TETON COUNTY, MT

Community Wildfire Protection Plan - Update

October 17, 2025

PREPARED FOR

Teton County, Montana
Board of County Commissioners
P.O. Box 610
Choteau, MT 59422
Project:1VLC24003.000

PREPARED BY

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Executive Summary

The purpose of this Community Wildfire Protection Plan (CWPP) Update is to evaluate the prior agreed-upon procedures and responsibilities implemented in the 2011 Teton County CWPP and assess the next steps forward to help further foster cooperative wildland fire protection on all lands within Teton County, Montana.

The CWPP was created according to the Montana Department of Natural Resources and Conservation (DNRC) guidelines, the National Cohesive Strategy, and the Healthy Forest Restoration Act.

The *Central Montana Region Hazard Mitigation Plan,* developed in 2022-2023, and the *2021 Teton County Hazard Mitigation Plan* were used as references in the development of this update. All additional resource materials used and referenced throughout the document are listed in the Appendices.

This CWPP provides an updated assessment of wildfire risk within and surrounding Teton County's Wildland Urban Interface (WUI). This CWPP was developed through a collaborative process involving community stakeholders, local, county, state, and federal agencies. Technical assistance was provided by the US Forest Service (USFS), the Montana State Department of Natural Resources and Conservation (DNRC), and the Bureau of Land Management (BLM). This document meets the CWPP requirements set forth in the federal Healthy Forests Restoration Act of 2023 (HFRA) which include:

+ Being collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
+ Evaluating and prioritizing fuel reduction projects that identify the areas and methods of treatment to effectively protect one or more at-risk communities and essential infrastructure.
+ Recommend measures for treatment of structural ignitability that homeowners and communities can take to reduce the risk that wildfire poses to structures.

A science-based hazard and vulnerability assessment was performed using high-resolution topography, fuels, weather, and wildfire modeling to assess risk across Teton County. The assessment focus was to identify areas of concern and prioritize areas where the wildfire threat creates the greatest risk.

This document provides a framework for identifying, prioritizing, implementing, and monitoring wildfire hazards and risk reduction activities throughout the Teton County Planning Area. For the purposes of this CWPP, the planning area is defined as the area where analysis and planning are implemented to manage to reduce wildfire risks and hazards.

This CWPP for Teton County is intended to be a living document that the County should update periodically (3-5 years) in collaboration with all identified public and private stakeholders.

Teton County, in collaboration with Local, State and Federal partners, will work to reduce wildfire risk and associated hazards using strategies that include those identified in Section 7.0. These items include:

+ Short-Term (1-3 Years):
    - Pre-Fire Planning to improve emergency response and initial attack suppression capabilities.
    - Public education and outreach to promote and implement fire adapted community practices.
+ Long-Term (3-10 Years and Beyond):
    - Vegetation management and fuel reduction at the landscape scale and community level, including the enforcement of defensible space standards on private lands.
    - Secure sustainable funding and determine return intervals on mitigation projects.
    - Reducing structure ignitability by promoting and enforcing building codes, ordinances, and statutes.

Revision Record

Version	Date	Description of Updates
DRAFT0	7/20/2025	Draft submitted to Client for review and comment.
REV0	8/19/2025	Final version submitted to Client.
REV1	10/17/2025	Revised Final version submitted to Client

CWPP Compliance

This Community Wildfire Protection Plan (CWPP) has been developed in full alignment with the requirements of the Healthy Forests Restoration Act (HFRA) and the Montana Department of Natural Resources and Conservation (DNRC) guidelines.

HFRA & MONTANA DNRC CWPP COMPLIANCE CHECKLIST

HFRA / DNRC Requirement	*Included in Plan*	*Section / Page*
Collaboration – The plan was created through a collaborative process involving Teton County officials, local fire departments, Montana DNRC, and federal partners, including the U.S. Forest Service and Bureau of Land Management. Public meetings and stakeholder workshops were conducted to ensure broad community input and consensus.	Yes	Sec. 1.4 Pg. 11
Identification & Prioritization of Areas for Fuel Reduction – The plan clearly defines the county's Wildland–Urban Interface (WUI) and identifies specific areas at highest risk from wildfire. These areas have been prioritized for fuel reduction projects based on risk assessment data, community values at risk, and potential fire behavior.	Yes	Sec 5.0 Pg. 48
Recommendations for Treatment & Maintenance – The plan outlines recommended fuel treatment methods—including mechanical thinning, prescribed burning, and targeted grazing—along with maintenance schedules to ensure long-term effectiveness.	Yes	Sec. 8.0 Pg. 93-94
Additional Montana DNRC Requirements – The CWPP includes a detailed wildfire risk assessment, emergency preparedness and evacuation planning, and a monitoring framework for evaluating project effectiveness and updating the plan as needed.	Yes	Sec. 5.0 Pg. 48

Signatures

The 2025 Teton County Community Wildfire Protection Plan (CWPP) was developed in accordance with the Healthy Forests Restoration Act (HFRA 2003) and the Montana State Department of Natural Resources and Conservation. The plan was developed collaboratively with County stakeholders, including the local fire department and protection districts, city officials, federal, state, local, and private landowners, residents, community groups, and neighboring fire agencies. The plan includes a prioritized list of hazardous fuel reduction strategies, measures that community members can take to reduce structural ignitability, as well as recommendations on additional studies, policy changes, educational programs, and other initiatives that can be conducted to provide a more holistic wildfire mitigation strategy in all stages of wildfire disaster risk management (i.e., prevention/mitigation, preparedness, response and recovery). The undersigned have reviewed the CWPP update and accept this document as the final 2025 version.

Signed by: Ben Rhodes 7C9FCFBAF7A44CB...	5/29/2026
Ben Rhodes, Teton County Fire Warden, Chair	Date
Signed by: Debra Coverdell 7BB2C5A85B7A467...	5/29/2026
Deb Coverdell, Disaster and Emergency Services Coordinator	Date
Signed by: Kyle Inabnit DC1827EB39F2442...	6/10/2026
Kyle Inabnit, Fire Management Officer, USDA Forest Service	Date
Signed by: Bob Culbreth BD7B44EEFAE7467...	6/11/2026
Robert Culbreth, Montana Department of Natural Resources, Central Land Office	Date
Signed by: Hannah Sullivan 7D9E06D5BC1E425...	6/11/2026
Hannah Sullivan, Montana Department of Natural Resources, Central Land Office	Date
Signed by: Sarah Kleinhanzl E6710C586EA84E6...	6/11/2026
Sarah Kleinhanzl, Community Wildfire Resilience Specialist, Montana DLNR	Date
Signed by: Shannon Bonney 5E5E103EF24D42F...	6/15/2026
Shannon Bonney, North Central Montana District Office, Bureau of Land Management	Date
Signed by: Robert Thompson 833DCE0EF3CA45A...	6/15/2026
Robert Thompson, NRS, Montana Area Office, Bureau of Reclamation	Date
Signed by: Anthony Emacio C77DEB9BAA654B8...	6/16/2026
Anthony Emacio, Assistant Fire Management Officer, USDA Forest Service	Date

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1.0 Introduction

This Community Wildfire Protection Plan (CWPP) provides a comprehensive assessment of wildfire vulnerabilities and risk in Teton County, Montana. Additionally, it serves as a resource for recommendations to minimize the threat of wildfire to human life and well-being and to reduce the impact on community values. These values include residential structures, critical infrastructure, businesses, the natural environment, wildlife, watersheds, and historic/cultural resources.

This CWPP is intended to serve as a compass for Teton County officials, fire response agencies, residents, businesses, and other stakeholders in their individual and collective efforts to reduce wildfire risk to their communities and landscapes. Successful implementation and long-term sustainability are subject to available funding, collective action, engagement, and collaboration between stakeholder groups.

The plan meets the requirements for a CWPP established by the 2003 Healthy Forest Restoration Act (HFRA) and the Montana DNRC.

Figure 1: Teton County, Montana

1.1 GOALS + OBJECTIVES

Table 1: Goals + Objectives of the 2025 Teton County CWPP

Goals	*Objectives*
Evaluate the wildfire risk to Teton County, as it pertains to the natural and built environment, and in consideration of social and cultural priorities.	Assess wildfire hazards and risks within the Planning Area and use the results to recommend priorities for reducing threats to life safety. Assess the wildfire hazards and risks in the built environment within the Wildland Urban Interface (WUI). Identify social and cultural assets and priorities that should be considered in the wildfire risk. Identify fuel treatment methods and strategies for property owners and agencies that provide guidance on defensible space for structures and transportation routes in all types of wildland fuels.
Increase wildfire resiliency for life safety, along with values and assets at risk.	Identify values/assets at risk from wildfire in the Planning Area. Facilitate collaboration between stakeholders, land managers, residents, the County, and local fire protection districts to address potential wildfire hazards and risks. Utilize the wildfire hazard and risk assessments to develop prioritized mitigation strategies to reduce the threat to values/assets. Identify and promote citizen-based actions that enhance structure hardening and the development of effective defensible space. Review the existing public alert protocols and evacuation procedures for wildfires and make recommendations for enhancement, as necessary. Identify strategies to reduce structure ignitability.
Develop a community wildfire protection plan (CWPP) that sets priorities to mitigate risks and hazards identified.	Create a CWPP that meets the requirements of the 2003 HFRA, the National Cohesive Wildland Fire Management Strategy, and FEMA's local hazard mitigation plan. Identify opportunities to further build community and regional partnerships for the Planning Area. Engage communities and agency leaders using the steering committee and interested community leaders. Develop a public education strategy to inform the public of the CWPP for guidance and implementation. Identify initiatives to support and engage vulnerable populations in the community. Develop a GIS product that reflects fire behavior modeling in high-hazard areas, along proposed vegetation treatments. Improve collective action in reducing wildfire risk through enhancements to community engagement, participation, and education programs.

Goals	*Objectives*
Improve accountability, public trust, and efficiency in implementing action items identified in the CWPP.	Establish a plan to monitor and evaluate the County's progress in implementing action items and achieving the goals identified in the CWPP. Create a method to monitor, track, and document completed action items identified in the CWPP. Identify individuals responsible for conducting action items and establish accountability for actions through annual reporting to the County Commissioners.

A monitoring and evaluation plan has been developed and is included in Section 7.0 of this document to help manage the implementation of the action items identified above and to achieve the goals identified throughout the CWPP.

1.2 DEVELOPMENT TEAM

This section identifies the agencies, parties, or other organizations that were involved and provided input into the development of this CWPP. The roles and responsibilities are indicated in the table below.

Table 2: CWPP Development Entities + Roles/Responsibilities

CWPP Development Entities	*Roles/Responsibilities*
Teton County CWPP Steering Committee	Provided input and direction to consultants. Obtained grant funding for CWPP. Coordinated public outreach. Distributed media releases about CWPP. Conducted direct outreach. Coordinated with bordering jurisdictions. Provide general guidance, expertise, and support for CWPP.
Federal, State, Local Agencies, Community Members, and Interested Parties	Attended public outreach workshops. Responded to the online survey. Provided input on CWPP values at risk, areas of concern, community projects, and ongoing grass-roots initiatives.
CWPP Consultants: Jensen Hughes	Developed the CWPP. Provided recommendations for projects. Facilitated public engagement meetings.

1.3 POLICY + REGULATORY FRAMEWORK

The development of this CWPP referenced the following codes, standards, policies, and regulations at the federal, state, and local levels.

Table 3: Referenced Codes, Standards, Policies, and Regulations

Federal	*State/Local*
Healthy Forests Restoration Act -2003 FEMA Hazard Mitigation Assistance Program and Policy Guide (HMA Guide) Disaster Mitigation Act (2000–present) National Fire Plan (NFP) 2000 National Cohesive Wildland Fire Management Strategy (2023) NFPA 1140, Standard for Wildland Fire Protection National Incident Management System (NIMS)	State of Montana Statewide Operating Plan (2023 – 2027) Central Montana Region Hazard Mitigation Plan (2024 – 2029) AA. Teton County Hazard Mitigation Plan (2022) w. 2023 Addendum Teton County Growth Policy Plan (2023) Teton County CWPP (2011)

1.4 HEALTHY FORESTS RESTORATION ACT REQUIREMENTS

As part of the 2003 HFRA, there are three (3) minimum requirements for a CWPP, including:

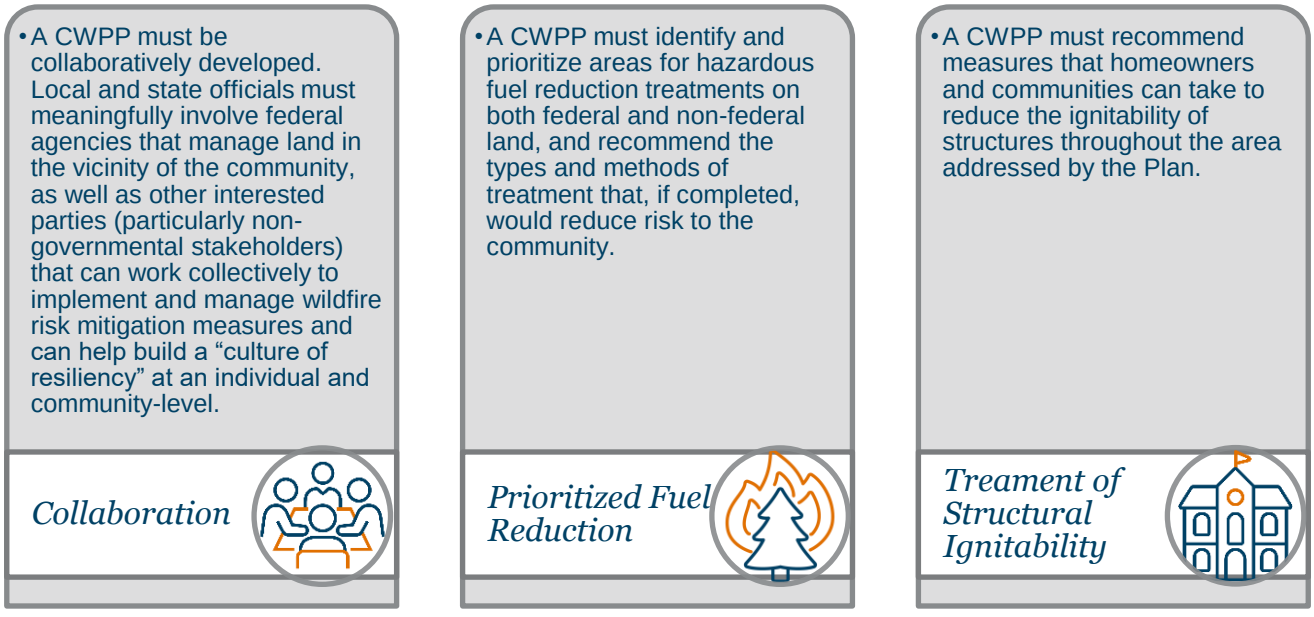


Figure 2: HFRA Requirements

1.5 NATIONAL COHESIVE WILDLAND FIRE MANAGEMENT STRATEGY

The Wildland Fire Leadership Council (WFLC) was established in 2002 by the Secretaries of Agriculture and the Interior to support the implementation and coordination of the Federal Fire Management Policy. They further

adopted a vision for this century that maintains, “To safely and effectively extinguish fire when needed; use fire where allowable; manage our natural resources; and, as a nation, to live with wildland fire.”

The Cohesive Strategy emphasizes addressing the nation’s growing wildfire problems by focusing on three critical areas considered during the planning and development of the updated Teton County CWPP.

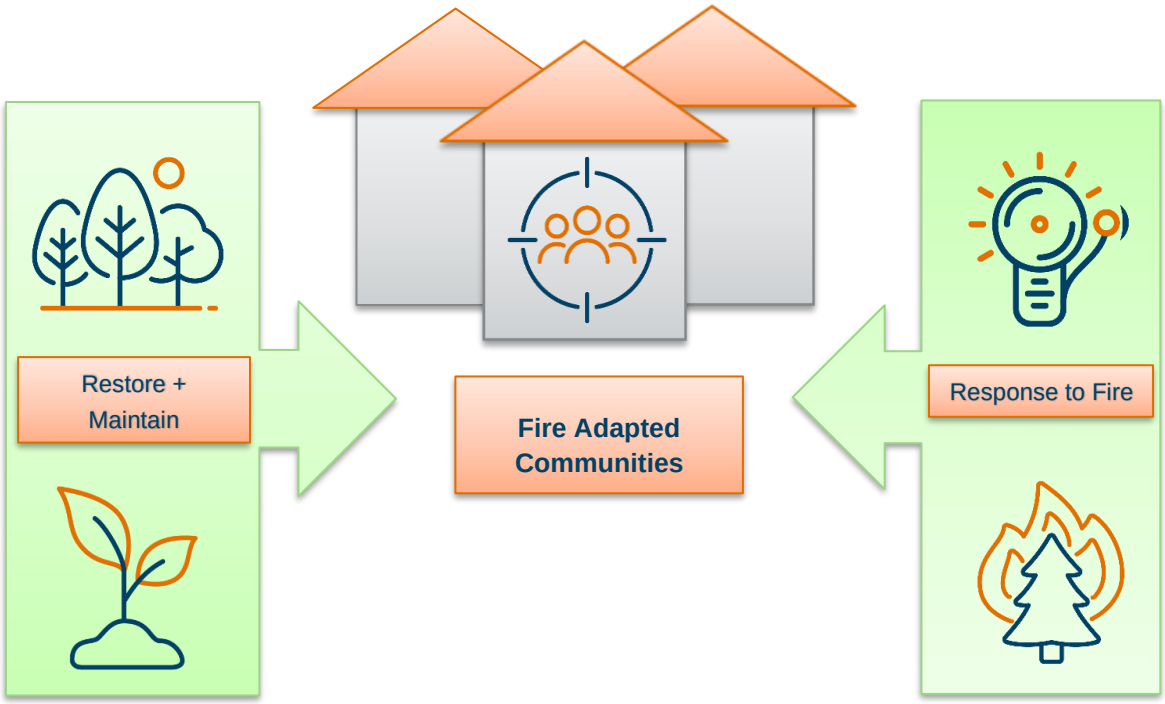


Figure 3: Wildland Fire Management Strategy

1.6 FEMA INTEGRATED HAZARD MITIGATION PLAN ELEMENTS

FEMA hazard mitigation plans consist of four (4) core steps or elements that parallel those of the CWPP process. These steps are to organize the planning process and resources, assess risks and capabilities, develop a mitigation strategy, and adopt and implement the plan. These elements have been incorporated into this CWPP from the beginning stages of its creation, and their components can be found throughout the plan.

Figure 4: Hazard Mitigation Plan Elements

1.7 REGIONAL COOPERATIVE AND OPERATIONAL PLANS

1.7.1 State of Montana Cooperative Fire Management Plans

The Cooperative Fire Management Plan establishes a framework for interagency collaboration between state and local governments in managing wildland fires. It represents a formal agreement between the State of Montana, Teton County, and the fire departments within Teton County.

A primary objective of the program is to ensure a baseline level of wildfire protection for all lands in Teton County that fall outside the jurisdiction of a municipal fire department, federal agency, or designated wildland fire protection district. Through coordinated efforts in planning, prevention, training, and suppression, the Cooperative Fire Program aims to enhance wildfire protection in these unprotected areas. The agreement outlines specific responsibilities for both the State and Teton County, promoting shared accountability and effective response.

1.7.2 Northern Rockies Coordinating Group Annual Operating Plan

The Northern Rockies Fire Weather Operating Plan is a joint effort between land management agencies of the Northern Rockies Geographical Area, the Northern Rockies Predictive Services Unit (PSU), and the National Weather Service (NWS) offices in Billings, Bismarck, Glasgow, Grand Forks, Great Falls, Missoula, Riverton, and Spokane. This plan aims to coordinate the NWS and PSU products and services provided to the land management community. The National Weather Service and the Northern Rockies Geographic Area representatives will sign this document annually each spring.[1]

The purpose of the Annual Operating Plan is to document the commitment to improve efficiency in wildland fire management by facilitating the exchange of personnel, equipment, supplies, services, and funds among agencies. The Montana Department of Natural Resources and Conservation (DNRC), the Bureau of Indian Affairs (BIA), the US Fish and Wildlife Service, the BLM, and the Lewis and Clark National Forest, as well as Teton, Glacier, Toole, Cascade, Lewis and Clark, and Meagher Counties, are signatories to the Plan.

1.7.3 Central Montana Region Hazard Mitigation Plan

The Central Montana Region Hazard Mitigation Plan, updated and approved in 2022, includes Teton County in its planning efforts.

Section 3—Planning Process outlines the requirements and procedures for updating mitigation plans. This process was followed to complete the Teton County CWPP Update.

*Section 3.3.1 Phase 1: Organize Resources – Refers to interagency collaboration that should occur during the CWPP process and identifies explicitly a Community Wildfire Protection plan as “Other Community Planning Efforts and Hazard Mitigation Activities.”

*Section 3.3.2 Phase 2: Assess Risks – Identifies wildfire as one of the hazards that was included in an analysis of flood risk based on the Digital Flood Insurance Rate Maps (DFIRMs).

Section 6.3 – Plan Maintenance refers to ongoing efforts to monitor and evaluate implementing " Plans " for hazard mitigation risk. Further, plans should be updated as progress, roadblocks, or changing circumstances

[1] *Northern Rockies Annual Fire Weather Operating Plan 2025. Published 21 April 2025. Access: https://www.weather.gov/media/mso/fire/NRfwop.pdf.*

are recognized. This project aligns with that goal because the population of Teton County has changed, an increase in fire activity in the state of Montana has been observed, and the Teton County CWPP has not been updated since its creation in 2011.

* Section 6.3.3 – Incorporation into Existing Planning Mechanisms specifies that Community Wildfire Protection Plans (CWPPs) are existing mechanisms that have been prioritized for maintenance.

1.7.4 Teton County Hazard Mitigation Plan

The Teton County Hazard Mitigation Plan and the Community Wildfire Protection Plan, both originally written in 2011, help create a disaster-resistant community by regularly assessing risks and providing recommendations for mitigation. An updated Teton County Hazard Mitigation Plan was published in October 2021.

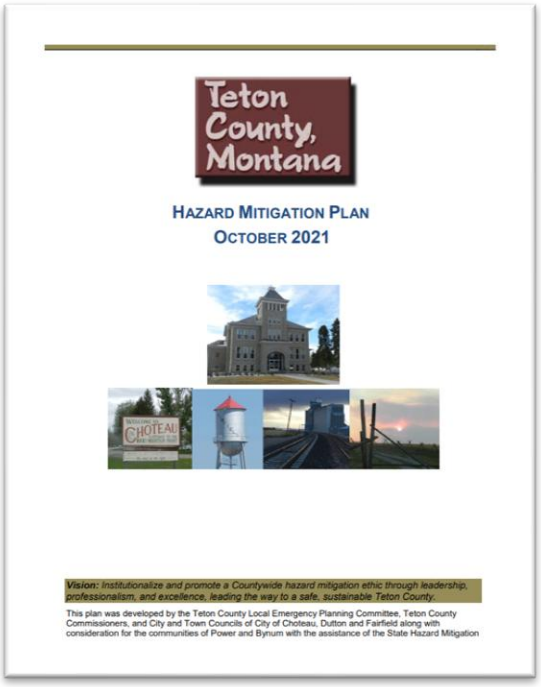


Figure 5: Haz Mit Plan

Data in the original Teton County Community Wildfire Protection Plan was referenced throughout this plan and included in Chapter 12. Wildfire was identified as a county hazard and referenced throughout the plan.

1.7.5 Teton County Long-Range Plan

The Teton County Long Range Plan is a working document incorporating natural resource data, economic and agricultural trends, and resource concerns from local partners. The goal of the Long-Range Plan is to review natural resource concerns in Teton County and the surrounding areas. This document will be reviewed annually and updated as required. The Long-Range Plan identifies high-priority resource concerns and directs future planning of Targeted Implementation Plans. The NRCS Choteau Field Office developed the Teton County Long Range Plan with help from the Teton Conservation District. Multiple partners were consulted during the completion of this plan. Information from four community outreach meetings has been referenced and incorporated into this document. A complete listing of resources can be found in References.[2]

[2] *Teton County Long-Range Plan. USDA NRCS CHOTEAU FIELD OFFICE. United States Department of Agriculture. Updated May 2022. Access: https://www.nrcs.usda.gov/sites/default/files/2022-09/TetonCounty-Montana-LongRangePlan-2022.pdf*

2.0 CWPP Process

2.1 COLLABORATIVE APPROACH

The update process encouraged community and stakeholder collaboration to assess the localized wildfire threat, identify and define the WUI boundaries, and identify community assets and values at risk. The data collected, including the solicitation and inclusion of public comments, were utilized to develop prioritized mitigation measures and actions to increase community resilience. The language in the 2003 HFRA encourages this approach for communities to determine the substance and detail of their CWPP action plan and the procedures they use to develop them. The process allows communities to create locally relevant plans that influence where and how agencies implement fuel treatment activities on federal land and distribute federal funds for projects on non-federal lands.

The process, as diagramed below, brings together broad and diverse local interests to identify common wildfire risk reduction concerns and values related to public safety, environmental and natural resources, long-term resiliency, and sustainability of the entire community.

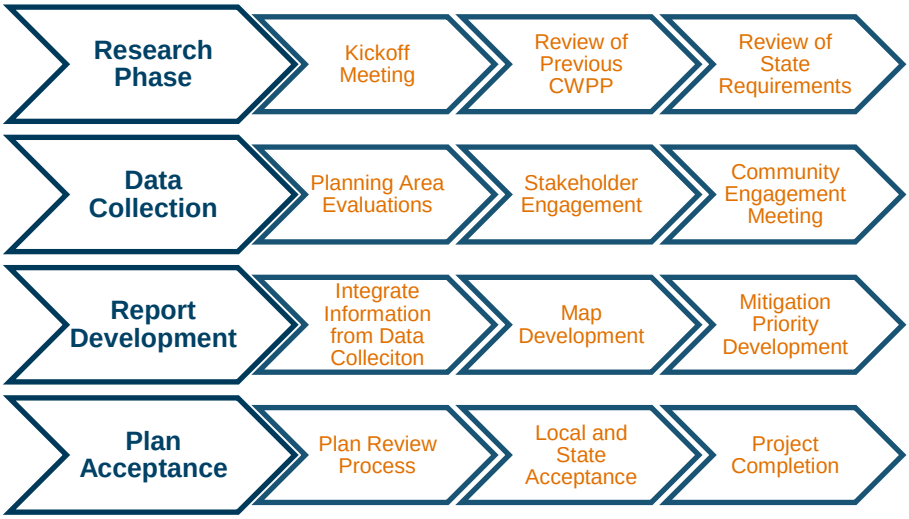


Figure 6: 2025 Teton County CWPP Process

2.1.1 Convene the Teton County CWPP Steering Committee

The CWPP update process was led by a core group of team members known as the Steering Committee. This Committee included representatives from the Teton County Board of Commissioners, Teton County Emergency Services Department, Teton County Fire and Rescue, Montana Department of Natural Resources (Central Land Office), Bureau of Land Management (North Central Montana District Office), and the Montana Department of Natural Resources. The Steering Committee was also responsible for overseeing the development, reviewing drafts, and approving the final version of the CWPP.

2.1.2 Agency and Community Organization Stakeholder Coordination

The Steering Committee met with members of local agencies and interest groups, including utilities, environmental protection and sustainability groups, economic drivers, and agency representatives, to gain

feedback and input on values important to the community. This information was used to reinforce and strengthen ideas presented in the CWPP.

- Teton County Commissioners and County Departments
- Montana Department of Natural Resources and Conservation
- Montana Fish, Wildlife, and Parks
- USDI Bureau of Land Management
- USDA Forest Service
- USDI Bureau of Reclamation
- USDA Natural Resources Conservation Service
- Choteau Rural Volunteer Fire Company/ Choteau Fire Department
- Fairfield Rural Volunteer Fire Company/ Fairfield Fire Department
- Dutton Rural Volunteer Fire Company/ Dutton Fire Department
- Power Rural Volunteer Fire Company
- Pendroy Rural Volunteer Fire Company
- Teton County Disaster and Emergency Services
- Montana Disaster and Emergency Services

2.1.3 Community Engagement

A public stakeholder meeting is a critical component of the Community Wildfire Protection Plan (CWPP) process because it ensures that the voices, concerns, and priorities of local residents, landowners, emergency responders, and other community members are heard and incorporated into wildfire planning efforts. These meetings foster transparency, build trust, and promote collaboration among diverse stakeholders who are directly affected by wildfire risks. By engaging the public early and meaningfully, CWPPs become more effective, equitable, and tailored to the unique needs and values of the community they are designed to protect.

Two public engagement meetings were held in Teton County on May 13 and May 14, 2025, to gather input from residents and stakeholders regarding critical values at risk, community wildfire awareness, and potential wildfire mitigation strategies.

Table 4: Stakeholder Meetings

Public Stakeholder Engagement Meetings	
Tuesday, May 13, 2025 (4 pm MST)	**Wednesday, May 14, 2025 (4 pm MST)**
Choteau, MT Fire Department HQs *19 Main Ave South, Choteau, MT 59422*	Dutton, MT Ambulance Barn *5 2nd Ave SE, Dutton, MT 59433*

The first meeting took place in Choteau on May 13, 2025. It was attended by stakeholders from multiple local and state response agencies, including fire departments, emergency management, and land management representatives. Attendees provided valuable feedback on wildfire risk, community vulnerabilities, and opportunities for mitigation. The meeting included a presentation, interactive polling questions, and an open discussion, and was facilitated by Jensen Hughes, with support from members of the project Steering Committee.

