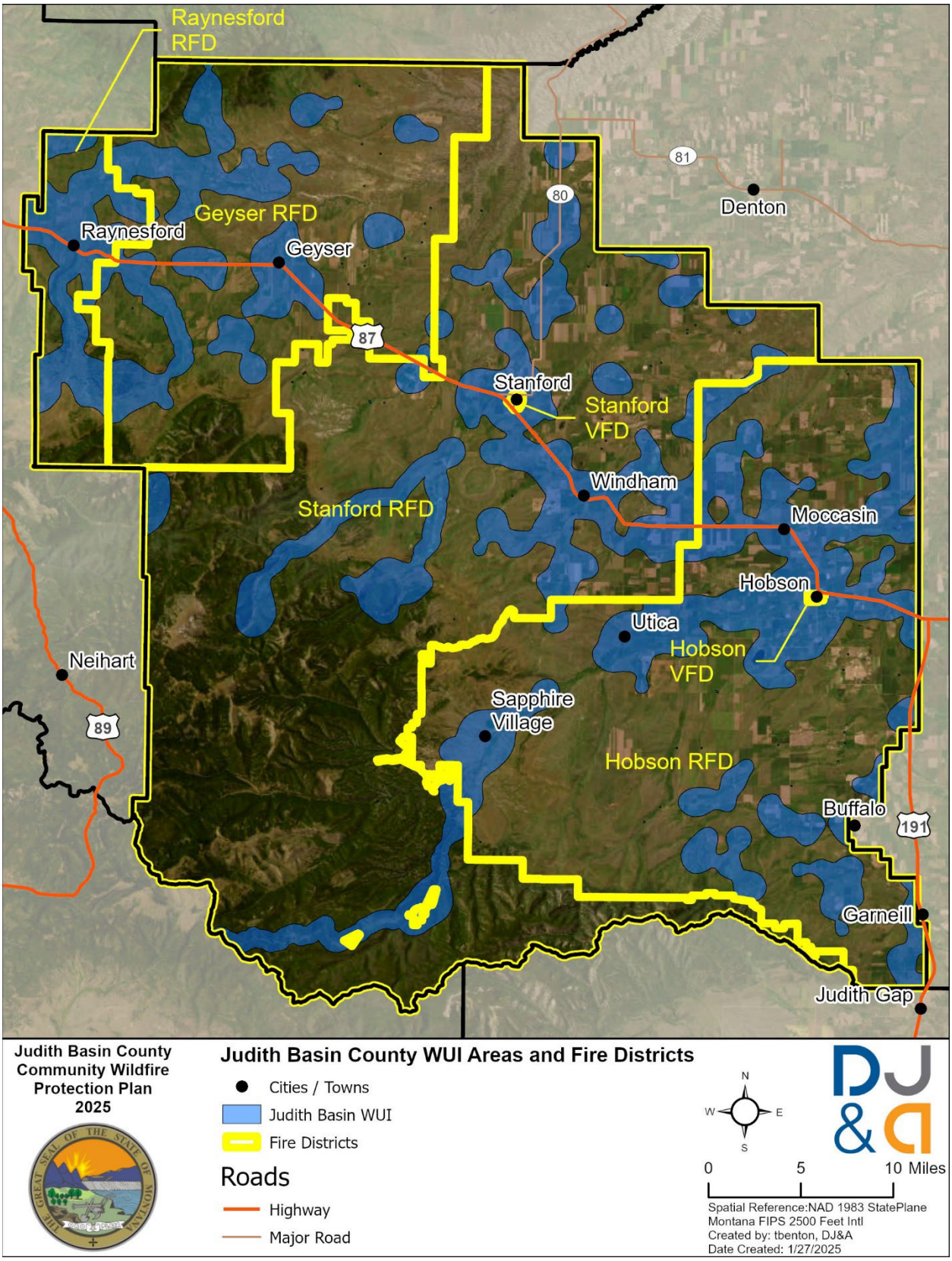
Map 9 Potential Control Location Suitability (PCL) and WUI in Judith Basin County



Map 10 Wildfire Suppression Difficulty Index (SDI) and WUI in Judith Basin County



