DRAFT

BLAINE COUNTY CWPP

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Document Version History

Issue Date	Version	Comments
September 2025	Draft	

Data Product Disclaimer

The Blaine 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 the Blaine County Website Homepage: Blaine County as well as the Emergency Management page: Emergency Management | Blaine County, and are the central locations to find the most updated version of all CWPP material.

Acknowledgments

The Blaine 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 the Blaine County Department of Disaster & Emergency Services, other Blaine County officials and personnel, city government, city and rural fire departments, Montana Department of Natural Resources and Conservation (MT DNRC), Bureau of Land Management (BLM), 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 Blaine County for years to come.

List of Acronyms

Acronym	Definition
BLM	Bureau of Land Management
cNVC	Conditional Net Value Change
CWPP	Community Wildfire Protection Plan
eNVC	Expected Net Value Change
E.O.	Executive Order
EVT	Existing Vegetation Type
FLAME	Federal Land Assistance, Management, and Enhancement Act of 2009
GIS	Geographic Information System
HFRA	Healthy Forests Restoration Act of 2003
HIFLD	Homeland Infrastructure Foundation-Level Database
HIZ	Home Ignition Zone
HUC	Hydrologic Unit Code
HVRA	Highly Valued Resources and Assets
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
ROS	Rate of Spread
USDA	United States Department of Agriculture
WUI	Wildland Urban Interface

Blaine County Community Wildfire Protection Plan

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Executive Summary

This document constitutes the updated version of the 2005 Community Wildfire Protection Plan (CWPP) for Blaine County. 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: Blaine County and Emergency Management | Blaine County.

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 experiences.

Notable components of this CWPP include identification and clarification of the Wildland Urban Interface (WUI), prioritized areas for fuel reduction projects within the County, a detailed implementation 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 access for 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 Blaine 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 goals, objectives, and strategies outlined in 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 summary of the three CWPP sections.

Section 1: Introduction and Background

This section provides relevant information characterizing Blaine 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 Blaine County, including government, land use, and demographics. The fire environment is also characterized, including descriptions of topography, hydrology, climate, vegetation, fuels, fire history, and risk to municipal watersheds. 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: Emergency Management | Blaine County

CWPP StoryMap: Blaine 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 risk of wildfire. In 2003, HFRA was enacted, 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 crossing the Missouri River in Blaine County

This document constitutes Blaine County's updated CWPP, which will guide current planners, fire departments, citizens, and other stakeholders in preventing, responding to, recovering from, and living with wildfire. The 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
- 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 range of stakeholders to ensure the CWPP reflects the best local knowledge, receives widespread 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, state and federal agency representatives, and key stakeholders, with support from DJ&A, a local environmental consulting firm. This interdisciplinary group is hereafter referred to as the "Core Team" (Table 1).

The Core Team

Table 1 Core Team Members

Name	Role
Blaine County & Local Government	
Haley Velk	Blaine County Emergency Manager
Lindsay Lowe	Blaine County Deputy Emergency Manager
Kraig Hansen	Blaine County Fire Warden
Miles Hutton	Blaine County Commissioner – Chair
Shane Fox	Blaine County Commissioner – Vice Chair
Dolores Plumage	Blaine County Commissioner
Scott Gallus	Chinook Fire Chief
Reece Scheffelmaer	Harlem Fire Chief
Jordan Zellmer	Hogeland Fire Chief
Bryan Ricci	Turner Fire Chief
Jayme Lamebull	Fort Belknap Indian Reservation – Tribal Land Director
State	
Jocee Hedrick	MT Department of Natural Resources and Conservation – Northeastern Area Manager
Federal	
Shannon Bonney	Bureau of Land Management – Fire Mitigation and Education Specialist
Bryce Rogers	Bureau of Indian Affairs Wildland Fire Management – Rocky Mountain Regional Office Duty Officer

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 a 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 Blaine County commissioners, chiefs of local fire departments, and an MT DNRC representative.

Timeline of the Community Wildfire Protection Plan Update Process

The update process was initiated in January of 2025 and concluded in December of 2025. The final CWPP was signed into effect by all signatories on TBD of 2025 (Table 2).

Table 2 Community Wildfire Protection Plan Update Timeline

Milestone/Event	Date
CWPP Process Begins	January 23, 2025
CWPP Core Team Workshop	April 2, 2025
Open House Public Meetings (Chinook, Turner, and Harlem, MT)	May 13-14, 2025
Preliminary Draft CWPP	August 13, 2025
Draft CWPP for Public Review	September 17, 2025
Virtual Public Meeting	October 2, 2025
Public Comment Period (30 days)	October 2, 2025 – November 1, 2025
Final Draft CWPP	November 10, 2025
Final CWPP Completed	December 8, 2025
CWPP Signed into Effect	TBD

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 in order 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 (US DOI and USDA 2023). The National Fire Plan also encourages the creation of a CWPP. The 2025 CWPP aligns with the key points and actions of the NFP by enabling Blaine County to mitigate wildfire risk 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 help protect 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. The 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: restore and maintain landscapes, create fire adapted communities, and improve wildfire response (Wildland Fire Leadership Council 2023; US DOI and USDA 2014). The 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 Montana Forest Action Advisory Council and MT DNRC 2020). The Montana Forest Action Plan prioritizes the revision of CWPPs through the "Foster Fire-Adapted Communities" strategy (The Montana Forest Action Advisory Council and MT DNRC 2020).

Local

The CWPP is intended to supplement existing plans by providing focused information regarding wildfire risk and recommendations to reduce it. Local planning documents contain important information about the community that, when incorporated into the CWPP process, facilitate a document that accurately reflects the unique needs and priorities of the community. Blaine County documents include:

- MT DNRC State/County Cooperative Fire Protection Agreement (2025),
- BLM Cooperative Fire Agreement (2023),
- Central Montana Regional Hazard Mitigation Plan: Blaine County (Annex B) (2024),
- Blaine County Cooperative Fire Management Plan (2022),
- Blaine County Subdivision Regulations (2017), and
- Blaine County Growth Policy (2014).

1.3 Public Engagement and Collaboration

The CWPP update process began in January 2025 and continued for nearly 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 to ensure interested stakeholders had an opportunity to be involved with the process. 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 Blaine County 2025 CWPP include an updated WUI boundary and delineation, consideration of new risk assessment data and current conditions throughout Blaine County, and spatial prioritization mapping. Blaine County looks very different today than it did 20 years ago during the previous update. 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 by the 2005 WUI.

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 (MT DNRC 2020). Importantly, it accounts for developments and changing conditions that occurred since the original CWPP was published in 2005, including increasing residential development within wildland fuels 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 Blaine 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 Blaine County

County Overview

Located in north-central Montana, Blaine County shares its northern border with the Canadian province of Saskatchewan. It is bound in the United States by Hill and Chouteau Counties to the west, Philips County to the east, and Fergus County to the south.

Totaling approximately 4,267 square miles, Blaine County is the 19th largest county in Montana. The majority of Blaine County is privately owned (57%), which does not include privately owned parcels within the Fort Belknap Indian Reservation (19%), located in the southeast portion of the county. Of the remainder of the County, the BLM manages 17% and the State of Montana manages 7% of lands as shown in Map 10 (Appendix C) (Headwaters Economics 2025a, 2025b).

The presence of the sovereign territory of the Fort Belknap Indian Reservation within the County results in challenging logistical considerations when it comes to wildfire planning and response. Many questions of cross-jurisdictional authority and responsibility are unsettled, and fire fighting resources tend to be limited both on and off reservation. Work continues in a separate process between Blaine County and the Fort Belknap Indian Reservation to address these challenges.

Land Use

Much of Blaine County is characterized by rural landscapes with small urban areas, namely Chinook, which is the county seat, Fort Belnap Agency, and Harlem. Other small communities in the county include Hays, Lodge Pole, Turner, Zurich, Hogeland, and Lloyd. Key transportation routes throughout the county include U.S Highway 2 (US-2), which runs east/west and State Highway 66 (MT-66) which runs north/south. Other locally used routes include secondary State Highways 325, 529, and 240 on the west side of the county, and 338, 241, and 396 on the eastern side of the county.

In Blaine County, approximately 75% of the land is classified as farmland, with an average farm size of 1,000 acres, where hay is the top crop and cattle are the primary livestock (Montana State University Extension 2021). In addition to its extensive agricultural lands, portions of the county are designated as national protected areas, including the Upper Missouri River Breaks National Monument, which plays a crucial role in conserving native ecosystems and supporting diverse wildlife populations. The county's natural landmarks—such as the Milk River, Bears Paw Mountains, and Little Rocky Mountains—also provide abundant recreational opportunities including fishing, hiking, and camping, which support the local economy (Central Montana Tourism Office 2025; Blaine County 2021). Together, these elements form a diverse land use pattern in Blaine County that reflects a balance among agriculture, conservation, recreation, and community life.

Critical Infrastructure

Within Blaine County, critical infrastructure was identified through collaboration between the Core Team members. Types of critical infrastructure within the County include:

- Highways,
- Railroads,
- Transmission lines,
- Fiber Optic lines,
- Compressor stations,

- Battery sites,
- Communications sites, and
- Oil and gas above ground and underground pipelines.