The second meeting was held in Dutton on May 14, 2025. Unfortunately, no members of the public attended this meeting.

To supplement in-person engagement, online surveys were made available to the public. Information about the surveys was published in local newspapers to increase community participation. Despite this outreach, the online survey generated only eight responses.

Input gathered through the Choteau public meeting and online surveys helped identify community values and prioritize areas for fuel treatments, evacuation planning, and other wildfire risk reduction projects. This feedback helped shape project recommendations and ensured that the plan reflected both expert analysis and local perspectives.

Polling results from the Choteau meeting can be found in Appendix E.

Since not all community members can attend workshops or meetings, it is vital to provide continuing opportunities for the community to provide input, voice issues and concerns, and participate in creating resiliency. To ensure that everyone had the chance to contribute to this plan, a Risk Perception Survey was made available to residents who could not attend a public engagement meeting in person.

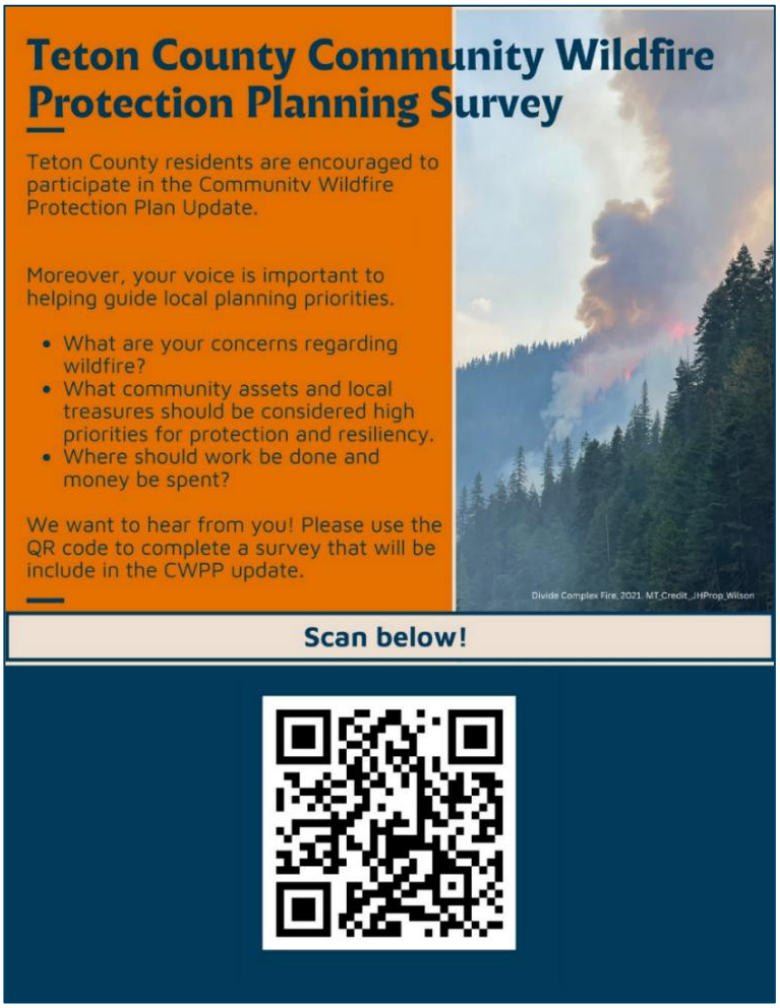


Figure 7: Community Survey Link

3.0 Community Overview

Teton County, Montana, is a predominantly rural county situated along the eastern edge of the Rocky Mountain Front, where expansive prairie grasslands transition sharply into rugged peaks and forested foothills. This dramatic landscape forms part of one of the most ecologically intact regions in the lower 48 states, supporting diverse wildlife habitats, fertile agricultural lands, and extensive public and private open spaces. The county includes several small, close-knit communities—most notably Choteau, the county seat, along with Fairfield, Dutton, Power, Bynum and Pendroy—each contributing to the area's strong cultural identity and heritage.

Agriculture remains the cornerstone of Teton County's economy, with farming and ranching shaping both land use and local livelihoods. Irrigated croplands, dryland grain operations, and livestock production define much of the rural landscape, while outdoor recreation, tourism, and natural-resource activities supplement the regional economy. Residents and visitors are drawn to the county's sweeping vistas, wildlife migration corridors, and access to public lands along the Rocky Mountain Front and throughout the Sun River and Teton River valleys.

At the same time, Teton County's unique geography and varied ecosystems present important environmental and public-safety challenges. The interface between grasslands, agricultural areas, foothill forests, and dispersed rural development creates a dynamic wildland–urban interface (WUI) where wildfire risk is influenced by topography, vegetation, seasonal weather patterns, and expanding recreational use. As climate conditions trend toward longer fire seasons, warmer temperatures, and more variable precipitation, proactive wildfire planning and land-management strategies are increasingly critical for protecting lives, property, infrastructure, and the county's natural resources.

3.1 PLANNING AREA

The "planning area" refers to the geographic area addressed by the CWPP, where wildfire risk is assessed and mitigation actions are planned and prioritized. In this case, it is the entire county boundary.

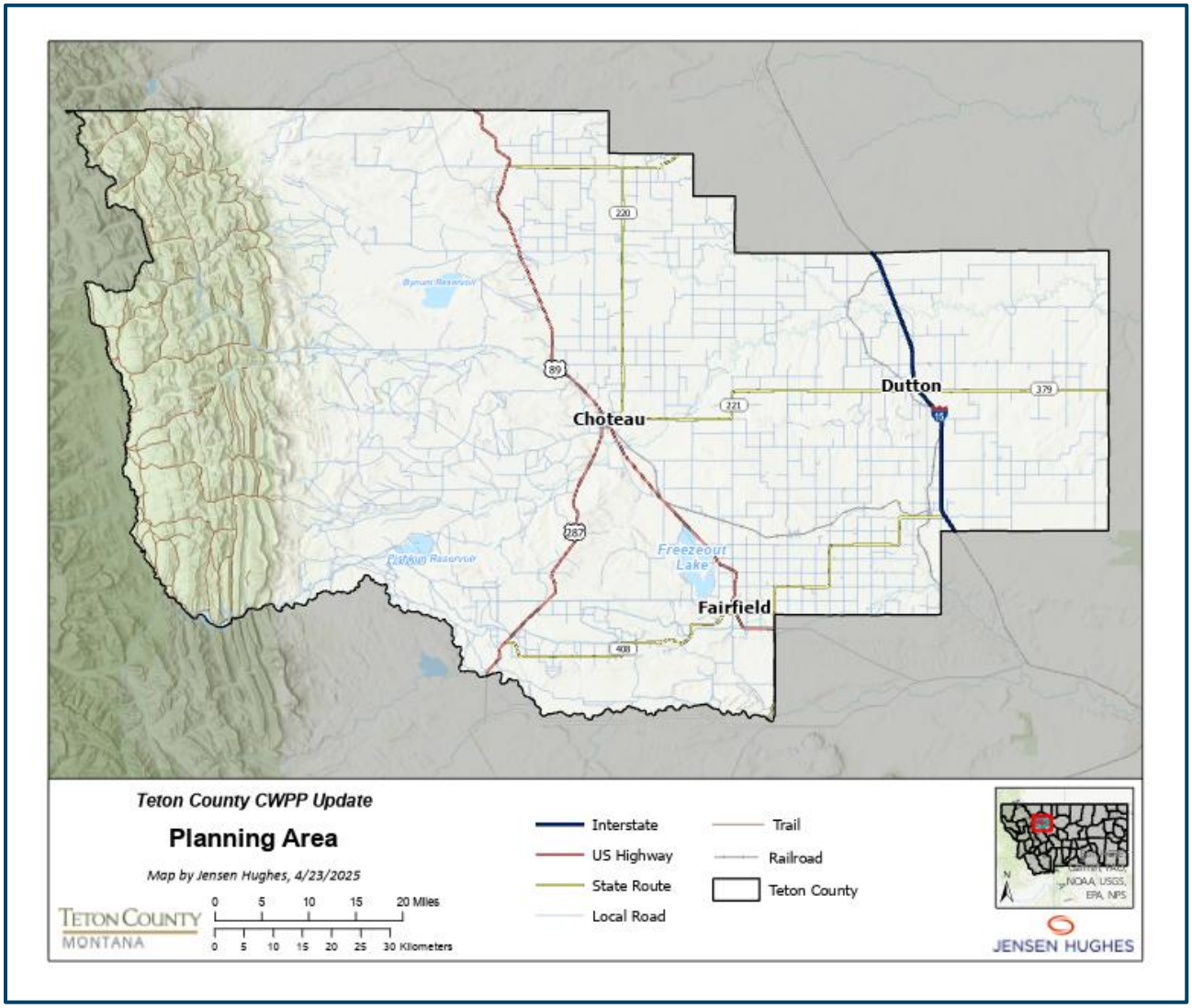


Figure 8: Teton County Planning Area

3.2 RELEVANT GEOGRAPHY

Teton County is located along the eastern front of the Rocky Mountains in western Montana. Elevations range from 3,300 feet above sea level on the eastern side to 9,392 feet in the Lewis and Clark National Forest on the western edge of the County. The continental divide forms the County's northwestern boundary. The County's total land area is roughly 2,293 square miles, or 1,467,520 acres (Teton County Hazard Mitigation Plan Update – October 2021).

Major water features in Teton County include rivers, lakes, and reservoirs:

+ The Teton River flows west to east, through the center of the County for 108 miles.

- Deep Creek flows for 38 miles before converging with the Teton River at Choteau.
- Muddy Creek is approximately 95 miles long, located in the northern portion of the County.
- The Sun River is the County's western and southern boundary.
- Gibson Reservoir is located along Teton County's southwestern boundary.
- Bynum Reservoir, Pishkun Reservoir, Freezeout Lake, Eureka Lake, and Priest Butte Lake are additional water resources.

3.3 COUNTY HISTORY

Teton County, established in 1893 from the western portion of Chouteau County, originally encompassed a much larger region before the later creation of Toole, Glacier, and Pondera counties. Choteau—incorporated in 1913—emerged as the county seat and served as a central hub for early ranching interests. Initial settlement across the county was strongly linked to cattle operations and the presence of military forts and trading posts, with early communities forming around Fort Shaw, Choteau, and Dupuyer.

A major shift in settlement patterns occurred during the early 20th century with the construction of federal irrigation infrastructure under the Sun River Irrigation Project. Authorized in 1906 and implemented over several decades, the project included reservoirs, dams, and extensive canal networks that transformed previously dry benchlands into productive farmland. The development of the Greenfields Irrigation District in 1926 further accelerated agricultural expansion, particularly around the Fairfield Bench. As irrigated acreage increased, new homesteads, grain production, and supporting agricultural services developed, fostering more permanent and concentrated population centers in the Fairfield area.

Railroads provided another critical driver of settlement and economic development. Fairfield originated as a station on a Milwaukee Road branch line, which encouraged the town's layout, commercial growth, and the construction of grain elevators serving irrigated grain and hay producers. The railroad facilitated both import of supplies and export of agricultural commodities, reinforcing Fairfield's role as a key agricultural service community. Likewise, the Town of Dutton was founded as a station along a Great Northern Railway branch between Great Falls and Conrad. Other unincorporated communities across the county also grew around rail sidings and spurs, which shaped early travel corridors, freight movement, and townsite development.

These historic land-use patterns—ranching on the foothills and grasslands, irrigated agriculture on the benches, transportation corridors concentrated along rail and roadway alignments, and towns clustered around early rail and water infrastructure—continue to influence modern settlement distribution. This legacy directly affects present-day wildfire risk by defining where vegetation interfaces with homes, where agricultural breaks exist, and where transportation and utility corridors create both potential fire pathways and access routes. Understanding this development history is essential for planning future mitigation efforts, prioritizing fuel management, and supporting community resilience across Teton County.

3.4 POPULATION TRENDS

According to the U.S. Census Bureau's 2024 population estimates, Teton County, Montana, had a population of approximately 6,444, reflecting modest growth since the 2020 Census count of 6,226. With a land area of about 2,272 square miles, the county's population density increased slightly to around 2.84 people per square mile. While updated figures for households, average household size, and homeownership rate have not yet been released beyond the 2020 Census, the county previously had 2,464 households, an average household size of 2.41, and a homeownership rate of 76 percent. The county seat, Choteau, also grew slightly, with a 2024

estimated population of about 1,804, up from 1,721 in 2020. The smaller communities of Dutton and Power have not received updated census estimates and are still listed as having 303 and 177 residents, respectively.

According to ACS 2019–2023 5-year estimates, Teton County, Montana contained 2,452 households, with an average household size of 2.43 persons and a homeownership rate of approximately 74.9 %. These figures closely align with the 2020 Census baseline of 2,464 households, an average household size of 2.41, and a 76 % homeownership rate, indicating minimal change across the two datasets.

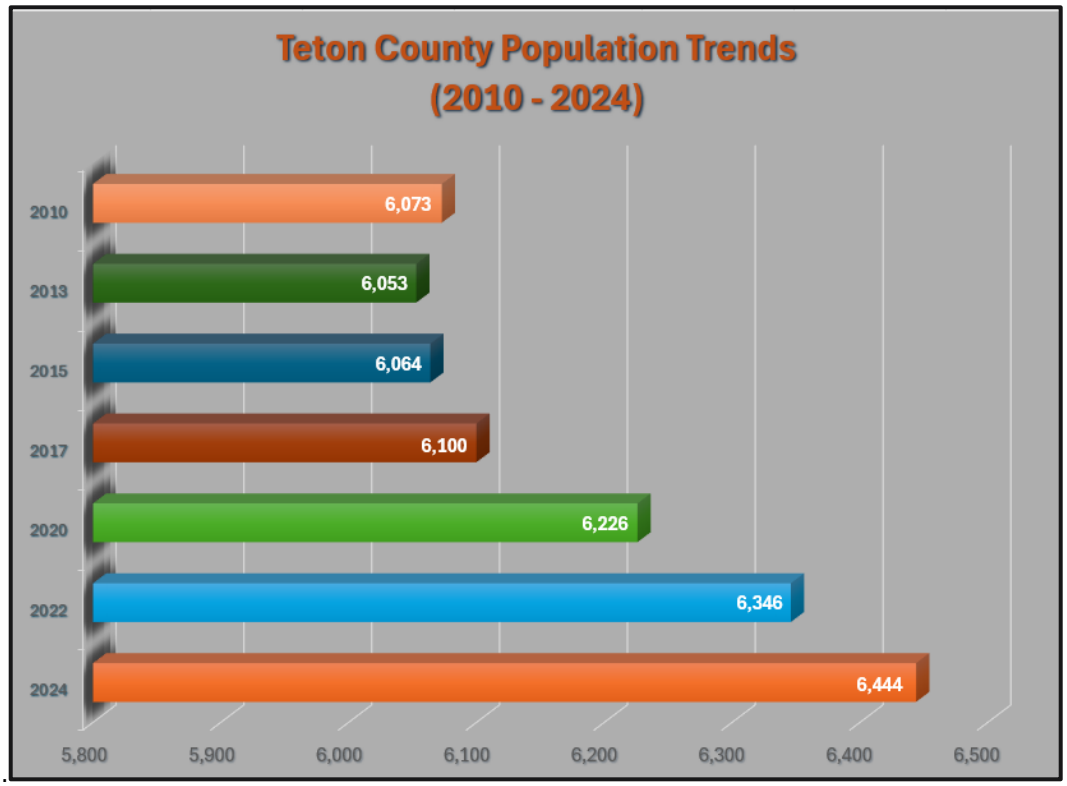


Figure 9: Population Trends in Teton County

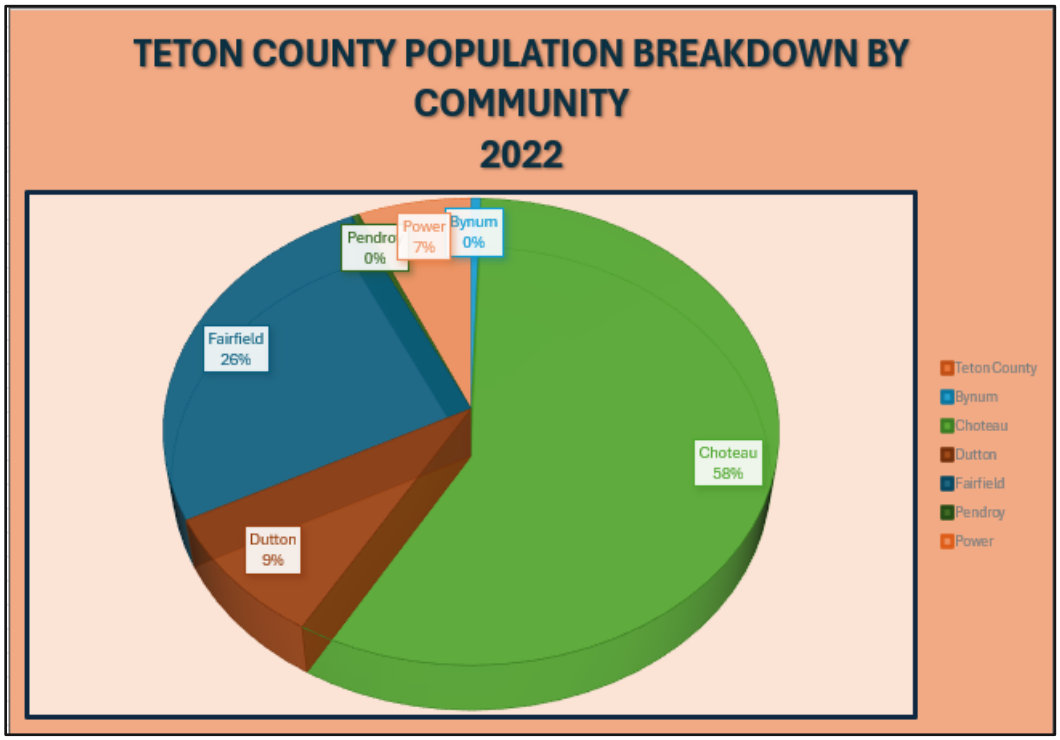


Figure 10: Population Breakdown by Community

3.5 WILDLAND URBAN INTERFACE

The wildland urban interface (WUI) is the zone where human development, such as residential structures, infrastructure, and other built environments, exists in or directly adjacent to areas of undeveloped wildland vegetation. This interface represents a transitional area where natural landscapes and human communities meet, increasing the potential for interactions between human activity and natural processes, particularly wildfires.

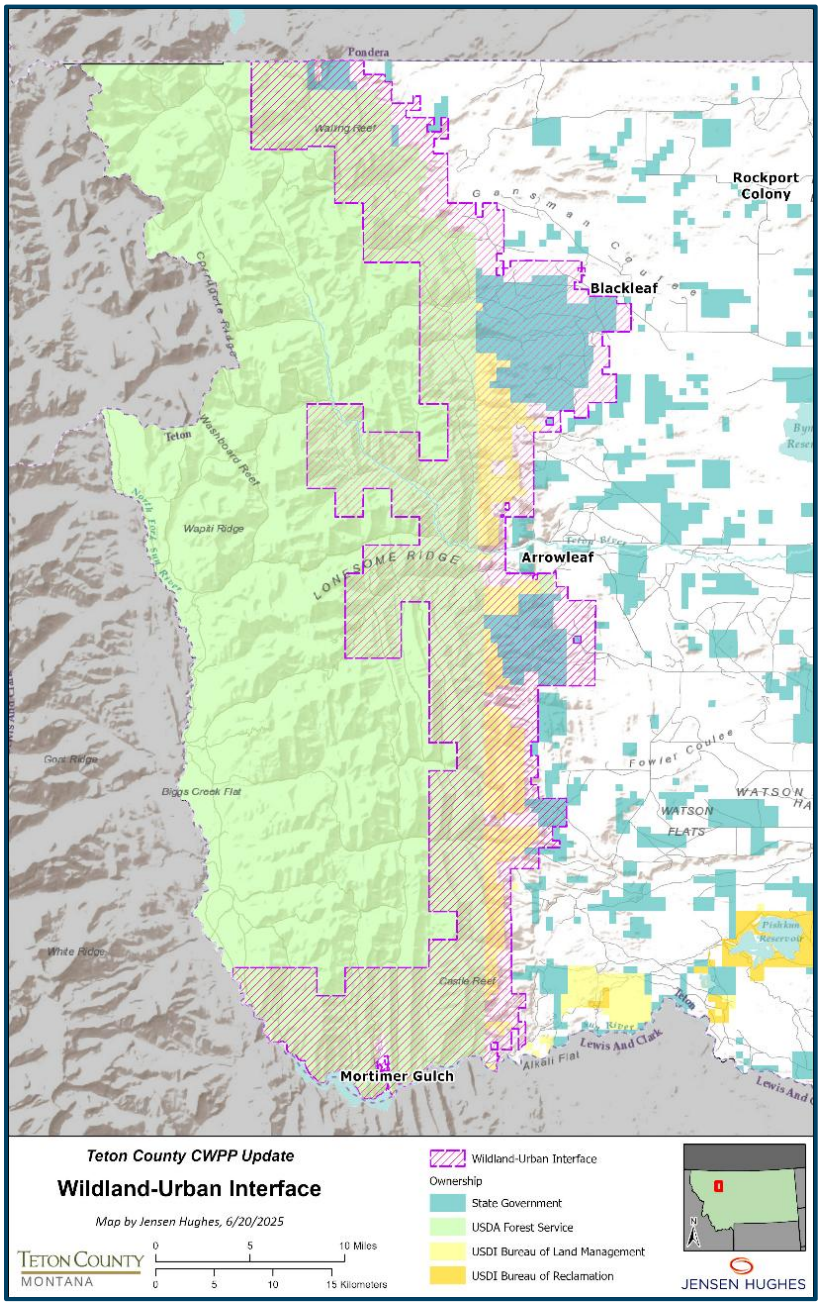


Figure 11: Teton County Wildland Urban Interface

3.5.1 Criteria for Mapping the WUI Areas

Teton County previously updated its WUI based on the formula of having at least 2.386 structures per square mile set forth as a guideline. Teton used this as a minimum reference when determining the WUI boundary for the county. These areas are referenced in this section and are covered more in-depth throughout this document. These areas were identified based on factors such as geographical terrain, single road access, and egress, extended travel times on narrow roads due to remoteness, narrow valleys and tall mountains hindering visibility, and extended response times by emergency services due to the conditions.

3.5.2 WUI Boundary Development

Teton County updated its WUI boundaries for its 2011 CWPP and the latest version of the layer was published by the Montana Department of Natural Resources and Conservation (DNRC) on May 15, 2023 on their Open Data Portal (**https://opendata-mtdnrc.hub.arcgis.com/datasets/MTDNRC::cwpp-montana-wui/explore?location=47.851927%2C-112.608088%2C10.48**).

After reviewing current development trends and wildfire risk zones, Teton County has determined that the existing WUI boundary published by the DNRC sufficiently captures the areas most at risk. There has not been significant new development or increased wildfire threat beyond the current boundary that would justify expansion at this time.

3.6 VALUES AT RISK

Teton County thrives on tourism, agriculture, and ranching. It also serves as a gateway to outdoor recreation areas such as the Bob Marshall Wilderness and Glacier National Park. Private property and forest health are also recognized as *values at risk* and are considered in the priority recommendations.

3.6.1 Vulnerable Populations

Vulnerable populations represent a critical value at risk in Teton County, especially in the context of wildfire resiliency, preparedness, and response. These groups include older adults, individuals with limited mobility or medical conditions, low-income residents, and isolated rural households, all of whom may face challenges in receiving timely evacuation alerts or accessing transportation during emergencies. Additionally, at-risk groups such as children in schools and residents of assisted living facilities may require targeted support due to limited communication resources or language barriers. Ensuring the safety of these populations calls for proactive planning efforts, including enhanced early warning systems, community outreach, clear evacuation and shelter-

in-place protocols, and coordinated evacuation assistance in partnership with local health services, emergency responders, and community organizations.

Figure 12: Skyline Lodge Retirement Homes

3.6.2 Agriculture

Agricultural fields, including those planted with barley and wheat, are considered values at risk in wildfire-prone areas due to their economic, ecological, and community significance. These crops represent substantial financial investment and are critical to the livelihoods of farmers and the broader agricultural economy. During dry seasons, mature grain fields can become highly flammable, acting as receptive fuel beds that can ignite and carry fire rapidly across large areas. In addition to the direct loss of crops, wildfires can damage essential infrastructure such as irrigation systems, fencing, equipment, and access roads. The destruction of these resources can lead to long-term disruptions in food production, supply chains, and local employment. Protecting agricultural lands is therefore a key component of wildfire mitigation planning, both to preserve rural economies and to reduce the potential for fire to spread across open landscapes.

Figure 13: Grain Elevators

3.6.3 Scenic Views and Visual Quality

Residents choose to live in locations like Teton County due to the natural environment's opportunities and beauty. Several participants in the community engagement meetings noted that they consider the environment a valued asset needing increased protection, particularly mitigation and hazard fuel treatments.

Figure 14: Natural Ecosystem

3.6.4 Recreation and Campgrounds

Numerous campgrounds and recreation areas exist throughout the County. These areas present a particular heightened threat to life safety. Many remote places have little cell reception and limited access/egress. Special consideration should be given to developing a comprehensive list of these locations for future use. These areas are also critical for evacuations and should be treated as such. Recreational and day-use activities (fishing, hunting, hiking, mountain biking, skiing, etc.) are essential to the area's economy. In addition to recreation and camping on public lands, primitive and dispersed camping opportunities exist in forested areas outside park boundaries. The campgrounds are vulnerable to wildfire and should be a priority in mitigation efforts to protect the lives of campers and staff. Given the high population densities and limited access and egress to these campgrounds, shelter-in-place planning may be a preferred alternative to evacuation. Consultation between the campground managers and mitigation actions should be discussed and considered.

Figure 15: Deep Canyon Guest Ranch

3.7 EMERGENCY AND SAFETY OPERATION LIFELINES

Emergency and Safety Operation Lifelines were used to identify values at risk within Teton County to support planning and operational priorities. These lifelines are critical for the continuity of operations during and after an emergency event.

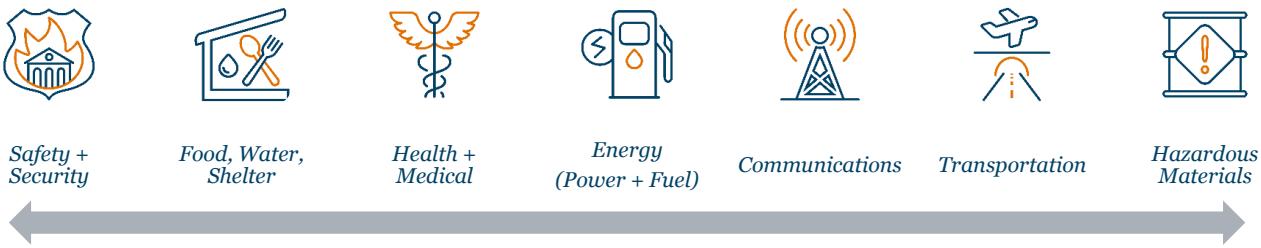


Figure 16: FEMA Community Lifelines

3.7.1 Safety and Security

Fire Protection

In Teton County, Montana, wildfire response on private lands starts with local volunteer fire departments, supported by mutual aid agreements. Landowners are encouraged to manage fire risks and participate in Firewise programs. When fires threaten multiple properties, county emergency management coordinates response, evacuations, and resource requests.

On state lands, the Montana DNRC leads wildfire responses and supports local districts through training and funding. If fires exceed local and state capacity, federal agencies like the U.S. Forest Service join under a unified command. The Northern Rockies Coordination Center manages resource deployment based on fire severity.

Teton County Fire Rescue

Teton County Fire Rescue (TCFR) is the primary suppression organization in the county. Its response area is approximately 2,293 square miles, of which 1,614 square miles are privately owned, 210 square miles are state-owned, and 428 square miles are National Forest or Bureau of Land Management land.[3] Their response area includes 2,500 residences, 1,500 outbuildings, 26 United States Air Force Nuclear Missile Launch Sites, and 3 United States Air Force Nuclear Missile Control Stations.

The TCFR comprises volunteer personnel and one part-time administrative assistant. The station's apparatus includes two (2) Type I engines, one (1) Type 1 aerial, two (2) Type 3 engines, one (1) Type 2 tactical tender, one (1) Type 6 engine (county-owned), one (1) Type 6 engine (DNRC-owned), one (1) Type 5 engine (DNRC-owned), one (1) Type 2 tender, two (2) command vehicles, and one (1) support vehicle. There is also one (1) motor grader and one (1) D7 dozer with a pump and a transport vehicle.

