FERGUS COUNTY, MONTANA COMMUNITY WILDFIRE PROTECTION PLAN

September 2024

South Moccasins Fire, Photo courtesy of Cathy Barta

ACKNOWLEDGEMENTS

This Community Wildfire Protection Plan (CWPP) represents the efforts and cooperation of local citizens, organizations, and agencies, through the commitment of people working together to improve the preparedness for wildfire events.

FUNDED BY

This project was funded in part by the Montana Department of Natural Resources and Conservation and the US Department of the Interior's Bureau of Land Management.

Taylor Fire, Photo courtesy of Fergus County Sheriff's Office

SNOWY MOUNTAIN
DEVELOPMENT CORPORATION

Adopted by Fergus County Commission

Signature Page

ATTEST:

Clerk and Recorder

THE SEAL OF FERGUS COUNTY STATE OF MONTANA

BOARD OF COUNTY COMMISSIONERS
FERGUS COUNTY

Ross Butcher

Jennifer Saunders

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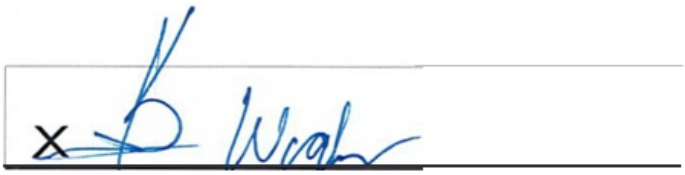
Collaborator Signature Page



Montana DNRC, Area Manager, NELO

Montana Department of Natural Resources and Conservation, Northeastern Land Office Area Manager

Fergus County Fire Council, Chair

Fergus County Fire Council, Chair

Document Version History

Community Wildfire Protection Plan (CWPP)

A CWPP is a planning document that helps a community prepare for a wildfire. It is a comprehensive and strategic plan developed for a community or group of communities in the wildland urban interface (WUI). It is developed in a collaborative framework established by the Wildland Fire Leadership Council and agreed to by state, tribal, local government, local fire department(s), other stakeholders, and federal land management agencies managing land in the vicinity of the planning area. The plan recommends wildfire risk reduction measures to protect people, property, and natural and cultural resources.

Author Contact Information

The technical writing of this plan was primarily written by Cathy Barta, in collaboration with Tonya Garber, both of Snowy Mountain Development Corporation with data and information provided by Fergus County, Montana Department of Natural Resources and Conservation (MT-DNRC), US Department of the Interior – Bureau of Land Management (BLM), the US Department of the Interior Fish and Wildlife Service (USFWS), and the US Department of Agriculture – Forest Service.

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Acknowledgments

Our team would like to thank everyone who contributed their time to this CWPP update, including representatives from the Montana Department of Natural Resources and Conservation (MT-DNRC), US Department of the Interior – Bureau of Land Management (BLM), the US Department of the Interior Fish and Wildlife Service (USFWS), the US Department of Agriculture – Forest Service (USFS), Fergus County Rural Fire Coordinator, Fergus County Road and Bridge Department, Fergus County Disaster and Emergency Services, and Snowy Mountain Development Corporation.

Contents

Executive Summary

In 2004, in collaboration with the Fergus County Wildland-Urban Interface Wildfire Mitigation Plan Committee which was initiated by the Fergus County Department of Emergency Services, developed a Community Wildfire Protection Plan (CWPP) and incorporated input from numerous stakeholders to help residents, neighborhoods, and communities mitigate potential threats from wildfire, with the goal of increasing wildfire resiliency and survivability.

In the past 20 years, changes have occurred across the county including new infrastructure like roads, powerlines, buildings, and housing. Additionally changes in fuels/vegetation have occurred including areas of conifer encroachment, land use changes that remove grazing, wildfires on the landscape, and forestry/fuels treatments near communities. These changes affect the way a community plans for fire and prompts the need for revisions.

The purpose of a CWPP is to outline the risks and hazards associated with a wildland fire to Fergus County communities and to identify potential mitigation measures. The Fergus County Community Wildfire Protection Plan (CWPP) is intended to provide documentation of implementing actions designed to reduce risk to homes and communities from wildfire through education and outreach programs, the development of partnerships, and implementation of preventative activities such as hazardous fuel reduction, ignition source mitigation, defensible space, land use, and/or building codes. The emphasis of this plan is to work from the home outward into the Wildland Urban Interface, so that man-made and natural resources survive the intrusion of a wildfire.

This plan is intended to:

1) Meet the requirements of the Healthy Forest Restoration Act (HFRA) of 2003,
2) Make the County eligible for National Fire Plan (NFP) funding assistance from the Departments of Agriculture and Interior (by meeting the requirements of HFRA),
3) Provide information to assist communities in developing fuel reduction projects on private and public lands,
4) Continue to serve as the Wildfire Hazard Mitigation portion of Fergus County's Multi-Hazard Mitigation Plan. This is required for counties to be eligible to receive FEMA disaster assistance funding.

This 2024 update includes efforts to create a more streamlined plan and a complete review of the mitigation recommendations to remove projects that may no longer be relevant, and to modify or add projects where changes have occurred. This plan update includes new information, renewed emphasis on the role of embers in wildfire spread, and potentials of climate change. This plan updates information on historic large fire starts in Fergus County, weather data, and fire ignition sources. This plan also includes updates to the fire district boundaries and staffing.

The Montana Department of Natural Resources and Conservation (MT-DNRC) and USDI Bureau of Land Management (BLM) provided funding for development of this plan. The successful development of the 2024 CWPP was made possible only with the active support and assistance of many people who devoted countless hours to the project. These

included citizens, MT-DNRC, BLM, Fergus County employees and supervisors, local fire chiefs, and Snowy Mountain Development employees.

Key Stakeholders and Collaboration

The Fergus County Commissioners, working collaboratively with the Montana Department of Natural Resources and Conservation and USDI Bureau of Land Management, solicited competitive bids from companies to provide the services of leading the plan update and writing the **Fergus County Community Wildfire Protection Plan (CWPP)**. The commissioners initially selected HydroSolutions to lead the effort and two stakeholder meetings were held to discuss roles and responsibilities. During the stakeholder meetings, Fergus County identified Snowy Mountain Development to lead the planning effort and transitioned the technical writing of the plan to them.

Key Stakeholders included:

Infrastructure
NorthWestern Energy (Powerlines and Natural Gas Pipeline)
Fergus Electric Cooperative (Powerlines)
Centurylink Communications
Triangle Communications
MidRivers Communications
T-Mobile (Cell Phone Towers)
Verizon Wireless (Cell Phone Towers)
AT&T Wireless (Cell Phone Towers)
City of Lewistown (Municipal Water Supply for Hydrant System within City Limits)
Department of Defense (DOD) Missile sites and command centers
Oil tanks
Railroad

Schools
Fergus County School Superintendent
Lewistown Public Schools
Grass Range Public Schools
Moore Public School
Roy Public School
Winifred Public School
King Colony Public School
Denton Public School

Emergency/Fire Response
Fergus County Fire Council
Beaver Creek/Cottonwood Volunteer Fire Department
Cheadle Volunteer Fire Department
Coffee Creek Volunteer Fire Department

Denton Volunteer Fire Department
Grass Range Volunteer Fire Department
Heath Volunteer Fire Department
Hilger Volunteer Fire Department
Lewistown Fire
Lewistown Rural Fire
Moore Volunteer Fire Department
North Fork Flatwillow Volunteer Fire Department
Roy Volunteer Fire Department
Winifred Volunteer Fire Department
Fergus County Sheriff's Office

Federal Land Management
USDA Forest Service – Lewis and Clark National Forest, Judith Ranger District
USDI Bureau of Land Management, North Central Montana District, Lewistown Field Office, and Upper Missouri River Breaks National Monument
USDI Fish and Wildlife Service, Charles M Russell National Wildlife Refuge

State Land Management
Montana Department of Natural Resources and Conservation
Montana Fish, Wildlife and Parks

Other Land Management Organizations
Fergus County Conservation District
Big Spring Watershed Group
American Prairie Reserve

Other Stakeholders
Lewistown Insurance
Montana Farm Bureau Insurance
State Farm Insurance

Connection to Plans and Agreements in Place

Fergus County has cooperative agreements for mutual aid fire response with the following counties: Pondera, Chouteau, Teton, Toole, Liberty, Glacier, Judith Basin, Wheatland, Golden Valley, Petroleum, Phillips, Blaine, Cascade, and Hill. The County also has agreements with the Blackfeet, Rocky Boy, and Fort Belknap Nations.

Fergus County has firefighting mutual aid agreements with the Montana Department of Natural Resources and Conservation and has a general mutual aid agreement with the USDI Bureau of Land Management. All fire districts within Fergus County are represented at the Fergus County Fire Council and mutual aid automatic agreements have been signed by the districts.

Montana Master Cooperative Wildland Fire Management and Stafford Act Response Agreement (2023 – 2027) hereafter known as the Six-Party Agreement, between the State of Montana – Department of Natural Resources and Conservation; and the United States Department of the Interior Bureau of Land Management, Montana/Dakotas State Office; National Park Service, Intermountain Region; Bureau of Indian Affairs, Northwest and Rocky Mountain Regions; United States Fish and Wildlife Service, Mountain-Prairie Region; United States Department of Agriculture Forest Service, Northern Region. This cooperative agreement details additional fire suppression support provided by the respective agencies of the agreement.

Fergus County Multi-Hazard Mitigation Plan
Fergus County Emergency Operations Plan – Wildfire Annex
National Cohesive Wildland Fire Management Strategy Addendum Update (Jan. 2023)
Fergus County Growth Policy (2022)

How Interagency Cooperation Works for Wildfire Response

Wildfire Originates On	Initial Attack[1] Response Provided by	Mutual Aid[2] Response Initiated by	Communications for Initial Attack Response	Challenges
Private Property AND Local Government Lands (County, City)	911 initiates local fire district response	Depending on size, may be initiated by 911 from adjacent fire district. Fergus County has a mutual aid agreement and automatic aid agreement that can be initiated by the fire warden with the consensus of the fire chiefs.	DES repeater channels *or* State Color Channels. This is determined by the incident commander.	Fire departments updating their communications plan, radio training, outdated/ unsupported equipment, training, and programming radios.
State of Montana Public Lands	911 initiates local fire district response, or Lewistown Interagency Dispatch Center (LIDC)	Dispatch center coordinates the mutual aid response depending on size or at request of the incident commander.	State Color Channels and/or DNRC Channels. State of Montana Mutual aid Plan.	Frequency coordination Training with the state plan
USDI – BLM Lands	911 initiates local fire district response, or Lewistown Interagency Dispatch Center (LIDC)	Dispatch center coordinates the mutual aid response depending on size or at request of the incident commander.	BLM Frequencies	Local Departments and Federal agencies may not have each other's frequencies. Lack of training in the use of the Montana Mutual Aid

[1] **Initial Attack** Definition: The Fireline Handbook describes initial attack as the action taken by resources (people and equipment) that are the first to arrive at the incident. All wildfires that are controlled by suppression forces undergo initial attack.
[2] **Mutual Aid** Definition: Reciprocal Fire Protection (Mutual Aid) is the Automatic initial attack response by suppression resources as specified in the Annual Operating Plan for specific pre-planned initial attack response areas and provided at no cost to the PROTECTING Party for the specified mutual aid period.

				Frequencies with all departments and agencies
USDI – USFWS Lands	911 initiates local fire district response, or Lewistown Interagency Dispatch Center (LIDC)	Dispatch center coordinates the mutual aid response depending on size or at request of the incident commander.	USFWS Frequencies	Local Departments may not have the correct federal frequencies.
USDA – Forest Service Lands	911 initiates local fire district response, or Lewistown Interagency Dispatch Center (LIDC)	Dispatch center coordinates the mutual aid response depending on size or at request of the incident commander.	BLM Frequencies	Local Departments may not have the correct federal frequencies.

Community Characteristics and Identified Risk(s)

Depreciating rosters, aging equipment, inadequate facilities, areas not covered by a fire district, and some bridges are identified as risks in this section. Fergus County covers 4,253 square miles or 2,765,685 acres and is located in the geographic center of Montana. It is 70 miles north to south at the longest distance and 90 miles across the longest distance east to west. There are five incorporated communities in the county which are the City of Lewistown (the county seat) and the towns of Denton, Grass Range, Moore, and Winifred. The county also has several unincorporated communities, the largest being Roy and Hilger.

Fergus County utilizes Hyper-Reach Mobile Phone Alert System and Reverse 911 Notification as the Emergency Alert Notification System for cell phone users. There are twelve fire districts, and four departments located within the county. The typical fire response is characterized by volunteer firefighters responding from their home or place of work to the fire station or staged apparatuses and then traveling to the incident. There are also multiple areas between the North Fork of Flatwillow, Grass Range, and Cheadle Fire Districts that are not covered by a fire district, as well as the southwest corner of Fergus County. Those areas fall under the protection of the neighboring Fire District as stated in the Mutual Aid Agreement by the Fergus County Fire Warden and the County Commissioners. The City of Lewistown is the only department with a combination paid/part paid department that provides staffing 24 hours/day, 7 days/week for both the City of Lewistown and Lewistown Rural Fire.

Fergus County adopted Road and Bridge standards in September of 2018 which identifies and requires all roadways to meet minimum standards. Most of the roads located in and maintained by Fergus County can be described as “Base Course Roads” which are constructed with gravel that is mixed with natural dirt substances of the surrounding area. The standard width of the road is between 20 – 24 feet with approximately 6 feet on each side, top sloping at a 3-to-1 angle away from the road. Most bridges (approximately 75%)

that are owned and maintained by Fergus County are constructed of combustible materials and may or may not be signed with weight restrictions.

Fire Council

The Fergus County Fire Council is comprised of representations from the Fire Chiefs of the twelve Rural Fire Districts and associated City fire departments in Fergus County that provide fire protection. State and Federal land management agencies actively participate in these meetings. These meetings are an opportunity for the local fire community to discuss resource and training needs, current fire conditions, communication, and other items of importance. The Fire Council has one part-time paid position, the position is PLT funded by the county. The Fergus County Fire Coordinator maintains the budget, work comp for districts, training needs, and administrative documents of the council.

Fire Districts		Fire Departments
Beavercreek/Cottonwood	(52,312 acres)	Denton
Cheadle	(150,085 acres)	Grass Range
Coffee Creek	(40,119 acres)	Lewistown
Denton	(308,298 acres)	Winifred
Grass Range	(291,761 acres)	
Heath	(75,097 acres)	
Hilger	(203,160 acres)	
Lewistown	(291,761 acres)	
Moore	(240,580 acres)	
North Fork/Flat Willow	(9,423 acres)	
Roy	(578,935 acres)	
Winifred	(538,066 acres)	

Fire Districts (See Map Appendix A for Fire District Boundaries and Station Locations)

Summary of Fire District(s) and Fire Department(s) Capabilities

An **ISO rating for fire departments is a score provided by the Insurance Services Office (ISO)** that reflects how well-prepared a community and area is for fires. The score is assigned based on how well the fire department can serve the community and is determined by analyzing data on factors such as emergency communication systems, fire departments, water supply, and community risk reduction. The score ranges from 1 to 10, with **lower numbers indicating a better score**.

Rural Fire District/Department	ISO Rating	Equipment	Volunteers on Roster	Challenges
Beaver Creek-Cottonwood Rural Fire District (2 stations – 1 on Beaver Creek and 1 on Cottonwood Creek)	10	3 - Type 6 Wildland Fire Engines	34	1) 12 on roster do not drive. 2) Water sources not mapped. 3 Increasing solar energy usage with lithium-ion battery storage creates a risk of thermal runaway and

Rural Fire District/Department	ISO Rating	Equipment	Volunteers on Roster	Challenges
				explosive gases that may exist during fires. 4) Outdated paging system. 5)Mod to High Anticipated growth in the next 10 years.
Cheadle Rural Fire District *Wildland Fire Engines are located at five different locations throughout the fire district.	10	5 – Type 6 Wildland Fire Engines 1 – Type 5 Wildland Fire Engine 1 – 1,500 Gal. Water Tender	30	1) Fire Chief is nearing retirement and no volunteers have stepped forward to take the role. 2)Winter months water delivery is limited to 1,000 gallons due to risk of freezing. 3) Water Sources not mapped. 4) Outdated paging system. 5)Mod to High Anticipated growth in the next 10 years.
Coffee Creek Rural Fire District	10	2 – Type 6 Wildland Fire Engine 2 – 1,800 Gal. Water Tenders	21	1) Water Sources not mapped. 2) Outdated paging system.
Denton Fire Department	5/5c	3 – Type 6 Wildland Fire Engines 1 – Type 5 Wildland Fire Engine 2 – Type 3 Wildland Fire Engines 1 – 1,800 Gal. Water Tenders 1 – 3,000 Gal. Water Tenders 1 – Command Vehicle	21	1) Water Sources not mapped. 2) Outdated paging system. 3)Mod anticipated growth in the next 10 years.
Grass Range Fire Department * Wildland Fire Engines are located at four different locations throughout the fire district.	10	5 – Type 6 Wildland Fire Engines 1 – Type 5 Wildland Fire Engine 1 – 900 Gal. Water Tenders 1 – 4,000 Gal. Water Tenders	31	1) N Bar Ranch is a privately owned property with its own Firefighting Equipment. 2) Water Sources not mapped.

Rural Fire District/Department	ISO Rating	Equipment	Volunteers on Roster	Challenges
				3) Outdated paging system. 4)Mod to High Anticipated growth in the next 10 years.
Heath Rural Fire District Heath has taken steps to improve their ISO rating and have a very active department administratively and functionally.	8B	2 – Type 6 Wildland Fire Engine 1 – Type 5 Wildland Fire Engine 1 – Type 4 Wildland Fire Engine 1 – 1,200 Gal. Water Tenders/ pumper 1 – 1,000 Gal. Water Tenders/ pumper 1 – 1,000 Water Tender 1 – 3,000 Gal. Water Tenders 1 – Bulldozer (450 JD) 1 – Excavator	19	1) Water delivery is reliant on Lewistown Hydrant and local reservoirs. 2) Water sources not mapped. 3) Outdated paging system4) Mod to High Anticipated growth in the next 10 years.
Hilger Rural Fire District * Wildland Fire Engines are located at one different location in the fire district.	10	4 – Type 6 Wildland Fire Engines 1 – Type 5 Wildland Fire Engine 1 – 2,000 Gal. Water Tenders 1 – 4,000 Gal. Water Tenders 1 – Type 3 Wildland engine	30	1) K-M Scout Ranch is located in the district. 2) Water Sources not mapped, or adequate for future growth potential 3)Mod to High Anticipated growth in the next 10 years. 4) Outdated paging system. 5) Inadequate facility for equipment and training.
City of Lewistown and Lewistown Rural Fire	3Y	2 – Type 5 Wildland Fire Engine 3 – Type 1 Structure Fire Engines 1 – Structure Ladder Engine 1 – 3,000 Gal. Water Tenders 1 – 1,800 Gal. Water Tenders 2 – Command Vehicles 1 – Hazardous Materials Response Trailer 1 – Rescue Truck	34	1) There are paid, part-paid and volunteer boards on the roster. 2) Water Sources mapped. Need flow tested 3) High Anticipated growth in the next 10 years.