Demographics

According to 2023 U.S. Census Bureau estimates, Blaine County, Montana has a population of approximately 6,899 residents, reflecting a 2.1% decline since the 2020 Census count of 7,044. The county is characterized by its significant Native American population, with 50.1% identifying as American Indian and 46.2% as White. The Fort Belknap Indian Reservation, home to the Assiniboine and Gros Ventre tribes, occupies much of the southeastern portion of the county. The county has a relatively young demographic, with 28.3% under the age of 18 and 17.5% aged 65 or older. There are 2,297 households with an average size of 2.96 persons, and 63.2% of housing units are owner-occupied. The median home value is $124,900, with a median gross rent of $689. Median household income stands at $65,050, though 20.5% of residents live in poverty. Most households have access to technology, with 88.6% owning a computer and 83.3% subscribing to broadband. Additionally, 13.6% of residents under age 65 have a disability, and 12.7% lack health insurance (U.S Census Bureau 2023) (Table 3).

Table 3 Summary of Selected Demographic Metrics for Blaine County, MT

U.S. Census Bureau Metric	Value
Population	
Population estimates, July 1, 2023, (V2023)	6,899
Population estimates base, April 1, 2020, (V2023)	7,044
Population, percent change - April 1, 2020 (estimates base) to July 1, 2023, (V2023)	-2.1%
Population, Census, April 1, 2020	7,044
Population, Census, April 1, 2010	6,491
Age and Sex	
Persons under 5 years, percent	6.7%
Persons under 18 years, percent	28.3%
Persons 65 years and over, percent	17.5%
Female persons, percent	49.2%
Race and Hispanic Origin	
American Indian and Alaska Native alone, percent	50.1%
White alone, percent	46.2%
White alone, not Hispanic or Latino, percent	44.6%
Hispanic or Latino, percent	3.0%
Two or More Races, percent	2.9%
Asian alone, percent	0.3%
Black or African American alone, percent	0.5%
Housing	
Housing Units, July 1, 2023, (V2023)	2,826
Owner-occupied housing unit rate, 2019-2023	63.2%
Median value of owner-occupied housing units, 2019-2023	$124,900

U.S. Census Bureau Metric	Value
Median selected monthly owner costs -with a mortgage, 2019-2023	$1,302
Median selected monthly owner costs -without a mortgage, 2019-2023	$392
Median gross rent, 2019-2023	$689
Building Permits, 2023	0
Families & Living Arrangements	
Households, 2019-2023	2,297
Persons per household, 2019-2023	2.96
Living in same house 1 year ago, percent of persons age 1 year+, 2019-2023	89.7%
Language other than English spoken at home, percent of persons age 5 years+, 2019-2023	8.6%
Computer and Internet Use	
Households with a computer, percent, 2019-2023	88.6%
Households with a broadband Internet subscription, percent, 2019-2023	83.3%
Health	
With a disability, under age 65 years, percent, 2019-2023	13.6%
Persons without health insurance, under age 65 years, percent	12.7%
Income & Poverty	
Median household income (in 2023 dollars), 2019-2023	$65,050
Per capita income in past 12 months (in 2023 dollars), 2019-2023	$27,817
Persons in poverty, percent	20.5%

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 Blaine 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.

Blaine County features diverse topography that includes the Little Rocky Mountains and the Bears Paw Mountains, interspersed with rolling plains, coulees, and buttes. Elevations in the county range from approximately 2,300 feet along the Missouri and Milk Rivers to over 5,000 feet in the mountainous regions. The highest point is Lloyd Benchmark, reaching 5,980 feet above sea level. The terrain is characterized by steep slopes and open meadows. Particularly in the mountainous areas, 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).

Blaine County is primarily drained by the Milk River from the northwest to the southeast and its dominate tributaries include Clear Creek, Snake Creek, and Beaver Creek. These waterways are largely dependent on snowmelt from the surrounding highlands making them highly susceptible to

seasonal variations and drought conditions. The county falls within the Missouri River Basin and contributes to several sub-basins, notably the Middle Milk sub-basin (Hydrologic Unit Code 10050004). The Milk River provides irrigation to support agriculture and water for municipalities in the area (NRCS 2020).

Climate

Annual precipitation in Chinook averaged roughly 13.7 inches between 1991-2020 with May and June being the wettest months and December through February being the driest. The average annual minimum temperature is 29.7°F and the average annual maximum temp is 56.7°F, however, the area is prone to extreme temperatures ranging from -40°F to 100°F (PRISM Climate Group 2020; NRCS 2020). The prevailing winds in Blaine County primarily come from the southwest (Western Regional Climate Center 2002). The average annual wind speed ranges from 12 – 19.5 mph, though stronger gusts are common with little variation between seasons (Georesearch Inc. 1985; National Renewable Energy Laboratory 2004).

Vegetation

In the context of fire management, vegetation is often referred to as fuels and heavily influences fire behavior and resultant intensity and severity. Vegetation in Blaine 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).

Blaine County is represented by 63 EVT models, with the four most prevalent models representing over 70% of the land area (LANDFIRE 2023a). Existing Vegetation Type models that cover 5% or less land area, and/or represent non-burnable areas such as rock, scree, and urban pavement are included as "other" in the table below. The four vegetation types listed in Table 4 are the most common in Blaine County.

Table 4 Existing Vegetation Type in Blaine County

LANDFIRE Existing Vegetation Type (EVT)	Area (acres)	Percentage of Blaine County
Northwestern Great Plains Mixedgrass Prairie	1,135,570	42
Western Cool Temperate Wheat	389,769	14
Inter-Mountain Basins Big Sagebrush Steppe	306,708	11
Northwestern Great Plains-Black Hills Ponderosa Pine Woodland and Savanna	143,849	5
Other[1]	735,288	28
Total	**2,711,184**	**100**

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

Northwestern Great Plains Mixedgrass Prairie

Northwestern Great Plains Mixedgrass Prairie, in which grasses and forbs dominate, is the largest EVT present in Blaine County, representing 42% 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 14% of Blaine County, making it the second largest EVT in the county (Table 4). This EVT is comprised of agricultural lands cultivating cool-season, wheat crops that are typically broadcast or drill-seeded resulting in close-grown rows that are cured before harvest (NRCS 2015). Without extensive irrigation or with irrigation in disrepair, these lands can become an abundant supply of continuous fuels with extremely low fuel moisture, increasing wildfire risk (NRCS 2020). Harvesting in late summer and early fall also poses a risk via increased ignition potential during the hottest and driest time of year.

Inter-Mountain Basins Big Sagebrush Steppe

Inter-Mountain Basins Big Sagebrush Steppe represents 11% of the total county area (Table 4). It is made up of mostly grasses, forbs, and shrubs. Big sagebrush (*Artemisia tridentata* spp*.)* and western wheatgrass (*Pascopyrum smithii)* are dominant species in this EVT. Thread-leaf sedge (*Carex filifolia)* and needleleaf sedge (*Carex duriuscula)* are also present (Kittel, Reid, and Schulz 2015). This EVT has historically had high severity stand replacement fires with a fire return interval of 0-35 years. Fire frequency in this EVT is highly variable due to its wide range in topography, climate, and available fuel. The contemporary fire regime suggests that the overall frequency of fire is reduced, but the frequency of large, high severity fires has increased. Human activities such as grazing 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 is also a concern in sagebrush systems due to fire exclusion, as fire historically killed encroaching conifers (Kittel, Reid, and Schulz 2015). Woody encroachment increases the size, continuity, and abundance of surface fuels, contributing to larger wildfires.

Northwestern Great Plains-Black Hills Ponderosa Pine Woodland and Savanna

Northwestern Great Plains-Black Hills Ponderosa Pine Woodland and Savanna is the fourth largest EVT present in Blaine County, representing 5% of the total county area (Table 4). This system is dominated by ponderosa pine (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*) with an understory of bluebunch wheatgrass (*Pseudoroegneria spicata*) where little to no shrubs are present (Reid and Schulz 2018). Historically, this EVT experienced frequent low-severity surface fires with a fire return interval ranging from 5 to 15 years. However, fire suppression has altered the fire regime and species composition of these systems. In the absence of fire, trees expand with younger cohorts dominating the understory of mature individuals. This increases the fuel loads of the system where fire is less frequent and often becomes intense crown fires, which can kill mature ponderosa pines (Reid and Schulz 2018).

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. Their impacts on fire behavior fuel models correspond

to predicted fire behavior and effects through variables such as Rate of Spread (ROS) and flame length, which influence fire intensity (Scott and Burgan 2005).

Blaine County is represented by 25 fuel models, with three of those dominating the landscape. GR2, NB3, and GS2 fuel models cover nearly 90% of the total acreage of Blaine 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 56% of the land area in Blaine 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 Wheat EVT, represent 22% of the land area in Blaine County (Table 5). 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 Blaine County, 12% of the land area is dominated by GS2 fuels (Table 5).

