TETON COUNTY

Community Wildfire Protection Plan – Update

October 30, 2024

PREPARED FOR

Teton County
40 E. Pearl Ave
Jackson, WY 83001

Project 1AWC23001.000

PREPARED BY

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Revision Record Summary

Revision	*Date*	*Revision Summary*
00	10/2024	Final Delivery 2024 Community Wildfire Protection Plan Update

Executive Summary

Teton County, Wyoming, is one of the highest-ranked counties in the state of Wyoming susceptible to wildfires. The County has experienced impacts from several large wildfires over the past decade. The Green Knoll Fire in 2001 and Little Horsethief Fire in 2012 threatened significant numbers of residences in Teton County, prompted evacuations, and required substantial firefighting resources to successfully manage the wildfires. Most recently, the Fish Creek Fire and the Pack Trail Fire in 2024 have served as a reminder of wildfire risk in the community and the likelihood of these fires occurring again.

Since the last Community Wildfire Protection Plan (CWPP) was written in 2014, wildfire has affected over 130,000 acres of Teton County. The 2024 revision utilizes technology in wildfire risk analysis to develop a community-level understanding of the risks, enable further community risk reduction, and help set priorities for the county and its partners. The intent of this document is to better prepare Teton County for the next wildfire event, to take proactive measures to help reduce wildfire intensity, and improve fire management and community resiliency.

This document will provide guidance in establishing priorities for wildfire risk reduction through vegetative fuel treatments and as a reference for further collaboration with partners to lessen the impacts of wildfire. This document is intended to serve as an adjunct to established and current practices in an effort to further reduce wildfire impact on values at risk and improve emergency response and recovery.

The CWPP provides a scientific and engineer-based assessment of the wildfire threat to Teton County, Wyoming. The CWPP was developed through a collaborative process involving county officials, local fire protection districts, county representatives, state representatives, conservation districts, utility providers, federal land management agencies, neighborhoods, and other community members. This document meets the CWPP requirements set forth in the federal Healthy Forests Restoration Act (HFRA) of 2003, which includes:

- Identifying and Prioritizing Areas for Fuel Reduction and Mitigation Projects
- Stakeholder Collaboration
- Addressing Structural Ignitability

To meet the objectives and intent identified within HFRA, a scientific and engineer-based hazard, risk, and vulnerability assessment was performed using high-resolution topography, fuels, weather, and other variables to develop the community risk model for Teton County. The assessment was focused on identifying areas of concern throughout the Planning Area (Teton County) and areas where wildfire threat and hazard potential pose the greatest risk to the community.

Each section of this document utilizes the data gathered from assessments to address specific strategies, risks, and opportunities for community risk reduction. From these strategies, the CWPP provides a framework to specifically identify, prioritize, implement, and monitor hazard and risk reduction activities throughout Teton County. This document is intended to be a living document that will be updated periodically by Teton County through collaboration with appropriate stakeholders and community partners.

Teton County, in collaboration with Teton Area Wildfire Protection Coalition (TAWPC), an interagency working group of local, state, and federal partners, has collaborated to reduce wildland fire hazards and associated risks using overarching strategies that include:

- Pre-Fire Planning: Utilize fire behavior modeling to identify fire response and pre-plans. These plans include hazard mitigation plans for specific areas, evacuation response plans, and recovery plans.
- Short-Term (0-3 years): Conduct public education and outreach to promote and implement fire-adapted community practices. Implement a biomass removal program and initiate vegetative fuels mitigation near critical infrastructure and values at risk.
- Long-Term (3-10 years): Vegetation management and fuel reduction at the landscape scale and community level, including the enforcement of defensible space standards on applicable private lands. Secure sustainable funding and determine return intervals on mitigation projects through coordination and collaboration efforts as a TAWPC partnership.
- Reduce Structure Ignitability: Continue to promote and develop building codes, ordinances, and statutes that are appropriate for Teton County and further community risk reduction.

Signatures

The 2024 Teton County Community Wildfire Protection Plan (CWPP) was developed in accordance with the Healthy Forests Restoration Act of 2003. The plan was developed collaboratively among Teton County stakeholders, including local fire 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 as well as measures that community members can continue to utilize or implement to reduce structural ignitability. The recommendations provide 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 and risk management (i.e., prevention/mitigation, preparedness, response, and recovery).

The undersigned have reviewed and accepted the 2024 Teton County Community Wildfire Protection Plan.

Kelly Norris Digitally signed by Kelly Norris
Date: 2024.11.21 11:34:13 -07'00'

Kelly Norris, CF Wyoming State Forester — Date

Arne Jorgenson, Town of Jackson Mayor — 3 MAR 2025 — Date

Attestation of Town Clerk: Riley Hovorka, Town Clerk — 3/3/25 — Date

Mark Newcomb, Board of County Commissioner's Chair — March 3, 2025 — Date

Attestation of County Clerk: Maureen Murphy, County Clerk — 3/3/25 — Date

Mike Moyer, Teton County Fire Warden — 3-7-25 — Date

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List of Acronyms

AHJ	Authority Having Jurisdiction
AI	Artificial Intelligence
AOP	Annual Operating Plan (Fire)
AWN	Alerts, Warnings, and Notifications
BAER	Burned Area Emergency Response
BC	Battalion Chief
BLM	Bureau of Land Management
BLS	Basic Life Support
BMP	Best Management Practices
BTNF	Bridger-Teton National Forest
BTU	British Thermal Units
CAP	Climate Action Plan
CAR	Communities at Risk
CERT	Community Emergency Response Team
CTNF	Caribou-Targhee National Forest
CWPP	Community Wildfire Protection Plan
DBH	Diameter at Breast Height
DOI	Department of the Interior
DHSEM	Division of Homeland Security and Emergency Management
EFF	Emergency Fire Funds
EFSA	Emergency Fire Suppression Account
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
FMAG	Fire Management Assistance Grant
FMO	Fire Management Officer
GHG	Greenhouse Gas
GIS	Geographic Information System
GTNP	Grand Teton National Park
GYE	Greater Yellowstone Ecosystem
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
ICS	Incident Command System
IGA	Intergovernmental Agreement
IMT	Incident Management Team
IPAWS	Integrated Public Alert and Warning System
IWUIC	International Wildland-Urban Interface Code
JH	Jackson Hole
JHFEMS	Jackson Hole Fire/EMS
LDR	Land Development Regulations
MOU	Memorandum of Understanding
NF	National Forest
NFDRS	National Fire Danger Rating System
NFP	National Fire Plan
NFPA	National Fire Protection Association
NGO	Non-Governmental Organization
NIFC	National Interagency Fire Center
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration

NPS	National Park Service
NWCG	National Wildfire Coordinating Group
NWS	National Weather Service
PIO	Public Information Officer
POD	Potential Operational Delineations
RAWS	Remote Automated Weather Station
RCP	Representative Concentration Pathway
RH	Relative Humidity
SAR	Search and Rescue
FBFM40	Scott and Burgan Fire Behavior Fuel Model
SEAT	Single-Engine Air Tanker
SPEI	Standardized Precipitation-Evaporation Index
TAWPC	Teton Area Wildfire Protection Coalition
TCEM	Teton County Emergency Management
TL	Timber Litter
TRA	Temporary Refuge Area
TVFD	Teton Village Volunteer Fire Department
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
UTV	Utility Task Vehicle
VPD	Vapor Pressure Deficit
WEA	Wireless Emergency Alerts
WERF	Wildfire Emergency Response Fund
WFDSS	Wildland Fire Decision Support System
WIMS	Weather Information Management System
WiRē	Wildfire Research Center
WRRP	Wildfire Risk Reduction Program
WSFD	Wyoming State Forestry Division
WUI	Wildland-Urban Interface
WYWRAP	Wyoming – Wildfire Risk Assessment and Portal

Introduction

This Community Wildfire Protection Plan sets forth standard, agreed-upon procedures and responsibilities for implementing cooperative wildland fire protection on all lands within Teton County.

This living framework identifies, prioritizes, implements, and monitors hazard and risk reduction activities throughout the Planning Area.

1.0 Introduction

1.1 PURPOSE OF PLAN

This Community Wildfire Protection Plan (CWPP) aims to minimize, evaluate, and reduce the threat of wildfire to all values at risk in the Teton County communities. These values at risk include residents, visitors, residential structures, critical infrastructure, businesses, the natural environment, and historic and cultural resources within the Planning Area, which is defined as the entirety of Teton County.

The CWPP guides future actions of county officials, local fire protection districts, residents, businesses, homeowner's associations, community groups, and other interested parties in their efforts to reduce potential wildfire threats to Teton County. Successful implementation and long-term sustainability of the CWPP are subject to available funding, capacity, capability, engagement, and collaboration between stakeholder groups on private, local, county, state, and federal lands.

This plan meets the requirements for a CWPP established by Wyoming Statute 35-9-107, the Wyoming State Forestry Division Office, the Teton County-Jackson Hole Fire/EMS Fire Marshal, FEMA CPG 101, the 2003 Healthy Forest Restoration Act (HFRA), the Teton Area Wildfire Protection Coalition (TAWPC), local cooperators, and all stakeholders. This plan was developed as a collaborative effort for Teton County.

1.2 GOALS + OBJECTIVES

The primary objectives of this CWPP, as developed by the TAWPC Core Planning Team, are found in the following table. The items listed are not all-inclusive but highlight the main objectives identified for each goal. Each goal references additional information that can be found in corresponding sections for context and to ensure the goals identified are met through the objectives identified for each goal. Section 6.0 provides information for the action plan of the CWPP to provide further details on the goals and objectives. To develop and measure success over the life of the CWPP, Section 7.0 was developed to provide a monitoring and evaluation plan.

Table 1: Goals + Objectives of the 2024 Teton County CWPP

Goals	Objectives
Minimize the Wildfire Threat to Life Safety (Sections 5.0 and 6.0)	+ Assess wildfire hazards and risks within Teton County and provide specific considerations to the Wildland-Urban Interface. + Utilize risk analysis to set priority areas and identify opportunities to reduce wildfire threats to life safety. + Review existing public alert protocols and evacuation procedures for wildfires and provide recommendations for continued development. + Communicate and identify appropriate best practices for property owners and land managers to reduce wildfire risk. + Improve community-wide action to reduce wildfire risk through community engagement, participation, and education.

Goals	*Objectives*
Reduce the Wildfire Threat to Values at Risk (Sections 3.0 and 6.0)	+ Identify values at risk of wildfire within Teton County and the WUI. + Utilize wildfire hazard risk assessments identified within this plan to develop prioritized mitigation strategies to reduce the threat to values at risk. + Identify and promote citizen-based actions and education programs that enhance structure hardening and defensible space. + Identify strategies to reduce structure ignitability to homes, buildings, and outbuildings. + Reduce risk and prevent loss to areas identified as critical habitat and wildlife ecosystems before, during, and after a wildfire.
Set Priorities to Mitigate Risks and Hazards Identified. (Table 14: Community Action Plan)	+ Continually update this CWPP as projects are completed and priorities change over time while ensuring compliance with the 2003 Healthy Forests Restoration Act and FEMA's Local Hazard Mitigation Plan. + Utilize wildfire risk modeling to identify opportunities to further build community and regional partnerships for Teton County. + Develop evacuation and shelter-in-place strategies throughout the county. + Continue to foster and develop new partnerships across all stakeholders, including land management agencies, for additional mitigation and future wildfire response efforts. + Develop a GIS product of existing and proposed vegetation treatments. + Identify initiatives to support and engage at-risk populations.
Enhance Accountability, Foster Awareness, and Increase Efficiency in Implementing Action. (Section 6.0)	+ Continue to facilitate and encourage additional collaboration between TAWPC, federal, state, and local land managers, residents, Teton County, the Fire Marshal, and the Fire Protection Districts to address potential wildfire hazards and risks. + Continue to develop a public education strategy to inform the public of the CWPP findings and mitigations with partners to enhance engagement. + Establish a plan to monitor and evaluate Teton County's progress in implementing action items and achieving the goals identified in the CWPP. + Identify individuals responsible for carrying out action items and establish accountability for actions through annual reporting to the Fire Marshal, TAWPC, and cooperating agencies.

1.3 DEVELOPMENT TEAM

This section identifies the agencies, parties, and organizational stakeholders involved in developing this CWPP. Many of the stakeholders identified within this process have an interest in and a commitment to wildfire risk reduction as land managers or wildfire response entities. Many of these stakeholders also have a role and responsibility to implement the recommendations identified within this document. The roles and responsibilities are indicated in the table below.

Table 2: CWPP Development Entities + Roles and Responsibilities

CWPP Development Entities	*Roles and Responsibilities*
Jackson Hole Fire/EMS	+ Provide guidance and support for the CWPP. + Distribute media releases about the CWPP. + Conduct direct outreach. + Coordinate with neighboring jurisdictions. + Manage and provide primary oversight of the CWPP.
Teton Area Wildfire Protection Coalition (TAWPC)	+ Provide general guidance, expertise, and support for the CWPP. + Coordinate communications with stakeholders. + Educate communities on mitigation, fuel management, and planning. + Promote educational programs. + Assist with securing funding for programs.
General Public and Stakeholders	+ Attend and participate in public outreach workshops. + Respond to an online survey platform hosted by Teton County. + Provide input on CWPP values at risk, values at risk to protect, areas of concern, community projects, and ongoing grass-roots initiatives.
CWPP Consultant: Jensen Hughes	+ Develop the CWPP. + Develop GIS Maps. + Develop fire behavior modeling. + Provide recommendations for projects. + Facilitate public engagement meetings.

1.4 POLICY + REGULATORY FRAMEWORK

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

Federal

- Disaster Mitigation Act 2000–present
- Interagency Cooperative Fire Management and Stafford Act Response Agreement – Wyoming
- National Environmental Policy Act (NEPA)
- National Fire Plan (NFP) 2001
- International Wildland-Urban Interface Code (IWUIC) 2021
- National Cohesive Wildland Fire Management Strategy 2023
- National Fire Protection Association (NFPA) Standard for Wildland Fire Protection – 1140
- Healthy Forests Restoration Act (HFRA)
- National Incident Management System (NIMS)

County and Local

- Teton County Land Development Regulations
- Teton County Emergency Management (TCEM) "Wyoming Region 8 Hazard Mitigation Plan"
- Teton County Community Wildfire Protection Plan (CWPP) 2014
- Jackson Hole Fire/EMS Fire Marshal
- 2022 Teton County Emergency Operation Plan
- 2016 Teton County Community Mitigation Assistance Team (CMAT)
- Fire restrictions and fire danger rating system adjective (Extreme, Very High, High, Moderate, Low)
- Federal, State, and County collaborative agreements
- Teton County Water Quality Management Plan

State

- Wyoming Wildfire Risk Assessment Portal (WYWRAP)
- State of Wyoming Fire Management – Fire and Aviation Management
- Wyoming State Forestry Division District # 4
- 2023 Wyoming Wildland Fire Resource Mobilization Guide
- Wyoming Statutes WY 36-2-110
- Wyoming Statutes WY 36-2-109

1.5 HEALTHY FOREST RESTORATION ACT (HFRA) REQUIREMENTS

The HFRA has allowed the Department of Agriculture US Forest Service (USFS), the Department of the Interior Bureau of Land Management (BLM), and the National Park Service (NPS) to consider the priorities of local communities in the identification and implementation of hazard fuels management and respective fuels reduction projects by encouraging communities to develop plans to protect resources and values at risk. Values at risk are the human-made and ecological characteristics needed for daily life within the community or environmental necessities that could be negatively impacted by wildfire. The community determines these values at risk and helps guide decisions and protection measures instilled into those values at risk that the community prioritizes.

For this reason, the idea of community-based forest planning and prioritization received new and unprecedented impetus with the enactment of the HFRA in 2003. This landmark legislation includes the first meaningful statutory incentives for the USFS and BLM to consider the priorities of local communities as they develop and implement forest management and hazardous fuel reduction projects. To take full advantage of this new opportunity, communities must first prepare a CWPP.

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

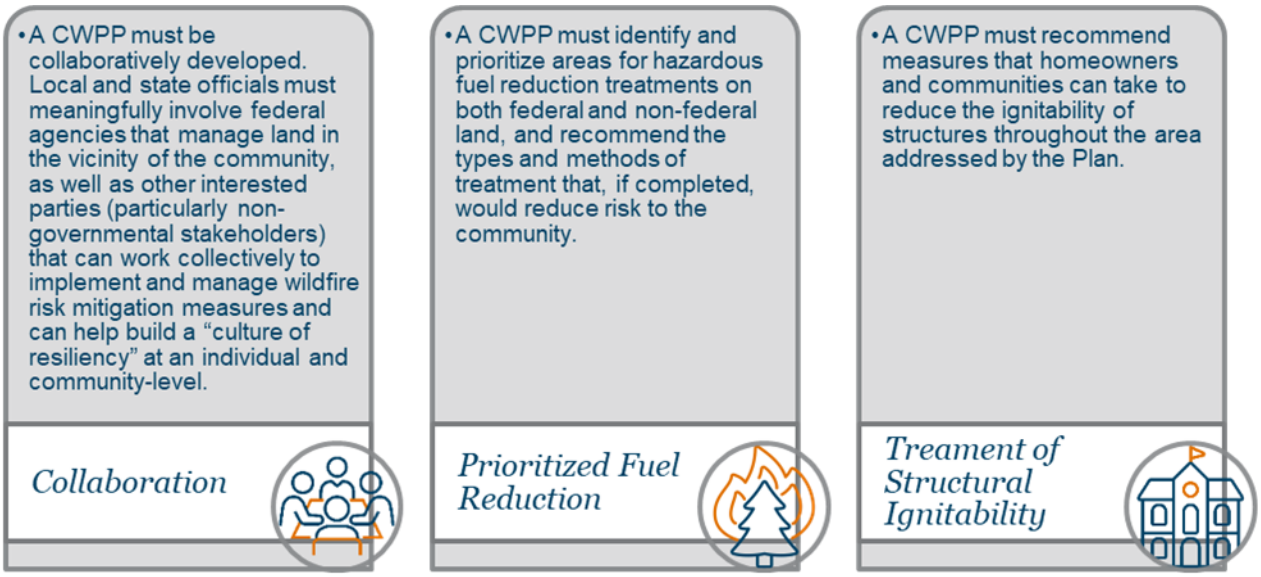


Figure 1: HFRA Requirements

1.6 WYOMING STATE FORESTRY DIVISION MINIMUM REQUIREMENTS

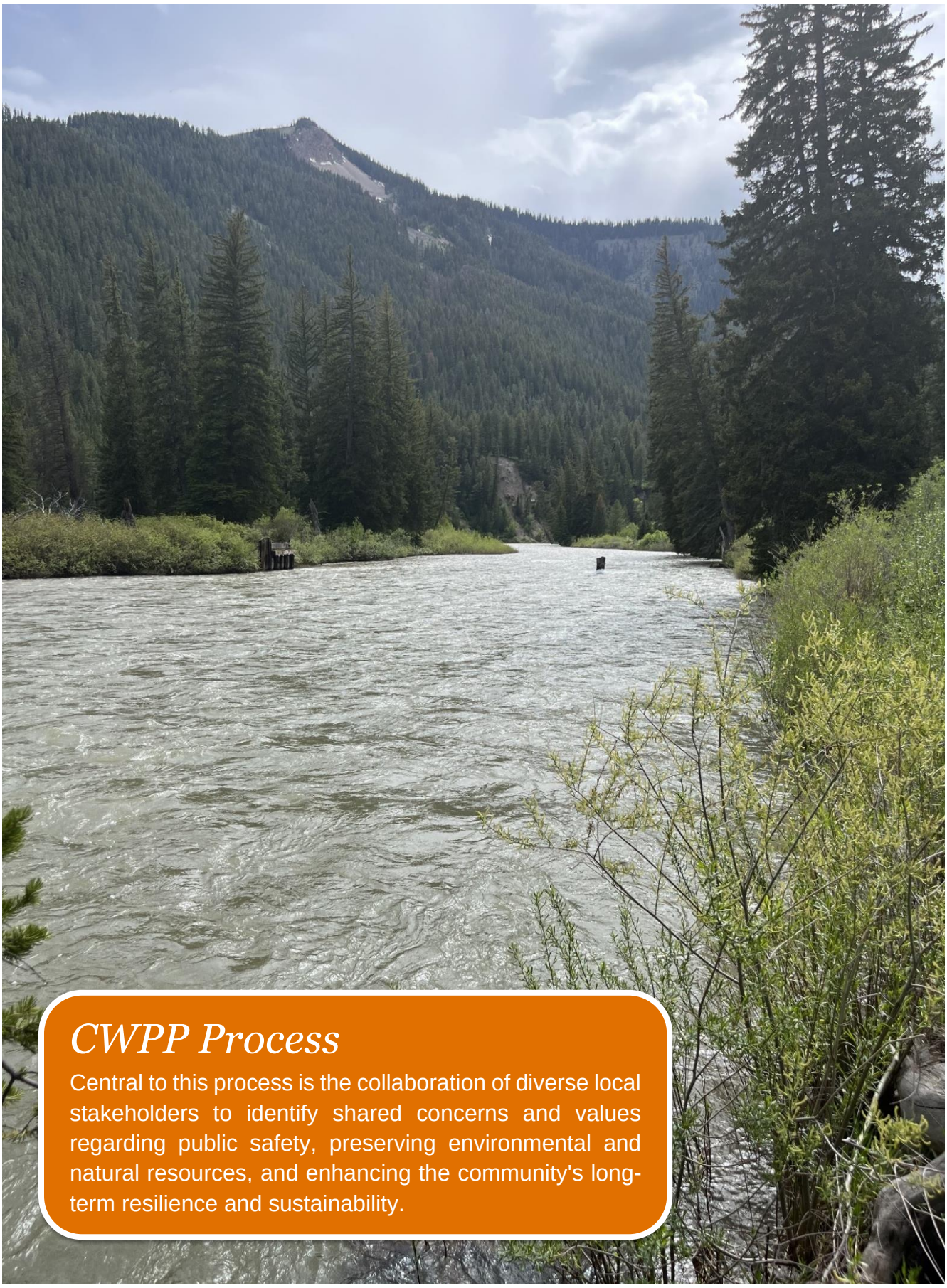
The Wyoming State Forestry Division provides minimum standards for CWPP development and updates. The requirements must identify the Planning Area and detail the level of specificity required based on the size of the Planning Area. County-wide CWPPs have different levels of detail than the CWPPs of individual communities. For a county-wide CWPP, the plan must include landscape-scale fuel treatment projects for the highest hazard within the Planning Area on federal and non-federal lands. It is recommended that a definition of the Wildland-Urban Interface (WUI) be agreed upon and the WUI and "fire-prone areas" be identified within the Planning Area.

