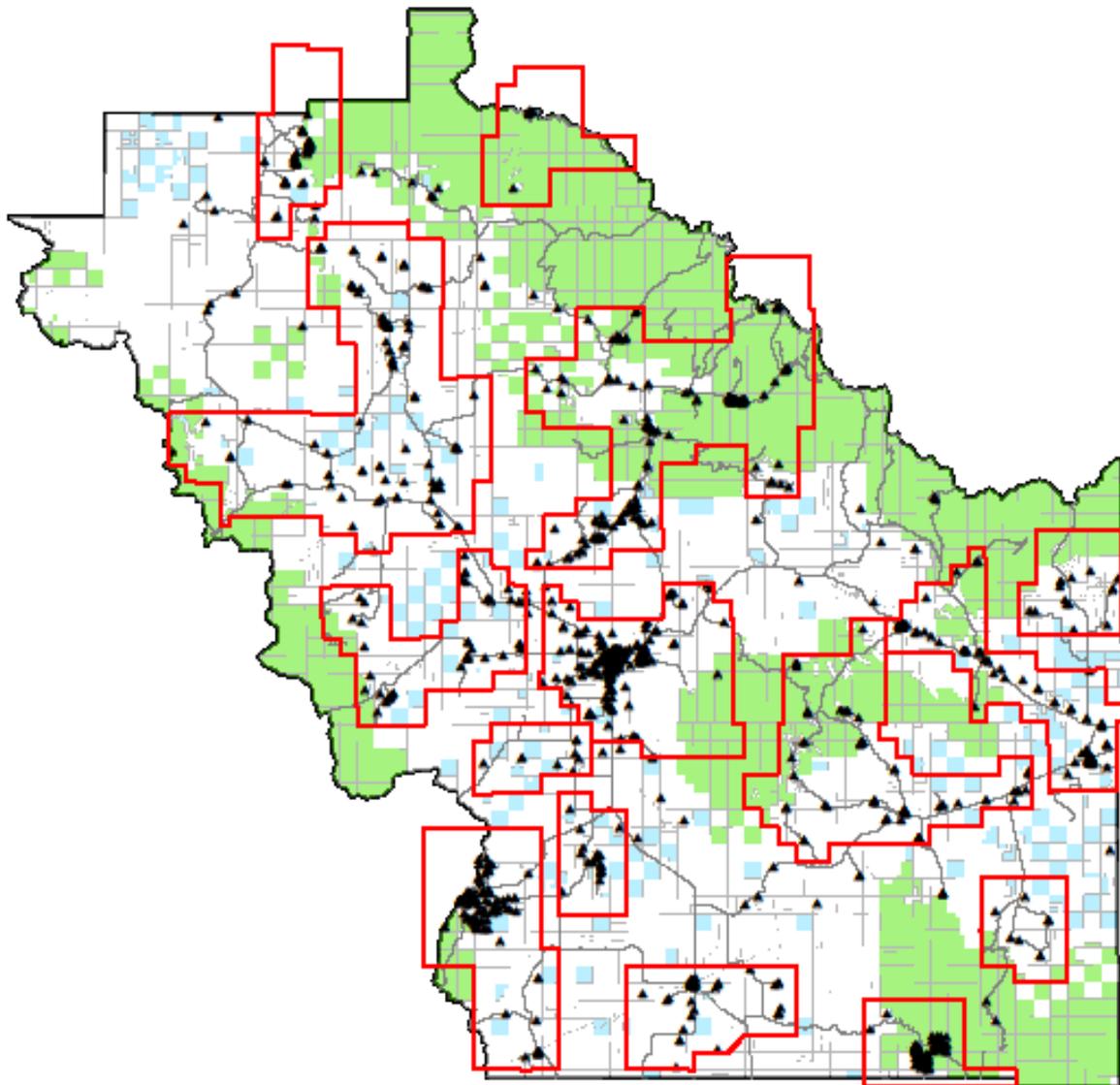


# Meagher County Community Wildfire Protection Plan



Red outlined areas are the Wildland Urban Interface Areas "WUI"

**2023**

# Meagher County Wildfire Protection Plan 2023

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# Meagher County Wildfire Protection Plan 2023

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# Meagher County Wildfire Protection Plan 2023

## 1. Executive Summary

### 1. a. Problem Overview

Meagher County covers just over 2,394 square miles, or 1,530,867 acres and typically has 35 to 40 wildfires per year. Three fire departments are located throughout the county, including the White Sulphur Spring City Fire Department, Martinsdale Fire Service Area, and the Meagher County Rural Fire Department. Meagher County interacts with the Montana Department of Natural Resources and Conservation (DNRC), Helena & Lewis and Clark NF, Custer Gallatin NF and the Bureau of Land Management Lewistown Field Office, thus creating a high degree of interagency complexity. In addition to the local government resources, multiple engines are positioned throughout the county by the DNRC, under the county coop program.

As with numerous counties in Montana, new structures continue to be built in the Wildland Urban Interface (WUI). This increasing development in interface areas is accompanied by potential access problems for fire suppression vehicles and a general lack of understanding by new residents of the need for an asset protection zone to guard the improvements against fire events. The past and present activity of insects and pathogens (Mountain Pine Beetle, Spruce Bud Worm, White Pine Blister Rust, and others) has caused considerable changes to the fuel conditions over the past decade, while changing weather patterns are contributing to longer and more active fire seasons.

### 1. b. Process Overview

The Meagher County Community Wildfire Protection Plan (hereafter known as “CWPP”) has been developed to assist Meagher County, Meagher County Fire Departments, and the federal and state agencies in the identification of private and public lands at risk of severe wildland fires, and to explore strategies for the prevention, suppression, and management of such fires. The CWPP is intended to outline the plans and activities targeted at reducing the risk of high severity/intensity wildfires and/or WUI fire events in Meagher County. The intent of this planning document is to ensure that the health, safety, and welfare of Meagher County’s citizens remain secure from the threats of structural and wildland fires.

### 1. c. Overall Goals

The CWPP will improve planning and fire management tools for county and the county fire departments alike, which will allow Meagher County to provide its citizens with the means to live more safely in a fire prone ecosystem. The CWPP fosters the preservation of the economy of Meagher County by maintaining and improving the efficiency of fire protection/management in the County.

### 1. d. Methodology

The wildfire assessment for Meagher County was developed through analysis of Geographic Information Systems (GIS) data. This data-based approach enables fire management personnel

# Meagher County Wildfire Protection Plan 2023

to look at specific areas of high risk, such as municipal watersheds, wildland urban interface subdivision areas and evacuation routes, as well as to recommend projects that should be included in the hazardous fuel mitigation plan.

## 1. e. Mitigation Plan

The planning priorities of the CWPP are to protect human health and life, protect critical community infrastructure, protect private property, and protect natural resources. Mitigation goals include performing structure protection evaluations and treatments, evacuation road evaluations, and completing fuel reduction projects. Fuel treatment areas, prioritized according to threat and community importance, are detailed in Risk and Hazard Mitigation Areas and Projects

## 2. Introduction

### 2. a. Background and History

This 2023 CWPP is a revision and update of the 2014 Meagher County CWPP. This 2023 CWPP has been developed to assist White Sulphur Spring City Fire Department, Grassy Mountain Fire Department, Martinsdale Fire Service Area, Meagher County Rural Fire Department, and the federal and state agencies in identifying private and public lands at risk of severe wildfires, and to explore strategies for the prevention and suppression of such fires. The CWPP is intended to outline Meagher County’s activities targeted at reducing the risk to human health and life, protect critical community infrastructure, protect private property, and protect natural resources.

The CWPP will improve planning tools for county officials as well as the fire departments, which will result in better building and development codes and regulations, particularly as they relate to the development of the WUI and urban expansion. The CWPP fosters the preservation of the economy of Meagher County by maintaining and improving the fire protection capability of the County.

This CWPP meets the National Fire Plan (NFP), Healthy Forests Restoration Act (HFRA) and Federal Emergency Management Agency (FEMA) standards. The CWPP must be a standalone plan. The process follows the Montana DNRC [Community Wildfire Protection Handbook 2022](#).

### 2. b. Mission

The mission of the Meagher County Fire Departments is:

“To safely protect the lives and property of the residents of Meagher County to the best of our ability and in the most efficient manner possible.”

### 2. c. Current Relevant Fire Policies

A brief discussion of the relevant fire policies is provided to educate the community.

# Meagher County Wildfire Protection Plan 2023

## National Fire Plan

“[The National Fire Plan](#) (NFP) is a long-term investment that will help protect communities and natural resources, and most importantly, the lives of firefighters and the public. It is a long-term commitment based on cooperation and communication among federal agencies, states, local governments, tribes and interested publics. It mandates community participation in its implementation. The NFP also mandates that local governments develop and adopt local land use plans and ordinances that provide for the maintenance of defensible space and fuel management on municipal and private property.

## [10-Year Comprehensive Strategy for Reducing Wildland Fire Risks](#)

### A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment—Implementation Plan

The goals of the 10-Year Comprehensive Strategy are to:

- Improve Prevention and Suppression
- Reduce Hazardous Fuel
- Restore Fire Adapted Ecosystems
- Promote Community Assistance.

This is done through a Framework for Collaboration. Successful implementation will involve stakeholder groups with broad representation, including Federal, State, and local agencies, tribes and the public, collaborating with local line officers on decision making to establish priorities, cooperate on activities, and increase public awareness and participation to reduce the risks to communities and environments.

## [Healthy Forests Restoration Act](#)

The Healthy Forests Restoration Act (HFRA) represents the legislative component of the Healthy Forests Initiative, introduced by President Bush in January 2003. Title I of the HFRA authorizes the Secretaries of Agriculture and Interior to expedite the development and implementation of hazardous fuel reduction projects on federal land managed by the US Forest Service or Bureau of Land Management when certain conditions are met.

Priority areas for use of expedited authority include the wildland urban interface, municipal watersheds, areas impacted by wind throw or insect and disease epidemics, and critical wildlife habitat that would be negatively impacted by catastrophic wildfire.

The HFRA emphasizes the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects and places priority on treatment areas identified by the communities themselves in a CWPP.

## Montana State Policies

### [76-13-115. State fire policy](#)

The legislature finds and declares that:

# Meagher County Wildfire Protection Plan 2023

- (1) the safety of the public and of firefighters is paramount in all wildfire suppression activities;
- (2) it is a priority to minimize property and resource loss resulting from wildfire and to minimize expense to Montana taxpayers, which is generally accomplished through an aggressive and rapid initial attack effort;
- (3) interagency cooperation and coordination among local, state, and federal agencies are intended and encouraged, including cooperation when restricting activity or closing areas to access becomes necessary;
- (4) fire prevention, hazard reduction, and loss mitigation are fundamental components of this policy;
- (5) all property in Montana has wildfire protection from a recognized fire protection entity;
- (6) all private property owners and federal and state public land management agencies have a responsibility to manage resources, mitigate fire hazards, and otherwise prevent fires on their property;
- (7) sound forest management activities to reduce fire risk, such as thinning, prescribed burning, and insect and disease treatments, improve the overall diversity and vigor of forested landscapes and improve the condition of related water, wildlife, recreation, and aesthetic resources;
- (8) development of fire protection guidelines for the wildland-urban interface is critical to improving public safety and for reducing risk and loss; and
- (9) catastrophic wildland fire in wildland-urban interface areas resulting from inadequate federal land management activities to reduce fire risk has the potential to jeopardize Montanans' inalienable right to a clean and healthful environment guaranteed in Article II, section 3, of the Montana constitution.

Currently there are no State policies that require a rural fire district or county fire organization to develop a community wildfire protection plan; however, it certainly is encouraged by the State Fire Policy.

It is the policy of the State to complete pre-disaster mitigation plans in compliance with the Federal direction noted above.

Local Policies: Growth Policy (2021)

## ***City of White Sulphur Springs & Meagher County Consolidated City/County Growth Policy***

Meagher County adopted the City of White Sulphur Springs & Meagher County Consolidated City/County Growth Policy “[WSS&MC Con Growth Policy](#)” in 2021. In 1999, the Montana Legislature revised this community development and planning tool and renamed it the Growth Management Policy. The requirements of a Growth Management Policy are detailed in 76-1-601, Montana Code Annotated. The WSS&MC Consolidated Growth Policy provides guidance for the community as it grows and develops. Special attention is given to specific land uses and the need for infrastructure to support those identified uses. Preparing a growth policy includes describing the historical base, establishing key indicators, and monitoring

# Meagher County Wildfire Protection Plan 2023

the growth trends, and developing policies to accommodate the potential growth and changes in the community.

The statements in the [WSS&MC Consolidated Growth Policy](#) have goals, objectives, and policies which affect public safety throughout the document and provide direction to this CWPP. The most significant are listed in the Land Use.

## Land Use

### Goal:

Protect agricultural operations within the County while facilitating logical residential development (permanent and temporary) with an eye on protecting public health and safety and providing necessary services, encouraging development of safe and reasonably priced housing for all residents. This will be done with an emphasis on coordination between City and County land use planning and infrastructure.

### Objectives:

1. The developers of new subdivisions shall provide their projects with infrastructure including but not limited to wastewater treatment, drinking water, on-site roads, utilities, and fire protection water supplies.
2. New subdivisions should be located where they can be safely and efficiently provided with emergency services and should be provided access via public rights of ways and roads.
3. Roads accessing new development should be built to County Subdivision Standards.
4. Fire protection and Firewise requirements such as ingress/egress and water supplies should be provided to new developments.

## Local Policies; Subdivision Regulations (2022)

The [Meagher County Subdivision Regulations 2022](#) provide requirements to ensure firefighter safety, effective firefighting, reduced fire damage, and safety in all new subdivisions. Sections from the regulations related to fire protection are listed below.

### Fire Protection

1. All subdivisions must be planned, designed, constructed, and maintained to minimize the risk of fire and to permit the effective and efficient suppression of fires to protect persons, property, and forested areas. The creation of lots and the placement of structures in a subdivision should be in such a manner to minimize the potential for flame spread and to permit efficient access for firefighting equipment.
2. The presence of adequate firefighting facilities, including an adequate water supply is vital to the safety of a subdivision. The governing body shall require the installation of storage tanks with pumping systems, ground water wells with a pumping system, a dry hydrant system

# Meagher County Wildfire Protection Plan 2023

or other means of fire suppression with water as approved by the governing body. An approved system must provide a water supply volume adequate to suppress the fire as determined by these regulations.

3. Access for emergency services and escape routes for residents are a critical component for providing adequate fire protection for most new subdivisions. Therefore, for major subdivisions (6 or more lots), two (2) separate ingress/egress routes (public roads) shall be provided for the subdivision.

## Fire Protection Water Supplies

A water supply of sufficient volume for effective fire control must be provided within the subdivision as follows:

1. All fire protection water supply systems must be designed by a professional engineer licensed in the State of Montana. The system must be designed in consultation with the local fire authority to ensure compatibility with the authority's fire-fighting equipment.
2. Prior to filing the final plat, all systems shall be installed and inspected and certified as meeting the necessary standards and are fully operational by a Professional Engineer licensed in the State of Montana. A copy of the inspection and certification will be provided to the local fire authority having jurisdiction.
3. Maintenance of the fire protection water supply and vehicle access:
  - a) A notation on the final plat shall state that the property owners within the subdivision are responsible for the maintenance of the system. The local fire authority having jurisdiction shall not be responsible for any maintenance or costs associated with the operation, upgrades, or other measures necessary to ensure the system functions as designed.
  - b) A vehicular public access easement ensuring unrestricted use by the local fire authority having jurisdiction, shall be established in perpetuity, and shall be identified and recorded on the final plat.
  - c) The system shall be located adjacent to the following type of road in order of preference:
    - A County maintained road
    - A State maintained highway.
    - A subdivision road that is designated as a public access easement
4. Water shall be supplied by one of the following methods:
  - a) A pressurized storage tank capable of providing a minimum flow of 1000 gallons per minute at a minimum of 20 PSI for 30 minutes. The storage tank must be made of non-corrosive materials that have not been previously used for storage of any substance and useable year-round.
  - b) A well and pump providing a minimum flow of 1000 gallons per minute at 20 PSI for 30 minutes. This includes a year-round supply of electricity to run the pump.
  - c) A dry hydrant providing a minimum flow of 1000 gallons from water sources such as a pond or stream. The source shall have a minimum annual water level or flow

# Meagher County Wildfire Protection Plan 2023

sufficient to meet the water supply needs as required by these regulations. The supply shall not be rendered unusable because of freezing or seasonal low water. Adequate water rights to access the water shall be ensured in a manner acceptable to the local fire authority having jurisdiction and the governing body.

- d) An alternative fire protection water supply designed by a licensed professional engineer in the State of Montana with a minimum flow of 1000 gallons per minute at a minimum of 20 PSI for 30 minutes and as reviewed and approved by the governing body.
  - e) Existing off-site water supply systems may be used to meet these standards if they meet the following conditions:
    - o The system meets the necessary flow rates and storage identified in these regulations.
    - o The subdivider has secured any necessary easements and/or agreements from the affected property owner(s) and/or homeowners association.
    - o The system has an effective maintenance system in place and is shown to be fully operational by a professional engineer licensed in the State of Montana. The governing body shall determine if the system maintenance is effective.
    - o Use of the existing off-site water supply system will not diminish the fire protection capabilities provided to the subdivision(s) it was originally built to serve or it is upgraded and/or expanded to provide volume, pressure, and distribution in accordance with these regulations for all subdivisions utilizing the system for fire protection in accordance with these regulations.
- e. Fire Protection Water Supply Storage Capacity by Subdivision Classification:
- a) Minor subdivisions (5 or less lots): A minimum of a 30,000-gallon storage capacity or the equivalent amount of water by other allowed methods listed in subsection d above must be installed at the time of filing the final plat.
  - b) Major subdivisions (6 or more lots): A minimum of a 30,000 gallon or the equivalent amount of water by other allowed methods listed in subsection d above and additional storage per proposed lot over six (6) lots as determined by the local fire protection authority having jurisdiction; at the time of the filing of the final plat.
  - c)

## Special Requirements for Subdivisions Proposed in Areas of High Fire Hazard.

Risk Determination. Prior to submitting an application for preliminary plat approval, the subdivider shall contact the local fire authority having jurisdiction to ask the authority to make a determination whether the subdivision is located in a high fire risk area. The local fire authority shall have 10-working days to make this determination. This determination shall be based on one or more of the following criteria:

- a) The proposed subdivision is located in an area identified as Wildland Urban Interface.

# Meagher County Wildfire Protection Plan 2023

- b) The proposed subdivision is located in an area with a high density of fuels and/or slopes greater than 25%.
- c) The proposed subdivision contains a density of more than one (1) lot per three (3) acres.
- d) The proposed subdivision is located more than ten (10) miles from a fire Station.
- e) The proposed subdivision includes heads of draws, excessive slopes, dense forest growth or other hazardous wildfire components.
- f) The proposed subdivision in areas subject to high wildfire hazard as determined by the local fire authority, U.S. Forest Service or the Forestry Division of the Montana Department of Natural Resources and Conservation.