Table 5 Fuel Model Acreage in Blaine County

Fuel Model (Scott and Burgan 2005)	Area (acres)	Percentage of Blaine County
GR2 – Low Load, Dry Climate Grass	1,519,352	56
NB3 – Agricultural	605,529	22
GS2 – Moderate Load, Dry Climate Grass-Shrub	317,446	12
Other[1]	268,857	10
Total	2,711,184	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 76 recorded wildfires in Blaine County history, burning a total of 245,010 acres. The Blaine County fire (1991) burned roughly 136,372 acres, and the Welder fire (2012) burned roughly 32,961 acres, making them the two largest fires within the county (NIFC 2025b). Of the recorded wildfire ignition causes in Blaine County, most (75%) are unknown, with 22% attributed to natural causes such as lightning and 3% attributed to human causes (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 in order to meet their needs, though such deviations must be reasonable and 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, Blaine 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 Blaine County WUI is comprised of the 'Functional WUI' data layer developed by MT DNRC and Pyrologix, LLC. as well as the additional components determined by the Core Team during the CWPP update process (MT DNRC and Pyrologix 2022). Map 1 in Appendix C displays the 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.

[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.

Core Team Determined Additional Components

Additional community resources and critical travel ways were identified by the Core Team that could 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.

- **Roads Critical to Ingress/Egress** includes segments from the following roads that were not already included in the Functional WUI with a ½-mile buffer (1-mile total width):
  - Bentel Divide
  - Birdtail
  - Cleveland Road
  - Hogeland Road
  - Hungry Hollow
  - Lloyd Road
  - Peoples Creek
  - Private Road (identified by Blaine County)
  - River Road – Route 6
  - Route 8
  - Route 12
  - State Highway 241
  - State Highway 338/Hogeland
  - State Highway 66
  - State Highway 66 – Route 8 Cut-Across
- **Cellular Towers** not included in the Functional WUI with a 1-mile buffer
- **Microwave Service Towers** not included in the Functional WUI with a 1-mile buffer
- **Tank Battery Farm and Natural Gas Compressor Stations** not included in the Functional WUI with a 1-mile buffer
- **Radio Antenna** not included in the Functional WUI with a 1-mile buffer

After identifying the extent of the Functional WUI and the overlapping WUI components within Blaine County, “holes” (non-WUI areas) within the WUI were refined. A more continuous WUI boundary that can be easily interpreted and implemented was created by including “holes” located inside the larger WUI polygon in they were less than 2,000 acres.

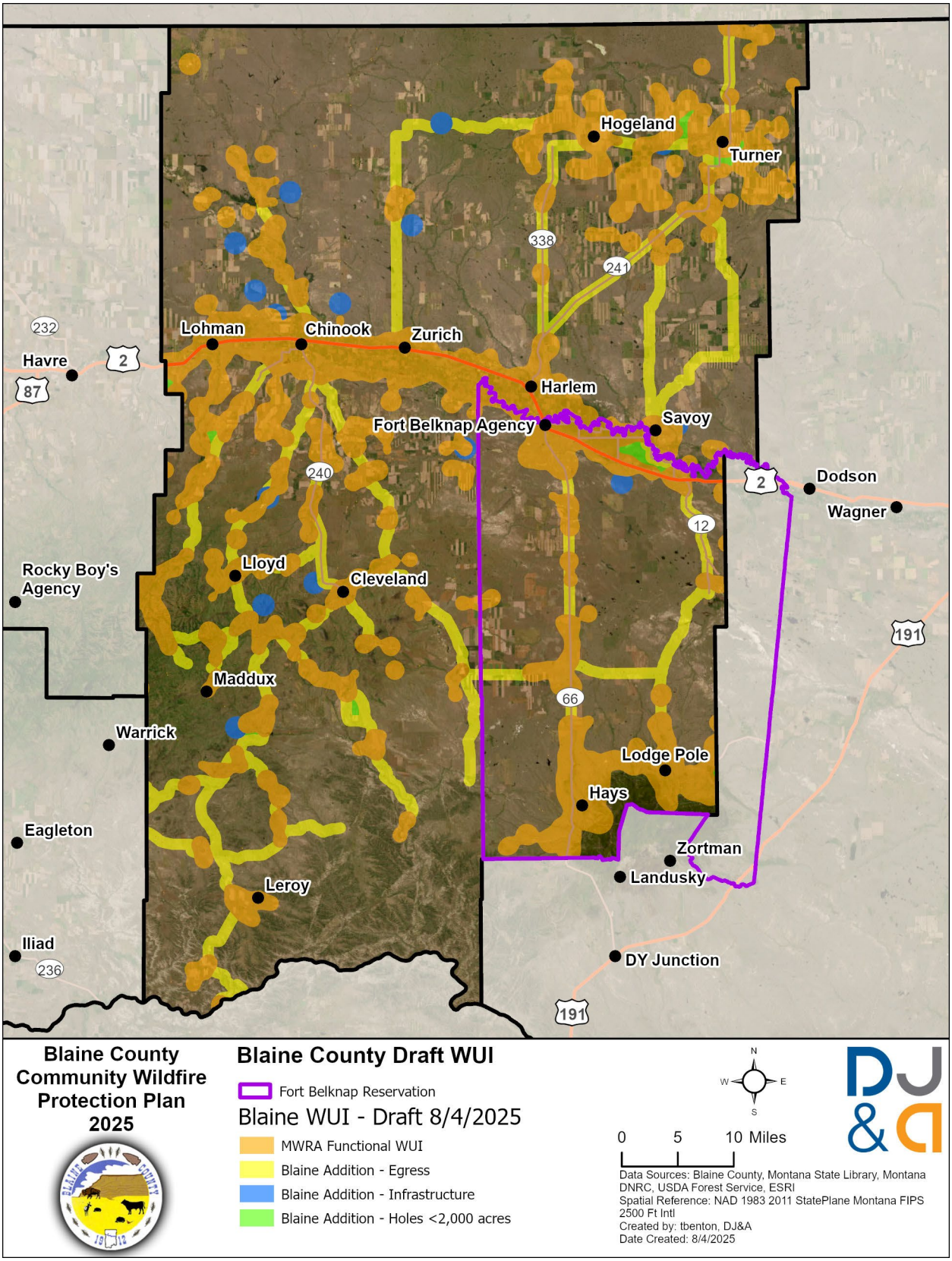

Figure 2 MT DNRC Functional WUI and Blaine County Additions

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 four 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':

- Chinook,
- Harlem,
- Hays, and
- Lodge Pole.

The Blaine County communities of Cleveland, Hogeland, Turner, and Zurich have been acknowledged as "at-risk communities" by the County. These communities meet the characteristics listed above and are included in the WUI boundary, though they are not currently acknowledged by HFRA as "at-risk."

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%, or less, of the state median household income. At the time of analysis, the social vulnerability score was 0.92 and the state median household income was $70,804 and the median household income for Blaine County was $65,050 (U.S Census Bureau 2023). Though underserved 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")" (MT DNRC 2023b). The relationships of these interrelated concepts are illustrated by Figure 3.

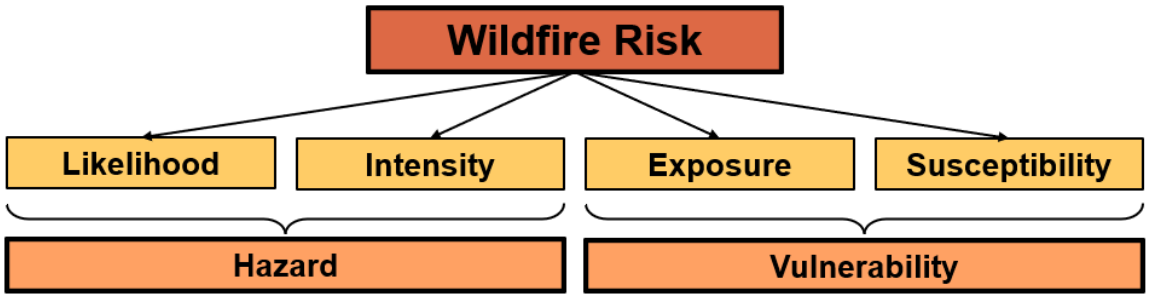

Figure 3 Components of Wildfire Risk

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 themselves 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 does occur (MT 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 (MT 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 (MT 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 Blaine County (Appendix E). Wildfire risk within the Community Base Map was evaluated using data and findings from the Montana Wildfire Risk Assessment (MT DNRC 2020).

Risk Assessment

The Montana Wildfire Risk Assessment was completed in 2020 by Pyrologix for the MT DNRC (MT 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 Blaine County. The MWRA considers various components that contribute to wildfire risk including likelihood of a fire burning, 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 Blaine 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 Blaine 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 Blaine 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 everywhere a fire should 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.

[2] https://mwra-mtdnrc.hub.arcgis.com/

Section 3: Implementation

3.1. Integrating the National Cohesive Strategy

The Federal Land Assistance, Management, and Enhancement Act of 2009 (FLAME) aimed 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 enhances 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 2023) 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 increase 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 when wildfires occur.

One step homeowners can take to become more fire adapted is 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, structure location, building age, construction 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[3], Ready, Set, Go![4], Keep Montana Green[5], and the Fire Adapted Learning Network[6] 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.[7] 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.[8,9]

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 mitigate wildfire risk on adjacent federal and state lands. Grant funding is available to private

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

landowners for fuels reduction through the DNRC Hazardous Fuels Reduction Grant.[10] 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 Blaine County to access more funding sources, including the Community Wildfire Defense Grant, to increase wildfire preparedness and mitigate wildfire risk (MT DNRC 2023a).