1.7 FEMA INTEGRATED HAZARD MITIGATION PLAN ELEMENTS

FEMA Hazard Mitigation Plans comprise four core steps that closely align with the Community Wildfire Protection Plan (CWPP) process. These steps are designed to structure the planning process and optimize resource allocation, assess risks and capabilities, develop an effective mitigation strategy, and facilitate the plan's adoption and implementation.

These elements have been integrated into this CWPP because they encompass essential components that safeguard community priorities and protect the vital resources upon which residents depend. By incorporating these steps, the CWPP not only enhances its effectiveness in addressing wildfire risks but also ensures that community needs and values are at the forefront of the planning process. This alignment fosters a more resilient community, promoting proactive measures that mitigate hazards and preserve critical infrastructure, ecosystems, and the overall well-being of residents. Through this collaborative approach, the CWPP aims to create a sustainable framework that empowers communities to better prepare for, respond to, and recover from wildfire threats.

Figure 2: Steps of Hazard Mitigation Planning



CWPP Process

Central to this process is the collaboration of diverse local stakeholders to identify shared concerns and values regarding public safety, preserving environmental and natural resources, and enhancing the community's long-term resilience and sustainability.

2.0 CWPP Process

2.1 COLLABORATIVE APPROACH

The development of a CWPP is a collaborative process where community stakeholders assess the wildfire threat, define the Wildland-Urban Interface (WUI) boundaries, identify community values at risk, and, ultimately, develop prioritized mitigation measures and actions to increase community resiliency to wildfires. The CWPP planning process allows communities to create plans that influence where and how federal agencies implement fuel treatment activities on federal land and distribute federal funds for projects on non-federal lands.

In developing a CWPP, the more inclusive and diverse the interests involved are, the more likely the plan will represent the community. The 2003 Healthy Forest Restoration Act (HFRA) minimum requirements do not preclude the communities from developing broader wildfire disaster risk management and capacity-building efforts such as evacuation/shelter-in-place planning, community emergency communications, early warning systems, post-fire recovery services, etc.

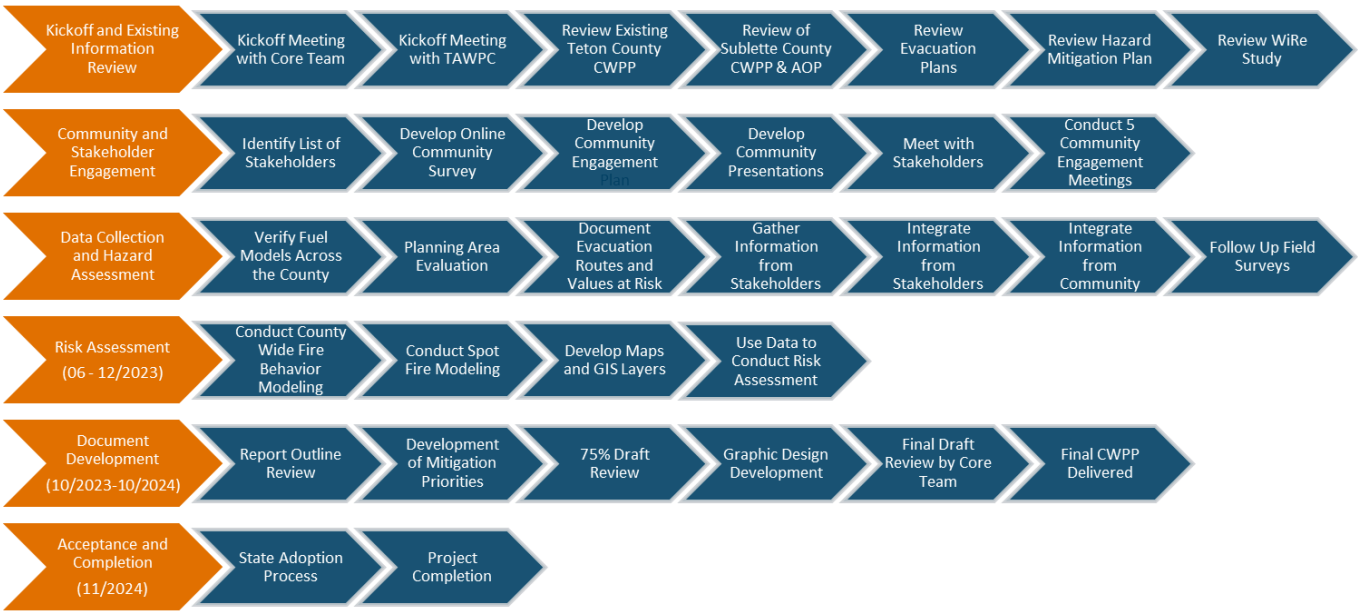


Figure 3: 2024 Teton County CWPP Process

2.1.1 Convene the Teton County CWPP Core Planning Team

Core Planning Team members led the CWPP update process. This team included representatives from the Department of Agriculture USFS, NPS, Wyoming State Forestry Division, Jackson Hole Fire/EMS, the Teton Conservation District, and a Teton County resident. Engagement with the Core Planning Team was accomplished through monthly meetings. The Core Planning Team was also responsible for overseeing the development, drafts, and final version of this CWPP.

2.1.2 Agency and Community Organization Stakeholder Coordination

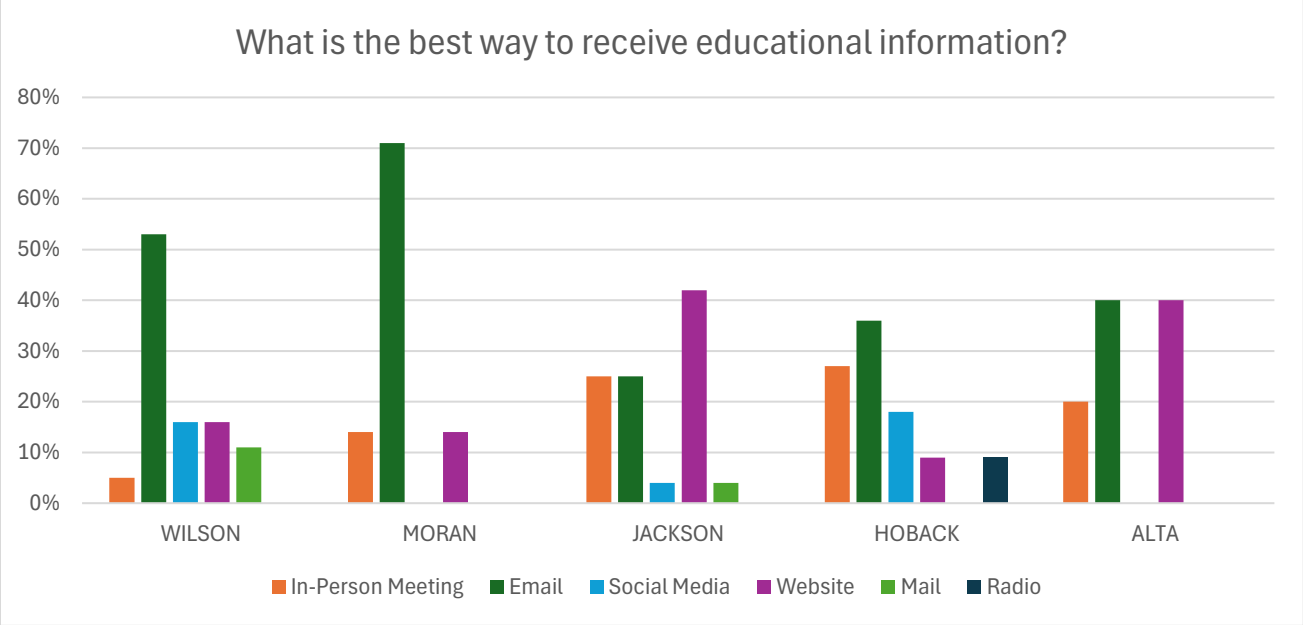
The Core Planning Team met with members of local agencies and interest groups, including utility providers, environmental protection organizations, sustainability, businesses, and agency representatives, to obtain feedback and input on values at risk significant to the communities. This information was used to reinforce and strengthen ideas presented within this CWPP.

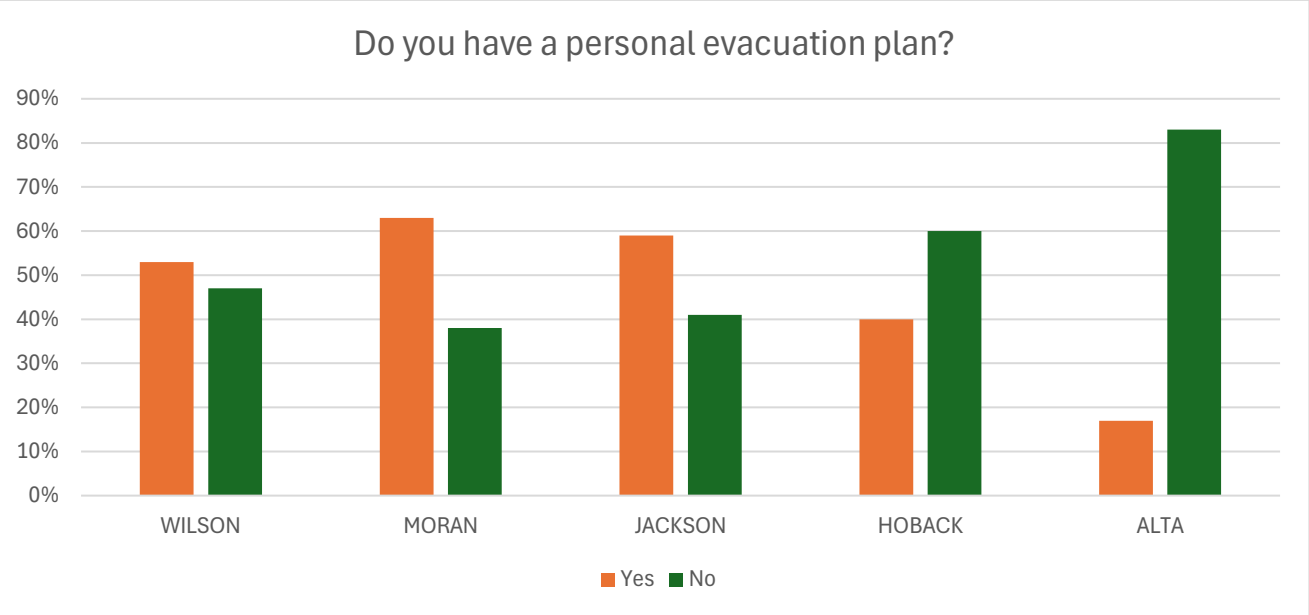
2.1.3 Community Engagement

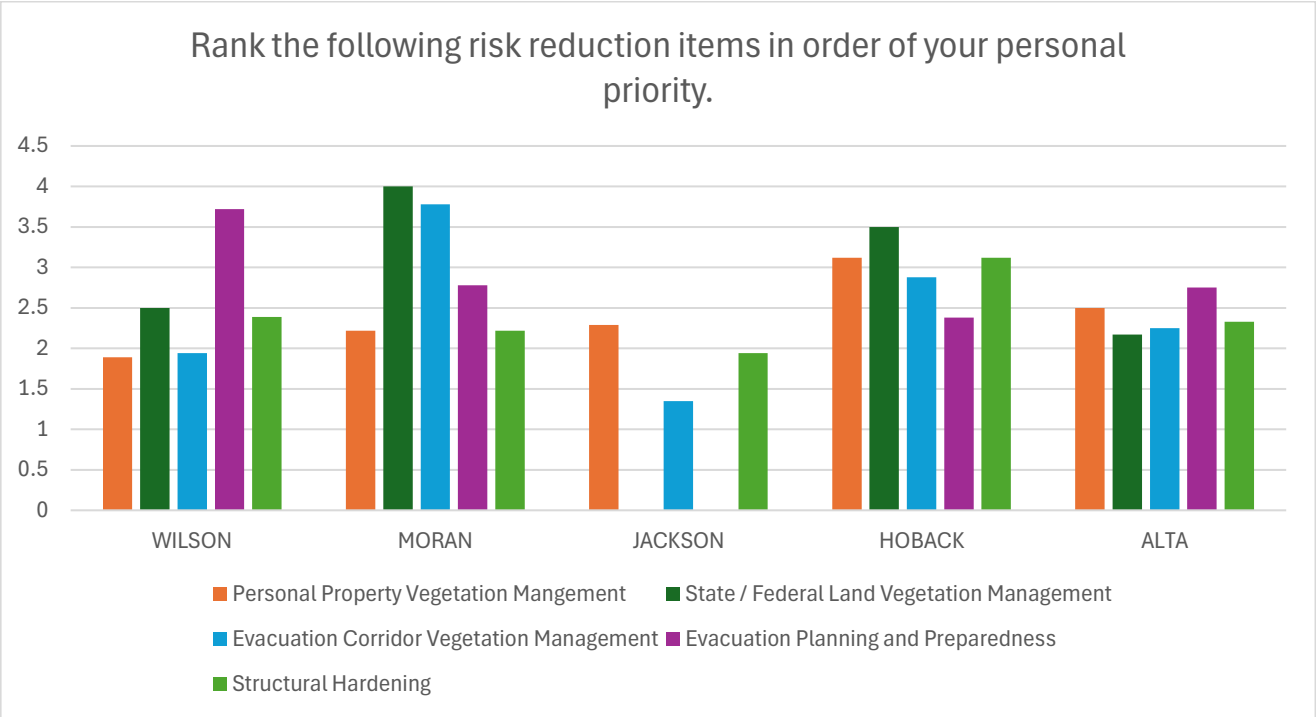
Community engagement meetings were held to solicit feedback from residents on the critical values at risk within the communities and to understand public awareness and perception regarding the wildfire problem. Five (5) meetings were held in June 2023, located in Alta, Hoback, Jackson, Moran, and Wilson, and they consisted of presentations, polling/survey questions, and open discussions. Jensen Hughes facilitated these meetings, and members of the Core Planning Team were present at each meeting to engage in discussions. Samples of the polling/survey results are provided below.

Figure 4: Community Meetings

An online survey [https://engagetetoncountywy.com/] was also developed to solicit input from stakeholders who could not attend the public workshops. The survey questions focused on wildfire protection and public safety. The survey opened in May 2023 and closed in November 2023.







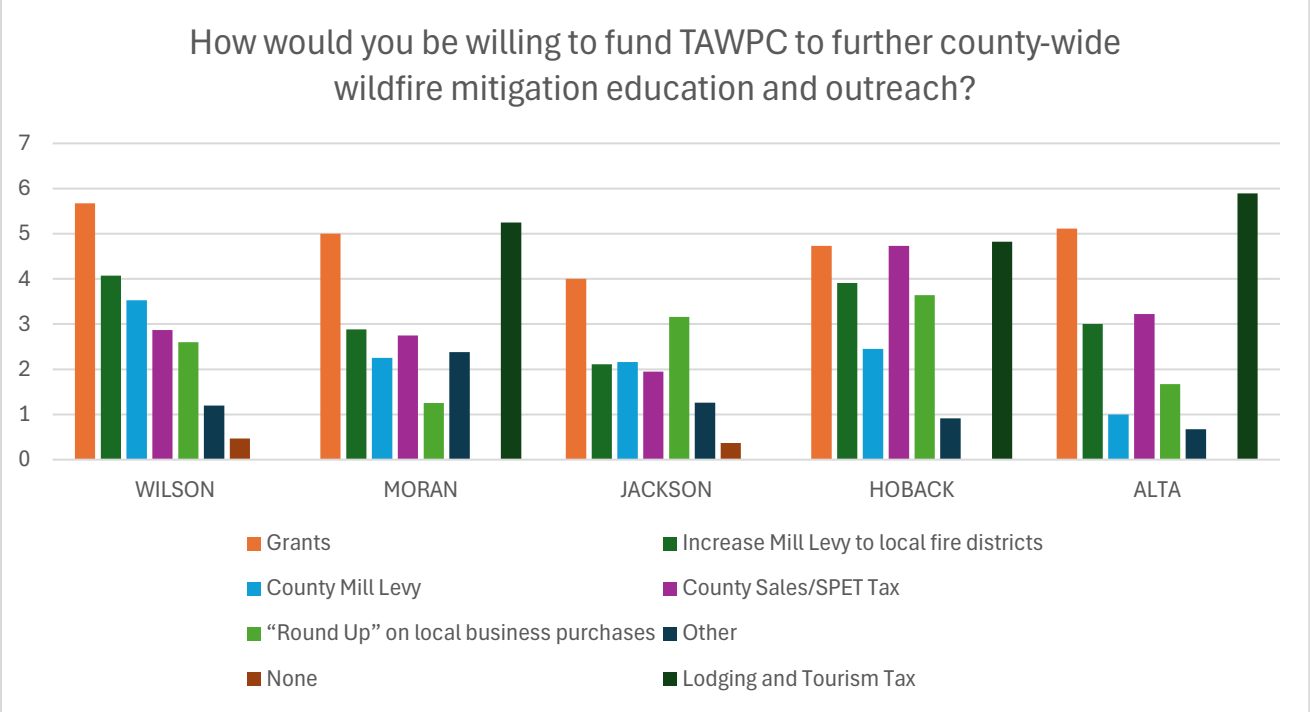
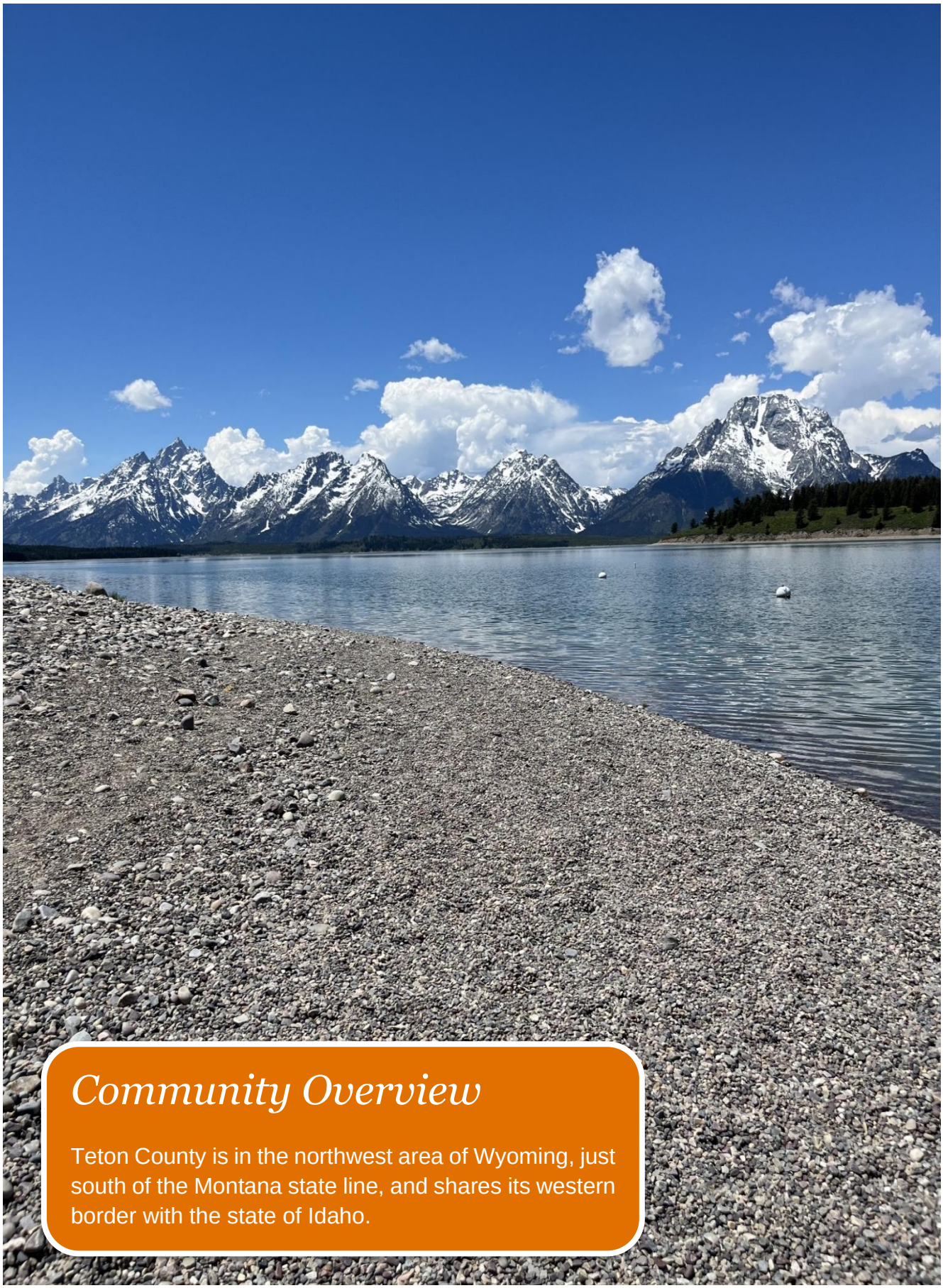


Figure 5: Results from Community Engagement



Community Overview

Teton County is in the northwest area of Wyoming, just south of the Montana state line, and shares its western border with the state of Idaho.