If the determination is made that the property proposed for subdivision is located in an area of high fire risk, the following standards apply:

- a) A Fire Prevention and Control Plan must accompany the submission of any application for preliminary plat approval.
  - i. The Fire Prevention and Control Plan must include the following items: an analysis of the wildfire hazards on the site, as influenced by existing vegetation and topography.
  - ii. a map showing the areas that are to be cleared of dead, dying, or severely diseased vegetation.
  - iii. a map of the areas that are to be thinned to reduce the interlocking canopy of trees.
  - iv. the identification of roads, driveways, and bridges that are sufficient for emergency vehicle access and fire suppression activities. Slopes of all roads must be provided.
- b) At least two separate ingress/egress access roads or routes must provide escape routes for residents and access to the subdivision by fire-fighting vehicles. Bridges providing access to the subdivision must be built to a design load of HL-93 (80,000 pounds) and constructed of nonflammable materials. Road rights-of-way must be cleared of wildland fuel a minimum of 50' either side of roads measured from road center. d. Building sites may not be located on slopes greater than 25 percent or at the apex of "fire chimneys" (topographic features, usually drainageways or swales, which tend to funnel or otherwise concentrate fire toward the top of steep slopes). Building envelopes shall be shown on the face of the final plat for each lot to ensure no construction occurs on slopes over 25 percent.
- c) The Fire Prevention and Control Plan must be implemented before the governing body will approve the final plat and will be considered part of the subdivider's obligations for land development. The local fire authority having jurisdiction, will inspect and approve the implementation of the Fire Prevention and Control Plan. The Plan will not be considered fully implemented until the fire chief has given written notice to the planning board or subdivision administrator that the Plan has been completed as approved by the governing body.
- d) Provisions for the maintenance of the Fire Prevention and Control Plan shall be included in the conditions, and restrictions for the development.

# Meagher County Wildfire Protection Plan 2023

- e) Open space, parkland, and recreation areas (including green belts, riding, or hiking trails) should be located, where appropriate, to separate residences and other buildings from densely forested areas.
  - i. Minor subdivisions (5 or less lots): A minimum of a 30,000-gallon storage capacity or the equivalent amount of water by other allowed methods listed in subsection d above must be installed at the time of filing the final plat.
  - ii. Major subdivisions (6 or more lots): A minimum of a 30,000 gallon or the equivalent amount of water by other allowed methods listed in subsection d above and additional storage per proposed lot over six (6) lots as determined by the local fire protection authority having jurisdiction; at the time of the filing of the final plat.

## 2. d. Planning Area Boundaries

The Meagher County CWPP covers Meagher County in its entirety.

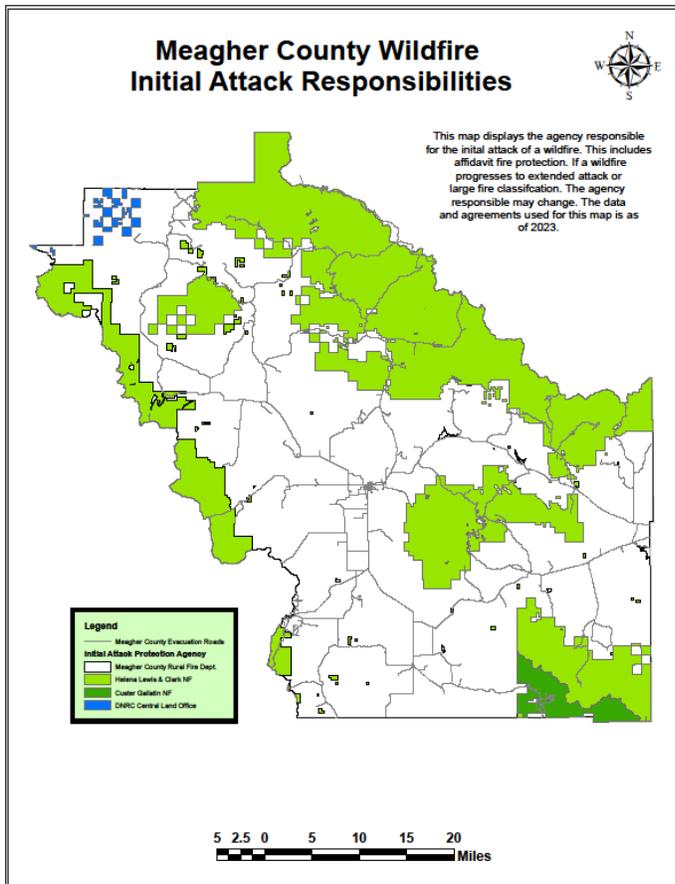
## 2. e. Fire Protection Responsibilities for Wildland and Structure Fires

### Wildfire Protection Responsibilities

Wildfire protection and initial attack response is provided by Meagher County Rural Fire

Department, MT Department of Natural Resources and Conservation Central Land Office Unit, Helena & Lewis and Clark and Gallatin National Forests.

The Bureau of Land Management Lewistown (BLM) Field Office has protection responsibility on BLM land within Meagher County but has made agreements for the Helena Lewis & Clark National Forests to provide initial attack. This map includes affidavit fire protection as of 2023. The Wildfire Initial Attack Responsibilities map displays the agency responsible for the initial response. If a wildfire escapes initial attack and the initial attack response agency is different from the protection agency, the protection agency will become involved. This situation is based on agreements between the BLM, Helena & Lewis and Clark National Forests, and Meagher County Rural Fire Departments. The MT Department of Natural Resources and Conservation has direct protection for areas in the northwest portion of the county.



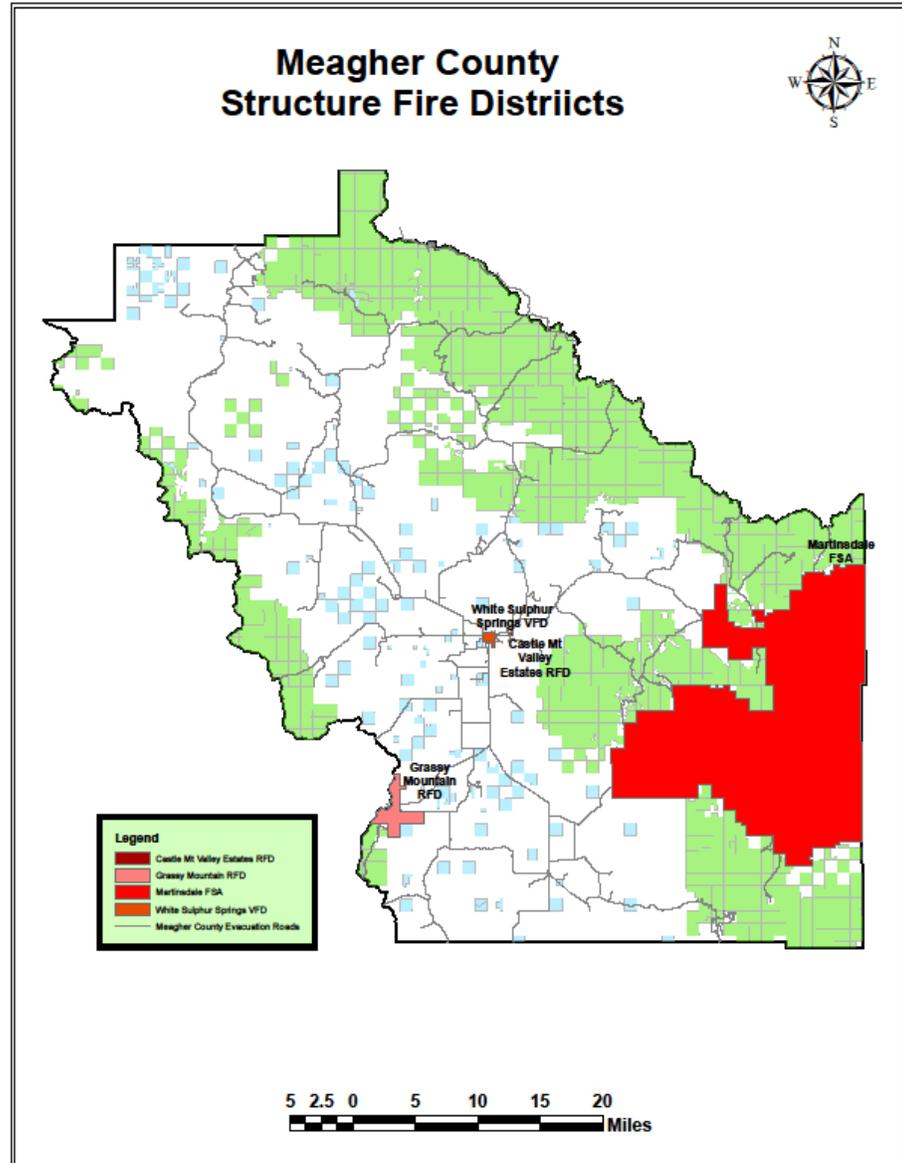
Through the County Cooperative Program, the Department of Natural Resources and

# Meagher County Wildfire Protection Plan 2023

Conservation provides fire support to the county when the county’s capability has been exceeded and assistance is requested.

## Structure Fire Protection Responsibilities

Structure fire protection responsibilities are shared by White Sulphur Springs Fire Department, Meagher County Rural Fire Department, Martinsdale Fire Service Area, Grassy Mountain Rural Fire District, Castle Mtn Valley Estates Rural Fire District. The fire protection responsibility depends on where the fire is located. The White Sulphur Springs Fire Department, Meagher County Rural Fire Department and the Martinsdale Fire Service Area will be the responding agencies. Meagher County Rural Fire Department provides structure fire services by



contract to Castle Mtn Valley Rural Fire District through mutual aid agreement, to Grassy Mountain Rural Fire District and structures that are not within a fire district, fee service area or the city of White Sulphur Springs. White Sulphur Springs Fire Department provides fire and emergency services within the incorporated city limits of White Sulphur Springs. Through mutual aid agreements, Meagher County Rural Fire Department, White Sulphur Springs Fire Department and Martinsdale Fire Service Area provide services to the other fire districts.

# Meagher County Wildfire Protection Plan 2023

## 2. f. Proposed change to the Meagher County Fire Districts / Fire Service Areas.

**To enhance fire protection within the county. The entire county would be established into a Fire Service Area, excluding the City of White Sulphur Springs. The present Castle Mtn Valley Rural Fire District, Grassy Mountain Rural Fire District and Martinsdale Fire Service Area would be incorporated into the Meagher County Fire Service Area.**

The process would be done in accordance with Montana Code Annotated 2021, Title 7. Local Government Chapter 33 Fire Protection. Part 24. Fire Service Areas

7-33-2401 Fire service area -- establishment -- alteration -- dissolution

7-33-2402 Area services

7-33-2403 Operation of fire service area -- voted levy for volunteer firefighters' disability income insurance or workers' compensation coverage

7-33-2404 Financing of fire service area -- fee on structures -- fee on undeveloped land

7-33-2405 Mutual aid agreements -- request if no agreement exists -- definitions

Fire Service Area -- Establishment -- Alteration -- Dissolution

**7-33-2401. Fire service area -- establishment -- alteration -- dissolution.** (1) Upon receipt of a petition signed by at least 30 owners of real property in the proposed service area, or by a majority of the owners of real property if there are no more than 30 owners of real property in the proposed service area, the board of county commissioners may establish a fire service area within an unincorporated area not part of a rural fire district in the county to provide the services and equipment set forth in **7-33-2402**.

### Area Services

**7-33-2402. Area services.** (1) A fire service area created pursuant to **7-33-2401** may provide residents of the area with adequate and standard:

(a) (i) fire and emergency response equipment, personnel, facilities, and maintenance, for a fire service agency providing service to the area; or

(ii) fire protection by contracting for the services of a fire service agency; and

(b) emergency medical services and equipment, licensed by the department of public health and human services, and related personnel, facilities, and maintenance.

(2) A fire service area may, pursuant to **50-61-102**, submit a fire code and a plan for enforcement to the department of justice in order to be certified for local enforcement. However, an appointed board of trustees of a fire service area shall obtain approval of the county commissioners prior to submitting a fire code and a plan of enforcement to the department of justice.

# Meagher County Wildfire Protection Plan 2023

## 3. Planning Process

### 3. a. Stakeholders

The following entities are affected by wildland fire and have a stake in a successfully implemented CWPP:

- Meagher County Rural Fire Department
- White Sulphur Springs Fire Department
- Martinsdale Fire Service Area
- Grassy Mountain Rural Fire District
- Castle Valley Meadows Rural Fire District
- Helena & Lewis and Clark National Forest
- Gallatin National Forest
- MT Dept. of Natural Resources and Conservation
- Bureau of Land Management
- City of White Sulphur Springs
- Triangle Telephone
- Northwestern Energy
- Fergus Electric Cooperative
- Vigilante Electric Cooperative
- AT&T
- Verizon
- Meagher County Local Emergency Planning Committee
- Grassy Mountain Homeowners
- Meagher County Road and Bridge Department
- Meagher County DES
- Meagher County Board of County Commissioners
- Residents of Meagher County

### 3. b. Collaboration

Each agency was contacted, and/or public meetings were held, to solicit input and ideas.

- Bureau of Land Management
- Helena & Lewis and Clark National Forest
- Custer Gallatin National Forest
- MT Department of Natural Resources & Conservation – Central Land Office
- Meagher County Board of County Commissioners
- Meagher County Rural Fire Department
- White Sulphur Fire Department
- Martinsdale Fire Service Area
- Meagher County Disaster & Emergency Services Coordinator

Comments were incorporated into the final version of the Meagher County CWPP.

# Meagher County Wildfire Protection Plan 2023

## 3. c. Review of Existing Plans

The following documents have been reviewed for data, which may have been referenced and incorporated in the Meagher County CWPP:

- City of White Sulphur Springs & Meagher County Consolidated City/County Growth Policy 2021
- Meagher County Subdivision Regulations 2022
- Meagher County Pre-Disaster Mitigation Plan (draft)
- Meagher County Emergency Operations Plan

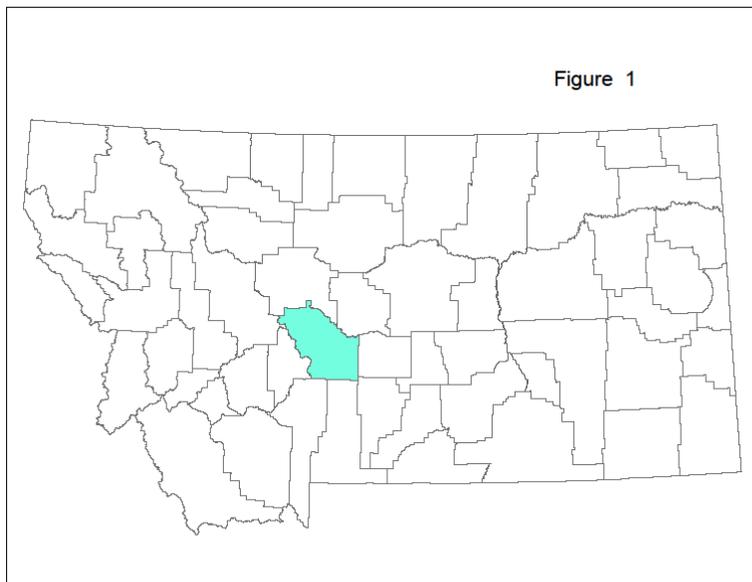
## 3. d. Local Approval, Adoption

Once the Meagher County CWPP is reviewed and approved by the Board of County Commissioners, it should be adopted and amended into Meagher County's Pre-Disaster Mitigation Plan as the fire component.

## 4. Community Description

### 4. a. General Environmental Conditions

Meagher County is located in central Montana (Figure 1). It was one of the original counties in Montana and encompassed the majority of central Montana. Today, it covers just over 2,395 square miles and has a population of about 1,927 people. Meagher County is a headwaters county with high quality watersheds. The majority of the land type is mountainous, with large areas of grassy foothills, valleys, and river bottoms. The elevations vary from 3,975 feet in the north where the Smith River exits the county to 9,456 feet in the southwest at the peak of Mount



Edith. The county receives 10-16 inches of annual rainfall on the valley floor, and the adapted ecosystems contain vegetative types and quantities commensurate with soil productivity and available moisture.

### 4. b. Topography, Slope, Aspect, Elevation

Slopes in Meagher County range from 0% (flat) to >50% (very steep). Of all the topographic features reviewed in the county,

# Meagher County Wildfire Protection Plan 2023

the slope is among the most important. Fires will generally spread faster uphill than downhill, and will preheat upslope fuels, including homes, thereby increasing the likelihood of ignition.

Narrow canyons can act as chimneys, channeling heat, flame, and wind to dramatically increase a fire's intensity. When a fire becomes concentrated by such a canyon, the boosted flame length, rate of spread and wind speed can combine to create extreme fire behavior and significant control problems.

South, southwest and west aspects are called "high energy slopes" due to the amount of sunlight they receive during the spring, summer, and fall. The vegetation on these slopes tends to be dry-site species that have adapted to significant amounts of sunlight and reduced amounts of available moisture. These vegetation types quickly mature and become cured early in the summer and become an available fuel for a spreading fire.

The mountainous terrain also allows a thermal belt condition to set up, where the midslope area along the ridges will remain warmer and drier at night, affecting the fuel by reducing the humidity recovery on the site. The lack of humidity recovery in the thermal belt often keeps available fuel dry until the onset of the winter season. The fire behavior in these areas will be much more intense than in areas either above or below it. Thermal belt conditions begin in early summer and extend through mid-September.

The main river drainages are the Smith River, flowing south to north, and the Musselshell River, flowing west to east. The pine forests are generally located on higher ground where soil and moisture conditions are conducive to their survival.

## 4. c. Meteorology, Climate, Precipitation

Weather directly affects fire behavior, with wind and low humidity values being the major influencing factors due to their ability to rapidly dry fuels and help fires grow quickly. Generally, steering winds at the surface and aloft over central Montana in the spring and summer prevail out of the south to west and are moderate to strong across open areas, with lighter winds over hilly or mountain areas. Surface winds vary, depending on elevation, aspect, and openness of the local terrain. Southwest and west facing slopes are more exposed to the prevailing winds and have drier fuel, which correlates to increased fire behavior activity. Fires in Meagher County generally spread from southwest to northeast.

Pressure gradient winds, which are caused by air moving from an area of high atmospheric pressure to a low one, typically have the most significant impact on fires in Meagher County. The passage of a cold front, for example, brings strong gusty wind to the area, and is often accompanied by a sudden shift in wind direction. Such winds can create significant control problems for fire fighters.

The normal summer weather pattern for central Montana can best be understood by looking at the larger weather pattern for the entire western United States.

# Meagher County Wildfire Protection Plan 2023

In central Montana, the typical fire season runs from early spring into the fall or early winter (March through November). Spring, before green-up, can be a time of large fire growth as dry residual winter-cured fuel combined with gusty winds pose a threat of large fires. As summer approaches, the amount of moisture from rainfall tapers off. Grasses and shrubs begin to lose their live fuel moisture, and down-dead fuel begin to dry. Fire conditions normally peak by late August.

Dry cold frontal passages become common and can promote conditions of extreme fire behavior, especially when accompanied by very strong winds. Late October and November mark the transition into winter, but again, dry cold frontal passages at this time of year combined with the lack of snowpack can lead to rapid fire growth and high intensity fire behavior during wind events.

Since the 1980's, the weather patterns have been changing to a warmer and dryer cycle, resulting in extended fire seasons; spring months no longer can be counted on as a low fire period of the year.

Moisture regimes in the spring and summer can be defined in terms of storm tracks, which typically move across the county from southwest to northeast. The storm track affecting the analysis area starts along the western or southern edges of Meagher County and tracks northeastward across the county before moving out onto the eastern plains of Montana. Thunderstorm activity is still possible in September and early October but at a much-reduced rate compared to June, July, and August.