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 Blaine 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 Blaine 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, state, and tribal wildland firefighting resources supplied by the BLM, MT DNRC, and Fort Belknap Reservation. Mutual aid agreements are also in place among local fire departments and federal, state, and tribal 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's Implementation Plan includes detailed strategies and projects that support increased fire response capacity.

Figure 4 MT DNRC Firefighters lined up to cross the Missouri River into Blaine County

Preparation & Prevention

In Blaine County, wildfire preparation and prevention activities are a cooperative effort between city, county, state, federal, and tribal 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 such as fire restrictions or burn bans. Although fire is a natural part of the

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

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 Blaine County Dispatch.

Emergency Management

The Central Montana Regional Hazard Mitigation Plan (2024-Draft) provides a detailed overview of how the County has planned to respond to emergencies ranging from flood to wildfire. Within the plan, an evacuation strategy is outlined which can include both sheltering in-place or evacuations from a defined area, such as would apply in the case of a wildfire event. Coordination of firefighting, emergency medical services, and technical rescue activities in the event of an emergency such as wildfire is also outlined within the plan. The Emergency Management website also provides extensive resources to help individuals throughout the County learn more about available resources and proactively plan for emergency events.[11]

Post-Fire

Recovering from wildfire is a difficult task for communities. 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 causing flash flooding and slides. 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 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.[12]

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 action that serves to achieve a **Goal**.
>
> > **Strategy**: A method to achieve a specific **Objective.** Multiple **Projects** can be related 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 objectives to further specify each goal. These objectives are then narrowed down further

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

into a method 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 in 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 StoryMap 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 provide further guidance in their implementation using the Project Monitoring Form (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 (MT 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). The following formula was used: 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

Areas labeled as "non-Burnable" from the Risk layers, excluding water bodies, were identified as irrigated agricultural lands by the Core Team and given a priority level of "high" for fuel reduction projects.

Using these values, a spatial layer was developed to show prioritization across the WUI. This spatial mapping of priorities will allow Blaine 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).

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 Blaine 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 action that serves to achieve a **Goal**

Strategy: A method to achieve a specific **Objective.** Multiple **Projects** can be related 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 Blaine 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 Thin fuels 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 the 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 the 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 existing 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, landowners, and tribes to identify potential opportunities for collaboration

Strategy 3.3.2 Support the Fire Council 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 Form

Table 6 Blaine County Community Wildfire Protection Plan Update Action Plan

Project Name	CWPP Goal **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	Blaine County	1.2.3 and 3.5.1	Ongoing	Identify and assess critical ingress/egress routes in coordination with Blaine County Road and Bridge Department.
Public Engagement Programs	Goal 2	DNRC leading with County/City and other partners	2.1.1, 2.1.2, and 2.1.3	Ongoing	Implement education and outreach programs intended to further engage and educate County/City residents, particularly those living in the WUI, on reducing wildfire risk and increasing adaptation to wildfire.
Identify backup water sources	Goal 3	Blaine County, City of Chinook, City of Harlem Officials and Fire Chiefs	3.1.1	Ongoing	Continue work on a GIS layer of any water sources in the county. Develop new water supplies in rural areas for firefighting. Identify appropriate locations for the installation of dry hydrants to provide water for firefighting. Obtain a temporary water bladder(s) of 5,000 to 10,000 gallons.

Project Name	CWPP Goal **Goal 1**: Restore and Maintain Landscapes **Goal 2**: Fire-adapted Communities **Goal 3**: Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Review and Update County Communications Plan	Goal 3	Blaine County LEPC, Fire, Law Enforcement, EMS, and DES	3.4.1, 3.5.1	Ongoing	Review current communications plans and update them. Ensure adequate coordination among plans such that all county personnel can communicate effectively during an emergency.
Volunteer recruitment and retention	Goal 3	Blaine County Fire Chiefs, County and City Officials, and DNRC	3.5.1	Ongoing	As volunteers get older, there needs to be active efforts to recruit and retain new volunteers. Discussed the possibility of incentives of some sort for volunteers.
Develop a plan to communicate emergency messages/evacuation notices to County residents	Goal 3	Blaine County Sheriff's Office, Chinook Police Department, Blaine County Dispatch, County and City Officials, and DES	3.2.1	Ongoing	Make sure key personnel have the proper training on using Alertsense. Provide educational outreach to the public on Alertsense.
Implement fuel reduction measures along county roads and around communication sites within the WUI by cutting or mowing where feasible	Goal 1	Blaine County Road Department, City Public Works Departments	1.1.1	Ongoing	Make sure that fuel reduction is occurring around county and city public infrastructure.

Project Name	CWPP Goal **Goal 1**: Restore and Maintain Landscapes **Goal 2**: Fire-adapted Communities **Goal 3**: Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Use and enforce the Blaine County Burning Permit system	Goal 1	Blaine County Officials, Fire Chiefs, Fire Warden, and County Dispatch	1.1.1	Ongoing	Make sure that the burn permit process is up to date and used. Educate the public on this process.
Three Mile Ridge Lop and Scatter	Goal 1	BLM	1.1.1 and 1.2.3	Ongoing – Several years	Lop and scatter project along the Three Mile Road using contractor and BLM resources.
Bullwacker Contract Lop and Scatter	Goal 1	BLM	1.1.1 and 1.2.3	12/31/2025	Lop and scatter project in the Bullwacker area using contractors.
Proposed Projects					
Blaine CWPP Online StoryMap Maintenance	Goal 2	Blaine County	2.1.1 and 2.1.4	Summer 2025 - Ongoing	Maintain and update the StoryMap with CWPP updates and resources.
Create Post-Fire Plan	Goal 1	County (and Fire Council Group)	1.3.2	2025 – Ongoing	Create and maintain a post fire resource and action plan.
Fuel Reduction Projects	Goal 1	County (and other agencies)	1.1.1	Ongoing	Fuel reduction projects, with organic farmers on fence line weeds, and other areas with high or undesirable fuels.
VFD Equipment and Training Needs Evaluation	Goal 3	Fire Chiefs, Fire Warden, County and City Officials, and DNRC	3.5.1	2025 - Ongoing	Analysis of wildland fire response, equipment, and training needs.

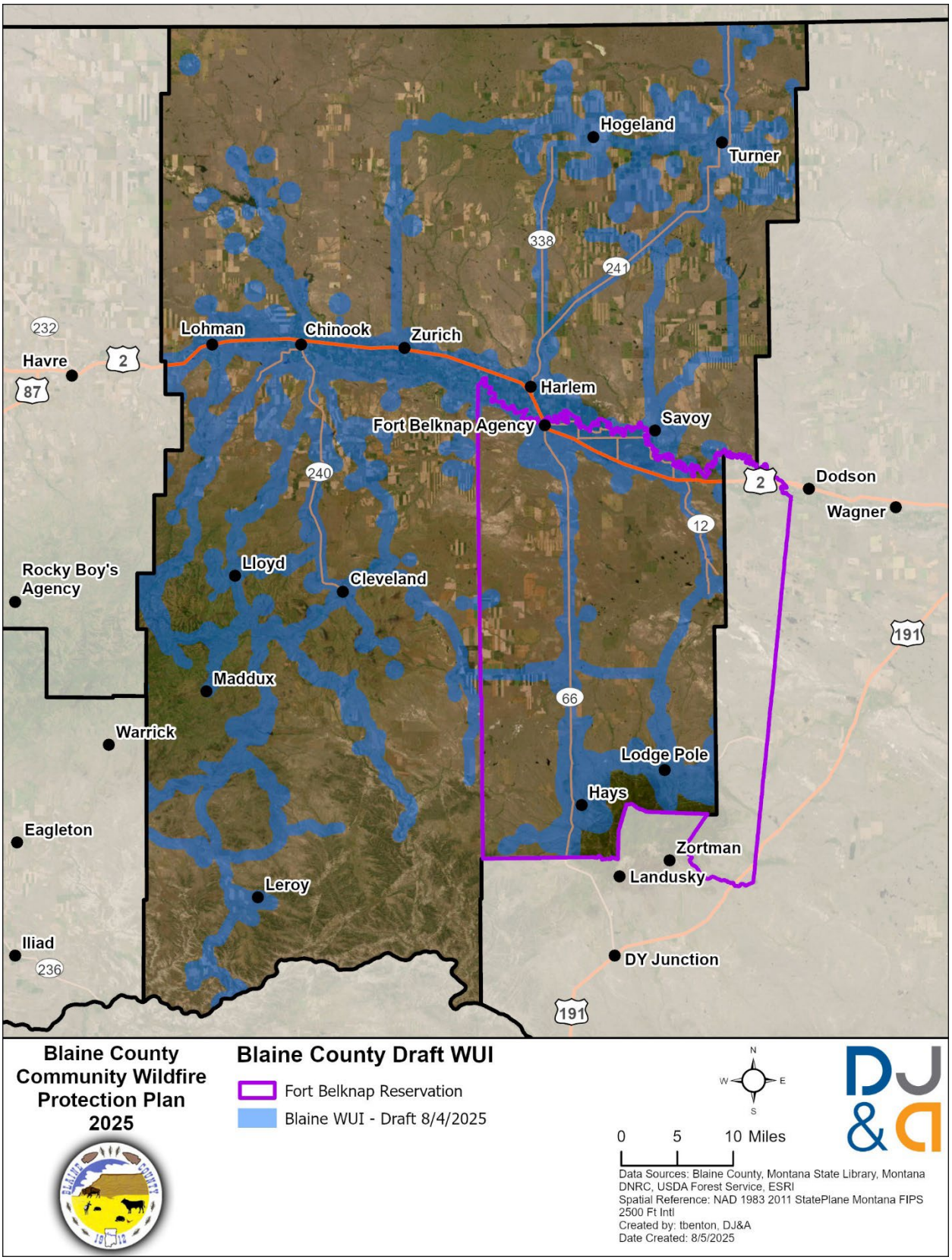
Project Name	CWPP Goal **Goal 1**: Restore and Maintain Landscapes **Goal 2**: Fire-adapted Communities **Goal 3**: Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
VFD Equipment	Goal 3	Fire Chiefs, Fire Warden, County and City Officials, and DNRC	3.5.1	5-year CIP	County Fire CIP List: Purchase of digital radios for Fire Engines and Fire Personnel New roof on the Chinook City/County Fire Hall Fire Hall extension and training/office room - Turner Fire Hall and Turner Fire Department well. Extension of Harlem Fire Hall New Fire Truck - Hogeland
VFD Training and Education	Goal 3	Fire Chiefs, Fire Warden and DNRC	3.5.1	Ongoing	Use County and cooperator expertise to meet training needs. Provide classes for farmers and ranchers.
CWPP Progress Report	Goal 2	DNRC leading with County (and other agencies)	2.1.5	Annually on CWPP sign date	Annual monitoring and updating of CWPP Action Table; reporting accomplishments and successes.