[3] *Fire Services. Teton County, Montana. Access:< https://tetoncountymt.gov/fire-department/>.*

The CWPP considered the number of resources available to respond to a wildland fire. Because first response resources are limited, cooperation between agencies is necessary. Several guiding documents ensure response capability, including the AOP, the CWPP, Mutual Aid Agreements, Intergovernmental Agreements (IGAs), and Memorandum of Understanding (MOU).

Additional fire protection efforts should include acquiring grant funding, mitigation, and standardized public education, training, and communications. Teton County has been successful in the past and should continue to engage in the following efforts:

- **Mitigation**: Adopt and implement a strategic plan based on the wildfire threat assessment and values at risk.
- **Public Education**: Continue implementing Firewise, Home Ignition Zone (HIZ), and Ready-Set-Go programs. Continue with community engagement meetings, improve interagency cooperation, and standardize messaging.
- **Training**: Continue interagency training, sustain NFPA and NWCG firefighter qualifications, and conduct annual interagency exercises.
- **Communications**: Increase interagency dialogue, interaction, and public contact. Standardize the wildfire message through public education contact hours, including increased Public Service Announcements.
- **Grant Funding**: Aggressively pursue grants through collaborative partnerships.
- **ICS**: Ensure all agencies are well-versed and comfortable with the use of the Incident Command System (ICS), continue to train and certify first responders, build depth and capability for all ICS positions, and improve the sustainability of the Type 4/Type 3 Incident Management Teams (IMT).

Teton County, Montana's wildfire response resources include 12 wildfire trucks, six water tenders, eight structure fire trucks, and 150 firefighters, all available for wildfire and other emergencies. These assets support a strong initial attack capability to contain fires quickly and limit wildfire expansion.

Montana Department of Natural Resources and Conservation (DNRC)

The Montana Department of Natural Resources and Conservation Central Land Office is in Helena, Montana, and manages approximately 23 million acres of state and private land across fourteen (14) different counties through the County Cooperative Program. This includes the counties of Beaverhead, Broadwater, Cascade, Gallatin, Glacier, Jefferson, Lewis and Clark, Liberty, Madison, Meagher, Park, Pondera, Teton, and Toole. The Central Land Office (SLO) is one of six (6) Land Offices in Montana. Within these fourteen (14) counties, it works with fire departments through the County Cooperative Program, an agreement that the counties will provide basic fire protection.

The Agency provides support in the form of organizational and technical assistance/advice, fire equipment, training, and direct fire control assistance when needed or when a fire exceeds the county's capacity.

The Southern Land Office also works directly with several other Federal fire agencies to support fire protection. Standard assigned personnel include, but is not limited to, an Area Fire Management Officer, an Assistant Fire Management Officer, a Rural Fire Coordinator, an Aviation Officer, a Helicopter Managers, a Fuel Truck Driver, a Mechanic, and dispatchers at the Helena Interagency Dispatch Center. The office has a pre-positioned Type 2 Helicopter for Initial and Extended Attack fire response during the summer.

U.S. Forest Service (Helena–Lewis and Clark National Forest – Rocky Mountain Ranger District)

Teton County lies within the jurisdiction of the Helena–Lewis and Clark National Forest (HLCNF), Rocky Mountain Ranger District. The district office is located in Choteau, Montana.

The Rocky Mountain Ranger District manages National Forest System lands along the eastern Rocky Mountain Front within western Teton County. Responsibilities include wildland fire suppression, fuels management, vegetation management, forest health, recreation oversight, and resource stewardship.

Wildland fire response is coordinated through the Great Falls Interagency Dispatch Center and the Northern Rockies Geographic Area Coordination Center. The district participates in interagency mutual aid agreements with Teton County, Montana DNRC, and the Bureau of Land Management.

The Helena–Lewis and Clark National Forest is the only U.S. Forest Service administrative unit with jurisdiction within Teton County. The Custer Gallatin National Forest and its Yellowstone, Gardiner, and Beartooth Ranger Districts do not have jurisdiction or protection responsibility within Teton County.

Bureau of Land Management (North Central Montana District Office)

The Bureau of Land Management, North Central Montana District Office (NCMD) manages approximately 3.4 million acres of public land. The agency maintains and staffs four (4) Type 6 engines and one (1) Type 4 engines, which are distributed across two BLM fire stations in Lewistown and Zortman.

BLM resources provide initial response on BLM-administered lands and assist other jurisdictions, including U.S. Forest Service, state, and private lands, through established cooperative fire protection and interagency mutual aid agreements. The district maintains a robust fuels program. The district utilizes prescribed fire and mechanical treatments to reduce hazardous fuels on BLM lands. Additionally, the BLM partners with local and state cooperators to reduce dangerous fuels across the landscape through cooperative agreements and grant funding.

Law Enforcement

Teton County, Montana, is served by the Teton County Sheriff's Office, which operates with a core staff of 9 full-time sworn deputies, four part-time sworn officers, and a combination of full- and part-time civilian personnel. Given the county's rural character and population of approximately 6,400 residents, this staffing structure is consistent with similar jurisdictions across Montana. The Montana Highway Patrol and a dedicated volunteer Search and Rescue team further support law enforcement coverage, which provides critical assistance in remote and emergency situations. This integrated approach allows the county to maintain effective public safety operations within the constraints of a rural service model.

Continuity of government functions is critical during and following wildfire events. Government facilities and infrastructure are a significant component of maintaining continuity during an event. These facilities include the Office of Disaster and Emergency Services (DES), the Clerk and Recorder Office, the Assessor, Coroner, Motor

Vehicle Registration, courts, the Regional Building Department, other government administration offices, both local and county, maintenance and equipment centers, schools, and historical and cultural resources.

Teton County Disaster and Emergency Services (DES) supports emergency response agencies such as law enforcement, fire, and ambulance services for the county. DES also supports and manages the Emergency Operations Center (EOC) during emergencies and provides public information to the community and responders. DES also supports grant funding that manages pre- and post-disaster funding opportunities for government services and respective emergency preparedness.

Community Safety

Threats to the community from a wildfire event can include flooding, utility interruption, and infrastructure loss. Additional community components, such as protective actions, are included in this section's other Emergency and Safety Operations Lifelines. All emergency response agencies and volunteers support community safety. Teton County can maintain increased community safety through cohesion, cooperation, and coordination.

3.7.2 Food, Water, and Shelter

The information outlined in the section below was taken from the Teton County Long-Range Plan.

Food

Commercial food distribution and supply chains are critical to maintain during and following a wildfire event. This is heavily dependent on the transportation corridors remaining open and viable. Section 3.10 will provide more information, including identifying transportation modes, corridors, and protection regarding transportation.

Water

There are two major rivers in Teton County. The Teton River flows west to east roughly through the center of the county. The Sun River marks the county’s southern boundary. The Teton River drainages include the Willow and Deep Creeks tributaries flowing from the south and Blackleaf and Muddy Creeks flowing from the north. Water is diverted from the Teton River to feed Bynum, Eureka, and Harvey Reservoirs. The Teton River drainage contains Black Leaf and Pine Butte swamps near the foothills. Muddy Creek drains Blackleaf Swamp north of the Teton River. McDonald Creek and the North Fork of Willow Creek drain Pine Butte Swamp south of the Teton River (USDA NRCS, 2003).

Figure 17: Teton County Reservoir

The Montana Bureau of Mines and Technology (MBMG) Groundwater Information Center (GWIC) provides statistics about groundwater for all Montana counties. GWIC has records for 2,756 wells in Teton County, including the 21 wells drilled in 2019. The oldest well in the county was drilled in 1887; the deepest well is 1,907 feet, and the shallowest is three feet deep. GWIC also maintains the Statewide Monitoring Network of groundwater wells; Teton County has ten monitoring wells. Groundwater level and water quality measurements are collected over time to determine normal water levels in wells, changes in water levels relative to climatic conditions, responses of water levels to development, and long-term water-quality trends (MBMG, 2019).

The table below lists the geologic sources of groundwater and the number of wells drawing from each. Groundwater well uses and the number of wells in each category are listed, as are the number of wells drilled to eleven 100-foot depth ranges.

Shelter

The county has identified several temporary shelter locations to be used in the event of an evacuation due to wildfire. Shelter sites should be hardened against wildfire and maintained in suitable conditions. During emergency events, these shelters can consist of various locations. Follow DES or emergency manager instructions for all shelter locations.

3.7.3 Health and Medical

Teton County, Montana is primarily served by Benefis Teton Medical Center in Choteau, which offers essential medical services including emergency care, primary and acute care, diagnostic imaging, and limited surgical procedures. Complementing these services, the Teton County Health Department provides a broad range of public health programs such as immunizations, maternal and child health (including WIC services), chronic disease prevention, and communicable disease surveillance. The department also manages the CONNECT referral system, which facilitates coordinated care among local healthcare and social service providers.

While core medical and public health services are available within the county, access to specialty care and advanced medical procedures typically requires referral to larger regional facilities. Health insurance coverage, such as that provided by Mountain Health CO-OP, plays an important role in determining provider access

through tiered networks that include both local community health centers and broader care systems. Despite its rural location, Teton County maintains a coordinated healthcare framework focused on accessibility, continuity of care, and collaboration between public health and clinical providers.

Emergency Medical Services (EMS) Capacity and Coverage

Teton County Emergency Medical Services (EMS) provides emergency medical coverage across more than 2,300 square miles and over 1,723 miles of roadway. The agency is licensed as a Basic Life Support (BLS) Ambulance Service with authorization for Advanced Life Support (ALS). This means that every transport must be staffed by at least one EMT-licensed professional, with ALS resources deployed as available.

EMS Resources and Deployment

- **Choteau**: Two full-size ambulances (one Type I 4-wheel drive and one all-wheel drive van) and a fully equipped, licensed Suburban response unit.
- **Dutton**: One Type I 4-wheel drive ambulance.
- **Fairfield**: Two ambulances (one Type I 4-wheel drive truck and one Type II unit) and a licensed Suburban response vehicle.
- **Power**: One Type I 4-wheel drive ambulance.
- **Pendroy**: One quick response unit.

The county maintains a robust EMS workforce with approximately 60 licensed Emergency Care Providers (ECPs), consisting of:

- 10 Emergency Medical Responders (EMRs)
- 36 Emergency Medical Technicians (EMTs)
- 10 Advanced EMTs (AEMTs)
- 2 AEMT-I99s
- 1 Paramedic

Transport and Medical Facilities

Average transport times within the county are approximately 90 minutes. Choteau primarily transports to Benefis Teton Medical Center, while Fairfield, Dutton, Power, and other outlying areas typically transport to Great Falls facilities, including Benefis Health System and the Great Falls Clinic. For critical incidents and remote wildfire locations, Teton County EMS has access to multiple air ambulance services, including:

- **Mercy Flight** (Great Falls)
- **Alert Ambulance** (Kalispell)
- **Great Falls Emergency Services** (Can support outlying areas as needed)

Wildfire Response Considerations

During wildfire incidents, EMS resources play a critical role in supporting fire suppression operations, responding to civilian and firefighter injuries, and ensuring rapid transport to appropriate medical facilities. Due to the large geographic coverage area and extended transport times, coordination with air ambulance services and mutual aid partners is essential for timely medical response. EMS units are strategically distributed throughout the county to maximize coverage and minimize response times during emergency situations.

3.8 ENERGY

+ **Electric Transmission & Distribution**: Most of Teton County is classified as Class 3 or 'Fair' for potential wind energy development. Other parts of the county have good to excellent wind resources. Currently, there are two wind energy projects in Teton County. The wind farm north of Fairfield was completed in 2014. It has six towers and produces 10 megawatts of electricity. (MT DEQ, 2019). Greenfield Wind is adjacent to the Fairfield facility. It came online in 2016. The wind farm is rated at 29.9 megawatts; it has 13 towers with rotor diameters of 351 feet (MSU, 2019). Many of the residents and businesses in Teton County purchase electricity from Sun River Electric Cooperative, a Central Montana Electric Power member. Sun River Electric serves 3,073 members with 2,806 miles of power lines in Teton and adjacent counties. NorthWestern Energy serves areas of Montana, South Dakota, and Nebraska. Parts of Teton County are included in its service area; the local office is in Black Eagle, Montana, in Cascade County."[4]

  Wildfires and utilities, specifically transmission corridors, have a complex relationship. Fires directly threaten electrical infrastructure due to issues with mitigation standards and proximity to hazardous fuels. Similarly, outdated transmission lines and corridor equipment can increase the potential for wildfire ignitions. Several disastrous wildfires have started with utility equipment, such as the Camp Fire (2018), the Marshall Fire (2020), and the Smokehouse Creek Fire (2024).

  Montana House Bill HB490 is awaiting final approval from the governor to become law. HB490 would require utility companies to prepare a regularly updated wildfire mitigation plan.

  It is highly recommended that communities work with their local utility providers to identify outdated infrastructure and areas for fuel management. If local utility providers raise rates to reduce wildfire risk, coordination with local utility companies should be done so that a review of wildfire risk within the utility service network's footprint is performed, and revenue generated can be distributed to address wildfire risk as necessary and as it applies to the residents of Teton County.

+ **Petroleum**: Currently, Teton County is ranked sixteenth in Montana for total oil production. There are 82 active wells in the county (ShaleXP, 2019). Montana Department of Resources and Conservation (DNRC)'s Board of Oil & Gas Conservation data shows annual oil production from 1986 to 2019. Peak annual production was 138,197 barrels2 in 1986. Production declined steadily through 1999, then began to stabilize somewhat, with yearly production between 52,000 and 62,000 barrels per year (MT DNRC BOGC, 2019). For comparison, data collected during the same period in Richland County, ranked number one in Montana, shows peak production in 2006 of over 21 million barrels. While crude oil and natural gas production remains important to Teton County's economy, the industry is not nearly as lucrative as in other areas of the state."[5]

[4] *Teton County Long-Range Plan. USDA NRCS CHOTEAU FIELD OFFICE. United States Department of Agriculture. Updated May 2022. Page 29. Access: https://www.nrcs.usda.gov/sites/default/files/2022-09/TetonCounty-Montana-LongRangePlan-2022.pdf*

[5] *Teton County Long-Range Plan. USDA NRCS CHOTEAU FIELD OFFICE. United States Department of Agriculture. Updated May 2022. Page 30. Access: https://www.nrcs.usda.gov/sites/default/files/2022-09/TetonCounty-Montana-LongRangePlan-2022.pdf*

- **Nuclear Missile Launch Sites and Control Stations**: Teton County hosts 26 United States Air Force Nuclear Missile Launch Sites and 3 United States Air Force Nuclear Missile Control Centers. Specifically, Teton County is one of the homes for the 12th Missile Squadron—Missile Alert Facilities and Launch Facilities, which houses active Minuteman III missiles. However, beginning in 2026, a ten-year project to replace the outdated Minuteman III missiles will commence.[6]

  The exact risk missile silos present to wildfire and vice versa is unknown. However, wildfire burning over these silos does not necessarily represent a threat because they are in areas that do not have heavy 1,000—and 10,000-hour fuel loads. This decreases the chance of a fire that could burn intensely enough to have a concerning impact.

  Still, with a growing risk of wildfire, it is critical to coordinate with the United States Air Force to ensure that an emergency response plan is in place. Additional tabletop exercises or scenarios are also recommended to further encourage interagency cooperation in case of an emergency.

3.9 COMMUNICATIONS

- Teton County's communications infrastructure includes two fixed tower sites, East and West, and two portable VHF repeaters. The system operates on a VHF frequency, providing the most reliable and widespread emergency communication coverage throughout the county. For interagency responses, the county can also access U.S. Forest Service (USFS) frequencies to maintain seamless coordination with federal partners.
- The East, West and North towers have been constructed to withstand wildfire impacts, ensuring communication reliability during emergency events.
- **Telephone**: Telephone service is provided through '3 Rivers Communication' and several mobile phone providers. Internet services are available from several providers.

3.10 TRANSPORTATION

Teton County's transportation network reflects its expansive geography, rugged terrain, and rural land use. Travel throughout the county is largely dependent on a small number of primary routes, with the majority of roadways being gravel or unimproved. These conditions pose significant challenges for emergency access and evacuation, especially during wildfires, where limited alternate routes and narrow corridors increase the risk to public safety and emergency personnel.

- Teton County does not contain an interstate highway. Primary north–south travel corridors include U.S. Highway 89 and Montana Highway 287. The primary travel routes include U.S. Highway 89, which runs north–south through the eastern portion of the county, and several Montana state highways:
- MT Highway 21, connecting Augusta to U.S. 287
- MT Highway 220, linking Choteau to Bynum
- MT Highway 287, a key north–south route on the county's eastern edge

[6] *Graves, Courtney Duke. "First major upgrade in 60 years planned." Choteau Acantha. 2 February 2022. Access: < https://www.choteauacantha.com/news/article_862f6dc0-845e-11ec-ad1b-9b1cab101d38.html>.*

- MT Highways 219 and 221, which provide additional regional access to and from rural communities such as Fairfield, Power, and Dutton
- These state highways, along with an extensive network of county-maintained roads, U.S. Forest Service roads, and private or neighborhood roads, form the backbone of local transportation. However, many of these secondary roads are unpaved, seasonally maintained, and susceptible to deterioration, particularly during periods of high precipitation or fire activity. In many areas, the roads are narrow, steep, or flanked by dense grass, brush, or timber—conditions that can severely limit visibility and maneuverability during evacuation or suppression efforts.
- When wildfires occur, these corridors can quickly become compromised. Flame impingement, smoke, and falling debris may block or obscure escape routes, delay response times, and isolate vulnerable populations. Limited redundancy in the road system further increases these risks in areas along the Rocky Mountain Front and in remote agricultural or forested regions.
- To enhance community safety and emergency preparedness, improving the resilience of these transportation corridors is critical. This includes routine maintenance and grading, vegetation management along rights-of-way, and the development of contingency evacuation routes. Strategic investment in road hardening and fuels reduction along travel routes will help ensure that critical ingress and egress pathways remain viable during high-risk wildfire scenarios.
- **Aviation**: Teton County, Montana operates the Fairfield and Dutton Airport, a general aviation facilities. These airports include a 3,800-foot paved runway capable of accommodating small private aircraft. Additional small airstrips are located near Choteau and throughout the county's rural communities, providing vital support for agricultural spraying, medical evacuations, and wildfire response operations. Due to the county's limited highway infrastructure, these aviation facilities are essential for aerial firefighting and emergency logistics throughout the region.
- **Railway**: BNSF Railway provides freight service through northern Montana; however, no active commercial rail lines are currently operating within Teton County. Although Amtrak's Empire Builder passenger train runs through nearby areas such as Cut Bank in Glacier County, it does not serve Teton County directly. Some tourism sources mistakenly list Cut Bank as being within Teton County, but it is located just outside the county's northern boundary7.

[7] *Teton County Long-Range Plan[7]. USDA NRCS CHOTEAU FIELD OFFICE. United States Department of Agriculture. Updated May 2022. Page 30. Access: https://www.nrcs.usda.gov/sites/default/files/2022-09/TetonCounty-Montana-LongRangePlan-2022.pdf*

[8] *Graves, Courtney Duke. "First major upgrade in 60 years planned." Choteau Acantha. 2 February 2022. Access: < https://www.choteauacantha.com/news/article_862f6dc0-845e-11ec-ad1b-9b1cab101d38.html>.*

3.11 HAZARDOUS MATERIALS

Facilities storing or producing hazardous materials are prone to unintentional release during a wildfire. These facilities can create environmental challenges in addition to damage from wildfires. Hazardous materials facilities should be identified for preplanning consideration for emergency responders during a wildfire and post-fire in case hazardous materials could become impacted.

3.12 LAND USE / ZONING

The Teton County Zoning and Subdivision Regulations regulate land use, development, and subdivisions within unincorporated areas of Teton County. Land use resources are essential for implementing the Master Plan goals and policies. Planning staff maintains, updates, and administers these regulations. These community plans address land use designations, distributions, locations, and extent, as well as specific goals, policies, and actions relating to community development. These land use designations are intended to preserve the existing rural character of the community, protect natural resources, and minimize the overburdening of local infrastructure. This also allows reasonable residential and commercial development within the local geological (e.g., steep hillsides, unstable soil, subsurface conditions, extreme fire hazards) and land use density constraints. These land use and development codes provide for some wildfire hazard mitigation and implementation activities.

4.0 Defining the Wildfire Problem

According to the United States Forest Service, "*three decades of data reveal that the WUI area and number of houses in the WUI have skyrocketed across the United States*."[9]

Since 2004, the Montana Legislature has been actively developing its WUI policy to protect citizens and reduce wildland fire suppression costs. In 2007, Montana passed Senate Bill 145, establishing the State's wildfire policy and defining the wildland urban interface. Additionally, Senate Bill 51 was passed which required growth policies to include an evaluation of potential wildland fire, required the Montana DNRC to adopt rules addressing development in the WUI areas and criteria for providing funding assistance to local governments, and required the Department of Labor and Industry to adopt rules that identify construction techniques that local governments may use in mitigation fire hazards in subdivisions.

In 2023, Senate Bill 219

Montana Definition of Wildland Urban Interface (Code 76-13-102):

"Wildland-urban interface" means the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

Figure 18: WUI Definition

The frequency of wildfires is on the rise. Wildfires that occur during the "traditional summer fire season" are now being reported throughout the calendar year. According to the Western Fire Chiefs Association, Montana's fire season begins in May and runs through September, with the peak fire season typically occurring in mid-July.

Unhealthy forests, climate change, and the frequency of fires, whether human-caused or by lightning, have contributed to increased civilian and first responder fatalities and injuries, infrastructure damage, property damage, and impacts on the watershed, natural resources, and wildlife habitats.

There are several reasons why a small number of fires reported annually become significant, destructive events. Large fires are usually the result of environmental conditions that align with each other, including dry fuels, wind, and low humidity. A delay in the fire being discovered and reported, or local resources being unable to suppress and contain the fire during an initial attack, allows these wildfires to become significant events. In rare instances, a wildfire may be managed and left to burn naturally.

Effective development of a mitigation strategy that addresses the potential adverse effects of wildfire within the Planning Area requires understanding the fire history, ecology, climatology, and human interactions with these various facets.

[9] *Understanding the Wildland-Urban Interface (1990-2020) Story Map. United States Forest Service. Access: <https://research.fs.usda.gov/nrs/products/dataandtools/understanding-wildland-urban-interface-1990-2020-storymap>.*

4.1 FIRE HISTORY

Fire history explains fire frequency, season, behavior, characteristics, and significant ignition sources and identifies portions of the most vulnerable landscape. Sections 4.1 through 4.4 provide detailed information regarding these specific topics. This data may help secure grants and other funding sources and better prepare for future wildfires.

Teton County, Montana, faces a moderate to high wildfire risk, particularly in areas where dry grasslands, shrubs, and steep terrain allow rapid fire spread. Although large fires have been infrequent in recent years, the county remains vulnerable due to recurring drought, limited firefighting access in remote areas, and the presence of homes in wildland–urban interface (WUI) zones, where development meets flammable vegetation. The county's Community Wildfire Protection Plan (CWPP), last updated in 2011, outlines priority risk areas and recommends mitigation measures such as fuel reduction, defensible space around structures, and public education. Local organizations like the Teton Wildfire Mitigation Team and the Teton Conservation District support these efforts through grants, site assessments, and community outreach. Programs such as Firewise USA further strengthen local preparedness. Despite these initiatives, continued investment and vigilance are essential as climate change and prolonged drought increase the region's wildfire risk.

Table 5: Wildfires Within and Adjacent to the CWPP Planning Area

Fire Name	*Date*	*Fire Size (acres)*	*Fire Name*	*Date*	*Fire Size (acres)*
Smelser	2025	90.6	Elk Hill	2016	1297.2
Collins	2023	17.7	7 Elbow	2016	122.7
Choteau	2022	230	Family Peak Complex	2015	54144.6
Erosion Creek	2021	4.6	Sheep Mountain	2015	3629.0
Strawberry	2017	18018.8	Moose Ridge	2015	10528.2
Scalp	2017	22142.1	Red Shale	2013	12537.6

The DNRC Interactive Wildland Fire Map is a GIS-based tool that Montana's Department of Natural Resources and Conservation developed to provide real-time information on wildland fires across the state. It integrates satellite heat detections, fire perimeters, weather overlays, and land ownership data to support situational awareness and decision-making. Used by fire managers, emergency responders, and the public, the map helps coordinate wildfire response, monitor fire behavior, and inform communities. While it centralizes reliable data from various sources, users are advised to follow official emergency instructions, as the map may include delays or inaccuracies in satellite readings.

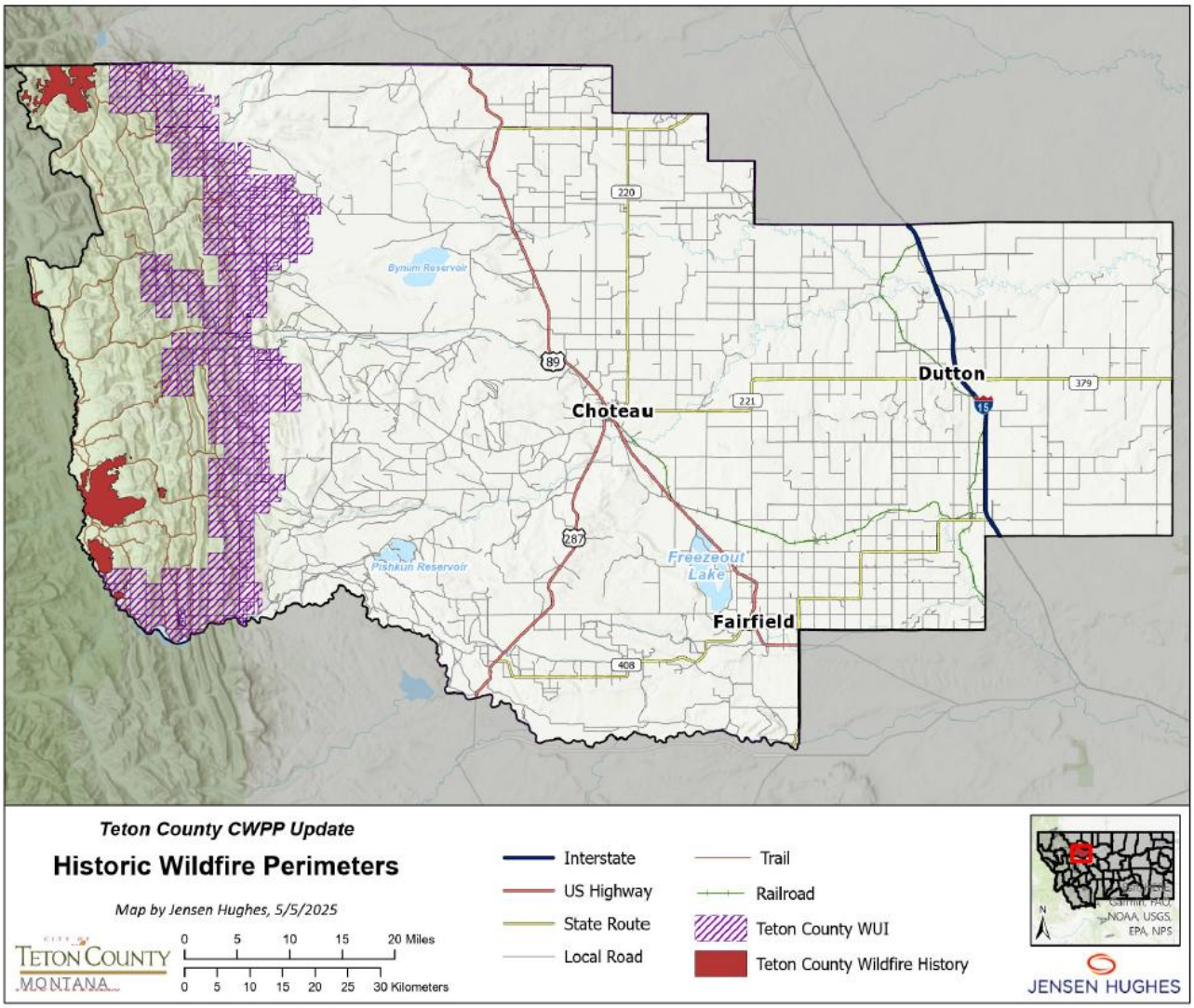


Figure 19: Teton County Historic Fire Perimeters

This Map can be found at: **https://mwra-mtdnrc.hub.arcgis.com/datasets/dnrc-interactive-wildland-fire-map**

The sagebrush grass range is relatively extensive within the county. Silvertip Sagebrush is the predominant species. The predominant tree species in Teton County include Ponderosa and Limber pine. There are some smaller stands of Douglas-fir and Engelmann spruce. Pine, such as the Ponderosa, is a fire-adapted species that has developed natural mechanisms to survive most fires. They have a thick, corky bark that insulates the tree's cambium from heat generated by wildland fires. These species are also considered to be self-pruning of lower branches. This enables the tree's lower branches to naturally die and fall off, keeping smaller flame length surface fires from burning upward into the tree's canopy.

Many decades of fire suppression throughout the western states have altered fire regimes, and Teton County has not been immune to these changes. Suppression activities, combined with the lack of forest management, the public's misunderstanding of forestry and fire ecology, and people's introduction into this fire ecology, have

resulted in years of fuel accumulation, and combined with the increasing number of individual homes and communities in these forested areas, a significant wildfire problem has been created. As years pass without these issues being addressed, the potential for disaster increases.