#### 4. d. Infrastructure: Roads, Utilities, Communication, and Water Supply

State Highway 12 traverses Meagher County, east to west, following the Musselshell River on the eastern edge of the county. State Highway 89 runs from the Little Belt Mountains south through the Shields River Valley and exits the county near Ringling. Meagher County has a number of graveled roads that can be utilized to provide access for fire suppression activities. There are no railroads located in Meagher County.

Meagher County has a well-maintained airport located at White Sulphur Springs, capable of serving as a Single Engine Airtanker "SEAT" reloading base and helibase operations for type 1,2, & 3 helicopters.

Large propane tanks are located throughout Meagher County at ranches and home sites.

Northwestern Energy, Fergus and Vigilante Electric Cooperatives provide electrical power to the county.

Triangle Telephone provide telephone service to Meagher County.

Cellular phone service is generally available; however, there are areas within the county that do not have cellular phone service. Cellular phone service is provided by AT&T and Verizon.

# Meagher County Wildfire Protection Plan 2023

There is a municipal water system serving the City of White Sulphur Springs for fire protection purposes. In the County, there is no developed water supply; water tenders must transport water to the fire scene. Stock ponds, dry hydrants, rivers, and creeks are available at times as a water supply point.

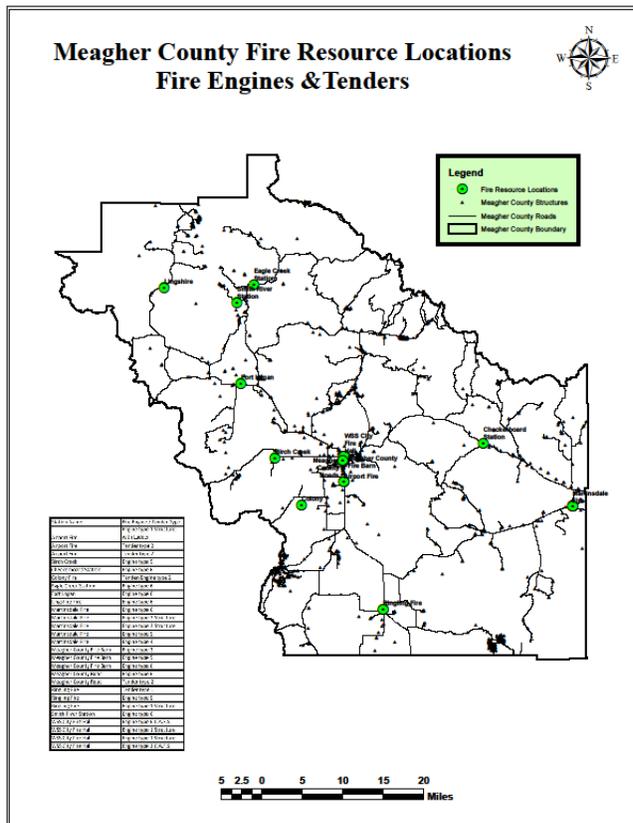
Radio communication for Meagher County Fire Departments is adequate, with repeaters on Black Butte, Kings Hill, Mount Howe and Sky Ranch.

#### 4. e. Emergency Services

Emergency services within Meagher County include fire protection; emergency medical services, including ambulance transportation; law enforcement; and emergency preparedness.

#### 4. f. Fire Equipment (Fire Engines/Tenders)

The White Sulphur Springs Fire Department, Martinsdale Fire Service Area, and the Meagher County Rural Fire Department provide Meagher County with structural and wildland fire suppression equipment. This equipment is displayed on the Meagher County Fire Resource Locations Engine & Tenders Map.



There are additional engines within the county. Some private landowners have equipment, and the Helena Lewis & Clark National Forest has a Type 6 engine located in White Sulphur Springs.

Meagher County is within the Central Land Office of the Montana DNRC’s geographic area. This provides additional resources such as air tankers from Missoula, Helena and Billings, helicopters from Helena, single engine air tankers from Lewistown, as well as crews and overhead through the Central Land Office.

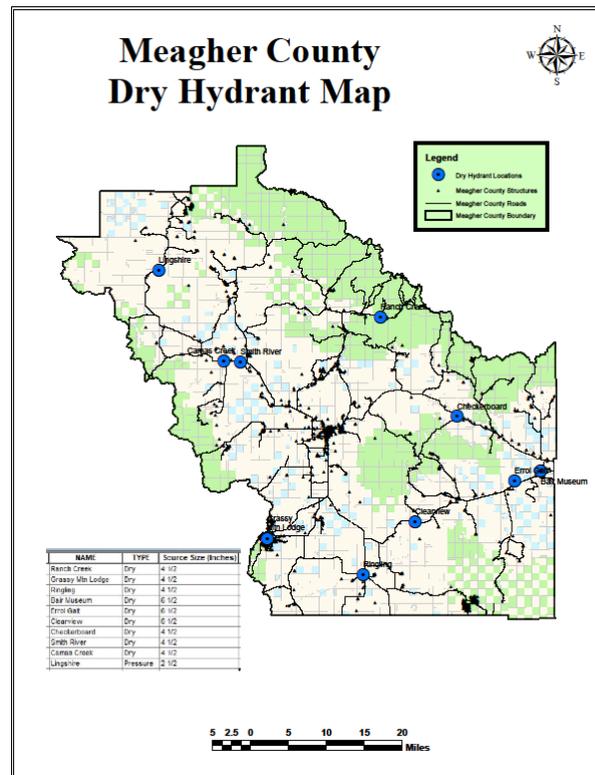
Meagher County Disaster Emergency Services has agreements with surrounding counties.

# Meagher County Wildfire Protection Plan 2023

## 4. g. Fire Engine Refill / Dry Hydrant Sites

Water supply sources for wildland fire protection and structural fire protection are located throughout Meagher County. They include rivers, creeks, reservoirs, dry hydrants, stock ponds and stock watering systems. These water supply sources are often located a distance from wildfire locations, necessitating delivery through apparatus such as fire engines and water tenders.

The Meagher County Fire Department has located dry hydrants throughout the County to provide water supply sites in areas without easier access to water (See “Meagher County Dry Hydrant Map” in Appendix-Maps for page size map).



## 4. h. Training, Certification, and Qualification

Different incidents require incident management personnel of different skill levels. To assist in assigning appropriate incident commanders to wildfire incidents, an incident analysis can be used as a guide to identify and mitigate certain complexity and safety issues, such as selecting a different strategy, tactic, or filling command positions with higher-qualified individuals. Certain assumptions are made in this analysis:

- As an incident becomes more complex, the need for an incident management team or organization increases.
- To facilitate assembling an efficient and effective organization, key managers should be involved during the early stages of the complexity analysis; this should include federal, state, and local officials.
- The analysis is not a cure-all for the decision-making process; local fire history, current fire conditions, and management experience must also be considered.

Required training, experience and prerequisites for various wildland fire management positions are contained in PMS 310-1 (Wildland and Prescribed Fire Qualification System Guide). PMS 310-1 has been adopted by the Northern Rockies Coordinating Group (NRCG) and, consequently, applies to all wildland firefighting personnel in the state of Montana and Meagher County for mobilization outside of the county. Within the County, local standards would apply.

# Meagher County Wildfire Protection Plan 2023

Members of the Meagher County Fire Departments have training and qualifications in the wildland fire arena. This training and experience allow Meagher County Fire Departments to manage wildland and wildland urban interface fires safely and efficiently for the county.

The level of training of Meagher County FD personnel allows the Meagher County FD to assist the USFS, BLM or DNRC with initial attack efforts on state or federal lands due to occasional shortages of initial attack resources.

## 4. i. Law Enforcement

The Meagher County Sheriff’s Department provides law enforcement and evacuation services. Due to limited resources in the Sheriff’s Department, a significant evacuation during a wildland urban interface fire may require mutual assist from other agencies and or counties.

## 4. j. Emergency Medical Services

Meagher County Ambulance, with ambulances in White Sulphur Springs, provides ambulance service to the entire county.

## 4. k. Emergency Management

County emergency preparedness comes under the office of the Meagher County Disaster and Emergency Services (DES).

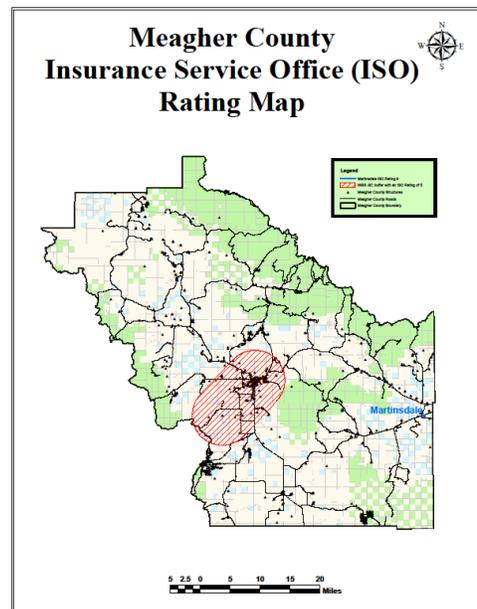
## 4. l. Insurance Ratings

The insurance premiums that residential and commercial customers pay are based on a rating system established by the Insurance Services Office (ISO). In its evaluation of a community, ISO considers the water system and the fire protection provided by the fire department. The relative weight of the components is:

Water Supply	-	50
Fire Department	-	40
Fire Dispatch	-	10

The ISO rating system produces ten different Public Protection Classifications, with Class 1 receiving the most insurance rate recognition and Class 10 receiving no recognition. A split rating such as Class 6/9 & 10 means that a department is rated as a Class 6 within 1,000 feet of a fire hydrant or certified water point, a Class 9 when over 1,000 feet from a hydrant and within 5 miles of a fire station, and a Class 10 when the insured is more than 5 road miles from a fire station.

City of White Sulphur Springs has an ISO rating of a 5 and an area is which is egg shaped area with a five-mile radius around a line from White Sulphur Springs to the



# Meagher County Wildfire Protection Plan 2023

Springdale Colony. The town of Martindale is an ISO rating of a 9 and the rest of Meagher County is an ISO rating of a 10.

Improvements to the water delivery system, dispatch and the fire departments could improve the ISO rating for the individual fire protection agencies. This would result in potential annual insurance premium savings to the fire department's customers, e.g., home and business owners. It is important to note that some insurance companies will not ensure structures that are outside of 5 road miles from a fire station.

## 5. Wildfire Assessment

This assessment looks at factors within Meagher County to determine the risk to values and to help prioritize areas for hazardous fuel mitigation. The history of recorded fires, the ignition patterns, weather, topography, aspect, and vegetation are all very important factors when determining the risk of a wildfire. The intensity of a wildfire is dependent on the likeliness of an ignition in combination with the amount and complexity of the vegetative fuel and weather conditions.

Tools available in Meagher County for evaluating wildfires include ignition and large fire history, fuel models, vegetative fire regime and condition classes, values at risk (structures), and assessments of the Wildland Urban Interface.

### 5. a. Areas Addressed by this Assessment

All of Meagher County is addressed by this assessment. The wildfire conditions are similar in the counties adjacent to Meagher County but are not included in this assessment.

### 5. b. Wildfire Risk to Communities

Wildfire Risk to Communities: Spatial datasets of landscape-wide wildfire risk components for the United States is used in this assessment. *These data were collected using funding from the U.S. Government and can be used without additional permissions or fees. If you use these data in a publication, presentation, or other research product please use the following citation:*

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

Wildfire risk is based on several factors. Likelihood, intensity, exposure, and susceptibility.

- Likelihood is the annual probability of wildfire burning in a specific location. Wildfire likelihood is based on fire behavior modeling across thousands of simulations of possible fire seasons. In each simulation, factors contributing to the probability of a fire occurring, including weather, topography, and ignitions are varied based on patterns derived from observations in recent decades. Wildfire likelihood is not predictive and does not reflect any currently forecasted weather or fire danger conditions.
- Intensity is a measure of the energy expected from a wildfire. Intensity is largely a

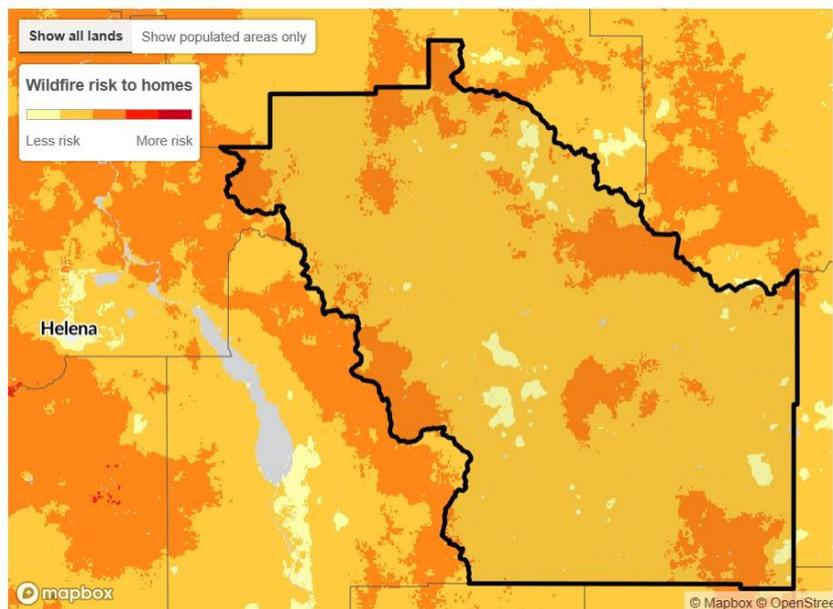
# Meagher County Wildfire Protection Plan 2023

condition of the physical landscape (topography) and vegetative fuel available to burn. For example, a crown fire on a forested hillside can produce a greater wildfire intensity than grasses on flat ground. While wildfire intensity is technically measured in units of heat transfer per length of fire perimeter, it is more easily observed and expressed in terms of flame length.

- **Exposure** is the spatial coincidence of wildfire likelihood and intensity with communities. Any community that is located where wildfire likelihood is greater than zero (in other words, where there is a chance wildfire could occur) is exposed to wildfire. For example, a home in a flammable forest is exposed to wildfire. Communities can be directly exposed to wildfire from adjacent wildland vegetation, or indirectly exposed to wildfire from embers and home-to-home ignition.
- **Susceptibility** is the propensity of a home or community to be damaged if a wildfire occurs. *Wildfire Risk to Communities* uses a generalized concept of susceptibility for all homes. In other words,
- The exact hazardous fuel mitigation treatments and placement of these treatments within an area requires site-specific knowledge.

## 5. c. Wildfire Risk to Homes

The Risk to Homes data integrates wildfire likelihood and wildfire intensity from simulation modeling. These two risk components represent wildfire hazard. To translate this into terms specific to the effect of fire on homes, Wildfire Risk to Communities uses a generalized concept of susceptibility for all homes. In other words, Wildfire Risk to Communities assumes all homes that encounter wildfire will be damaged, and the degree of damage is directly related to wildfire intensity. Wildfire Risk to Communities does not account for homes that may have been mitigated.

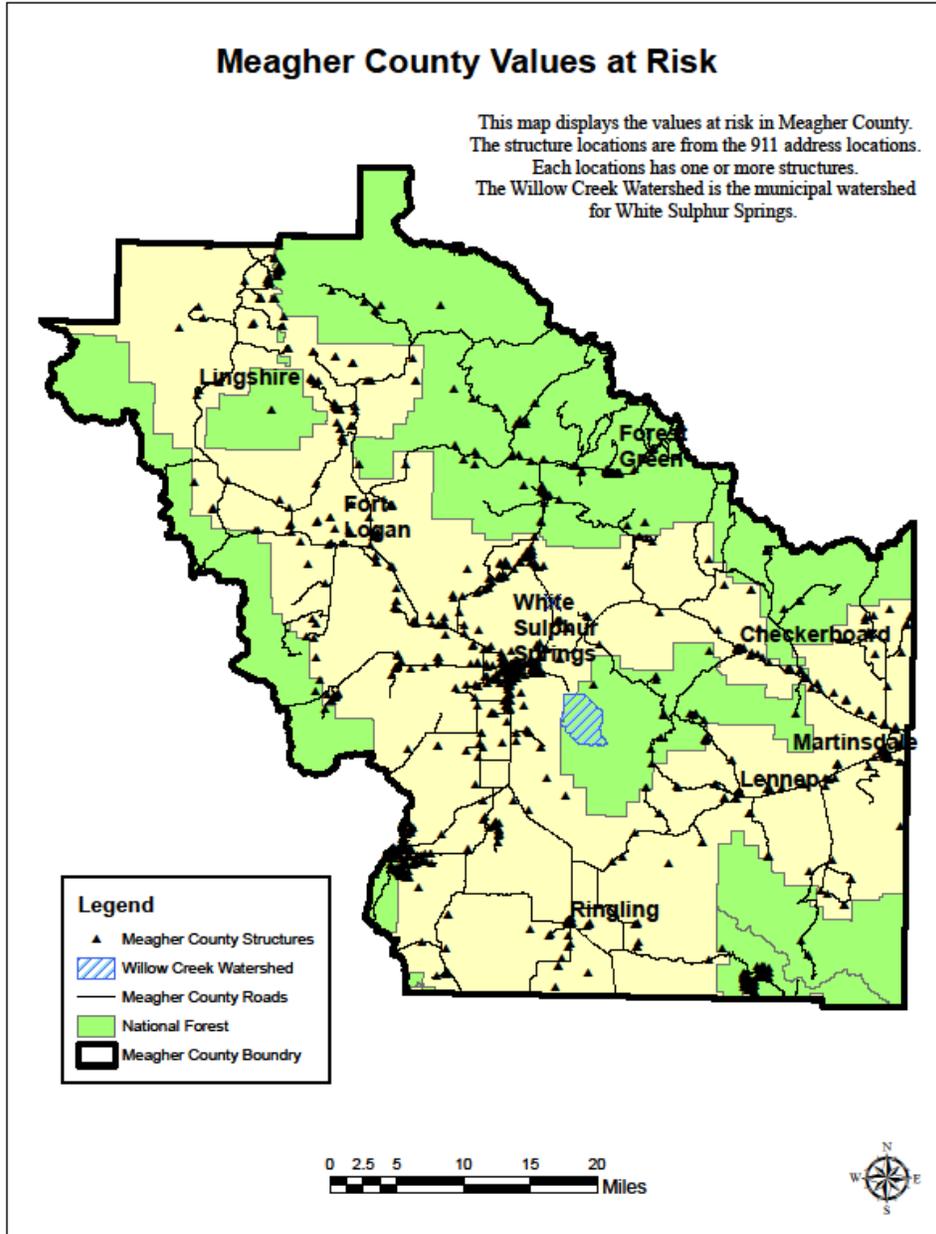


# Meagher County Wildfire Protection Plan 2023

## 5. d. Values at Risk

Values at Risk include property, structures or structure complex locations (including communication sites), physical improvements, natural and culture resources, community infrastructure, powerlines, and economic, environmental, and social values. 911 address

structure location data was used to create a “values at risk map”. Each structure point represents at least one structure and can be represent many, depending on the number of structures associated with an address location. The Willow Creek Watershed is also displayed. Willow Creek Watershed is the municipal watershed for White Sulphur Springs.