Rural Fire District/Department	ISO Rating	Equipment	Volunteers on Roster	Challenges
		1 – Rescue Boat		
Moore Rural Fire District * Wildland Fire Engines are located at nine different locations throughout the fire district. Moore has an ambitious plan to expand their department in the district and building out stations and improving the city water supply. Currently they are building an out station in the community of Garniell and have absorbed large areas of the unprotected zone. They also helped Fergus County establish another communication site in the South Moccasins	10	9 – Type 6 Wildland Fire Engines 2 – Type 4 Wildland Fire Engines 1 – 1,100 Gal. Water Tenders 1 – 1,500 Gal. Water Tenders 1 – 3,000 Gal. Water Tender 1 – Command Vehicle	45	1) Increasing solar energy usage with lithium-ion battery storage creates a risk of thermal runaway and explosive gases that may exist during fires. 2) Water Sources not mapped. 3) Outdated paging system. 4)High Anticipated growth in the next 10 years.
North Fork of Flatwillow Rural Fire District	10	2 – Type 6 Wildland Fire Engines	5	1) Water Sources not mapped. 2) Outdated paging system.
Roy Rural Fire District * Wildland Fire Engines are located at four different locations throughout the fire district.	10	4 – Type 6 Wildland Fire Engines 2 – Type 5 Wildland Fire Engines 1 – 1,500 Gal. Water Tenders 1 – 1,500 Gal. Water Tenders 1 – Extrication Vehicle	27	1) Water Sources not mapped. 2) Outdated paging system. 3) Chief position has been vacant for 5 years. 4) Mod Anticipated growth in the next 10 years.
Winifred Fire Department * Wildland Fire Engines are located at three different locations throughout the fire district.	10	6 – Type 6 Wildland Fire Engines 1 – Type 5 Wildland Fire Engine 1 – 2,500 Gal. Water Tender	25	1) Hydrant system serves town but is not mapped. 2) Water delivery requires electricity – and generator **backup is in place**. 3) Outlaying areas water Sources not mapped.

Rural Fire District/Department	ISO Rating	Equipment	Volunteers on Roster	Challenges
				4) Outdated paging system. 5) Mod to High Anticipated growth in the next 10 years.

	Engine Type						
	Structure		Wildland				
Requirements	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Minimum tank capacity	300 US gal (1,100 L; 250 imp gal)	300 US gal (1,100 L; 250 imp gal)	500 US gal (1,900 L; 420 imp gal)	750 US gal (2,800 L; 620 imp gal)	400 US gal (1,500 L; 330 imp gal)	150 US gal (570 L; 120 imp gal)	50 US gal (190 L; 42 imp gal)
Minimum flow rate USGPM (L/S IMPGPM)	1,000 (63; 830)	500 (32; 420)	150 (9.5; 120)	50 (3.2; 42)	50 (3.2; 42)	50 (3.2; 42)	10 (0.63; 8.3)
Minimum pressure	150 psi (1,000 kPa)	150 psi (1,000 kPa)	250 psi (1,700 kPa)	100 psi (690 kPa)	100 psi (690 kPa)	100 psi (690 kPa)	100 psi (690 kPa)
Hose types							
2-½"	1,200 ft (370 m)	1,000 ft (300 m)	—	—	—	—	—
1-½"	500 ft (150 m)	500 ft (150 m)	1,000 ft (300 m)	300 ft (91 m)	300 ft (91 m)	300 ft (91 m)	—
1"	—	—	500 ft (150 m)	300 ft (91 m)	300 ft (91 m)	300 ft (91 m)	200 ft (61 m)
Pump and Roll	Sometimes	Sometimes	✓	✓	✓	✓	✓

Figure 1: Minimum Standards by Fire Engine Type per National Wildfire Coordinating Group (NWCG) Standards

Table 1: County Demographics

	Population	Median Income	Housing Units	Fire Department (Volunteer Fire Department – VFD)
Fergus County[3]	11,446	$52,941	6,013	See Below
Incorporated Towns and Cities of Fergus County				
City of Lewistown[4]	5,952	$37,588	3,107	Lewistown Fire
Town of Moore[5]	194	$35,536	101	Moore VFD
Denton[6]	205	$53,333	148	Denton VFD
Grass Range[7]	110	$40,250	91	Grass Range VFD

[3] https://data.census.gov/all?q=Fergus+County,+Montana
[4] https://data.census.gov/all?q=city+of+lewistown,+Montana
[5] https://data.census.gov/all?q=Moore+town,+Montana
[6] https://data.census.gov/all?q=Denton,+Montana
[7] https://data.census.gov/all?q=Grass+Range,+Montana

	Population	Median Income	Housing Units	Fire Department (Volunteer Fire Department – VFD)
Winifred[8]	172	$48,021	88	Winifred VFD
Unincorporated Communities of Fergus County				
Ayers Ranch Colony[9]	12	$52,941	4	Cheadle
Brooks[10]	18	$52,941	9	Hilger
Buffalo	No data	$52,941	No data	Moore
Christina	No data	$52,941	No data	Hilger
Coffee Creek[11]	22	$52,941	17	Denton VFD
Danvers[12]	16	$52,941	6	Moore
Deerfield Colony[13]	48	$52,941	No data	Hilger
Eddies Corner	No data	$52,941	No data	Moore VFD
Denton CCD[14] (outside of town limits)	305	$60,250	319	Denton VFD
Forest Grove	No data	$52,941	No data	Grass Range
Garneill	No data	$52,941	No data	Moore
Giltedge	No data	$52,941	No data	Cheadle
Glengarry	No data	$52,941	No data	Moore/ Lewistown
Grass Range CCD[15] (outside of town limits)	561	$53,036	283	Grass Range VFD
Hanover[16]	655	$88,815	307	Moore VFD
Heath	No data	$52,941	No data	Heath VFD
Hilger[17]	24	$52,941	17	Hilger VFD
Hoosac	No data	$52,941	No data	Denton
King Ranch Colony	No data	$52,941	No data	Moore
Lewistown CCD[18] (outside of city limits)	3,053	$48,078	1,527	Varies
Lewistown CPD[19] (Lewistown Heights)	364	$76,905	175	Lewistown Rural Fire
Maiden	No data	$52,941	No data	Hilger
Piper	No data	$52,941	No data	Cheadle/ Lewistown
Ross Fork	No data	$52,941	No data	Moore
Roy CCD[20]	248	$65,625	180	Roy
Spring Creek Junction	No data	$52,941	No data	Moore
Suffolk	No data	$52,941	No data	Winifred
Straw	No data	$52,941	No data	Moore
Tyler	No data	$52,941	No data	Cheadle
Valentine	No data	$52,941	No data	Roy

[8] https://data.census.gov/all?q=Winifred,+Montana
[9] https://data.census.gov/all?q=Ayers+ranch+colony,+Montana
[10] https://data.census.gov/all?q=Brooks,+Montana
[11] https://data.census.gov/all?q=Coffee+creek,+Montana
[12] https://data.census.gov/all?q=Danvers+CDP,+Montana
[13] https://data.census.gov/all?q=Deerfield+Colony+CDP,+Montana
[14] https://data.census.gov/all?q=Denton+CCD,+Fergus+County,+Montana
[15] https://data.census.gov/all?q=Grass+Range+CCD,+Fergus+County,+Montana
[16] https://data.census.gov/all?q=Hanover+CCD,+Fergus+County,+Montana
[17] https://data.census.gov/all?q=Hilger+CDP,+Montana
[18] https://data.census.gov/all?q=Lewistown+CCD,+Fergus+County,+Montana
[19] https://data.census.gov/all?q=Lewistown+Heights+CDP,+Montana
[20] https://data.census.gov/all?q=Roy+CCD,+Fergus+County,+Montana

	Population	Median Income	Housing Units	Fire Department (Volunteer Fire Department – VFD)
Ware	No data	$52,941	No data	Moore

CCD: Census County Divisions (CCDs) are a subset of county subdivision defined by the US Census Bureau, in cooperation with local officials, for states which do not have sub-county governmental units. (https://censusreporter.org/glossary/)

CPD: Census Designated Places (CDPs) are a subset of the place summary level. CDPs have no legal status or government but are identifiable by name. The boundaries of CDPs are usually defined in cooperation with local officials and are subject to revision at each decennial census. (https://censusreporter.org/glossary/)

Vulnerable Populations

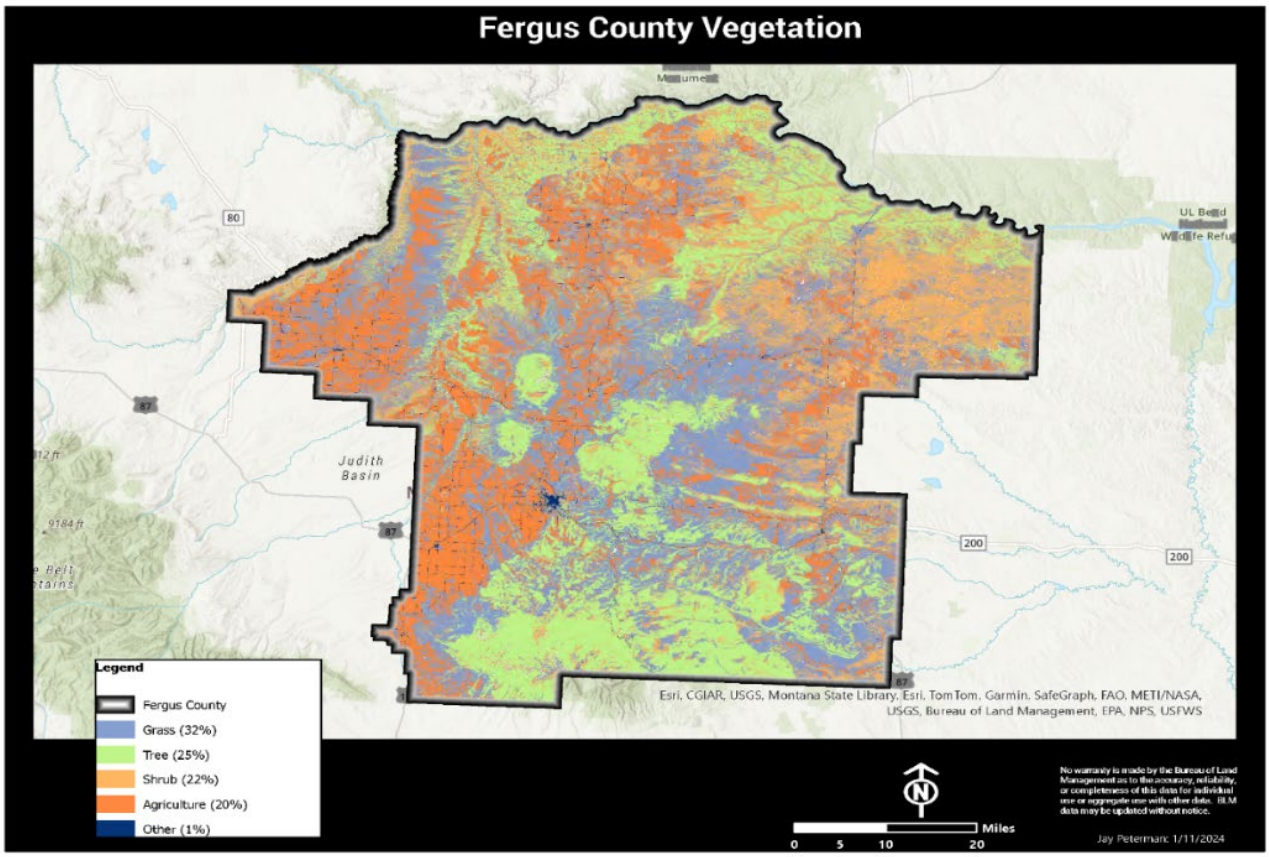
Headwaters Economics data for 2021 indicates that 24% of the population is over the age of 65 and 9% of the households in Fergus County do not have a vehicle.

Vegetation Types in Fergus County

Vegetation types play a key role in how intense a fire can become. Grass, brush, and timber are the three common types. Each has its own burning characteristics based on several inherent factors. Where grass is a light fuel which will burn fast and produce flame lengths which could be fatal, the duration is short and spotting limited. Timber, on the other end of the spectrum, can spread as a low intense surface fire when it has been treated, or burn in multiple layers as a catastrophic stand-replacing fire, generating the most intensity, spotting, and damage.

The Bureau of Land Management provided data from remote sensing satellite imagery that identifies the following vegetation in Fergus County: grass (32%), timber (25%), shrub (22%), agriculture (20%) and other for the built environment (1%).

Figure 2: Fergus County Vegetation Map, courtesy of USDI BLM



Land Description

Fergus County is situated in the central region of Montana and is made up of a diverse landscape including cropland, grazing land, mountain ranges, rivers, breaks, and a multitude of perennial and intermittent streams. The agricultural and rangelands are mostly flat or undulating gentle rolling hills. Topography in the northern boundary of the county along the Missouri River Breaks area consists mostly of breaks.

The Missouri River acts as the northern boundary for the county with the Big and Little Snowy Mountains being the southern boundary. Additional mountain ranges include the Moccasins and Judith's, all surrounded by coulees, and the central plains. Arrow Creek and Judith River Basin flow north to the Missouri River whereas McDonald and Flatwillow Creek flow easterly, providing importance to the agricultural industry, recreational opportunities, ecosystem services, and wildlife habitat in the area.

The Big Snowy Mountains are a small mountain range south of Lewistown. About 112,000 acres of the Big Snowy Mountains are roadless, the bulk of this on the Lewis and Clark National Forest, as well as 6,870 acres in the Twin Coulees Wilderness Study Area on adjacent BLM land. 98,000 acres of the National Forest land are also a Wilderness Study Area. The Big Snowy Mountains

feature a long, relatively level east-west summit ridge, rising above timberline, which culminates in Greathouse Peak, the highest point in the range.

The dominant tree species in all the island mountain ranges of the county include ponderosa pine, douglas-fir, and subalpine fir on the heavily forested north slopes. The south slopes tend to be drier with more frequent ponderosa pine stands. Topography in the mountains range from very steep slopes of 70% or greater in the higher elevations of the Big Snowy Mountains, smoothing out to undulating gentle slopes in the lower elevations along the foothills. The dominant tree species in the Breaks include ponderosa pine, douglas-fir, and rock mountain juniper. The Breaks are characterized by badlands, which are described as a type of dry terrain where softer sedimentary rocks and clay-rich soils have been extensively eroded. The area also has steep slopes, vegetation, lack of a substantial regolith, and high drainage density. Ravines, gullies, buttes, hoodoos, and other such geologic forms are common. They are very steep and in areas have heavy fuel loading very similar to the island mountain ranges. The breaks also have the Upper Missouri River National Monument, Dog Creek WMA, MFWP Beckman Wildlife Management Area, and USFWS Charlie Russell Wildlife Refuge.

Climate/Weather

Climate factors influence weather factors that contribute to fire behavior. Specific weather factors affecting fire behavior are temperature, relative humidity, and wind.

Fergus County has a semi-arid climate, with hot summers and cold winters. The average temperature in the summer is 79 degrees Fahrenheit, while the winter average is 25 degrees Fahrenheit. Precipitation is sparse, averaging around 13 inches per year. Snowfall usually occurs during late fall through the early spring months, with an average of 48 inches annually. Relative humidity varies throughout the year and can fluctuate dramatically with frontal passages. In the drier summer months of July/August, the relative humidity will frequently be in the single digits in the northern part of the county in the Missouri Breaks area, and often in the low 20's throughout the rest of the county. The average wind speed of Fergus County is approximately 12 mph, with the prevailing direction being from the southwest.

The northern part of the county along the Missouri Breaks and eastern portion near Roy and Grass Range tend to be drier with higher daily average temperatures and less moisture.

Weather conditions most adverse to fire control, such as strong, gusty winds, turbulence, and lightning storms, occur in frontal zones which are common during dry periods of the fall and winter months. Often, there is insufficient moisture in the air mass, so that no precipitation occurs with the front. Strong, gusty, and shifting winds are typical of these dry frontal zones, adding greatly to the difficulty of fire control. Many historic large damaging fires in Fergus County have occurred as a result of these frontal conditions during late fall or early winter.

Wildfire Risk

The dry climate, xeric vegetation, and prevalence of hot and windy conditions in Fergus County create an environment that will sustain fire spread for many months of the year including the fall and winter months. This increases the probability that ignition sources from both natural (lightning) causes and human causes will find a receptive fuel bed. Natural ignitions are most likely to occur during summer storms over the high ridges and mountains of the Big and Little Snowy Mountains.

Human ignitions can stem from numerous activities, including debris burning, fireworks,

cigarettes, welding, powerlines, campfires, and agricultural work. Included in human ignition sources are fires sparked by vehicles or hot catalytic converters. Ignition profiles also include fires sparked by downed power lines or malfunctioning transformers. All these potential ignition sources and the dry nature of vegetation in Fergus County increase the potential for fire occurrence.

Risk assessments delineate risk into classes (e.g., low, moderate, high, and very high) based on several factors. Community stakeholders, including first responders, policymakers, elected officials, and neighborhood groups use this information to inform their activities. It's important to keep in mind that classifications such as "low" and "moderate" risk do not mean that there is no risk. Many wildfires occur in areas other than "high" or "very high" risk areas and can have negative consequences. For this reason, communities should consider all risk when discussing potential wildfire impacts. Ultimately, a community must determine what level of risk is acceptable and make appropriate risk reduction decisions.

Understanding Wildfire Risk

Fire risk assessment is an essential element of fire safety management. This aims to identify potential fire hazards, the people who may be affected, evaluate the risks associated with the perceived hazard, and implement measures to eliminate or, at the very least, reduce those risks.

Another metric related to risk is wildfire exposure. This refers to the spatial intersection of wildfire likelihood and intensity with something of value. In the case of this community assessment, we can measure the potential structures exposed to wildfire as well as the source areas that result in wildfire exposure to structures.

Several strategies in this CWPP promote policies, regulations, education, and outreach programs that focus on addressing the structure ignition zone. These strategies aim to reduce home, business, and other property losses during a wildfire. To help achieve this, strategies may also be required in local codes.

For additional tips on reducing structural vulnerability, visit the FireSafe Montana Ignition Resistant Construction Guide (available on Firesafemt.org), or https://www.nfpa.org/en/education-and-research/wildfire/preparing-homes-for-wildfire.