Map 11 Land Ownership and WUI in Judith Basin County



Map 12 WUI and Fire Districts in Judith Basin County

Appendix D: Glossary of Terms

Term	Definition	Source
Asset (Wildfire)	Human-made features, such as commercial structures, critical facilities, housing, etc., that have a specific importance or value	(Gilbertson-Day et al. 2020)
At-risk community	The term "at-risk community" means an area— (A) that is comprised of— (i) an interface community as defined in the notice entitled "Wildland Urban Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildfire" issued by the Secretary of Agriculture and the Secretary of the Interior in accordance with title IV of the Department of the Interior and Related Agencies Appropriations Act, 2001 (114 Stat. 1009) (66 Fed. Reg. 753, January 4, 2001); or (ii) a group of homes and other structures with basic infrastructure and services (such as utilities and collectively maintained transportation routes) within or adjacent to Federal land; (B) in which conditions are conducive to a large-scale wildland fire disturbance event; and (C) for which a significant threat to human life or property exists as a result of a wildland fire disturbance event.	Healthy Forest Restoration Act of 2003 (P.L. 108-148)
Community Wildfire Protection Plan	(3) COMMUNITY WILDFIRE PROTECTION PLAN.—The term "community wildfire protection plan" means a plan for an at risk community that— (A) is developed within the context of the collaborative agreements and the guidance established by the Wildland Fire Leadership Council and agreed to by the applicable local government, local fire department, and State agency responsible for forest management, in consultation with interested parties and the Federal land management agencies managing land in the vicinity of the at-risk community; (B) identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment on Federal and non-Federal land that will protect 1 or more at-risk communities and essential infrastructure; and (C) recommends measures to reduce structural ignitability throughout the at-risk community.	Healthy Forest Restoration Act of 2003 (P.L. 108-148)
Condition Class (Vegetation)	Depiction of the degree of departure from historical fire regimes, possibly resulting in alterations of key ecosystem components. These classes categorize and describe vegetation composition and structure conditions that currently exist inside the Fire Regime Groups. Based on the coarse-scale national data, they serve as generalized wildfire rankings. The risk of loss of key ecosystem components from wildfires increases from Condition Class 1 (lowest risk) to Condition Class 3 (highest risk).	(NWCG 2023a)
Exposure (Wildfire)	The placement or coincidental location of an asset or resource within a hazardous environment.	(Gilbertson-Day et al. 2020)
Fire Behavior	The manner in which a fire reacts to the influences of fuel, weather, and topography.	(NWCG 2023b)
Fire Intensity	A general term relating to the heat energy released in a fire.	(USDA 2023)
Fire Management	All activities related to the management of wildland fires, including fire prevention, fire suppression, and use of prescribed fire.	(NWCG 2023b)

Term	Definition	Source
Fire Regime	Fire regimes describe and categorize patterns of fire ignition, seasonality, frequency, type (crown, surface, or ground fire), severity, intensity, and spatial continuity (pattern and size) that occur in a particular area or ecosystem.	(USDA 2023)
Fire Return Interval	Number of years between two successive fires in a specified area. Often used to designate an average of intervals (i.e., mean fire interval).	(USDA 2023)
Fire Severity	Degree to which a site has been altered or disrupted by fire; loosely, a product of fire intensity and residence time.	(NWCG 2024)
Flame Length	The length of flames in a fire front measured along the slant of a flame, from the midpoint of its base to its tip. Flame length is mathematically related to fireline intensity and tree crown scorch height.	(USDA 2023)
Fuel	Any combustible material, especially petroleum-based products and wildland fuels.	(NWCG 2024)
Fuel Class	A set of fuels with similar traits. Fuels are categorized as herbaceous or woody and live or dead. Dead fuels are classed as 1-, 10-, 100-, or 1,000-hour timelag fuels, based on the time needed for fuel moisture to come into equilibrium with the environment: • 1-hour timelag fuels: Dead fuels comprised of herbaceous plants or woody plants less than about 0.25 inch (6.4 mm) in diameter and the surface layer of litter on the forest floor. • 10-hour timelag fuels: Dead fuels comprised of wood from 0.25 to 1 inch (0.6-2.5 cm) in diameter and the litter from just beneath the surface to around 0.75 inch (1.9 cm) below ground. • 100-hour timelag fuels: Dead fuels comprised of wood from 1 to 3 inches (2.5-7.6 cm) in diameter and litter from around 0.75 to about 4 inches (1.9-10 cm) below ground. • 1,000-hour timelag fuels: Dead fuels comprised of wood from 3 to 8 inches (7.6-20.3) in diameter and the forest floor layer >4 inches (10 cm) below ground.	(USDA 2023)
Fuel Continuity	A qualitative description of the distribution of fuels both horizontally and vertically. Continuous fuels readily support fire spread. The larger the fuel discontinuity, the greater the fire intensity required for fire spread.	(USDA 2023)
Fuel Loading	The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area. This may be available fuel (consumable fuel) or total fuel and is usually dry weight.	(NWCG 2024)
Fuel Model	Simulated fuel complex for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified.	(NWCG 2024)
Fuel Moisture	Expressed as a percent or fraction of oven-dry fuel weight. It is the most important fuel property controlling flammability. In living plants, fuel moisture fluctuates and can vary considerably by species but is usually above 80% to 100%. As plants mature, moisture content decreases. When herbaceous plants cure, their moisture content responds as dead fuel moisture content, which fluctuates according to changes in temperature, humidity, and precipitation.	(USDA 2023)
Fuel Reduction	Manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control.	(NWCG 2024)
Prescribed Fire	Any fire intentionally ignited by management in accordance with applicable laws, policies, and regulations to meet specific objectives. Also called a controlled burn or prescribed burn.	(USDA 2023)