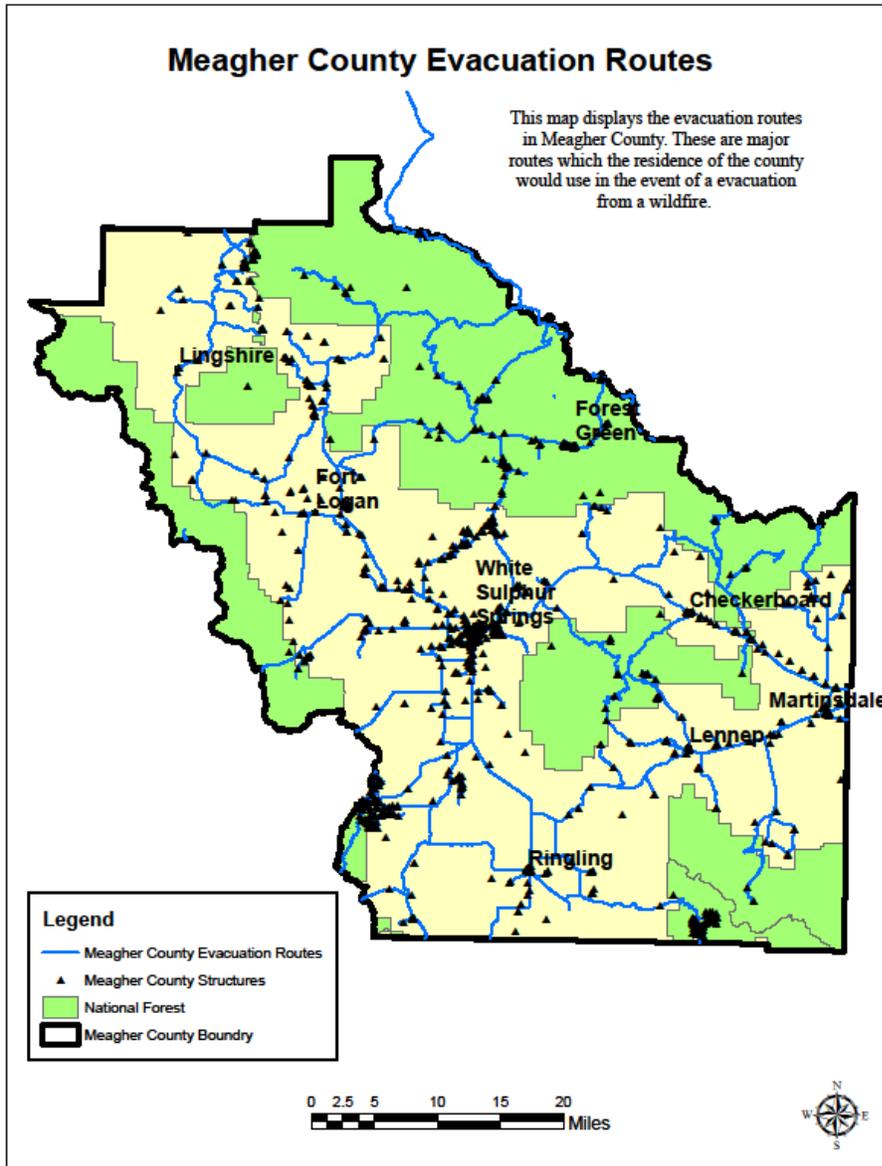
# Meagher County Wildfire Protection Plan 2023

## 5. e. Evacuation Routes

Evacuation routes are critical to public safety. Egress is needed for residents to evacuate in the event of an emergency, and ingress is required for emergency services. The identification of evacuation routes during an emergency incident will be determined at the time of an incident with the incident specific factors taken into consideration. Major evacuation routes documented in the Meagher County CWPP need to be evaluated for hazardous fuel mitigation and structural improvement needs. It is critical that all roadways be treated to reduce fuel volumes in order to

provide safe egress in the event of an emergency, as well as viable access for responders. It may be possible, in the interim, to create small staging areas that can allow residents to remain temporarily when emergency services may be trying to enter the neighborhood.

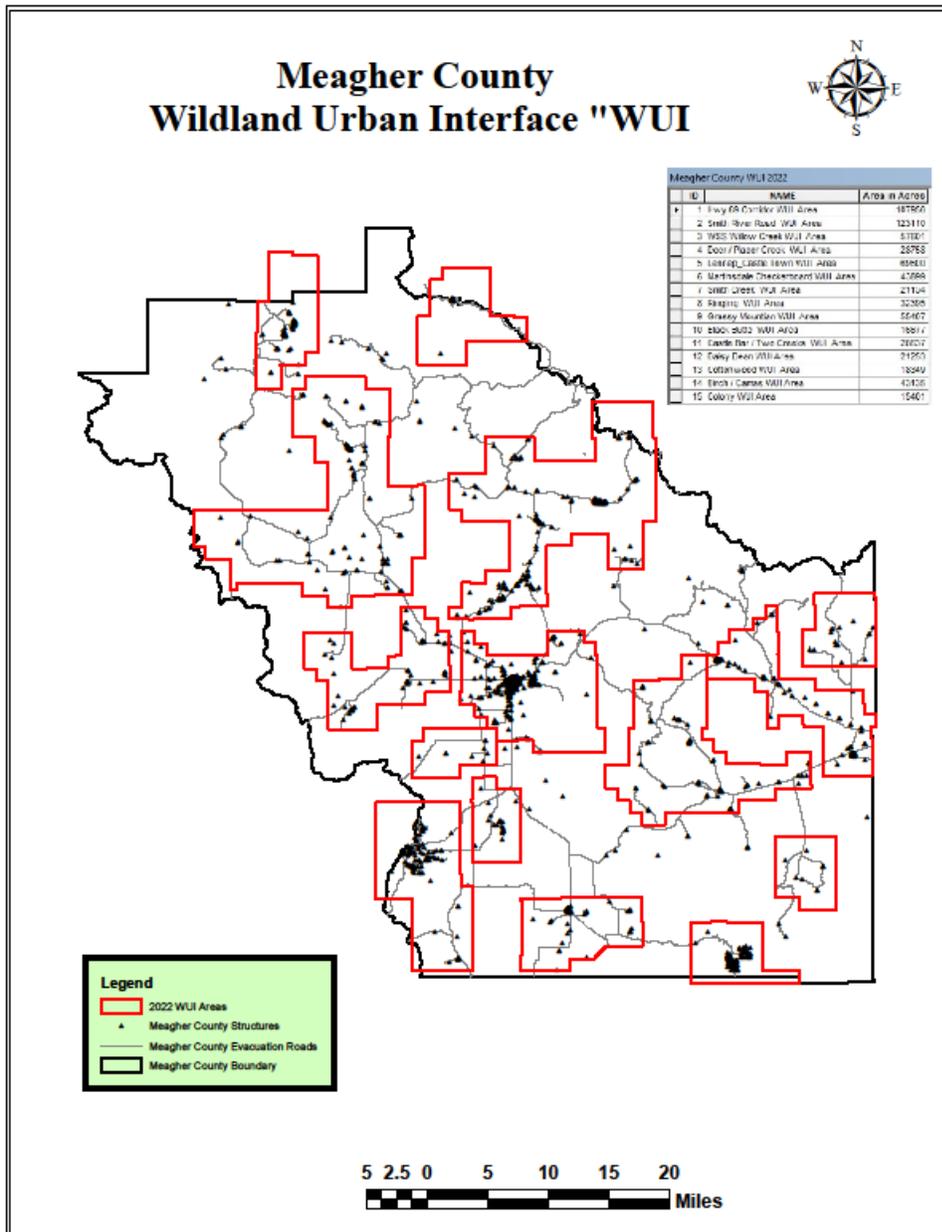
Some routes were identified as needing structural improvements also. The identified evacuation routes needing mitigation work are displayed in Risk and Hazard Mitigation Areas and Projects





# Meagher County Wildfire Protection Plan 2023

## 5. g. Meagher County's Wildland Urban Interface Areas



The wildland urban interface (WUI) has gained attention through efforts targeted at wildfire mitigation; however, this analysis technique is also useful when considering other hazards, because the concept looks at where people and structures are concentrated in any particular region.

A key component in meeting the underlying need for protection of people and structures is the treatment of hazards in the wildland-urban interface. The wildland-urban interface, or WUI, refers to areas where wildland vegetation meets urban

developments or where forest fuel meets urban fuel such as houses. The WUI encompasses not only the interface (areas immediately adjacent to urban development), but also the surrounding vegetation and topography. Reducing the hazard in the WUI requires the efforts of federal, state, and local agencies, as well as private individuals. Structural fire protection during a wildfire in the wildland-urban interface is largely the responsibility of local governments. Property owners share a responsibility to protect their residences and businesses and minimize danger to firefighters by creating defensible areas around them as well as by taking other measures to minimize the risks to their structures. With treatment, a wildland-urban interface area can provide firefighters with a defensible area from which to

# Meagher County Wildfire Protection Plan 2023

suppress wildland fires or defend communities against other hazard risks. In addition, a wildland-urban interface that is properly treated will be less likely to sustain a crown fire that enters or originates within it.

By reducing hazardous fuel loads, ladder fuel, and tree densities, and creating new and reinforcing existing defensible space, landowners can protect the wildland-urban interface, the biological resources of the management area, and adjacent property owners by:

- Minimizing the potential of high-severity ground or crown fires entering or leaving the area.
- Improving defensible space in the immediate areas for suppression efforts in the event of wildland fire.
- Reducing the potential for firebrands (embers carried by the wind in front of the wildfire) impacting the WUI. Research indicates that firebrands from a crown fire can ignite additional wildfires as far as 1¼ miles away during periods of extreme fire weather and fire behavior.

## 5. h. Climate Change

REF [Montana Forest Action Plan](#) (Page 4)

The Montana Climate Assessment is a peer-reviewed statewide assessment that provides scientific information on the current and projected effects of climate change on the state's water resources, agricultural industry, and forested lands. The following is a summarization of key messages from the Montana Climate Assessment:

- From 1950-2015, annual average temperatures rose between 2-3 °F across Montana, approximately double the rate of the nation as a whole.
- From 1950-2015, winter and spring average temperatures rose by 3.9 °F.
- The growing season in Montana increased by 12 days from 1951-2010.
- From 1951-2010, the number of warm days per year—where the maximum temperature rises above 90 °F—increased by 2% and the number of cool nights per year, based on historical conditions, decreased by 4.6%.
- From 1950-2015, the “average winter precipitation has decreased by 0.9 inches” across the state and average spring precipitation has increased by 1.3-2 inches in the east.
- Temperatures across the state are projected to increase by 4.5-6 °F by 2050 and by 5.6-9.8 °F by 2100, which is higher than projected for much of the country.
- Daily temperatures are expected to rise above 90 °F more often across the state, especially in the east, and frost-free days are expected to increase across the state, especially in the west.
- Precipitation is projected to decline in summer months, particularly in central and southern Montana, but increase in all other months, particularly in the south.
- Snowpack is expected to continue to decline substantially.

# Meagher County Wildfire Protection Plan 2023

## 6. Risk and Hazard Mitigations

### 6. a. Potential Treatments

Meagher County is located in a fire-prone ecosystem. While the occurrence of wildfire is inevitable, hazardous risk and fuel mitigation treatments can reduce a fires risk to cause unwanted results. The ultimate goal of risk reduction and fuel treatment is to have every value at risk in such a state that when it is eventually subjected to wildfire, the results will be acceptable. By working with partners (USFS, DNRC, BLM and private landowners) to identify, coordinate and implement hazardous risk and fuel mitigation projects, Meagher County can significantly reduce the harmful effects of a wildfire on values at risk.

This section of the Meagher County CWPP identifies risk and fuels mitigation treatments.

Home Ignition Zone Projects “HIZP”: To increase your home’s /structures chance of surviving a wildfire, choose fire-resistant building materials and limit the amount of flammable vegetation in the three home ignition zones. The zones include the Immediate Zone: (0 to 5 feet around the house), the Intermediate Zone (5 to 30 feet), and the Extended Zone (30 to 100 feet). Treatments will be site specific, but will likely include homeowner education, structure triage, creation of a wildfire-defensible space around structures, and access corridor improvements.

Roadside Fuel Treatment Projects: Treatment projects are identified as access routes within the county as being potentially unsafe for both ingress by emergency responders and egress in the event of an emergency evacuation due to wildfire. Treatments within the project areas will be site specific but will likely include precommercial or commercial thinning within 200 feet of each side of the road, herbicide applications, and brush removal with the intent to create a fuel break along the road corridor. Prescriptions may include more intense removal of trees and other vegetation within 50 to 100 feet of the road and reduced intensity removal farther out. This technique will help lessen the intensity of a wildfire and may bring a crown fire to the ground before it reaches the road. Specific site conditions may call for other types of fuel reduction and fire mitigation techniques as well.

Fuel Reduction Projects: Projects that have been identified to treat specific areas at high risk to wildfire due not only to wildland fuels, but also due to increased likelihood of an ignition. High use recreational areas or industrial operations in or near forestland fuel have an increased likelihood of an ignition from human or mechanical sources. The proposed fuel reduction projects will likely include more general fuel treatments such as forest health improvements in the surrounding area in conjunction with enhanced fire safety precautions.

WUI areas are used in this CWPP to define where risk and hazardous fuel mitigation projects need to take place. Descriptions of the projects, along with a discussion of project intent for each will be included. This section is the first step in the project planning process. Several additional steps are required before any project can be implemented.

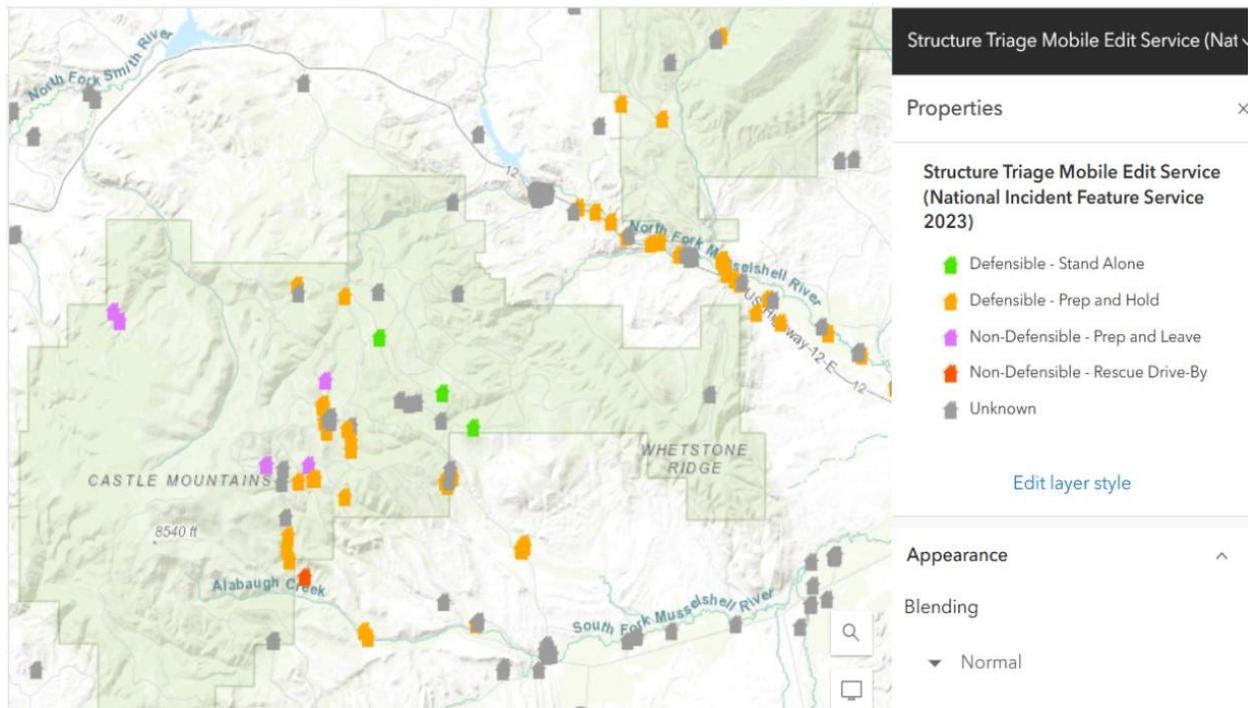
# Meagher County Wildfire Protection Plan 2023

## 6. b. Structure Triage

Identifying which structure / structure complexes within the County is an important step in defining where risk and mitigation efforts need to take place.

The NIFC Structure Triage Services provides a way to collect and store structure triage data. Structure triage data has been collected on 401 sites of the approximately 2074 structure sites in Meagher County. **Structure triage data on all sites by 2028 is a goal to be completed. Sites that are not addressed need to be addressed for the Enhanced 911 system.**

Data collected for each structure or structure complex includes. Inspection date, structure type, is building occupied, access, Describe access, water supply, safety zone present, defensible space,



hazards, fuel type, primary structure, outbuildings, roof material, siding material, electric to structure, gas to structure, structure comments, mitigation time in hours, mitigation description, protection resources, street address, subdivision name, latitude, longitude.

Example of the Structure Triage Data showing defensibility of structure and structure that have not been accessed.

**At the January review and update Structure Triage will be looked at in relation to risk and hazard mitigation projects completed and planned.**

## 6. c. Electric Power – Power Lines and Infrastructure

Northwestern Energy

Shane Colman Manager Wildfire Mitigation Phone: 406-239-0151,  
email [shane.colman@northwestern.com](mailto:shane.colman@northwestern.com) . Link to the [NWE Enhanced Wildfire Mitigation Plan](#).

# Meagher County Wildfire Protection Plan 2023

The plan has not been approved as of May, 2023. **Shane or Charles Tuss NWE Wildfire Mitigation Specialist will attend January 2024 review and update.**

Fergus Electric Cooperative: contact Carson Sweeny General Manager Phone: 406-538-3465 Their mitigation plan is in the development process. Will have it finalized by January, 2024. **There mitigation plan will be reviewed at January 2024 review and update.**

Vigilante Electric Cooperative: contact Rollie Miller General Manager

Phone: 406-683-2327 <https://www.vec.coop/>

Vigilante Electric Cooperative provides power to the Grass Mountain Subdivision and adjacent structures. Their power is supplied from a powerline adjacent to Highway 12 from the west in Deep Creek Canyon. **There mitigation plan will be reviewed at January 2024 review and update.**

Park Electric Cooperative: contact Russ Gross Phone: 406-222-3100

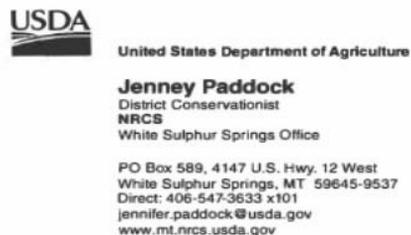
Park Electric Cooperative power line supplies the Smith Creek Subdivision in the Crazy Mountains. All their power lines are underground within Meagher County.

**At the January review and update Electric Power –Power Lines and Infrastructure will looked at in relation risk and hazard mitigation projects completed and planned.**

## 6. d. Environmental Quality Incentives Program (EQIP)

The USDA Natural Resource Conservation Service (NRCS) through the Environmental Quality Incentives Program (EQIP) offers farmers and ranchers financial cost-share and technical assistance to implement conservation practices on working agricultural land. EQIP assistance is available through a general pool, and through special initiatives. EQIP is a **voluntary conservation program**.

Jenney Paddock District Conservationist Is the contact for this program in Meagher County.



The emphases area for this program in Meagher County is phase 1 2022-2025 (See improving Grazingland Health in the Smith River Valley map).