A detailed list of current wildfires, restrictions, and significant wildfire potential outlooks can be found at the Montana DNRC Fire Protection Bureau's website at: **https://repos.dnrc.mt.gov/esri/hub/drought/PDFs/2023-8-17-DWSAC-DNRC-Wildfire-Update.pdf**

4.2 FUELS

Teton County has a diverse fuel model, ranging from simple grass models (GR) to timber litter (TL). Most of the county is dominated by grass and grass-shrub fuel models. Specifically, rangelands that have been converted into irrigated farms or pastures for agricultural purposes. Underdeveloped rangelands are characterized by low-growing grasses with occasional clumps of sagebrush and juniper, making the fuel model patchy or sparse. Developed rangelands are either grazed, thereby minimizing the fine fuel buildup. Crop production also helps reduce the risk by requiring vegetation to remain manicured and maintained.

Historically, agricultural fields have not been considered to have a high risk of uncontrollable wildfires. However, dramatic wind gusts and bursts can cause a farming burn to escape and spread into surrounding areas. If this occurs when crops are in place, they can produce significant flame lengths that can create additional obstacles for suppression besides wind and an increased rate of spread. The flame length is dependent on the crop.

Forested lands flank the western portion of Teton County, along the Lewis and Clark National Forest, as part of the Bob Marshall Wilderness. According to the 2011 CWPP, "many of these forest types are dry Douglas-fir and Engelmann spruce forests that have become heavily overstocked, resulting in multi-storied conditions with abundant ladder fuels." It additionally states that increased activities by pathogens will continue to increase dead and down fuel levels, brought on by insects such as the Bark Beetles. The spread of insects in a forest can increase tree mortality, which further contributes to the overcrowding of the forest.

Overstocked forest floors, combined with multi-layered stands and the abundance of ladder fuels, lead to horizontal and vertical fuel continuity in many of the stands. Combined with an arid and often windy environment, these conditions can encourage the development of a stand-replacing fire, which burns with high intensities and generates considerable flame lengths and fire bands that can be lofted long distances. Recent fire behavior observed in the 2025 Los Angeles Fires showed embers being carried by the wind up to 2.5 miles away from the fire's front. Such fires present significant control problems for suppressing resources, often developing into large, destructive megafires lasting for several weeks to several months. Examples of large, stand-replacing fires can be seen throughout the Rocky Mountain region.

Figure 20: Common Fuel Types

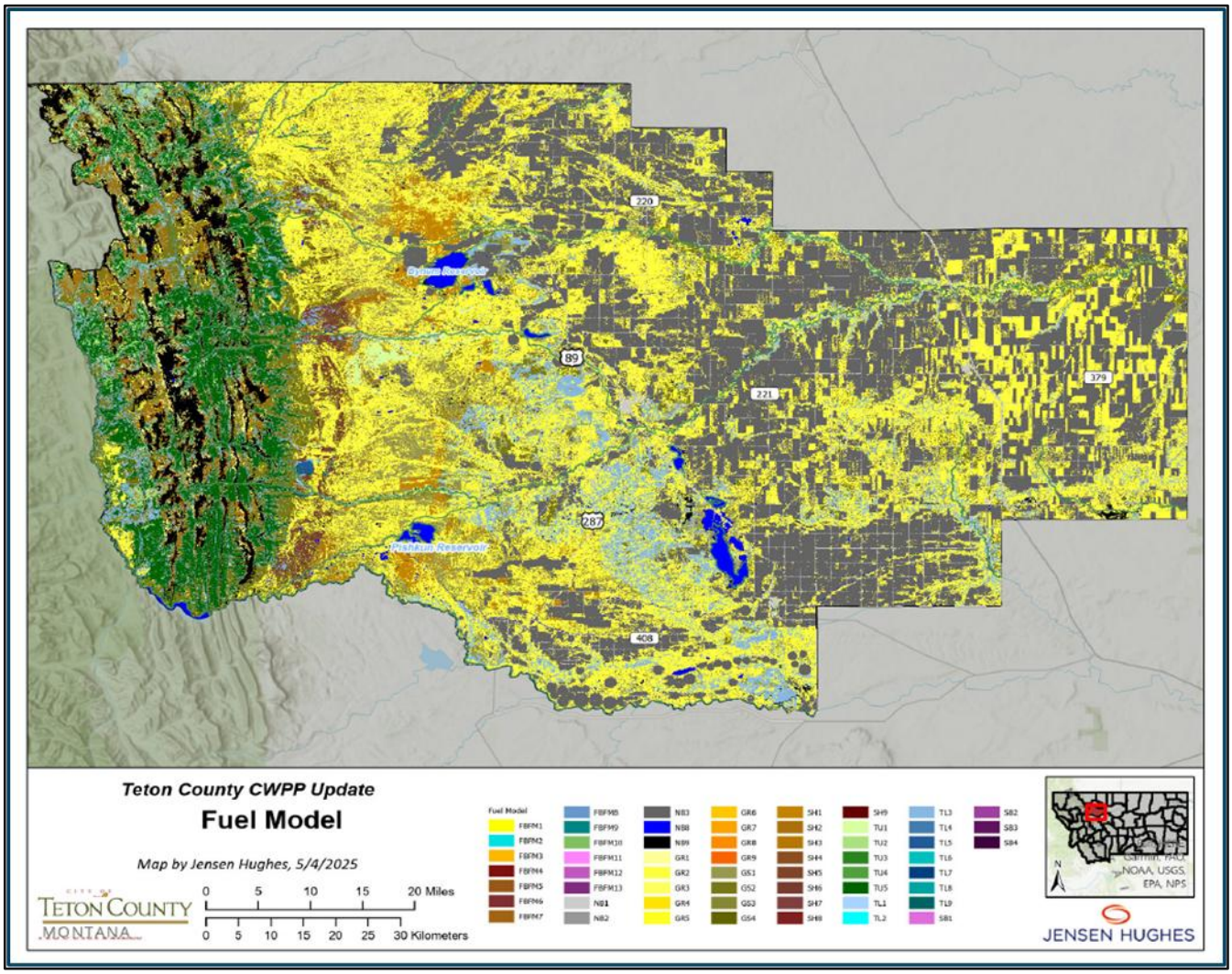


Figure 21: Teton County Fuel Model Map

4.3 WEATHER DATA AND TRENDS

4.3.1 Teton County Weather

Teton County typically experiences a semi-arid, dry climate with extreme temperature variances. Like the rest of Montana, it is primarily classified in the “BSK” zone (Köppen Climate Classification), with a secondary classification in the Dfb zone for mountainous regions that sit at higher elevations. The BSK zone refers to a dry climate with distinct or extreme seasonal temperature variations. The sections of Teton County that reside at a lower elevation are part of the BSK zone.

Sections of Teton County that reside in higher elevations are part of the Dfb climate classification, also known as Humid Continental. Mountainous regions are categorized as Dfb. They tend to have cold winters and humid summers. The combination of both zones accounts for the extreme variations in relative humidity and other weather-related trends that can increase the wildfire risk and vulnerability.

4.3.2 Drought + Precipitation

According to the Teton County Long Range Plan, completed by the USDA NRCS Choteau Field Office and updated in May 2022, precipitation in Teton County varies with the elevation change. The report states,

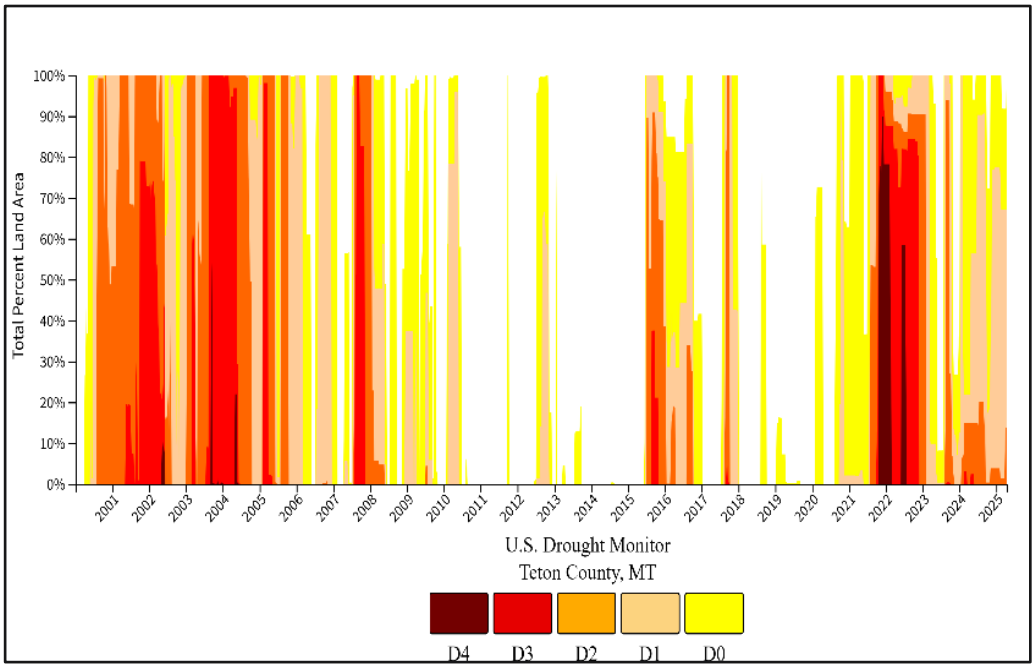


Figure 22: Drought Trends from 2000-2025

"Rainfall at the lower elevations averages 11.5 inches per year, with 14-15 inches at higher elevations. As much as 82% falls between April 1st and September 30th. May and June are the wettest months over the lower elevations, while seasonal mountain variations are less pronounced. The county receives an average of 42 inches of snow every year. Annual snowfall can accumulate to 60 inches or more on some western mountains."

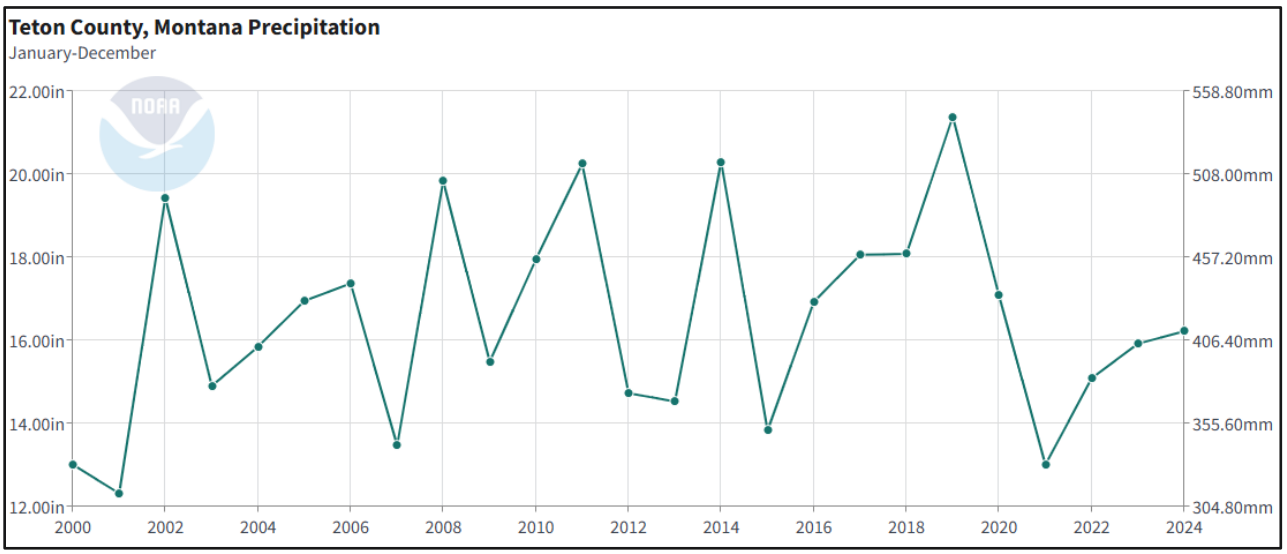


Figure 23: Teton County Annual Precipitation, Source: NOAA

Between 2020 and 2024, Teton County received below-normal annual precipitation. While 2024 did bring some relief, it was theoretically only 1.22 inches above normal. This is not enough to eliminate the current threat of drought.

Drought can be a significant factor in wildfire risk and behavior. Mega fires and major wildfire incidents throughout the country, especially within the last decade, can be tied to prolonged drought conditions. Specifically, Teton County has a high grass and shrub fuel model density. Without shaded relief, the fuels are left to be cured in the open sunlight. Precipitation provides essential relief for those exposed to fuels. When considering seasonal wildfire risks and actions to reduce them, it is vital to be aware of drought conditions.

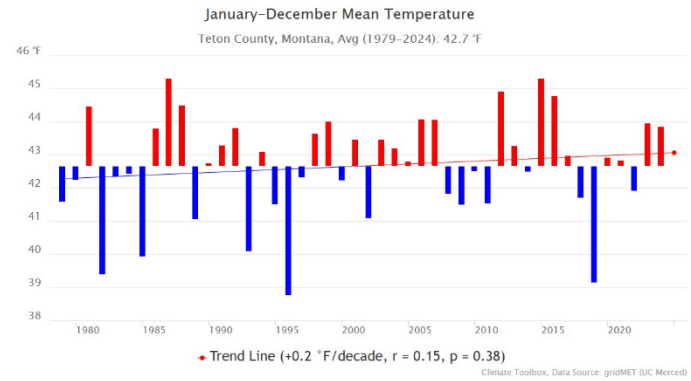
Evidence of drought in Teton County has been prevalent, especially between late 2021 and 2023. The current concern regarding drought is that there has not been a significant relief period since 2021. This data is essential to remember when developing strategies for risk reduction as a community.

4.3.3 Extreme Temperatures

Like precipitation and drought, extreme temperatures can result in additional time for fuels to cure. The Teton County Long Range Plan states, “The Highest temperatures usually occur in July, when the average high is around 82º Fahrenheit (F). January is the coldest month; the average temperature is around 14º F.” As previously stated, part of the BSK Köeppen Model is distinct and extreme temperature variations. That can be problematic because, like other weather-related events, the potential for uncharacteristic wildfire behavior increases in extreme temperatures.

4.3.4 Increasing Weather Concerns

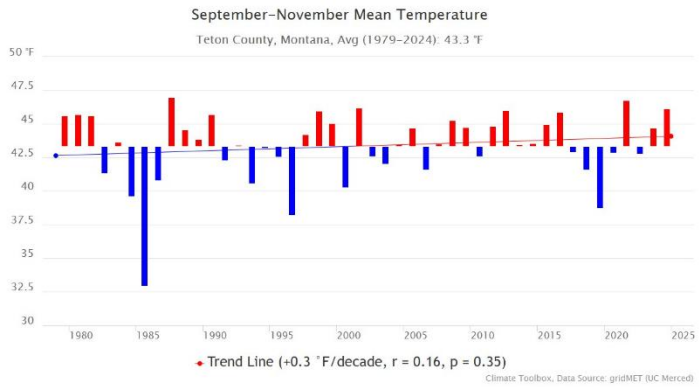
Wildfires easily become unmanageable during extreme weather conditions, such as extreme heat and high winds combined with dry fuels. Therefore, it is critical to understand how climate cycles impact the frequency and intensity of these extreme weather events through temperature, precipitation, drought, and vapor pressure deficit changes. The information below identifies the trend of climate variables over the past thirty (30) years.



Annual Mean Temperatures

Annual mean temperatures are trending up.

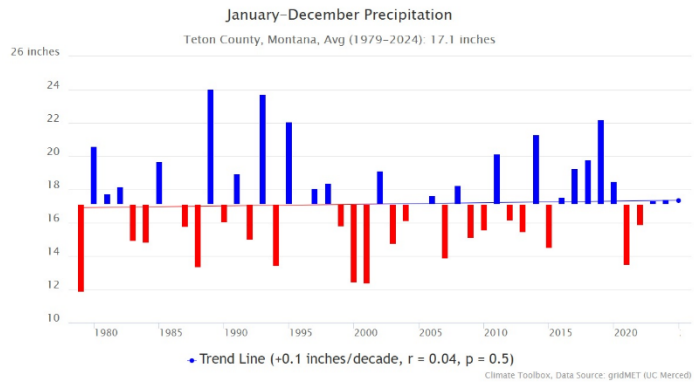
Over the past thirty (30) years, annual average mean temperatures have increased in Teton County. Warming temperatures exacerbate drought, reduce snowpack and spring runoff, extreme heat conditions, air quality, and health hazards. Warming temperatures can also weaken trees to disease and infestation.



Fall Minimum Temperatures

Fall (September – November) minimum temperatures are trending up.

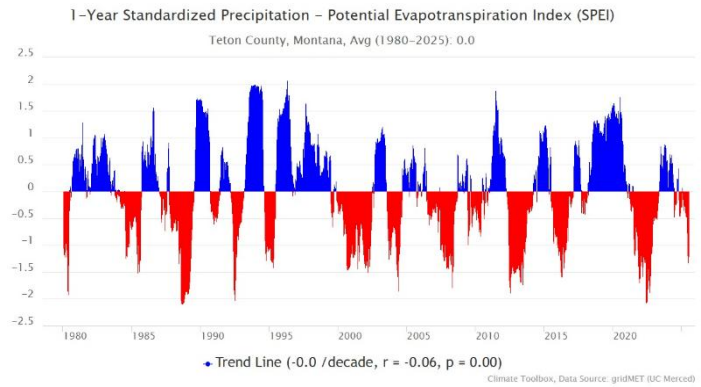
Reduced nighttime humidity recovery, particularly during the fall season, is an observed inclination towards increased minimum daytime temperatures as a proxy for fire danger.



Annual Precipitation

Precipitation is trending up.

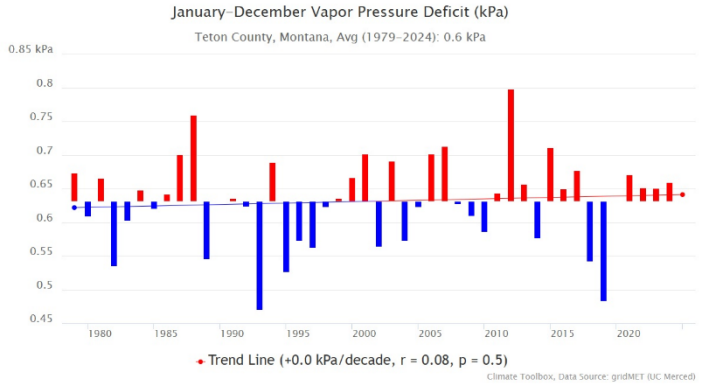
Evidence indicates that increased precipitation during the summer months leads to increased fuel loads, which drive more intense fire behavior. This is especially true in later months as vegetation cures with the natural growing season and begins to go dormant for the winter.



SPEI Index

Standardized Precipitation-Evaporation Index (SPEI) is trending down (dry).

The SPEI considers temperature, precipitation, and evapotranspiration (the moisture the earth loses to the atmosphere from both evaporation and transpiration from plants). It can be used to determine the onset, duration, and magnitude of drought conditions compared to normal conditions in various natural and managed systems, such as crops, ecosystems, rivers, water resources, etc.



Vapor Pressure Deficit

Vapor Pressure Deficit (VPD) is trending up.

Research indicates that climate change increases the vapor pressure deficit (VPD). VPD measures dryness, or aridity, near the Earth's surface and is directly related to the rate at which water is transferred from the land surface to the atmosphere.

(*https://www.climatesignals.org*)

"Vapor pressure deficit has increased over the past 40 years across most of the American West, largely because warmer air can hold more water. This is a primary mechanism by which global warming is elevating wildfire hazards." (Garthwaite, 2022)

4.3.5 Future Weather Projections

Natural climate variability and human-caused emissions (e.g., Greenhouse Gas [GHG]) shape future climate change projections. Studies published in the last decade, including Abatzoglou and Williams' article "Impact of Anthropogenic Climate Change on Wildfire Across Western US Forests," conclude, in high confidence, that future climate projections will have implications for an increase in fire occurrence and severity.

Teton County's projected temperature increase is 5°F to 10°F by Year 2100, with increases seen across all seasons, including daily maximum and minimum temperatures. This projection uses the RCP8.5 emissions trajectory (i.e., very high baseline emission scenario, representing the 90th percentile) and the RCP4.5 emissions trajectory (i.e., moderate baseline emission scenario, representing the 50th percentile).

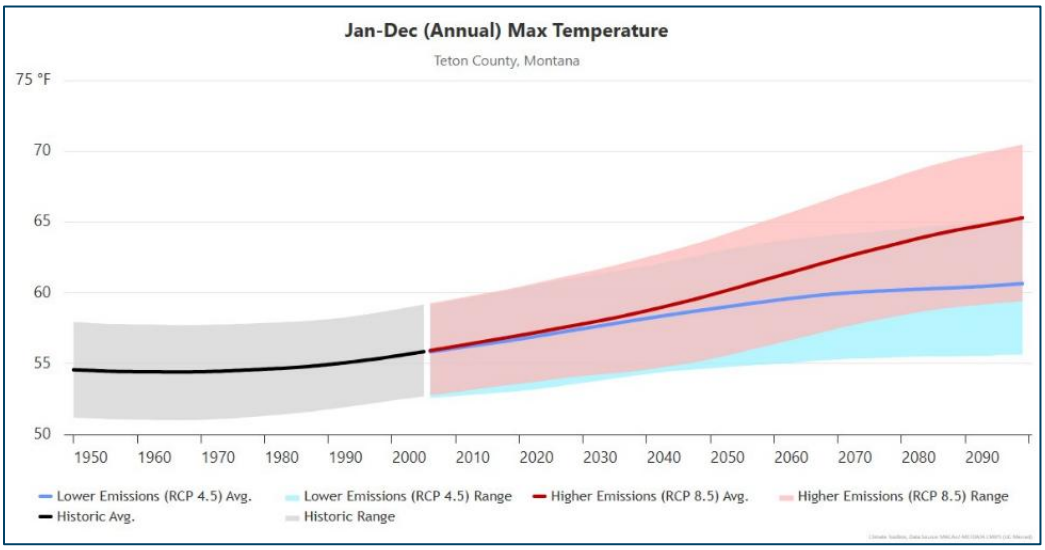


Figure 24: Annual Maximum Temperature

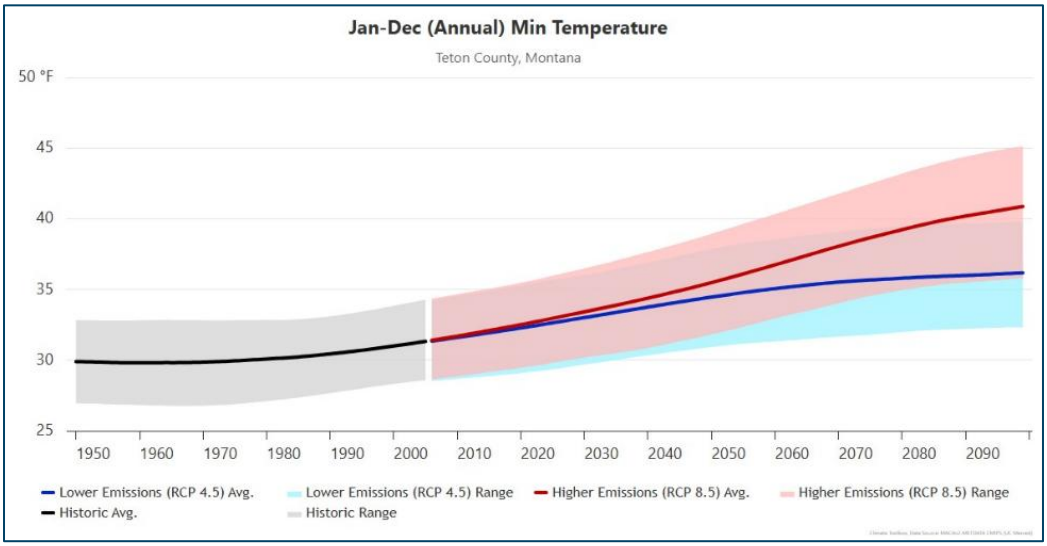


Figure 25: Annual Minimum Temperature

4.4 TOPOGRAPHY

Topography plays a significant role in wildland fire behavior. It influences local wind patterns—including foehn winds, diurnal upslope and downslope flows, and wind channeling through canyons and drainages. Key topographical elements that affect fire behavior include slope, aspect, terrain configuration, and elevation. Among these, slopes have the most direct influence: for every 10-degree increase in slope, the rate of fire spread can double, according to the Western Fire Chiefs Association.

- In Teton County, the landscape transitions dramatically from high-elevation mountain terrain to open prairie lands:
- The Rocky Mountain Front forms the western edge of Teton County and includes part of the Bob Marshall Wilderness Complex. Prominent ranges include the Sawtooth Range and Lewis and Clark Range, with elevations ranging from around 4,000 feet in the valleys to over 9,000 feet in rugged alpine areas such as Mount Wright and Ear Mountain.
- Moving eastward, the terrain descends into foothills, benchlands, and rolling prairie, where most residential, agricultural, and community development occurs.
- Elevations range from approximately 9,400 feet at high points in the west to under 3,800 feet near the eastern border of the county, offering dramatic elevation gradients that significantly influence fire behavior.
- Drainages such as the Teton River, South Fork Teton River, and Deep Creek flow from the mountains eastward, creating narrow canyons that can act as chimneys during fire events—channeling heat, smoke, and wind upslope and often accelerating fire spread.
- The topography of Teton County also contributes to access challenges for fire suppression and emergency response, particularly in remote mountain areas where steep, rugged terrain and limited road access can delay operations and increase fire risk to both responders and the public.
- Maintaining situational awareness of terrain-driven fire behavior and incorporating topographic risk factors into wildfire mitigation and evacuation planning are essential components of protecting life and property throughout Teton County.

5.0 Wildfire Hazard + Risk Assessment

In accordance with the guidance outlined in the U.S. Forest Service's Community Wildfire Protection Plan (CWPP) Guide, it is essential to develop detailed wildfire risk assessments that clearly identify priority areas for mitigation based on fuel loads, topography, and historical fire data. Consistent with CWPP best practices, the implementation of targeted fuel reduction treatments, including prescribed burns and mechanical thinning, is recommended to effectively reduce wildfire hazards.

Furthermore, the CWPP emphasizes the importance of enhancing community resilience through home hardening and defensible space initiatives to protect structures within the wildland-urban interface. Effective interagency collaboration, as prescribed by the CWPP framework, is critical to optimize resource sharing, streamline response efforts, and improve overall wildfire preparedness.

Public education and outreach efforts should be expanded in alignment with CWPP recommendations to increase community awareness and engagement in wildfire mitigation activities. Lastly, investment in advanced monitoring technologies and early warning systems aligns with CWPP priorities to ensure timely wildfire detection and rapid response capabilities, thereby reducing potential wildfire impacts.

5.1 WILDFIRE HAZARD ASSESSMENT

A fire behavior analysis was run for the county to determine the wildfire risk. The fire modeling was run for a very high (90th percentile) Fire Danger condition. The variables that affect the output are the vegetation type, slope, aspect, and weather. The fire modeling simulates burning the vegetation in the landscape on a pixel-by-pixel basis, which allows a comparison of one location to another under the same conditions. Wind is the most critical variable and can create an exponential increase in fire behavior. Winds not only supply oxygen to the existing fire but also dry the vegetation ahead of the fire. Another concern is the embers that can be spread ahead of the main fire, creating spot fires that then grow together and advance the fire front much more rapidly.

5.1.1 Fire Behavior Results

5.1.1.1 Flame Length

Flame length is the distance from the flame's tip to the middle of the flaming zone at the base. It is a key indicator of fire intensity and how much heat a fire is generating.