3.0 Community Overview

3.1 COMMUNITY AND PLANNING AREA

Teton County (Planning Area) encompasses 4,216 square miles of land and is the 12th largest county in the state of Wyoming. Nearly 4,000 square miles are land, and the remaining 221 square miles are water, primarily in Yellowstone, Jackson, and Jenny Lakes. The county contains Grand Teton National Park, Bridger-Teton National Forest, Caribou-Targhee National Forest, the National Elk Refuge, and a portion of Yellowstone National Park. Approximately 97% (4,097 square miles) of the county is publicly owned land, including the United States Forest Service (USFS), National Park Service (NPS), Bureau of Land Management (BLM), United States Fish and Wildlife Service (USFWS), State of Wyoming, and the Wyoming Game and Fish Department. The remaining land ownership (119 square miles) is local government and privately owned lands. Figure 6, located on the following page, illustrates the federal, state, local, private, and municipal land ownership within Teton County.

The 2023 US Census Bureau population estimate was 23,232, with a population density of 5.8 people per square mile. This density is misleading for Teton County as much of the population lives in concentrated areas such as the Town of Jackson. With a population of 10,698, nearly half of the county's population, Jackson has a population density of approximately 3,634 people per square mile. This number also does not consider the almost 1.7 million visitors that may impact the county primarily during the spring and summer.

The population decreased by 0.4% between 2020 and the 2023 Census. 96% of the population in Teton County consists of persons of White ethnicity with a high school diploma or higher education. Most of the population is between the ages of 25 and 44, and only about 18% of the population is over 65. The Town of Jackson is the county's only incorporated municipality and serves as the county seat (US Census Bureau).

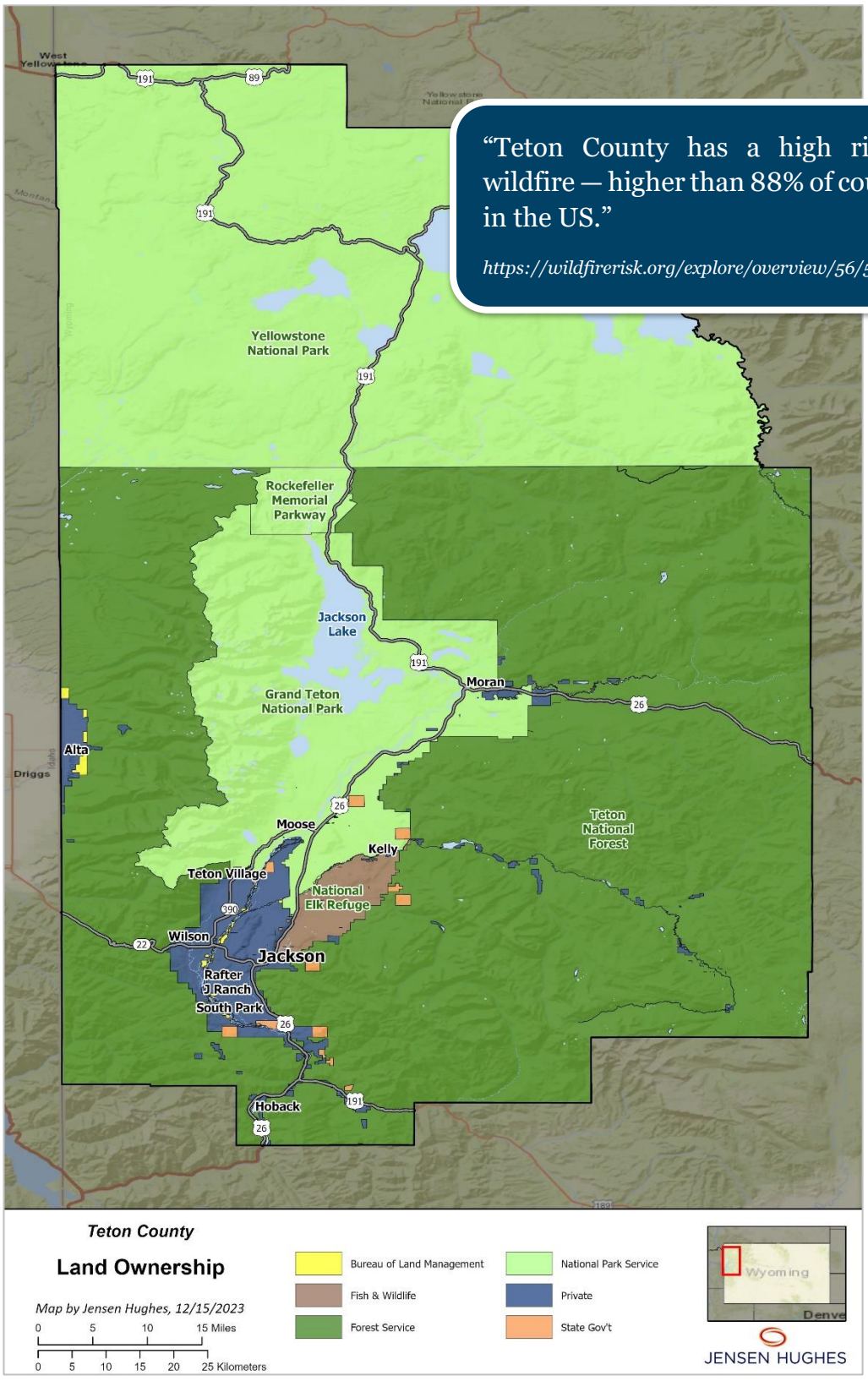


Figure 6: Teton County Land Ownership

3.2 WILDLAND-URBAN INTERFACE (WUI)

Teton County has been identified by the State of Wyoming and nationally as being at high risk for wildfire, leading to the need to identify and define WUI areas and areas at greatest risk of wildfire. Many definitions of the WUI exist based on the diverse objectives of federal, state, local, and private agencies. Because of the inconsistencies in defining the WUI across these entities, it is necessary to define this geographic area and its location, specifically in Teton County.

What is the WUI?

Through partnership and collaboration with TAWPC, Teton County defines Wildland-Urban Interface (WUI) as:

"The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. This general interface term technically refers to the areas where communities, structures, critical infrastructure, essential resources, and values at risk encroach onto wildfire-prone landscapes and vegetation. In Teton County, the land, developments, and communities adjacent to and surrounded by wildlands are at risk from flames or firebrands of a wildfire event."

The physical boundary of the WUI was determined by the density of the values at risk. These values at risk included communities, improvements, and infrastructure critical to Teton County, which possesses wildfire risk characteristics. The WUI incorporates urban, suburban, and rural values at risk across the county. The WUI identifies a defined area at greatest risk from wildfire. Some areas outside the defined WUI boundary may also be susceptible to wildfire. These areas may contain similar vegetation, topography, and wildfire risk but have a low density of values at risk in a larger geographic area. Therefore, these areas may be considered the intermix or simply areas with wildfire risk. Any area with wildfire risk features should follow best practices for risk reduction and mitigation implementation.

Figure 7 illustrates the differences between the wildland-urban "interface" and the "intermix." High densities of values at risk and vegetation, such as the structures in this example on the left, form the boundary clearly defined as the WUI. Areas with a mixture of values at risk and vegetation with open lands between are more consistent with the intermix or simply areas with wildfire risk.

Figure 7: Wildland-Urban Interface vs. Intermix Examples

Figure 8 reflects the current Teton County WUI as identified in 2024. The boundary has been updated from the original 2014 boundary as the community and the values at risk have increased in size and density.

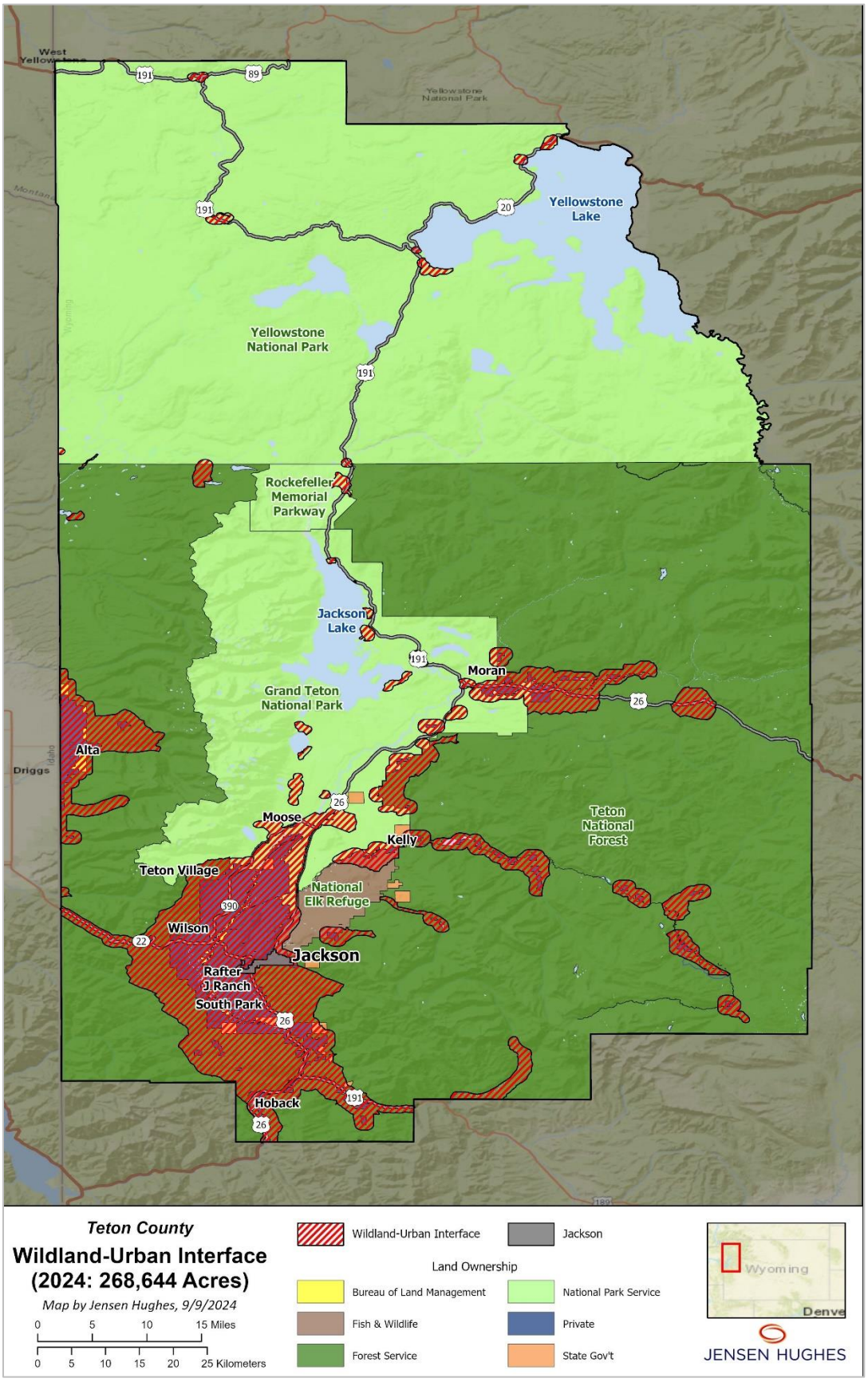


Figure 8: Teton County Wildland-Urban Interface

For additional information regarding the Teton County WUI, please refer to the Teton County Story Map **Teton County CWPP StoryMap**

3.3 VALUES AT RISK

The National Fire Protection Association (NFPA) defines "values at risk" as:

"Public and private resources, which include, but are not limited to, property, structures, physical improvements, natural and cultural resources, community infrastructure, and economic, environmental, and social values."

Private property and structures rank at the top of Teton County's values at risk. However, other values at risk must also be considered. Listed below is a sample of some of these other values at risk. Figure 9, below, illustrates some of Teton County's values at risk.

Values at risk for Teton County are:

- Residents and Homes
- Communities (towns, neighborhoods, developments)
- Critical Facilities (hospitals, police, fire departments, schools, etc.)
- Utility Infrastructure
- Communication Sites
- Roadways
- Tourist and Recreation Areas
- Wildlife Habitat
- Watersheds

The following sections identify the remaining values at risk within Teton County and mitigation measures that can be taken to reduce or prepare for wildfire impacts. Additional information on protecting private assets can be found in Section 6.0 of this document.

Figure 9: Teton County Values at Risk Examples

Figure 10 below identifies the density and location of values at risk across the Planning Area.

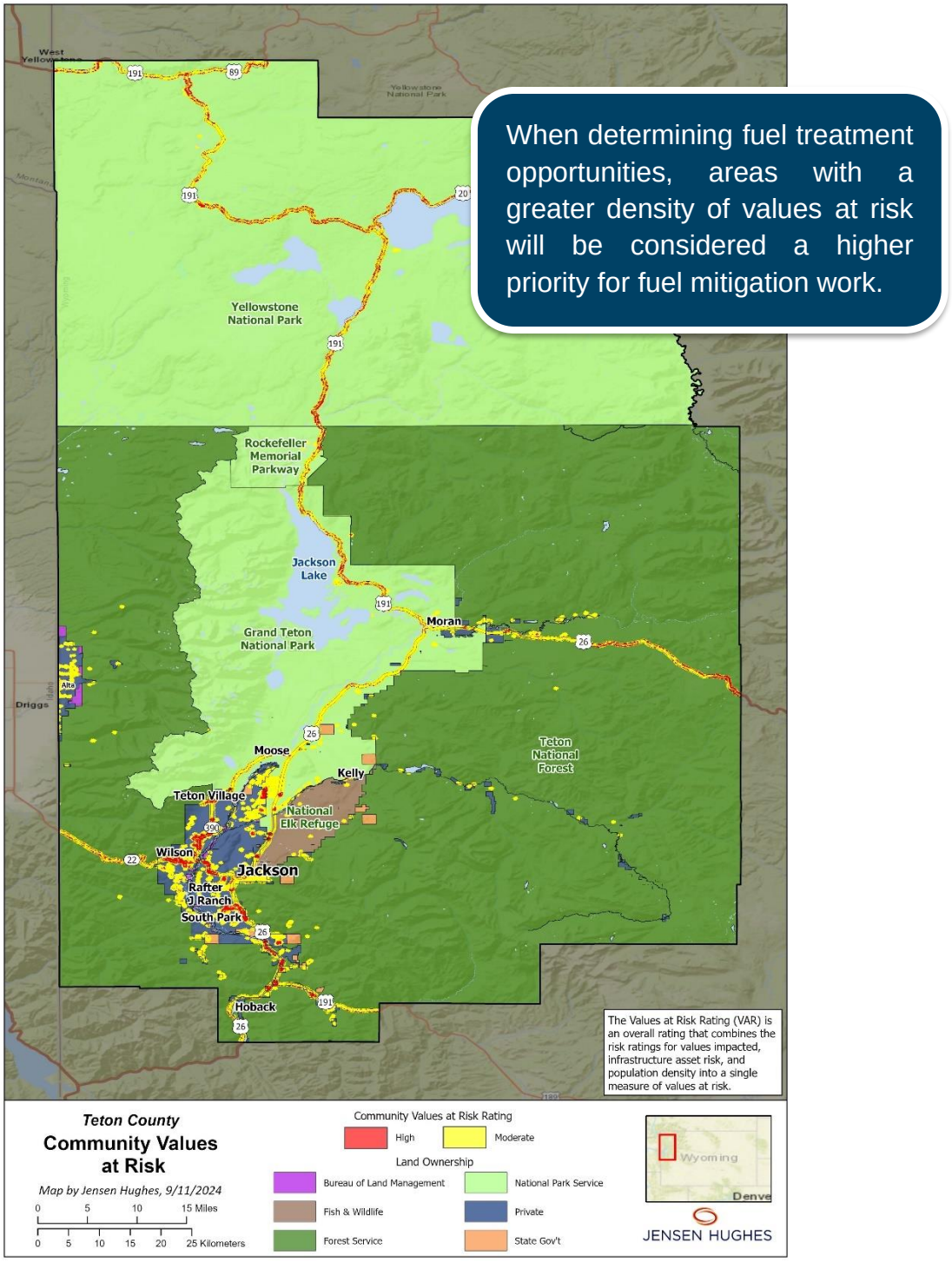


Figure 10: Community Values at Risk

3.3.1 Teton County Mountain Resorts

Much of Teton County's economy is tied to the ski industry and the three (3) ski resorts: Jackson Hole Mountain Resort, Snow King Mountain, and Grand Targhee Resort.

Figure 11: Teton County Mountain Resorts

During the "traditional wildfire season," the resorts are busy with summer and fall tourists hiking and biking the many miles of trails inside the ski area boundaries. The mountain resorts are identified as having a Moderate to Very High Fire Hazard Risk and fall within the WUI boundary (Figure 8).

In 2023, Teton County, Yellowstone National Park, and Grand Teton National Park enjoyed 3.8 million visitors in total — the majority between May and September. With a large population visiting the mountain resorts to participate in concerts, venues, and hosted summer events, it is important to recognize these unique areas as the influx of visitors presents several challenges. These challenges include educating tourists about the current fire danger, notifications of threatening wildfires, evacuations, accountability, and first responder access and egress.

There are several options for reducing the risk to visitors and employees at the resorts during months of heightened wildfire activity risk, such as:

- Develop and implement an education program that includes fire danger awareness, notification systems, evacuation planning, and sheltering.
- Develop Wildfire Hazard Risk Assessments and Wildfire Management Plans for each resort as each presents a different complexity for fire risk, evacuations, and response.
- Collaborate and plan for activities annually with all resorts, fire officials, federal landowners, and emergency managers to ensure consistent wildfire messaging and preparedness for staff and visitors. Wildfire preparedness for the resorts includes:
    - Wildfire mitigation and reduction of hazardous fuels
    - Improve the water delivery systems for fire suppression.
    - Implement structural hardening measures on condos, lodges, and resort facilities.
    - Implement a public education/notification plan that addresses fire danger and evacuation plans in the event of an emergency.
    - Pre-plans with local fire and emergency response agencies on an annual basis.

- Collaborate with adjacent landowners to manage access/egress routes for vegetation management and risk reduction.

3.3.2 Teton County Historical and Cultural Sites

Teton County contains numerous significant historical and cultural sites. Many of these sites are comprised of early settlements—historical and cultural locations for Native Americans and early settlers of Wyoming. The sites cover large land areas, including Yellowstone National Park and Grand Teton National Park, which are vital to the tourism industry.

For additional information regarding historical sites and areas of cultural significance, reference Appendix H

3.3.3 Transportation Corridors and Utilities

Teton County has several major transportation corridors, including state and county roads. These roads provide the primary access and egress for commerce, travel, and emergency response. Emergency response includes access for fire resources, law enforcement, emergency medical resources, and evacuation. Access to and egress from Teton County is limited. The inability to travel on any of the roads during a wildfire event would negatively impact first responders and evacuees.

Figure 12: Togwotee Pass

These areas should be a top priority for community wildfire planning and when reviewing project areas adjacent to the WUI and values at risk. The major transportation corridors include US Highways 191, 26, and 89 and State Highways 22 and 390. Other access and egress routes must be evaluated and prioritized for mitigation efforts. Transportation corridors can be compromised for years after a wildfire. Post-fire erosion, instability, and debris from burn scars can threaten any road system.

3.3.4 Utility Infrastructure

All communities rely on utility infrastructure, including electricity and water distribution. The loss of electricity, transmission, or distribution lines can significantly impact the communities within Teton County. Utility infrastructure shared with adjacent Counties may also impact those communities.

Utility providers (Lower Valley Energy and Fall River Electric) have a vested interest in their transmission and distribution lines covering Teton County. Wildfire risk reduction projects to build resiliency into the infrastructure and maintain service must be part of the mitigation planning process.

Lower Valley Energy also provides natural gas to Teton County. Natural gas delivery pipelines are underground in Teton County and do not pose a risk during a wildfire. However, above-ground connections to meters and

structural service lines are exposed. During a wildfire, these exposed above-ground service lines and connections can become compromised and can be a source of fuel for structural and wildfires.

Teton County water distribution includes groundwater and public delivery systems. Teton Village Water and Sewer District provides water for Teton Village, Granite Ridge, and Shooting Star. The Teton County Conservation District helps maintain and protect well and surface water for the remainder of the county. Wildfires can have significant impacts on water systems that last for decades. Post-fire runoff can introduce harmful chemicals, bacteria, sediment, and debris into waterways. Waterway contamination can negatively impact utility providers, causing expensive recovery, mitigation, and treatment.

3.3.5 Watersheds

Teton County is comprised of six (6) major watersheds: the Missouri Headwaters, Upper Yellowstone, Big Horn, Upper Green, Snake Headwaters, and the Upper Snake. These watersheds comprise nearly all of western Wyoming's watersheds and span into Idaho and Montana. All the identified watersheds converge in Teton County, comprising most of the water that flows in the Snake River.