Project Name	CWPP Goal **Goal 1**: Restore and Maintain Landscapes **Goal 2**: Fire-adapted Communities **Goal 3**: Wildfire Response	Responsible Entity	CWPP Strategy	Estimated Date of Completion	Notes
Public Engagement Programs	Goal 2	DNRC leading with 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 Blaine County residents, particularly those living in the WUI, on reducing wildfire risk and increasing adaptation to wildfire.
Educate on the importance of treating the home ignition zone	Goal 2	DNRC leading with County (and other agencies)	2.1.1, 2.1.2, and 2.1.3	TBD	Communicate the importance of the HIZ to the public by using existing events to share the message or plan for one annual event to discuss wildfire preparedness.
Volunteer Recruitment and Retention	Goal 3	Blaine County/Fire Districts/DNRC	3.5.1	TBD	As volunteers get older or relocate, active efforts to recruit and retain new volunteers are needed. Seek opportunities for paid positions and/or volunteer incentives.

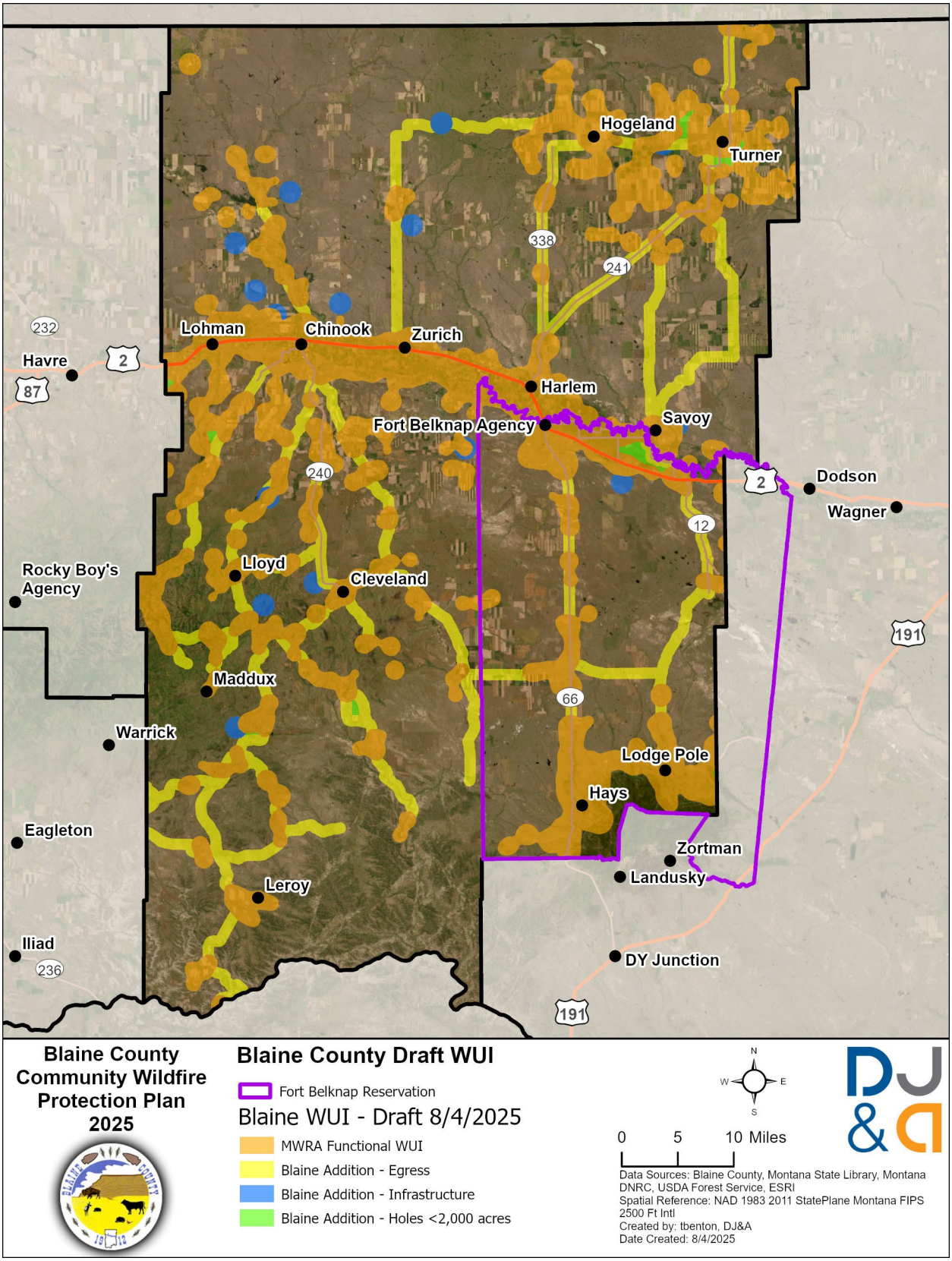
Table 7 Project Monitoring Form

Project Monitoring Form **Project Name:** **Project Reviewer/Date:** **Instructions:** Refer to the projects in the Blaine County Community Wildfire Protection Plan Update Action Plan to complete this form. This form should be completed for each project or phase of each project if phases are easily distinguishable.	
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?	