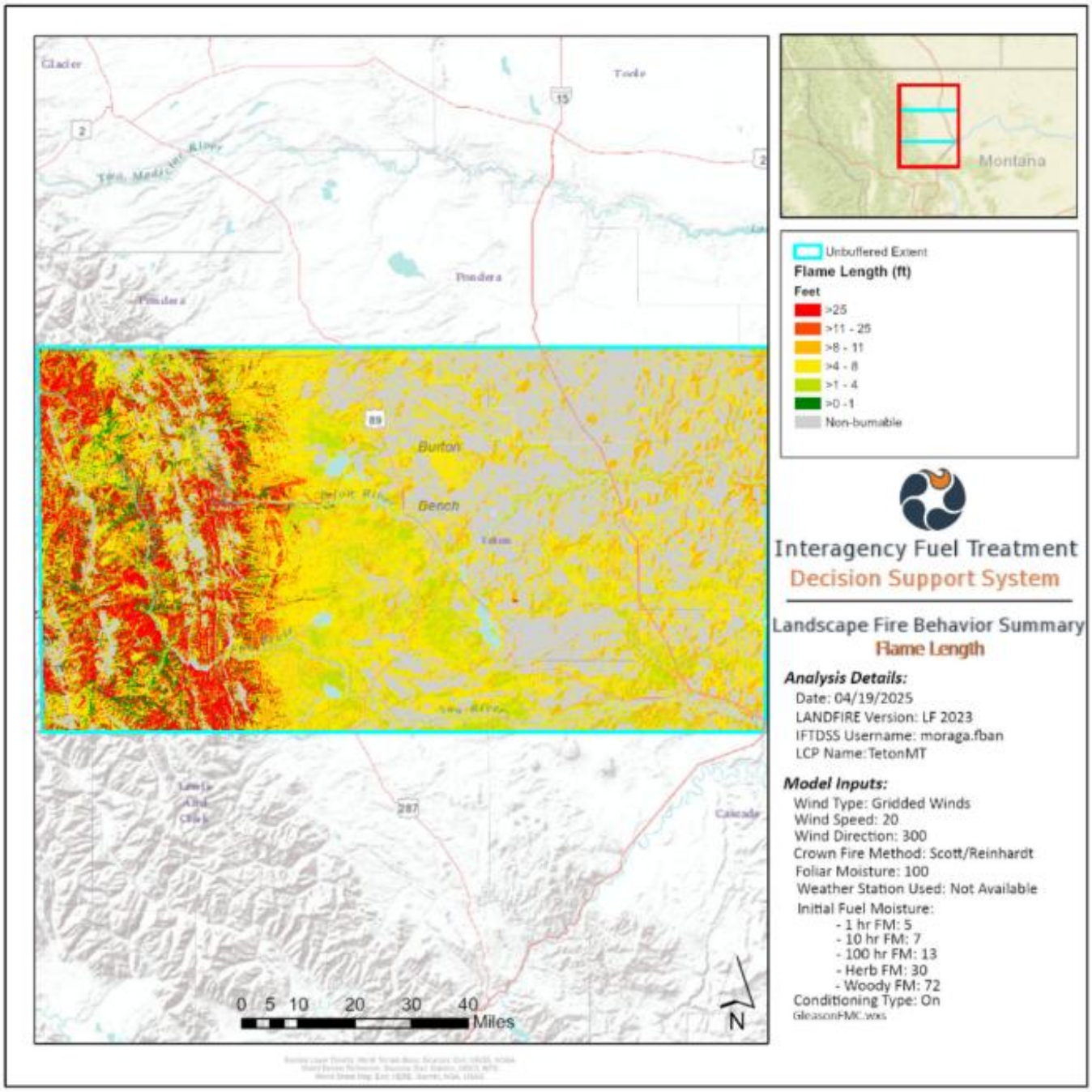


Figure 26: Flame Length

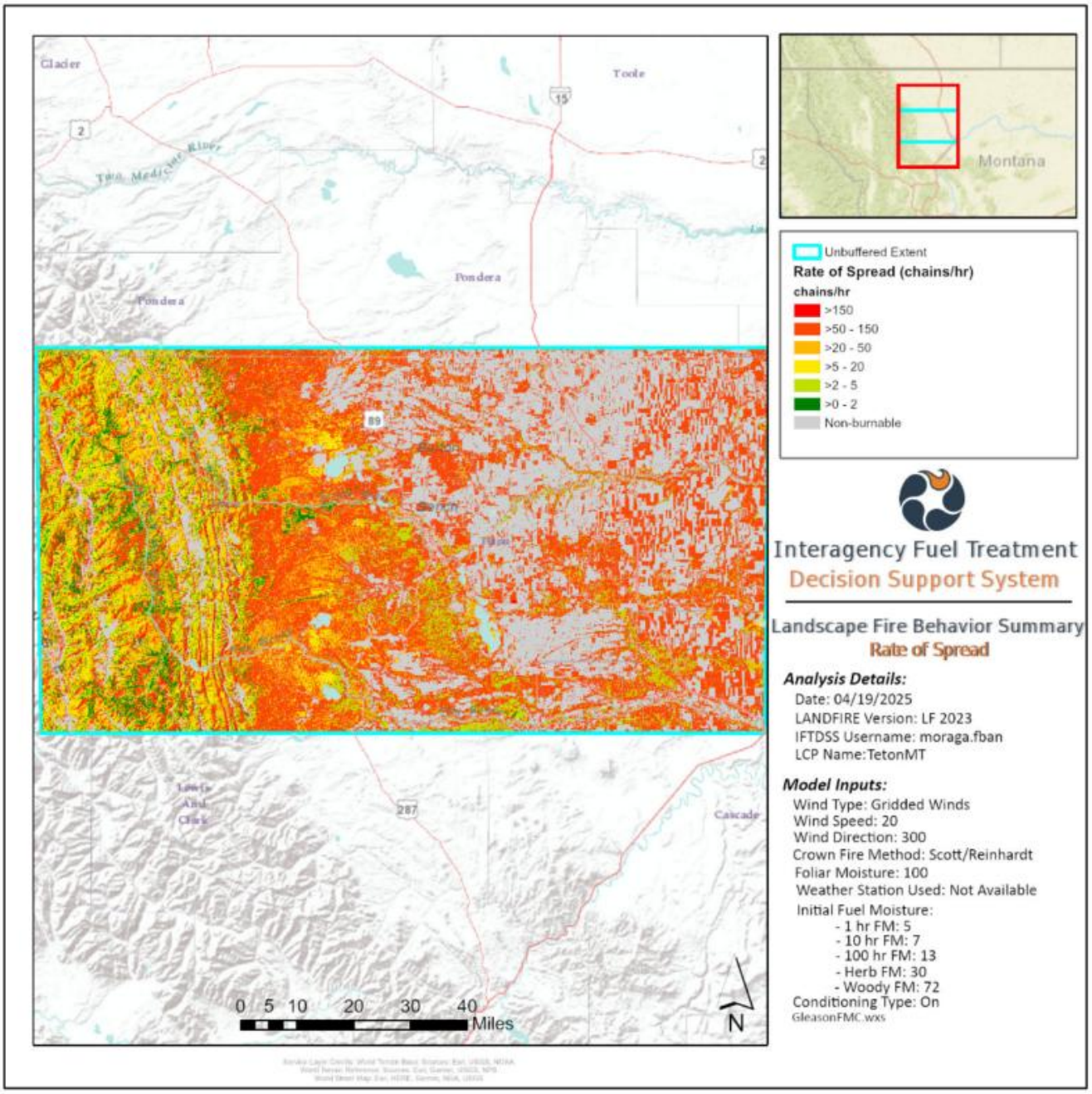


Figure 27: Rate of Spread

5.1.1.2 Crown Fire Activity

A crown fire is a wildfire that spreads through the tops of trees (the "crown") and can be significantly more intense and destructive than surface fires. It often involves the ignition of the tree canopy and can spread rapidly, especially in windy conditions. Crown fires can be classified as passive (torching) or active (running).

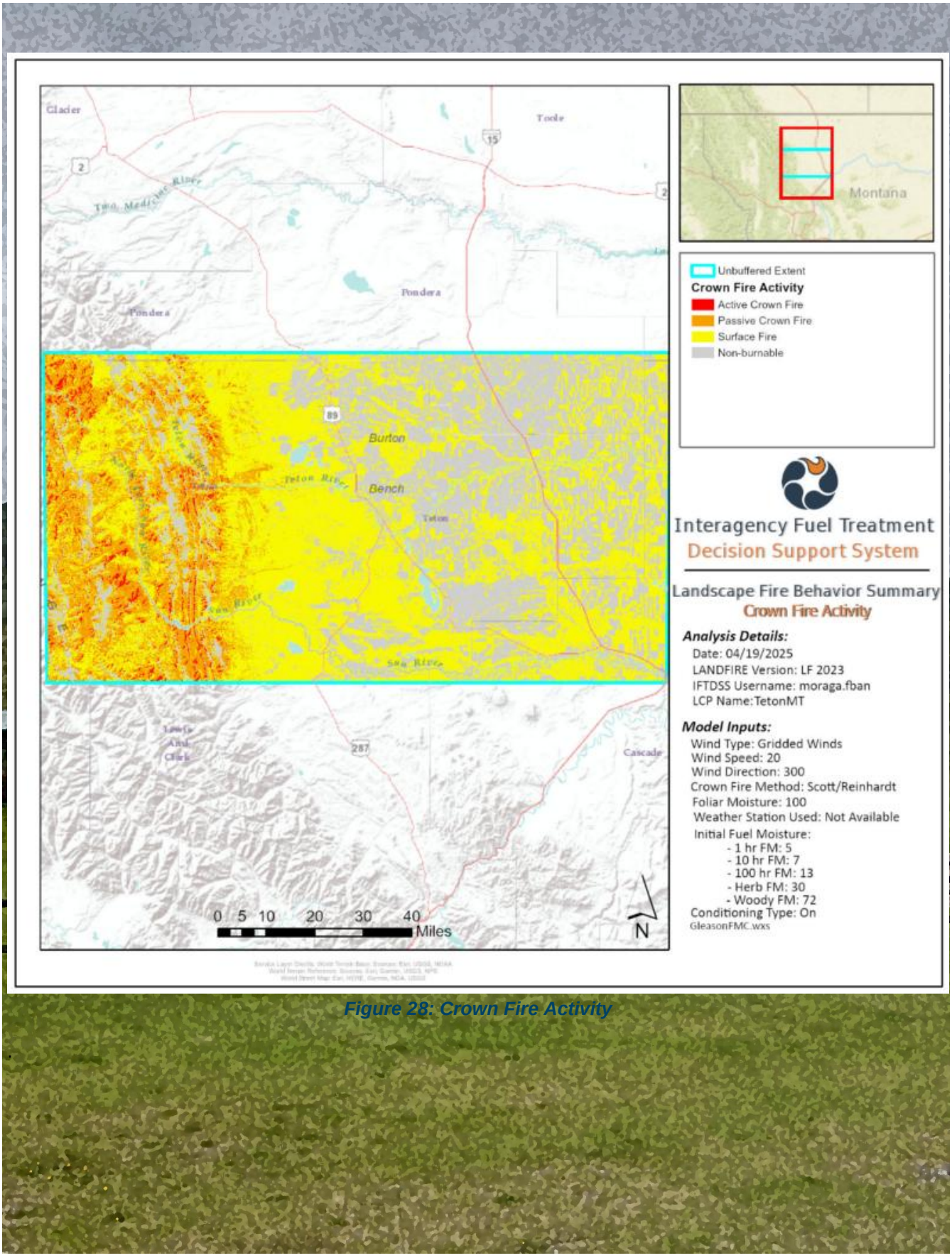


Figure 28: Crown Fire Activity

5.2 RISK ASSESSMENT

In this CWPP, the risk of a wildfire occurring within the Planning Area has been based on an evaluation of wildfire hazard, values at risk, and fire frequency across the landscape. Risk is defined as severity times probability of occurrence. For this plan, severity is represented by the impact of hazards on community values, with probability represented by the historical fire occurrence.

$$Risk = (Occurrence + Hazard) \times Community\ Values$$

This theory of risk was used to determine projects and priorities for risk reduction throughout the planning area. These projects and recommendations are intended to reduce risk by reducing the vulnerability of community values, the impact of wildfire hazard, or the probability of occurrence. Reduced risk can be simplified to risk divided by the mitigation of one or more individual elements. More information on mitigation efforts and recommendations can be found in Section 6 of this plan.

$$Reduced\ Risk = \frac{(Occurrence + Hazard) \times Community\ Values}{Mitigation}$$

Risk can be represented visually through the following risk matrix.

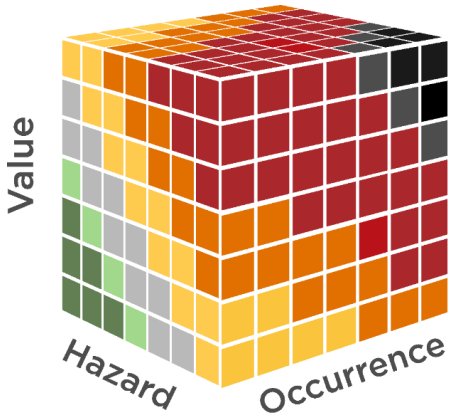


Figure 29: Risk Visual

The United States Forest Service Wildfire Risk to Communities produced all of the modeling used in this CWPP. (US Forest Service, n.d.) It shows probable wildfire behavior over a landscape and its impact on communities. These models help to determine where priority fuel treatments should occur by evaluating where fire would be most impactful to the landscape and where the community values at risk are located concerning the hazard.

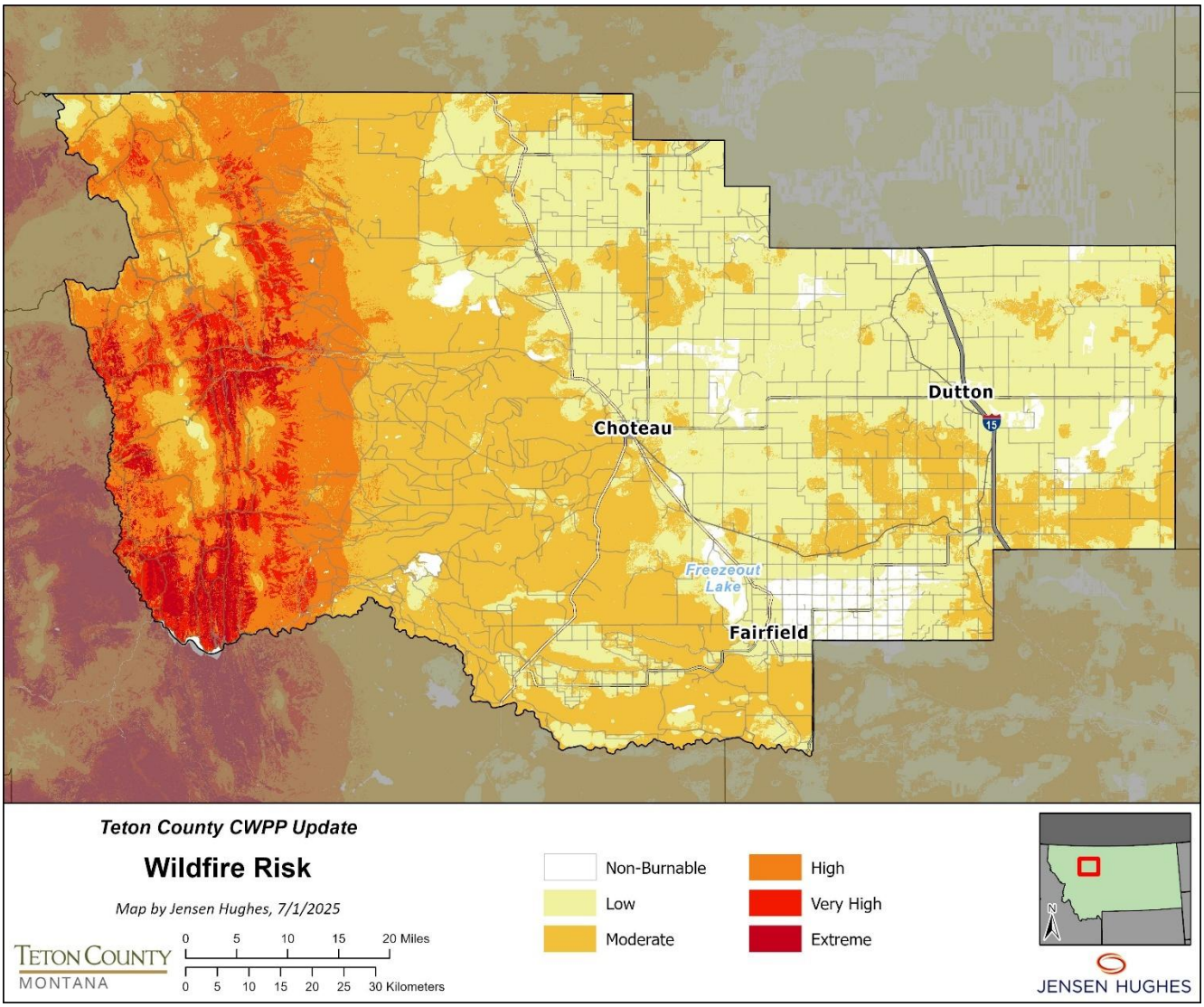


Figure 30: Wildfire Risk Potential

Based on current data from Wildfire Hazard Potential (WHP), Wildfire Risk, and Flame Length models, the highest probability of a wildfire escaping initial attack and developing into a significant growth event is found in the western and southwestern portions of Teton County, particularly along the Rocky Mountain Front. These areas include dense coniferous timber, continuous surface and ladder fuels, steep and rugged terrain, and limited road access. If a wildfire were to become established in this region, suppression efforts would be challenging. There is a realistic potential for high-intensity fire behavior, including the formation of mature pyro-cumulus plumes and long-range spotting.

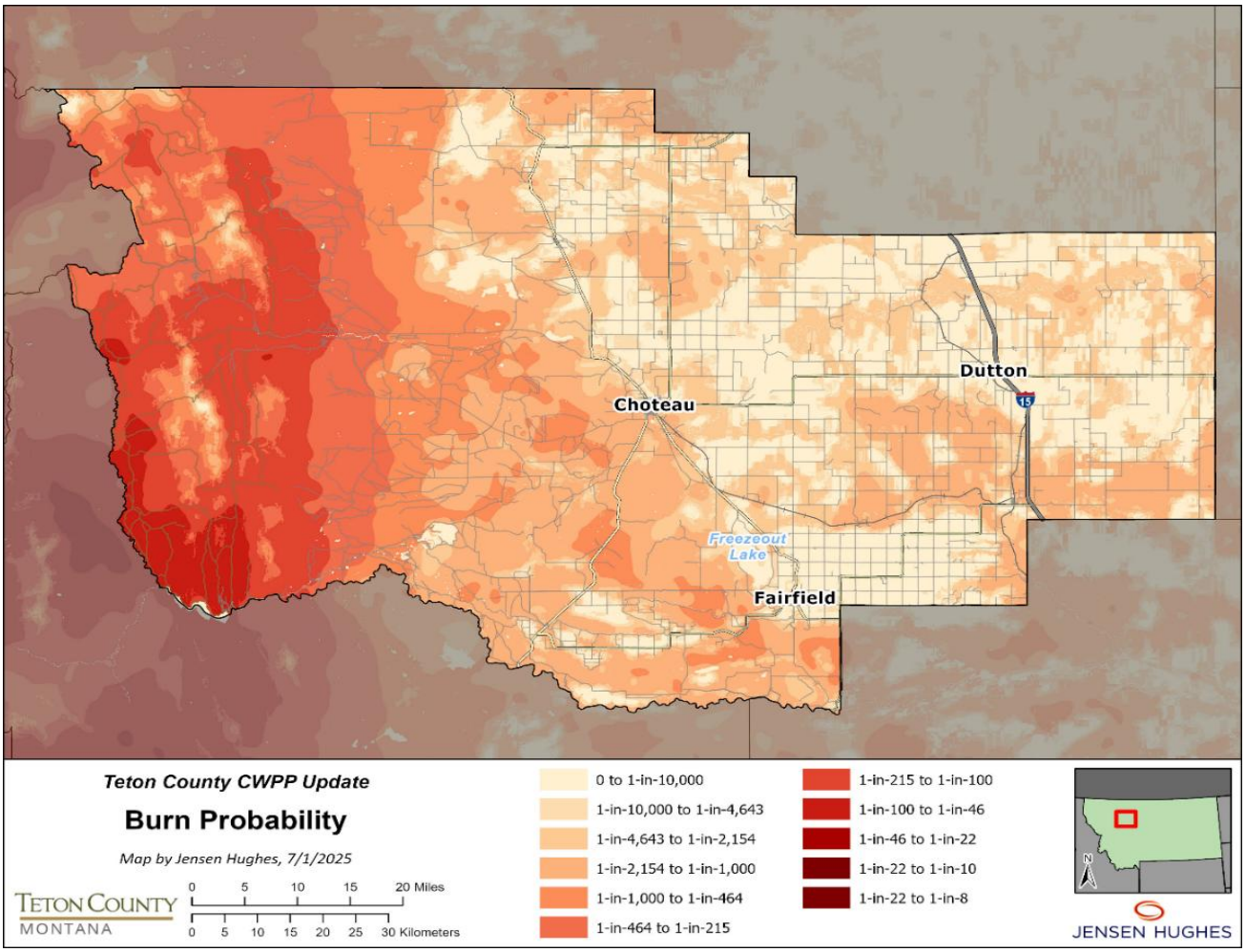


Figure 31: Burn Probability

In contrast, the central and eastern parts of Teton County consist primarily of grasslands, agricultural fields, and irrigated lands. The terrain in these areas is less steep, and the fuel continuity is significantly lower. These factors reduce overall wildfire risk. Additionally, communities such as Choteau, Fairfield, and Dutton increase the likelihood of early detection and allow quicker response by firefighting resources. As a result, the probability of an unmanageable wildfire occurring in these parts of the county is much lower.

Figure 36 recognizes the Flame Length that could be expected in a wildfire, understanding that wildfire is a dynamic event with many variables that influence the fire behavior on a given day. The model demonstrates the flame length that would be produced under assessed variable conditions, given the vegetation density, species composition, and canopy base height. The map creates opportunities for land managers and landowners to identify further areas of possible fuels treatment across landscapes to reduce the crown fire activity and fire intensity.

The flame lengths map is a vital tool for firefighters, given the safety parameters that must be adhered to during suppression efforts and the tactics in which fire can be suppressed most effectively. This model, coupled with the Incident Response Pocket Guide (IRPG) and Haul Chart and firefighters' experience, can help inform tactical decisions, obtain more quickly obtain appropriate suppression resources, and further support firefighter safety.

6.0 Protecting Values

This section presents recommended actions to enhance the protection of values at risk from wildfire within the Teton County, Montana, planning area, with emphasis on the following priorities:

- Public Safety – Safeguarding residents, visitors, and communities from wildfire impacts through prevention, preparedness, and rapid response measures.
- At-Risk Populations – Identifying and addressing the unique needs of vulnerable groups, including the elderly, individuals with disabilities, and those lacking transportation resources.
- Firefighter Safety – Ensuring adequate access, defensible space, and hazard reduction to protect firefighting personnel during suppression operations.
- Evacuation – Establishing clear, coordinated evacuation procedures to facilitate timely and orderly movement of people from threatened areas.
- Temporary Refuge Areas – Designating and maintaining safe locations for short-term protection when evacuation is not immediately possible.
- Potential Evacuation Complications – Anticipating and mitigating factors that could hinder evacuation, such as limited road access, weather conditions, or communication disruptions.

These priorities guide the development of targeted strategies and projects aimed at strengthening wildfire preparedness, minimizing risk, and enhancing the long-term resilience of Teton County's communities and resources.

6.1 FIRE ADAPTED COMMUNITIES

Collaboration and engagement by all stakeholders are critical for the success of emergency preparedness. Teton County's challenge is engaging the community to effect change at the individual and community level in a locally relevant and sustainable way. Communicating accurate and timely information before, during, and after a wildfire is a challenge that communities address through various programs before an event escalates. The following is a list of current preparedness actions and measures.

6.1.1 County and Regional Programs

Ready, Set, Go!

This program was developed through the cooperation of numerous agencies. It includes information on defensible space, structural hardening, evacuation, preparing families before and during a wildfire, and creating checklists to help residents prepare before a wildfire that may impact their community. More information on the Ready, Set, Go! program can be found **here.**

NFPA Home Ignition Zone

This program was developed to provide homeowners with guidance on increasing their homes' survivability. The program guides structural hardening and provides defensible space. More information on the Home Ignition Zone can be found **here**.

NFPA Firewise

This program, developed by the National Fire Protection Association, is similar to the Home Ignition Zone Guidelines. It provides guidance on creating defensible space and hardening your home against wildfire. It also provides guidance on preparing for evacuations and developing emergency action plans. More information about Firewise USA can be found **here**.

Red Flag Warnings

Red Flag Warnings identify weather conditions that are favorable or dangerous for wildfires. Red Flag Warnings are intended to make the public more aware of their behaviors and limit activities that could lead to fire ignitions. More information about Red Flag Warnings and registration for On Solve – CodeRed Notification System can be found **here.**

Fire Danger Ratings

Understanding current fire danger can help residents react appropriately when notified of an emerging fire situation. More information on Fire Danger Ratings is located **here.**

Figures 32: Agency Logos

Fire Restriction Plan

Teton County coordinates with the Helena Interagency Dispatch Center to set restrictions. This link provides more information on fire restrictions and the factors for enacting restrictions:
https://gacc.nifc.gov/nrcc/dc/mthdc/index.htm

The county and its partners have done an excellent job in coordinating fire restrictions and providing consistent messaging to the public. This reduces confusion across jurisdictional boundaries and is critical for enforcing these restrictions.

RECOMMENDATIONS

Leverage

- Continue to leverage existing programs and efforts to reduce wildfire risk to the community while also expanding these programs.

Create

- Create a public messaging campaign targeted at wildfire preparedness that should be year-round.

Adopt

- Adopt NFPA Firewise USA, NFPA HIZ Guidance, and Ready, Set, Go! Programs across the county to provide consistent messaging.

Conduct

- Upon adoption of the CWPP, conduct “walk and talk” meetings with HOAs or other similar groups to demonstrate recommended mitigation practices and answer questions about fuels management and structural hardening.

Educate

- Educate the public on grants, disaster or impact tax credits, and other potential funding sources to remove hurdles for mitigation projects on their personal property.

Establish

- Establish a neighborhood ambassador program to help expand reach throughout the community.

6.2 LIFE SAFETY

6.2.1 Public Safety

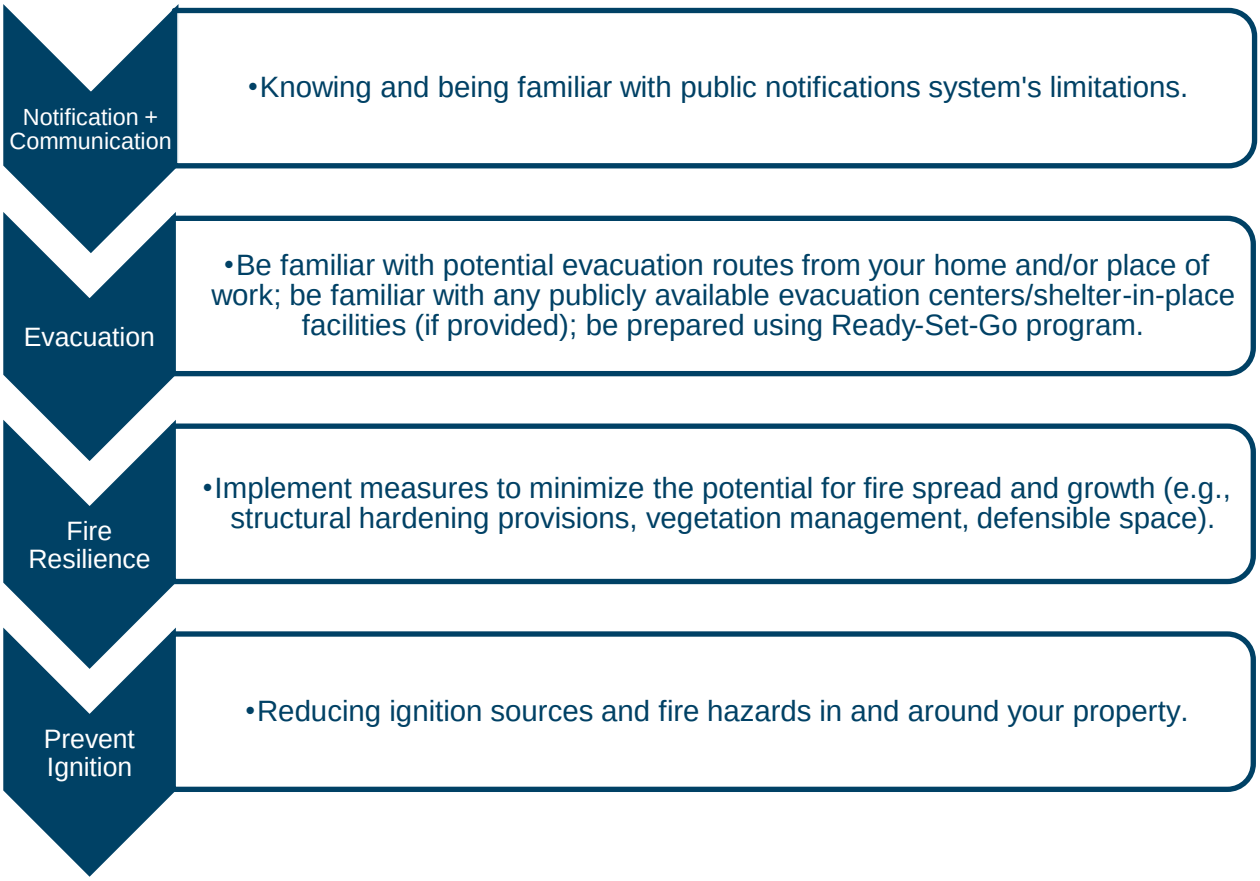
As with any natural hazard, minimizing the risk of wildfire threats to human life and public safety necessitates a comprehensive approach that includes fire prevention, mitigation, preparedness, response, and recovery.

Teton County has several life safety challenges:

+ Emergency evacuation and management.
+ Limited and possibly congested travel routes during evacuations.
+ Limited and/or deficient defensible space in specific neighborhoods.
+ Numerous structures with construction features that make them receptive to fire and embers.

Recommendations for mitigation, structural hardening, and evacuation are focused on improving life safety. Individual community members should become aware and actively engaged in understanding the various wildfire hazards and risks that may impact where they live, work, and recreate. They should take the necessary steps to prepare themselves, their homes, and their family members for wildfire.