Healthy and sustainable watersheds are the cornerstone of a healthy community and ecosystem. Protecting watershed lands is paramount for preserving the environment and the communities' water resources.

Figure 13: Snake River

Wildfires can have both positive and negative impacts on watersheds. In some cases, disturbance is a part of a healthy ecosystem and a sustainable forest. The positive effects of wildfires come from low-intensity wildfires burning across forested landscapes, producing low-intensity and low-severity wildfires. This type of wildfire causes minimal impacts on the watershed and significantly benefits vegetation by consuming the dead and downed brush fuel, exposing soil that is receptive to seeds, and creating opportunities for new vegetation growth.

Wildfire negatively impacts a watershed because of overgrown, dense, unmanaged forested lands. Because of the density and decades of exclusion from fire, high-intensity, and high severity, wildfires are likely to occur. The post-fire impacts can be devastating, resulting in hillside erosion, water contamination, and soil sterilization. These impacts can last decades and have lasting effects on water users downstream.

Protecting watersheds is vital in planning wildfire mitigation efforts for fuel reduction. During the suppression of wildfires, recovery efforts such as water bars, erosion control, and debris management must begin immediately. Impacts on the community and the environment before, during, and after a wildfire or prescribed fire must be discussed and mitigated. When lasting impacts are expected due to high-severity wildfires in critical watersheds, Teton County and partners should seek federal and state funding opportunities immediately following a wildfire.

3.3.6 Economic Drivers

Teton County thrives on multiple economic drivers, including arts, entertainment, recreation, accommodation, and food services (32.2%); construction (8.7%); retail trade (12.4%); educational services; health care; and social assistance (11.9%). Professional, scientific, management, administrative, and waste management services make up the remainder of the major economic drivers.

Outdoor recreation makes up a large portion of the tourism industry in Teton County. The federal lands contain world-class hiking, biking, rafting, and sightseeing in the spring and summer months. In the fall and winter months, skiing, hunting, and snowmobiling drive the tourism economy in the county. This allowed areas like Jackson Hole to develop large shopping and dining districts complemented by art galleries, custom jewelers, and designer clothing retailers in the town square. The tourism industry alone generates over $1.7 billion in annual revenue from travel-generated spending, over $10 million in lodging, and sustains nearly 8,000 jobs in Teton County.

Tourism and seasonal residents are a large portion of the county's inhabitants. Many homeowners' homes in the county are second homes or rental homes occupied only during the summer or winter. These structures remain unoccupied for long periods, making wildfire risk education efforts and evaluations for life safety hazards by first responders during an emergency event difficult.

Demographic trends indicate that residents choose to live in locations like Teton County due to the opportunities afforded and the beauty of the natural environment. Some attractions that draw visitors and residents alike include the Teton Range, Snake River, and wildlife. Participants in the community engagement meetings noted that the environment is a highly valued asset that needs continued and increased protection, mainly through forest thinning treatments and fire management practices for fire-resilient landscapes. Wildfires may disrupt visitation as well as residents' desire to live in Teton County due to impacted aesthetics, burn scars and landscapes, smoke impacts, and concerns about wildfire risk. These considerations must be made when industry and economic demands rely heavily on tourism and the natural environment.

Figure 14: Teton Range

3.3.7 Environment

Many permanent residents and visitors in Teton County enjoy the environment's natural landscapes and wildlife. A significant population of big game animals, aquatic wildlife, and scenic environments are attractive for both tourism and permanent residency. Protecting these environments and landscapes is essential to the economic security of Teton County. Wildfires can have a devasting long-term effect on these valuable assets. Planning and implementing mitigation measures to lessen the impact of wildfires is critical.

3.3.8 Scenic and Wildlife Attractions

3.3.8.1 Recreation Areas and Campgrounds

There are multiple major campgrounds and recreation areas in Teton County. Many of these sites bring many visitors to use reserved and dispersed camping grounds. This creates heightened levels of risk, as visitors do not always utilize recreational fires appropriately or understand the fire risk in camping areas.

Figure 15: RV Campground

Figure 16: Camping Area

Recreational camping is important to the area's economy, but life safety concerns must be considered and planned for. Many of these areas are remote, with little to no cell reception, and often have limited access and egress. Consideration should be given to developing a list of these locations for future use, including the capacities of these sites and the presence of safe and effective evacuation routes. Having multiple egress routes in larger campgrounds is recommended. Frequent educational campaigns and messaging from park managers, campground hosts, and patrols are also encouraged to ensure visitors are aware of the danger of fire, use recreational fires appropriately, and are prepared in the event of a wildfire.

Listed below are some, but not all, frequently visited camping areas:

- Colter Bay Campground, NPS
- Colter Bay RV Park
- Colter Bay Tent Village
- Grand Teton National Park Campground, NPS
- Granite Creek Campground, Bridger-Teton NF
- Gros Ventre Campground
- Headwaters Campground
- Jenny Lake
- Lizard Creek Campground
- Norris Campground
- Signal Mountain Campground
- Snake River Canyon
- Teton Canyon Campground

3.3.8.2 Wildlife Habitat

Teton County lies within the Greater Yellowstone Ecosystem (GYE), which extends from Montana through Yellowstone National Park, south through most of Teton County, and enters Idaho. The natural resources and wildlife of the GYE are major contributors to the economy and character of Teton County's communities. A significant wildfire would impact the wildlife habitat on a biological, ecological, educational, economic, and aesthetic level. While some wildlife and forest habitats rely on wildfire to manage their habitat, negative impacts can also result if it becomes too destructive or large-scale. This area's wildlife habitat is sensitive to threatened and endangered species. Special considerations should be provided when managing a wildfire and when implementing wildfire mitigation projects. It is important to consider utilizing forest management techniques that enhance forest and wildlife habitat restoration, including prescribed fire, mastication, and planting and seeding.

Sensitive wildlife habitats must be protected and appropriately managed during a wildfire and assessed for post-fire impacts. Examples of habitats susceptible to impact include migration routes, crucial winter habitats, and nesting and spawning areas for threatened and endangered species. These sensitive habitats should be considered for fuel management, forest health improvements, wildfire management, and wildfire risk reduction practices.

Figure 17: Grizzly Bear

Some, but not all, of the major indicator species in Teton County are listed below:

- Grizzly Bear
- Bald Eagle
- Columbian Sharp-Tailed Grouse
- Rocky Mountain Elk
- Moose
- Bighorn Sheep
- Snake River Cutthroat Trout
- Grey Wolf
- Yellowstone Cutthroat Trout
- Trumpeter Swan
- Mule Deer
- Long-Billed Curlew
- Sandhill Crane
- Sage Grouse
- Wolverine
- Bison

3.4 FEMA COMMUNITY LIFELINES

The FEMA Community Lifelines identify the essentials of continuity of operations during and after an emergency event. These lifelines are values at risk and a county-wide priority for protection from wildfire. It also promotes proactive risk reduction actions and provides for recovery following a disaster. FEMA identifies seven (7) Community Lifelines that serve as essential human health guidelines for sustaining government and business functions during an emergency event. These Community Lifelines are identified below and provide essential considerations regarding risk and recovery from a wildfire event as the values apply to Teton County.

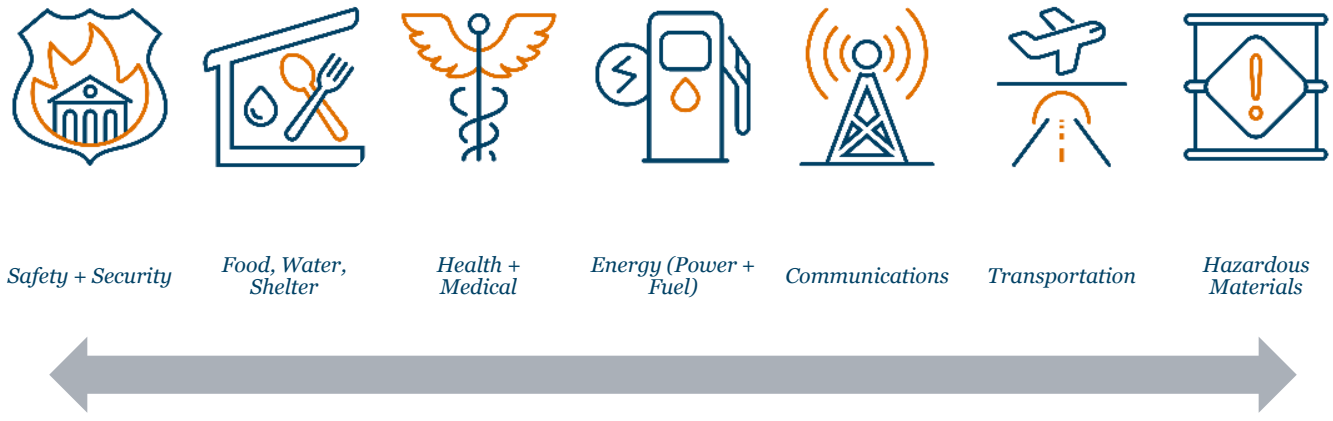


Figure 18: FEMA Community Lifelines

3.4.1 Safety and Security

- Law Enforcement Facilities: Teton County Sheriff's Office is in the Town of Jackson, Wyoming. Teton County has one (1) jail or detention center, located in the Town of Jackson, which serves the Teton County Sheriff, Jackson Police Department, Wyoming Highway Patrol, Grand Teton, Bridger-Teton National Forests, Yellowstone National Park, Wyoming Game and Fish Department, and the US Marshals Service Wyoming District.
- Fire Protection: Fire protection in Teton County is provided by local and federal agencies. Jackson Hole Fire/EMS (JHFEMS) and Teton Village Fire serve much of the county. Federal land management and national park responders serve the remainder of the county. In the community of Alta, a Memorandum of Understanding (MOU) is in place for Teton County Fire Rescue to provide initial response efforts for the community, as it takes up to an hour for JHFEMS to respond to this area. Refer to Section 3.5 for more details on specific fire station information and firefighting resources.
- Search and Rescue: Search and Rescue (SAR) provides year-round safety and recovery of lost or injured residents and visitors. SAR is provided by the Teton County Sheriff, per Wyoming state statute, with the headquarters located in the Town of Jackson. Teton County SAR provides vital rescue operations during emergencies through the coordination and use of 39 volunteers and air support via helicopter. Grand Teton National Park also provides SAR capabilities and supports the county as needed during larger incidents or in coordinated efforts on federal lands.
- Government Services: The continuity of government function is critical during and following a wildfire event. Government facilities and infrastructure are a significant component of maintaining continuity and supporting the event outside of the emergency response.

  Often, other government services provide support, coordination, and assistance to the community that is currently being impacted, as well as those responding to the emergency. Government services and facilities are often utilized during larger wildfire events to support wildfire operations or to house evacuated residents. These facilities and other government services may support a wildfire response event.

  These services and facilities include, but are not limited to, Teton County Emergency Management, the Clerk and Recorder Office, the Assessor, the Wyoming Department of Transportation, the county court, the Town and County Building Department, local and county administration offices, the Road and Levee Department, county maintenance and equipment centers, and schools.

3.4.2 Food, Water, and Shelter

- Food: Commercial food distribution and supply chains are critical to maintain during and following a wildfire event. Food commodities and access to freight delivery are heavily dependent on the transportation corridors remaining open and viable. More information, including the identification of transportation corridors, can be found in Section 3.4.6.
- Water: Water is one of the most precious and highly valued resources to the citizens and wildlife in Teton County. County residents rely solely on groundwater resources for their drinking water use. The surface water available consists of two main watershed tributaries, the Flat Creek Watershed, and the

Fish Creek Watershed. These surface water resources provide irrigation to agricultural production and downstream agricultural users, as well as aquifer recharge.

Wildfires can severely impact available water resources due to the disturbance of the landscape and post-fire impacts from the burned area, such as releasing contaminants into rivers, creeks, and streams. These contaminates reduce the availability of potable (drinking) water. Contamination is caused by the high release of organic carbon, heavy metals, sulfates, nutrient pollution, and other harmful contaminants that are burned during the event, resulting in un-consumable water or water that is costly to treat. Sediment and ash from the burn scar can have significant impacts for years, even decades, following a wildfire. The ash from wildfires can cause clarity, odor, and taste issues that are difficult to filter and costly to manage. Sedimentation into water infrastructure and reservoirs can cause loss of terminal storage and threaten critical water infrastructure such as storage facilities, dams, pipelines, and diversions.

Ecologically, post-fire impacts can have devastating consequences for aquatic habitats, fisheries, and riparian corridors. Sedimentation often fills drainage basins and areas of confluence, resulting in large deposits of ash and contaminated soils that impact sensitive riparian areas. This can spread disease, cause the loss of aquatic life, loss of vegetation, and potentially cause the loss of critical habitat for sensitive species.

The Teton Conservation District provides water quality monitoring and technical support for management practices relating to wildfire and water risk. They provide grant funding assistance to landowners for the reduction of wildfire risk as well as post-fire impacts. The Teton County Conservation District and other partners across Teton County support the communities and residents in protecting water resources from the impact of wildfire. For more information regarding water resources and wildfire impacts to water, contact the Teton County Health Department or Teton Conservation District.

+ Water Supply for Fire Suppression: Water supply for ground-based fire suppression deserves special mention in this section. Many of the water containment systems serving Teton County, such as dams and ponds, have been identified for fire suppression use (i.e., dip sights, drafting access, and supply to hydrants.) Any large-scale wildfire damage to the watershed itself, the ecosystem, any containment structures (dams and ponds), or wells would have a major impact on the availability and access to water for fire suppression.

  Water supply for wildfire suppression is provided by a combination of static water sources and water shuttle/transport. The higher structural density areas of the county are serviced by a hydrant system, predominantly in the southwest area of the county (Figure 20). However, the water supply for the remainder of the county is dependent on developing a water supply from static sources, including lakes, ponds, and streams. This requires drafting, pumping, or gravity feed to obtain the water from the source to a transport vehicle and then transporting the water to the fire. Although Type 3 and Type 6 Engines can obtain water easily and negotiate roads, they provide a small amount of water relative to the requirements for fire suppression.

  A structural fire threatening to become a wildfire, or a wildfire threatening structures, requires sustainable water delivery of large volumes of water. Water for structure protection can be transported in heavy apparatus (tenders, etc.). However, these vehicles are limited when it comes to accessing a fire. They are slowed by steep grades, narrow roads, or the inability to turn around.

  Heavy apparatus delivering water can establish useful static sources, including porta tanks for drafting, relay pumping, or directly supplying firefighters' hose lines. Long travel distances, lengthy response

times, and lack of accessibility for water delivery outside the areas with hydrants can be minimized through pre-planning and appropriate staging of resources. Static water supplies can be staged and pre-identified in areas where water for fire suppression is minimal. Cisterns, water tanks, or staged tenders during high-fire potential days should be implemented tactfully and tested for response improvement efficiency.

Figure 20: Wildfire Hazard in Relation to Fire Hydrant Locations Figure 20 reflects the wildfire risk across the landscape and its relation to hydrants and values at risk. It is clear to see that the county contains areas of high wildfire risk with limited or no hydrants available. Additionally, it is clear that not every value at risk has a fire hydrant nearby. For these reasons, it is critical that residents partner with local fire agencies to identify water resources that may be available for emergency use and share the responsibility of wildfire risk reduction by reducing risk to structures and the communities' values at risk.

Figure 21 shows the level of risk to drinking water, large bodies of water, and watershed boundaries. The risk to drinking water was developed using data from the Wyoming Wildfire Risk Assessment Portal (WYWRAP). The data considers the negative impact on drinking water based on the assumed severity of a fire in the area. The risk also evaluates the impacts on a water source from post-fire events such as erosion or flooding.

Figure 19: Bend in the Snake River

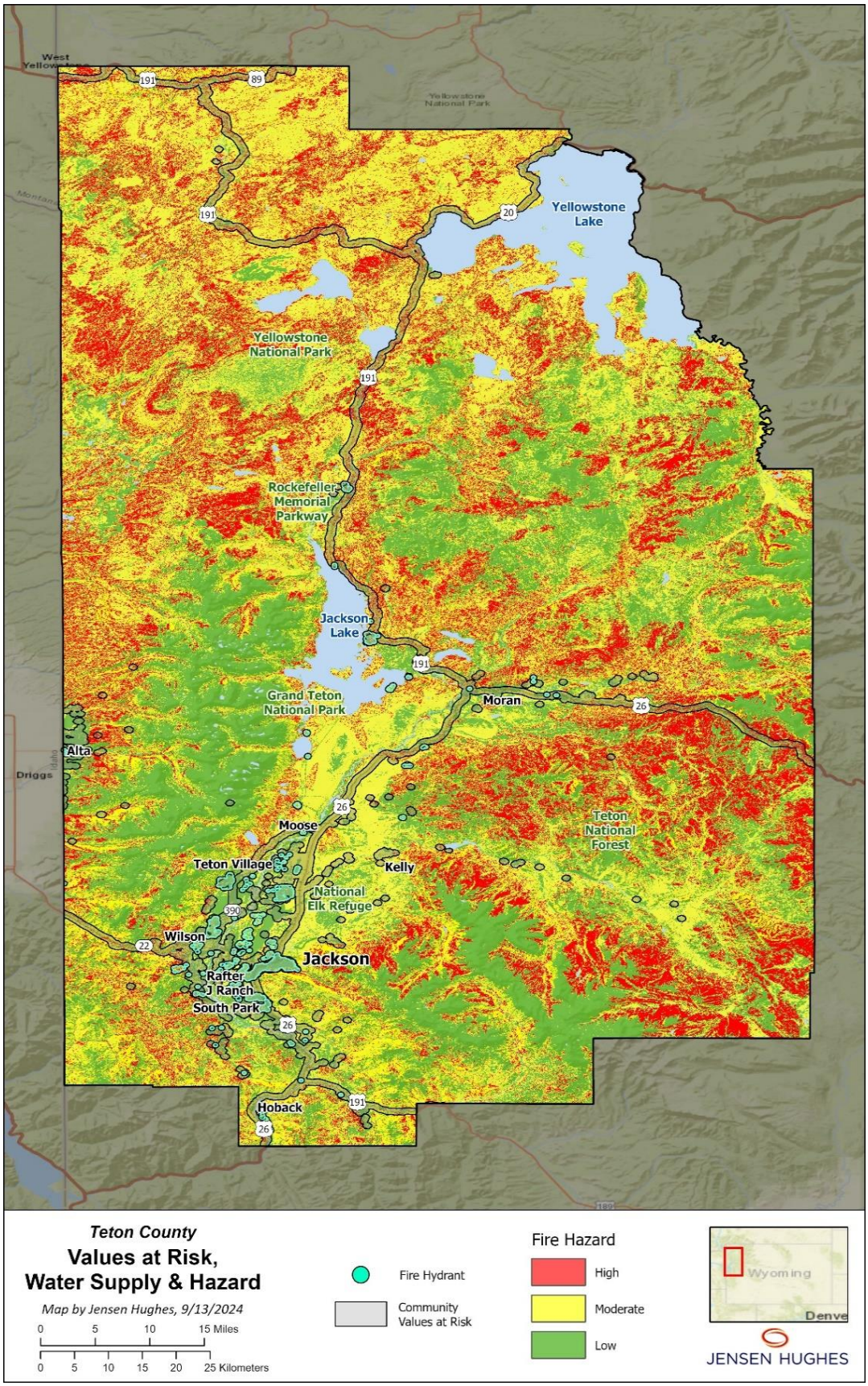


Figure 20: Wildfire Hazard in Relation to Fire Hydrant Locations

Table 3: Community Water Supplies – Teton County

System	Source Served
Town of Jackson	Municipal
Private Wells	Private and Commercial
Flat Creek	Recreation and Irrigation
GTNP	Municipal, including Moose, Colter Bay, Signal Mountain, Moran, Flagg Ranch
Cache Creek	Stormwater conveyance, controlled surface water
Snake River	Recreation, Irrigation, Municipal
Jackson Lake	Recreation, Irrigation, Municipal
Leigh Lake	Recreation, Irrigation, Municipal
Jenny Lake	Recreation, Irrigation, Municipal
Emma Matilda Lake	Recreation, Irrigation, Municipal
Lower Slide Lake	Recreation, Irrigation, Municipal
Phelps Lake	Recreation, Irrigation, Municipal
Grassy Lake Reservoir	Municipal
Gros Ventre River	Recreation, Irrigation, Municipal
Two Ocean Lake	Recreation, Irrigation, Municipal

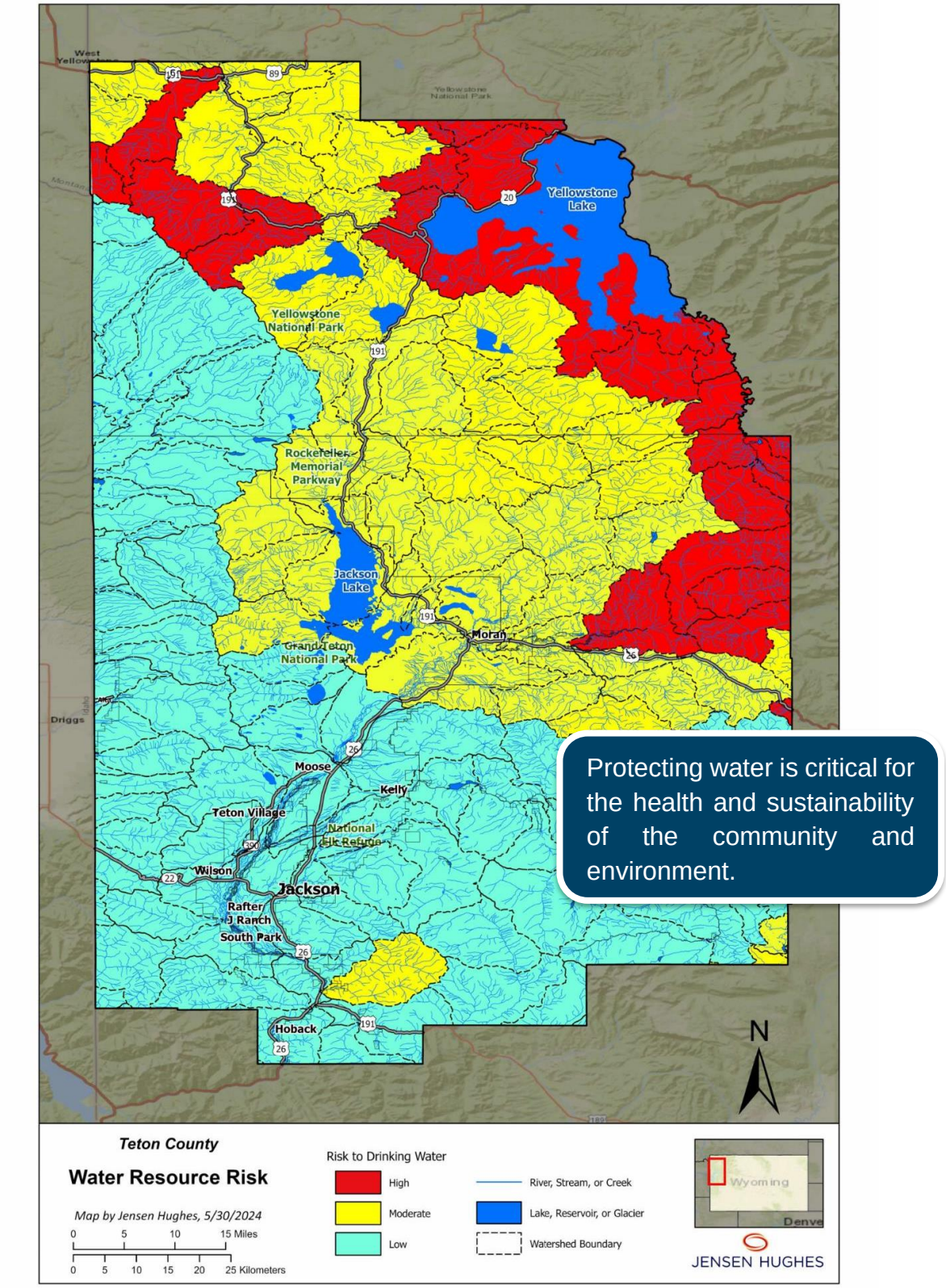


Figure 21: Teton County Water Resource Risk

- Shelter: A large portion of the residential, commercial, and educational structural density of the county resides within the Jackson Hole area. Other populated areas include small groups of neighborhood developments as well as isolated single-family residences that are on large acreage parcels. Many of these single-family residences are inhabited for only short periods during the year as most residents are seasonal.