# Meagher County Wildfire Protection Plan 2023

The Natural Resource Conservation Service (NRCS) is focusing their work in the Smith River Valley by assisting landowners put together grazing plans, add needed infrastructure for grazing plans, and to remove conifer encroachment from grasslands. The Phase 1 focus area is from Newlan Cr to just north of Eagle Cr and between the Smith River and Highway 89. The purpose is to improve the sustainability of grasslands and forested grazing lands in this region. NRCS will be using the EQIP (Environmental Quality Incentives) program to provide cost share for the following practices. Any private landowner who's adjusted gross income is less than \$900,000 (according to the 2018 farm bill) is eligible to apply for the EQIP program.

Core Practices
<b>Fence (382)</b>
<b>Water Well (642)</b>
<b>Livestock Pipeline (516)</b>
<b>Watering Facility (614)</b>
<b>Pumping Plant (533)</b>
<b>Spring Development (574)</b>
<b>Brush Management (314)</b>
<b>Woody Residue Treatment (384)</b>
<b>Herbaceous Weed Treatment (315)</b>
<b>Prescribed Grazing (528)</b>

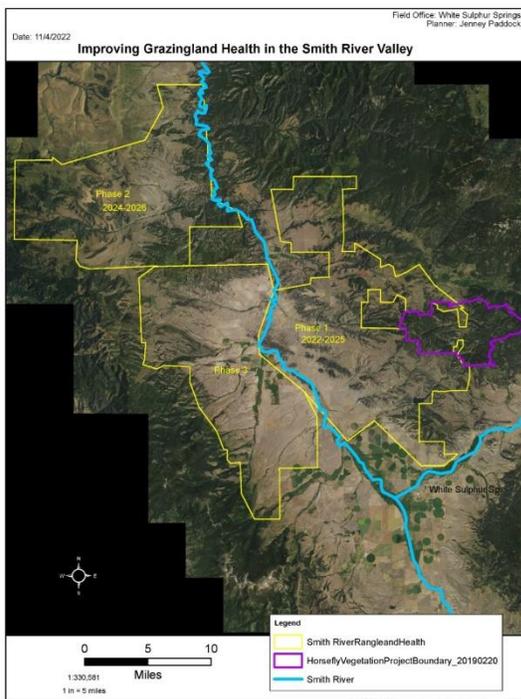
Sign up for Phase 1 of this program will be ongoing from 2021-2024.

Typically, implementation of practices begins the year after the application to allow time for inventory, planning, and contacting contractors. Currently NRCS is putting together a request for funding for Phase 2. If approved,



we will start planning for landowners in phase 2 during the

2023 field season and have funding to start contracts in 2024. The Horsefly project on the map is being planned on US Forest Service grounds. Phase 3 will be planned in the future. *USDA is an equal opportunity provider, employer, and lender.*



Grazingland Health in the Smith River Valley map

# Meagher County Wildfire Protection Plan 2023

## 6. d. 1 Past Work Completed with the EQIP Program

### Castle Mountain Forest Health and Fuels Reduction

#### Goal Statement:

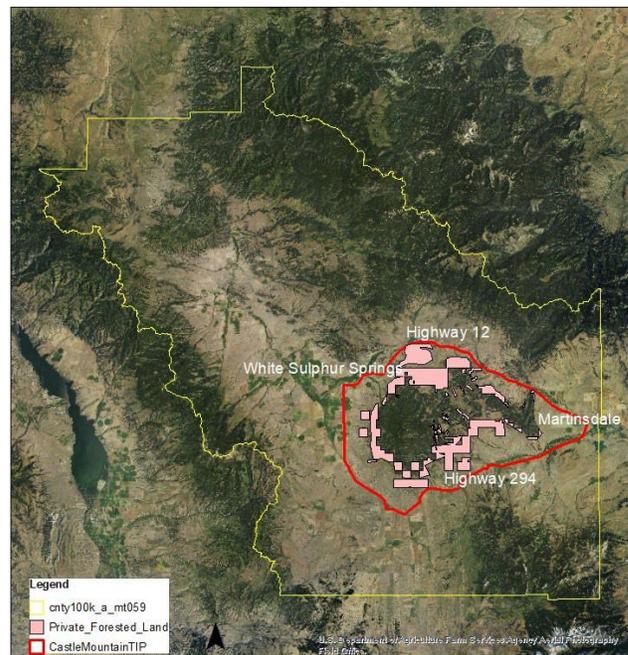
The goal of this project is to provide landowners with assistance to implement reduction of hazardous fuels, improve range productivity and health, remove conifer encroachment, and improve overall forest health within the Castle Mountains.

The desired future condition of our treatment units within the castle mountains are as follows:

- Overall reduction in fuel loading and catastrophic wildfire risk
- Stands that have lower stocking rates to improve health and vigor of individual trees.
- An increased amount of native grasslands through reduction of conifer encroachment
- Increased grass, forb, and shrubs in the understory of forests
- Creation of fuel breaks near structures or other important features
- Reduction in ladder fuels that cause potential for crown fires.

#### NRCS Conservation Practices to be implemented:

- Brush Management (314) will be used to remove conifer encroachment by mechanical tracked equipment and hand crews using chainsaws.
- Forest Stand Improvement (666) will be used to thin trees that are growing too close together.
- Woody Residue Treatment (384) will be used to control the amount of woody material left after treatment to encourage forage growth and reduce fire risk.
- Herbaceous Weed Treatment (315) can be used where noxious weeds and annual grasses have invaded areas.
- Fuel Break (383) can be used around structures, property boundaries or other important features to reduce fuel loads. It can be used to treat commercial size timber.



#### What was completed?

- *Completed and certified 1140 acres of brush management on private land. This was the removal of conifers, primarily Douglas fir, from grasslands that historically did not have trees. Maintaining grassland habitats for wildlife and forage for grazing animals.*
- *Completed and certified 1152 acres of pre-commercial thinning on private land. This was the thinning of young trees, Douglas fir and lodgepole pine, that were growing too close together to become full*

# Meagher County Wildfire Protection Plan 2023

size healthy trees. This also included the removal of dead and dying trees that had been impacted by spruce budworm and pine bark beetle.

Practices Contracted (some acres complete, some will be completed 2023 and 2024)	FY22	FY20-22
Pre-commercial thin (666)	298.8 ac	1429 ac
Brush management (314)	236.1 ac	1663 ac
Woody residue treatment (384)	352 ac	1184 ac
Herbaceous weed treatment (315)		159 ac



*Mastication Treatment, pre-commercial thinning in stand on right of photo. Pre-commercial thinning treatment resulted in 100 Trees per acre or 20' spacing. Removal of all trees less than 8" diameter around the edge of thinning unit (Brush Management). Photo by Jenney Paddock NRCS 2022*

*Pre-commercial thinning in lodgepole pine and Douglas fir with a 14'x 14' spacing. Photo by Jenney Paddock NRCS 2022*



*Thinning prior to piling, Douglas fir and lodgepole pine, 14' spacing. Photo by Jenney Paddock NRCS 2022*

# Meagher County Wildfire Protection Plan 2023



Before treatment Jenney Paddock NRCS

After treatment. Brush management ore removal of encroaching trees surrounding stock tank. Encroachment in background has been treated since this photo was taken. Jenney Paddock NRCS



Before treatment J. Paddock NRCS June 2020



After treatment- pre-commercial thinning J. Paddock NRCS July 2020

Completed Conservation for the Future Berg Ranch Lennep, MT video showcasing the work NRCS, Private Landowners and the Forest Service are completing in the Castle Mountains with the help of Joint Chiefs funding. [https://www.youtube.com/watch?time\\_continue=2&v=6iBolADuJTg&feature=emb\\_logo](https://www.youtube.com/watch?time_continue=2&v=6iBolADuJTg&feature=emb_logo)

***US Forest Service land also treated with money through Joint Chiefs funding.***

Activity/Treatment	FY22	FY20-22
Total acres of Hazardous Fuels (HF) Treatments*	0 acres were treated in FY22 due to litigation and remand of the vegetation treatments included in the decision.	3,605 which includes 1,436 acres in WUI, 797 acres in non-WUI and 1,372 acres of conifer encroachment.
Total acres of Forested Vegetation Improved*	0 acres	381 acres of pre-commercial thinning

# Meagher County Wildfire Protection Plan 2023

## 6. e. Potential Operational Delineations (PODs)

**What are PODs?** Potential wildland fire operations delineations (PODs) are polygons whose boundary features are relevant to fire control operations (e.g., roads, ridgetops, and water bodies). PODs are created by local fire experts with the help of analytical tools that highlight landscape features with control potential and provide information on their likely effectiveness. PODs are useful for summarizing wildfire risk and planning strategic response to unplanned ignitions accordingly. In an operational response context, POD boundaries can be used to guide and communicate choices of where to construct or hold fire line as well as where to conduct burnout operations. PODs may also prove useful for strategic fuels planning, with potential applications for designing controlled burn units, reinforcing existing POD boundaries, or prioritizing treatment opportunities within PODs. Vetting and mapping POD boundaries essentially formalizes and institutionalizes the knowledge of fire management experts. The basic idea of delineating “boxes” within which to manage fire has long been around; the POD concept uses risk-based analytics, ground-truthing, and expert consensus to take that concept much farther, and moves it into the pre-fire planning world to buy more time.

**Why use them?** A basic principle of risk management is to get ahead of problems one may face down the road. Doing so can help reduce time pressure, reduce uncertainty, and expand options – ultimately facilitating safer and more effective response. Pre-fire planning can provide a valuable means for building capacity within the organization, communicating hazards and opportunities with key stakeholders and partners, and sharing risks and responsibilities.

**Meagher County POD’s** An interagency group including Meagher County fire chiefs and NRCS personnel created PODs for all of Meagher County 4-19-23. These POD’s need to be reviewed and adjusted on a yearly basis. **At the January review and update these PODs will be looked at in relation risk and hazard mitigation projects completed and planned.**

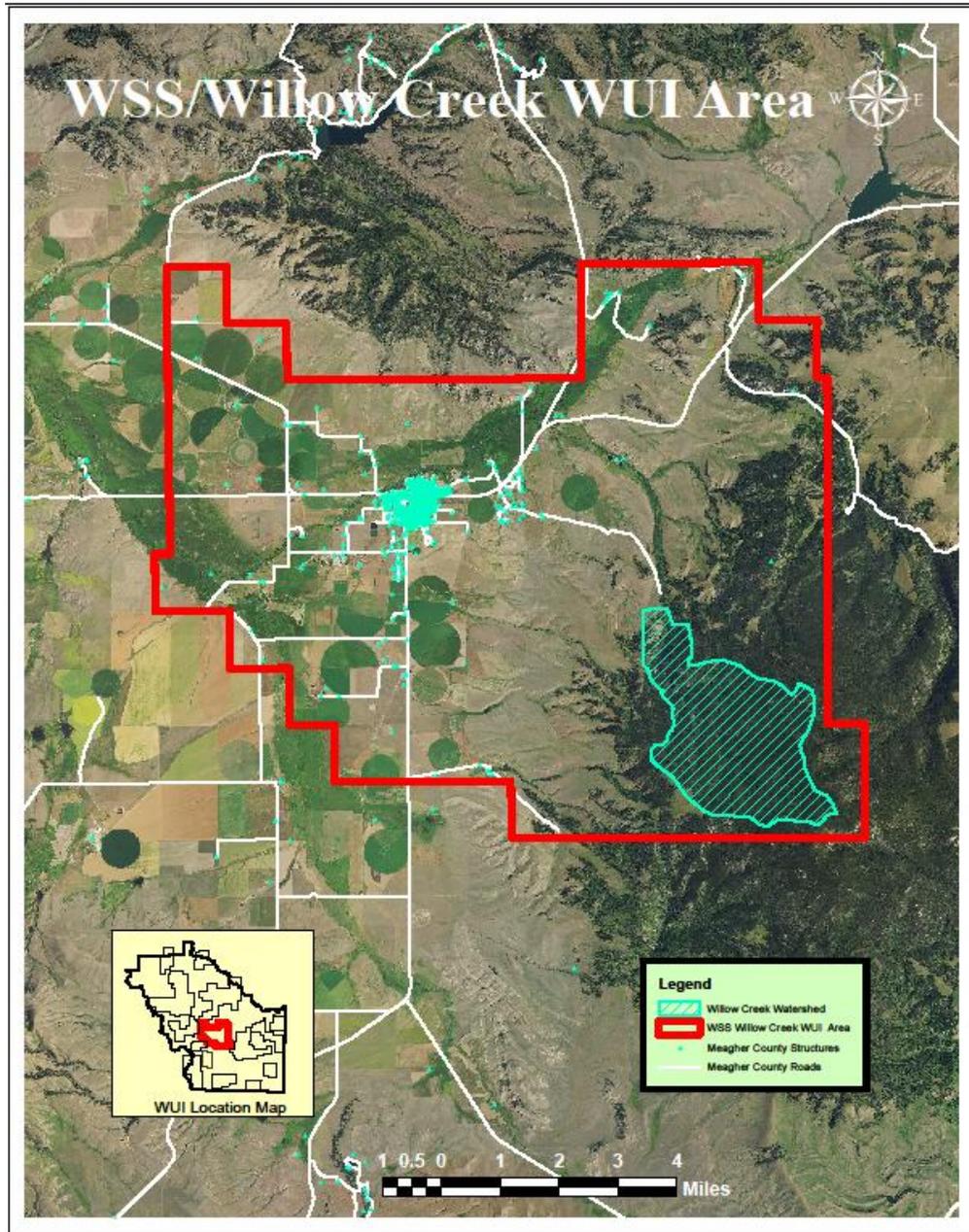
## 7. Risk and Hazard Mitigation Areas and Projects

This section of the Meagher County CWPP identifies risk and hazard mitigation projects / treatments by WUI area. Listed items that are underlined and in bold are to be completed within the next 5 years. 2023-2028. Not all listings are fully defined due to plans and operational details are not completed. Some items listed are information gathering projects. Some agencies or private company plans are not fully approved or developed at the date this CWPP was approved. As these plans are completed, they will be reviewed and incorporated into this CWPP.

# Meagher County Wildfire Protection Plan 2023

## 7. a. WSS/Willow Creek WUI Area

This area encompasses the town of White Sulphur Springs. Approx. ½ the population of Meagher County lives in the area. There are approximately 916 structure complexes within this area. The priority of this area is the community structures and Willow Creek watershed, which is



the municipal watershed for White Sulphur Springs. **All structure within this area needs to have structure triage for Home Ignition Zone Projects “HIZP” and be evaluated for hazardous fuels**

**treatments**  
The Willow Creek watershed is mostly Lodgepole Pine timber which has experienced a high mortality rate due to infestation by Mountain Pine beetle.

**Treatments need to include private land (Townsend Ranch LLC) adjacent to**

**and upstream watershed and Helena Lewis & Clark National Forest land which includes the remainder of the watershed to limit the effects of a high intensity wildfire. The project needs reduce the wildland fuel loading over time and increase the ability to contain or divert sediment in the South Fork of Willow Creek. The fuel mitigation including prescribed fire within this project needs to be completed.**

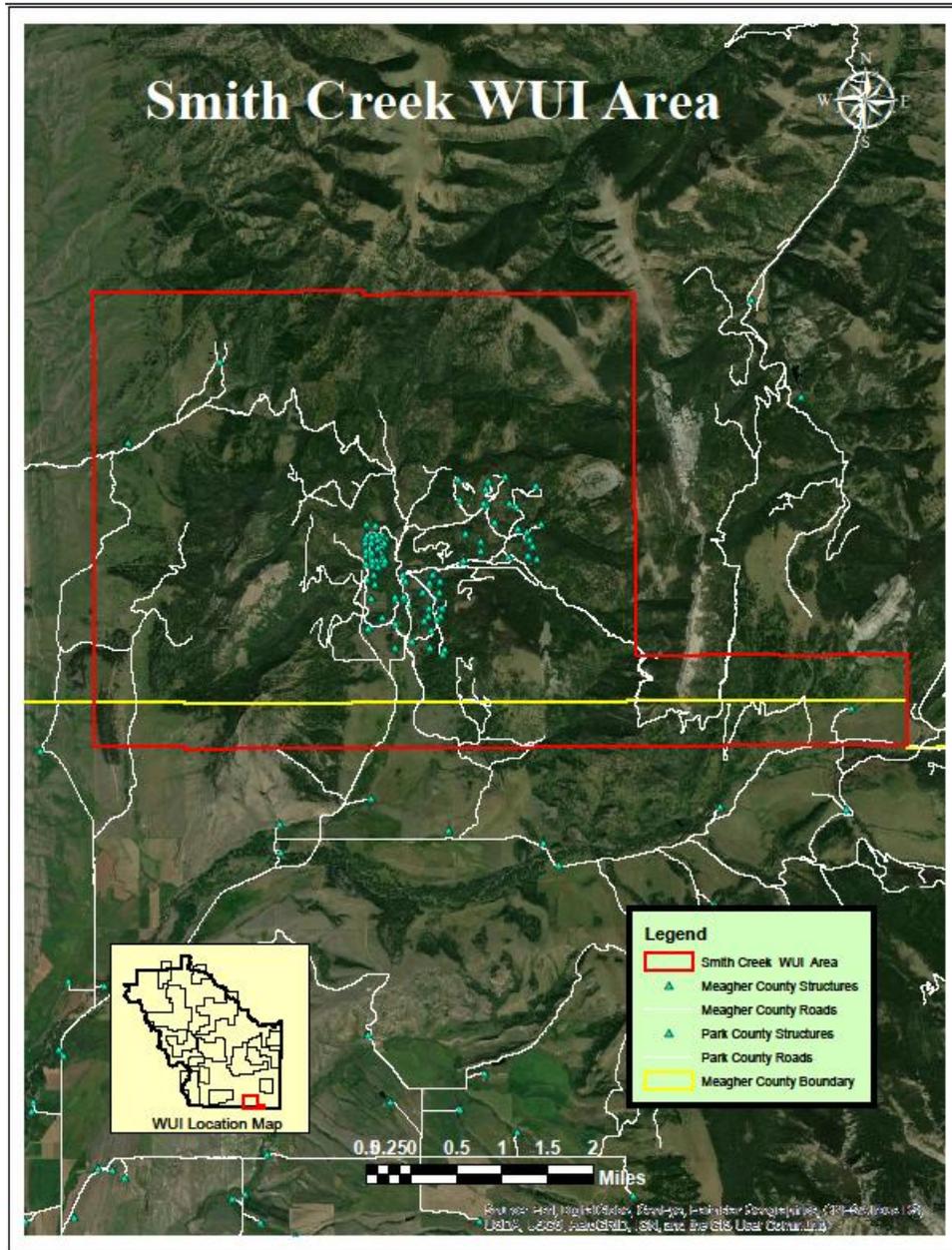
# Meagher County Wildfire Protection Plan 2023

## 7. b. Smith Creek WUI Area

There are approximately 80 structure complexes within this area. Most of these structure complexes are seasonal residences, located in the Smith Creek Community. The priority of this area is the structures and evacuation roads. There have been and continues to be firewise and fuels migration

projects implemented on both private and National Forest in this area. Many private landowners have had timber harvest / fuels mitigation implemented on their land within the last 5-10 years. There continues to be good community support and involvement in hazard mitigation.