The list below covers the fundamental concepts of fire life safety for residents:



6.2.2 At-Risk Populations

The top priority for the county is human life safety. At-risk populations may have limited capacities to prepare for, respond to, and/or recover from a major wildfire incident. (Palaiologos Palaiologou, 2016) Children, seniors, and people with physical disabilities may require additional assistance with notification, evacuation, sheltering in place, and accountability. Research and recent catastrophic wildfire events (Lahaina, HI, Paradise, CA, and Marshall, CO fires) have demonstrated that "at-risk populations" are at higher risk in a disaster than the general population.

6.2.3 Firefighter Safety

Many factors affect the ability of firefighters to protect structures and other community assets safely. Part of the safety process is determining whether engaging in direct suppression operations is safe. Firefighters perform an assessment or “triage” to determine whether a structure or asset is defendable. Before engaging in structure protection activities, firefighters look for viable, safe, and intact access/egress routes, whether a structure or improvement has hardened construction features (class A roof, etc.), hazardous material presence, adequate water sources, and defensible space.

Firefighter safety and whether they commit to protecting a structure are often determined by the fuel reduction and wildfire mitigation actions taken by homeowners, landowners, and land managers. Vegetation management,

hazard fuels reduction, and mitigation efforts are essential to not only protect a landscape or property but also reduce the intensity and severity of the fire behavior, allowing firefighters to enter an area to engage the fire to protect the structural / values at risk.

6.2.4 Evacuation

Teton County is a relatively isolated, rural area of Montana. Evacuation corridors and routes are limited to a few paved primary and secondary roads. Most roads are two-lane, which limits the capacity for egress and access. Roads should be assumed as two (2) lanes for evacuation planning for isolated structures and remote neighborhoods. Non-residents and tourists unfamiliar with the road system may complicate the effort.

During an emergency, “flow-contra flow” (opposing traffic movements) as first responders access the area while residents and tourists leave can compromise evacuations. Many roads have security gates and cattle guards, are very narrow, have steep grades, are not paved, have switchbacks, and/or sharp curves, all of which present challenges for fire personnel responding to an area while residents are leaving.

Numerous Forest Service, neighborhood, private, and secondary routes lead to primary routes. The short-term solution is to educate and situationally inform residents in these areas. The long-term solution is to reduce and/or eliminate hazardous vegetative fuels that further threaten access and egress routes along the roadsides and in areas where roads bottleneck to single-lane.

It is recommended that access and egress routes be evaluated and identified for maintenance and viability regularly. Vegetation encroachment and potential fire behavior that may compromise a route should be assessed.

Figure 33: Typical Summer Road Conditions

6.2.5 Temporary Refuge Areas

A Temporary Refuge Area (TRA) may be an option when the evacuation route becomes compromised or unusable. The purpose of the TRA is to give evacuees and firefighters temporary relief from life-threatening heat and smoke and the opportunity to reevaluate conditions and determine if escape routes are viable. TRAs include road intersections, irrigated fields, sports complexes, parking lots, or large open areas with little or no

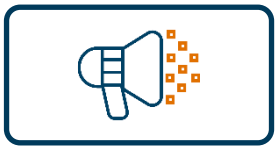
vegetative fuel. Even the inside of a structure can better protect a person from extreme heat and smoke and provide a temporary haven during the passage of a fire front. The primary goal is to evacuate the area ahead of the fire. However, it is possible that civilians may not be able to leave before the fire front encroaches upon their location, and a TRA is the only alternative. Locations of potential TRAs should be developed at the local level and shared through the Teton County Alerts system at the time of the event through the advisement of the Emergency Manager.

6.2.6 Potential Evacuation Complications

The following are a few complications that may be encountered with an evacuation. These items should be considered by the emergency operations planning staff responsible for evacuation planning:

+ Residents, ranchers, and business owners may not have established preparedness plans. Public outreach and education should be provided to raise community evacuation awareness.
+ Residents and business owners may choose not to evacuate but rather to stay and defend their homes/ranches/businesses or decide to shelter in place until the fire danger passes. They should be aware of alternatives (TRAs and Safety Zones) and understand the potentially fatal consequences of not having a preparedness plan, for example: (Ready-Set-Go).
+ Individuals often delay their evacuation to defend their property or leave their homes too late to evacuate.
+ People tend to take multiple vehicles or trailers when fleeing their homes. This can introduce additional demands on the limited road access or create additional hazards along the roadways in the county.
+ Vulnerable populations and/or individuals with limited mobility may need additional support, assistance, and time during an evacuation.
+ Evacuating pets, service animals, and large animals poses significant problems since panicked animals behave unpredictably and may refuse to respond to regular handling approaches.

RECOMMENDATION



Promote

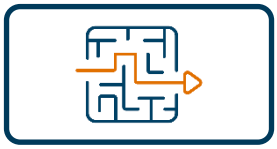
- Continue to promote evacuation awareness through Ready! Set! Go! Program and other local county messaging including evacuation notification systems.

Conduct

- Conduct roadside fuel treatment projects to reduce fire intensity along roadways, allowing for safe evacuation as well as safe access for fire service personnel.

Create

- Create a program to develop Temporary Refuge Areas (TRA) and educate the public on their use, where appropriate.
- Create a program to establish shelter in place procedures and an accompanying public messaging campaign in appropriately identified areas.



Evaluate

- Evaluate where improvements can be made to existing rights-of-way, through expansion or paving, to improve evacuation capability.

Monitor + Update

- Monitor and update the existing Teton County Evacuation and Sheltering Plan.

Develop

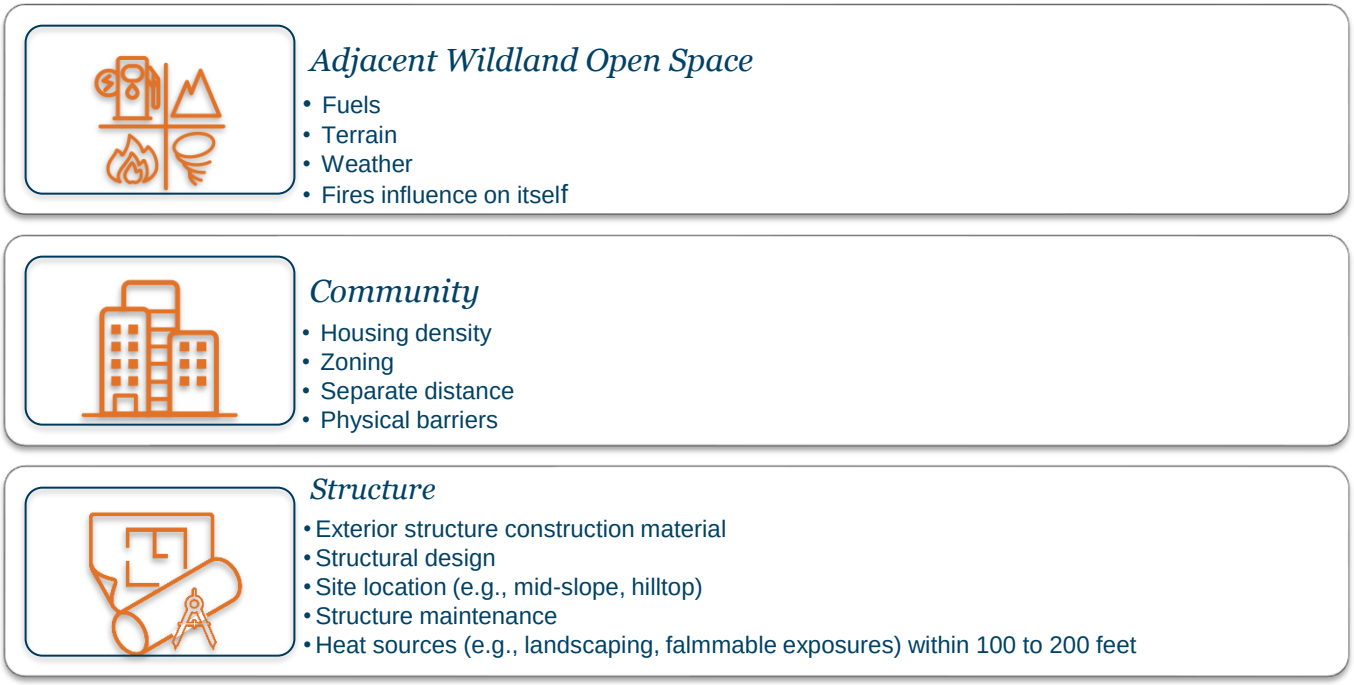
- Develop a plan to increase capability for livestock evacuations through shelter locations and transportation of livestock.

6.3 STRUCTURE VULNERABILITY

From 2004 to 2019, the National Interagency Fire Center (NIFC) estimates that on average approximately 2,593 structures per year are lost due to wildfires across the United States with more than half of these losses as primary residences (www.nifc.gov).

Research has repeatedly shown that the main reason for structure loss during a wildfire is the structure's ignitability, which is not always associated with large, high-intensity fires. Low-intensity fires can destroy highly ignitable structures, while structures with low ignitability can survive high-intensity fires (www.fema.gov, Jack Cohen, USFS, How Homes Ignite, pp. *117-121*).

Wildfires can ignite structures in numerous ways. These pathways depend on a variety of characteristics found in the WUI; examples include:



The risk of a structure's ignition is a direct result of the thermal exposure by wildfire, and the vulnerability or ignitability of the structure (i.e., building materials and construction). Structures ignite in three (3) ways:

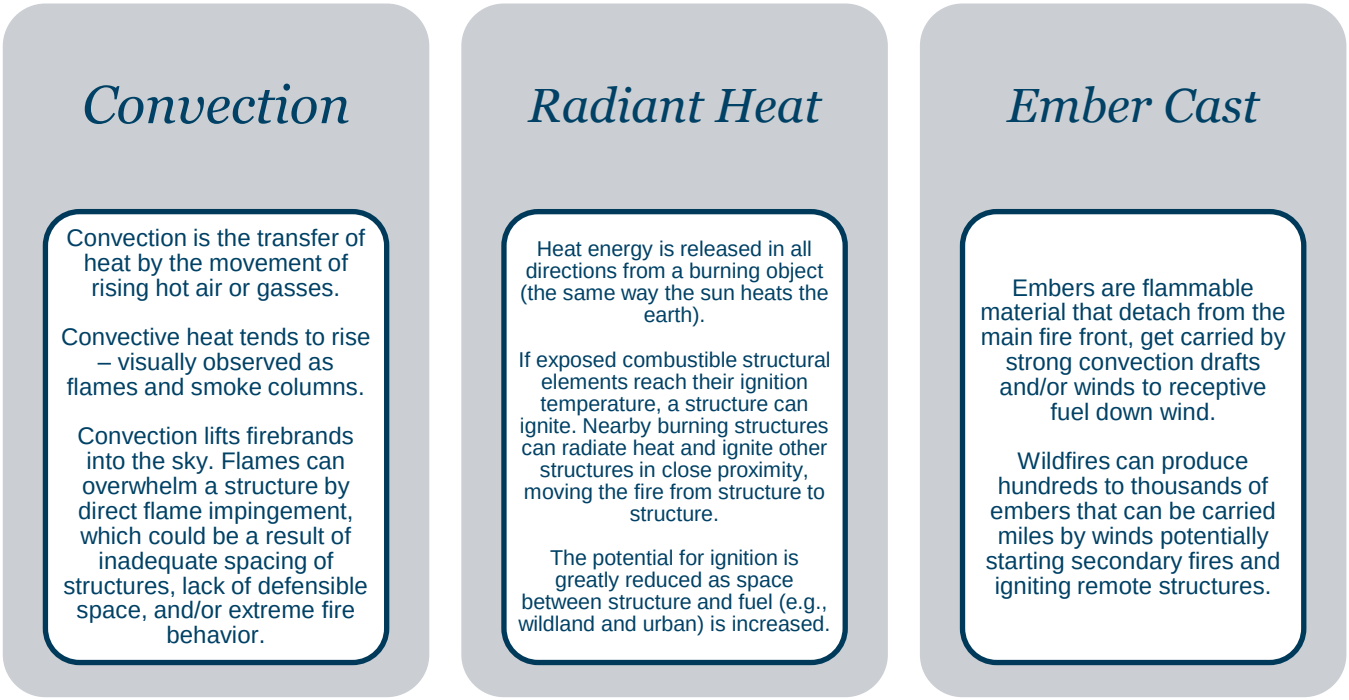


Figure 34: Ways Structures Ignite

Receptive vegetation and fuel beds can include ornamental landscaping, dead vegetation, litter, debris buildup in rain gutters, mulch beds, etc. Enclaves, islands, riparian wildlands, and decorative vegetation corridors are also interspersed with structures and subdivisions throughout the community. These create significant opportunities for wildfires to ignite, establish, and destroy structures. Wildfires will continue to threaten values at risk within Teton County despite all efforts to prevent them from occurring. However, stakeholders can and should take proactive measures to mitigate (reduce) this threat.

Table 6 shows the vulnerable components of a structure that can contribute to ignition during wildfire.

Table 6: Vulnerable Components of a Structure

Roofing	Roof construction and maintenance has been a key factor in structure loss in many fires. It is not just the type of roofing material, but also the design, construction details, the condition of the material, and whether the roof is clear of burnable material (e.g., pine needles and other debris). Gutters collect debris and vegetation and should be considered in evaluation of the roof system.
Garages	Garages with gaps at the top, bottom and edges of doors allow firebrands to enter. Oftentimes garages contain combustible materials that can enhance ignition potential. Garages usually have vents at various locations, especially if they contain gas furnaces or hot water heaters. These vents can be easy entry points for embers.
Siding	Combustible siding can provide a pathway for flames to reach vulnerable portions of a structure, such as the eaves or windows. Siding needs a source of ignition, which in many cases includes vegetation, wooden decks, and fences, or stacked firewood or other combustible material in close proximity to a structure. This can provide a heat source that can ignite siding.
Vents	Soffit vents in the eaves are an easy entry point for wind-driven burning embers during a wildfire. Attic fires are not easily detected from the outside, and structures have been lost when fire personnel have left the scene unaware that a fire has ignited within the attic.
Windows	Unprotected and inadequate windows can be another major entry point for fire. Windows broken by airborne materials or cracked by thermal expansion during a wildfire ignite materials in the structure through radiation, convection, and/or firebrands.
Joints and Angles	Joints, inside corners, and roof valleys all become areas where flammable debris (e.g., pine needles, bird's nests) have collected over time. Burning embers can land on this debris, igniting it. These areas can also be a collection point for multiple embers which creates a larger ignition threat to the underlying material.
Crawlspace Vents	If not adequately screened, these areas, not just under a structure but also under decks and other attachments, are difficult to protect. Much like vents in the attic, firebrands enter these areas and combustible material underneath a structure can ignite.
Wood Fences	Firefighters have observed that wood fences act as a fuel source that can carry fire to a structure. Fences when attached to homes present a threat to the structure.
Wood Decks	Decks act as a source of fuel attached to or directly adjacent to structures. When ignited by wildfire, the radiant and convective heat output can ignite structures. In addition, most decks are adjacent to large windows or glass sliders, and the heat from a deck fire can cause the glass to fail, allowing the wildfire to enter a structure.
Landscape Vegetation/Debris	Flammable landscaping and/or combustible items such as firewood or debris piled in close proximity to the house. As a result, structures are more susceptible to ignition when exposed to significant radiant and convective heat from burning material.
Defensible Space	Defensible space is the space between a structure and the wildland or neighboring structure that, under normal conditions, creates a sufficient buffer that modifies the spread of a wildfire to a structure. Defensible space can protect a structure from direct flame impingement, radiant heat, and reduce the number of burning embers and is essential for structure survivability during wildfires.

6.3.1 Structural Resiliency Guidance

In the event of a wildfire, firefighting resources may quickly be overwhelmed. The resources available will not be sufficient for the number of structures or values at risk. Firefighters may not be safe to protect structures due to various factors (e.g., defensible space, fire intensity, weather conditions, local topography, access issues, lack of water supplies, etc.). The survivability of a structure in a wildfire event may depend on the overall resilience of the property.

Most actions to reduce a structure's ignition potential are associated with the structure itself and the surrounding environment from 5 - 100 feet out from the structure. The primary responsibility for protecting a structure lies with the property owner and is the area within the Home Ignition Zone (HIZ). See Figure 55 for a representation of the HIZ area.

The HIZ includes the structure and everything from the foundation to 100 feet, depending on fire behavior conditions (NFPA, 2021) and NFPA recommendations. Within this 100-foot area, there are three (3) zones.

+ **Zone 1:** 0-5 feet encompasses the structure and all its attachments (e.g., wooden decks, fences, and patios) for at least five (5) feet on all sides. The first five (5) feet is considered the “ember-resistant” zone. In this area:
  - Avoid planting or allowing any vegetation to grow. This includes refraining from allowing wood mulch, woodpiles, combustible trellises, and stored items. This is an excellent location for walkways, or hardscaping with pavers, rock mulch, decomposed granite, or pea gravel. This should include a six-inch noncombustible zone between the ground and the start of the building’s exterior siding.
  - Ornamental and wildland vegetation should be carefully spaced, low-growing, well-watered, and free of resins, oils, and waxes that burn easily.
  - Prune trees from the ground up to approximately a third of the canopy height. The concept is to separate branches and canopy from ground and surface fuels.
  - Regularly mow the grass.
  - Create space between tree crowns and trim any branches that overhang the house.
  - Remove dead vegetation and combustible piles under the deck and refrain from storing firewood near structures.
  - Consider fire-resistant material for patio furniture, etc.
  - Water the vegetation, and mulch regularly.
  - Consider xeriscaping.

+ **Zone 2:** 5-30 feet from home, and vegetation in this zone should be low-growing, well-irrigated, and less flammable. In this area:
  - Leave 30 feet between clusters of two (2) to three (3) trees, or 20 feet between individual trees.
  - Encourage a mixture of deciduous and coniferous trees.
  - Create breaks in vegetation, such as driveways, gravel walkways, and lawns.
  - Prune trees 1/3rd of the canopy height above the ground.
+ **Zone 3:** 30-100 feet from home. Thinning in this area should occur, although less thinning is required than in Zone 2. In this area, provide the following:
  - Thin vegetation and remove heavy combustible growth, ground litter, and debris accumulation.
  - Reduce the density of tall trees so canopies are not touching.

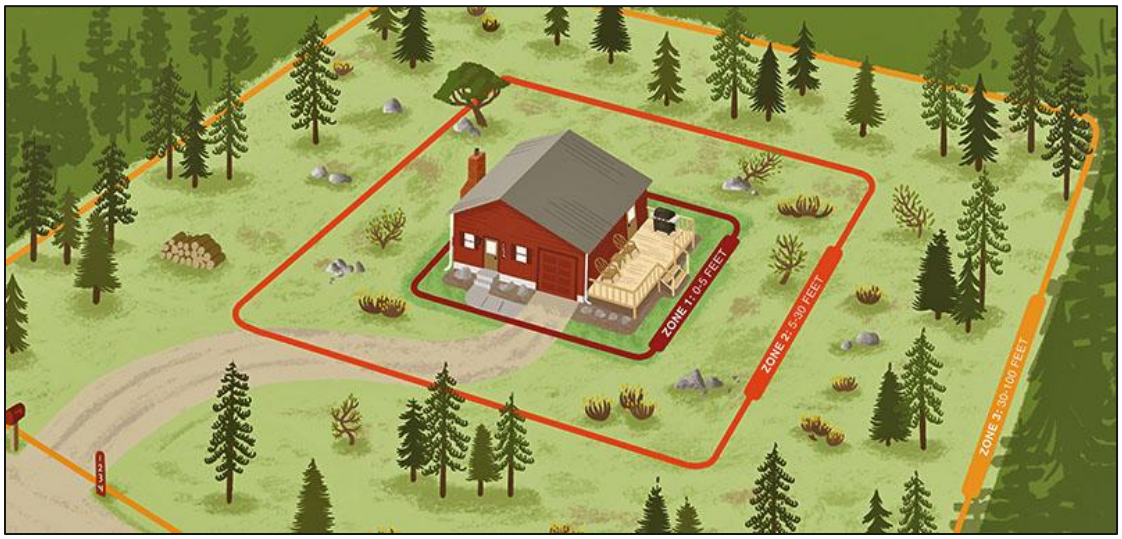


Figure 35: Defensible Space Zones

RECOMMENDATION

Provide

- Provide guidance and resources for residents to protect their homes and businesses through structural hardening measures.

6.3.2 International Wildland Urban Interface Code Adoption

The county has no regulations requiring certain wildfire-resilient construction features for new developments and construction. The International Wildland-Urban Interface Code (IWUIC) is a model code that requires defensible space and hardened structure elements based on the classification of ignition-resistant construction. The county should explore options to adopt the IWUIC with amendments as appropriate that accommodate Teton County and reduce the susceptibility to ignition of new construction.

RECOMMENDATION

Adopt

- Adopt and ammend as appropriate the International Wildland Urban Interface Code for new construction and homes located within the defined WUI and/or wildfire prone areas.

6.4 RESILIENT LANDSCAPES

This section summarizes the fuel treatment strategy for the county's Planning Area. It is based on providing enhanced wildfire protection for the community while protecting visual, biological, and cultural resources. This strategy offers broad directions on where and how to manipulate vegetation to reduce wildfire hazards. While the local jurisdictions and county, state, and federal agencies play an important role in fuel mitigation, the most significant responsibility for improvements in the protection of the community rests with individual property owners. Developing adequate defensible space and structural hardening is an everyday need in most locations evaluated for this plan and is a priority.

Fuel treatments are conducted using a strategic plan and treatment techniques. These strategies and techniques are selected based on the fuel types, topography, and the type of protection best suited for the area. The following sections outline the different strategies and techniques and the environments in which they are best suited. These are not the same as prescriptions. The prescriptions will use methods and techniques to provide specific treatment parameters for an area based on the vegetation of the identified region. Some combinations of different approaches may be applicable depending on the size and scope of a project.

6.4.1 Fuel Treatment Strategies

Fuel breaks are natural or manmade changes in fuel characteristics that affect fire behavior so that fires burning into them can be more readily managed. In addition to slowing the spread of fires, fuel breaks provide firefighters with anchor points to begin or tie in control lines during fire suppression efforts. The reduced fire intensity through these areas allows firefighters a safer place to operate during a fire and increases the defensibility of the adjacent regions. There are three (3) subcategories of fuel breaks: Shaded fuel breaks, non-shaded fuel breaks, and ingress/egress (evacuation corridors) fuel breaks. The Helena–Lewis and Clark National Forest (Rocky Mountain Ranger District) utilizes Potential Operational Delineations (PODs) to support wildfire management planning. PODs use natural and human-made features such as roads, ridges, and rivers to identify strategic locations for wildfire containment and fuel treatment implementation. This system recognizes roads, ridges, rivers, and other natural features to help delineate areas where wildfire and fuels management projects can be implemented or managed most effectively.

6.4.1.1 Fuel Breaks

+ **Shaded Fuels Breaks:** Fuel breaks are built in timbered areas. The trees on the break are thinned and pruned to reduce the fire potential, yet retain enough crown canopy to make a less favorable microclimate for surface fires. This includes the removal of ladder fuels, downed and dead vegetation, and surface litter.
+ **Non-Shaded Fuel Breaks**: Fuel breaks are built in timbered areas that are thinned to remove vegetation, including the canopy, to reduce fire potential. These are sometimes called "fire breaks."

Figure 36: Example of a Non-Shaded Fuel Break

- **Ingress/Egress Route Fuel Breaks**: Fuel breaks are built adjacent to roadways to reduce fire intensity directly adjacent to the roadway, allowing for safe ingress/egress. These breaks are critical to the life safety of both civilians and firefighters.
- **Potential Operational Delineations** (PODs) are pre-determined boundaries created to identify the safest and most effective places to control wildfires and areas where fuel treatments can be most effective. These PODs also allow fires to be managed in small areas using natural and human-made features. The USFS has developed PODs, which should be considered in fuel treatment planning and suppression efforts.

6.4.1.2 Defensible Space

Defensible space is the area around homes or structures treated to reduce the structure's ignition potential. This includes removing vegetation and other combustible materials around the structure. Defensible space allows firefighters a safe space to operate during wildfire tactically, but does not guarantee the survivability of the structure.

Figure 37: Example of a Shaded Fuel Break to Create Defensible Space

Defensible space should be provided within the Home Ignition Zone (HIZ). More information about the HIZ can be found at the National Fire Protection Association website: https://www.nfpa.org/Education-and-Research/Wildfire/Preparing-homes-for-wildfire**.**

6.4.1.3 Private Ownership Lands Recommendations

Over 50% of the land within the Planning Area is managed or owned by private individuals. Mitigation and fuel management for wildfires are the responsibility of the individual property owners; however, collaborative efforts and cross-boundary projects can be implemented and encouraged.

+ Follow defensible space and structural hardening direction.
+ Remove fire-susceptible fuels, grass, and shrubs from the defensible space zones.
+ Remove all combustibles within five (5) feet of a structure. The first five (5) feet from a structure are the most susceptible to wildfire. This area should be free of combustible material of any kind.
    - A recent study focused on the flammability of landscape mulches found that all the mulches evaluated were combustible under the test conditions of dry, hot, and windy weather and when the mulches had been exposed outdoors for more than 2½ months (Smith 2011, Combustibility of Landscape Mulches, University of Nevada Extension, Reno). Key recommendations from the study are:
+ Maintain a noncombustible, ignition–resistant area immediately adjacent to the house (5-foot zone) and other structures. During wildfires, embers may accumulate in this area, providing an ample ignition source for combustible materials.
+ Composted wood chips provide the least fire hazard of the eight mulch treatments tested and would be a better choice for use in a residential landscape in the 5-foot zone. Rock is the most preferred.
+ Implement fuel management/mitigation treatments on large parcels. Property owners should consider using Vegetation/Fuel Treatment Prescriptive Guidelines, such as **https://www.nfpa.org/education-and-research/wildfire/firewise-usa**. These proven best practices and recommendations can help improve defensible space and reduce wildfire intensity.

6.4.2 Fuel Treatment Methods

6.4.2.1 Burning

Broadcast burning is a very efficient and effective method for reducing slash and surface fuels and helps improve forest health across a landscape. Burning supports natural forest ecology and allows fire-dependent plants, shrubs, and trees to flourish. Burning of any kind in the State of Montana does require a permit, notification of the burn, and other requirements depending on the month of the burn. For additional information regarding Open Burning, please refer to the Montana DNRC, the **Montana Department of Environmental Quality**, and all **Western Montana Zone Requirements**.

Broadcast Burn

This method of treatment is typically cheaper than mechanical or human labor used for fuels removal where fire is implemented across a larger defined area to meet the objectives of a site or forest stand. Weather conditions limit opportunities to conduct burns and require careful planning and execution.

Understory Burning

A prescribed fire ignited under the forest canopy that targets the consumption of surface fuels (litter, needles, grasses, and shrubs). This tactic of burning is a low-intensity fire designed not to burn the tree canopy and is often used as an adjunct to thinning and /or pile burning to reduce the surface fuels further. It kills invasive plants and unwanted seedlings many times, enhancing the overall health and resiliency of the stand.

Pile Burning

Pile burning involves stacking slash and litter into piles. These piles are then ignited and monitored until the material has been consumed. Pile burning is an efficient and inexpensive way to remove biomass, but removing and stacking the slash still requires labor. Pile burning reflects the same challenges as broadcast burning. Still, it is less complex and can be achieved during winter when snow is on the ground or weather conditions are conducive to smoke ventilation.

6.4.2.2 Mechanical

Mastication

Mastication involves using specialized machinery to grind trees, shrubs, and litter into wood chips broadcast onto the forest floor. This method is more time-efficient than hand thinning but can be costly due to the need for specialized machinery and operators. Special care must also be taken to ensure chip depth does not exceed four (4) inches. Chips deeper than four (4) inches can suffocate new growth and create lasting smoldering effects when wildfire burns through masticated areas. Mastication compacts fuels, reducing fire intensity and spread rates, and allows for the decomposition of undesired woody biomass.

Figure 38: Example of Mastication Machinery

Mowing

Regular mowing reduces the intensity of fire in light, flashy carrier fuels like native grasses. Keeping grass short, especially adjacent to roadways and structures, is critical for slowing fire growth and reducing wildfire intensities. Mowing is labor-intensive and requires maintenance for the treatment to be effective. Mowing can be completed with equipment or through grazing with livestock.

Hand Thinning and Stacking

This technique involves manually removing and piling ladder fuels, standing dead, small-diameter trees, and slash. This practice usually allows larger tree trunks to be harvested and utilized. The bioproduct, slash, or undesired trees are then piled for processing. The piles are either removed, chipped, or burned. This process is very labor-intensive, but it is still an effective method of reducing fuel loading.

Figure 39: Thinned Timber Stand

6.4.2.3 Grazing

Grazing with cattle, goats, yaks, or other livestock animals accomplishes the same objectives as mowing. It is an environmentally friendly option and has minimal impacts on the landscape if livestock is not limited to an area

for long periods. Grazing with livestock is an effective way to manage the grass in high-risk areas and areas with steep terrain where machinery is inoperable.