  There are 14,050 housing units in Teton County, 9,278 of which are single-family residences. Many of the isolated single-family residences are located on 35 acres or larger lots and are prevalent in the northern and central portions of the county (eadiv.state.wy.us).

Figure 22: Isolated High-Risk Structure

- Animals and Agriculture: Agriculture, including farming and ranching, plays a key role in Teton County's economy. Over 25,500 acres of the county are irrigated lands that are primarily used for agricultural feed. These ranching properties contribute $17.6 million annually to the local economy.

  During a wildfire event, evacuating and finding adequate shelter for animals and livestock can be challenging. The loss of agricultural lands or livestock can create a loss in the community's economy as well as a resident's livelihood. Local hazard mitigation plans for specific areas that contain animals, livestock, and agriculture should be considered differently and provided special considerations given the unique challenges and economic impact to Teton County the loss of animals and agriculture would cause.

The impacts of wildfires affect not only domesticated animals but also the threatened and endangered species that call Teton County home. For additional information regarding threatened and endangered species, see Appendix G.

3.4.3 Health and Medical

- Medical Care: Teton County has several medical facilities, including, but not limited to, St. John's Health Hospital, Teton County Health Department, and the Teton Free Clinic. In addition to hospitals, facilities such as pharmacies, outpatient clinics, long-term care centers, and home health care can be threatened or impacted by wildfire. Special attention should be given to health clinics, labs, and healthcare facilities, as well as the medical supply chain, to maintain the essential needs for medical support before, during, and after a wildfire.
- Patient Movement: Medical staffing resources across the county are limited, and patient movement and direct patient care in a wildfire event could become compromised. Teton County and healthcare provider partners should identify strategies and plans for patient movement and care when resources could be impacted by an emergency. The consideration of increased vegetative fuel mitigation near roadways and adjacent to medical facilities to harden hospitals can decrease the risk of patient movement. Shelter-in-place procedures may also be applicable, but only when recommended and/or advised by an emergency manager.

3.4.4 Energy

The continuity of electric power transmission and distribution is an important consideration. Lower Valley Energy (LVE) provides electrical and natural gas energy to approximately 5,000 customers in Teton County as well as additional customers in surrounding counties. Wildfire is a direct threat to LVE infrastructure due to minimum vegetation clearance limitations and the vegetation fuel density (loading) in close proximity to electric lines.

Figure 23, below, shows the location of power generation sites, substations, and overhead electric lines used by LVE. Identifying the location of these values provides potential locations for continued fuel treatment and collaboration with other agencies for protection of electric resources.

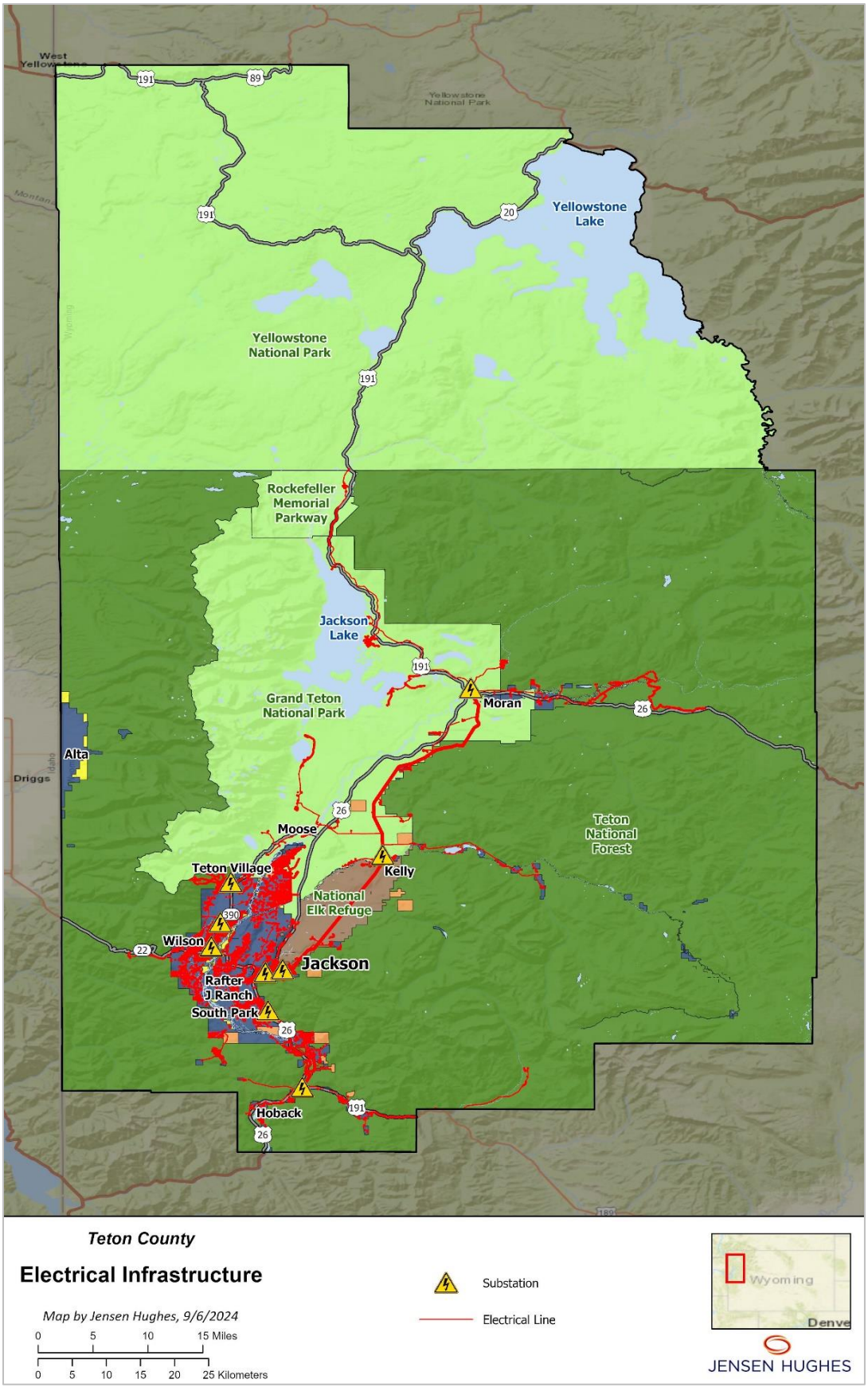


Figure 23: Electrical Infrastructure

3.4.5 Communications

Communications infrastructure includes several tower sites identified in Table 4, below. Emergency communications are provided by the Teton County Sheriff's Office to the agencies that deliver public safety services, including fire, law enforcement, and EMS agencies, support agencies such as the Federal Aviation Administration (FAA), USFS Law Enforcement, Teton County Coroner, and Teton County Search and Rescue.

Cell phone and internet services are provided by T-Mobile, CenturyLink, Comcast, Verizon, Silver Star, Starlink, and Luminate Broadband. These services share tower sites with the other communications infrastructure throughout Teton County. Annual inspection of these sites and vegetative fuel treatment should be considered, along with hardening the physical structures when possible.

Table 4: Communication Sites

Site Name	*Site Responsible Party*	*Landowner*
Apres Vous	JH Mountain Resort	Bridger-Teton NF
Snow King East	Static Peak	Bridger-Teton NF
JH Airport	JH Airport	Grand Teton National Park
Pow Wow	Bridger-Teton NF	Bridger-Teton NF
Rosies Ridge	Teton County	Bridger-Teton NF
Snow King West	American Tower	Bridger-Teton NF
Relay Ridge, Idaho	BLM	BLM
Rendezvous	JH Mountain Resort	Bridger-Teton NF
Signal Mountain	Grand Teton National Park	Grand Teton National Park
Teton Pass Wyolink	Teton Communications	Bridger-Teton NF
Snow King Wyolink	WYDOT	Bridger-Teton NF
Black Mountain Wyolink	WYDOT	Caribou-Targhee NF
Aspen Ridge Wyolink	WYDOT	Pape Ranches, Inc.
Windy Ridge Wyolink	WYDOT	Shoshone NF
Grand Targhee Wyolink	Grand Targhee Resort	Caribou-Targhee NF
Bacon	Bridger-Teton NF	Bridger-Teton NF
Gravel	Bridger-Teton NF	Bridger-Teton NF
Hawks Rest	Bridger-Teton NF	Bridger-Teton NF
Lava	Bridger-Teton NF	Bridger-Teton NF
Ramshorn	Bridger-Teton NF	Bridger-Teton NF

3.4.6 Transportation

+ **Transportation corridors**: Vehicle travel throughout Teton County has limitations due to the rural nature of the area and the limited number of highways and roadways. Access and egress, particularly during a wildfire evacuation, will be difficult for residents and tourists due to many of the roadways being narrow, winding, and steep. Due to these road conditions, congestion, flow/contraflow, and first responders entering the fire area, the available access/egress routes may be compromised.

  The primary routes for travel in Teton County include US Highways 191, 89, and 26, as well as State Highways 22 and 390. The remainder of the road system consists of USFS, county, residential, and private roads, many of these being unpaved, narrow, and unmaintained. Depending on road ownership, roadways may be maintained differently for surfacing and adjacent vegetation. Varying road conditions, dense vegetation contributing to increased fire behavior, dense smoke, and slow speeds contribute to congestion and limited access and egress capacity. These conditions may compromise or limit evacuation capabilities.

Figure 24: Ski Hill Road (left), and Fish Creek Road (right)

Historically, in the western United States, wildfires with similar topography and fuels to Teton County have experienced evacuation routes that become threatened or rendered unusable. The importance of protecting these evacuation routes can be seen in the unfortunate examples of the 2018 Camp Fire in Paradise, California, and the 2023 Lahaina Fire in Lahaina, Hawaii.

Protecting the viability of road systems in the Wildland-Urban Interface (WUI) and other areas with similar risks is critical to the safety of the public and emergency responders. These roadways must remain maintained and managed. Vital roads that could be used for evacuation and access for responders should be assessed regularly for maintenance of roadside rights-of-way vegetation encroachment. Teton County Road & Levee Department, Wyoming Department of Transportation, US Forest Service, and other roadway managers should work collaboratively to identify risks and then work with appropriate landowners to mitigate the risks as they are identified.

Transportation corridors must also be evaluated post-fire as wildfire impacts can have significant and lasting effects on transportation routes for years, even decades, following wildfires. Due to most roadways being located along hillsides or in valley bottoms, post-fire impacts and weather can cause

erosion, undercutting, culvert plugs, and other impacts that can quickly compromise roadways and transportation corridors.

+ Aviation: Jackson Hole Airport, located in Grand Teton National Park, provides service to destinations throughout the United States. It is the busiest airport in Wyoming, servicing over 455,000 passengers annually. Heavy smoke from wildfire can impact the airport and the abilities of pilots landing or taking off.

  During a larger wildfire event, the airport may also serve as a central location for firefighting resources. This may include arriving out-of-state firefighter resources, firefighting aircraft (tankers, lead planes, air attack, and recon aircraft), serving as a tanker refueling site, or a rotor wing aircraft base for emergency response or suppression.

3.4.7 Hazardous Materials

Facilities storing or producing hazardous materials are prone to unintentional release during wildfire events. The Town of Jackson does contain facilities that contain hazardous materials. These facilities, and others that can be identified create environmental challenges in addition to the damage from wildfire. Hazardous materials facilities should be identified with emergency response agencies, and site-specific pre-planning should be considered.

The most prevalent hazardous material found in Teton County is propane tanks. The majority of Teton County relies on propane for heat. Hazardous materials off gassing and smoke produced from burning hazardous materials products is a critical safety concern for first responders. Hazardous materials, found in all structures and most outbuildings, contribute hydrocarbon fuels, fertilizers, insecticides, etc. Additionally, runoff from water used for fire suppression, rains, and melting snow flow into creeks and streams. This causes contamination and must be evaluated and mitigated.

3.4.8 Land Use and Zoning

Land use and zoning are managed by a joint effort between the Town of Jackson and Teton County, known as the Jackson/Teton Long Range Planning Department. This planning department develops and implements Land Development Regulations (LDR) for the county. These regulations define and regulate the use, development, and zoning of land within Teton County. The department also provides guidance and resources for the implementation of guidelines, resolutions, amendments, and master plans for land use and development.

Planning staff from the Jackson/Teton Long Range Planning Department maintains, updates, and administers the LDRs as the regulations addressing land use designations, distributions, locations, and extent, as well as specific goals, policies, and actions relating to community development, are updated.

These land use designations are intended to preserve the existing rural character of the communities, protect natural resources, and minimize overburdening of local infrastructure while also allowing for reasonable residential and commercial development within local geological (e.g., steep hillsides, unstable soil, and subsurface conditions, extreme fire hazards) and land use density constraints. The LDRs contribute to wildfire resilience by regulating development and vegetation.

3.5 FIRE PROTECTION RESPONSIBILITY

Wildland fire is managed through strong interagency cooperation with federal, state, and local resources for prevention, mitigation, and response. Over the past decade, most fire agencies have routinely provided support during wildland fire suppression activities in the form of mutual aid — both within and outside of WUI areas. The overarching goal has been the timely suppression of wildfires to protect life and property.

Fire agencies in Teton County have adopted standardized wildland firefighting training as part of their respective agencies' basic firefighter disciplines. Acquisition and use of wildland fire personal protective equipment (PPE), wildland fire apparatus, and implementation of the Incident Command System (ICS) were also implemented by these agencies. Adopting standardized wildland firefighting practices enables coordinated communication, unified command, and effective fire suppression tactics during a wildfire response. Teton County fire agencies provide structural and wildland fire protection, as well as mutual aid, to surrounding areas. The US Forest Service (USFS) has responsibility for wildland fire suppression on USFS lands within the Bridger-Teton and Caribou-Targhee National Forests, and, similarly, the National Park Service (NPS) provides the same response in their respective jurisdiction.

The Wyoming District 4 Annual Fire Operations Plan (AOP) annually reviews and updates the resources of and relationships between the wildland fire response agencies in Teton County. In Teton County, several agencies, including the County Commissioners, Fire Marshal, and the Fire Chiefs of Teton Village, Jackson Hole Fire/EMS, USFS, and neighboring counties, collaborate in updating the AOP.

The capacity for suppression and firefighting equipment within each agency and department is adequate for current levels of fire response and detection in Teton County. Given the population densities near values at risk and the WUI, early detection from residents has historically not been an issue. Fire responses have been able to suppress wildfires before they become larger incidents with many of the local fires remaining small and less than thirty acres in size.

Figure 25: Swinging Bridge Burn Area – 2020

Early fire detection should be improved in the more mountainous terrains and in areas where ski resorts are located. Given the numerous visitors to the ski areas in the summer months, detection and suppression efforts must be initiated as early as possible. Early detection through cameras and artificial intelligence (AI) may be a consideration for these areas, as many ski resorts currently utilize similar technology for ski reports and visibility monitoring. These cameras could be used to monitor and detect wildfires and smoke if used under appropriate partnership applications with fire responders and ski resorts.

3.5.1 Jackson Hole Fire/EMS

The Jackson Hole Fire Department has six (6) stations. In 2024, there were 27 career and 68 volunteer members.

+ Staff
    - One (1) Fire Chief
    - One (1) Assistant Fire Chief

      The Assistant Fire Chief supports the Chief with daily operations, coordinating with interagency partners, developing operational policies and procedures, and responding to large events, including wildland fire response within the Wildland-Urban Interface.
    - Two (2) Administrative

      The office is managed by an Executive Assistant and supported by an Administrative Assistant.
    - Four (4) Battalion Chiefs (BC)

      Three (3) BCs share Duty Officer shift coverage on a rotating basis and operational responsibilities. In addition, each BC is assigned other department functions and duties.

      One (1) Fire Marshal and Seven (7) Prevention Bureau Staff

      Provides code enforcement, inspection work, and public outreach campaigns to ensure increased community engagement and fire prevention.
    - 27 Career Firefighters/EMTs and Firefighters/Paramedics, full-time employment

      Operational career staff work a 48-hour, 96-hour shift rotation schedule within ABC shifts. A shift Battalion Chief leads each shift. A Captain leads each staffed station. Scheduled staffing is eight (8) or nine (9) staff members with no less than three (3) paramedics. Minimum staffing is six (6).
    - 68 Volunteer Staff

      Volunteers provide much of the staffing workforce. A majority respond from Fire Station 1 in Jackson. As of June 2023, 68 volunteer members have been certified as Firefighter 1, and many have certifications as Firefighter/Emergency Responder, Wildland Firefighter 2, and Hazardous Materials Operations.
+ Fire Stations
    - Fire Station 1 – Jackson, Wyoming, 40 E. Pearl Avenue – 18 members
    - Fire Station 2 – Wilson, Wyoming, 1315 Northwest Street – 8 members

- Fire Station 3 – Hoback, Wyoming, 10995 South US-89 – 8 members
- Fire Station 4 – Moran, Wyoming, 4 Moran Town Road – 4 members
- Fire Station 6 – Moose, Wyoming, 2505 N. Moose-Wilson Road – 9 members
- Fire Station 7 – Jackson, Wyoming, 3230 Adams Canyon Drive – 12 members

Figure 26: Jackson Hole Fire/EMS Station 1

3.5.2 Teton Village Fire Department

The Teton Village Volunteer Fire Department (TVFD) was formed in 1973 by a group of concerned residents and property owners. In 1990, TVFD became a governmental entity and a special district to provide and fund fire protection services for Teton Village through a mill levy and consolidation agreement. The area of coverage within the special district is 508.79 acres or roughly 0.80 square miles. TVFD is operated through an all-volunteer staff consisting of 17 volunteer firefighters, one (1) Type 1 engine, one (1) Type 3 engine, one (1) Type 6 truck, one (1) 115-foot aerial platform, and one (1) battalion SUV. TVFD is managed by a Board of Directors elected to four-year terms.

3.5.3 Teton County Fire & Rescue (Idaho)

Teton County Fire & Rescue is with Teton County Fire Protection District, situated in southeast Idaho. The fire protection district was formed in 1996 when it transitioned from a volunteer organization to a career department with full-time, part-time, and reserve staff. Teton County Fire & Rescue provides fire and EMS transport to a population of approximately 13,000 residents and 451 square miles, which includes response in portions of western Teton County and the Town of Alta through a Memorandum of Understanding (MOU) agreement with Jackson Hole Fire/EMS.