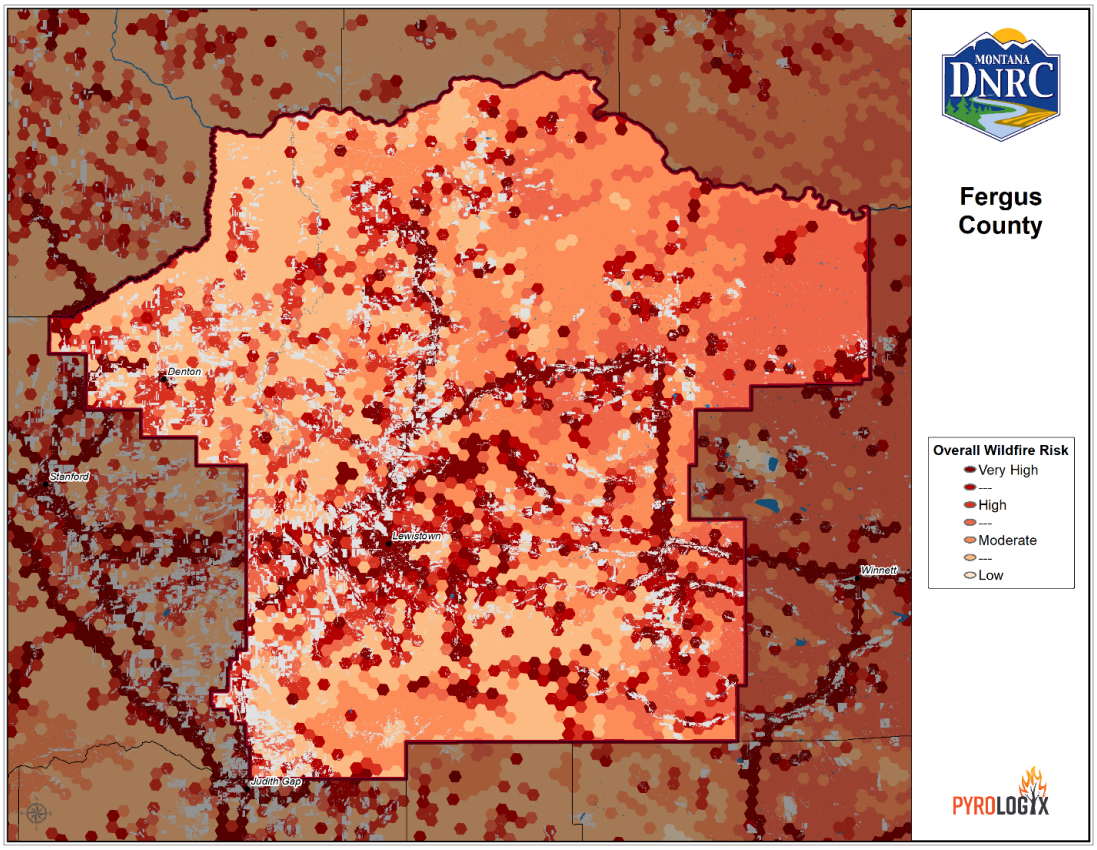


Figure 3: Overall Wildfire Risk Map; Fergus County Wildfire Risk Assessment as provided by Pyrologix, LLC to Montana DNRC (Dec. 15, 2022)

Wildfire Risk

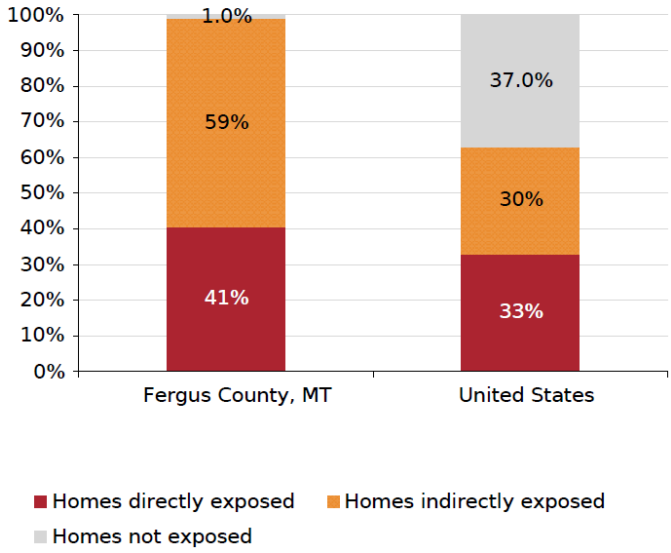
Fergus County, MT

Wildfire Exposure

	Fergus County, MT	United States
Percent of Total		
Homes directly exposed	41.0%	33.0%
Homes indirectly exposed	59.0%	30.0%
Homes not exposed	1.0%	37.0%

Exposure of Homes to Wildfire

- 41% of homes in Fergus County, MT are exposed to wildfire from direct sources, such as adjacent flammable vegetation.
- 59% of homes in Fergus County, MT are exposed to wildfire from indirect sources, such as embers or home-to-home ignition.



https://headwaterseconomics.org/apps/economic-profile-system/

The Risk to Homes data integrates wildfire likelihood and wildfire intensity from simulation modeling. These two risk components represent wildfire hazard. In other words, it is assumed all homes that encounter wildfire will be damaged, and the degree of damage is directly related to wildfire intensity. The report does not account for homes that may have been mitigated.

An individual home's ability to survive wildfire is driven primarily by local conditions (known as the "home ignition zone"), including the construction materials and the vegetation in the immediate area. The only way to truly assess home susceptibility is through individual home assessments. Communities can reduce their risk to homes by reducing wildfire likelihood, wildfire intensity, exposure, and susceptibility. For example, fuel treatments may reduce wildfire likelihood or intensity, exposure may be reduced through land use planning tools, and susceptibility may be reduced by mitigating the home ignition zone, home hardening, and land use planning tools.

Wildfire Threat to Homes

Most homes are lost in wildfires for one of three reasons:

1) Burning embers (burning needles, leaves, branches & cones that are carried by the wind during a wildfire) landing on combustible roofs, entering attics and crawl spaces, or landing on combustible material adjacent to the structure. Embers are by far the main cause of home ignitions during wildfires.
2) Radiated heat from burning vegetation, structures, or materials on the property that cause ignition of the structure's siding or breaking of the windows and ignition to the interior.
3) Combustible fuels (e.g. grass, pine needles, woodpiles, rubbish, furniture, propane tanks, and mats) immediately adjacent or attached to the structure allowing fire to spread directly to siding, fences, and decks.

Figure 4: Denton Fire, Photo by Tracy Lewellen, Fergus County Sheriff's Office

Embers and a lack of defensible space has been identified as the most critical factor to home loss in many of Montana's most destructive wildfires. The 2021 Denton Fire (Westwind Fire) destroyed 25 homes and burned 10,000 acres. The South Moccasin Fire of the same year burned 11,000 acres just north of the City of Lewistown, fortunately no one was injured, and no structures were burned. The Taylor fire also burned 20,000 acres that same year and narrowly missed burning a primary residence.

Extensive wildland fire research by Jack Cohen, a US Forest Service Researcher, and others indicate that experiments in fire modeling, crown fire, and case studies show that the characteristics of a home and its immediate surroundings determine a home's ignition potential during wildland fires. Roofing material and the presence of defensible space plays a key role in determining the survivability of a structure in the passing of a wildfire. Defensible space can also affect firefighter safety and thus their decision on whether to commit resources to protect a structure.

Wildland Urban Interface

The wildland-urban interface (WUI) is the zone of transition between unoccupied land and human development. It is the line, area, or zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. Communities adjacent to and surrounded by wildland are at varying degrees of risk from wildfires. In the rural agricultural setting, this description may include barns, calving sheds, shops, water troughs, irrigation lines, corrals, bulk fuel storage and multi-use out buildings.

In 2004 when the first Fergus County WUI map was developed. The concept was to have two WUI boundaries, an "Adjacent WUI" and an Extended WUI", (0-.75 and.75 to 1.5 mile respectively). Consequently, the GIS program generated WUI's with circles around the Communities at Risk (CAR's) identified in the Federal Register, using the above criteria.

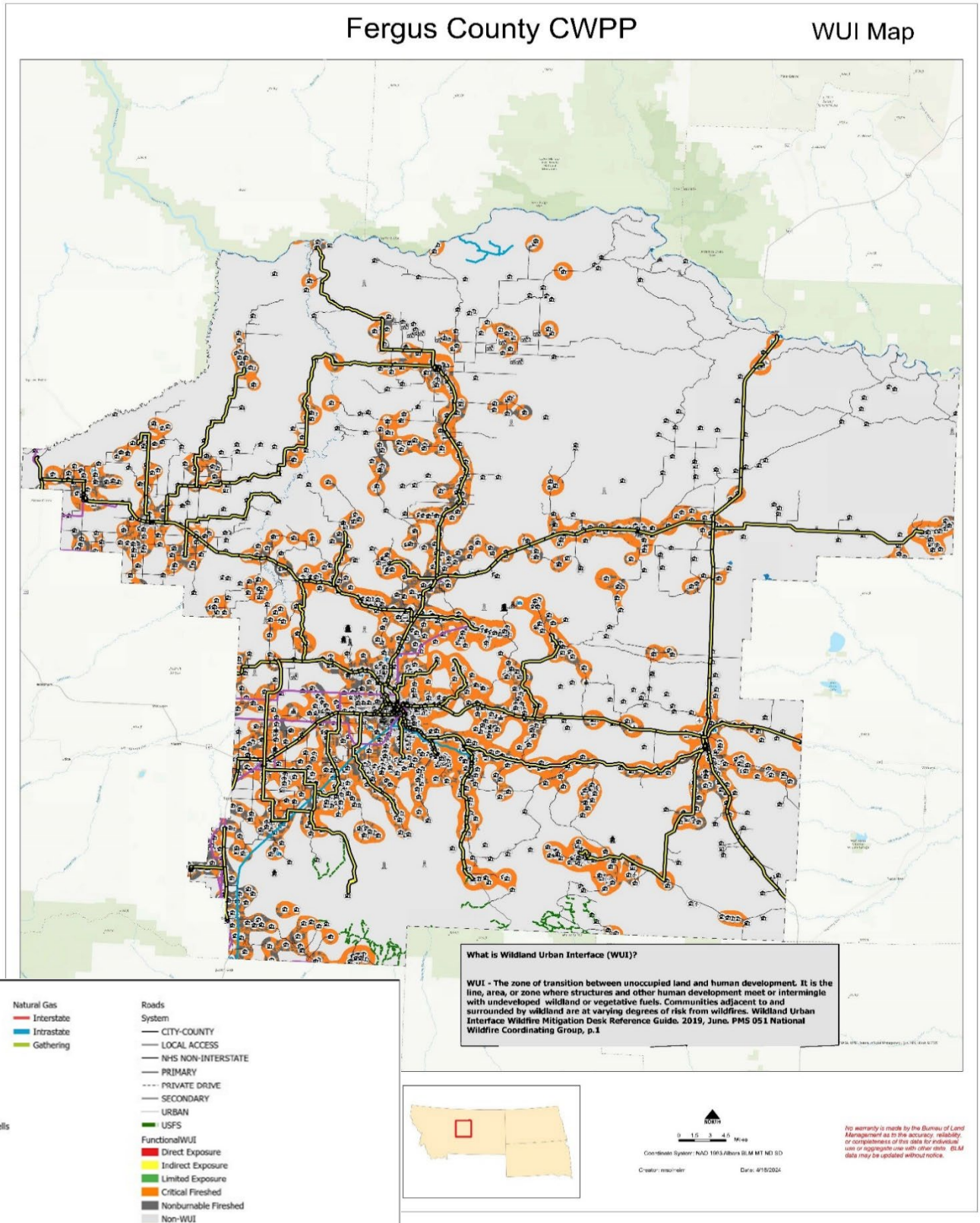
Varying methodologies in the WUI delineation resulted in multiple representations that are inconsistent at the state level. Very few counties determined WUI to the parcel level through this process. Montana Department of Natural Resources and Conservation Fire and Aviation Bureau was required by MCA 76-13-145 to identify WUI parcels using CWPP WUI maps. In December of 2011, the WUI boundaries were updated by the Montana DNRC.

For this update, the WUI boundaries were again expanded to better link communities and other human development with the WUI. While implementing the CWPP, it became apparent that this update should be more contiguous with respect to connecting communities, watersheds, ridges, valleys, roads, and other human infrastructure in respect to undeveloped wildland to gain a better picture of wildfire risk, planning and response.

The following Wildland Urban Interface Map displays defined boundaries. The functional WUI has been defined as the following: Direct Exposure, Indirect Exposure, Limited Exposure, Critical Fireshed, Nonburnable Fireshed, Non-WUI, and Water.

Following the designations of Critical and Nonburnable Fireshed on the WUI map are the most prominent, as they define where communities and human infrastructure meet undeveloped wildlands. In addition to the functional WUI, Fergus County has also identified locations of critical public infrastructure such as natural gas lines, transmission lines, communication towers, and oil and natural gas wells. Fergus County also saw the prudent need of identifying the roads and outlining the preferred evacuation routes. The evacuation routes were developed using school bus routes, missile site roads, fire hall locations, and input from Fergus County DES, Fire Warden and the Fergus County Coordinator. The locations and types of buildings and residential areas that are present in communities are also visualized. Community oversight is paramount when planning for community safety and protection planning, especially when an evacuation is imminent. This additional data will aid Fergus County in community protection planning, fire fuels mitigation project planning, response for hazard control, evacuations, and the safety of the public and responding personnel.

Figure 5 Fergus County 2024 Updated WUI Map



Wildfire Risk to Watersheds

Wildfires are a natural process in many ecosystems, but they are increasing in size, severity, and frequency in many areas of the United States. After wildfire, loss of canopy vegetation and changes to soil properties can result in more water flowing over the land surface during storms, leading to flooding, erosion, and delivery of sediment, ash, pollutants, and debris to surface water. This can result in decreased water quality, loss of reservoir storage capacity, stream habitat degradation, and increased treatment costs for drinking water providers.

Fergus County is located within the Lower Missouri River Water Basin with several important watersheds that are fed by both surface and underground water.

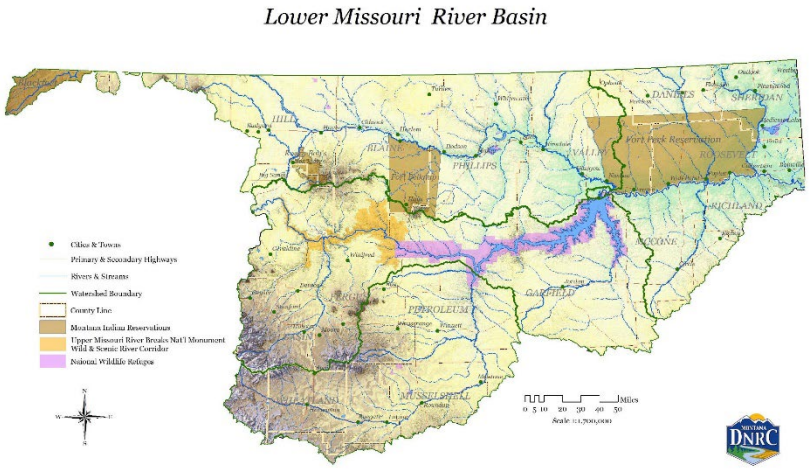


Figure 6: Lower Missouri River Basin Map, courtesy of Montana DNRC

The Big Spring Creek Watershed is an underground fed watershed that serves the municipality of Lewistown. The Big and Little Snowy Mountains play a critical role in the health of this watershed. The Montana Department of Environmental Quality completed a Watershed Evaluation report in December of 2019 which identified the need to reduce sediment/siltation from channelization and accelerated streambank erosion of Big Spring Creek and its tributaries Cottonwood Creek, and Casino Creek. Managing wildfire to reduce sedimentation is critical to protecting this watershed.

Assets at Risk

The State of Montana and Fergus County do not have requirements for fire resistant construction materials with new construction. Many homes in Fergus County were built decades ago and do not conform to modern fire-code standards, particularly with the evolution of codes driven by fires in the early 21st century. This includes inadequacies in fire-resistant design, materials, home-siting, and property/development planning. There is a need, particularly in the older developments and disadvantaged communities, to provide homeowner education and assistance surrounding fire centric retrofitting and structure upgrades.

The decision to utilize fire resistant construction is placed solely on the individual homeowner and their respective budget. Most of the towns within Fergus County were constructed during the early 1900's, and primarily utilized wood, stone, and brick construction materials. Most of these structures will ignite and burn during a wildfire because of construction components that easily ignite, and because of poor landscape maintenance around the home. Within the heart of the communities, small lot sizes and smaller setbacks allow for the rapid spread of fire from house to house during wildfire events. The term "setback" refers to the distance (measured in feet) a house or structure must be from the front, side, and rear property lines.

Tier 2 Reporting Facilities for Hazardous Materials in Fergus County

Under Section 312 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986, regulated industries must file an annual Tier II report with the State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC), and the local fire warden for hazardous and/or extremely hazardous substances stored, used, or manufactured on site for more than a 24 hour period at any time during the previous calendar year. The purpose of this is to provide state, tribal, local officials, and the public with specific information on the potential hazards of regulated hazardous materials. This includes the locations as well as the amount of hazardous chemicals present at facilities during the previous calendar year. These facilities may pose a risk of explosion to the public if the hazardous materials are exposed to fire.

In Fergus County, these reports are reviewed annually by the Local Emergency Planning Committee (LEPC) at their quarterly meetings. These public meetings are held at the Lewistown Police and Fire Training Hall. It is the responsibility of the Fergus County Disaster and Emergency Services (DES) Coordinator to update the Fergus County Hazardous Material Response Plan with the identified hazardous substances and quantities along with evacuation distances for each chemical and facility reporting. This updated plan is shared with each Fire District to bring awareness of what hazardous substances exist within their area of response.

Tier II Mapping and Legend-see Appendix C

Recreation Areas at Risk

Recreational use is expected to increase as population growth continues. Lewistown has started to become a destination for recreational hunting and horn hunting activities. Recreational use includes both traditional road, hiking, and horseback access but in recent years has seen a significant increase in access via helicopter and plane. The Upper Missouri River National Monument has multiple landing strips, there are landing strips in the Durfee Hills, and helicopter access has become increasingly common on isolated parcels of public lands.

Crystral Lake Recreation Area

The USFS Crystal Lake Campground located in the Big Snowy Mountains south of Lewistown is a very popular campsite during the summer months, especially the weekends. The area is heavily utilized during the open season with hiking, biking, camping and water sports which are popular in the area. Cellular phone service is inadequate for the area and is only available on the higher ridges accessed by the trail system.

The 28 campsites are large and widely spaced, and recent removal of hazardous and diseased trees has left each camp site with expansive views of the surrounding mountains. The largest slot can accommodate a maximum trailer length of 45 feet and is a suitable campground for large RVs. Crystal Lake Campground opens around June 2nd and closes in late October.

Nearby trailheads lead to the Crystal Lake Loop Trail and a trail which leads to ice caves. During drought years, the lake may dry up by late July.

This area is served by a narrow USFS road with pullouts making two-way traffic a challenge for larger vehicles and campers. A fire in this area requiring evacuation of the campground will challenge emergency responders which may be forced to advise campers and hikers to “shelter in place” in the dry lakebed.

An evacuation plan for the recreation area has been established between the County, BLM and USFS.

K-M Scout Ranch, Boy Scouts of America

K-M (K Bar M) Scout Camp is centrally located 23 miles northwest of Lewistown, in the North Moccasin Mountains. The camp consists of approximately 600 acres of mountains and foothills including a gold rush era ghost town and a gold mine. K-M has fourteen troop sites, which will accommodate approximately 30 people each. All sites have adequate timber cover and open areas for tent sites and provide picnic tables, latrine, running water, and fire barrels. Boy Scout staff has stated that at any given time during the months of operation, approximately 800 scouts will be occupying the ranch.

The Scout Ranch is actively working on a hazardous fuels' reduction project around the structures and the ingress and egress routes of the ranch to reduce the severity of fire.

Other Recreational Sites

Fergus county also has private, state and city access recreational opportunities:

Big & Little Snowy Mountains	Camp Lewtana, Bear Gulch Pictographs, Little Snowy Access and roads, East Fork, Casino Creek Reservoir, Frog Ponds, Carter Ponds, and Big Snowy Access Points: Timber Creek, Neil Creek, Cottonwood, RMEF Access, Halfmoon/Uhlhorn. Crystal Lake and USFS trails.
Judith Mountains	Collar Gulch, Limekiln Trailhead, Camp Maiden, Judith Mountains Communication Site, Community of Maiden, Red Mountain, and Judith Mountain Lodge.
Moccasin Mountains	Public Access Kendal Road, Historic Kendal Cultural Site, and K-M Scout Ranch.
Missouri Breaks	Missouri Breaks National Monument, Kipp Campground, Arrow Creek (Back Country Area), Dog Creek WSA, Beckman WMA, and the Charlie Russell Wildlife Refuge.

Wildland Fire Elements Affecting Property and Resource Damage

Wildfire is a natural process shaping the landscapes of Fergus County, but it has the potential to cause significant damage to human developments. The vegetation described above have all developed adaptations to wildfire and receive long-term ecological benefits from fires at most intensities. Ignitions from lightning will occur, and in most summers, there will be weeks or months during which wildfire will readily spread.

Fergus County has a variable population density that is expected to grow over the next few decades. The fire environment combined with increased growth will likely exacerbate the potential for damage to human developments if left unchecked by appropriate mitigative strategies and failure to adapt to the challenges of this growth.