**All structure within this area needs to have reassessed structure triage for HIZP and be evaluated for hazardous fuels treatments and treated with firewise mitigations if needed. The Custer Gallatin National Forest is in the process of completing the Smith Shields**



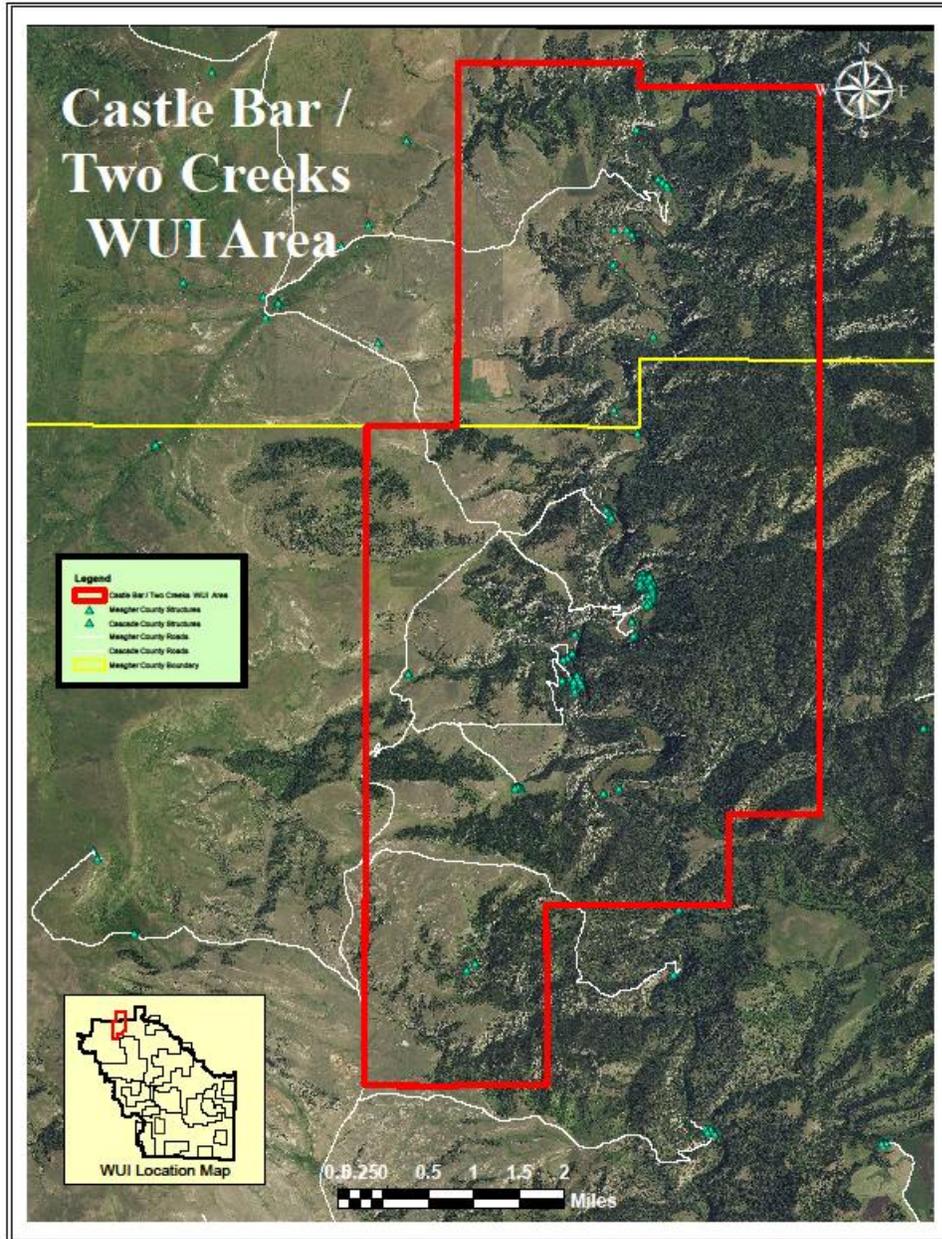
**Forest Health Project. This project needs to be completed (thinning units, slash pile burning and road work}**. This project implemented timber harvest/fuel mitigation on several sides of the Smith Creek community and adjacent to evacuation road FS # 992. Two ways of evacuation for all structure locations should be maintained if possible. **FS #992 road, north through private land, needs to be kept passable for emergency evacuation use.**



# Meagher County Wildfire Protection Plan 2023

## 7. d. Castle Bar / Two Creeks WUI Area

There are approximately 73 structures complexes within this area. All of the structures are seasonal residences. The priority of this area is the evacuation roads. Most of the structures



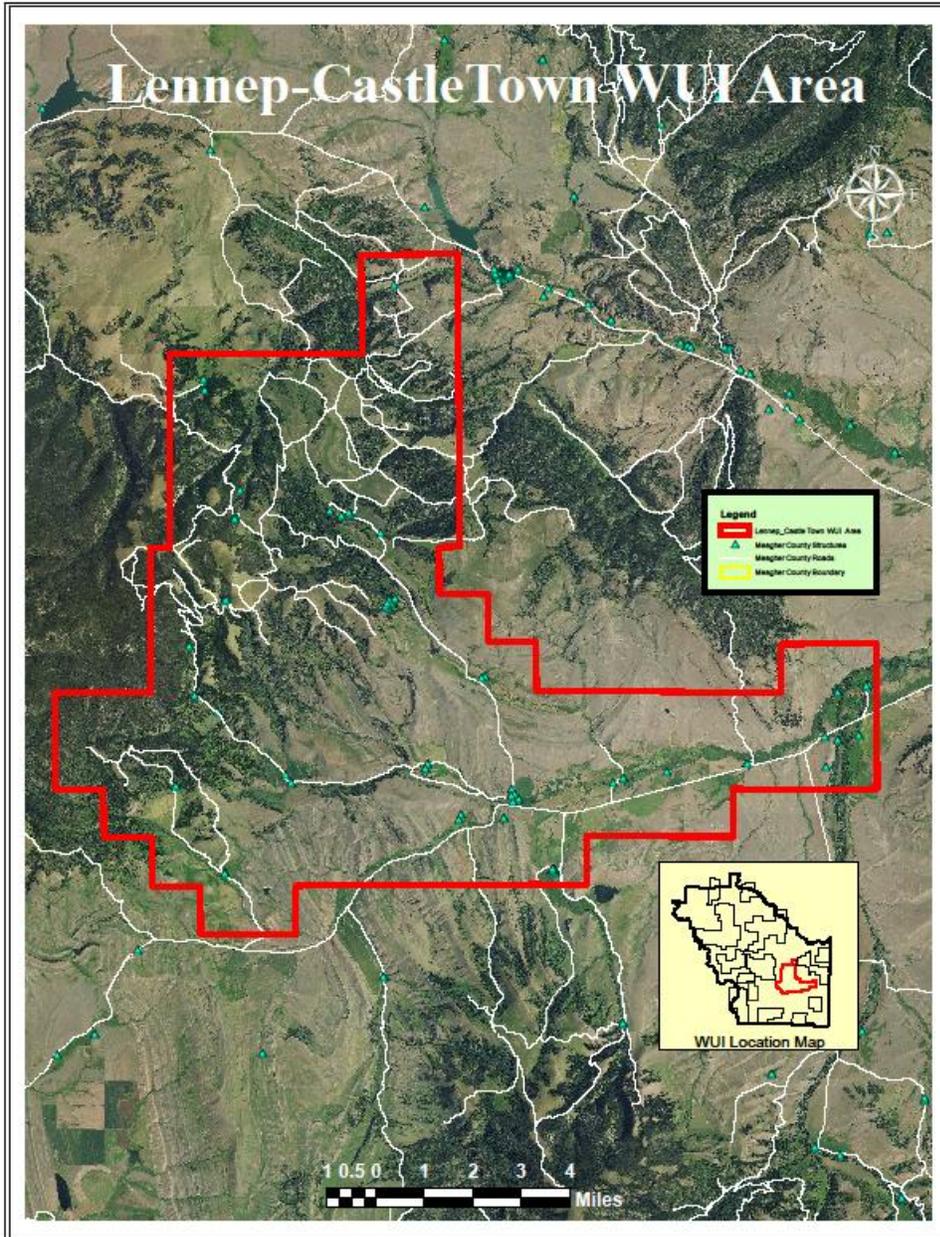
within the Castle Bar / Two Creeks WUI are in the Smith River canyon. The evacuation roads from the canyon are steep and one-way in and out. These roads have areas of Douglas Fir/ Ponderosa Pine with Juniper understory. Both timber/understory fuel types are highly flammable. Three of the main evacuation roads, Sunset Lane, Castle Bar Road, and the Two Creeks Road, have completed some roadside fuel treatment projects **The evacuation roads need to be assessed for structural improvements. All structure need structure triage for HIZP and be evaluated for hazardous**

**fuels treatments.** Structures within grass / sagebrush / Ponderosa Pine Needle / juniper environment need mitigation of these light flashy fuel.

# Meagher County Wildfire Protection Plan 2023

## 7. e. Lennep / Castle Town WUI Area

There are approximately 93 structures complexes within this area. The structures are divided between full time and seasonal residences. The priority of this area is the structures and the evacuation roads. Many of the structures are set in timber environments and are constructed of



flammable building material.

**ALL structures need structure triage for HIZP and be evaluated for hazardous fuels treatments. There are structures in the northern portion that need to be identified and addressed.**

Structures within grass/ sagebrush /junipers environment need mitigation of these light flashy fuel.

**The evacuation roads within and leading from the area need to be evaluated for hazardous fuel mitigation and structural improvements.**

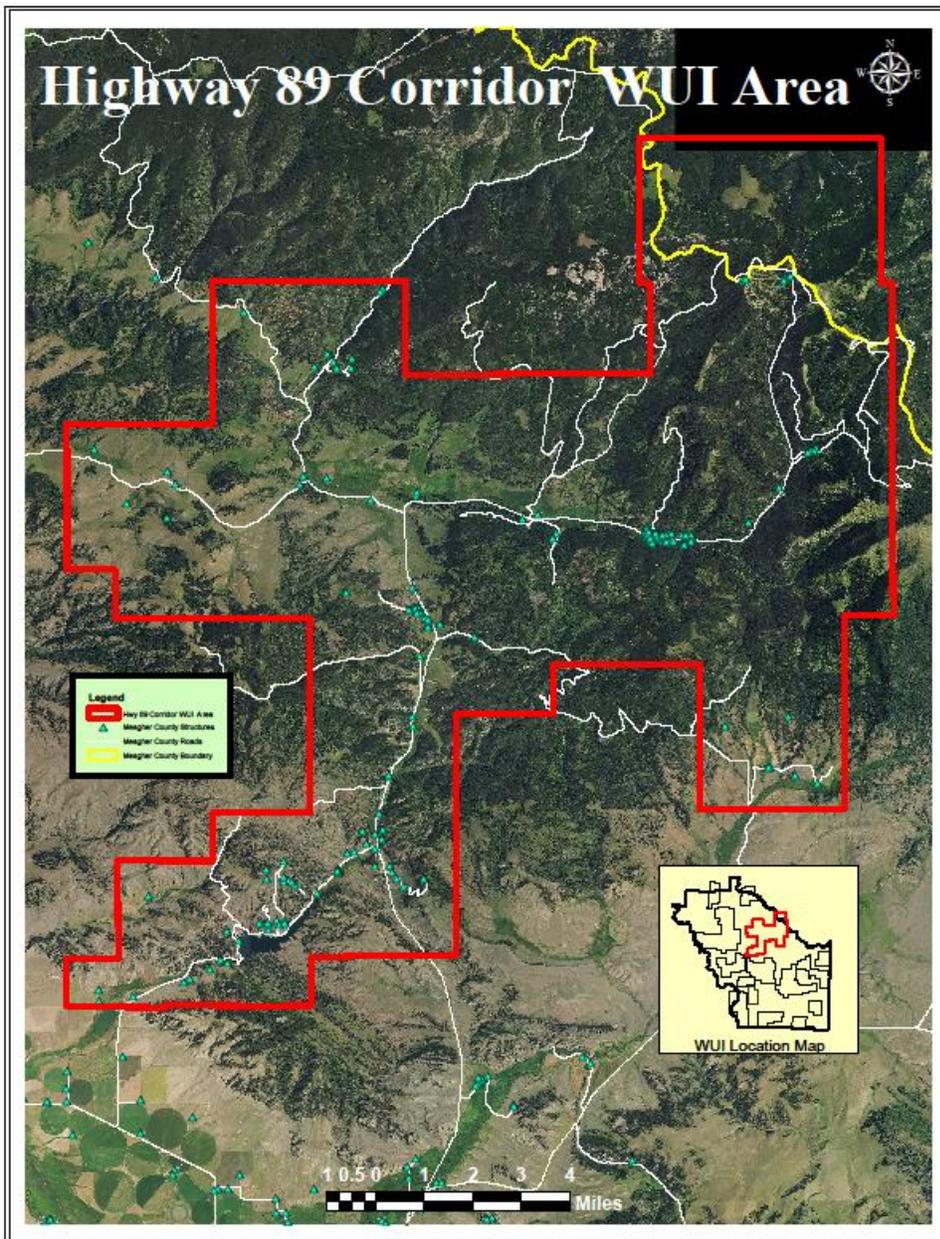
**The Helena Lewis & Clark National Forest Castle GA, and the Forestwide Prescribed Fire Project need to be**

**implemented. These projects provides fuel mitigation around and adjacent to private property and structures.**

# Meagher County Wildfire Protection Plan 2023

## 7. f. Hwy 89 Corridor WUI Area

There are approximately 220 structures complexes within this area. The structures are divided between full time and seasonal residences. The priority of this area is the structures. The Forest Green, Little Moose Creek, Newlan Creek subdivision in T10N R6E Section 1 structure developments are of the most concern. The Forest Green area has 5 structure complexes that are full time residences and remaining are seasonal. Some of the structures that have had structure



hazardous fuels treatments completed by landowners. All structures within Highway 89 Corridor WUI need to have structure triage for HIZP and be evaluated for hazardous fuels treatments. Little Moose Creek structures have had some firewise work and the Helena Lewis & Clark National Forest has completed mitigation work to the south. The area east of the subdivision on National Forest of the Little Moose Creek structures needs to be completed. Access to this area has been the issue for not completing this area. Landowners need

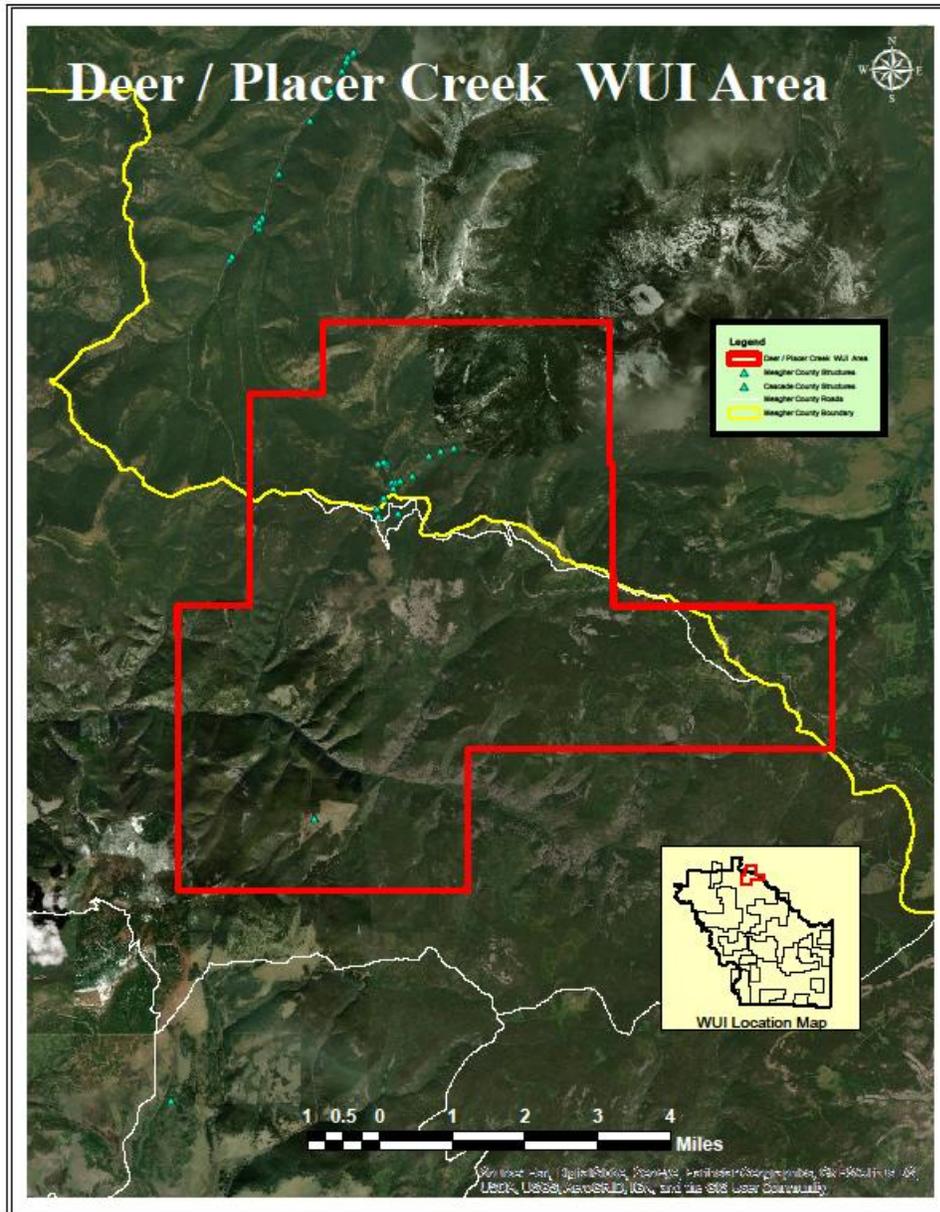
to be contacted to provide access. Access to structures located in the Newlan Creek subdivision in T10N R6E Section 1. With access from Blue Bird Lane and Newlan and Eagle Trails need evacuation roads evaluated for structural improvements.