Term	Definition	Source
Probability (Wildfire)	Likelihood that a wildfire will burn a given point or area during a specified period of time.	(MT DNRC 2023)
Rate of Spread (ROS)	The rate of spread is in chains per hour (ch/h) and is defined as the speed with which the fire is moving away from the site of origin. Wind, moisture, and slope drive the fire. The flaming zone, or fire head, moves away from the origin quickly with great intensity.	(NWCG 2023a)
Resource (Wildfire)	Resources are natural features, such as wildlife habitat, vegetation type, or water, with specific importance or value.	(Gilbertson-Day et al. 2020)
Susceptibility (Wildfire)	Propensity of an asset or resource to be damaged if a wildfire occurs.	(Gilbertson-Day et al. 2020)
Vulnerability (Wildfire)	A function of exposure and susceptibility.	(Gilbertson-Day et al. 2020)
Wildfire Hazard	A physical situation with potential for causing damage to vulnerable resources or assets. Quantitatively, wildfire hazard is measured by two main factors: 1) burn probability (or likelihood of burning), and 2) fire intensity (measured as flame length, fireline intensity, or other similar measure).	(Gilbertson-Day et al. 2020)
Wildfire Risk	A function of wildfire hazard (probability and intensity) and vulnerability (exposure and susceptibility) of assets and resources.	(MT DNRC 2023)

Appendix E: Wildland Urban Interface Summary Table

Table 8 Judith Basin County WUI Components and Definitions

WUI Component	Definition
Functional WUI Areas	
Direct Exposure	Burnable wildland that contains or is near a structure located on or surrounded by burnable land cover. Directly exposed structures could benefit from both the hardening of the structure to resist ignition and the reduction of fuel in the home ignition zone to reduce the structure's exposure to heat and embers.
Indirect Exposure	Nonburnable land that contains or is near a structure and is within 900 m of burnable land cover. Indirectly exposed structures could benefit from hardening of the structure to resist ignition from embers and nearby structures.
Limited Exposure	Nonburnable land that contains a structure but is greater than 900 m from burnable land cover.
Critical Fireshed	Burnable land area within 1,500 m (1 mile) of a group of structures but does not itself contain structures.
Nonburnable Fireshed	Nonburnable land cover within 1,500 m (1 mile) of a group of structures but does not itself contain structures.
Additional WUI Areas: Community Resources and Infrastructure	
Conservation Reserve Program (CRP) Lands	**Description:** Includes CRP lands that were not already included in the Functional WUI. **Justification:** These lands were determined to be a high fire hazard by the Core Team. Since CRP lands can only be grazed every other year, there is dry, built-up vegetation in the fall and winter. During windy conditions, these areas are deemed difficult to control during a wildfire event and can spread quickly. **Data Source:** The CRP lands were identified and digitized in GIS during a CWPP Core Team meeting.
Roads Critical to Ingress/Egress	**Description:** Includes roads or sections of the following roads that were not included in the Functional WUI with ½-mile buffer (1-mile total width). • MT HW 427 • Big Otter Creek Road • Dry Wolf Road • Running Wolf Road • South Fork Judith River Road (FS Road 487) **Justification:** Ingress/Egress roads represent the most likely route in the event of evacuation or access for fire suppression resources. These additional road segments were identified by the Core Team to be crucial to maintaining ingress and egress to structures and areas of moderate to high public concentration or use and are increasing in use. **Data Source:** These road segments were identified and digitized in GIS during a CWPP Core Team meeting, and a ½-mile buffer (1-mile total width) was applied.