Teton County, Idaho, has three (3) incorporated cities: Driggs, Victor, and Tetonia. Driggs and Victor have staffed stations, while Tetonia is unstaffed. There are 27 career officers and firefighters and 13 reserves. Daily staffing typically includes three (3) or four (4) personnel at Station 1 and Station 2 and one (1) Battalion Chief. Apparatus includes three (3) Type 1 engines, three (3) Type 4 engines, three (3) Type 6 engines, one (1) 100-foot aerial, three (3) ambulances, and four (4) command vehicles.

3.5.4 Collaborative Agreements

Teton County fire agencies' ability to maintain and provide emergency response is dependent on partnerships and support from other county agencies through collaborative agreements like the Teton County Annual Operating Plan (AOP), the Mutual Aid agreement with the Department of the Interior (DOI), National Park Service, GTNP (05-2024), and with Teton County, Idaho, (09-2023). As many agencies have remote response areas and long travel times, the interagency agreements supplement emergent response capacity (staffing) and capability (equipment), improving overall response. Response agencies have recognized that they are co-dependent and force multipliers for each other through these agreements and relationships built over time.

The AOP, the CWPP, Mutual Aid Agreements, Intergovernmental Agreements (IGA), and Memorandums of Understanding (MOUs) must continue to be reevaluated and updated as appropriate. Plans and agreements should include mitigation projects, interagency training, communications, and the Incident Command System (ICS) that enable collaboration and mutual support. These documents include, but are not limited to:

- **Wyoming Wildland Fire Annual Operating Plan**: A sub-geographic plan intended to address issues affecting cooperation, interagency working relationships and protocols, financial arrangements, and joint activities for wildland fire response across the state of Wyoming.
- **Wyoming Wildland Fire Resource Mobilization Guide (Mini Mob Guide)**: This guide supplements the AOP and summarizes business practices, equipment uses, and firefighter pay rates for wildland fires.
- **Wyoming Emergency Fire Suppression Account (EFSA)**: An emergency account funded annually by participating Wyoming counties that can assist with wildland firefighting expenses above certain thresholds. Teton County is a participating county.
- **FEMA Fire Management Assistance Grant (FMAG)**: An emergency grant program available to states and local and tribal governments for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands that threaten such destruction as would constitute a major disaster.

Other collaborative agreements include a county-wide concerted effort to obtain grant funding, perform mitigation efforts, provide standardized public education and training, enhance communications, and increase interagency collaboration. Teton County has been successful with these efforts and will continue to engage in the following:

- **Grant Funding:** Aggressively pursue grants through collaborative partnerships and cost-share programs.
- **Mitigation:** Adopt and implement a strategic plan based on the wildfire threat assessment and values at risk.
- **Public Education:** Continue to implement Firewise, Home Ignition Zone (HIZ), and Ready, Set, Go!. Continue with community engagement meetings, improving interagency cooperation, and standardization of messaging.
- **Training:** Continue interagency training, maintain NFPA and NWCG firefighter qualifications, and conduct annual interagency exercises.

- **Communications:** Continue interagency dialogue, interaction, and partnership for wildfire prevention and preparedness efforts. Standardize the wildfire message through public education contact hours, including increased Public Service Announcements. Ensure all communication and messaging efforts are consistent and coordinated throughout the partnership.
- **Incident Command System:** Ensure all agencies are well-versed and comfortable with the use of Incident Command Systems (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 Team (IMT).
- **CERT Volunteers:** Local Community Emergency Response Team (CERT) programs train and organize teams of volunteers to assist their families, neighbors, co-workers, and other community members during emergencies when professional responders may not be immediately available to assist. Continue to support the use of CERT programs through training specifically related to community wildfire-related response efforts.

Bridger-Teton National Forest

Figure 27: BTNF Entrance

The Jackson and Blackrock Districts of the Bridger-Teton National Forest manage 1,417,483 acres of public land in Western Wyoming. This area includes the Bridger Wilderness, Teton Wilderness, and Gros Ventre Wilderness, as well as the Palisades and Shoal Creek Wilderness Study Areas. These two (2) districts are zoned for fire and fuel management under the North Zone Fire and Fuels Program. The North Zone Fire and Fuels program maintains an overhead staff of a Zone Fire Management Officer (FMO), Assistant Fire Management Officer (Operations), Zone Fuels Specialist, Assistant Fire Management Officer (Fuels), Fuels Technician, and Prevention Technician. The Prevention Technician staffs a Type 7 Engine/Patrol in Jackson. Primary fire response resources consist of a seven (7) or eight (8) person Type 3 Wildland Engine based in Jackson, a seven (7) or eight (8) person Type 3 Interagency (GTNP/BTNF) Engine in Moose, and a (10-12) person Type 1 Interagency (GTNP/BTNF) Wildland Fire Module in Moran. Teton Helitack is a national forest and national park fire resource based out of Teton Helibase at the Jackson Hole Airport with 24 short haul trained wildland firefighters and two (2) Type 3 Helicopters. All fire resources identified are federal resources that may or may not be available for response given national needs during the heightened fire season.

The agency is part of the Teton Interagency Fire Program with Grand Teton National Park (GTNP) to provide fire response on public lands and assist partners and neighboring jurisdictions through mutual aid. The agency utilizes prescribed fire and mechanical treatments to reduce hazardous fuels on forest lands in alignment with identified areas of wildland-urban interface within the Teton County CWPP and in partnership with local and state stakeholders.

Teton Interagency Fire Program

Teton Interagency Dispatch Center, located in Moose, Wyoming, is an all-risk dispatch management and resource mobilization unit in western Wyoming. The dispatch center serves Bridger-Teton National Forest

(BTNF), GTNP, and John D. Rockefeller, Jr., Memorial Parkway, as well as wildland fire and prescribed fire activities for the US Fish & Wildlife Service National Elk Refuge, Wyoming State Forestry Division (Teton Zone), and county fire services for Teton, Sublette, and the northern portion of Lincoln County.

The Fire and Aviation Management programs within BTNF and GTNP are integrated to provide a professional and innovative interagency fire program. While they are the primary participants in the Teton Interagency Fire Program, they work closely with the National Elk Refuge, Wyoming State Forestry, and Teton, Lincoln, and Sublette Counties. Cooperation is key, not only during fires and all-risk incidents, but during all aspects of fire and incident management from training and planning through incident response and post-fire recovery.

Caribou-Targhee National Forest

The portions of the Caribou-Targhee National Forest (CTNF) that are within or directly adjacent to Teton County include the Ashton-Island Park, Teton Basin, and Palisades Ranger Districts. The area described is approximately 718,000 acres and includes two (2) wilderness areas, the Winegar Hole and Jedediah Smith Wilderness Areas. The area is divided into two (2) fire management zones, the North Zone and South Fork Zone. The North Zone has a Fire Management Officer (FMO), Assistant FMO – Operations, Assistant FMO – Fuels, four (4) Type 6 Engines, one (1) Fuels Crew, and one (1) Type 2 Initial Attack Hand Crew. The South Fork Zone has an FMO, Assistant FMO – Operations, Assistant FMO – Fuels, two (2) Type 6 Engines, one (1) Fuels Crew, and one (1) Type 3 Helicopter with a 10-person Helitack crew.

The agency provides initial response on USFS lands and assists partners in initial response through mutual aid agreements. The agency utilizes prescribed fire and mechanical treatments to reduce hazardous fuels on USFS lands. It also partners with local and state stakeholders to help reduce hazardous fuels across landscapes that are identified in the Teton County CWPP.

Grand Teton National Park

Grand Teton National Park and John D. Rockefeller, Jr., Memorial Parkway preserve 333,700 acres in northwest Wyoming for future generations. Visitors enjoy the Teton Range, pristine lakes, the Snake River, the valley of Jackson Hole, and the wildlife that calls these places home. The agency maintains a six (6) person Type 6 Engine and an eight (8) person Type 3 Engine and contributes to the ten-person Teton Interagency Wildland Fire Module and 25-person Teton Interagency Fire Program Helitack crew with the Bridger-Teton National Forest.

The agency provides initial response to NPS and USFS land and assists partners through mutual aid agreements. It utilizes prescribed fire and mechanical treatments to reduce hazardous fuels on NPS lands and partners with local and state stakeholders to help reduce hazardous fuels across landscapes identified in the Teton County CWPP.

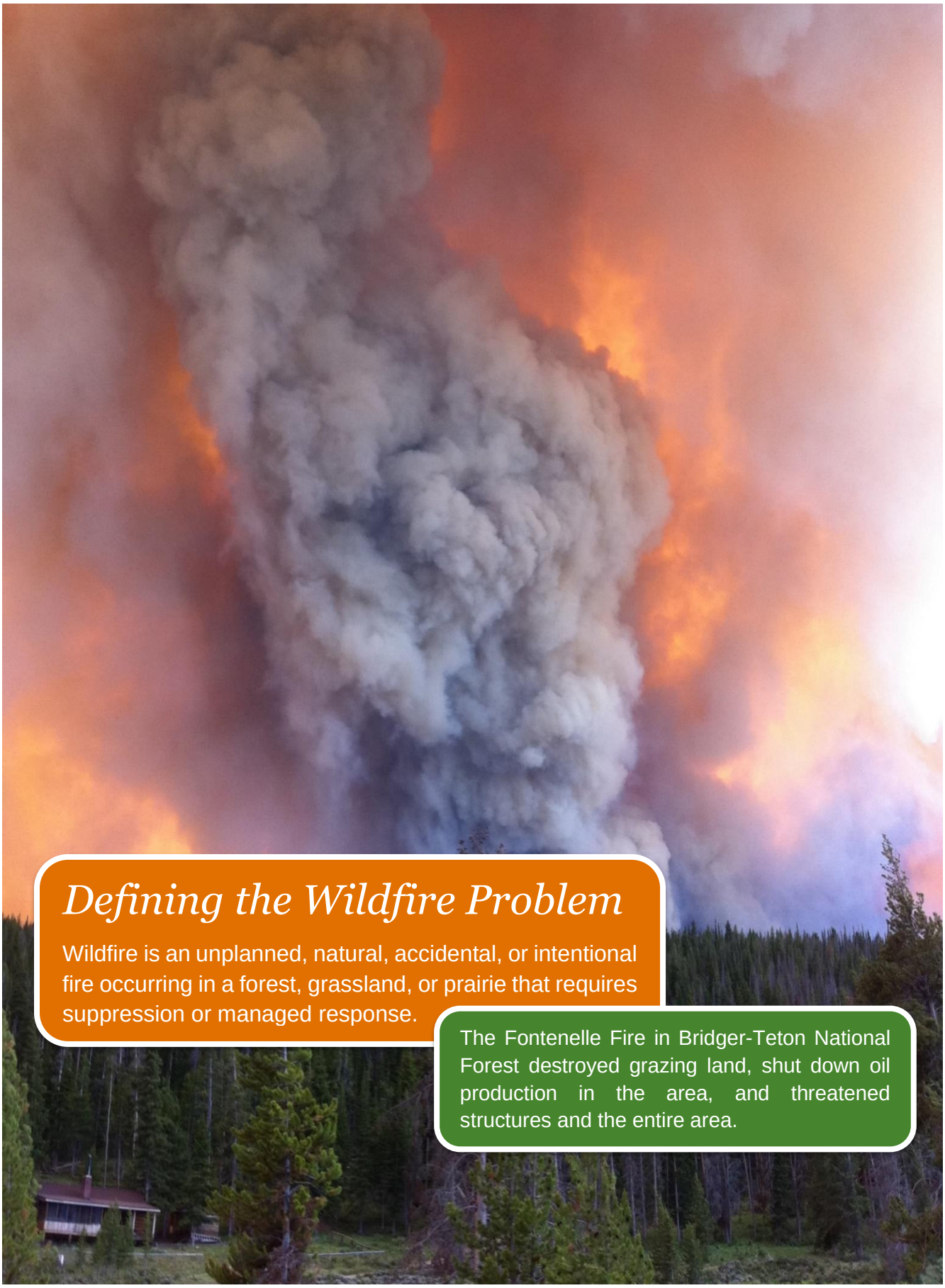
Figure 28: GTNP Entrance

Wyoming State Forestry Division

The Wyoming State Forestry Division (WSFD) serves the citizens of Wyoming by actively leading and collaborating in the stewardship of Wyoming forests. The WSFD provides technical assistance and forestry expertise to private, state, and federal landowners. The Division accomplishes its stewardship mission through the planning, implementation, and management of projects to

improve forest health. These projects are entered into with municipalities, private landowners, and local governments and utilize grant funding. Through their mission of improving forest health and supporting mitigation projects, wildfire risk is reduced, and forest resiliency is improved, making the forest lands less susceptible to large wildfire incidents.

WSFD also has an initial attack helicopter crew of six (6) personnel comprised of Wyoming State Forestry Division, USFS, and BLM employees — a true interagency program. The Type 3 Helicopter provides fire suppression and wildfire suppression response from its base near Glenrock, Wyoming. WSFD also has contracted resources for two (2) single-engine air tanker (SEAT) aircraft that can be available for wildland fire air support in the state of Wyoming.



Defining the Wildfire Problem

Wildfire is an unplanned, natural, accidental, or intentional fire occurring in a forest, grassland, or prairie that requires suppression or managed response.

The Fontenelle Fire in Bridger-Teton National Forest destroyed grazing land, shut down oil production in the area, and threatened structures and the entire area.

4.0 Defining the Wildfire Problem

Teton County has experienced multiple wildfires over the last decade. Luckily, the majority of these remained relatively small, less than 30 acres, and have been actively managed with minimal loss. However, Teton County has the potential to experience significant wildfires that can impact infrastructure, the environment, and the economy. Wildfires are common in the Western US, and residents and wildfire responders in Teton County have a heightened awareness of the danger posed by a wildfire occurring within the county.

Wildfires can be destructive but are necessary for a sustainable, healthy ecosystem and a healthy environment. As buildings, homes, and people enter forested landscapes, the ecosystem and natural functions of wildfire do not change. Prevention, education, mitigation, and early detection of wildfires are extremely important to limit loss to the environment and community. With increased populations in vegetated areas (sagebrush and grass), human-caused wildfires are becoming more frequent.

Although most of the wildfires in Teton County have remained relatively small, small fires always have the potential to become a large destructive event. Large fires are usually the result of environmental conditions that align with each other, including dry fuels, wind, and low humidity. A delay in a wildfire being discovered or reported can result in a small fire becoming a large one. Limited local resources curtail responders' ability to suppress and contain a fire during the initial or extended attack. As a result, these wildfires can become a major event, increasing the likelihood of a wildfire impacting the WUI or other at-risk areas.

Figure 29: Wildfire Aftermath

Teton County contains multiple communities with many residential properties located in subdivisions and neighborhoods that were built before the current building codes. These buildings are more susceptible to fire. Based on research from the Wildfire Research Center (WiRē) in 2022, 95% of residences have a single road in and out. The lack of access and egress increases wildfire risk. The research included field surveys that were paired with survey data from landowners. The survey included 243 homes in Teton County. The estimated total number of residential structures in Teton County is over 13,000. A broader and more complete analysis, using Geographic Information Systems (GIS) and a traffic flow survey, is recommended in specific areas of high wildfire risk to quantify access and egress at the county scale. Following this study, vegetation management and roadway maintenance programs can be implemented in areas of concern to further reduce risks.

Wyoming ranks 7th in the number of wildfires and acreage in the United States (National Interagency Coordination Center, 2023). As with many western states, the frequency of wildfires is on the rise. Wildfires that usually occurred during the "traditional summer fire season" are now being reported throughout the calendar year. The multiple reasons for the increased incidence of wildfires include unhealthy forests, climate change, less moisture and low temperatures in winter, and increased human-caused ignitions. These contributing factors have led to an increase in civilian and first responder fatalities and injuries, infrastructure damage, property damage, and impacts on watersheds, natural resources, and wildlife habitats. To determine the mitigation strategy moving forward and address the potential negative effects of a wildfire, an understanding of the fire history, fire ecology, climate, and human interactions with these various factors should be evaluated. The following information breaks down these factors so that Teton County can further define the wildfire problem.

4.1 FIRE HISTORY

Fire history provides an understanding of fire frequency, fire seasons, fire behavior, fire characteristics, and sources of ignition to identify portions of the landscape that are most vulnerable.

Large wildfires are not uncommon throughout Teton County. In the last ten years (2014 -2024), several notable interface fires have occurred. The Saddle Butte Fire (September 2019) burned 250 acres, the Berry Fire (July 2016) burned 20,825 acres, and the most recent Fish Creek Fire (September 2024) burned over 25,371 acres.

The wildfire season in Teton County is typically the months of June through September, but there have been wildfires as early as April and as late as December. The wildfire risk is generally highest from July through August due to increased temperatures, low fuel moisture levels, cured grasses, and an increase in dry lightning storms.

Figure 30: Fish Creek Fire, 2024

Table 5 lists historical fires within Teton County in the last decade that were greater than 100 acres in size. This table does not include all ignitions.

Table 5: Wildfires Within and Adjacent to CWPP Planning Area

Fire Name	Date	Fire Size (acres)
Pack Trail Fire	2024	89,921 *
Leeds Creek Fire	2024	780 *
Fish Creek Fire	2024	25,371
Sandy Fire	2022	104
Shale Creek Fire	2021	189
Pilgrim Creek Fire	2020	260
Swinging Bridge Fire	2020	102
Saddle Butte Fire	2019	250
Marten Creek Fire	2018	6,483
Yellow Mountain Fire	2018	516
Pole Creek Fire	2017	3,600
Berry Fire	2016	20,825
Cliff Creek Fire	2016	34,313
Pole Creek Fire	2014	150

** As of October 27, 2024*

Figure 31: Structure Protection, Fish Creek Fire, 2024

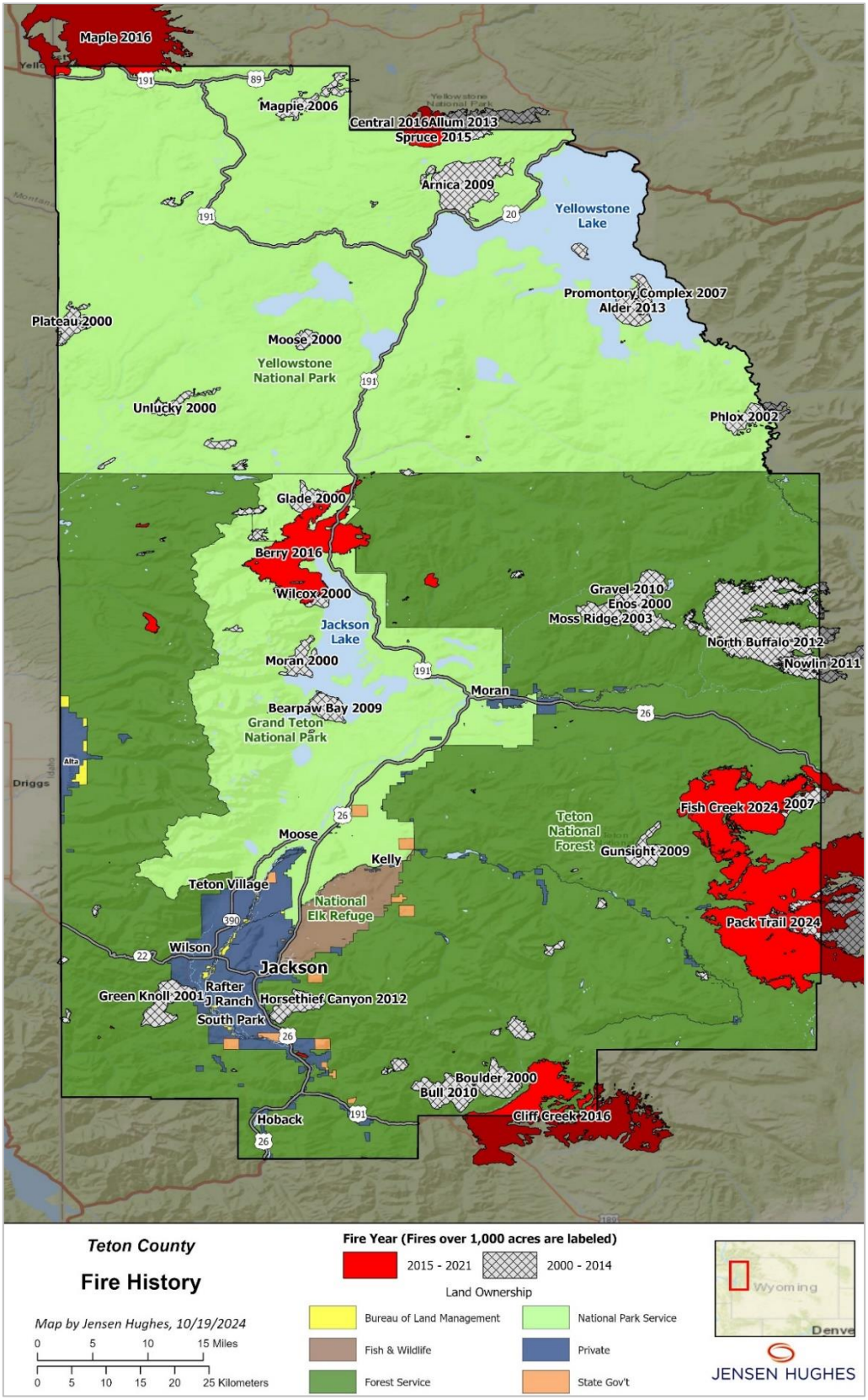


Figure 32: Fire History

4.2 FIRE ECOLOGY

Throughout the Western US, wildfires are one of the only natural disturbances with effects that can last decades. They drastically impact ecology and change the landscape. Fire frequency and burn severity are critical components in determining the time interval for an ecosystem to recover and regenerate following a wildfire. Damage severity needs to be analyzed, and post-fire effects must be monitored and managed. Mitigation of damage, restoration, and recovery efforts must be implemented to prevent further environmental damage.