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# Meagher County Wildfire Protection Plan 2023

## 7. g. Deer / Placer Creek WUI Area

There are approximately 17 structures complexes within this area. The structures are seasonal residences. The priority of this area is the structures and evacuation roads. This WUI area is in both Meagher County and Cascade County. There are structures in both counties. This area has been threatened several times in the past from wildfires. Some of the structures are non-



defendable due to the wildland fuel adjacent to the structures and the structure construction themselves. **All the structures need to have structure triage for HIZP and be evaluated for hazardous fuels treatments.**

The wildland fuel adjacent to the evacuation roads in areas will cause the road to be unusable during wildfires. **The evacuation roads within and leading from the Deer / Placer Creek WUI need to be evaluated for roadside fuel treatment.**

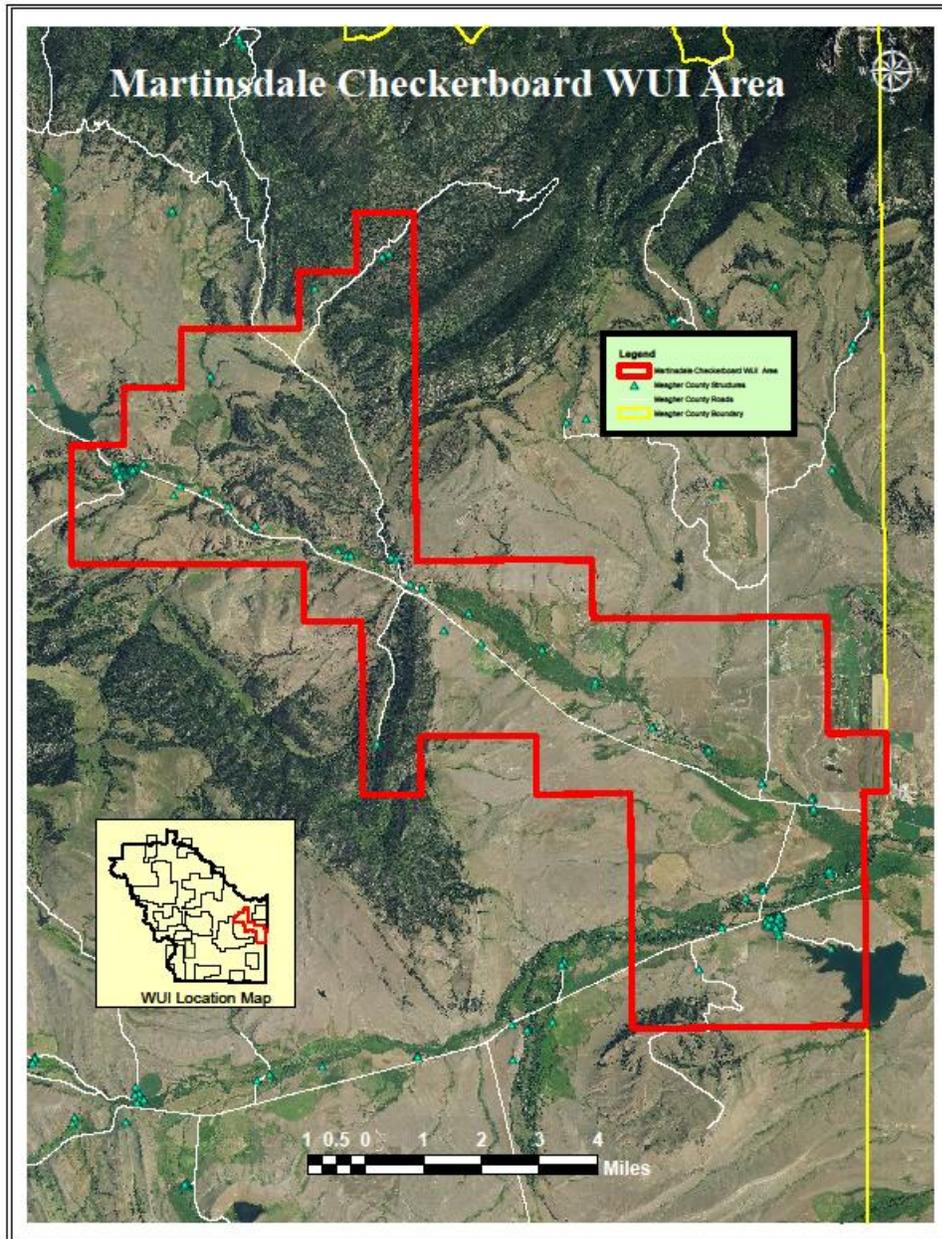
Due to the topography and predominate winds, wildfires from the Tenderfoot Creek

and Logging Creek drainages will spread toward the private land and structures. **Future fuel reduction within the Deer / Placer Area needs to be evaluated and accessed to preventing crowning wildfires from spreading toward the private land and structures.** Wildfires need to be prevented from crowning at a considerable distance from the structures to reduce the number of embers that reach the private land and structures.

# Meagher County Wildfire Protection Plan 2023

## 7. h. Martinsdale / Checkerboard WUI Area

There are approximately 229 structures complexes within this area. The structures are divided between full time and some seasonal residences. The priority of this area is the structures and



communities of Checkerboard and Martinsdale. This WUI area is along Highway 12, and adjacent to and within the Helena Lewis & Clark National Forest. Structures within grass/ sagebrush /junipers environment need mitigation of these flashy fuels. **All the structures need to have structure triage for HIZP and to be evaluated for Firewise treatments. Forest road #694, Pasture Gulch, needs to be evaluated for roadside fuel treatment. The Helena Lewis & Clark National Forest Castle GA, and the Forestwide Prescribed Fire Project treatments need**

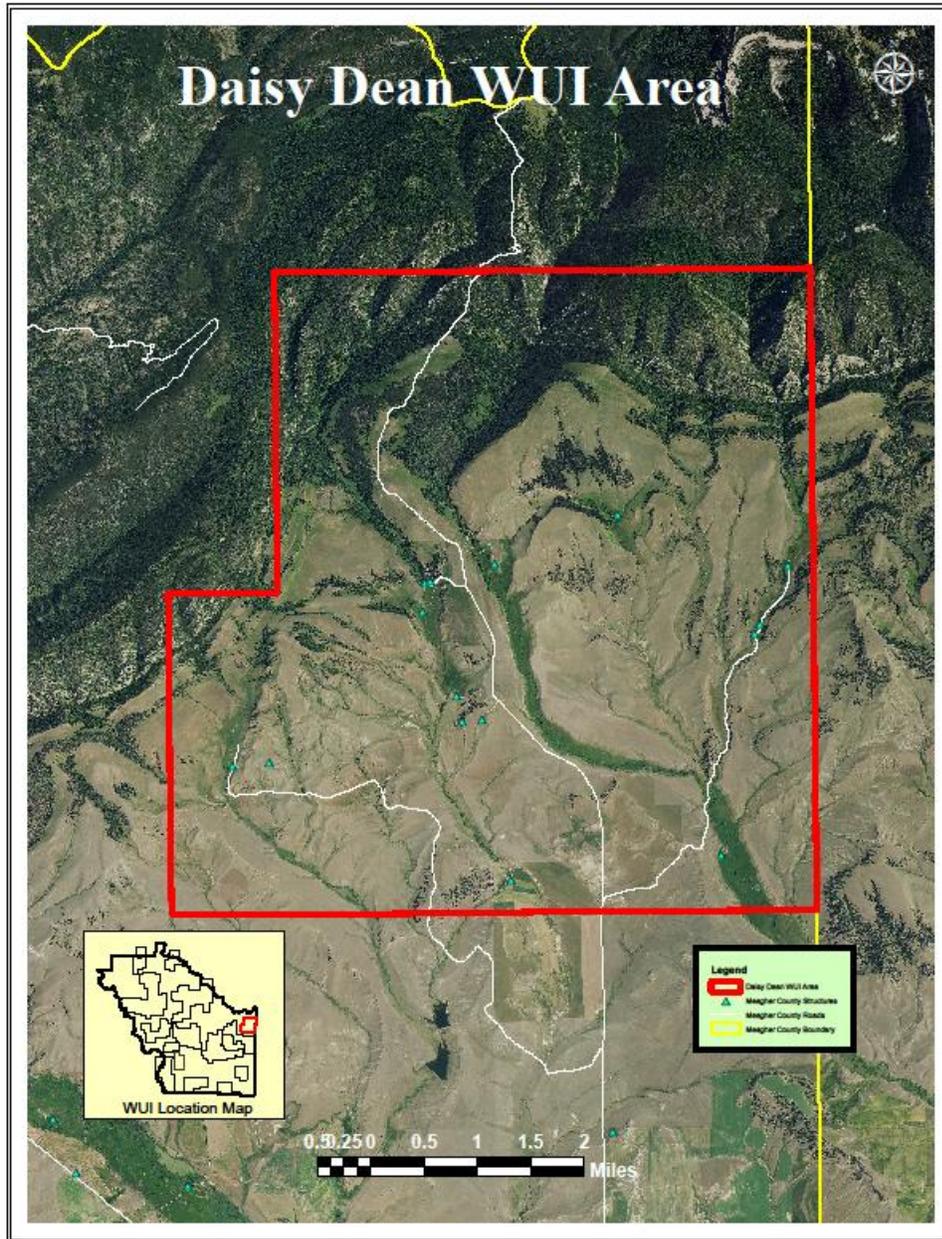
**to be implemented.** This project will provide hazardous fuels mitigation to the west and southwest, which is the most likely direction from which a wildfire could spread into this WUI area. **Fire station building needs to be constructed and equipped in Checkerboard on land donated by Checker Board Cattle Company. Additional fire department personal need to be recruited and trained in the Checkerboard area.**

# Meagher County Wildfire Protection Plan 2023

## 7. i. Daisy Dean WUI Area

There are approximately 15 structures complexes within this area. The structures are full time residences. The priority of this area is the structures. Most of the structures in this area are

ranches with several buildings at each site. Structures within grass/ sagebrush /junipers environment need mitigation of these flashy fuels. **All the structures need to have structure triage for HIZP and assessments for hazardous fuels treatments. The evacuation roads need to be evaluated from structural improvements.**

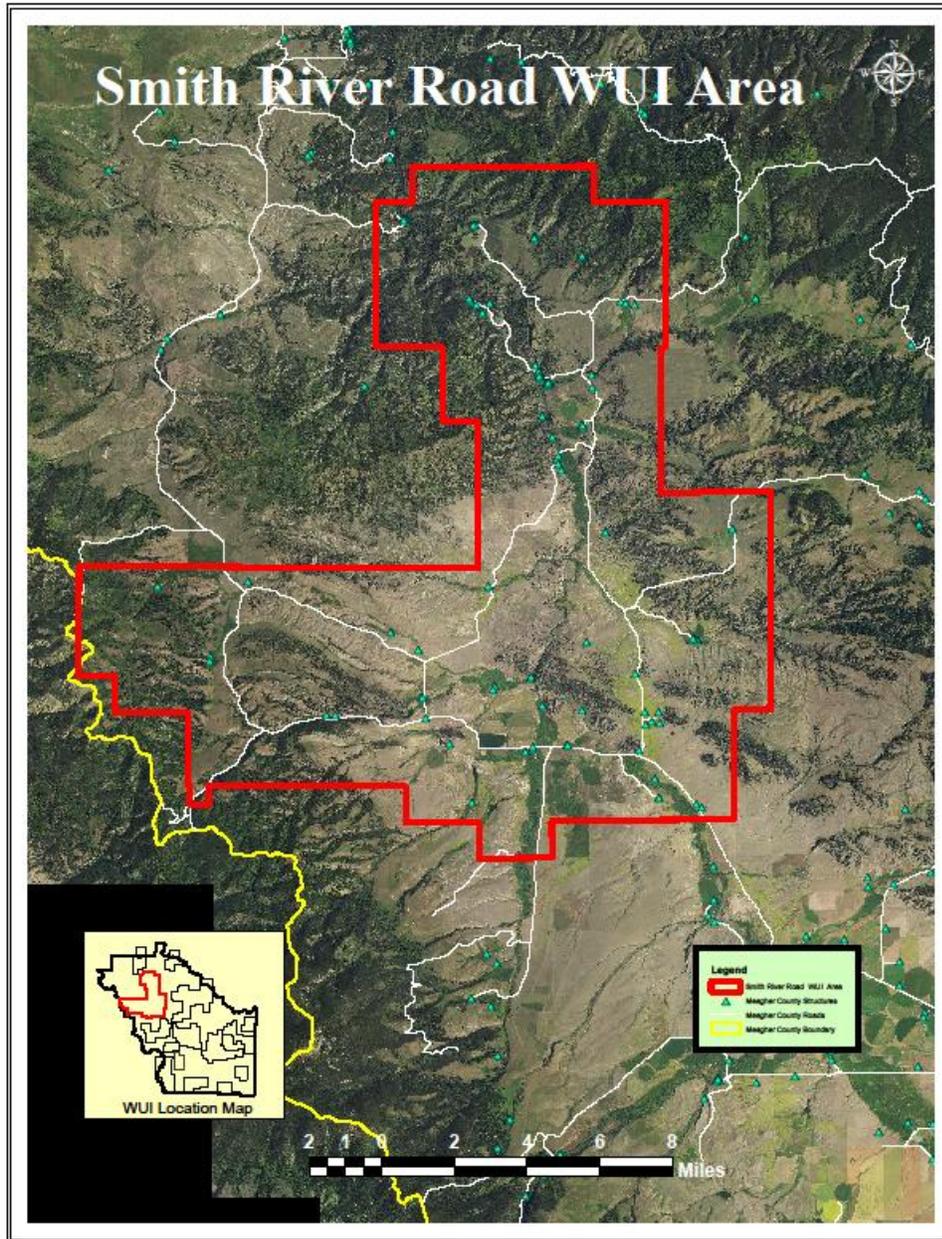


# Meagher County Wildfire Protection Plan 2023

## 7. j. Smith River Road WUI Area

There are approximately 106 structures complexes within this area. The structures are mostly full-time residences. The priority of this area is the structures. Most of the structures in this area are ranches with several buildings at each site. Many structures within the Smith River corridor

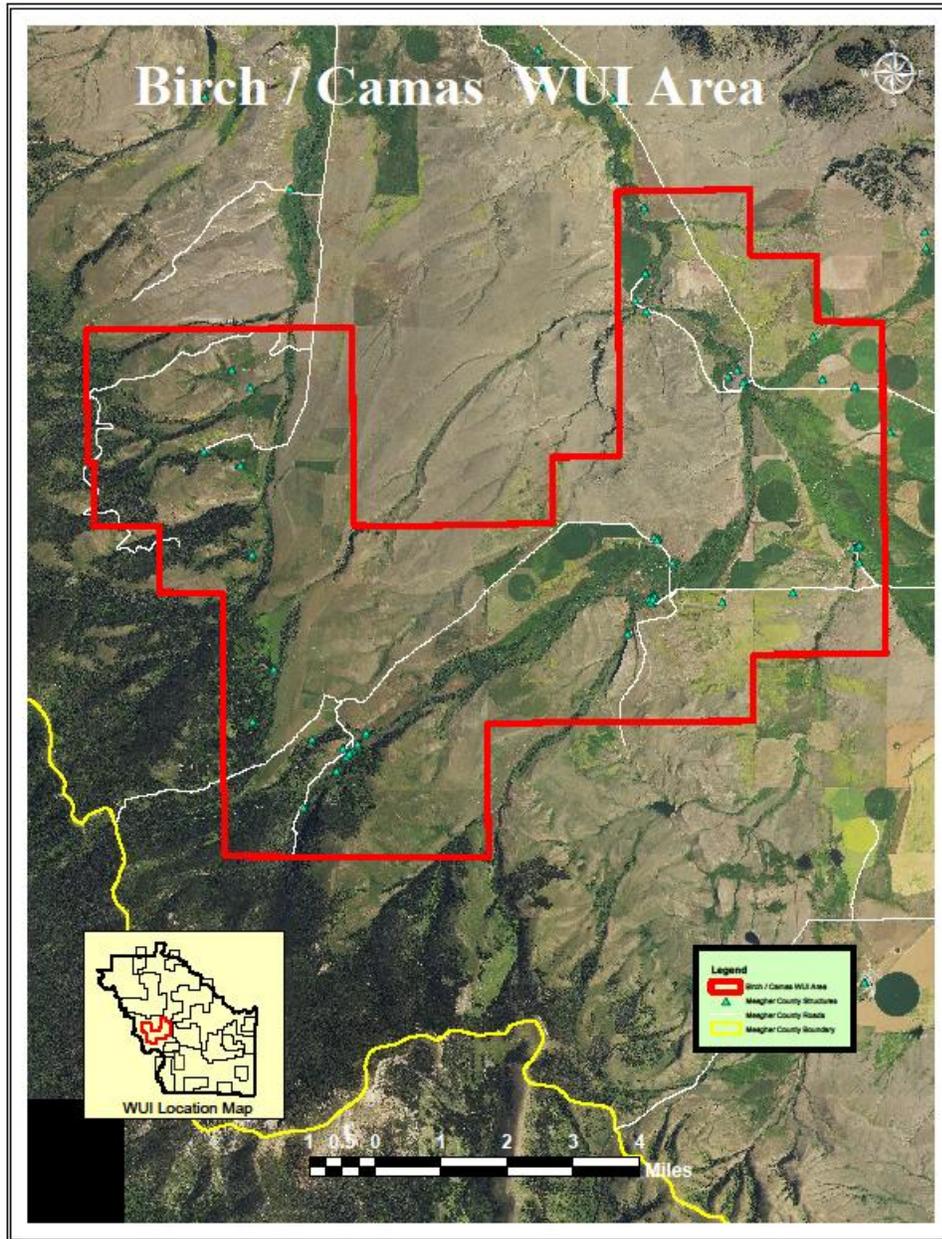
have single route evacuation routes that need hazard mitigation work. Ranches and single structures within the grass/sagebrush/juniper's environment need mitigation of these flashy fuels. **All the structures need to have structure triage for HIZP and assessments for hazardous fuels treatments.**



# Meagher County Wildfire Protection Plan 2023

## 7. k. Birch / Camas WUI Area

There are approximately 55 structures complexes within this area. The structures are full time residences. The priority of this area is the structures. The most structures within this area are ranches. Structures within grass/sagebrush/junipers environment need mitigation of these flashy fuels. **All the structures need to have structure triage for HIZP and assessments for hazardous fuels treatments.**

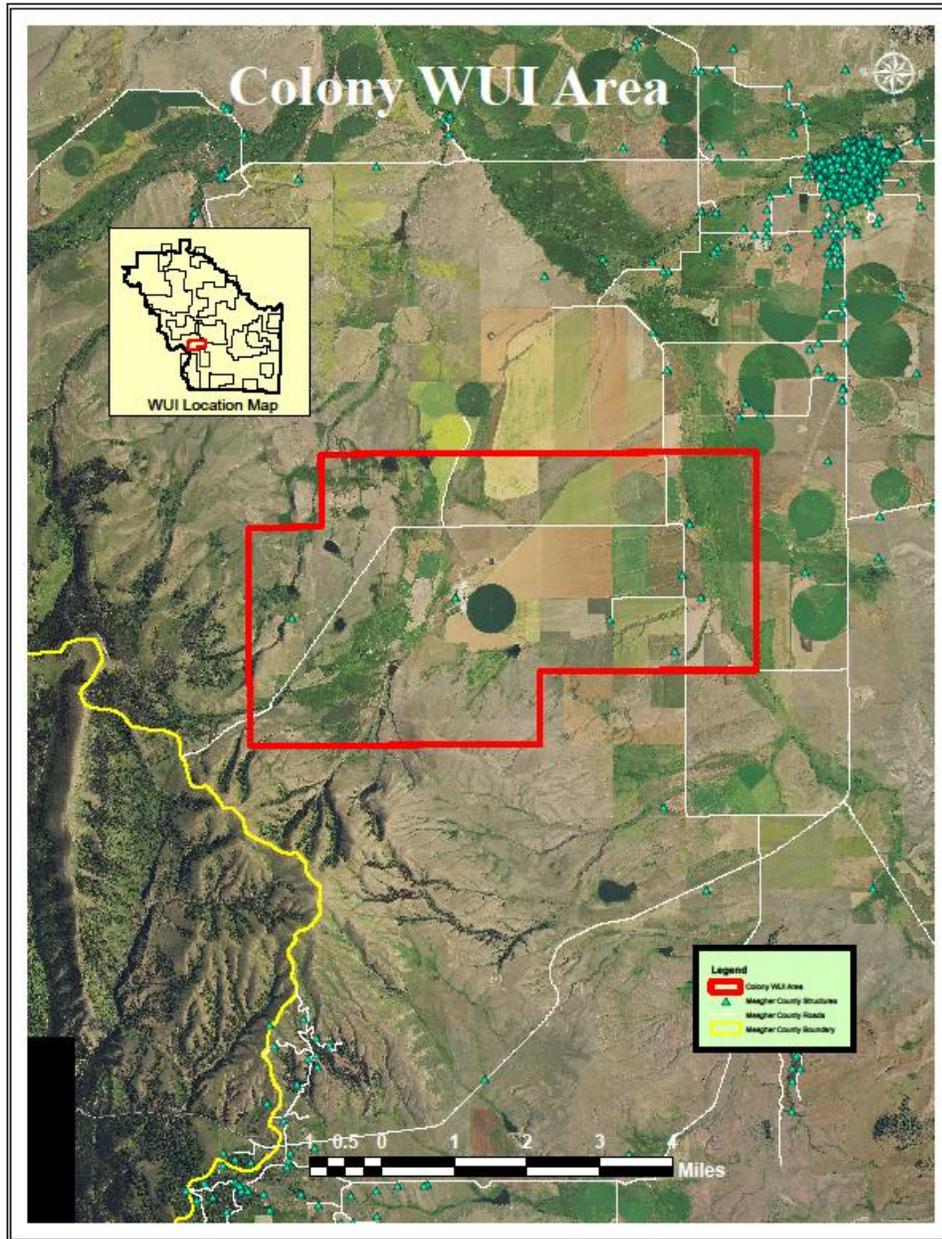


The priority of this area is the structures. The most structures within this area are ranches. Structures within grass/sagebrush/junipers environment need mitigation of these flashy fuels. **All the structures need to have structure triage for HIZP and assessments for hazardous fuels treatments.**