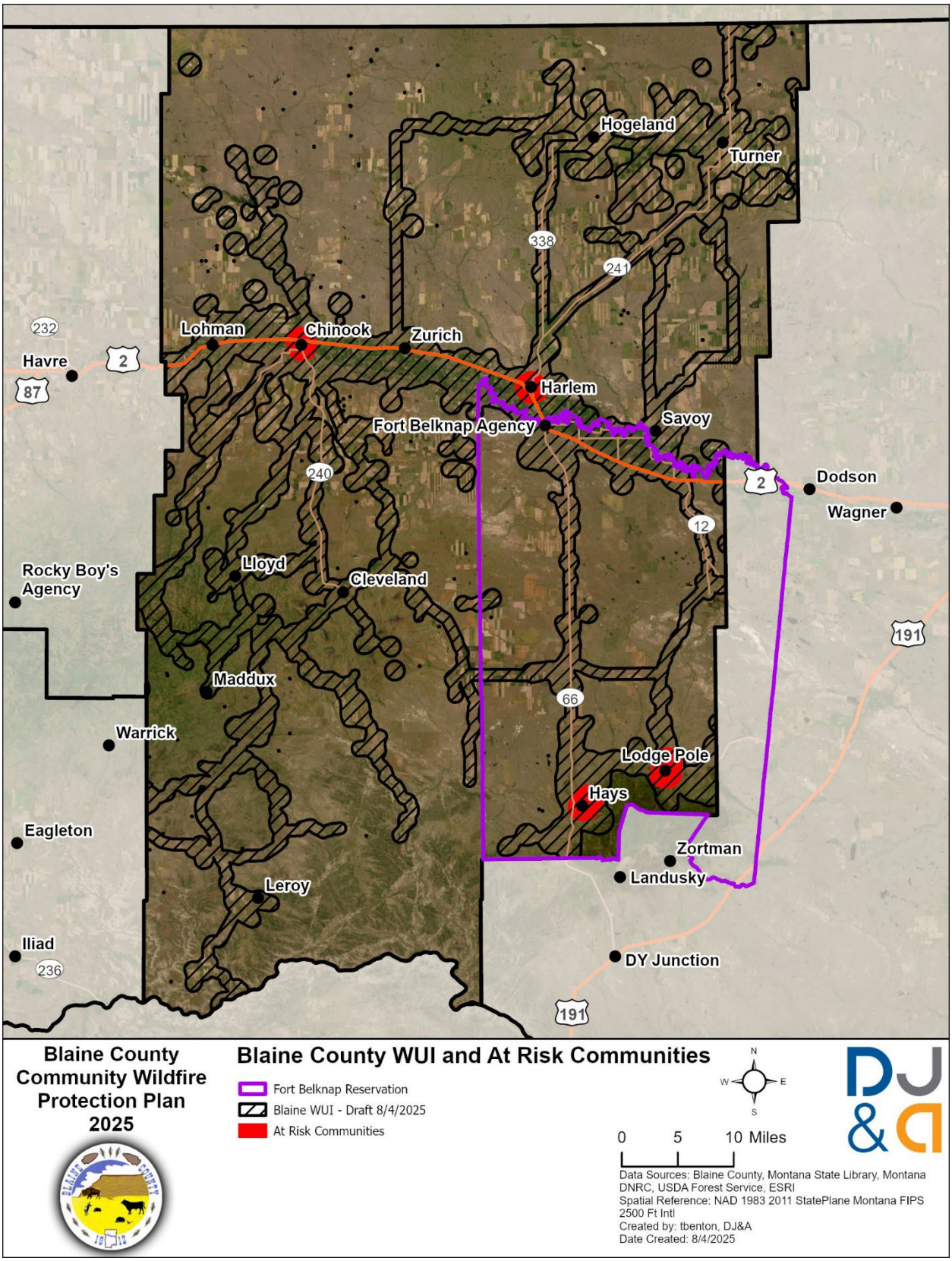
Appendix C: Maps



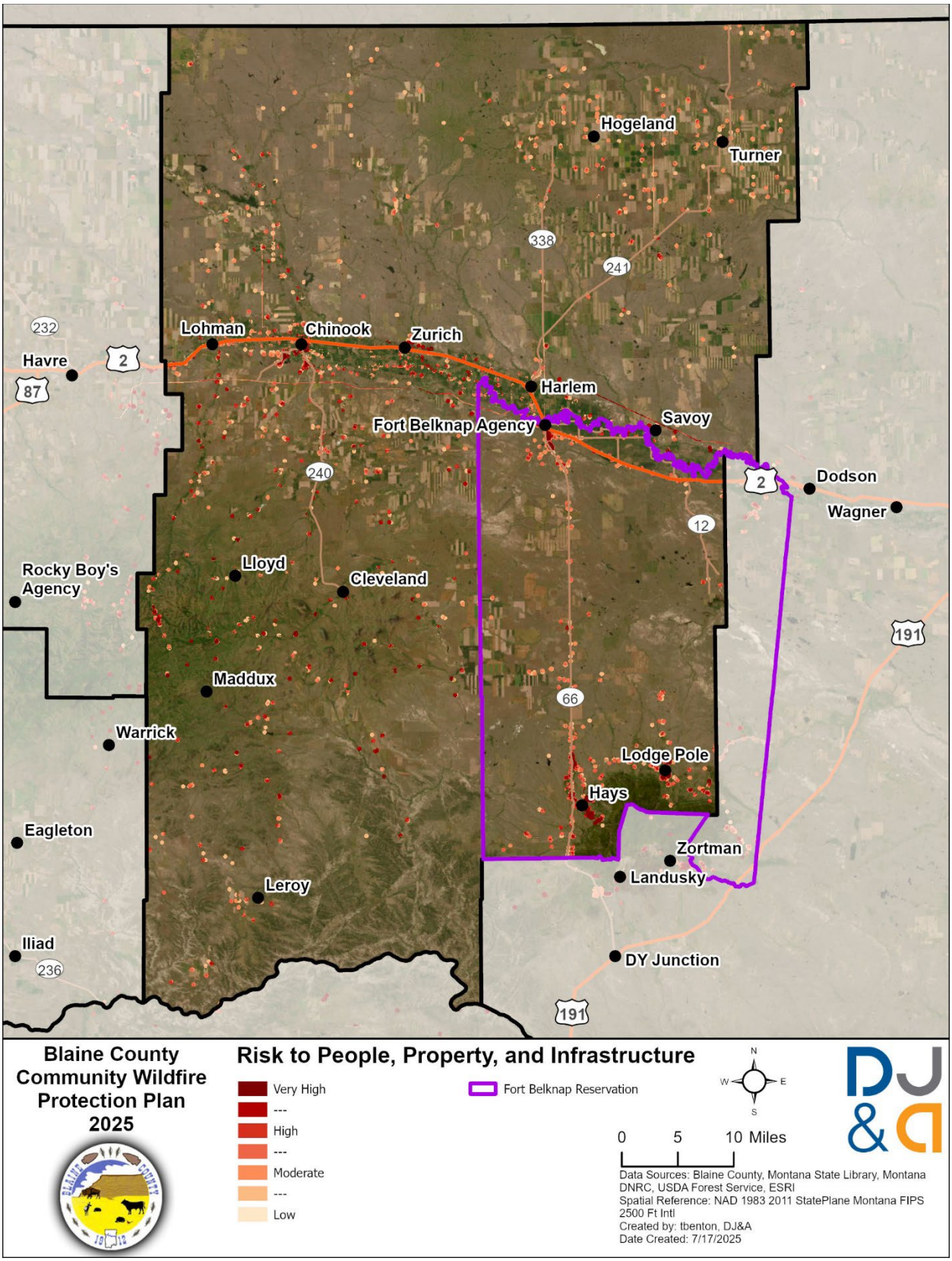
Map 1 Blaine County Draft WUI Areas



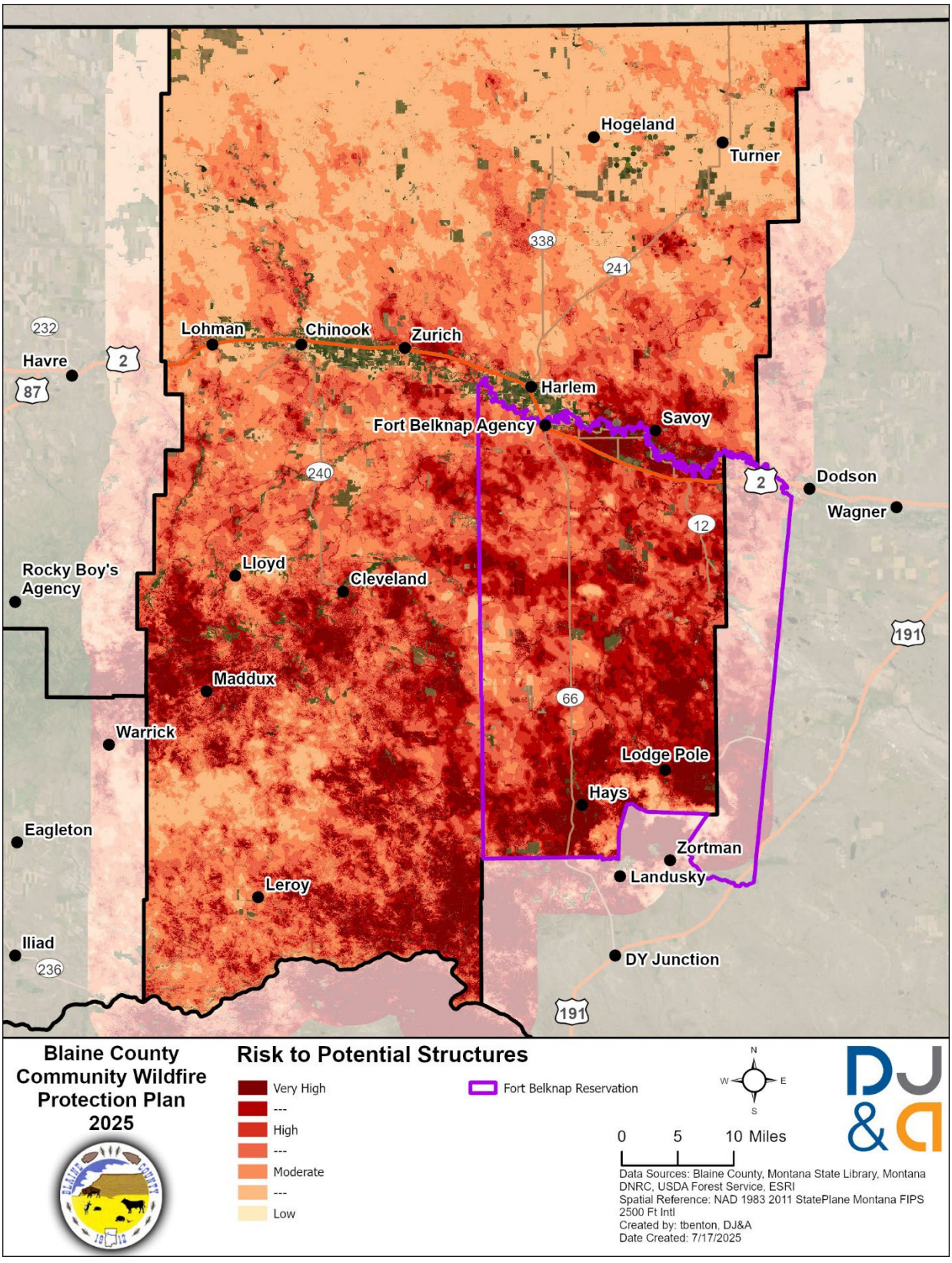
Map 2 MT DNRC Functional WUI and Blaine County Additions