Eliminating wildfire from Fergus County is not possible nor desirable. However, by understanding the fire environment, reducing the number of unwanted human ignitions, using prescribed fire as a tool when appropriate, and taking other measures to reduce wildfire spread and intensity around developed areas, it is possible to eliminate or reduce the loss of life and property from the wildfires that will burn in Fergus County.

Since the previous CWPP, there has been an influx of development in the foothills of the island mountain ranges including subdivisions, and land development. Amish communities have expanded bringing with it off grid living, or the use of lithium batteries that are used for electricity and heat. Additional hazmat training and planning are needed when dealing with thermal runaway that results from a lithium-ion battery catching fire. Traditional family ranches and farmlands have either combined with neighboring operations or been divided and sold. Farms and ranches have shifted from agricultural production to more recreational use. This results in less grazing and logging. Absentee landownership is now common and sometimes leads to neglected property, overgrowth, and blight.

These changes have led to conflicting views and land uses that reduce fuel loading, increased values at risk, and reduced availability of people for VFDs. Fergus County has regulations concerning development and parcel size, but there are no county-wide zoning restrictions or fire-resistant building requirements.

Fergus County Communities Wildfire Evacuation Preparedness

The ability to quickly evacuate is critical to public safety. Depending on the type of emergency there may be more than one route out of the area. Direction of travel is dependent on the direction the wildfire is coming from and weather conditions. The Fergus County Sheriff is responsible for all evacuation notices. As stated previously, Fergus County utilizes Hyper-Reach Mobile Phone Alert System as the emergency alert notification system for cell phone users. Reverse 911 capability is also available in the area. There are no formal evacuation plans for the communities in Fergus County currently.

In Fergus County, 9% of the population do not own a vehicle to evacuate, this is especially true in the area surrounding the town of Moore where there is an increasing population of Amish that choose not to own vehicles. The only means of evacuation for this community is with horse and buggy or hired drivers. The county has recognized the need to establish an agreement with the local school districts to possibly use school buses to assist with mass evacuations should they be necessary.

Cattle ranching is a predominant economic activity in central Montana, and this is especially true in Fergus County. In 2018, Prairiepopulist.org[21] listed 119,336 cows in the county, or 11 cows per person. When wildfires occur, evacuation of cattle and livestock is equally as important to the locals as the evacuation of people. Oftentimes when a fire is present, a grass-root led convoy of trucks and stock trailers will be intermixed with fire suppression resources taking suppression action on the fire.

Road and Bridge Standards for all dedicated roads in Fergus County state that the minimum required width is 20 – 24 feet. This distance is adequate for cross traffic travel of emergency responders during normal use. However, during low-light, dusty, and smoky conditions of wildfire

[21] https://prairiepopulist.org/people-vs-cows/

incidents, speeds are required to be reduced significantly to avoid collisions with evacuating residents.

Fergus County has a guide for evacuation on the County's DES website that can be found at https://co.fergus.mt.us/fergus-county-departments/fergus-county-disaster-emergency-services. It is currently being updated and being formatted as a formal plan. Completion is expected later in 2024. The updated WUI map shows preferred evacuation routes.

Wildfire History

Major fires in or near Fergus County in the recent past—include the South Moccasin Fire(s), the Taylor Fire, Burnett Peak Fire, Windy Point Fire, and the West Wind Fire.

Many of these large fires occurred during fall and winter, which is outside of the typical summer months and occurred during extended dry periods or drought along with strong gusty winds associated with frontal passage(s) which are common in Fergus County. The most recent example of this is the 2021 Westwind fire in Denton that destroyed 25 homes and burned 10,000 acres.

Recorded wildfire statistics for Fergus County and 13 counties in the Northeastern Land Office between 2021-2023 indicate that there have been 443 fires. Of those fires 72.23% were human caused, 14.22% undetermined, 12.42% natural, and 1.13% were unreported.

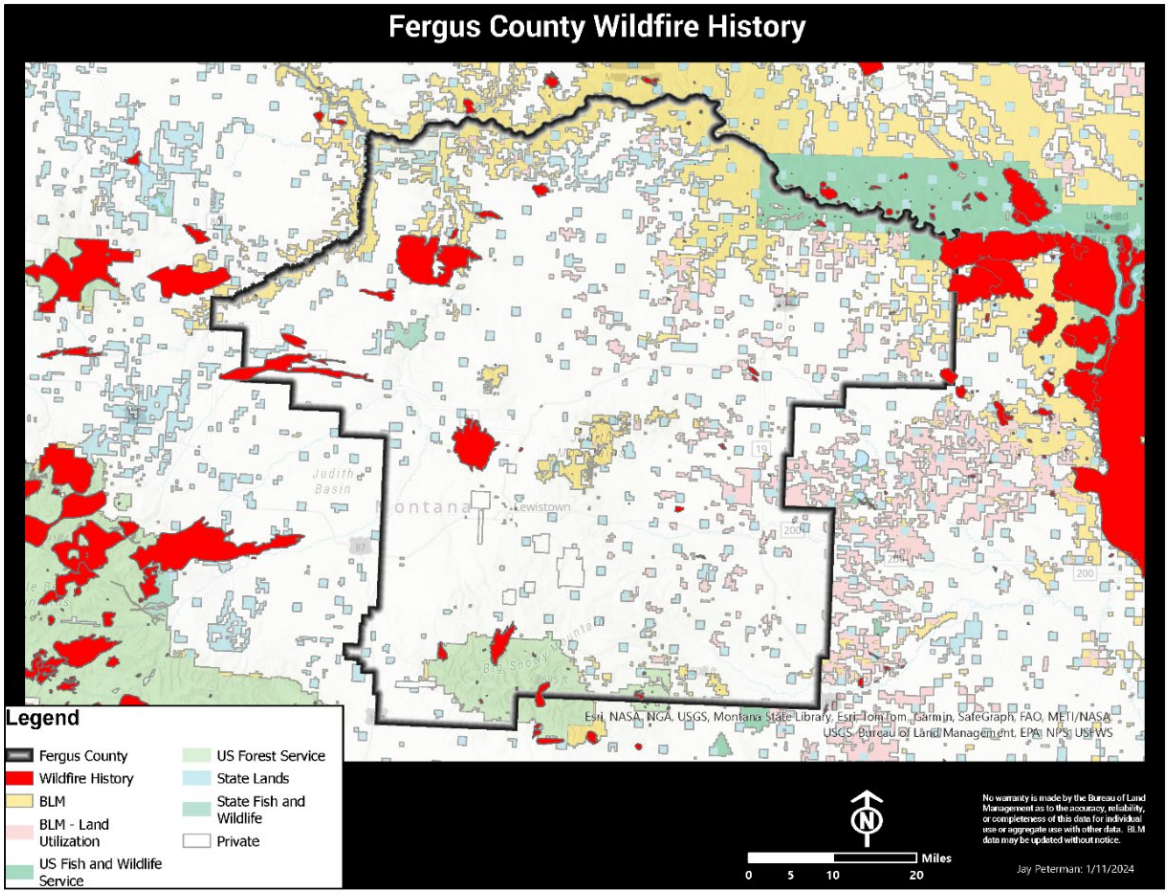


Figure 7:Fergus County Fire History Map courtesy of the USDI BLM - This data set is part of an ongoing project to consolidate interagency fire perimeter data and is not complete. Currently only certified perimeters and new perimeters captured starting in

2021 are included. The layer encompasses the final fire perimeter datasets of the USDA Forest Service, US Department of Interior Bureau of Land Management, Bureau of Indian Affairs, Fish and Wildlife Service, and National Park Service, the Alaska Interagency Fire Center, CalFire, and WFIGS History. Requirements for fire perimeter inclusion, such as minimum acreage requirements, are set by the contributing agencies. https://data-nifc.opendata.arcgis.com/datasets/nifc::interagencyfireperimeterhistory-all-years-view/about

Climate Change and Wildfire

Published in June 2021, and coauthored by scientists at Montana State University, the U.S. Geological Survey and the University of Wyoming, "The Greater Yellowstone Climate Assessment", reports that the average temperatures in Yellowstone National Park, nearby Grand Teton, and the surrounding forests, ranchlands, and towns like Bozeman have already increased by 2.3 degrees Fahrenheit since 1950.

The assessment predicts even hotter temperatures, more drought and less seasonal snowpack in years to come. According to the authors, if warming trends continue, the Greater Yellowstone area's surrounding high country may eventually lose much of its snowpack by year 2100 – a loss that would affect wildlife, agricultural economies and urban areas that rely on the natural water reservoir that mountain snow provides. This results in less moisture and more heat which will increase the likelihood of large wildfires in the future.

Other studies indicate that precipitation is expected to shift from snow to rain due to rising temperatures. This shift will favor conifer expansion in the Breaks and along the island mountain ranges. This will increase fuel loading and shift the risk from grass to conifers. In the long term that shift will result in increased fuels treatments needed.

Hazardous Fuels Management

Hazardous fuels management is used to reduce fire intensity, extent, and damage. This requires efforts to be spent on decreasing the volume and increasing the separation (horizontal and vertical) of hazardous fuels available to burn. There is a substantial amount of research on the effectiveness of treating hazardous fuels to modify fire behavior.

The following list of effective fuel treatment types are commonly used to reduce hazardous fuels:

- Mechanical (biomass) thin
- Hand thin
- Hand/machine pile
- Mechanical mastication
- Mowing, grazing
- Broadcast and Pile Prescribed Burning
- Biological
- Chemical

Starting around 2005, numerous studies of the damage done to communities after wildfire events have consistently validated the effectiveness of hazardous fuel reduction treatments. The findings of these studies demonstrated:

- Decreased tree mortality by as much as 56% due to reduced tree canopy continuity. (Angora Fire).
- Reduced fire intensity from 32 feet in untreated areas to 7.5 feet in treated areas. (Angora Fire)

- Changed fire behavior to reduce damage to ecosystems and at the same time lower fire intensity as it entered a nearby community. (Tahoe Fire, Camp Fire)
- Reduced embers and smoke in an urban environment which allowed firefighters to be more effective. (Angora Fire)
- Treated areas of a community that burned had reduced damage compared to untreated areas which burned while suppression resources were limited. (Wheeler Fire)
- During suppression efforts, treated areas were used by dozers and hand crews and allowed for the direct attack of the fire. (Wheeler Fire)
- Units where ladder fuels had been thinned and followed with a prescribed fire treatment, allowed a subsequent wildfire to drop to the ground. Nearby untreated units suffered total tree kill and canopy consumption. (Cone Fire)
- Grazing directly aided in controllability. The entire mountain range was burned because of the fire. Once the fire hit grazed pastureland, crews were able to stop the spread. (South Moccasins Fire, Fergus County.)

Hazardous fuels management projects must be deployed across the landscape if they are to change wildfire intensity, spread, and protect watersheds. Clearance around structures is highly effective in reducing fire damage and destruction. However, that same fire burning through untreated forests will lead to increased ember production and spread severe damage to nearby watersheds. Larger landscape level treatments, such as shaded fuel breaks, or area treatments complement the effectiveness of structure clearance treatments. These treatments slow the rate of fire spread and lower fire intensity which helps lower damage to watersheds and other natural resource damage.

Ladder fuels and tree mitigation is often the focus point of a hazardous fuels mitigation project. However, grassland and shrubland fire fuel mitigation are equally if not more important given the severity, and damages that come along with grass fires. Grass fires are known for running fast and hot, easily consuming, igniting, and creating embers that will catch other materials and structures on fire. Grasslands typically do not have the shelter break like forests do, this results in the wind being able to spread the fire much more quickly.

An article by Joe Phillips from USFS USDA highlighted the research done by Northern Research Station scientist, Miranda Mockrin. Mockrin's study shows that grassland and shrubland fires comprised 64% of the total burned acreage, while forest fires accounted for 27.3%. When accounting for destruction of buildings in wildfires, 63.7% were destroyed in grassland and shrubland fires, compared to 33.1% in forest fires. A prime example of the extensive damage a runaway grass fire can create when paired with high winds is the 2021 Westwind Fire of Denton. Grasslands and shrublands dominate the intermix WUI (the area where houses and wildland vegetation are closely intermingled) in the western United States, where wildfires are most prevalent.

Fuels in grasslands and shrublands recover quickly, such that areas can reburn within a few years, and these areas require frequent mitigation measures of those hazardous fuels. Burning is extremely effective at managing grasslands along with chemical treatments of invasive species in shrub ecosystems.

As portions of Fergus County have started to experience a shift from agricultural practices (farming and ranching) to a more recreational focused community (hunting). Many traditional ranches have been purchased as recreational hunting areas or subdivided to smaller parcels that don't favor grazing. Residual grass cover is now viewed as favorable for wildlife (especially birds). With the expected increase in non-agricultural employment opportunities in Fergus County, it is expected that traditional grazing land will be converted to smaller parcels where grazing will be less favored. This has the potential to increase fine fuels (the driver or fire spread) and increase values at risk. (Examples; Trophy Ridge, Middle Fork, Beaver Creek, Antler Lane Creek, Casino Creek, Avon Lane, and Subdivisions along Heath, Maiden, and areas within 15 miles of Lewistown.)

Bureau of Land Management (BLM) Cost-Share Program for Hazardous Fuels Reduction

USDI Bureau of Land Management (BLM) offers grant opportunities for hazardous fuels reduction efforts. Organizations dedicated to community resiliency, conservation, and have the ability to identify a need for hazardous fuels reduction in Fergus County are eligible to apply. Once awarded these grant funds are used to assist property owners with their hazardous fuels mitigation efforts around their home and property. This enables and inspires the creation of a defensible space, while promoting education of the Home Ignition Zones, proper maintenance around property, and influence fire resiliency for property owners.

Wildfire Priorities for Resource Commitment

Wildland fire suppression resources are allocated on a priority basis. In order of priority they are usually:

1. Public and firefighter safety.
2. Protection of developed resources such as homes, and public & business buildings.
3. Protection of natural resources such as watersheds, trees, and habitats.

The State of Montana mandates the suppression of wildfire. This hierarchy of resource commitment obligates sometimes-limited suppression resources to protect structures rather than stopping a fire's growth. In wildfire aftermath, communities can often be left with standing homes and blackened forests, rangelands, and negatively affected watersheds.

There are numerous examples where homes and forests have survived the intrusion of a wildfire when proper construction methods, defensible space, and sound vegetation management practices were employed prior to the fire.

Fire Risk and Mitigation Strategies

Mitigation strategies are prioritized by zone, with the highest priority being the structure ignition zone and working outward to the extended Wildland Urban Interface (WUI). There are numerous factors which contribute to homes and communities being at risk of loss from wildfires, including hazardous fuel conditions. Many factors are under the control of the resident, property owner, community, or County.

Mitigation Strategies Areas of Focus:

A. **Defensible Space**
B. **Information, Education, and Planning**
C. **Reducing Structure Ignitability**
D. **Enhancing Suppression Capabilities and Public Safety**

E. **Hazardous Fuel Reduction**
F. **Long Term Forest and Rangeland Health**

Mitigation Strategies Prioritization by Area:

1. **Home Ignition Zone: Zero to 100 feet (minimum)**
   - 0-30 foot Lean, Clean, Green Zone
   - 30-100 foot Reduced Fuel Zone
2. **Community-at-Risk (CAR)**
   Urban Wildland Interface Communities within the vicinity of federal lands are at high risk from wildfire originating on public lands. Final designation was published in the Federal Register/Vol. 66, No. 160/Friday, August 17, 2001/Notices.
   https://www.govinfo.gov/content/pkg/FR-2001-08-17/html/01-20592.htm

   Communities were added in the CWPP development process of 2004 and respectively update of 2011. Boundaries are displayed on the 2024 Fergus County Communities-at-Risk/ Wildland Urban Interface map. The following communities of Fergus County were designated as Communities at Risk by the Federal Register/Vol. 66, No. 160/Friday, August 17, 2001/Notices.

   1. Buffalo, MT
   2. Forest Grove, MT
   3. Giltedge, MT
   4. Grass Range, MT
   5. Hilger, MT
   6. Kendall, MT
   7. Lewistown, MT
   8. Maiden, MT
   9. Roy, MT

3. **Wildland Urban Interface (WUI)**
   • The zone commonly described as where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. Usually 1.5 mile around Community- at-Risk boundary.
   • Initially 4 zones (Rural, Low-Density, Moderate Density and High Density) were established in the 2004 CWPP, and the modification to improve planning integration made by the Montana DNRC in 2011. Boundaries are displayed on the 2024 Fergus County Communities-at- Risk/WUI map.

ACTION PLAN- Mitigation Measures by Focus Areas

The goal of this section is to identify situations and factors which place residences or communities at risk from wildfire and suggest appropriate mitigation measure(s) to reduce that risk.

The objectives of this section are to:

- Identify mitigation measures by focus area. Focus is on public safety, firefighter safety, reducing structure ignitability, and reducing damage to other manmade and natural resources.
- Identify areas where collaborative efforts of local, state, and federal agencies can mitigate risks of structure ignitability, reduce hazardous fuels, and wildfire threats to communities.

- Support efforts of landowners, communities, Fergus County Departments, county fire chiefs, fire-wise communities, community fire safe councils, Montana Department of Natural Resources and Conservation (DNRC), US Forest Service, US Bureau of Land Management, US Fish and Wildland Service and other agencies to collaboratively implement mitigation measures and obtain funding assistance.