Wildfires are often predictable in their frequency. In Teton County, the average fire frequency for large wildfires in the mixed grass/sagebrush is every six (6) to 30 years, based on the vegetation type and climate. In high-elevation sub-alpine mixed conifer forests, the average fire frequency, known as return interval, exceeds 300 years. A forest return interval is the average frequency of time in which a wildfire impacts the forest, causing significant forest stand damage or a complete forest stand replacement as it becomes consumed by the wildfire. Climate variations affecting precipitation, high fuel loads, extreme wind events, outbreaks of forest insects and disease, and increased human ignitions all contribute to recent drastic increases in wildfire occurrence. Firefighter suppression efforts have managed to keep most wildfires from becoming large-scale events. Some wildfires and prescribed fires can be used to manage fire-prone areas to reduce fuel loads, fire frequency, and future wildfire severity.

Many decades of fire suppression throughout Teton County have altered the way forested landscapes need wildfire for sustained health and forest composition. Suppression activities, combined with the lack of forest management, the public's misunderstanding of forestry and fire ecology, the influx of people into forested landscapes, and the increase of insect and disease have all resulted in years of fuel accumulation and increased wildfire severity.

4.3 CLIMATE

The current climate patterns and decades of climate change have resulted in increased wildfires, heightened wildfire activity, longer fire seasons, and the influx of insects and diseases in forested landscapes across the Western US. Monitoring the elements of climate patterns and change is essential in reducing wildfire risk, managing forested landscapes, and implementing fuel treatments to prevent wildfires in high-priority areas. The elements that make up climate, temperature, precipitation, humidity, and wind determine the usual and average atmospheric conditions found in a given area over a long time scale. The average conditions of these elements constitute the climate of an area. Climate is not to be confused with weather. Weather is the state of these atmospheric elements over short time periods.

Teton County Commissioners signed a greenhouse gas resolution expressing concern about global warming and its potential to harm the health, safety, and welfare of Teton County and its residents. Teton County has begun taking steps towards reducing greenhouse gas (GHG) emissions through the Teton Climate Action Partnership (Teton County Internal Sustainability Strategy). Their climate action plan identifies the top five (5) climate risks for Teton County: drought, extreme heat, flooding, shifts in seasonal weather patterns, and wildfire.

Teton County Climate

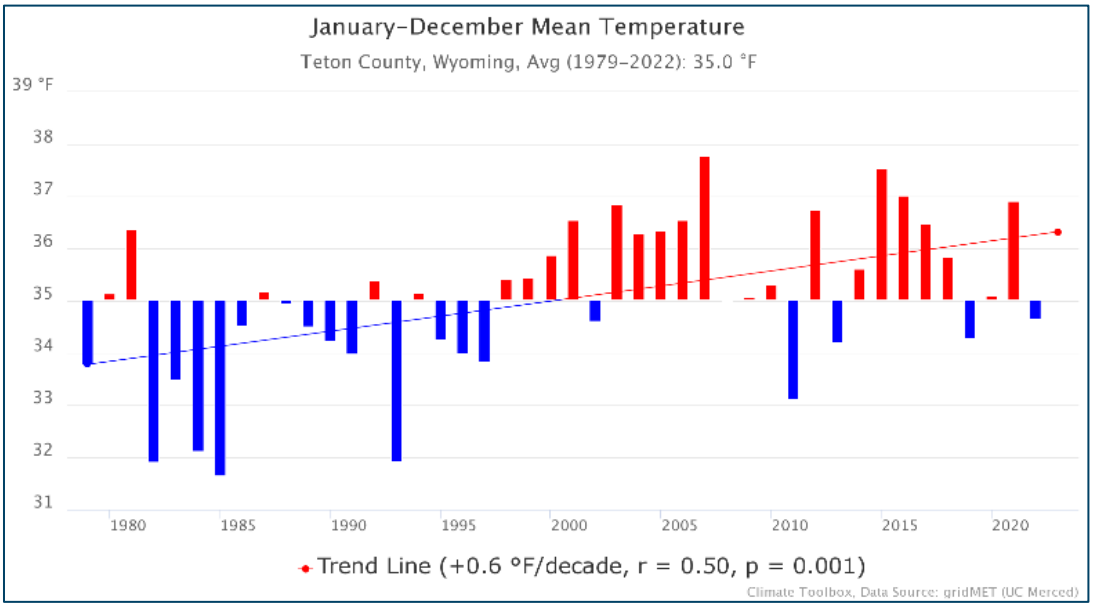
Teton County is located in a "temperate continental climate/humid continental climate" zone (Koppen Climate Classification) with an average annual precipitation of 26.2 inches, falling primarily in the winter and early spring months. Average temperatures peak in July in the low 70s °F, with the winter mean low of approximately 8 °F.

Extreme temperatures, such as the record high of 100 °F in Jackson, occur primarily during the summer months and are often associated with exceptional drought conditions.

Climate Impact

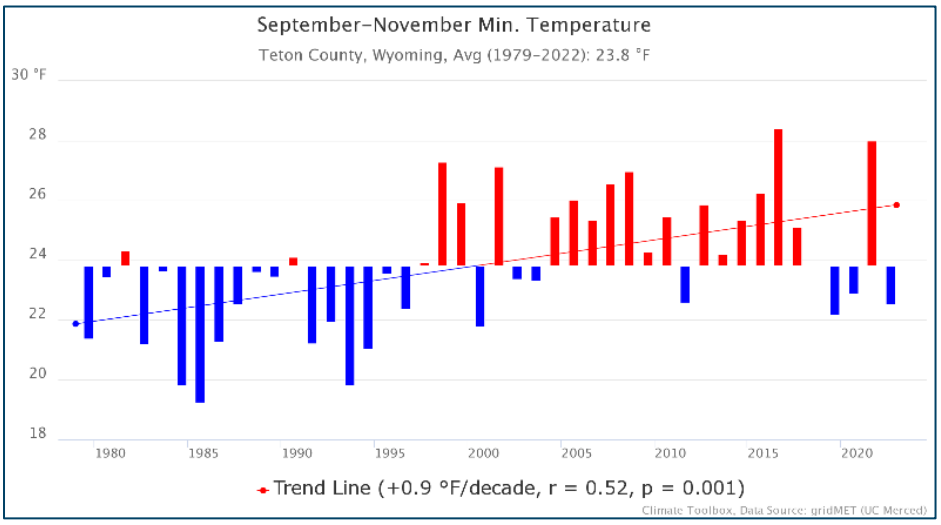
Wildfires become unmanageable under extreme conditions, including abnormally high heat events that align with abnormally dry fuels. Understanding how climate change impacts the frequency and intensity of extreme weather events is important.

Abnormal temperatures, lack of precipitation, drought, and atmospheric instability are becoming common occurrences instead of rare events. The following tables identify how the climate has changed over the past 30 years in Teton County.



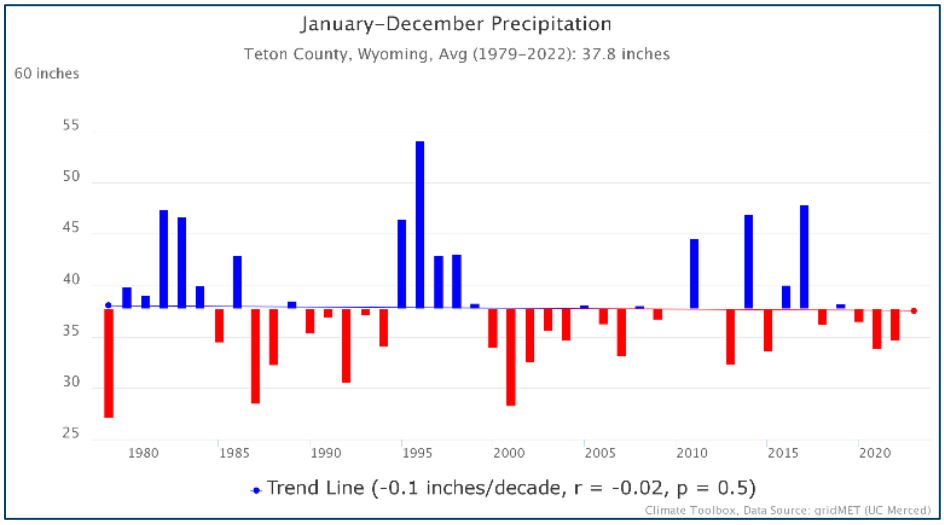
Annual Mean Temperatures are Trending Up

Over the past 30 years, Teton County, Wyoming, has seen a rise in annual average temperatures, leading to intensified drought conditions, reduced snowpack, and altered spring runoff. These warming trends increase the frequency of extreme heat events and contribute to poor air quality, posing health risks to residents. Additionally, higher temperatures weaken trees, making them more susceptible to diseases and infestations, which further threaten the local ecosystem.



Fall Minimum Temperatures are Trending Up

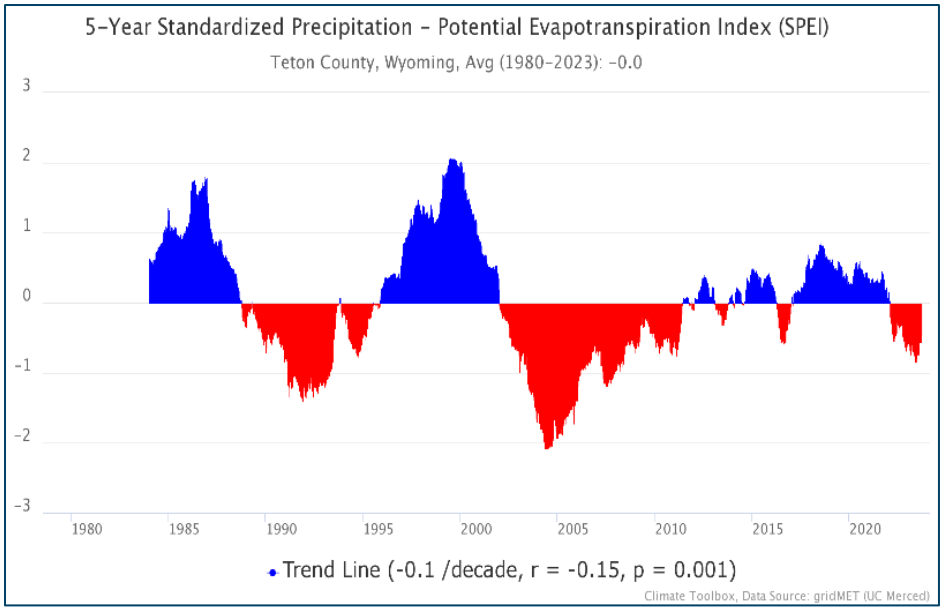
Reduced nighttime humidity recovery during the fall months from September to November contributes to increased minimum daytime temperatures in Teton County, Wyoming. This rise in temperatures can disrupt local ecosystems by affecting plant growth cycles and altering wildlife behavior, as many species rely on cooler nights for dormancy. Additionally, higher daytime temperatures can intensify water evaporation, exacerbating drought conditions and reducing water availability for agriculture and recreation. As these trends persist, Teton County may need to adopt adaptive management strategies to mitigate the impacts, ensuring the health of both the environment and the community in the face of changing climatic conditions.



Precipitation is Trending Down

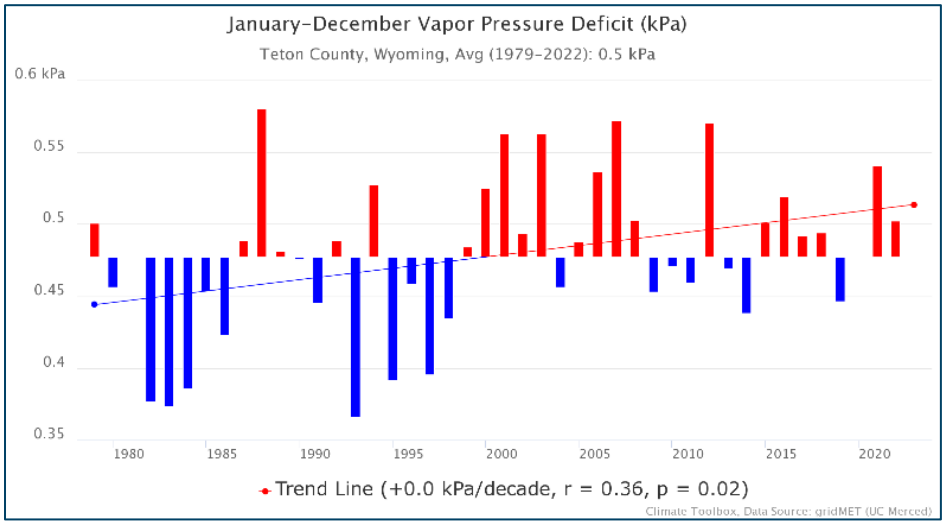
A decline in summer precipitation is a key factor contributing to drought conditions in Teton County, Wyoming. This reduction impacts water availability for agriculture and local ecosystems, increases wildfire risk, and affects recreational activities dependent on healthy rivers and lakes. Prolonged dry spells lead to diminished soil moisture, stressing native plants and crops while also impacting wildlife habitats that rely on consistent water

sources. As climate patterns shift, the community will face challenges in water management, requiring adaptive strategies to address the effects of drought on the environment and local economy.



Standardized Precipitation-Evaporation Index (SPEI) is Trending Down

This downward trend means increasingly dry conditions. The SPEI value indicates the onset, duration, and magnitude of drought conditions that have a direct impact on ecosystems. Drought indices have the strongest correlation to fire danger, wildfire frequency, intensity, and size. The SPEI measures temperature, precipitation, and evapotranspiration, the moisture the earth loses to the atmosphere from both evaporation and transpiration from plants.



Vapor Pressure Deficit (VPD) is Trending Up

VPD measures atmospheric dryness near the Earth's surface. It is directly related to the rate at which water is transferred from the land surface to the atmosphere. Research indicates that climate change is increasing VPD (Climate Signals via Quest, n.d.).

"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."

Figure 33: Gros Ventre Rx Burn

Climate Projections

Future climate change projections are shaped by natural climate variability and human-caused emissions (i.e., GHG). A recent study, "Impact of Anthropogenic Climate Change on Wildfire Across Western US Forests," concludes that future climate projections are showing fire frequency and intensity will continue to rise (Abatzoglou, 2016).

In Teton County, there is a projected temperature increase of five (5) to ten (10) °F by Year 2100. This prediction and trajectory are modeled in Figure 34 and Figure 35 using the RCP8.5 emissions trajectory for future emissions (Abatzoglou, 2016).

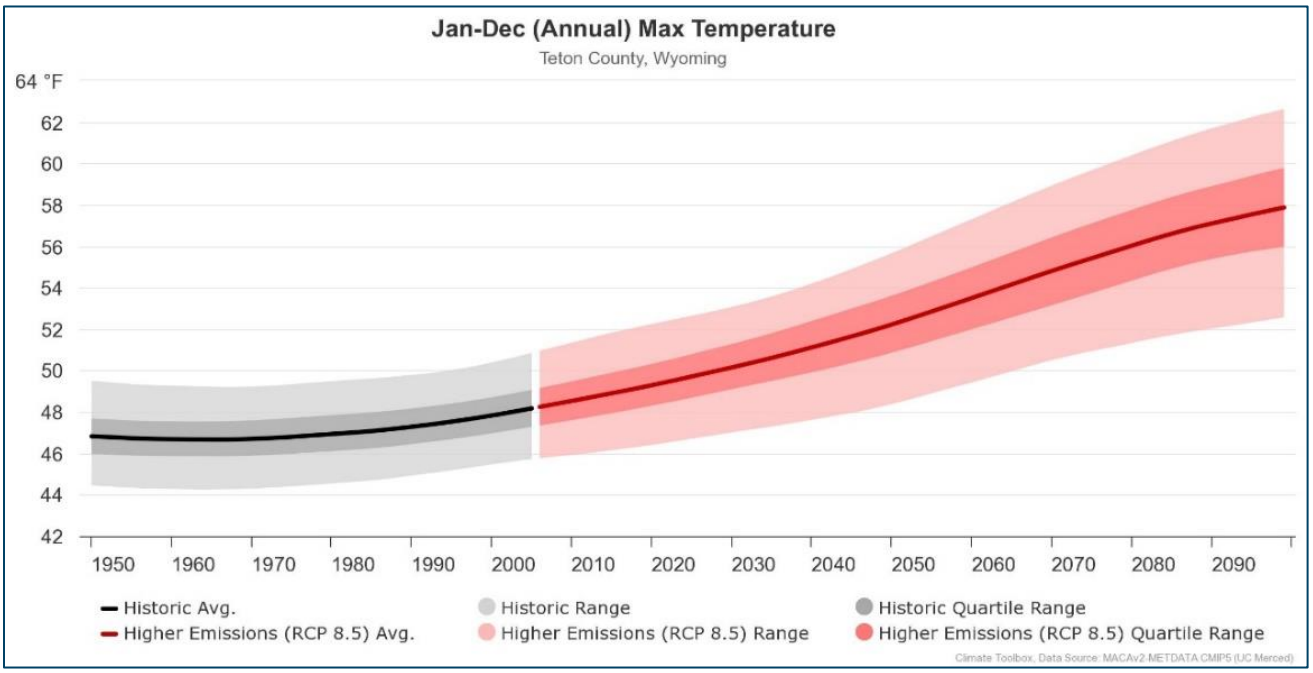


Figure 34: Projected Annual Maximum Temperature

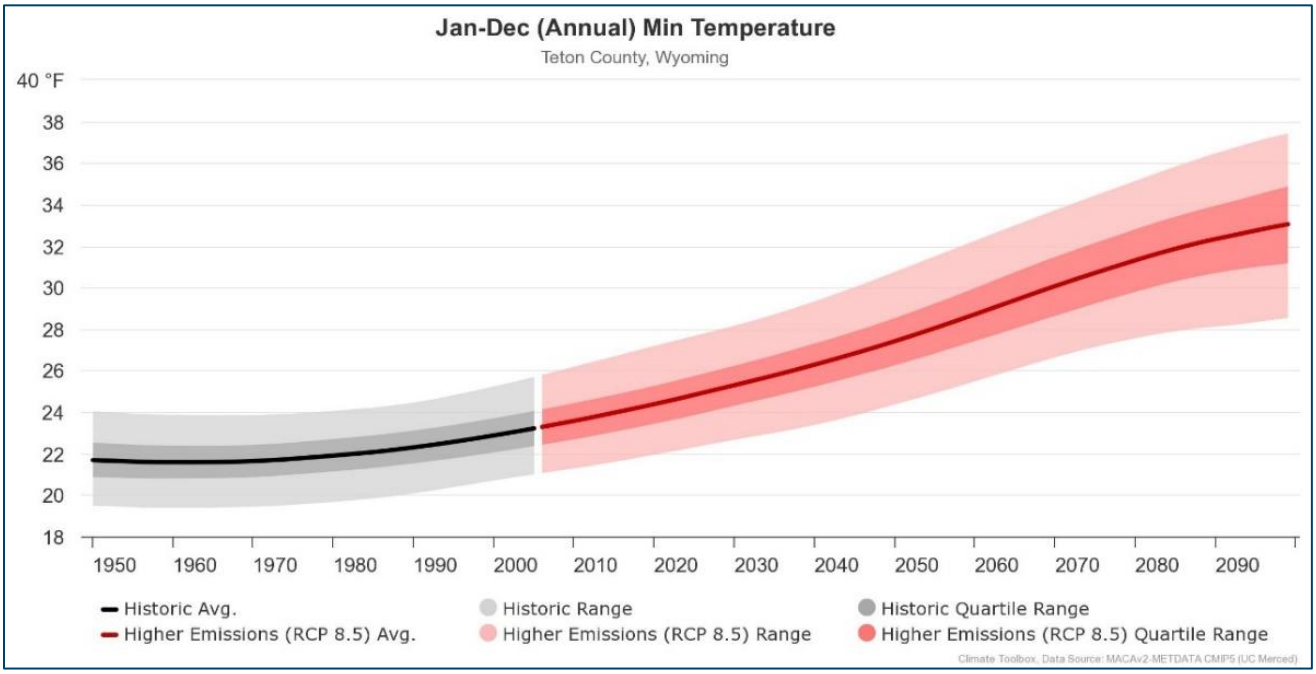


Figure 35: Projected Annual Minimum Temperature

In evaluating the most extreme fire danger days, defined as historic 97th percentile conditions, for both the winter and spring periods (Figure 36) and the summer and fall periods (Figure 37), summer and fall are projected to see the greatest increase in extreme fire danger days.