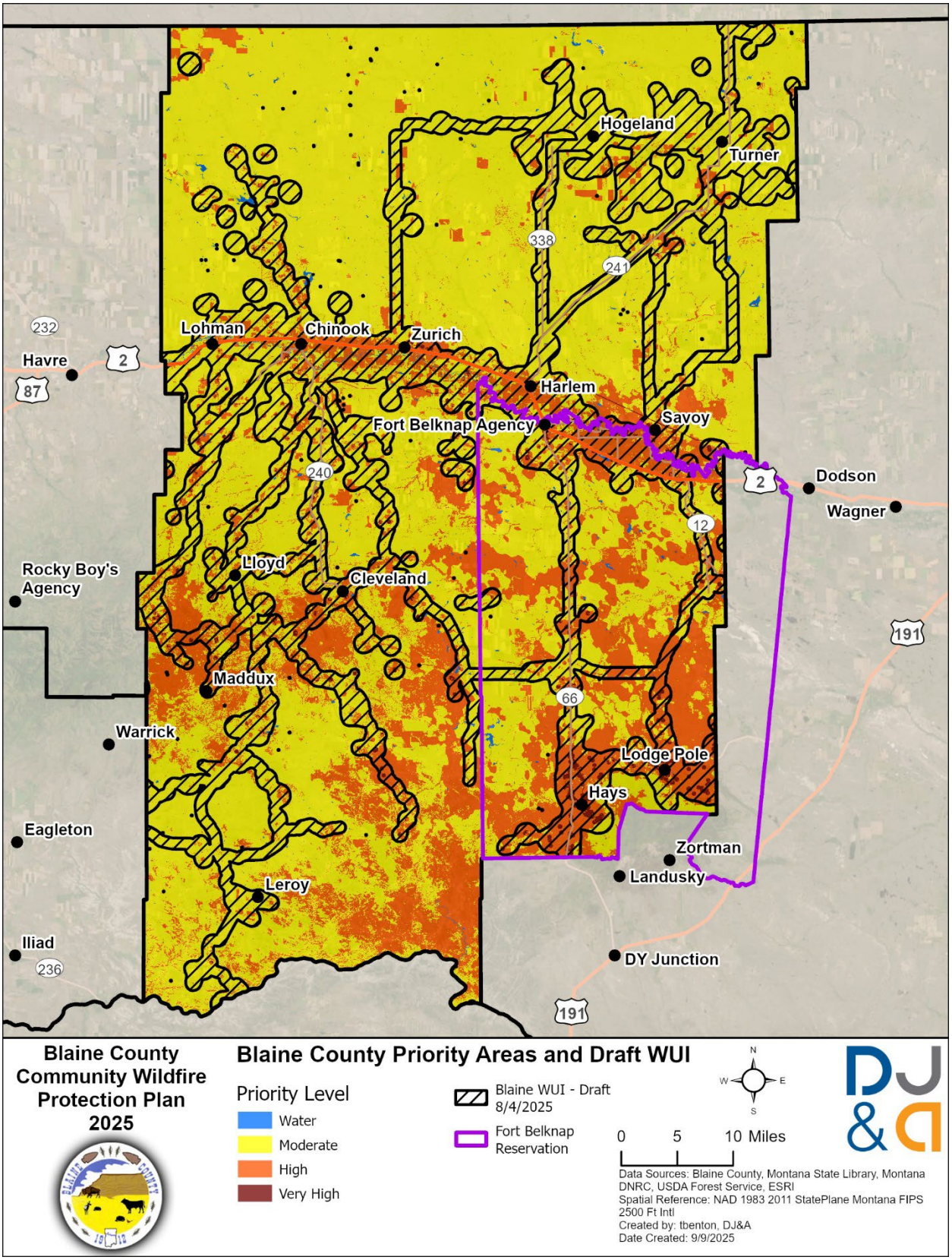
Map 3 Blaine County WUI Areas and At Risk Communities



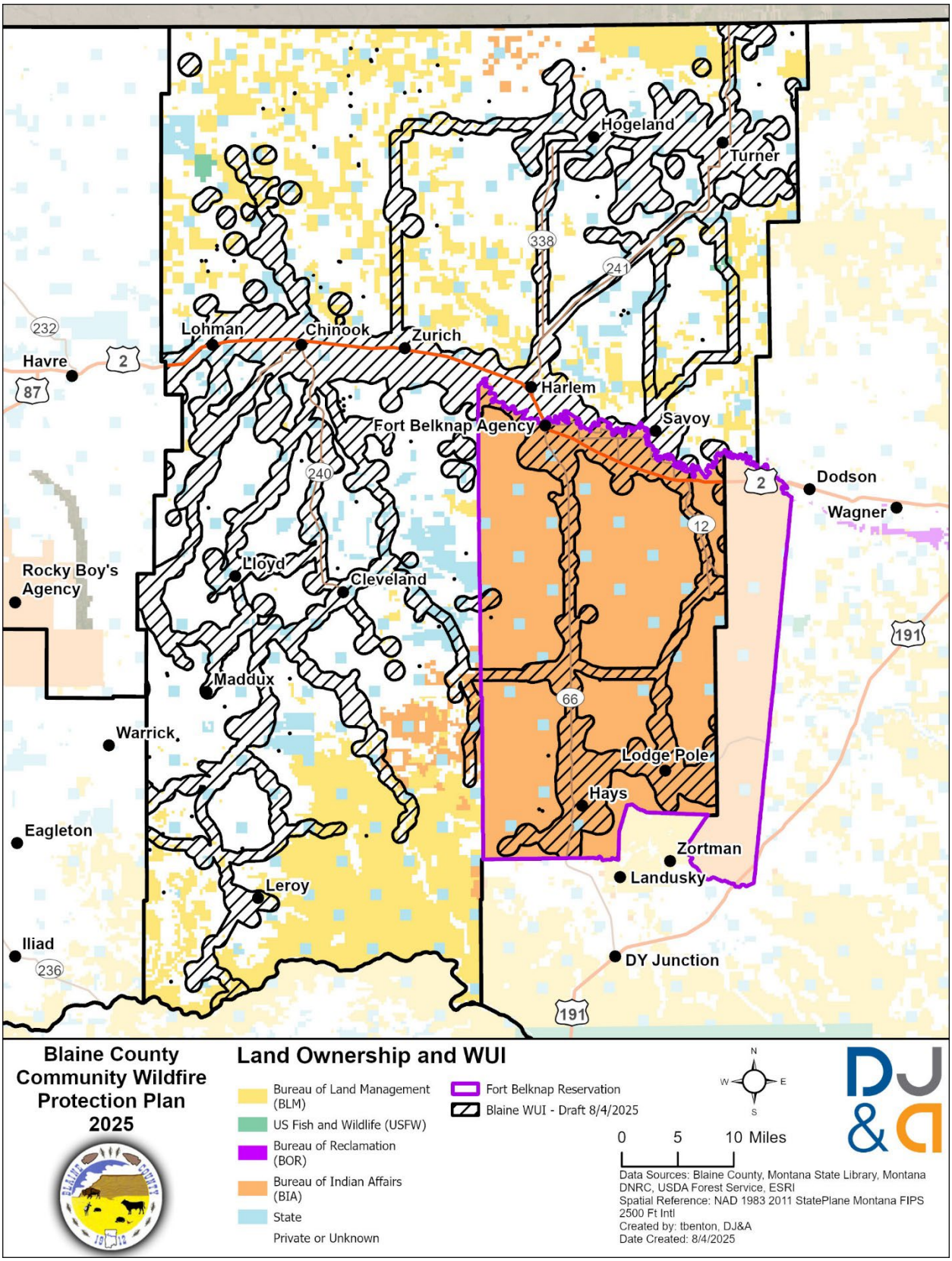
Map 4 Risk to People, Property, and Infrastructure (eNVC) in Blaine County