A	**RISK CONDITION: Information, Education, and Planning**	
	Fergus County residents and communities have benefited from activities of Fire Safe Councils, local Fire Districts, County, Municipal, State, and Federal agencies. Funding has been provided for the counties. With this funding there have been several successful programs to benefit county residents. Some examples are: 1. Emergency preparedness and wildfire evacuation planning 2. Wildfire safety information and community meetings 3. Hazardous fuels reduction projects 4. Educational information and displays 5. Interagency Wildfire Education Day	
A	**MITIGATION MEASURES: Information, Education, and Planning**	**Status/Projected Completion Date**
A.1	***Continue to expand information & education to residents****. Firewise Communities, Fergus County, Fire Districts, and State and Federal agencies should continue to provide and expand informational and educational programs for residents, property owners, and communities on ember awareness and what causes homes to ignite and burn in a wildland fire. These agencies should provide educational information for developers, realtors, contractors, home builders, and building inspectors on methods to ensure structural and forest survival following a wildfire.* *Programs should also address: the need for good home site location, using fire resilient construction materials, safe access, signage, the importance of available water, adequate fire protection, understanding of the Home Ignition Zones and creating defensible space,* and the critical role vegetation plays in wildland fire including how to make forests fire resilient. Educational programs should focus on the State Fire Marshall WUI Standards, with focus on what causes homes to ignite and burn in a wildland *fire.*	***Ongoing Project***
A.2	***Evacuation Planning*** *plays a critical role in life safety. Work with communities to develop evacuation plans with alternative routes for communities. Work with landowners, Firewise Communities, Fergus County, Fire Districts, State and Federal agencies and the County Extension Office to develop livestock evacuation plans for agricultural communities.*	***High Priority-*** ***Anticipated Project Completion (2025)***

	Continue to educate the county residents on the importance of registering for the Hyper-Reach Mobile Phone Alert System *as the Emergency Alert Notification System for cell phone users.* ***Establish agreements with the local school district for transportation*** *for emergency evacuation purposes to assist those without a motorized vehicle.* *Collaborate with communities to* ***formally develop animal evacuation and sheltering, building Community Animal Response Teams (CARTs)*** *and establish standard operating procedures for conducting animal evacuation and care.* ***Complete a comprehensive evacuation plan for Fergus County.***	
A.3	***Enhancing realtor and new homeowner understanding of structure fire protection and disclosure of High Fire Hazard.*** *Information from Montana DNRC Fire – "Due to the fragmentation of structural fire protection in Fergus County and the ever-lingering threat of wildfire, the County should continue current education outreach efforts to assist current residents, realtors, and those persons moving into the County. These efforts must include both the disclosure of the wildfire hazard, and whether the home resides within a fire protection district."* *Provide relators, insurance companies, and title companies materials outlining fire wise practices and fuels mitigation practices including education of conifer reduction, grazing benefits, and fire-resistant landscaping options.* ***Insurance companies work with fire districts to improve ISO ratings and secure funds for firefighting apparatuses and Fire stations.***	***Ongoing Project*** ***– Realtor Packets (2026)***
A.4	***Periodic updating of fire plan - Completion of the Community Wildfire Protection Plan*** *is only the first step in planning mitigation for wildland fire threat to homes and communities. This plan is a starting, not ending point. This plan should be considered a living document to be collaboratively reviewed and amended. Strive to provide an annual update of hazardous fuel reduction activities.* *The Fergus County Fire Council should consider reviewing and updating the CWPP during their regularly scheduled annual meeting to elect officers to incorporate more timely updates to the plan.*	***Anticipated Completion – 2030, With Ongoing Updates***
A.5 Ongoing	***Provide education on the use of prescribed fire*** *- Engage landowners and the public to educate, promote and plan prescribed fire on private land in Fergus County. Prescribed burns will help return landscapes surrounding and within Fergus County communities to become more fire resilient.*	***Ongoing Project***

A.6	***Develop maps of community hydrant systems and water source locations -*** *Engage landowners, the public, and fire districts to develop a comprehensive map of community hydrant systems with capacity and fill sites in Fergus County. Identify which water sources rely on electric power to provide water delivery and which have generator backup power provided for. Apply for funding to secure backup generators for all community water delivery systems in each fire district. Develop a maintenance schedule for hydrants.*	***Review and Update Annually***
A.7	***Develop evacuation maps for each community and the high use recreation areas –*** *Engage landowners, the public, and fire districts to develop an evacuation map of each community in Fergus County and the high use recreation areas.* ***Crystal Lake Recreation Area Evacuation Plan –*** *Conduct tabletop and functional exercises to evaluate effectiveness of the Evacuation Plan for the area.* ***K-M Scout Ranch – Develop an Evacuation Plan*** *for the scout ranch and* ***consider creating a large enough safety zone*** *to accommodate the full capacity to allow visitors to shelter in place if necessary.* ***Camp Maiden: Fergus Co. owned-*** *Fuels treatments planned for 2024, update structures to more fire-resistant materials,* ***Bear Gulch Pictographs-*** *Provide the landowner with information to protect the site and consider evacuation plans.* ***Uhlhorn Trail Head-*** *Post fire danger information at trail head and work with emergency responders to identify the access sites to public land around the area, this should also include the signed forest service trail to the north, and RMEF access site.* ***Camp Lewtana-*** *Provide the landowner with information to protect the site and consider evacuation plans.*	***Ongoing Project with Anticipated Completion in 2025***
B	**RISK CONDITION: Reducing Structure Ignitability**	
	The priority for mitigation actions is the area immediately around structures, also known as the home ignition zone, usually up to 100 (minimum) feet from the building. Research shows roofing, defensible space, and fire prevention measures within the home ignition zone play the largest role in home survival. This zone is critical to firefighter safety, as suppression resources may provide structure protection to a residence in a wildland fire. The level of attention given to a residence in terms of its vulnerability to ignitions is controlled by the owners, often days, weeks, months, and years before a fire event. Information and technology are available to keep homes in the wildland urban interface from igniting, burning up, and placing firefighters at risk. There is no need to wait until the fire occurs. History has shown that those who wait will lose.	

B	MITIGATION MEASURES: Reducing Structure Ignitability	Status/Projected Completion Date
B.1	***Existing structures & attachments - Enhance public education to*** *strengthen building standards for construction, and replacement activities, for existing residences and properties to make them less prone to loss from a wildfire due to embers, radiated heat, or surface fire spread.*	***Ongoing Project***
B.1.a	**RISK - Roofing and Gutters** The roof is the most vulnerable part of the home. Embers can travel miles ahead of a fire front and land on your roof and in open gutters. These embers can ignite anything combustible like plastic skylights, wood shake shingles and built-up tree debris. Current research shows that homes with non-combustible roofs and clearance of at least 30-60 feet have a 95% chance of survival in a wildfire. **MITIGATION -** *Continue* ***educating residents on the importance of replacing and eliminating wood shake roofs****. Refer to Insurance Institute for Business and Home Safety roof data sheets. Maintain your roof and gutters by regularly removing all debris, including leaves and pine needles. Replace a wood shake or wood shingle roof with a Class A fire-resistant-rated roof cover. Class A-rated roof covers include most asphalt shingles, tile, slate, and metal roofs. Replace domed, plastic skylights with flat, multipaned, tempered glass skylights. Replace plastic gutters with metal gutters such as aluminum or other fire-resistant material.* *Seek financial assistance programs for roof replacement for qualifying individuals.*	***Ongoing Project***
B.1.b	**RISK – Decks** and porches attached to or built near your home provide a path for fire to reach your home. Reducing or eliminating the vulnerabilities of a deck or porch—including items on top of or underneath—reduces the chance your home ignites. **MITIGATION** – *Provide that adequate defensible space is maintained around and under decks. Provide maintenance of flammable vegetation debris and flammable furnishings on decks. Remove combustible furniture, including wood or plastic furniture. Remove large combustible rugs and planters. Choose noncombustible furniture such as cast aluminum or metal furniture. Ensure any items like cushions or door mats are small enough to easily be moved inside on high wind days.* *Some newer deck surfaces (synthetics) can ignite with direct flame but won't stay lit once the flame is removed. They do have a more rapid collapse when exposed to high heat loads.*	***Ongoing Project***
B.1.c	**RISK – Vent Openings** Wind-blown embers can enter your home through vents in your attic, roof, gables, and crawlspace and ignite materials inside. **MITIGATION** – *Provided adequate defensible space is maintained, screening of vent openings with steel screens will prevent embers from a wildfire from entering attics and crawl spaces.*	***Ongoing Project***

	1. Create owner awareness of the critical importance of steel vent screening - of all vent openings and promote screen standard of a maximum 1/8-inch steel screen mesh. *2. Create owner awareness of importance of remediating flammable surfaces and objects inside and adjacent to vent openings.* *3. Promote the protection of roof vents in eaves and cornices with baffles where possible.*	
B.1.d	**RISK – Outbuildings** Structures (e.g. storage, woodsheds, calving sheds, and barns) with less than 30-foot separation from outbuildings place homes at a high risk of loss. **MITIGATION** – *Provided adequate defensible space is maintained.* *1. Educate residents on the need for separation of heat loads from their residence.* *2. Continue promoting and using the Home Inspection Form and conduct regular home assessments within the fire districts.*	***Ongoing Project***
B.1.e	**RISK – Woodpiles** with less than 30-foot separation from homes place homes at a high risk of loss. **MITIGATION** – *Provided adequate defensible space is maintained.* *1. Educate residents on the need for separation of heat loads from their residence.* *2. Continue promoting and using the **Home Inspection Form** and conduct regular home assessments within the fire districts.*	***Ongoing Project***
B.1.f	**RISK – Propane Tanks** with less than 10-feet of vegetative clearance may place homes at a high risk of loss. **Propane Tank Regulators** exposed to falling snow, ice or branches may place homes at a risk of loss from propane explosions in the winter months. **MITIGATION** – *Provided adequate clearance is maintained.* *1. Educate residents on the need for separation of heat loads from their residence and the need for 10-feet of vegetative clearance to bare mineral soil and no vegetation and are placed at least 10 feet from any building.* *2. Educate residents on the need for snow protectors over regulators, to protect them from damage from snow and ice or branches.*	***Ongoing Project***
B.1.g	**RISK – Hazardous Materials & Storage** Fertilizer storage, and fuel stores, chemicals, lithium ion batteries, etc… Increasing solar energy usage with lithium-ion battery storage creates a risk of thermal runaway and explosive gases that may exist during fires. **MITIGATION** – *1. Educate the public and volunteer firefighters and the hazards associated with lithium-ion batteries.*	***Ongoing Project***

	2. Seek funding for fire districts to attend training on procedures to fight HazMat fires and obtain the proper personal protective equipment to prepare volunteer fire departments to safely do so.	
B.1.h	**RISK – Defensible Space; Lean, Clean and Green Zone (0 – 30 ft.) and Reduced Fuel Zone (30 – 100 ft.)** Eliminating flammable vegetation within the 0 – 30-foot zone can significantly increase the chances of home survival during a wildfire threat. Reducing flammable vegetation within the 30 – 100 ft zone to comply with recommended FireWise guidelines can significantly increase the chances of home survival. **MITIGATION** – *Continue to provide information and education on methods to create defensible space and fire safe landscaping (0-30')* *1. Starting with the flammable-free first 5 feet from the structure, the emphasis should be on vegetation and landscaping materials that do not readily accept embers and perpetuate fire spread; along with keeping roofs and gutters free of leaves and needles.* *2. Continue to provide information and education on methods to create defensible space in the "Reduced Fuel Zone" (30-100') – emphasis on reducing fuel ladders and increasing spacing between bushes and trees, so that flames and embers are reduced, lessening the perpetuation of fire spread.* *3. Continue to implement & seek additional funding assistance programs for qualifying senior & disabled citizens.* *4. Encourage fire districts to conduct defensible space assessments with the homeowners for each residence within the fire district.*	***Ongoing Project***
C	**RISK CONDITION: Enhancing Suppression Capabilities and Public Safety**	
	For all new construction, continue to address minimum fire safety standards related to defensible space to especially prioritize lands classified and designated as very high fire hazard severity zones. Fire safety standards include: 1. Road standards for fire equipment access. 2. Standards for signs identifying streets, roads, and buildings. 3. Minimum private water supply reserves for emergency fire use. 4. Fuel breaks and greenbelts. Updated standards are good education tools for existing landowners and homeowners to strive for to have their property prepared for wildfire and emergency response access.	
C	**MITIGATION MEASURES: Enhancing Suppression Capabilities and Public Safety**	**Status/Projected Completion Date**
C.1	**RISK – Fire protection availability -** privately held parcels in the county which are outside of a fire district. For those communities that are within a fire district, most are having severe budget problems. **MITIGATION** –	***Anticipated Completion: End of 2026***

	Continue current efforts on educating the public and expanding structural fire protection. Fergus County should continue efforts in developing a fire district for all communities and proposed subdivisions presently without local fire protection. *Incorporate unprotected areas into fire districts. Develop a plan for districts to absorb other inactive districts or municipal departments if they are dissolved. Update signatures on mutual aid agreement and add Musselshell County.*	***-Respond to applications withing 1 year of receipt***
C.2	**RISK – Signage** is critical to agencies providing emergency services, not only for wildland fire purposes, but all emergency vehicle access. Existing signs are often illegible due to age, wear, and damage. Fergus County should strive to have all residences and communities provide road and address signage. **MITIGATION –** *1. Continue to explore homeowner incentives for signage of their homes.* *2. Consider educating homeowners about measures which may include, but not be limited to, requiring proper signage upon sale.* *3. Continue to support VFDs who are making signs for their communities.* *4. Continue to educate the public about the costs to taxpayers to replace vandalized and damaged signage and the risks presented to the public and emergency responders when signs are not visible.*	***Ongoing Project***
C.3	**RISK - Driveways and private roads** are critical to agencies providing emergency services, not only for wildland fire purposes, but all emergency vehicle access. **MITIGATION** – *Educate existing property owners about current Fire-Safe standards in place. For* *new private roads and driveways, the County enforces the local ordinance certified by Fergus County Commission for Road and Bridge Standards of 2018.* *Educate property owners about access issues to private roads and isolated parcels created by continuous panel fencing and gates to responding firefighters.*	***Ongoing Project***
C.3.a	**RISK - Driveway length** Existing driveways which are less than 150 feet of line sight distance from a road, and driveways that exceeds 150 feet with no way to turn apparatus around or allow for passing of vehicles. **MITIGATION** – *Educate existing homeowners on the importance of providing turnouts and improved turnarounds.*	***Ongoing Project***
C.3.b	**RISK – Gates** that are too narrow for emergency vehicles, or gates that do not open during power outages. **MITIGATION –**	***Ongoing Project***

	1. Continue educating residents on the importance of emergency access through gates – so that gates can open during power outages and allow the passage of emergency vehicles. *2. Explore homeowner incentives for fire safe gates.*	
C.3.c	**RISK – Vegetation Clearance of Driveways** Existing private roads and driveways too overgrown for emergency vehicles. **MITIGATION** – *Educate the public and encourage vegetative clearance be cleared for **14 feet horizontally and 15 feet vertically** along driveways.*	***Ongoing Project***
C.3.d	**RISK – Excessive slopes** Emergency responders have come across driveways too steep for their vehicles. **MITIGATION** - *Educate current residents to consider improving existing steep driveways to meet current Fire Safe standards for safe access for emergency responders.*	***Ongoing Project***
C.3.e	**RISK – Turnarounds** Emergency responders have come across private roads with limited space for turning around their vehicles. **MITIGATION** - *Educate current residents to consider improving existing turnarounds.*	***Ongoing Project***
C.3.f	**RISK - Bridges** Emergency responders have often had to make decisions on whether or not their apparatus could squeeze through an allowed single lane bridge. **MITIGATION –** *1. Consider placing signs identifying "one lane bridge ahead" for emergency responders.* *2. Post maximum Gross Vehicle Weight (GVW) limits on all bridges.*	***Ongoing Project***
C.4	**RISK – Access for evacuations in and out of the community in the wildland urban interface (WUI)** Several existing "at risk" communities in Fergus County presently only have "one way" in and out of their community. **MITIGATION** – ***Explore development of alternate community escape routes -*** *Communities, landowners, along with local, state, and federal agencies should work collaboratively to identify and pursue funding to improve access for evacuations.*	***Ongoing Project – Work with local developers and fire chiefs***
C.5	**Water systems -** Water is a premium commodity in the suppression of both structural and wildland fires.	
C.5.a	**RISK – Existing communities** Many existing Fergus County communities lack sufficient water storage, handling, or delivery systems, placing properties at a higher risk for loss to fire. Water sources are unmapped in most fire districts. **MITIGATION –** *1. Consider enhancing storage and delivery of water - to increase water storage and delivery capacity in all Fergus County communities.*	***Mitigation Solutions #1-3 are Ongoing Projects.*** ***Mitigation Solution #4-5 has an Anticipated***

	2. Explore homeowner incentives for enhancing water storage & delivery for fire suppression on their properties. *3. Explore options to collaboratively increase community storage & delivery – and to obtain funding for enhancement of water storage and delivery systems,* ***ensuring water delivery capabilities during power outages with generator backup.*** *4.* ***Consider enhancing storage of water in WUI.*** *Communities and local agencies should work collaboratively at the local, state, and federal level to identify opportunities to improve water storage, access, signage, and development for firefighting on public and private lands. Collaboration between Lewistown Rural, Heath Fire District and City of Lewistown to establish a dry hydrant in East Fork Reservoir.* *5.Work with fire districts and local landowners to map water sources and reservoirs.*	***Completion Date of 2030.***
C.5.b	**RISK – Proposed residential developments** Communities may be allowed to develop in the county which have unacceptable water flow and/or storage for firefighting once they achieve their full development (housing density). **MITIGATION** – *1. Require all new subdivision covenants have an acceptable firefighting water supply/system with generator backup as a requirement of new developments with projected high housing density.* *2. Educate the public and encourage participation as a volunteer firefighter for the fire district.* *3. Enforce the existing rules on subdivision covenants where adequate water sources are not functioning.*	***Anticipated Completion Date: 2030***
C.6	**RISK – Outdated Paging System for Volunteer Firefighters.** The current wildland fire paging system in use is outdated and rapidly becoming ineffective. **MITIGATION** – *1. Seek funding to update and replace the county's VFD paging system by 2028.* *2. Look into new technologies to replace paging systems like cell phone text messaging options, IAMRESPONDING or similar apps, or satellite technologies. Revert back to 800 mhz voice paging.*	***High Priority –*** ***Anticipated Completion Date: 2028***
C.7	**RISK – Tier 2 Reporting Facilities for Hazardous Materials.** Tier II reporting to the DES Coordinator and LEPC (Local Emergency Planning Committee is required under Section 312 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). The purpose of this is to provide state, tribal, and local officials, and the public with specific information on potential hazards. This includes the locations as well as the amount of hazardous chemicals present at facilities during the previous calendar year. These facilities may pose a risk of explosion to the public if the hazardous materials are exposed to fire.	***Ongoing Projects*** ***– New Local Hazardous Mitigation Plan Expected by the end of 2024.***

	MITIGATION – *1. **Educate the public** and fire districts about the chemicals, potential hazards and evacuation distances for the facilities that are storing hazardous materials in quantities that require reporting under the Tier 2 requirements.* *2. **Consult with Fergus County Disaster and Emergency Services** for the Hazardous Materials Response Plan to determine considerations for public and firefighter safety.* *3. **Share the annually updated Hazardous Material Response Plan** for Fergus County with Fire Districts every year after each update.*	
C.8	**RISK – Aging Firefighting Equipment.** Wildland firefighting engines, water tenders and trucks continue to age and show signs of wear. **MITIGATION** – *1. Apply for the Bureau of Land Management Rural Fire Readiness Equipment Transfer Program to transfer BLM firefighting equipment to local fire districts when equipment becomes available.* *2. Apply for the US Department of Defense Excess Equipment program through the MT-DNRC to obtain additional firefighting equipment and to increase fire district capacity.* *3. Each fire district should adopt policy or SOP to transfer equipment at reduced costs to neighboring fire districts.* *4. Seek funding to equip all volunteer apparatuses with AEDs.*	***Ongoing Projects*** ***– Districts will continue to replace apparatuses as needed.***
C.9 ongoing (all but #3)	**RISK – Aging volunteer firefighters and declining fire district rosters.** Many volunteer firefighters in most fire districts are over the age of 65. **MITIGATION** – *1. Consider partnering with local high schools to develop basic firefighter curriculum and offer it to the junior and senior high school students to serve as a volunteer firefighter on local fire districts and prepare for post high school employment with local firefighting agencies.* *2. Increase local marketing of the increased need to serve on local volunteer fire districts.* *3. Pursue funding for paid staff to provide oversight and administrative tasks for fire districts.-Determine need and apply for funding annually.* *4. Develop an "out station" fire hall model to help instill a feeling of ownership in more isolated areas of fire districts. Use this model to combine fire districts should a fire district no longer have adequate staff to remain operational.* *5. Provide information on how to volunteer as a Firefighter to realtors, insurance companies, and title companies to provide to new landowners.* *6. Seek incentives from the local government, private entities, insurance companies, etc. to incentivize volunteering. Example: Property tax reductions for volunteer firefighters that show xx hours training.*	***Ongoing Projects.*** ***- Mitigation Plan #3 Dependent on Available Funding Opportunities.***