6.4.2.4 Biomass Removal

Biomass removal is an issue for Teton County. Establishing biomass removal plans and programs (burning, chipping, disposal) is critical to help incentivize landowners to perform mitigation actions and remove fuel from areas with wildfire risk. Without biomass removal, mitigation efforts do not reduce risk; they transfer it. In some cases, biomass is stored in slash piles, which creates a concentrated fuel load of dried and cured fuels with the potential for high fire intensity and increased ember production or lasting smoldering impacts during wildfire. Every effort should be made to work between agencies and landowners to develop reasonable methods for removing biomass.

Examples of biomass removal include chipping programs, pile burning, selling for manufacturing or repurposing, and air curtain burners. Buck and rail fencing, snow fencing, and other creative means of use can be implemented to reduce biomass produced during mitigation. Biomass removal is a critical function of mitigation efforts and must be a part of the planning process for any project.

6.4.3 Fuel Treatment Costs

Fuel treatment costs vary depending on the project's scope, topography, fuels, type of treatment, fuel costs, availability of contractors, and environmental concerns. Research should be conducted on the most cost-effective and appropriate treatment solutions to accomplish the project's objectives in writing prescriptions for fuel treatment projects. Some projects can be done on homeowners' property for a limited cost, while others may require a contractor and/or specialized equipment.

6.4.4 Prioritizing Fuel Treatment Activities

Several inputs and variables should determine the prioritization of projects. Data from the wildfire hazard assessment, projected flame length, community input, boots on the ground analysis, existing fuels treatments, collaboration potential, and fire history have been evaluated to determine the projects that will give the county the most feasible opportunity to meet management and fiscal objectives. These recommendations refer to the projects that will provide the greatest increase in resiliency and the largest decrease in life and property loss.

Projects that can potentially reduce risk through multiple components should be prioritized. Fuels reduction projects that have the potential to minimize the risk to community values, impact from the hazard, and probability of occurrence should be considered to have the greatest cost-to-value ratio for community-wide risk reduction efforts.

Table 7: Potential Mitigation Measures

Community Values Mitigation	*Hazard Mitigation*	*Occurrence Mitigation*
+ Structural Hardening + Reduced Structure Density + Firewise/HIZ + Evacuation Capability + Community Notification Systems	+ Fuel Reduction + Early Detection and Suppression + Irrigation	+ Lightning Protection Systems + Public Education + Fire Restrictions

Fuel treatment units should be designed to protect identified values at risk. This is not an exhaustive list, but it provides a starting point for a more targeted fuel management program that can expand over time. By developing a public/private network of fuel treatments, the county can further reduce the unwanted consequences of wildfire.

Teton River Valley

This corridor follows the Teton River west of Choteau into the Rocky Mountain Front, where dense conifer stands, limited access, and steep slopes converge. The area supports dispersed residences, agricultural infrastructure, and recreational use and serves as the canyon's primary ingress/egress route.

+ **Camp and Residential Areas**: Significant fuel reduction is needed around church camps, recreational facilities, and homes within the corridor. These sites are vulnerable due to high seasonal populations and limited evacuation access. Creating a survivable space using aggressive thinning, pruning, and ladder fuel removal is essential. Structure hardening and Home Ignition Zone (HIZ) practices should be prioritized to increase defensibility.
+ **Roadside Treatments**: The narrow, winding gravel road through the canyon presents major evacuation and access risks during wildfire. Vegetation directly adjacent to the roadway should be aggressively thinned to reduce radiant heat and flame lengths. As treatments extend away from the roadway, they should transition to lighter-touch management that blends with the natural landscape. Ladder fuels and dense timber stands should be reduced to improve effectiveness and responder safety.

Western Foothills-Rocky Mountain Front

The foothills west and southwest of Choteau (e.g., Blackleaf, Deep Creek, South Fork Teton) represent the highest wildfire hazard in Teton County due to fuel loading, topography, and limited road access. These areas are high priorities for strategic landscape treatments.

+ **Corridor Treatments**: Fuel breaks should be developed along key access corridors and adjacent to values at risk. Aggressive thinning should occur along roadways, with more moderate treatment scaling into the adjoining forest. Removing ladder fuels and dense, overgrown timber will reduce crown fire potential and improve egress during fire events.

Choteau Wildland-Urban Interface

The WUI surrounding Choteau includes scattered rural development, critical infrastructure, and agricultural facilities. While less forested than the western zones, pockets of conifer and riparian vegetation still exist that could sustain intense fire.

+ **Fuel Management in Interface Zones**: Treatments should create defensible space around structures and infrastructures, especially where vegetative fuels encroach on homes or facilities. Depending on the dominant fuel type, strategic thinning, mowing, and grazing can be used. Roads like Bellview, Airport Road, and Eureka Reservoir access routes should be evaluated for treatment to support emergency response and evacuation.

Forest Service Boundary-North and South Fork Willow Creek

The transition zone between private lands and U.S. Forest Service holdings is critical for fuel management. Steep slopes, continuous timber, and limited access roads create concerns about fire spreading into private property.

+ **Shaded Fuel Breaks**: Fuel breaks should be developed along private/forest boundaries near key access routes. These should include shaded fuel breaks that reduce fire intensity and limit smoke production. Ladder fuels should be eliminated, and crown separation should be increased to reduce the risk of extreme fire behavior.

Rocky Mountain Front-Teton Canyon Recreation Zone

This zone includes high-use trailheads, outfitter camps, and the Benchmark Wilderness Complex gateway. The mix of public recreation and scattered private holdings makes evacuation planning and treatment coordination essential.

+ **Interface Fuel Breaks**: Strategic shaded fuel breaks and defensible zones should be created near trailheads, outfitter operations, and key ingress/egress roads. Due to frequent human activity and proximity to high-hazard fuels, maintaining fuel breaks through mastication or prescribed fire will reduce risk.

Rural Communities: Bynum, Pendroy, and Power

+ Despite being in lower-risk grassland and agricultural areas, these communities often feature windrows, tree rows, and shelterbelts, which are fuel concentrations located close to structures.

+ **Community Perimeter Treatments**: Implement shaded fuel breaks in tree-dense areas above or adjacent to communities, especially around homes with poor access or defensibility. Removing diseased or dead trees, thinning overgrown stands, and eliminating ladder fuels will reduce ember production and structure risk.

Eastern Timber Corridors-Muddy Creek and Deep Creek

These corridors east of the Rocky Mountain Front have narrow roads and vegetated draws with moderate wildfire hazard.

+ **Evacuation Routes and Structure Defense**: Focus fuel treatments on creating defensible space around homes and reducing vegetation along Homestead Road and its feeder routes. Dense timber in low-lying

drainage areas and along roadways should be thinned to improve safety for both evacuees and emergency responders.

6.5 POST-FIRE ASSESSMENT/BAER

Post-fire damage assessments and emergency stabilization through the Burned Area Emergency Response (BAER) framework are critical aspects of wildfire response/recovery. Response to a wildfire event does not begin or end with fire suppression. Generally, the BAER is a post-fire stabilization team that assesses damage and initiates rehabilitation in and around the burn scar. This effort is a long-term process, taking many years for some fires. Post-fire recovery should begin while the fire is still active. Suppression tactics may be adjusted to enhance the recovery effort. Examples might be water conservation, burnout operations, water bars and trenches built during firefighting operations, or the controlled use of slurry near watersheds.

A plan should be developed to guide how the county will handle post-fire damage assessments, area stabilization, and recovery. This plan should include the BAER program and a process to implement recovery planning into the incident command structure. Post-fire recovery should be included in the planning section of the incident management structure. This includes monitoring fire behavior and burn severity in real time, identifying environmental damage, and initiating recovery efforts.

The recovery plan should also include personnel designated for conducting post-fire damage assessments as soon as it is safe. Providing an efficient, coordinated response for post-fire stability is equally as critical as the suppression activities. It could reduce the potential for long-term adverse effects on the landscape, particularly watersheds and community infrastructure.

Figure 40: Post Fire Recovery

7.0 Recommendations

Teton County, Montana, is taking proactive steps to reduce wildfire risk and strengthen community preparedness. This section highlights the county's priorities for improving resilience through coordinated planning, effective communication, fuel reduction, and readiness measures.

KEY FOCUS AREAS

- **Community Action Planning** – Developing coordinated strategies that engage residents, agencies, and stakeholders in wildfire preparedness and mitigation.
- **Area Notification Systems and Social Media** – Expanding emergency alert capabilities and improving the use of digital platforms for timely, accurate information sharing.
- **Landscape Scale Vegetation Management** – Reducing hazardous fuels across public and private lands to protect communities and critical resources.
- **Emergency Response Readiness** – Ensuring local agencies have the training, equipment, and coordination needed for rapid, effective wildfire response.

7.1 COMMUNITY ACTION PLAN

A Community Action Plan is a necessary tool to help identify priorities for management of the hazards and risks of wildfires in the Planning Area over the next three (3) to five (5) years. These include community education and communication, emergency planning, improving structural resilience, fuel management, evacuation preparedness, and recovery. Part of the Community Action Plan is finding sustainable funding sources to accomplish meaningful work throughout the county.

The Teton County Community Action Plan aligns with the National Cohesive Wildland Fire Management Strategy, which focuses on creating resilient landscapes, fire-adapted communities, and safe wildfire response.

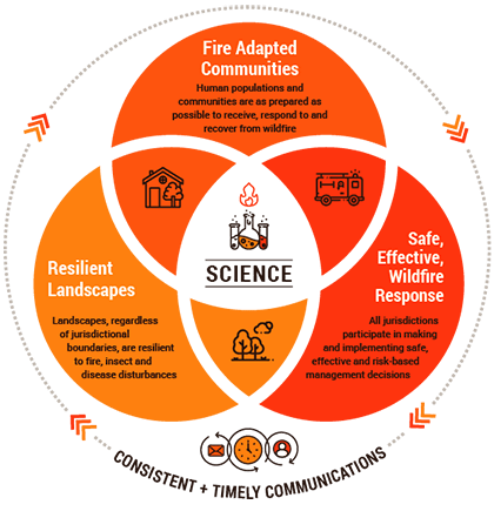


Figure 41: National Cohesive Wildland Fire Management Strategy

Table 8: Community Action Plan

Objective	*Action*	*Responsible Official*	*Target Date*	*Status*
Public Education	Create a public messaging campaign targeted at wildfire preparation.	Fire Departments, DNRC	December 2025	
	Conduct “walk and talk” meetings with HOAs or similar groups to demonstrate recommended mitigation practices and answer questions about fuel mitigation on private property.	Fire Departments, DNRC	May 2026	
	Conduct HIZ assessments with Neighborhood Ambassadors to expand the reach of education efforts.	Fire Departments, DNRC	Ongoing	
	Educate the public on grants, tax credits, and other potential funding sources to remove hurdles for mitigation projects on their personal property.	Fire Departments, DNRC	May 2025	
Evacuation	Conduct roadside fuel treatment projects. Where possible, mitigation on both sides of the roadway is recommended to reduce the potential of spotting across roadways.	Land managers and the County	Ongoing	
	Promote the use of the Ready! Set! Go! Program.	Teton County DES	Ongoing	
	Create a program to identify Temporary Refuge Areas (TRA) and educate the public on their use, including notification procedures for using these areas.	Fire Departments, DNRC	May 2026	
	Evaluate where improvements can be made to existing rights-of-way to improve evacuation capability.	Teton County DES and Road and Bridge	July 2026	
	Implement improvements to the existing right-of-way.	Teton County Road and Bridge	Ongoing	
Evacuation (Continued)	Review and update the existing Teton County Emergency Operations Plan.	Teton County DES	Annual	
	Develop a plan to increase the capability for livestock evacuations through shelter locations and livestock transportation.	Teton County DES	April 2026	

Objective	*Action*	*Responsible Official*	*Target Date*	*Status*
Fuel Treatment	Monitor the progress of recommended priority projects in Section 6.4.4 and update them as necessary.	Teton County DES	Annual	
	Identify opportunities to leverage programs like the Good Neighbor Authority and other opportunities to collaborate across agencies for fuel treatment projects.	All agencies	Ongoing	
	Pursue funding opportunities for mitigation projects through multiple avenues, including grants, taxes, mill levies, and other potential sources.	Local Agencies and land managers.	Ongoing	
	Establish biomass removal programs across the county to assist homeowners in reducing the risk to their personal property.	Teton County DES and Fire Departments	June 2026	
Infrastructure Hardening	Develop a plan to harden critical infrastructure assets, including electric distribution, communication systems, public utility infrastructure, hospitals, schools, temporary refuge locations, etc.	Teton County DES	December 2025	
	Implement the hardening of the critical infrastructure plan.	Teton County DES	Ongoing	
Structural Hardening	Provide guidance and resources for homeowners to protect their homes through structural hardening measures.	Teton County DES and Fire Departments	January 2026	
	Adopt the International WUI Code for new construction, homes, and businesses.	Teton County Building Department	December 2026	
	Adopt an addressing ordinance to require minimum address markings following Chapter 13 of NFPA 1140 for Premises identification.	Teton County Building Department	December 2026	
Planning	Develop a list of dry hydrants and cistern locations throughout the county to create a comprehensive database of water supply locations.	Teton County DES, Fire Departments	October 2025	

Objective	*Action*	*Responsible Official*	*Target Date*	*Status*
Planning (Continued)	Conduct inspection, testing, and maintenance of dry hydrants and cisterns throughout the county to ensure these water supplies are operational when needed.	Fire Departments	Ongoing	
Resident Recommendations	Increase Home Ignition Zone resilience by implementing vegetation management and structural hardening on individual properties.	Teton County Residents	Ongoing	
Funding	Establish reliable funding resources outside of grants for conducting mitigation projects, increasing fire protection district staffing and resources, increasing funding for the wildfire mitigation council, and expanding education programs within the county.	Teton County DES, Fire Departments	Ongoing	

7.2 AREA NOTIFICATION SYSTEM + SOCIAL MEDIA

Teton County Alerts (CodeRED)

Teton County Alerts is operated through the CodeRED platform. The county contracts this service to allow the immediate mass distribution of critical information and instructions in case of large-scale disasters, such as wildfires, major road closures, evacuations, or other catastrophic incidents.

Residents can register cell phone numbers (for voice and text messages), home or work phones, or email addresses to receive time-sensitive emergency messages on multiple devices, regardless of location.

More information and registration can be found here: **https://public.coderedweb.com/CNE/en-US/BFB7CC4C6C0A**

Integrated Public Alert and Warning System (IPAWS)

IPAWS is the primary method for distributing emergency alerts for most emergencies, as it does not require registration. It includes Wireless Emergency Alerts (WEA) on cell phones. IPAWS is a national system managed by FEMA.

National Weather Service (NWS)

The NWS transmits continuous weather information on 146.425 MHz and 146.525 MHz frequencies. NWS severe weather broadcasts are preceded by a 1050 Hz tone that activates weather monitor receivers equipped with decoders. The NWS can also access the National Warning System to announce severe weather forecasts.

RECOMMENDATIONS

Inform

- Continue to inform the public of emergency notification systems.
- Encourage all residents to register for emergency notification systems.

Monitor

- Continue to monitor the effectiveness of each program.
- Perform tests and ensure the system is functioning and readily available for emergency managers.

Social Media Programs

Local agencies use social media to keep stakeholders updated on events, advisories, and alerts. Below is a list of the primary social network links for emergency preparedness in Teton County.

Table 9: Social Media and Media Programs

Source	*Weblink*
Teton County Sheriff's Office	https://www.facebook.com/profile.php?id=100069341434042
Choteau Volunteer Fire Department	https://www.facebook.com/chouteau.firedept/

RECOMMENDATIONS

Expand

- Expand social media presence throughout the county for use in distribution of wildfire risk reduction messaging and evacuation notifications.

Reach

- As a shift towards social media use for information gathering continues to become more common, having a robust social media presence will allow the county to reach a broader audience.

7.3 LANDSCAPE SCALE TREATMENTS

The following projects are identified as having county-wide significance and should be prioritized by Teton County. These projects—defined by location, not specific prescriptions—are based on wildfire modeling, historical fire patterns, input from the public, land management agencies, and local fire response personnel. Each project area should develop a site-specific prescription, tailored by the responsible party or contractor based on local fuels, access, and values at risk.

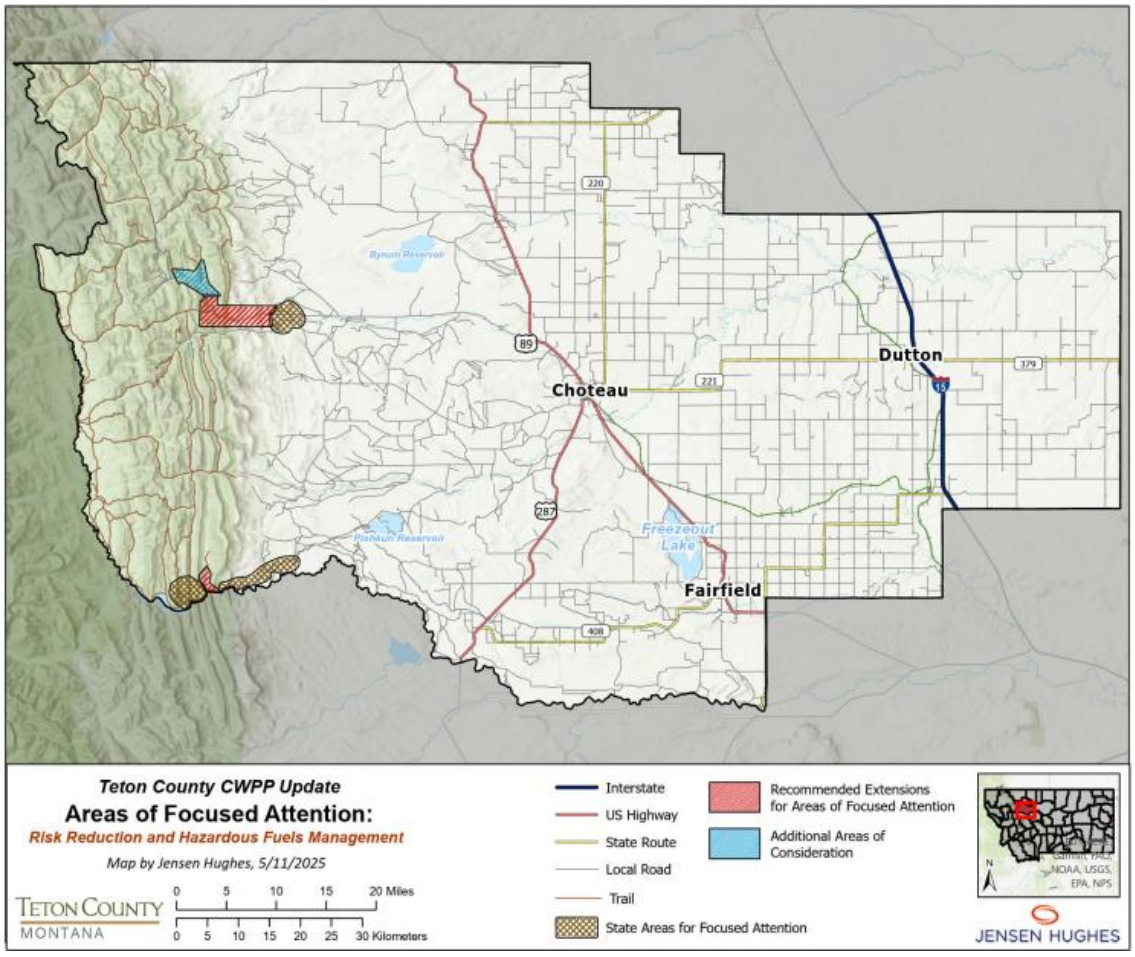


Figure 42: Proposed Fuel Treatments

7.3.1 Priority Projects, Costs and Agencies

Teton County's Community Wildfire Protection Plan (CWPP) establishes a coordinated strategy to mitigate wildfire risk through fuel management, home hardening, community education, and multi-agency collaboration. This plan leverages the strengths of various local and state partners to prioritize projects, secure funding, and ensure effective implementation of wildfire mitigation measures. With wildfire risks increasing across Montana, the CWPP is critical to safeguarding homes, infrastructure, and natural resources while enhancing community preparedness and resilience.

Implementation involves several key agencies working in concert. The Teton Conservation District provides homeowner assistance and cost-share grants; the Teton Area Wildfire Protection Coalition coordinates priorities across stakeholders; the Montana Department of Natural Resources and Conservation (DNRC) offers technical support and grant funding; local fire departments manage response and outreach; and the Teton Wildfire Mitigation Team delivers specialized planning and education services. Current priority projects include home ignition zone treatments, prescribed burns, and home hardening efforts. While much of the planning and funding is grant-supported, the CWPP emphasizes shared responsibility among landowners and agencies to maximize wildfire risk reduction.

Table 10: Recommended Implementation Schedule

Project Name	*Acreage / Units*	*Total Cost*	*Funding Status*	*Lead Agency / Partners*
Fairfield Home Ignition Zone	40 acres / 15 homes	$90,000	Fully funded	Teton Conservation District, Local Fire Departments
Teton North Prescribed Burn	300 acres	$200,000	70% funded ($140,000)	Montana DNRC, Teton Area Wildfire Protection Coalition
West Bench Home Hardening	22 homes	TBD	Funding in progress	Teton Conservation District, Local Fire Departments
Home Ignition Zone Assessments	N/A	Varies	Ongoing	Teton Conservation District
CWPP Development & Updates	N/A	$60,000-$100,000	Grant-supported	Montana DNRC
Wildfire Mitigation Education & Evacuation Planning	N/A	Varies	Ongoing	Teton Wildfire Mitigation Team

7.3.2 Additional Projects in Priority Areas

The following section contains recommendations on additional measures within the priority areas to increase resiliency for the community. These recommendations are not focused on vegetation management, but rather on a holistic approach to resilience.

Remote Camps and Retreats

Camps and recreation lodges within the Teton River corridor and Rocky Mountain Front interface require immediate risk mitigation.

- **Evacuation Planning**: Camps should coordinate with emergency services to develop and drill evacuation procedures, including designated transportation, parent notification systems, and meeting points. Shelter-in-place plans must be created in case safe evacuation is not possible.
- **Structure Hardening**: Property owners should implement structure hardening using non-combustible materials, ember-resistant vents, and defensible landscaping.

Roadway Improvements

The county's road network includes many narrow, gravel, and unimproved roads that present hazards during wildfire response and evacuation.

- **Infrastructure Assessment**: The county should assess opportunities for road widening, bridge improvement, and surface upgrades in high-risk areas. Temporary Refuge Areas (TRAs) should be identified near remote areas and signed for use during emergencies when evacuation is not feasible.

Industrial Sites-Agricultural and Energy Infrastructure

Several large agricultural operations, grain facilities, and energy infrastructure exist.

- **Contingency Planning**: Operators should establish or refine evacuation and shelter-in-place protocols for workers and livestock. Consideration should be given to smoke infiltration, defensible space around buildings, and backup communication systems.

Home Ignition Zone (HIZ)

Throughout all treatment areas and private lands in the county, residents are encouraged to apply HIZ best practices.

- **Education and Support**: County-led outreach should provide technical support, cost-sharing opportunities, and education to promote defensible space, structure hardening, and home retrofit actions. These actions remain the most effective and affordable means of wildfire loss reduction.

7.4 EMERGENCY RESPONSE READINESS

In accordance with the Healthy Forests Restoration Act (HFRA) and the objectives outlined in the Community Wildfire Protection Plan (CWPP) for Teton County, Montana, emergency response readiness is a critical component of the county's wildfire risk reduction strategy. This readiness ensures that local, state, and federal partners can rapidly mobilize and coordinate resources to protect lives, property, and critical infrastructure. A well-prepared emergency response system integrates suppression capabilities, trained personnel, appropriate apparatus, aviation assets, and law enforcement coordination to meet both wildland and structural firefighting needs across varied landscapes.

KEY COMPONENTS INCLUDE

- **Personnel** – Firefighters, emergency responders, and support staff trained to National Wildfire Coordinating Group (NWCG) and National Fire Protection Association (NFPA) standards.
- **Apparatus** – Type-appropriate engines, water tenders, and specialized equipment for wildland and structural suppression operations.

- **Air Resources** – Access to fixed-wing aircraft and helicopters for wildfire detection, suppression support, reconnaissance, and logistical operations.
- **Law Enforcement** – Local, county, and state agencies providing evacuation management, traffic control, scene security, and public safety during incidents.

Personnel

The area fire departments are staffed with volunteers. Due to the distances responders must travel and limited access to rural areas of the county, there may be a delay in suppressing a fire during the initial attack. Agencies and responders must receive notification and arrive early during fire development to contain the fire during the initial attack or the first operational period. There are areas within Teton County where the number of personnel available at any one time is insufficient to contain and control a fire that could escape an initial attack. Recently, a significant effort has been made to increase wildfire response capability and capacity. This effort should be continued. Given the modeling and assessment work completed for this document, additional tactical strategies can be improved, various resources can be staged, and training exercises can be developed to enhance initial attack response and staff capabilities further.

Apparatus

All agencies have apparatus designed for wildfire suppression. Because of the timber, steep terrain, and heavy fuel loads, a bulldozer is a critical asset in containing fires in the county. Additionally, fire departments have access to DNRC engines through a lease program. Most agencies have some capacity to supply themselves with a water source in the early stages of a fire; however, if the fire escapes, water delivery for fire suppression is a concern. In some areas, water tenders may take extended periods to arrive on the scene. Water Tenders and other heavy equipment resources should be strategically located or prepositioned during elevated fire danger.

Air Resources

Teton County DES and fire agencies are cognizant of the possibility of fire escapes during the initial attack. Air resources are invaluable because of the remote location, long response times, or delays in detecting a fire. Air support for firefighting operations is available through several Interagency Dispatch Centers (Billings, Great Falls, Lewiston, etc.) and/or the State of Montana. However, any air resources are subject to availability. Weather and assignments to other fires may limit the availability of aircraft. Air resources include fixed and rotary wings. Aircraft can be used for observing and gathering intelligence, delivering retardants and suppression agents, logistics support, and transportation of resources.

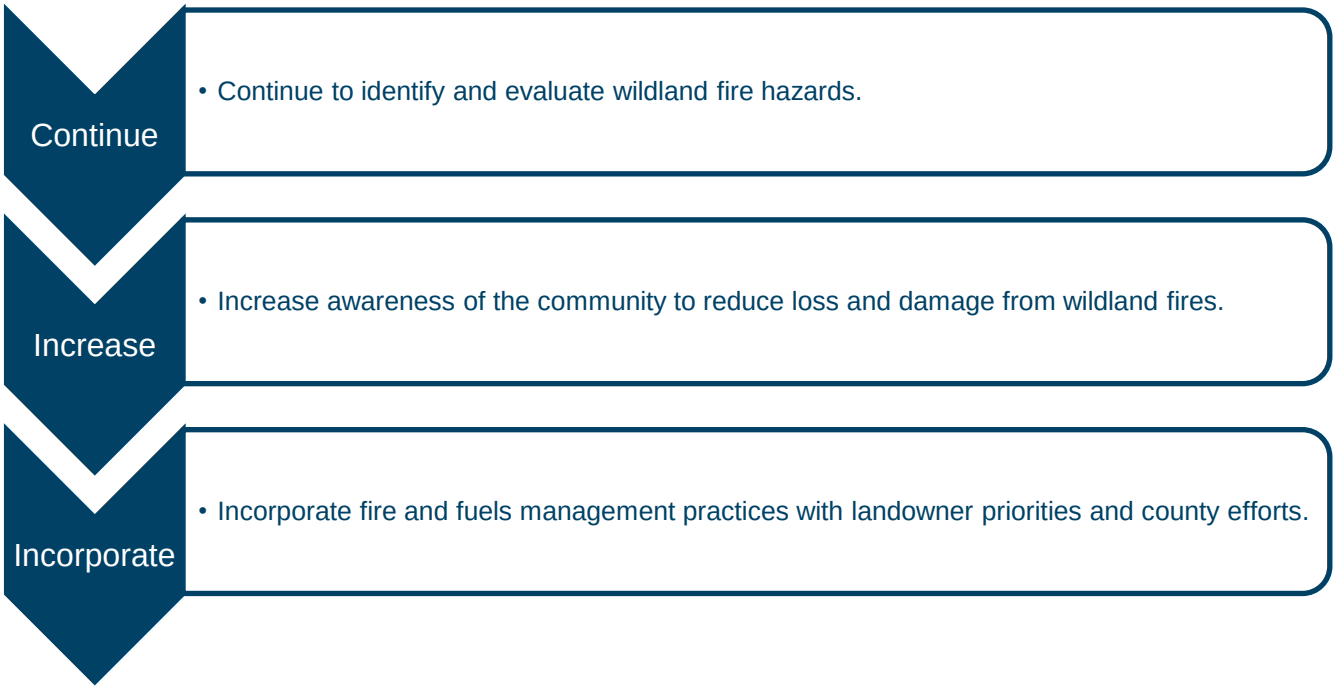
Law Enforcement

The Teton County Sheriff and other law enforcement agencies have been trained to assist with evacuations, traffic control, and scene security. Law enforcement capacity can be challenged during a fire. Deputies and officers may initially be pressed into emergency evacuation duties, and traffic management for access and egress corridors, roads, and highways may become congested. Law enforcement can also be used for security and perimeter control.