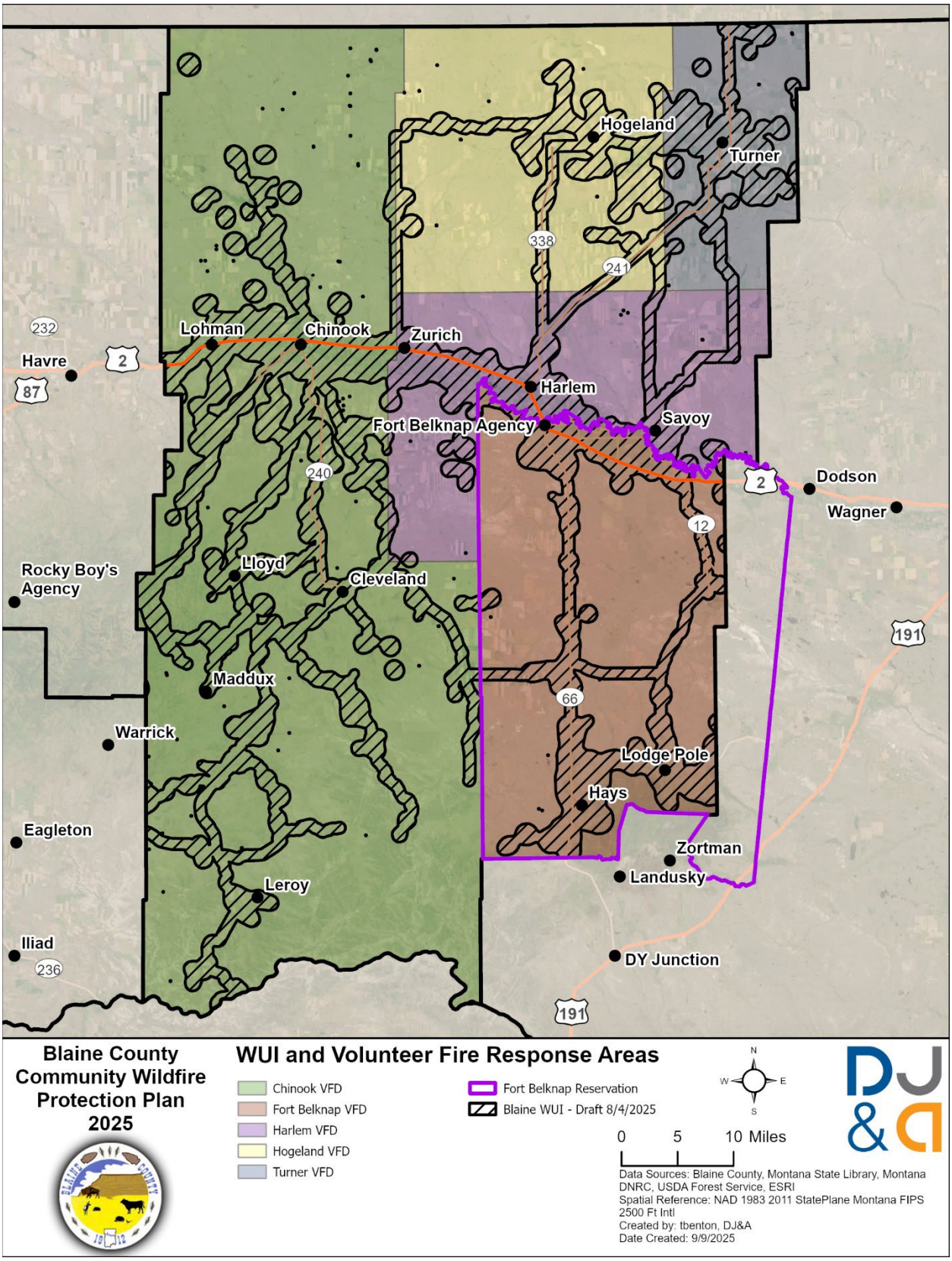
Map 5 Risk to Potential Structures (cNVC) in Blaine County



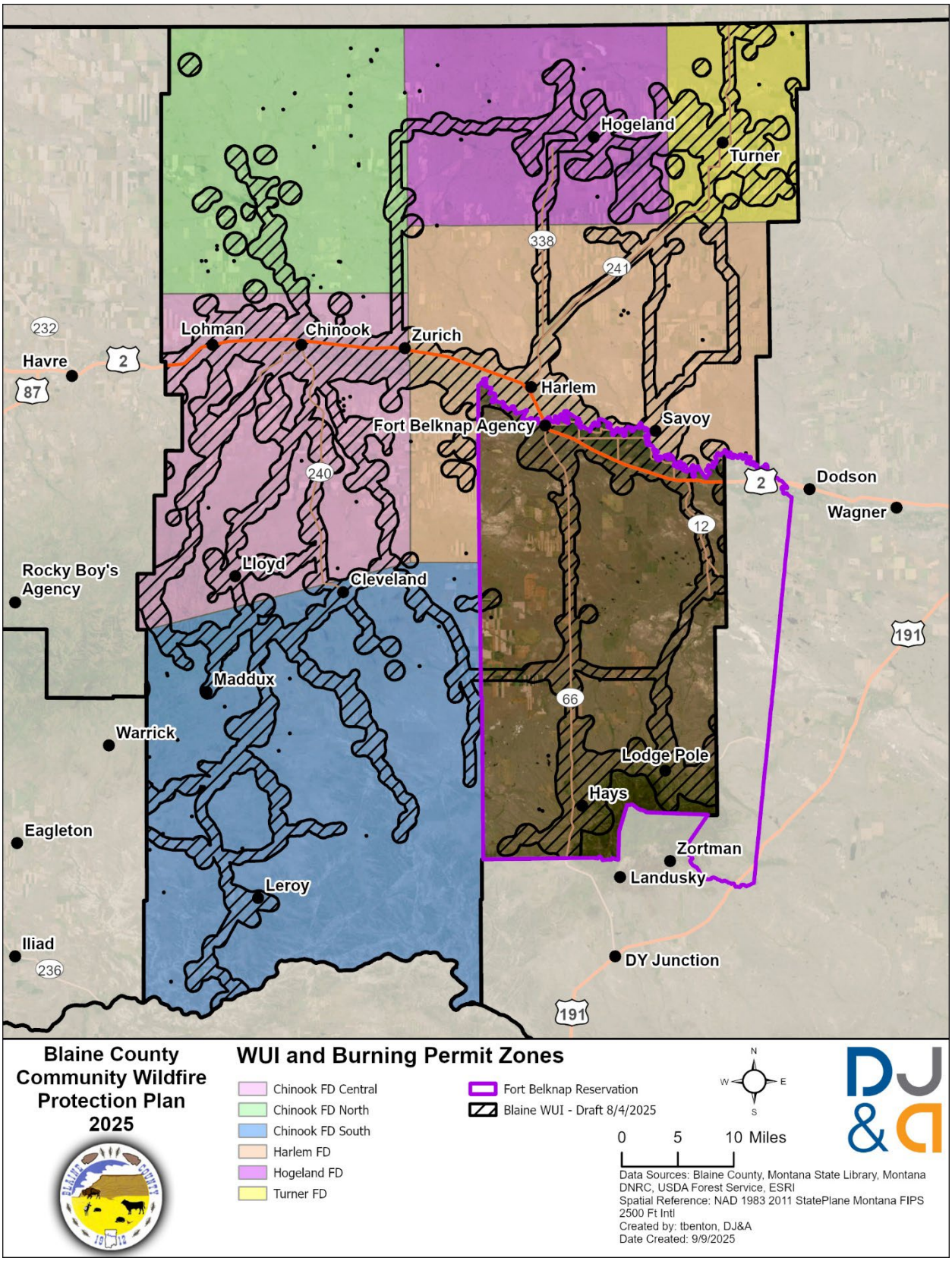
Map 6 Community Base Map with Priority Areas and WUI in Blaine County



Map 7 Land Ownership and WUI in Blaine County



Map 8 WUI and Fire Response Areas in Blaine County



Map 9 Blaine County WUI and Burning Permit Zones

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.	(MT DNRC 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.	(MT DNRC 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)
Fire Regime	Fire regimes describe and categorize patterns of fire ignition, seasonality, frequency, type (crown, surface, or ground fire), severity,	(USDA 2023)

Term	Definition	Source
	intensity, and spatial continuity (pattern and size) that occur in a particular area or ecosystem.	
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 measure 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, fluctuations vary considerably by species but are 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)
Probability (Wildfire)	Likelihood that a wildfire will burn a given point or area during a specified period of time.	(MT DNRC 2023b)

Term	Definition	Source
Rate of Spread (ROS)	The rate of spread, measured in chains per hour (ch/h), 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.	(MT DNRC 2020)
Susceptibility (Wildfire)	Propensity of an asset or resource to be damaged if a wildfire occurs.	(MT DNRC 2020)
Vulnerability (Wildfire)	A function of exposure and susceptibility.	(MT DNRC 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 measures).	(MT DNRC 2020)
Wildfire Risk	A function of wildfire hazard (probability and intensity) and vulnerability (exposure and susceptibility) of assets and resources.	(MT DNRC 2023b)

Appendix E: Wildland Urban Interface Summary Table

Table 8 Blaine 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	
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). • Bentel Divide • Birdtail • Cleveland Road • Hogeland Road • Hungry Hollow • Lloyd Road • Peoples Creek • Private Road (identified by Blaine County) • River Road – Route 6 • Route 8 • Route 12 • State Highway 241 • State Highway 338/Hogeland • State Highway 66 • State Highway 66 – Route 8 Cut-Across **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.
Additional Critical Infrastructure	**Description:** Includes critical infrastructure assets that were not included in the Functional WUI with a 1-mile buffer. Types of critical infrastructure include: • Cellular Towers • Radio Antenna • Microwave Service Towers • Tank Battery Farm and Natural Gas Compressor Stations

WUI Component	Definition
	Justification: Within Blaine County, critical infrastructure was identified through collaboration between the Core Team members. Types of critical infrastructure within the County include communication towers and pumping stations. **Data Source:** These additional sites were identified and digitized in GIS during a CWPP Core Team meeting, and a 1-mile buffer was applied.
Other Additions	**Description:** After identifying the extent of the Functional WUI and the overlapping WUI components within Blaine County, "holes" (non-WUI areas) within the WUI were refined. **Justification:** A more continuous WUI boundary that can be easily interpreted and implemented was required. **Data Source:** "Holes" located inside the larger WUI polygon less than 2,000 acres were included.