C.10	**RISK – Firefighters familiarity with changes in fire districts and potential for new recruitment.** Many volunteer firefighters may not be involved with aspects of the community that attract new residents. The size of some districts is quite large, and changes may not be noticed. **MITIGATION** – *Reach out to realtors, title companies, and insurance companies to provide new residents information on the fire districts, how to volunteer, and how to request an onsite visit from their fire district to mitigate fire hazards. Also encourage realtors to inform fire districts of changes in their districts.* *Create or seek incentives to promote onsite visits and risk evaluations.*	***Ongoing Project***
C.11	**RISK – Response distance from existing fire halls.** Fire stations are spaced around Fergus County but are often located in a small town/community. As there is more development in rural areas, there is an increasing response distances and times. Response times are sometimes slower in the more rural setting as volunteers must respond to a fire hall and then respond to the site of the fire. *****Five miles is consistent with ISO and other wildfire insurance standards **MITIGATION** – *1. Continue to distribute fire apparatuses throughout the district with volunteers to facilitate faster response times. Identify these areas in a written plan.* *2. Work to secure funding sources, like DOD and FEMA sources, to secure funding for construction of additional "out station" fire halls within each fire district to reduce fire response time. The ultimate goal would be to establish a "out station" fire hall with at least one fire apparatus within a five mile* response area of all identified WUI and/or high-risk fire areas in Fergus County. Moore VFD is currently doing this.* *3. Winifred and Denton Districts collaborate with local landowners to establish a shared station on Bear Springs Road.*	***Target Completion Date: 2028, Pending Available Funding***
C.12	**Risk- Poor radio communications.** The two existing repeater sites in the South Moccasins and Judith Peak are functional, but radios are not updated. Tone guard and communications in the Snowy Mountains are limited. **Mitigation—** *Pursue funding to update Fire district radios.* *Secure funding to maintain current repeater sites* *Purchase radio programming software for DES* *Establish another repeater location to cover the Snowy's.*	***Ongoing Project***
C. 13	**Risk** – Loss of insurance coverage due to poor ISO Ratings. ISO provides this score, often called the "ISO fire score," to insurance companies. The companies then use it to help set homeowners insurance rates. **The higher the rating, the less likely your house is to burn down**.	***Target: To Have a Plan Established by 2027***

	Mitigation – *1. Work with Fire Districts, Insurance Companies, and Fergus County to further develop water infrastructure.* *2. Establish Fire Stations within 5 miles of high-risk areas.* *3. Secure at least one Type 6, and one Tender per station.* *4. Consolidate Fire Districts as necessary* *5. Pursue Funding through Homeland Security and Department of Defense Grants*	
C. 14	**Risk** – Lack of qualified personnel beyond Engine Boss level to respond to an extended attack lasting beyond 24 hours. **Mitigation –** *1. Partner with DNRC NE Land Office to provide qualified personnel to serve at these positions as needed, and to provide Central Montana Dispatch with a resource list.* *2. Work with State and Federal partners to incentivize and streamline qualification certifications for higher positions for part-paid personnel.* *3. Work with Fergus County Commissioners, Fire Warden, Fire Council, and other agency partners to evaluate the need and develop a Local Incident Management Team.*	***Planning and Completion of Resource List Anticipated by 2027***
D	**RISK CONDITION: Hazardous Fuel Reduction**	
	An excess of hazardous fuel around structures places many homes at risk.	
D	**MITIGATION MEASURES: Hazardous Fuel Reduction**	**Status/Projected Completion Date**
D.1	**RISK – Vegetation on developed lots.** An excess of hazardous fuel around structures places many homes at risk. **Structures should have at least 100 feet of defensible space** as a first step to being made more fire resilient. **More clearance may be necessary depending on fuels, slope aspect, and a property's position on the slope.** Defensible space is currently mostly voluntary and often difficult to obtain. **MITIGATION** – *1. Continue to educate residents on the need for creating structure survivable space - by removing vegetation around their residence.* *2. Educate the public on the BLM Hazardous Fuels Reduction Cost-Share Program to help fund defensible space projects.* *3. Explore additional homeowner incentives to increase compliance with FireWise standards for defensible space on their properties.* *4. Continue educating the public on the need for and working with local fire districts to conduct property assessments for defensible space.*	***Ongoing Projects***
D.2	**RISK – Vegetation on adjacent vacant lots.** Presently in Fergus County, many parcels adjacent to homes are undeveloped with extensive fuel loading, placing neighboring homes at risk.	***Ongoing Projects***

	MITIGATION – *1. Continue to educate residents on the need for reducing hazardous fuels on vacant lots -to help protect the community and neighboring structures to the FireWise Standards.* *2. Explore property owner incentives to increase vacant lot cleanup.* *3. Established communities may want to consider development of codes or HOA enforcement requiring vacant lots to conform to the reduced fuel standards.* *4. Explore options to collaboratively to increase fuel reduction on vacant lots – Property owners, Fergus County Fire Council, special districts, and Fergus County should work collaboratively to obtain funding for hazardous fuel reduction.* *5. Educate residents and specifically new absentee landowners or "smaller acreage nontraditional" landowners of the use of mowing and livestock to reduce fuel loading and fire risk.*	
D.3	**RISK – Vegetation in and around Communities at Risk.** While many communities have begun to develop Hazardous Fuel Reduction (HFR) projects, there is much untreated land between structures and in common areas and open spaces throughout the county. Projects include fuel breaks around, and/or fuel reduction within the community. **MITIGATION –** ***1. Continue to encourage collaborative community based HFR projects.*** *Encourage property owners, homeowner associations, community service districts, and communities to identify through collaborative efforts strategic areas to perform hazardous fuel reduction (HFR) to eliminate catastrophic stand-replacing fire in their communities.* ***2. Continue to collaboratively pursue funding for community HFR projects.*** ***3. Explore incentives for landowners to reduce hazardous fuels -*** *to meet fire resilient conditions on their properties.*	***Ongoing Projects***
D.4	**RISK – Maintenance of treated hazardous fuels in subdivisions.** Hazardous fuels treatment must be part of an on-going strategy to maintain a fire-resistant condition into the future. Once subdivisions are treated to a fire resilient condition, there needs to be a written strategy to maintain that condition and an assignment of responsibility should be required. **MITIGATION –** ***Fund and maintain the investments, desired fuel condition, and to provide community safety in upcoming developments by requiring a hazardous fuel reduction maintenance plan*** *by either the Homeowners Association or developer. Either will provide for future fiscal and enforcement responsibilities to maintain a fire resilient condition.*	***Ongoing Projects***
D.5	**RISK – Treating hazardous fuels on public lands within communities at risk -** There are several thousand acres of public	***Ongoing Projects***

	lands within the boundaries of Fergus County's communities at risk. **MITIGATION** – ***Strive to treat all public lands within community at risk boundary.*** *Through collaborative efforts, all public lands within communities at risk should be assessed for treatment. Available lands should be to a standard which will create a fire-resilient stand, which would not contribute to initiating or sustaining a crown fire, and potential surface fuel flame lengths would be 4 feet or less.*	
D.6	**RISK – Treating hazardous fuels in the WUI.** "Community At Risk" boundary to the outer edge of the WUI is the area where collaborative community based hazardous fuel reduction efforts should occur so that fires approaching or leaving a community will be less intense, generate fewer embers for spot fires, and provide for defensible actions by suppression resources. These fuel reduction projects would focus on reductions in surface, ladder, and canopy fuels on public and private lands. **MITIGATION** – ***1. Continue to work towards completing Hazardous Fuels Reduction (HFR) projects in the WUI on public lands -*** *Seek opportunities to expand priority HFR projects adjacent to communities and in the WUI.* ***2. Explore incentives for all landowners to reduce hazardous fuels*** *– Explore incentives (e.g. tax breaks, etc.) for existing large landowners to meet HFR standards on their properties.*	***Ongoing Projects***
E	**RISK CONDITION: Long Term Forest and Rangeland Health**	
	Forests are at risk from overcrowding of canopy, understory, and ground vegetation due to decades of restrictions on all wildfires and management negligence. Conifer encroachment into open rangeland and meadows is affecting rangeland health and available grazing and reducing open space.	
E	**MITIGATION MEASURES: Long Term Forest and Rangeland Health**	**Status/Projected Completion Date**
	1. Continue to seek alliances *between Fergus County residents, Firewise Communities, the Forest Service, BLM, FWS, and MT-DNRC, and local fire districts* ***to mitigate overcrowding through collaborative thinning and under-burning efforts.*** ***2. Educate*** *Fergus County residents as to the* ***benefits of the use of prescribed fire near communities.***	***Ongoing Projects***
F	**RISK CONDITION: Human caused fire/ ignition**	
	2021-2023 in Fergus County and 13 counties in the Northeastern Land Office, there were 443 fires. 72.23% Human, 14.22% undetermined, 12.42% natural, 1.13% unreported.	

F	MITIGATION MEASURES: Human caused fire/ ignition	Status/Projected Completion Date
	1. Work with power companies and other entities to bury new power lines and incentivize burying existing power lines in wind prone areas. Possible partners to incentivize burying powerlines include Montana Sage Grouse Habitat Conservation Program, Conservation districts, and other conservation NGOs. ***2. Educate** Fergus County residents and producers on fire prevention; options include through schools, wildfire education events, fire safe community outreach, and agricultural equipment best management practices/ fire education.* ***3.** Work with power companies to deenergize lines during high wind events. This is a possible solution to reduce ignitions, but also problem as some fire halls need power to access water sources.*	***Anticipated Completion Date: 2025***

Report Progress of Action Items from the 2004 Fergus County CWPP

No.	Action Item	Progress or completed?
5.1.a	Amend existing building codes to apply equally to new single housing construction as it does to subdivisions. Make sure existing policy is comprehensive to wildland fire risks.	**UNFINISHED.** Fergus County does not have more restrictive building codes. The county adopts the state's statute of utilizing the International Building Code.
5.1.b	Develop County policy concerning building materials used in high-risk WUI areas on existing structures and new construction	**UNFINISHED.** Fergus County does not have a building materials policy for new construction. The county adopts the state's statute of utilizing the International Building Code.
5.1.c	Develop County policy concerning access in moderate to high-risk WUI areas where sub-divisions are built to insure adequate ingress and egress during wildfire emergencies.	**IN PROGRESS, UNFINISHED.** Fergus County adopted road and bridge standards in 2018 that address minimum road standards, but it does not address ingress/egress, and minimum turnaround requirements in high-risk fire areas.
5.1.d	Develop a County Commissioner's Office policy to support the applications for grant monies for projects resulting from recommendations in this plan.	**Not a written policy, but commissioners do consider all applications.**
5.1.e	Develop a formal Rural Fire Coordinator position within the County to manage the overhead responsibilities across all county fire districts.	**COMPLETED.** Part-time position in place.
5.2.a	Youth and Adult Wildfire Education Programs	**COMPLETED**. Every other year, the BLM, DNRC and Fergus County partner to provide a county-wide Wildfire Awareness and Education Event at the fairgrounds that target elementary schools. This event is open to the public.
5.2.b	Wildfire Risk Assessments of Homes in identified Communities	**IN PROGRESS, UNFINISHED.** This is completed on a voluntary basis that is initiated by the landowner to the fire district.

5.2.c	Home Site WUI Treatments	**COMPLETED**. Voluntary application process for homeowners through the BLM Cost-Share Program for Hazardous Fuels Reduction through the Conservation District.
5.2.d	Community Defensible Zone WUI Treatments	**IN PROGRESS, UNFINISHED.** This is completed on a voluntary basis that is initiated by the landowner to the fire district
5.2.e	Maintenance of Home Site WUI Treatments	**In Progress, Unfinished.** This is variable per district where it occurred. However this is outdated given new development and changes in landowners. It is unknown if a follow up assessment is completed 5 years after the fuels reduction project is completed with the BLM Cost-Share Program.
5.2.f	Re-entry of Home Site WUI Treatments	**UNCERTAIN IF COMPLETED.** It is unknown if a follow up re-entry is completed after the fuels reduction project is initially completed with the BLM Cost-Share Program.
5.2.g	Access Improvements of bridges, cattle guards, and limiting road surfaces	**IN PROGRESS AND ONGOING, SUBJECT TO AVAILABLE FUNDING.**
5.2.h	Access Improvements through road-side fuels management: Crystal Lake and Maiden Canyon Areas specifically.	**IN PROGRESS AND ONGOING, SUBJECT TO AVAILABLE FUNDING.**
5.3.a	Post FEMA "Emergency Evacuation Route" signs along the identified Primary and Secondary access routes in the county.	**Not addressed. DES is developing an Evacuation plan independent of the FEMA effort.**
5.3.b	Fuels mitigation of the FEMA "Emergency Evacuation Routes" in the county to insure these routes can be maintained in the case of an emergency.	**Not addressed. DES is developing an Evacuation plan independent of the FEMA effort.**
5.3.c	Roadside fuels treatments along Red Hill Road and Crystal Lake Road	**Not Considered. County doesn't have management authority on these roads. USFS did Fuels treatments around Crystal lake campground.**
5.4.a	Enhance radio availability in each district, link into existing dispatch, and improve range within the region, update to new digital, narrow band frequency adopted by feds and state. Communication needs to be expanded to unprotected areas. New buildings needed.	**COMPLETED** as required by law.
5.4.b	Retention of Volunteer Fire Fighters	**UNCERTAIN IF COMPLETED.** Rosters have improved in some fire districts and declined in others.
5.4.c	Increased training and capabilities of fire fighters. Improve recruitment of volunteer fire fighters. More fire fighters are needed.	**Ongoing. Fergus County provides Training annually through grant sources facilitated through the Fergus Co. Fire Coordinator.**
5.4.d	Construction of heated fire suppression equipment garages.	**In progress, funding dependent for each district.**
5.4.e	Acquisition of equipment needed for wildland and structure fire fighting. A rotation system is needed to upgrade equipment to meet NFMA standards.	**Ongoing. Fergus Conty provides equipment annually through grant sources facilitated through the Fergus Co. Fire Coordinator.**

The remaining hazardous fuels reductions treatments identified for the Bureau of Land Management and US Forest Service are subject to funding availability and bureaucratic processes and as such are not reported on in this section. Please see the Wildland Fire Fuel Treatments section to determine which projects have been accomplished from year to date.

Land Ownership

	Fergus County, MT	United States
Total Area (Acres)	2,784,016	2,303,091,014
Private Lands	2,124,182	1,406,717,148
Conservation Easement	48,386	21,237,199
Federal Lands	492,820	632,461,561
Forest Service	94,347	192,648,950
BLM	348,312	242,857,628
National Park Service	0	78,366,536
Military	17,841	24,412,029
Other Federal	32,320	94,176,418
State Lands	166,294	184,973,953
State Trust Lands*	159,258	51,983,763
Other State	7,036	132,990,190
Tribal Lands	0	67,946,824
City, County, Other	719	10,989,958
Percent of Total		
Private Lands	76.3%	61.1%
Conservation Easement	1.7%	0.9%
Federal Lands	17.7%	27.5%
Forest Service	3.4%	8.4%
BLM	12.5%	10.5%
National Park Service	0.0%	3.4%
Military	0.6%	1.1%
Other Federal	1.2%	4.1%
State Lands	6.0%	8.0%
State Trust Lands*	5.7%	2.3%
Other State	0.3%	5.8%
Tribal Lands	0.0%	3.0%
City, County, Other	0.0%	0.5%

* Most state trust lands are held in trust for designated beneficiaries, principally public schools. Managers typically lease and sell these lands for a diverse range of uses to generate revenues for the beneficiaries.

Figure 8: https://headwaterseconomics.org/apps/economic-profile-system/30027

Public and Stakeholder Engagement in the Development of this Plan

The CWPP update began in March 2023 and occurred over the course of 15 months. During this update process, CWPP drafts were shared with stakeholders for input, including the final draft which was provided to the public during an official public review and comment period.

Stakeholder Outreach

Stakeholders were contacted to inform them about the CWPP update and invite their participation in the update process. Stakeholders represented county and city departments, local elected offices, federal and state agencies, fire departments and districts, and nonprofit organizations.

Stakeholders responded to an initial online survey to provide guidance and direction on CWPP content updates. Survey results indicated that the majority of the stakeholders thought the 2004 CWPP was due for a significant re-write. Stakeholders also shared that they wanted a CWPP that reflected current data, is well-aligned with national planning priorities, retains relevance and detail for local application, and is user-friendly for multiple audiences to read. Stakeholders emphasized the need to take an action-oriented approach. They implemented this by including an action plan with adequate detail for implementation.

Stakeholder Kick-Off Meeting

Stakeholders met for two kick-off meetings in Lewistown on May 25, 2023, with Hydro Solutions. Due to scheduling constraints, two meetings scheduled on the same day accommodated the group. The purpose of the meetings was to initiate discussions on the CWPP update through large and small group conversations. Specific discussions focused on the value of the CWPP, local application, existing limitations to the current CWPP, ideas for improvement, and local wildfire concerns to be addressed in the CWPP update. Between the two meetings, approximately 30 stakeholders were in attendance. It was later determined that the detail and customization Fergus County was seeking for the CWPP update would not be attainable through Hydro Solutions and determined that the technical writing of the CWPP was better fit for Snowy Mountain Development (SMD). A kickoff meeting with SMD was held on October 30, 2023, and had 15 stakeholders present.

Stakeholder Progress Meeting(s)

Follow-up stakeholder meetings occurred on January 9, 2024, and February 5, 2024. The purpose of the meetings was to discuss the CWPP Draft and provide initial input on CWPP actions. 15 stakeholders were in attendance in January and 8 stakeholders were in attendance in February. Stakeholder calls and emails were coordinated throughout the process to provide stakeholders the ability to discuss CWPP drafts and provide feedback. In addition, stakeholders were invited to provide written comments on CWPP drafts. The WUI map determination meeting was held on April 5, 2023, 15 stakeholders were present.

Public Outreach and Open House

A core component of the development process includes public engagement and feedback. A table was set up at the Fergus County Winter Fair on January 26-27, 2024, 50 Fergus County residents provided feedback and comments for the CWPP update. A public open house was scheduled for March 7, 2024, in Forest Grove and provided the public with an opportunity to engage with stakeholders to answer questions, highlight outcomes, and discuss any CWPP concerns. 25 Fergus County residents were in attendance.

Public Review and Comment Period

Members of the public were also invited to review and comment on the CWPP during the public review period which was held August 19th – 30th, 2024. Details about the public comment and review period were available on the Fergus County website. This document was presented at a public meeting on August 22, 2024, at 7:00 P.M., at Fergus County Council on Aging, 307 W. Watson Street, Lewistown MT, 59457. This document was also made available for public review and comment at the Fergus County DES Office at 712 W. Main Street, Lewistown MT.