# Meagher County Wildfire Protection Plan 2023

## 7.1. Colony WUI Area

There are approximately 6 structures complexes within this area. The structures are full time residences. The priority of this area is the structures. The structures within this area are ranches. Structures within grass/ sagebrush /junipers environment need mitigation of these flashy fuels. **All the structures need to have structure triage for HIZP and assessments for hazardous fuels treatments. Meagher County Rural Fire Department equipment located at the colony needs to be evaluated and replaced if necessary.**

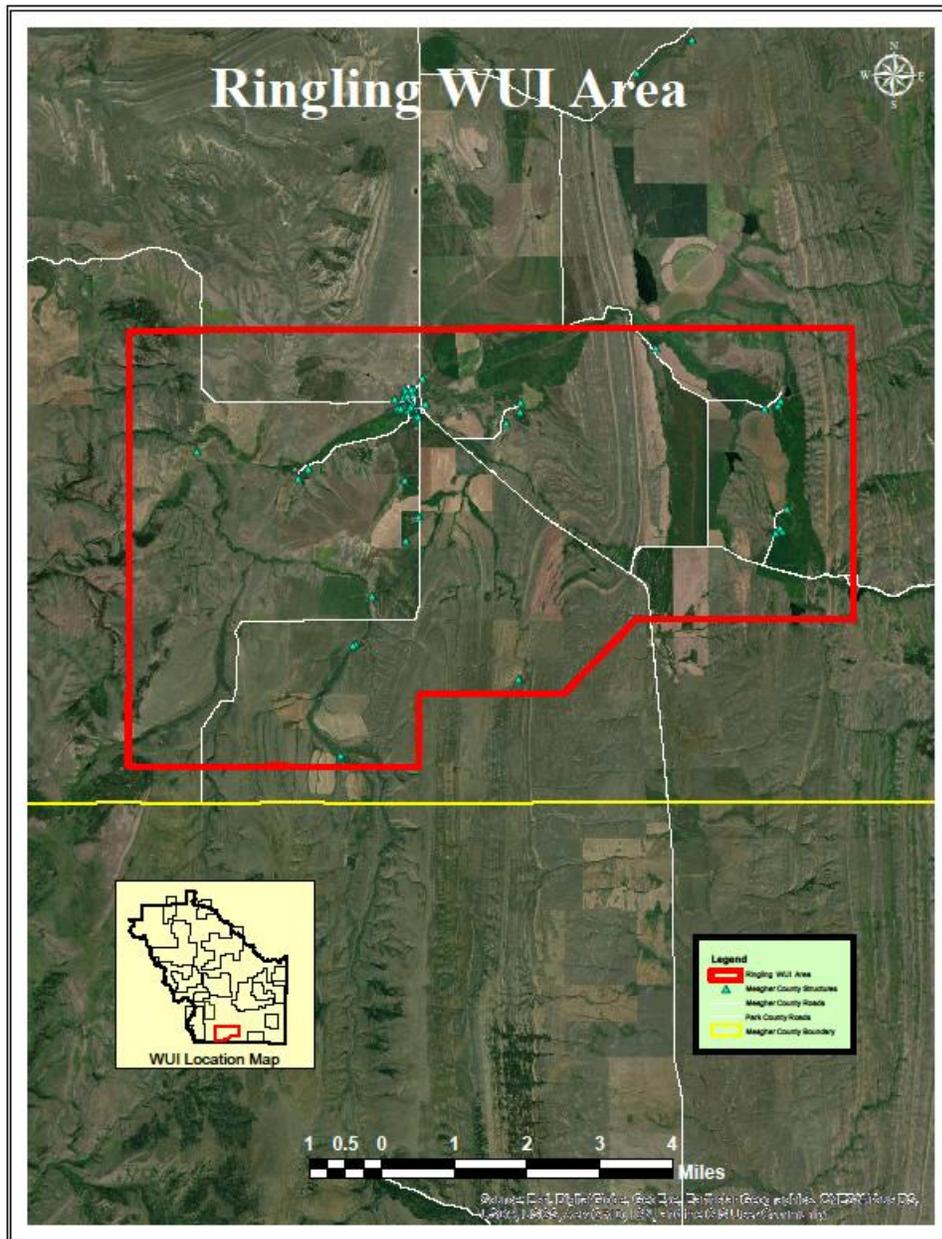


# Meagher County Wildfire Protection Plan 2023

## 7. m. Ringling WUI Area

There are approximately 49 structures complexes within this area. The structures are full time residences. The

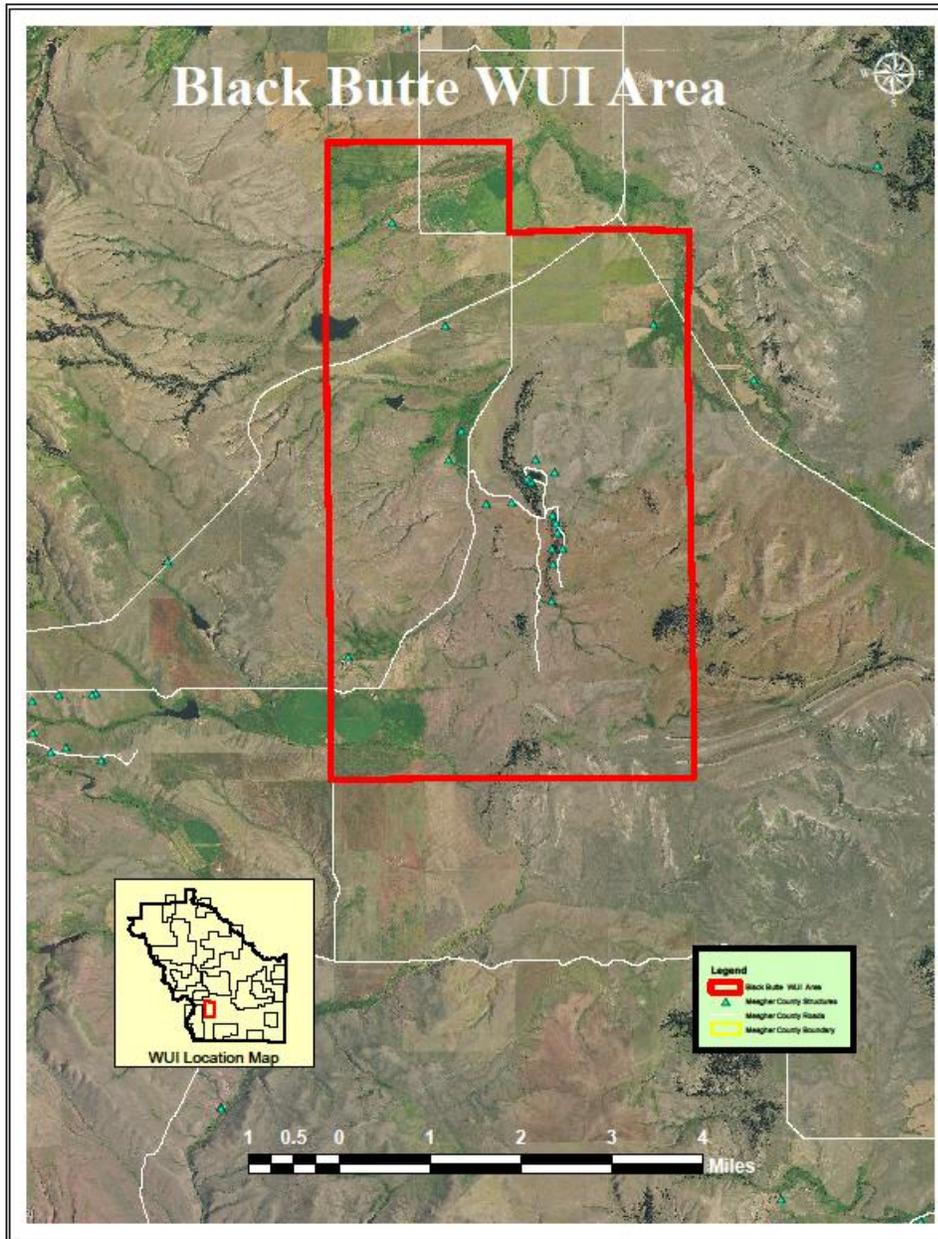
priority of this area is the structures. The structures within this area are ranches and the town of Ringling. Structures within grass/ sagebrush /junipers environment need mitigation of these flashy fuels. Water sources for both wildland and structure fire suppression are limited. **Water source at the Ringling fire station needs to be fitted with a pump to produce 50-200 gpm and a 10,000 gallon underground cistern. All the structures need to have structure triage for HIZP and assessments for hazardous fuels treatments.**



# Meagher County Wildfire Protection Plan 2023

## 7. k. Black Butte WUI Area

There are approximately 19 structures complexes within this area. The structures are divided



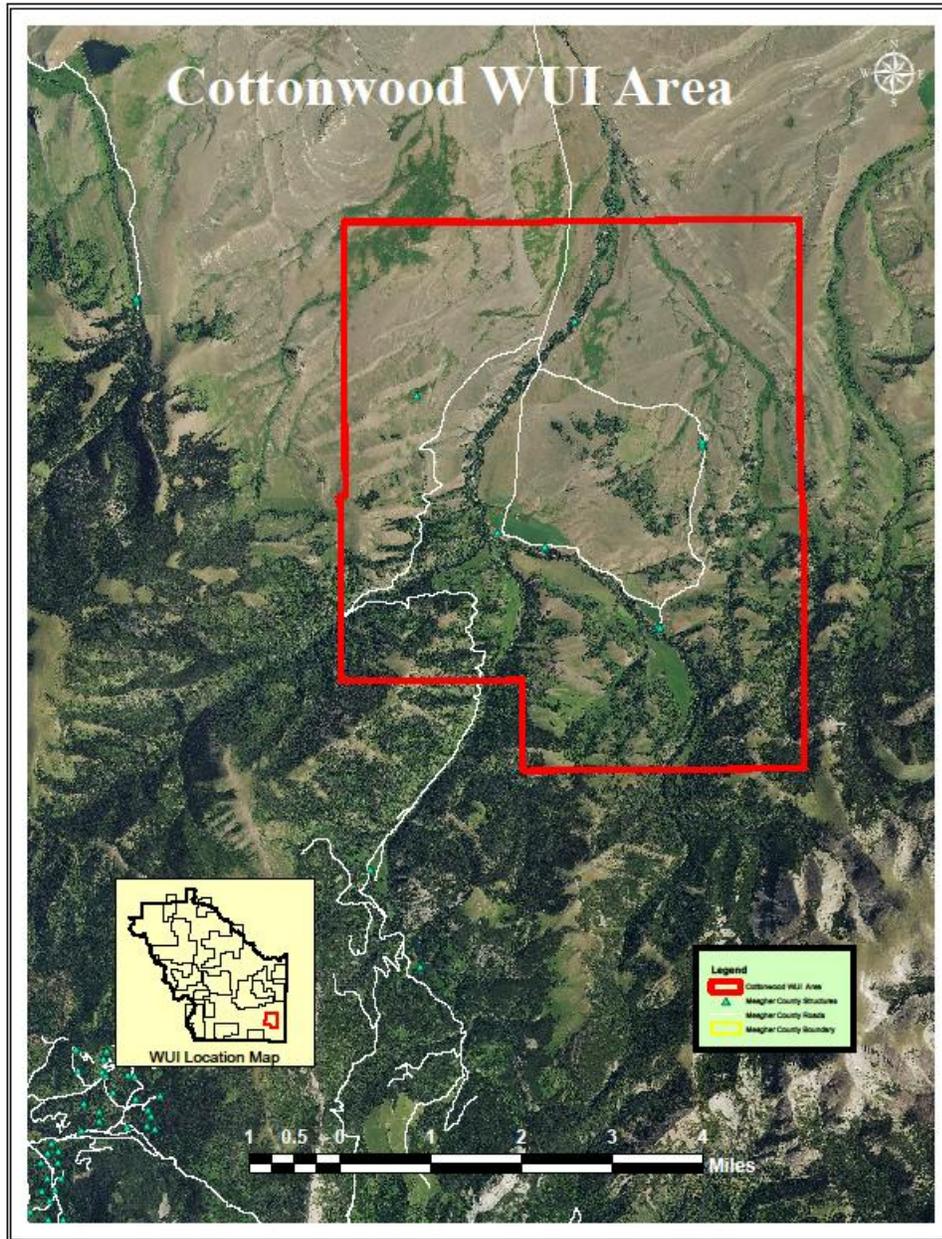
between full time and seasonal residences. The priority of this area is the structures. The majority of the structures in this area are in the Black Butte Subdivision. The water source in the center of the north lots needs to be developed for use in the event of a wildfire. Structures within grass/ sagebrush /junipers environment need mitigation of these flashy fuels. Landowners should be encouraged to sustain short grass ecosystems through mowing or grazing. **All the structures need to have structure triage for HIZP and assessments for hazardous fuels treatments.**

# Meagher County Wildfire Protection Plan 2023

## 7. k. Cottonwood WUI Area

There are approximately 9 structures complexes within this area. The structures are full time residences. The priority of this area is the structures. The structures within this area are ranches. Structures within grass/ sagebrush /junipers/ cottonwood timber environment need mitigation of

these flashy and heavy fuels. . **All the structures need to have structure triage for HIZP and assessments for hazardous fuels treatments.**



# Meagher County Wildfire Protection Plan 2023

## 8. Homeowner Fire Preparedness and Reducing Structural Ignitability

This section provides strategies of public education to help identify and implement approaches to reduce structural ignitability. An approach to reduce structural ignitability and overall community vulnerability depends on citizens to engage in reducing the ignitability of the components of the home and fuel reduction efforts around the home.

### 8. a. Public Education

Public education and outreach to residents about how homes ignite and how to reduce ignition potential is the first step toward enabling property owners to modify their homes and surrounding landscapes most effectively. During extreme wildland–urban fires, homes ignite in two principal ways: 1) directly from flame heating, and 2) from firebrand ignition (burning ember spot ignitions). If a homeowner modifies both the structure itself and its immediate surroundings, the home is much less likely to ignite during a wildfire, and thus has a much greater chance of surviving a wildfire.

Public education can be furthered with the use of the “Ready Set Go Montana program: Your Personal Wildland Fire Action Guide,” available at: [Ready Set Go Action Guide](#)

This program and the associated link to [Fire Safe Montana](#) provide resources to display to the public. Education programs should include a springtime display in the K-12 schools and spring/summer programs designed for adults at venues such as the Meagher County Community Expo. Ready Set Go Action Guides can be distributed to individuals in high-risk areas through mailings or during site visits. **Education efforts including mailing, emails and public advertisements will target homeowners, contractors, realtors, and insurance companies.** Information emphasizing the homeowners’ responsibility to protect their homes will be displayed.

### 8. b. Individual Responsibility

Individual responsibility is paramount in reducing structural ignitability. As stated in [Montana State Policies 76-13-115, State fire policy \(6\)](#), “all private property owners and federal and state public land management agencies have a responsibility to manage resources, mitigate fire hazards, and otherwise prevent fires on their property.”

Fire science research has demonstrated that the ignition potential of structures, including homes, can be minimized by modifying the home itself and the area within 100 to 200 feet around the structure. A home should be examined for its vulnerabilities to firebrands and flames. Firebrand ignition factors include structure locations for firebrand accumulations on flammable surfaces and unscreened openings allowing firebrand entry.

# Meagher County Wildfire Protection Plan 2023

Homeowners have control over the structural components of their homes and the “[home ignition zone](#).” The effectiveness of fire suppression/protection is subordinate to the individual ‘s responsibility for ignition resistance of their home. Replacing flammable or highly ignitable components of the home and removing fuel from around the home minimizes the ignition potential of the home. The Ready Set Go Montana program provides information for homeowners to make decisions on mitigation efforts.

## Most Effective Changes to [Home Ignition Zone](#)

- Class A roofs: any roof covering that does not self-sustain an ignition and spread fire is an appropriate 'non-ignitable' roof covering.
- Screen openings to prevent ember intrusion.
- Install non-flammable siding.
- Install double-paned windows.
- Reduce fuel around structures.
- Maintain vegetation modifications.

For additional information, refer to Fire Safe Montana (Living with Fire - [HOMEOWNERS' FIRESAFE GUIDE FOR MONTANA](#))

Technical assistance and advice can be accessed through the Meagher County Fire Chiefs and/or the RC&D Hazardous Fuel Reduction Grant Program to develop and implement (funding) a hazardous fuel mitigation plan or a forest stewardship plan.  
<http://www.msuextension.org/gallatin/naturalresourcesfire.html>

## 9. Plan Monitoring and Yearly Review:

The Disaster Mitigation Act of 2000 requires that this plan be updated every five years. **Every year in January this plan will be reviewed and updated.** The yearly review and update needs to include a review of the prior year’s accomplishments with a written and GIS/spacial component. To document if the plan is being followed or if it needs to be revised / updated. The review needs to be completed by the county and city fire chiefs, NRCS personal, power company personal, USFS Helena & Lewis and Clark NF and Custer Gallatin NF fire personnel, and Montana Department of Natural Resources and Conservation (DNRC) fire personnel. The prioritized project list should be revised every year based on new data and available funding.

Review and updated January 2024\_\_\_\_\_

Review and updated January 2025\_\_\_\_\_

Review and updated January 2026\_\_\_\_\_

# Meagher County Wildfire Protection Plan 2023

Review and updated January 2027\_\_\_\_\_

Review and updated January 2028\_\_\_\_\_

## 10. Summary and Conclusions

CWPPs are one of the best tools available for communities to proactively plan for and reduce wildfire risk. The complexity of the wildfire environment has changed in Meagher due to the increase of homes built in the WUI, changes in the wildland ecosystems and global climate changes. The leadership and the level of fire preparedness within Meagher County has been able to keep pace with this changing environment.

All the fire departments in the county are volunteer organizations. Recruiting, training, and retaining volunteers is a continual process and becoming more of a challenge.

The Meagher County Board of Commissioners needs to recognize this effort and needs to support the future needs of Meagher County's fire forces to further respond to a changing fire environment and the associated public safety risks.