8.0 CWPP Monitoring

This CWPP is intended to provide a foundation for continued multi-agency collaboration and cooperation for fire protection planning efforts in the county. Effective monitoring of wildfire planning efforts offers essential opportunities to evaluate the overall success of the CWPP in reducing wildfire risk and improving planning processes. This plan does not end when it is adopted but evolves with a continuous cycle of collaborative planning, implementation, monitoring, and adapting strategies based on lessons learned.

Basic recommendations that will lead to a successful program are:



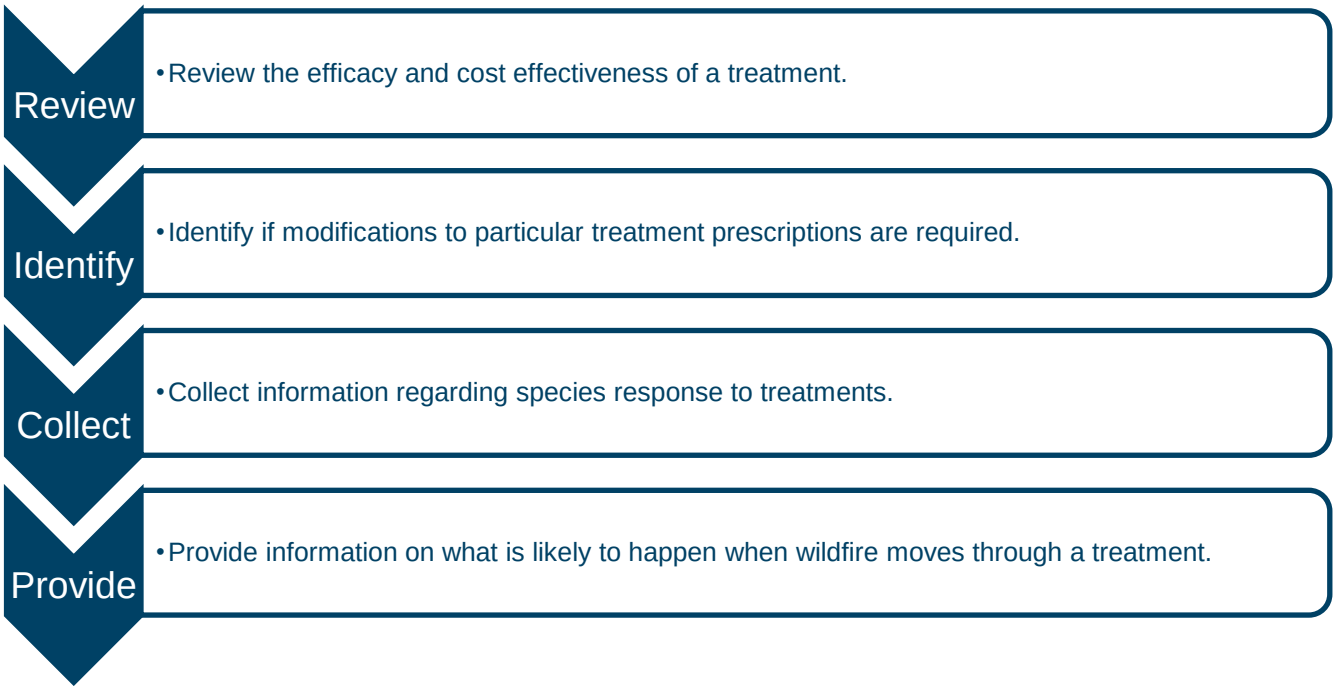
RECCOMENDATIONS

The CWPP should be constantly monitored and updated to reflect changes in conditions. At a minimum, the county should revisit the plan annually for a review and to update any changes to the environment or the community. This includes monitoring project progress for both fuel treatments and other recommended projects. The CWPP should be thoroughly reviewed and updated every 3-5 years. The process for updates should begin in year three (3) and be completed by year five (5).

8.1 FUEL TREATMENT MONITORING AND MAINTENANCE

Monitoring fuel treatments is the only way to validate that activities on the ground are progressing towards the goals of more resilient landscapes and the increased safety of people and property. Commitment to monitoring the Plan can lead to more effective fuel management programs by providing an understanding of how treatments affect wildland fire spread or protect local values at risk.

Monitoring information should be used to:



Developing targeted questions to guide monitoring can help formulate a monitoring plan. Focusing on addressing a few key questions ensures that the right information is collected to efficiently address specific objectives.

To develop an effective monitoring plan: https://iftdss.firenet.gov/landing_page/.

There are three (3) phases of fuel management monitoring: short-term, medium-term, and long-term. Short-term monitoring addresses the immediate results of a treatment, while long-term monitoring can provide information about the effectiveness of fuel treatments to enhance community wildfire resiliency.

8.2 RECENT FUEL MITIGATIONS PROJECTS

This section provides an overview of wildfire mitigation project outcomes within the county, detailing acres treated through fuels management, the number of homes hardened to enhance wildfire resilience, and the allocation and expenditure of grant funding. Tracking these key metrics enables effective monitoring of project progress, financial stewardship, and identification of areas requiring further attention to reduce wildfire risk and protect communities.

Table 11: Project Outcomes

Project Name	*Location*	*Acres Treated*	*Homes Hardened*	*Grant Awarded*	*Grant Used*	*% Grant Spent*	*Status*	*Notes*
Fairfield Home Ignition Zone	Fairfield, MT	40	15	$90,000	$90,000	100%	Complete	All grant reporting submitted
Teton North RX Burn	North Teton Co.	300	N/A	$200,000	$140,000	70%	Ongoing	Burn window delayed due to weather
West Bench Home Hardening	West Bench	N/A	22	$75,000	$20,000	27%	Early Stage	-

KEY FEATURES OF THIS DATA

+ **Acres Treated** — Tracks the extent of vegetation management activities such as thinning, prescribed burns, and defensible space creation to reduce wildfire fuel loads.
+ **Homes Hardened** — Records the number of residential structures improved with wildfire-resistant features like ember-resistant vents, fire-resistant roofing, and siding.
+ **Grant Tracking** — Details total grant funding awarded versus amounts spent, with a calculated percentage to monitor financial progress and ensure responsible use of funds.
+ **Status** — Provides a concise update on the current phase or completion level of each mitigation project.

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Appendix A - Acronyms

AHJ	Authority Having Jurisdiction
BAER	Burned Area Emergency Response
BLM	Bureau of Land Management
BLS	Basic Life Support
BMP	Best Management Practices
BTU	British Thermal Unit
CAP	Climate Action Plan
CAR	Communities at Risk
CWPP	Community Wildfire Protection Plan
DBH	Diameter at Breast Height
DHSEM	Division of Homeland Security and Emergency Management
EFF	Emergency Fire Funds
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
ERC	Energy Release Component
ESHA	Environmentally Sensitive Habitat Areas
FAA	Federal Aviation Administration
FAC	Fire Adapted Communities
FBFM	Fire Behavior Fuel Model
FBO	Fixed Base Operator
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FM	Fuel Model
GHG	Greenhouse Gas
GIS	Geographic Information System
GNA	Good Neighbor Authority
HFRA	Healthy Forest Restoration Act
HIZ	Home Ignition Zone
HOA	Homeowner’s Associations

IBHS	Insurance Institute for Business and Home Safety
ICC	International Code Council
IRPG	Incident Response Pocket Guide
IPAWS	Integrated Public Alert and Warning System
IWUIC	International Wildland Urban Interface Code
NFP	National Fire Plan
NFPA	National Fire Protection Association
NIFC	National Interagency Fire Center
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NWS	National Weather Service
PIO	Public Information Officer
POD	Potential Operational Delineations
RAWS	Remote Automated Weather Station
RCP	Representative Concentration Pathway
SPEI	Standardized Precipitation-Evaporation Index
TL	Timber Litter
TRA	Temporary Refuge Area
USFS	United States Forest Service
UTV	Utility Task Vehicle
VPD	Vapor Pressure Deficit
WERF	Wildfire Emergency Response Fund
WFDSS	Wildland Fire Decision Support System
WIMS	Weather Information Management System
WRAP	Wildfire Risk Assessment and Portal
WUI	Wildland Urban Interface

Appendix B - Glossary of Key Terms

The following describes terms and words found in or related to this plan (additional terms are available at http://www.nwcg.gov/glossary).

1-Hour Time lag Fuels (One-hour Fuels): Fuels consisting of dead herbaceous plants and roundwood less than about ¼ inch (6.4 mm) in diameter. Also included is the uppermost layer of needles or leaves on the forest floor.

10-Hour Time lag Fuels (Ten-hour Fuels): Dead fuels consisting of roundwood ¼ to 1 inch (0.6 to 2.5 cm) in diameter and, very roughly, the layer of litter extending from immediately below the surface to ¾ inch (1.9 cm) below the surface.

100-Hour Time lag Fuels (Hundred-hour Fuels): Dead fuels consisting of roundwood in the size range of 1 to 3 inches (2.5 to 7.6 cm) in diameter and very roughly the layer of litter extending from approximately ¾ of an inch (1.9 cm) to 4 inches (10 cm) below the surface.

1,000-Hour Time lag Fuels (Thousand-hour Fuels): Dead fuels consisting of roundwood 3 to 8 inches in diameter and the layer of the forest floor more than 4 inches below the surface.

Active Crown Fire: A fire in which a solid flame develops in the crowns of trees, but the surface and crown phases advance as a linked unit, dependent on each other.

Aspect: The Direction a slope faces.

Canopy Spacing: The distance from the edge of one tree canopy to another. Crown spacing varies from open (with 10 feet or more of space between tree canopies) to closed (where trees may be growing in very close proximity with little space between them).

Crown Fire: A fire that advances from top to top of trees or shrubs more or less independent of a surface fire. Crown fires are sometimes classed as running or dependent to distinguish the degree of independence from the surface fire.

Dead Fuels: Fuels with no living tissue in which moisture content is governed almost entirely by atmospheric moisture (relative humidity and precipitation), dry-bulb temperature, and solar radiation.

Direct Attack: A method of fire suppression where actions are taken directly along the fire's edge. In a direct attack, burning fuel is treated directly by wetting, smothering, or chemically quenching the fire or by physically separating burning from unburned fuel.

Fire Apparatus Access Roads (Fire Lanes): The means for emergency apparatus to access a facility or structure for emergency purposes. Roadways must extend to within 150 feet of all portions of the exterior of the first floor of any structure and must meet specified criteria for width, pavement characteristics, roadway gradient, turning radius, etc.

Fire Behavior: The manner in which a fire reacts to the influences of fuel, weather, and topography.

Fire Frequency: Temporal fire occurrence is described as the number of fires occurring within a defined area within a given time period.

Fire Intensity: A general term relating to the heat energy released by a fire.

Fire Lane Identification: Signs or curb markings that allow fire apparatus access roads to be readily recognized so that they will remain unobstructed and available for emergency use at all times.

Fire Potential: The likelihood of a wildland fire event is measured in terms of the anticipated occurrence of fire(s) and management's capability to respond. Fire potential is influenced by a sum of factors that include fuel conditions (fuel dryness and/or other inputs), ignition triggers, significant weather triggers, and resource capability.

Fire Regime: The characterization of fire's role in a particular ecosystem, usually characteristic of specific vegetation and climatic regime, and typically a combination of fire return interval and fire intensity (i.e., high frequency, low intensity/low frequency, high intensity).

Fire Return Interval: The length of time between fires on a particular area of land.

Fire Weather: Weather conditions that influence fire ignition, behavior, and suppression.

Flame Length: The distance from the base to the tip of the flaming front. Flame length is directly correlated with fire intensity.

Flaming Front: The zone of a moving fire where combustion is primarily flaming. Behind this flaming zone, combustion is primarily glowing. Light fuels typically have a shallow flaming front, whereas heavy fuels have a deeper front.

Fuel: Any combustible material, which includes but is not limited to living or dead vegetation, human-built structures, and chemicals that will ignite and burn.

Fuel Bed: An array of fuels usually constructed with specific loading, depth, and particle size to meet experimental requirements. Also, it is commonly used to describe the fuel composition.

Fuel Loading: The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area.

Fuel Model: Mathematical descriptions of fuel properties (e.g., fuel load and fuel depth) that are used as inputs to calculations of fire danger indices and fire behavior potential.

Fuel Moisture Content: The quantity of moisture in fuels expressed as a percentage of the weight when thoroughly dried at 212 degrees Fahrenheit.

Fuel Type: An identifiable association of fuel elements of a distinctive plant species, form, size, arrangement, or other characteristics that will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

Gates and Barriers: Devices that restrict pedestrian and vehicle ingress and egress to and from a facility.

Gate and Barrier Locks: Devices that are installed on gates and barriers to secure a property or facility.

Goals: A goal is a broad statement of what you wish to accomplish, an indication of program intentions.

Ground Fire: Fire that consumes the organic material beneath the surface litter ground, such as a peat fire.

Intensity: The level of heat radiated from the active flaming front of a fire, measured in British thermal units (BTUs) per foot.

Ladder Fuels: Fuels that provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. Ladder fuels help initiate and ensure the continuation of crowning.

Live Fuels: Living plants, such as trees, grasses, and shrubs, in which the seasonal moisture content cycle is controlled largely by internal physiological mechanisms, rather than by external weather influences.

Mid-flame Windspeed: The speed of the wind measured at the midpoint of the flames is considered to be most representative of the speed of the wind that is affecting fire behavior.

Objectives: They contribute to the fulfillment of specified goals and are measurable, defined, and specific.

Passive Crown Fire (Torching or Candling): A fire in the crowns of trees in which single trees or groups of trees torch, ignited by the passing front of the fire.

Safety Zone: A preplanned area of sufficient size and suitable location in the wildland expected to prevent injury to fire personnel without using fire shelters.

Red Flag Warning: Term used by fire weather forecasters to alert forecast users to an ongoing or imminent critical fire weather pattern.

Riparian: Situated or taking place along or near the bank of a watercourse.

Spotting: Refers to the behavior of a fire producing sparks or embers that are carried by the wind and start new fires beyond the zone of direct ignition by the main fire.

Strategy: The general plan or direction selected to accomplish incident objectives.

Surface Fire: Fire that burns loose debris on the surface, which includes dead branches, leaves, and low vegetation.

Surface Fuels: Fuels lying on or near the surface of the ground, consisting of leaf and needle litter, dead branch material, downed logs, bark, tree cones, and low-stature living plants.

TRA: An area where firefighters or civilians, unable to evacuate or get trapped during a fire, can take refuge for short-term relief until conditions improve and egress routes are safe to use.

Topography (Terrain): The term also refers to parameters of the “lay of the land” that influence fire behavior and spread. Key elements are slope (in percent), aspect (the direction a slope faces), elevation, and specific terrain features such as canyons, saddles, “chimneys,” and chutes.

Understory: Term for the area of a forest that grows at the lowest height level below the forest canopy. Plants in the understory consist of a mixture of seedlings and saplings of canopy trees, together with understory shrubs and herbs.

Values at Risk: People, property, ecological elements, and other human and other intrinsic values within the county. Values at Risk are identified by stakeholders as important to the way of life in the county and are particularly susceptible to damage from undesirable fire outcomes.

Wildland Fire Environment: The surrounding conditions, influences, and modifying forces of fuels, topography, and weather that determine wildfire behavior.

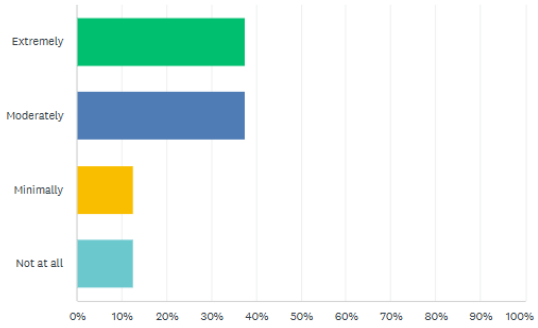
Wildfire Risk Area: Land that is covered with vegetation, which is so situated or is of such an inaccessible location that a fire originating upon it would present an abnormally difficult job of suppression or would result in great or unusual damage through fire, or such areas designated by the fire code official. For purposes of this document, Wildfire Risk Areas include Very High Fire Hazard Severity Zones, Wildland-Urban Interfaces (WUI), and similarly hazardous areas.

Appendix C – Community Engagement Polling

The following information was collected via the online public engagement survey.

How concerned are you about the the impact of a wildfire to your property and/or assets?

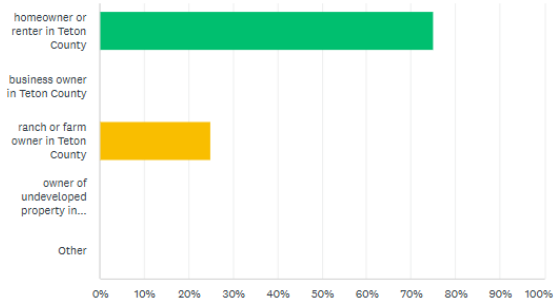
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Extremely	37.50%	3
Moderately	37.50%	3
Minimally	12.50%	1
Not at all	12.50%	1
TOTAL		8

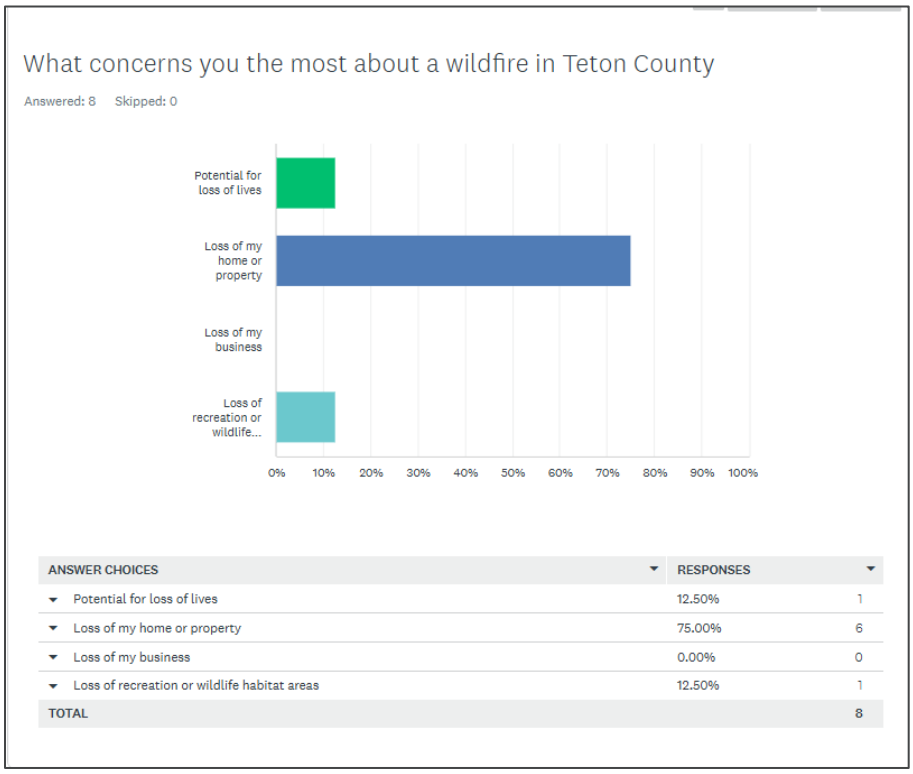
I am a

Answered: 8 Skipped: 0

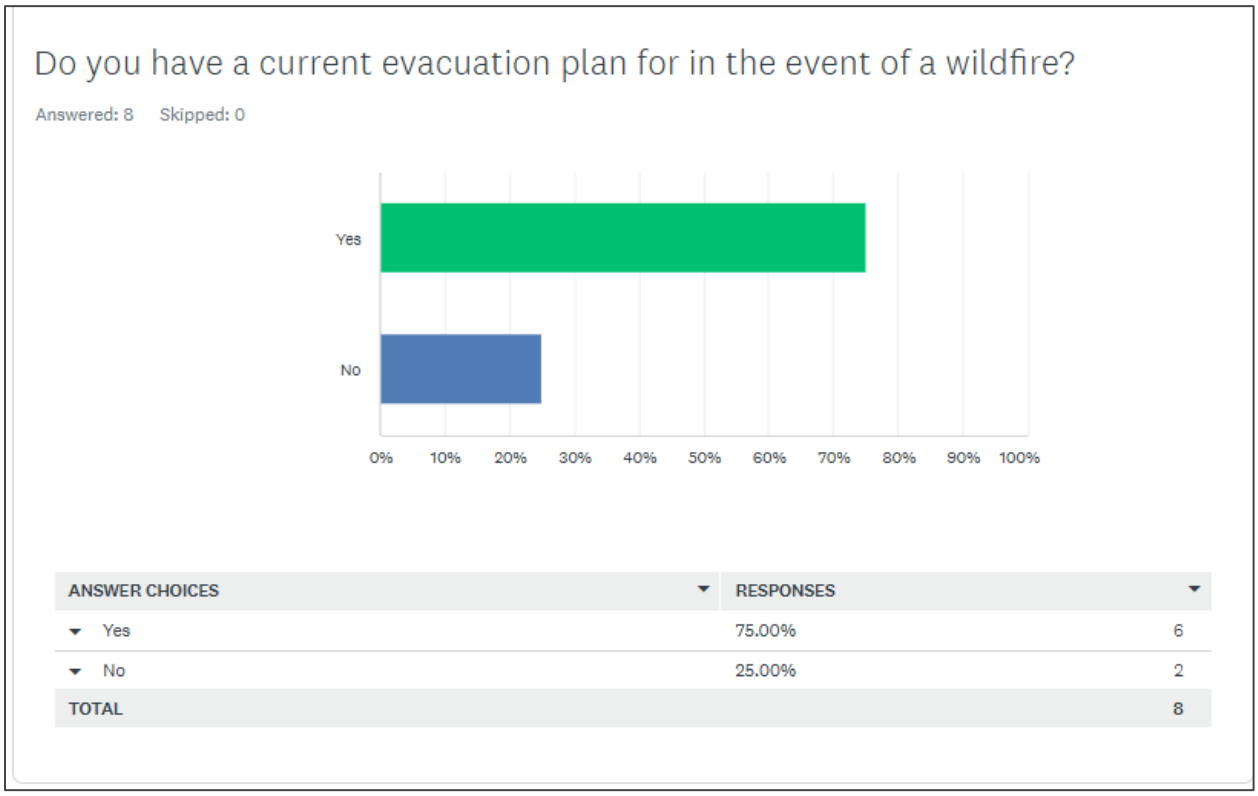


ANSWER CHOICES	RESPONSES	
homeowner or renter in Teton County	75.00%	6
business owner in Teton County	0.00%	0
ranch or farm owner in Teton County	25.00%	2
owner of undeveloped property in Teton County	0.00%	0
Other	0.00%	0
TOTAL		8

Comments (0)



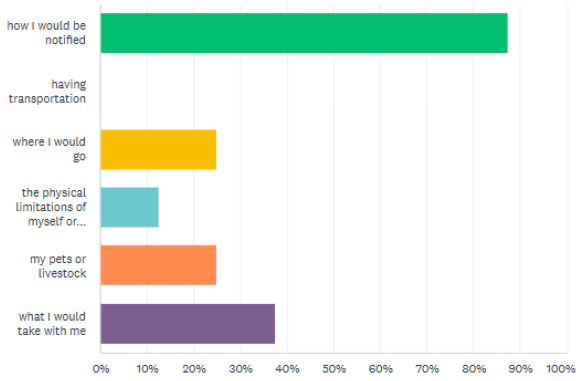
ANSWER CHOICES	RESPONSES	
Potential for loss of lives	12.50%	1
Loss of my home or property	75.00%	6
Loss of my business	0.00%	0
Loss of recreation or wildlife habitat areas	12.50%	1
TOTAL		8



ANSWER CHOICES	RESPONSES	
Yes	75.00%	6
No	25.00%	2
TOTAL		8

If I had to evacuate during a wildfire, I am concerned about

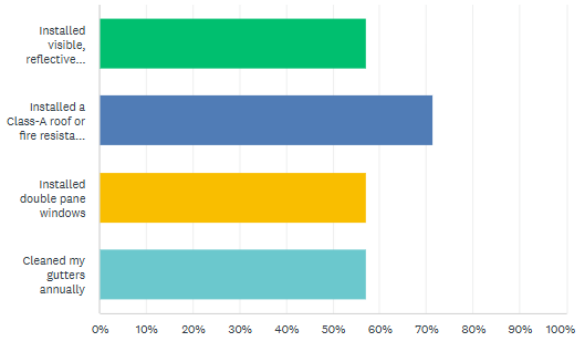
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
how I would be notified	87.50%	7
having transportation	0.00%	0
where I would go	25.00%	2
the physical limitations of myself or family	12.50%	1
my pets or livestock	25.00%	2
what I would take with me	37.50%	3
Total Respondents: 8		

I have done the following to reduce wildfire risks to my home

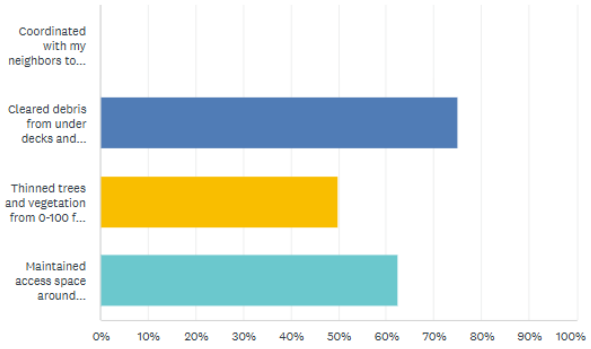
Answered: 7 Skipped: 1



ANSWER CHOICES	RESPONSES	
Installed visible, reflective address signs	57.14%	4
Installed a Class-A roof or fire resistant siding	71.43%	5
Installed double pane windows	57.14%	4
Cleaned my gutters annually	57.14%	4
Total Respondents: 7		

I have done this at my property

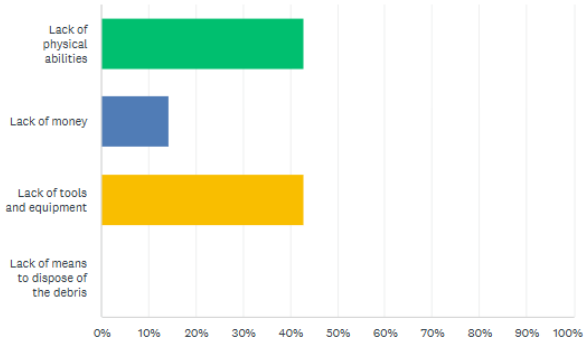
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
Coordinated with my neighbors to remove hazardous vegetation	0.00%	0
Cleared debris from under decks and porches	75.00%	6
Thinned trees and vegetation from 0-100 feet per the Firewise recommendation	50.00%	4
Maintained access space around driveways for the fire department	62.50%	5
Total Respondents: 8		

What limits you from taking steps to reduce the risk of wildfires?

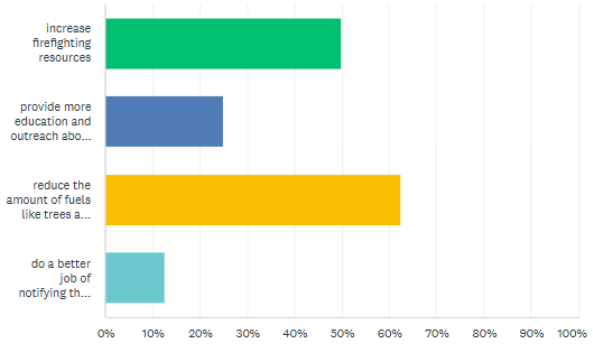
Answered: 7 Skipped: 1



ANSWER CHOICES	RESPONSES	
Lack of physical abilities	42.86%	3
Lack of money	14.29%	1
Lack of tools and equipment	42.86%	3
Lack of means to dispose of the debris	0.00%	0
Total Respondents: 7		

To reduce wildfire risks I suggest we

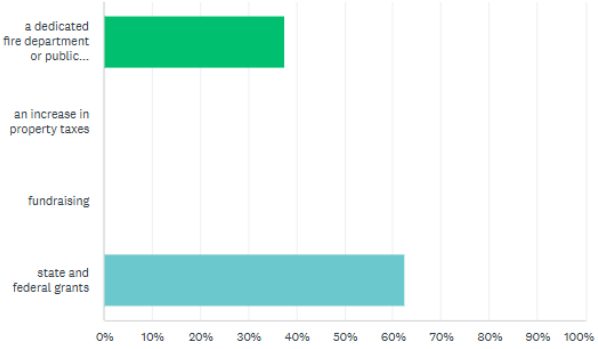
Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
increase firefighting resources	50.00%	4
provide more education and outreach about wildfires	25.00%	2
reduce the amount of fuels like trees and brush on public and government owned land	62.50%	5
do a better job of notifying the community of emergencies	12.50%	1
Total Respondents: 8		

I believe we should fund these suggestions by

Answered: 8 Skipped: 0



ANSWER CHOICES	RESPONSES	
a dedicated fire department or public safety tax	37.50%	3
an increase in property taxes	0.00%	0
fundraising	0.00%	0
state and federal grants	62.50%	5
TOTAL		**8**

Appendix D – Landscape Summary Report

Appendix E – Landscape Fire Behavior Report (90th Percent)

Appendix F – Reference Map