Source Citing

U.S. Fire Administration, Creating a Community Wildfire Protection Plan, FEMA; May 2020 (12 pages) https://www.usfa.fema.gov/downloads/pdf/publications/creating_a_cwpp.pdf

Montana Department of Natural Resources and Conservation, Community Wildfire Protection Plan Guidebook, (20 pages) https://dnrc.mt.gov/_docs/forestry/2022_MT_CWPP_Guideline_FINAL.pdf

A Profile of Wildfire Risk for Fergus County, MT https://headwaterseconomics.org/apps/economic-profile-system/30027 Accessed 10.18.2023

Montana Department of Natural Resources and Conservation, Montana Forest Action Plan, Dec. 2020 (47 pages) https://dnrc.mt.gov/_docs/forestry/Montana_Forest_Action_Plan_12.22.2020.pdf

Montana DNRC - Forestry Division, Fergus County Wildfire Risk Assessment, Dec. 15, 2022, Pyrologix, LLC (53 pages)

Fergus County Emergency Operations Plan, Hazard Specific Annex – Wildfire, https://co.fergus.mt.us/fergus-county-emergency-operations-plan

CENTRAL MONTANA Regional Hazard Mitigation Plan, Annex F Fergus County, 2023-2028 (60 pages) https://co.fergus.mt.us/images/disaster-emergency/2023.AnnexF-FergusCounty.pdf

Fergus County Community Wildfire Protection Plan, 2004; (166 pages) https://dnrc.mt.gov/Forestry/Community-Local-Government/FergusWUI2004.pdf

Fergus County Road and Bridge Standards, Sept. 2018; (22 pages) https://co.fergus.mt.us/images/Road__Bridge_Standards_Sept_2018.pdf

https://mwra-mtdnrc.hub.arcgis.com/pages/data

https://www.mtwatersheds.org/montanas-watersheds/watershed-directory/

Hostetler S, Whitlock C, Shuman B, Liefert D, Drimal C, Bischke S. 2021. Greater Yellowstone climate assessment: past, present, and future climate change in greater Yellowstone watersheds. Bozeman MT: Montana State University, Institute on Ecosystems. 260 p. https://doi.org/10.15788/GYCA2021. https://www.gyclimate.org/sites/default/files/files/GYCA_June2021_FullReport.pdf

National Pipeline Mapping System Website: https://www.npms.phmsa.dot.gov/

Interagency Standards for Fire and Fire Aviation Operations, 2024 edition. (312 pages) https://www.nifc.gov/sites/default/files/redbook-files/RedBook_Final.pdf

Stakeholders – Contact Information

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Lewistown, MT 59457
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406.366.6209 (cell)
Ryan.lower@northwestern.com
Charles Tuss, Wildfire Specialist
Charles.tuss@northwestern.com

Fergus Electric Cooperative (Powerlines)
Carson Sweeney
406.538.3465

CHS Pipelines
Jay Kinsey
Jay.kinsey@chsinc.com
Buffalo, MT

Centurylink Communications

Triangle Communications
Aaron Wittmer, Safety, Loss Control and Compliance Specialist
PO Box 2330 Havre, MT 59501
406.394.2771
awittmer@itstriangle.net

MidRivers Communications
T-Mobile (Cell Phone Towers)
Verizon Wireless (Cell Phone Towers)
AT&T Wireless (Cell Phone Towers)
City of Lewistown (Municipal Water Supply for Hydrant System within City Limits)

Fergus County School Superintendent
Lewistown Public Schools
Grass Range Public Schools
Moore Public School
Roy Public School
Winifred Public School
King Colony Public School
Denton Public School

Fergus County Fire Council
Beaver Creek/Cottonwood Volunteer Fire Department

Cheadle Volunteer Fire Department
Coffee Creek Volunteer Fire Department
Denton Volunteer Fire Department
Grass Range Volunteer Fire Department
Heath Volunteer Fire Department
Hilger Volunteer Fire Department
Lewistown Fire
Lewistown Rural Fire
Moore Volunteer Fire Department
North Fork Flatwillow Volunteer Fire Department
Roy Volunteer Fire Department
Winifred Volunteer Fire Department
Fergus County Sheriff's Office

USDA Forest Service – Lewis and Clark National Forest, Judith Ranger District
Matthew (Matt) Plagenz
District Fire Management Officer, Judith-Musselshell Ranger District, Helena-Lewis and Clark NF
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matthew.plagenz@usda.gov

USDA Natural Resources and Conservation Service
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USDI Bureau of Land Management, North Central Montana District, Lewistown Field Office, and Upper Missouri River Breaks National Monument
Michael Solheim, Fuels Program Manager, North Central Montana District - BLM
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406-538-1976
msolheim@blm.gov

USDI Fish and Wildlife Service, Charles M Russell National Wildlife Refuge
333 Airport Rd
Lewistown, MT 59457
406-538-8706

Montana Department of Natural Resources and Conservation
Montana Fish, Wildlife and Parks

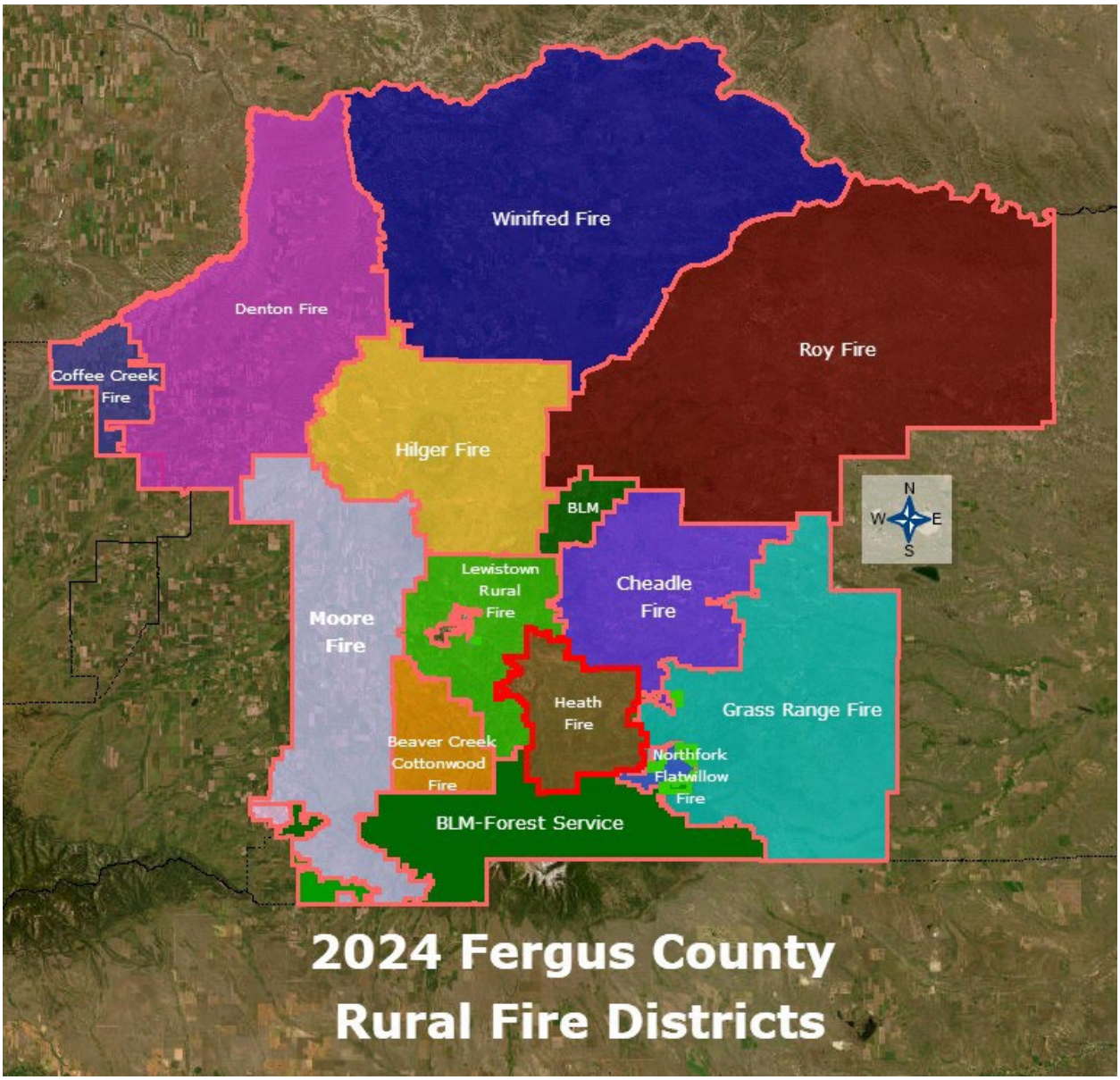
Fergus County Conservation District

Big Spring Watershed Group
American Prairie Reserve

Other Stakeholders
Lewistown Insurance
Montana Farm Bureau Insurance
State Farm Insurance

APPENDICES

Appendix A: Fergus County Fire Districts Map



Appendix B: Homeowner Defensible Space Assessment

Montana Department of Natural Resources and Conservation
Structure Assessment Form

Date: _____

Property Owner: _____

Address: _____

Email: _____ **Phone:** _____

Type of Structure: Primary Seasonal Outbuilding Care Facility Hotel/Lodge/Camp Public Facility Other

Number of Occupants: _____ **# of Additional Structures & type:** _____

Responding Fire Department: _____ **Phone:** _____

Assessor: _____ **Phone:** _____

Email: _____

Wildfire mitigation is intended to reduce wildfire risk, not eliminate the risk of wildfire. It is important to note that wildfire is a natural and inevitable phenomenon in Montana. It is a dynamic event influenced by several factors including weather (winds, temperature, relative humidity), topography (steepness of a slope, the direction that slope faces, and terrain features such as canyons and saddles), and fuels (light or heavy loading, height, continuity, and volatility) as well as human activity, response times, and seasonal trends. ***There will always be some risk of wildfire regardless of mitigation efforts and structural characteristics.***

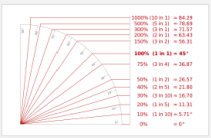
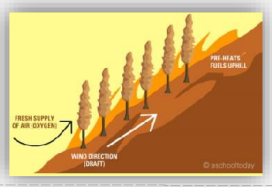
Numerous recent post-fire investigations have resulted in suggestions for preventing home-ignition. This detailed assessment is designed to identify vulnerabilities around the home and offer recommendations for improvement.

In a wildfire situation, home ignitions can occur in multiple ways including:

1) **Firebrands or ember-wash** – This is the most common way that homes ignite during a wildfire. Wildfires may produce high winds that loft firebrands up to a mile ahead of a fire. This often explains how fires grow so quickly. Closer to the fire, small embers swirl around like a blizzard and accumulate in corners and crevices. These may ignite combustible materials such as needles, leaves, wooden decks, siding, or enter through gaps, cracks, or vents in an attic, soffit, or crawlspace to ignite combustible materials within.
2) **Radiant & convective heat** – When intense enough, heat produced by a fire will ignite the home or preheat siding and other materials which then ignite more readily when in direct contact with flame or embers.
3) **Direct flame** – Vegetation or fuels near the home ignite, subsequently igniting the home.

A fire-resistant home needs **defensible space** to withstand a wildfire. Defensible space is created by selectively removing forest fuels around a home. It provides firefighters and equipment a safer environment with more room to work and a better chance at being successful. Defensible space and Home Ignition Zones will be addressed in the vegetation section.

Provide a sketch or photo of the home and property. Include distinguishing features, topography, predominant wind direction, and distance of vegetation from the home:

General overview of surrounding area		
Topography and Terrain	**Why does this matter?**	**What can be done?**
Slope within 15 feet of structure: ☐0-10% ☐10-25% ☐> 25%  **Is the structure setback from the edge of the slope:** ☐Adequate > 150 feet ☐Inadequate < 150 feet	*Fire moves faster upslope than across flat ground, especially when slope and wind are in alignment.* 	Take aggressive measures with fuel mitigation by increasing the spacing between trees and shrubs, especially those downslope from the structure. (See additional recommendations in the vegetation section)
Aspect: N NE E SE S SW W NW	*South-facing slopes generally receive more direct sunlight resulting in drier vegetation and a more combustible environment.*	Same as above
Position of structure on the slope: ☐Valley bottom or lower slope ☐Mid-slope ☐Upper-slope ☐Ridge top/chimney	*Position on slope can influence fire behavior, equipment access, response times, or safe evacuation.*	Same as above
Features present: ☐Steep slopes ☐Canyons ☐Chutes or chimneys ☐Saddles	*Topographic features such as steep slopes, canyons, chutes, chimneys, and saddles can funnel winds, affect fuel conditions, and dramatically increase fire behavior around your home.*	Same as above
Weather	**Why does this matter?**	**What can be done?**
Local weather and prevailing winds: N NE E SE S SW W NW **Periods of severe dry weather:** Y or N **# of days/month with strong dry winds:**	*The common occurrence of dry weather and strong winds increases probability of wildfire starts and aggressive fire spread in your area.* *High winds will cause a fire to move faster and the increase in oxygen will cause a fire to burn more intensely. Flame lengths will be longer and a shower of embers will blow ahead of the fire.* A **Red Flag Warning**- Is issued when humidity, high temperatures, high or erratic winds, and low fuel moistures indicate high fire danger and potential for large fire growth.	Take action to prevent wildfires. Be more aggressive with fuels mitigation around your home, especially those from the prevailing wind and weather side. Keep your roof, decks, and perimeter of your home clean of any needle and leaf debris. Stay updated on fire weather and conditions during the fire season. Including: ▪ Weather Internet Sites ▪ Fire Danger and Fire Wx

Roof Assembly	Why does this matter?	What can be done?
Material: ☐Metal or tile ☐Asphalt/composition shingle ☐Other noncombustible material ☐Untreated wood shakes **Cleanliness:** ☐No combustible material ☐Scattered combustible material < .5 in. depth ☐Clogged gutter, combustible material > .5 in. depth **Dormers or gullies:** Y or N **Condition:** ☐Good ☐Poor **Gaps in roof covering:** Y or N **Is the roof edge covered with metal flashing:** Y or N	*The roof is often the starting point for home ignition. It is most vulnerable because it has the largest surface area for both leaf and needle debris to accumulate, and for embers to land on.* *Dormers and gullies are primary areas where leaf and needle debris accumulate. Once on fire, adjacent siding may ignite as well.*  *Embers enter small gaps and cracks in roof assembly and roof edge.* *If gutters are present and embers land in the debris, metal flashing may help keep the roof edge from igniting.*	*Replace combustible or wood shake roof with noncombustible roofing material.* *Remove tree branches overhanging or within ten feet of the roof to reduce annual accumulation of needles or leaves.* *Keep roof and gullies clean, especially during fire season.* *Near dormers, install metal step flashing from under the roof covering and up the exposed wall, a minimum of 2 inches.* *Repair any damage, replace missing shingles, and seal all gaps or cracks larger than 1/8 inch.* *Protect openings at the roof edge by installing metal angle flashing.* *Plug gaps between the roof covering and roof deck with "bird stop," mortar mix, or foam inserts specially designed for metal roofs.*
Is there evidence of nesting rodents or birds: Y or N	*If nesting material is present, embers can also easily enter. Nesting material will provide light fuel for fast ignition.*	
Skylights: ☐None ☐Plastic ☐Glass **Notes:**	*Plastic skylights are more vulnerable to burning embers and may melt in a fire situation, thereby allowing an opening for additional embers or burning material to enter the home.*	*Replace plastic or dome skylights with flat tempered-glass skylights. Keep roof clean and remove any overhanging branches.*

Chimney	Why does this matter?	What can be done?
Present: Y or N **Screened:** Y or N **Vegetation nearby:** Y or N **Notes:**	*If you stand outside your home on a winter's night and look up at your chimney, you would likely see embers from your fire in the night sky.* *Nights are often cool in the mountains so fireplaces and woodstoves are used throughout the year, even during the summer months when fire danger may be high.* *Spark arrestors are required to prevent large embers from escaping through your chimney.*	Install a spark arrestor with ½-in mesh. These are available at lumber yards, hardware stores, or fire place specialty stores. Remove overhanging branches and trees that are within 10 feet of your chimney.

Gutters	Why does this matter?	What can be done?
Type: ☐None ☐Metal ☐Plastic or vinyl **Clean of litter:** Y or N **Cleaned Annually:** Y or N **Notes:**	*Needles and leaves accumulate in gutters, bake in the sun, and provide a fuel bed for windblown embers. A small fire in a gutter may grow to ignite wood fascia or the roof assembly.*  *During a wildfire, plastic or vinyl gutters melt, detach, and fall to the ground igniting combustible materials below, including vegetation and combustible siding.*	Remove tress or branches overhanging your home to minimize debris in gutters. Clean gutters of all debris before and during each fire season. Replace plastic or vinyl gutters with metal. Keep clean, especially during fire season. Install a solid cover or mesh screen to keep gutters from collecting debris. These will also require maintenance to keep clean. Remove gutters entirely and install rock mulch under the drip line to create a noncombustible perimeter around the home.

Eaves	Why does this matter?	What can be done?
Type: ☐Boxed-in or fire-treated ☐Open and/or not treated **Notes:**	*During a wildfire, high winds cause embers to swirl around like snowflakes in a blizzard. They can gather in crevices of open eaves or enter small spaces through gaps and cracks.*  *Without boxed-in eaves your attic is very susceptible to ignition from windblown embers.* 	Box in eaves to eliminate the possibility of embers blowing in. Place soffit vents near the roof edge, not near the exterior wall. Inject sealant (caulking) in any gaps. Remove all vegetation within 5-feet of home to minimize intense heat close to the home.

Exterior walls & siding	Why does this matter?	What can be done?
Siding material: ☐Noncombustible or metal ☐Log or heavy timber ☐Smooth wood or vinyl siding ☐Wood shake or ember ☐Receptive siding **Condition:** Good Moderate Poor **Structures distance from slope if slope is >25%:** **Skirting material:** **Notes:**	*Some siding materials are more resistant to radiant heat and direct flame impingement than others.* *Log structures resist ignition better than wood siding of thinner material, but it is vulnerable to ember intrusion between log joints.* *Radiant heat can pre-heat wood siding that may ignite more readily with direct flame contact.* *Upon exposure to low levels of radiant heat, vinyl siding may be damaged and fall off leaving openings for embers to enter the interior of the home.*  *If siding is too close to ground, < 2-inches, even ground fuels may ignite the siding.*	Replace wood siding with noncombustible material like cement board, masonry, or stucco, or treat wood with fire-resistant treatment. Inspect and replace any broken or missing chinking between logs. Caulk/seal any gaps in siding and where the siding meets the trim. Consider noncombustible skirting around the building:  Maintain a noncombustible zone around the perimeter of your home and remove any highly combustible vegetation (junipers, pine shrubs) that may ignite and be in direct contact with siding.
Windows	**Why does this matter?**	**What can be done?**
Type of windows: ☐Single-paned ☐Double-paned ☐Tempered glass **Window Frame Material:** ☐Metal ☐Fiberglass ☐Aluminum-clad wood ☐Plastic	*Windows may break after 1 to 3 minutes of exposure to intense heat or flame, subsequently exposing window coverings and home interior to embers and firebrands.* *Single-pane windows are more vulnerable than dual-paned, multi-paned, or tempered glass windows.* *Because of the temperature difference between the glass and the frame, larger windows are more vulnerable to breaking than smaller windows.*	Build shutters of ½-inch plywood or thin metal and make installation a step in your evacuation plan. Be sure all hardware is present and that they are easy to install in a short amount of time. Even the best windows will not protect if they are left open. Close all windows upon evacuation.

Screen Material: ☐Metal ☐Fiberglass ☐Plastic	*If windows do break, metal or fiberglass screens may still keep firebrands and embers from entering the home, while plastic screen can melt.*	Replace plastic screens with metal or fiberglass screens.
Vegetation near windows: Y or N **Notes:**	*Planting combustible vegetation near windows increases the chances of intense heat coming into direct contact with the windows.*	Remove highly combustible vegetation in front of windows and replace with something high-moisture or low growing.
Vents	**Why does this matter?**	**What can be done?**
All structure vents have: ☐Non-combustible 1/8- inch protective screen ☐ Non-combustible screen = ¼ inch ☐No screens **Check vents if they are NOT screened with noncombustible 1/8-1/4 inch material:** Attic / Gable Dryer / Flat Eave / Soffit Turbine / Ridge Crawl space / Foundation	*In the event of a wildfire, embers can enter small spaces to ignite combustible materials within.* *Post-fire surveys have found that embers large enough to cause ignitions can pass through ¼ inch and even 1/8 inch mesh screening.* ***Screening will help reduce the risk of ember entry, but it is not a perfect solution (IBHS).* 	Install 1/8 inch metal mesh screens on all vents. Until recently, minimum screen size allowed was ¼ inch. If 1/8-inch screening is installed, it will take maintenance to keep it clean of debris, allowing air to circulate so moisture does not build-up in enclosed space. Consider preparing vent covers of plywood or thin metal to install as part of a pre-evacuation preparedness plan. Install a louver-type vent that stays closed unless the dryer is operating.

Attached Structures	Why does this matter?	What can be done?
Overall, are combustible attachments: ☐None, clear of receptive fuel ☐Receptive fuel adjacent ☐Receptive fuel below **Decks and Balcony:** ☐Not applicable Clear of receptive fuel? Y or N **Patio covers:** ☐Not applicable Clear of receptive fuel? Y or N **Carport:** ☐Not applicable Clear of receptive fuel? Y or N **Fences:** ☐ Not applicable Clear of receptive fuel? Y or N **Garage:** ☐Not applicable Have receptive fuel adjacent? Y or N **Storage Building/Shed:** ☐Not applicable Clear of receptive fuel? Y or N	*The area between the home and the surrounding wildland is often where combustible yard items (brooms, lawn furniture & cushions, children's toys, swing sets, door mats, etc.) are stored or accumulate.* *Decks are often constructed of combustible materials. Items are left on decks and often stored underneath, along with a seasonal accumulation of grass, leaves, needles and yard debris. These are all receptive fuel beds for windblown embers.*  *Carports may be storage for fuel, oil, or other flammable automotive liquids.* *Fences tend to collect debris and may act like a wick to bring fire to a building.* *If any attachment is weathered, flaking, peeling, or in poor condition, it will be more susceptible to ignition.*	Keep all areas clean of debris. During fire season, do not store combustible materials under or on top of decks or porches attached to your home. If interested in using the area for storage, considering enclosing or screening. Maintain vegetation out to 30 feet. Keep areas under low patios clear of wood mulch and yard debris. Install a metal flashing strip to separate attachment from the home. Replace wood fence-ends with noncombustible material (masonry or metal) like a gate or heavy timber to keep fire from spreading to the home. Replace any rotten wood.

<table>
<tr><th colspan="3">Vegetation</th></tr>
<tr><th>Zone 1a: 0-5 feet</th><th>Why does this matter?</th><th>What can be done?</th></tr>
<tr>
<td>Ember resistant zone 3-5 feet around the structure?
Y or N

Ground cover around structure:
Wood
Rock
Gravel
Grass
Other_____

Grass:
☐None
☐Short and maintained
☐Native and tall

Shrubs:
☐None
☐Light and no dead
☐Heavy with dead material

Trees:
Y or N

Ladder fuels:
Y or N</td>
<td>Trees and shrubs planted within the 0-5 foot home ignition zone can produce a significant amount of radiant and convective heat on your home causing it to ignite.
 
Juniper bushes in particular are extremely flammable.

Home Ignition Zone – Is the home and its surroundings out to 200 feet.

Zone 1a: 0-5 ft
Zone 1b: 5-30 ft
Zone 2: 30-100 ft
Zone 3: 100-200 ft</td>
<td>Use nonflammable mulches, rock and noncombustible hard surfaces.

Remove trees located 0-5 feet from the structure. If removing the tree is not an option, prune lower limbs of trees to reduce the chance of a fire spreading to the tree top than moving to the roof. (10-15 feet or 1/3 the trees height, whichever is less is a standard rule of thumb for pruning)

Shrubs adjacent to trees need to be removed to eliminate them from spreading fire into the trees tops.

Consider low growing herbaceous (non-woody) or succulent plants near structure.

Pick up dead and downed vegetation sticks and logs where they have heavy accumulation.</td>
</tr>
<tr><th>Zone 1b: 5-30 feet</th><th>Why does this matter?</th><th>What can be done?</th></tr>
<tr>
<td>Overall, are combustibles 5-30 feet from structure:
☐Not present
☐Light
☐Moderate
☐Heavy

Grass:
☐None
☐Short and maintained
☐Native and tall

Shrubs:
☐None
☐Light and no dead
☐Heavy with dead material</td>
<td>Deciduous plants tend to be more fire resistant, because leaves have higher moisture content.

Trees and shrubs within the 5-30 foot home ignition zone can cause a significant amount of radiant and convective heat on your home.

Cured grass will support fire spread rapidly toward your home. The greater the amount (height and volume) the greater the flame length and heat intensity, and the harder it is to control.</td>
<td>Break up continuous vegetation.

Consider broadleaf/deciduous trees because they are less flammable then conifer trees.

Keep 10 feet spacing between trees tops or create small groupings of trees and/or shrubs.

Lower limbs of trees need pruned to reduce the chance of a fire spreading to the canopy. (10-15 feet or 1/3 the tree height, whichever is less is a standard rule of thumb for pruning)</td>
</tr>
</table>

Trees: ☐None ☐Deciduous - good separation ☐Deciduous - continuous ☐Mixed – good separation ☐Mixed – continuous ☐Coniferous-good separation ☐Coniferous – continuous *Good separation = > 20 feet **Ladder Fuels:** ☐Absent ☐Scattered ☐Abundant **Heavy fuels on the ground:** Y or N	 *Ladder fuels may allow a surface fire to climb into the canopy of the trees.*  *Heavy ground fuels will increase flame length, fire intensity, and duration of heat.*	Shrubs and tall grass adjacent and under to trees needs to be removed to eliminate them from being ladder fuel to tree canopies. Maintain grass so it is short and green (non-burnable). Walkways and paths can be effective for breaking up fuel continuity so that it is difficult for a fire to carry. Eliminate areas of heavy fuels on the ground.
Zone 2: 30-100 feet	**Why does this matter?**	**What can be done?**
Grass: ☐None ☐Short and maintained ☐Native and tall **Shrubs:** ☐None ☐Light and no dead ☐Heavy with dead material **Trees:** ☐None ☐Deciduous - good separation ☐Deciduous – continuous ☐Mixed – good separation ☐Mixed – continuous ☐Coniferous – good separation ☐Coniferous - continuous **Tree canopy spacing:** < 10 feet > 10 feet	*Isolated or small grouping of trees or shrubs are best. Treat groups as individual units.* *Trees within the 30-100 foot home ignition zone can cause a fire to spread within the tree tops and cause radiant and convective heat on your home.* *Shrubs and lower limbs are ladder fuels that cause a fire on the ground to climb into the canopies of the trees.* **Notes:**	Consider broadleaf/deciduous trees because they are less flammable then conifer trees. Keep 10 feet spacing between tree canopies or create small groupings of trees and/or shrubs. Lower limbs of trees need pruned to reduce the chance of a fire spreading to the canopy. (10-15 feet or 1/3 the trees height, whichever is less is a standard rule of thumb for pruning) Walkways and paths can be effective for breaking up fuel continuity so that it is difficult for a fire to carry. Native grass lawns and recreated meadows are also possibilities for this zone. Use drought resistant and low water use species.

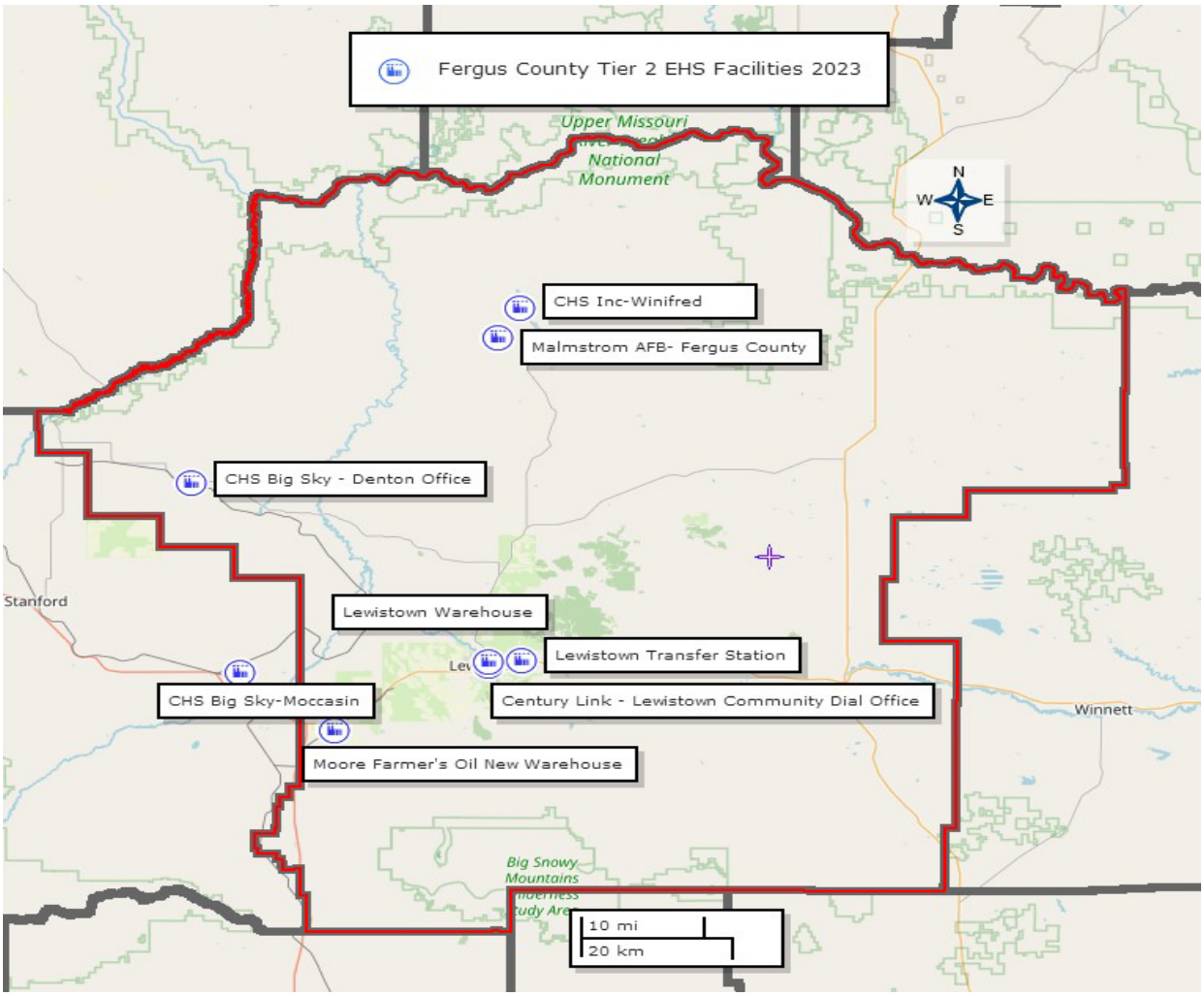
Ladder Fuels: ☐Absent ☐Scattered ☐Abundant **Heavy fuels on the ground:** Y or N		
Zone 3: 100-200 feet	**Why does this matter?**	**What can be done?**
Heavy and/or continuous conifer trees 100-200 feet from structure: Y or N **Grass:** ☐None ☐Short and maintained ☐Native and tall **Shrubs:** ☐None ☐Light and no dead ☐Heavy with dead material **Trees:** ☐None ☐Deciduous - good separation ☐Deciduous – continuous ☐Mixed – good separation ☐Mixed – continuous ☐Coniferous – good separation ☐Coniferous - continuous **Tree canopy spacing:** < 10 feet > 10 feet **Ladder Fuels:** ☐Absent ☐Scattered ☐Abundant **Heavy fuels on the ground:** Y or N	*By thinning, grouping or breaking up the continuous vegetation in this area you:* • *Reduce the number of embers that will threaten your home (?)* • *Decrease intensity of a fire that may be nearing your home.* • *Suppression efforts may be more effective with fewer forest fuels.* *Reducing ladder fuels helps keep a fire on the ground. This could be a fire that started away from your home or a fire that started in your yard from spreading to the neighboring area.* **Notes:**	Keep 10 feet spacing between tree tops or create small groupings of trees. This can depend on the tree species. Lower limbs of trees need pruned to reduce the chance of a fire spreading to the canopy (10-15 feet or 1/3 the tree height, whichever is less is a standard rule of thumb for pruning) **Specific Recommendations:**
Heat Source	**Why does this matter?**	**What can be done?**
Structure is heated by: ☐Wood ☐Propane ☐Electric ☐Natural gas	*As previously mentioned, it is important chimneys have a spark arrestor.* *The next important factor when heating with wood is storage. If wood piles are*	Store fire wood 30 feet from structure or in an enclosed structure. Clear vegetation away from

Wood storage: ☐Not applicable ☐Adjacent to structure ☐< 30 feet away ☐> 30 feet away ☐Enclosed storage **Propane tank location:** ☐Not applicable ☐ Above ground with clearance ☐Above ground no clearance ☐Underground **Electric:** ☐Not applicable ☐Above ground powerlines ☐Buried powerlines	*kept next to the home or within 30 feet are ignited by embers they increase the chances of intense heat* *coming into direct contact with the home.* *Propane tanks when heated by nearby vegetation or combustible materials can explode if they don't vent properly.* *Overhead electric power lines when in contact with vegetation can cause a fire (tree falling into a power line or power line structures falling into a tree).*	propane tanks. Ensure propane tanks are not moved or altered so they will vent properly if heated. Ensure vegetative clearance above, below and adjacent to power lines. Have power line structures inspected and replaced if needed. **Specific Recommendations:**
Ignition Sources	**Why does this matter?**	**What can be done?**
Barbecue: Y or N **If yes:** ☐Propane ☐Charcoal **Fire pit:** Y or N **If yes:** ☐< 10 feet clearance ☐> 10 feet clearance **Burn barrel:** Y or N **If yes:** ☐< 15 feet clearance ☐> 15 feet clearance **Screen on barrel:** Y or N **Other ignition sources:** ☐ Lawn equipment ☐Off road vehicles ☐Welding equipment	*Ignition sources can escape and start a wildfire. It is important to ensure ignition sources are never left unattended and always extinguished properly.* *Barbecues, fire pits, debris burning and many other ignition sources can cause wildfires if left unattended; ashes are disposed of improperly; on windy dry days; or when burnable vegetation is to close.* *The last thing anyone wants to happen is to be the cause of a wildfire where property is lost and danger to human life is at risk.* **Specific Recommendations:**	Insure a minimum of 10-15 feet clearance of burnable vegetation above and around ignition source. Remain with fire and/or ignition sources at all times. Keep fires small. Always have plenty of water nearby. Check weather forecast. Don't burn on windy dry days. Check on the burned area the following day to ensure it is not holding any heat. Keep fire extinguisher's available. Dispose of ashes in a safe manor (mix with water in metal container). Consider alternatives to burning (composting or chipping).

Appendix A		
Water Sources	**Why does this matter?**	**What can be done?**
Available water sources: ☐Hydrants ☐Outside faucets ☐Pond or creek ☐Outside sprinkler system ☐None **Notes:**	*Water sources are important when you have a wildfire or are trying to prevent a wildfire.* *Being able to apply water to areas 200 feet from your home is important.* *Water supplies can also assist emergency response vehicles and personal if they are available and can safely work in the area.*	Have multiple garden hoses available to reach areas 200 feet from your home. If you have ponds, a pool, creek, or irrigation ditches, consider having a pump and hose available to apply water if needed. Consider how to apply water if the electric power is turned off. (Generator, pump with gas motor).
Appendix B		
Access	**Why does this matter?**	**What can be done?**
Address visible, reflective and noncombustible: Y or N **Locked gate blocking access:** Y or N If yes, does fire department have access: Y or N **Community access:** ☐Two or more roads in/out ☐One road in/out **Width of driveway:** ☐15 feet or less ☐16 feet or more **Length of driveway:** ☐< 50 feet ☐50 to 150 feet ☐150 to 500 feet ☐500 feet or more **Adequate turnaround:** Y or N **Bridge weight limits:** Y or N ☐Unknown ☐Not applicable	*If emergency service vehicles cannot find you property it can be difficult for them to assist if they are available and can safely work in the area.* *Providing gate access to emergency service is important so they can assist.* *By having two evacuation routes it increase the chances of a safe evacuation. One route could be blocked by downed power line, emergency vehicles, fire, or a downed tree.* *The length of your driveway, adequate turnaround and bridge weight limits are helpful for emergency personnel to know so they can determine if it is safe for them to enter.*	Ensure your property is clearly marked will reflective and noncombustible material and can be seen from the road. Provide local fire department and/or emergency responders with gate access. Create an alternative evacuation route out of your property and/or community. Make sure driveway is clear of overhanging trees and vegetation is cleared at least 5 feet on each side of driveway. Consider creating a turnaround route for emergency vehicles.

Notes and Comments

Appendix C: Tier II Hazardous Materials Mapping



Facility ID	Facility Name	Company Name	Filing Year	Filing Type	Street	City	County
7373650	Express Pipeline Buffalo Station	Express Pipeline Buffalo Station	2023[Tier2]	312	691 W. Dry Creek	Buffalo	Fergus
7373653	Express Pipeline Straw Station	Express Pipeline Straw Station	2023[Tier2]	312	29304 US Hwy 191	Buffalo	Fergus
				302			
7378766	Winifred CO	Winifred CO	2023[Tier2]	312	222 Main Street	Winifred	Fergus
7392228	ZOD_ALLTEL_MT07_LEWISTOWNDT - USID109449	ZOD_ALLTEL_MT07_LEWISTOWNDT - USID109449	2023[Tier2]	312	224 WEST MAIN STREET (aka HIGH	LEWISTOWN	Fergus
				302			
				311			
7396854	Lewistown Warehouse	CHS - DBA West Central	2023[Tier2]	312	202 Truck Bypass	Lewistown	Fergus
				302			
7407285	CenturyLink LEWISTOWN COMMUNITY DIAL OFFICE	CenturyLink LEWISTOWN COMMUNITY DIAL OFFICE	2023[Tier2]	312	507 W BROADWAY ST	LEWISTOWN	Fergus
7407856	CHS INC - CHS BIG SKY - DENTON LIQUID FERT	CHS INC - CHS BIG SKY - DENTON LIQUID FERT	2023[Tier2]	312	490 Elevator Rd.	Denton	Fergus
7407859	CHS INC - CHS BIG SKY - DENTON ELEVATOR/DRY PLANT	CHS INC - CHS BIG SKY - DENTON ELEVATOR/DRY PLANT	2023[Tier2]	312	200 Elevator Rd.	Denton	Fergus
				302			
7407871	CHS INC - CHS BIG SKY - WINIFRED	CHS INC - CHS BIG SKY - WINIFRED	2023[Tier2]	312	108 E Main Street	Winifred	Fergus
				302			
7407876	CHS INC - CHS BIG SKY - MOCCASIN	CHS INC - CHS BIG SKY - MOCCASIN	2023[Tier2]	312	1408 GROVE LANE	MOCCASIN	Fergus
7407892	CENTRAL MONTANA PROPANE LLC - LEWISTOWN PROPA	CENTRAL MONTANA PROPANE LLC - LEWISTOWN PROPA	2023[Tier2]	312	10 Lime Kiln Road	Lewistown	Fergus
				302			
7407895	CHS INC - CHS BIG SKY - DENTON OFFICE / STORE	CHS INC - CHS BIG SKY - DENTON OFFICE / STORE	2023[Tier2]	312	622 Broadway Ave	Denton	Fergus
				302			
7410800	Moore Farmers Oil Co., Bulk Plant	Moore Farmers Oil Co.,	2023[Tier2]	312	300 Southwest 2nd Street	Moore	Fergus
				302			
7410801	Moore Farmers Oil Co., New Warehouse	Moore Farmers Oil Co.	2023[Tier2]	312	113 Fergus Avenue	Moore	Fergus
				302			
7410802	Moore Farmers Oil Co., Fertilizer Plant	Moore Farmers Oil Co.	2023[Tier2]	312	201 A Street East	Moore	Fergus
7410803	Moore Farmers Oil Co., New Store	Moore Farmers Oil Co.	2023[Tier2]	312	7 2nd Street NE	Moore	Fergus
				302			
				311			
7419585	Malmstrom AFB - Fergus County	United States Air Force	2023[Tier2]	312	21 77th St N	Malmstrom AFB	Fergus
7421071	CHS Inc - Front Range Pipeline, LLC - Buffalo	CHS Inc.	2023[Tier2]	312	497 W. Dry Creek Road	Buffalo	Fergus
				302			
7426361	Lewistown TS	Lewistown Disposal, Inc.	2023[Tier2]	312	75 Corbley Rd	Lewistown	Fergus

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