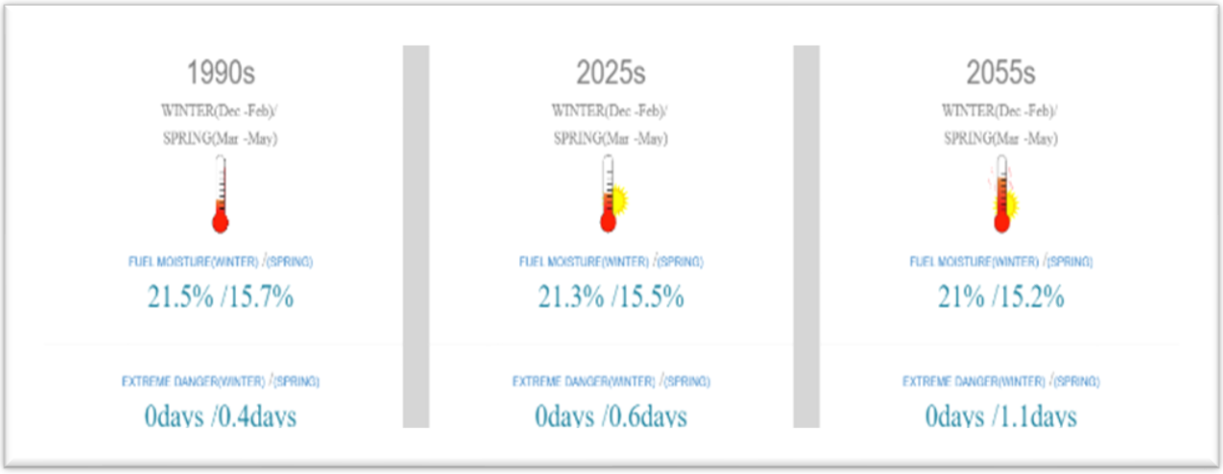


Figure 36: Projected Changes in Winter and Spring Months

Figure 37: Projected Changes in Summer and Fall Months

Local Climate Action

The Teton Climate Action Partnership (TCAP) and Yellowstone-Teton Clean Cities (YTCC) are actively implementing a range of climate action strategies to empower communities in tackling the climate crisis through local policies, programs, and initiatives. Their efforts aim to achieve net-zero carbon emissions and greenhouse gases by addressing key areas such as energy, transportation, waste management, land use, and the economic sectors of Teton County.

4.4 TOPOGRAPHY

Topography has a significant role in wildland fire behavior as it influences local winds, sheltering some areas from the prevailing wind or channeling wind through saddles, canyons, and drainages. Topographical features that influence fire behavior include slope, aspect, terrain features, and elevation. The percentage of grade, also known as the steepness of the slope, is the most influential feature of fire behavior. It exponentially accelerates the rate of spread, preheats fuels through convection and radiation, and creates difficult terrain to access with ground-based suppression forces.

Mountain ranges in Teton County include the Gros Ventre, Teton, Absaroka, Snake River, and Wyoming Ranges. Elevations at the valley floor range from approximately 6,100 to 6,300 feet, and the highest elevation is the Grand Teton, at 13,775 feet.

The terrain in the lower elevations of Teton County generally consists of watershed drainages and valleys, open ranges, ranch land, agricultural fields, rolling meadows, and hills. In the lower elevations and valley floor, the fine flashy fuels (grasses and sagebrush) and slight elevation changes are the main contributors to a fire's rate of spread and intensity. The steep slopes of the mountains in the county, with numerous ridges and saddles, cause a high rate of spread and long-range spotting as firebrands are carried up and out of the fire. These conditions, along with homes located in these areas, create a scenario in which the damages from a large wildfire would be devastating.

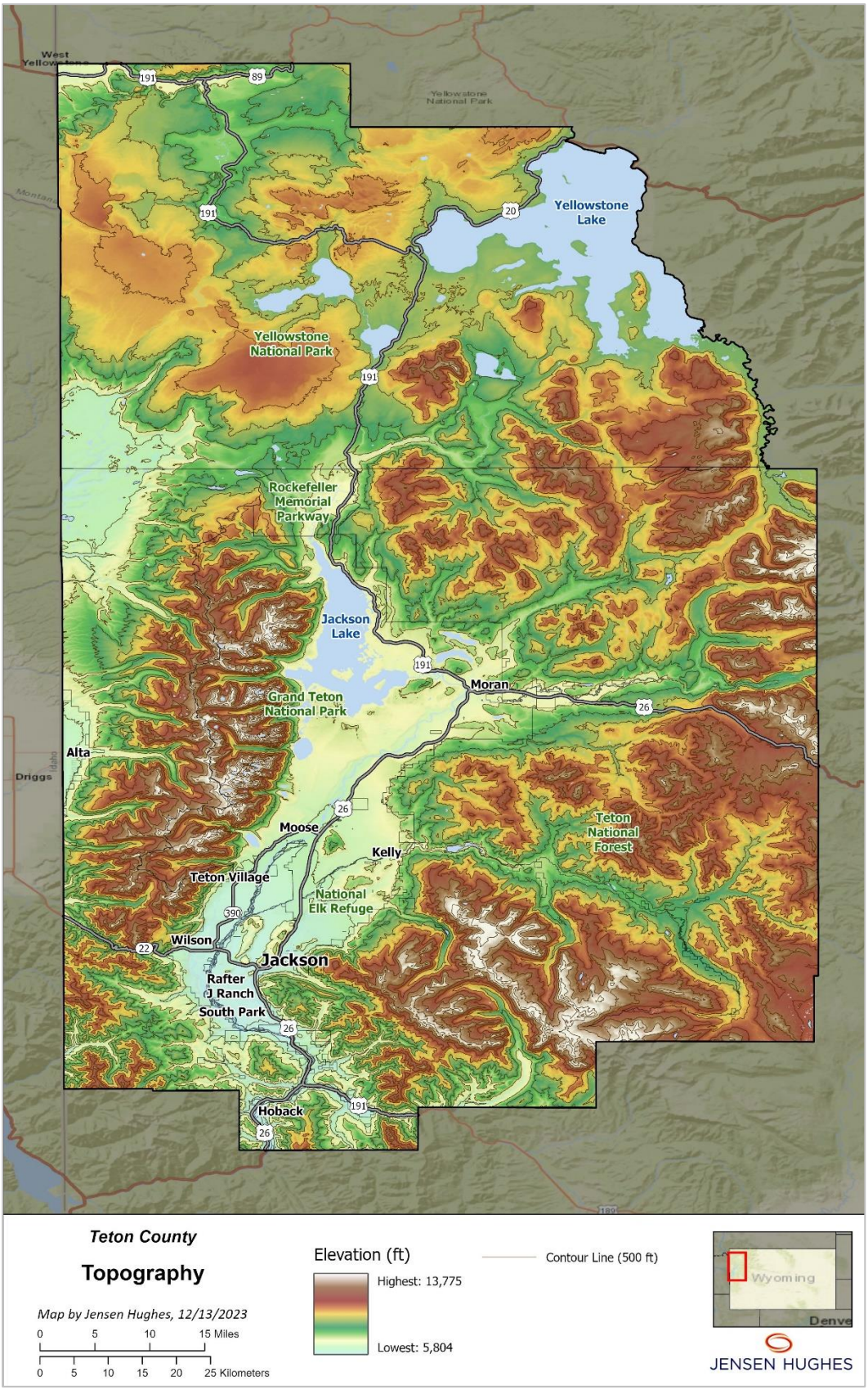


Figure 38: Teton County Topography

Wildfire Hazard + Risk Assessment

Evaluating the impact of wildfire hazards and overall risk to communities will be used to determine projects and priorities for risk reduction within the county.

5.0 Wildfire Hazard + Risk Assessment

5.1 FIRE BEHAVIOR MODELING

An in-depth wildfire analysis was conducted utilizing a uniquely developed fire modeling program for Teton County and national datasets from FlamMap to determine the degree of wildfire hazard in Teton County. The risk analysis started with analyzing the wildfire hazard on the landscape utilizing the 97th percentile weather condition, i.e., the top 3% of fire weather days, consisting of high temperatures, low humidity, and high winds, to calculate fuel moisture and winds during both a High and an Extreme fire danger day.

Table 6: 97th Percentile Weather Conditions

Variable	*97th%*
20-foot wind speed upslope	10 mph
Wind direction used	Always Uphill
1-hr fuel moisture	4%
10-hr fuel moisture	5%
100-hr fuel moisture	9%
Herbaceous fuel moisture	52%
Woody fuel moisture	80%

Utilizing the 97th percentiles throughout, the fire behavior modeling data provides a level of measurement for how any given vegetation will burn under the same weather conditions based on its fuel classification and fuel moisture. Fuel moisture refers to the amount of moisture within vegetation in its natural state. This model highlights the relative risk with respect to moisture conditions.

To evaluate the effects of fire burning at these conditions, a hazard assessment was also completed using flame length, fireline intensity, crown fire potential, and rate of spread. These additional models can be found in the following sections, as well as Appendix A.

5.1.1 Flame Length

Based upon fuel moisture conditions combined with additional vegetation and suppression inputs, a landscape model was completed and evaluated for the Teton County Planning Area to develop a projected flame length analysis. Values were generated by FlamMap to model the flame length utilizing the 97th percentile weather conditions. Flame length was classified into four (4) categories based on standard ranges for fire suppression capabilities. The ranges are less than four (4) feet in length, 4.1–8 feet in length, 8.1–11.0 feet in length, and greater than 11 feet in length.

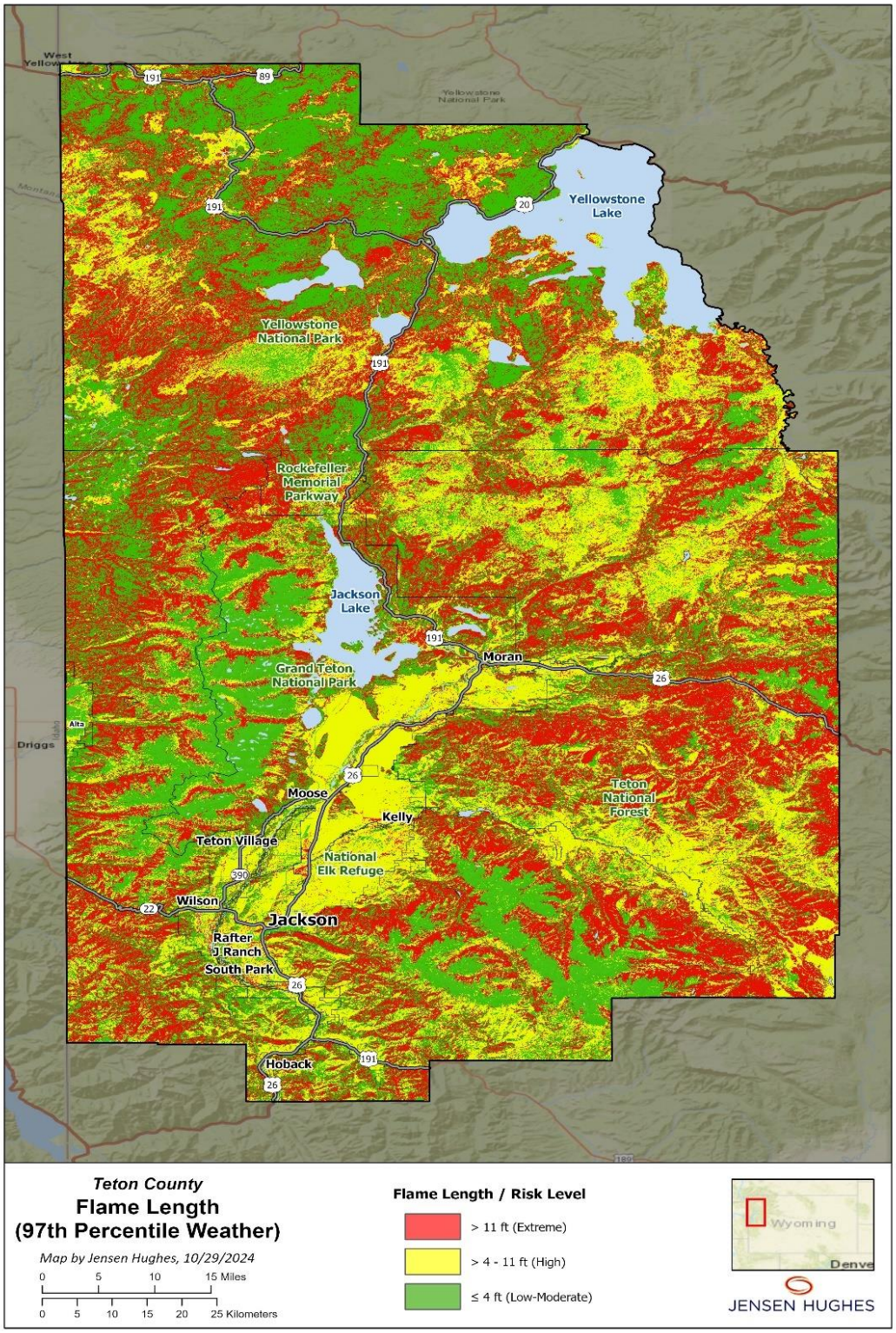


Figure 39: Projected Flame Length

5.1.2 Fireline Intensity

Fireline intensity is a measure of the energy produced along the flaming front, measured in British Thermal Units (BTU) per foot per second (BTU/ft/sec). This measure combines the heat of combustion and the rate of spread to predict where fire behavior will be most intense. Fireline intensity can increase depending on weather conditions and available fuels. Ultimately, wildfire is a dynamic event with many conditions and outside influences that can drastically influence fireline intensity and severity.

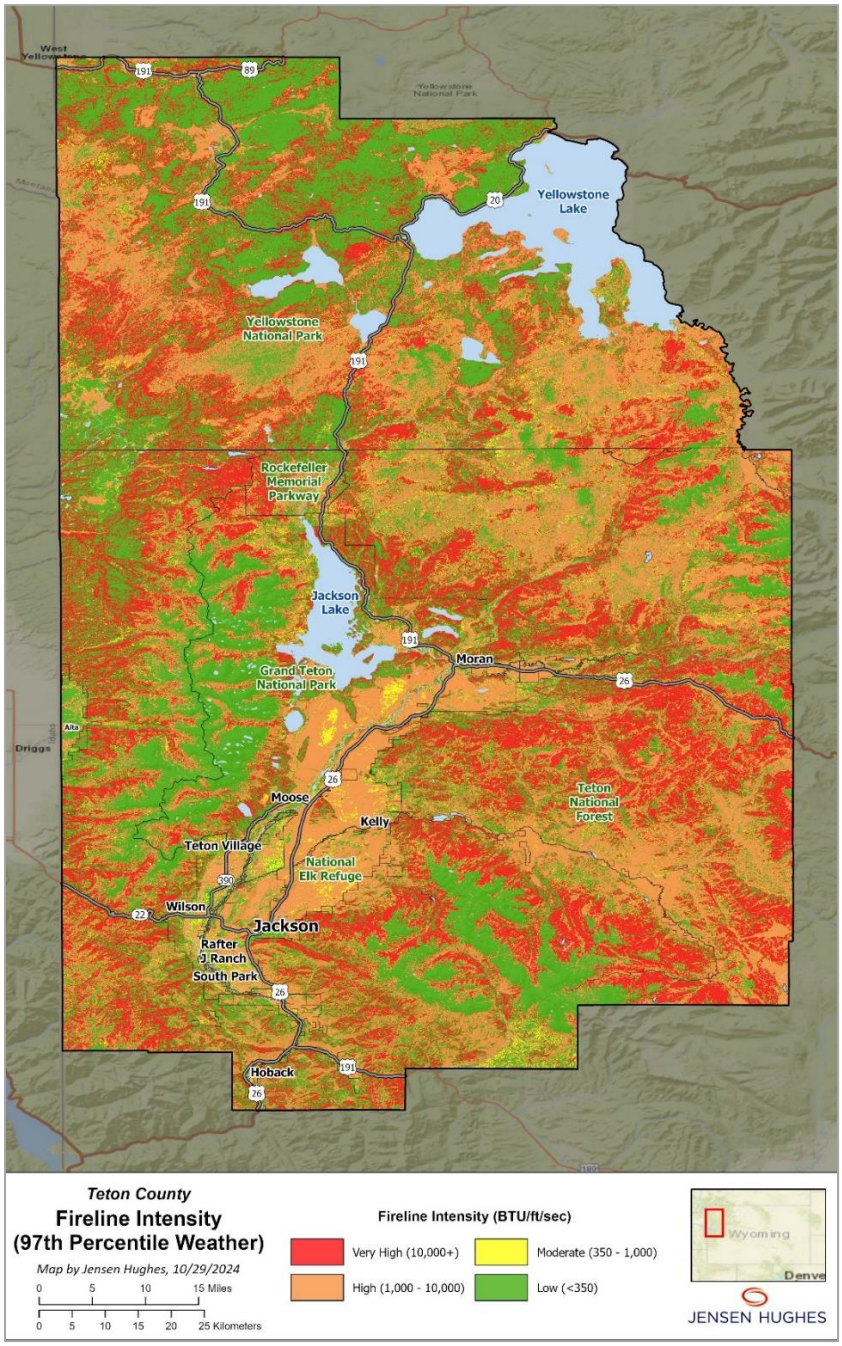


Figure 40: Projected Fireline Intensity

5.1.3 Crown Fire Activity

Crown fire activity was modeled to determine areas where a wildfire could transition from a low-intensity surface fire to a canopy-driven wildfire, an increase in both intensity and severity. To generate this model, crown fire values were generated by the FlamMap model and classified into four (4) categories based on standard descriptions of wildfire behavior seen on the landscape: Surface Fire, Passive Crown Fire, Active Crown Fire, and Non-combustible (waterways, rock outcroppings, and roads). Each category describes the fire behavior characteristics based on the vegetation type, slope, aspect, and weather conditions of the 97th percentile.

The Surface Fire category determines whether little or no tree torching is predicted. During Passive Crown Fire activity, isolated torching of trees or groups of trees will occur, and fire movement through the canopy will be limited to short distances. During Active Crown Fire, sustained fire movement through the canopy is probable, and high-intensity wildfire conditions will be observed. Non-combustible describes areas of no crown fire activity.

In Figure 41, right, there are limited areas of projected Active Crown Fire potential, but significant Passive Crown Fire activity. The model suggests, given the large areas of Passive Crown Fire activity, there is significant potential to expand into Active Crown Fire activity under the right conditions as a large wildfire spreads.

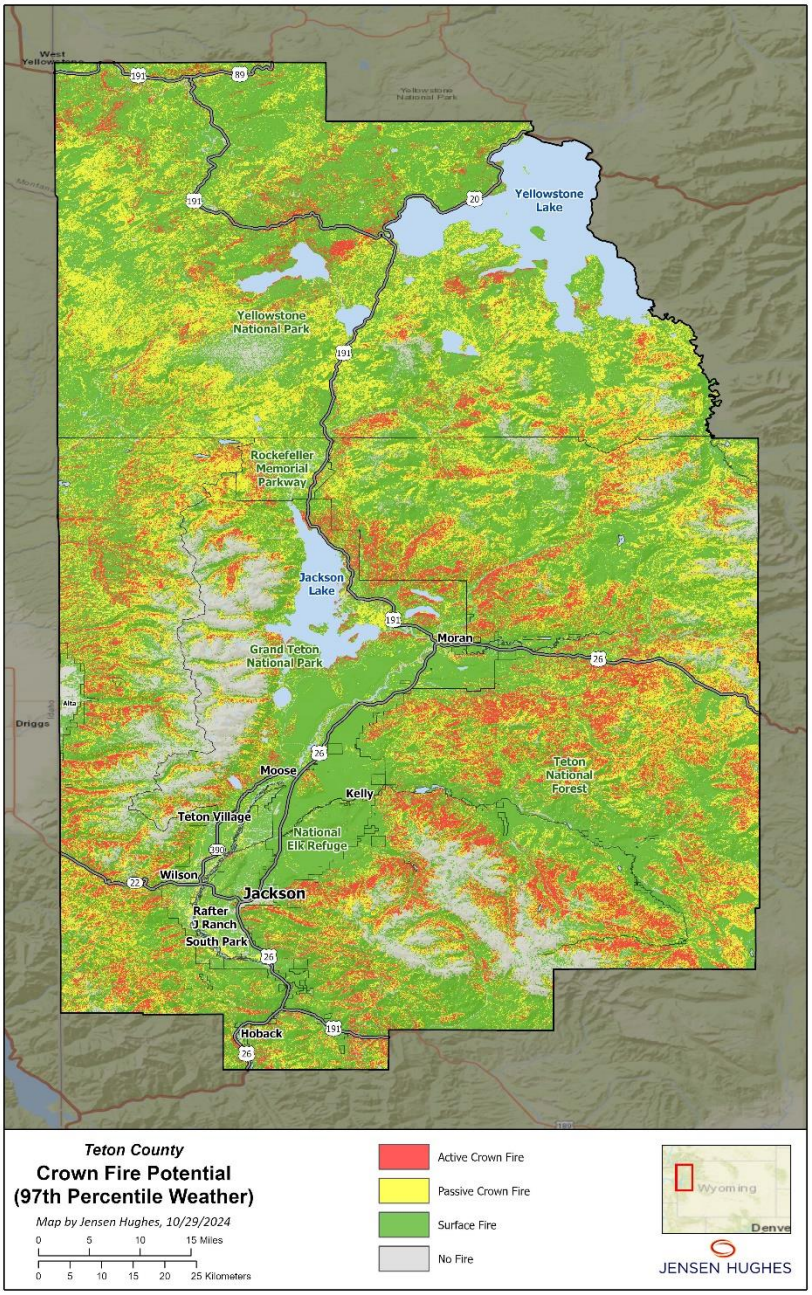


Figure 41: Crown Fire Potential

5.1.4 Rate of Spread

The rate of spread values was generated using FlamMap. These values were classified into three (3) categories based on standard ranges: less than 600 feet per hour (ft/hr), 601-2,000 ft/hr, and greater than 2,000 ft/hr. The rate of spread also has a correlation to the amount of heat sustained by an area over a period of time. The rate at which the fire spreads across the landscape, fast or slow, can drastically impact the burn intensity and severity a wildfire has on the landscape. Fires that move very quickly across grasses will not burn very hot and may not cause any major damage to the soil. This creates low severity impacts. Conversely, large, heavy fuel loadings such as densely forested areas can have high-intensity, slow-moving wildfires that can have devastating, high-severity impacts.

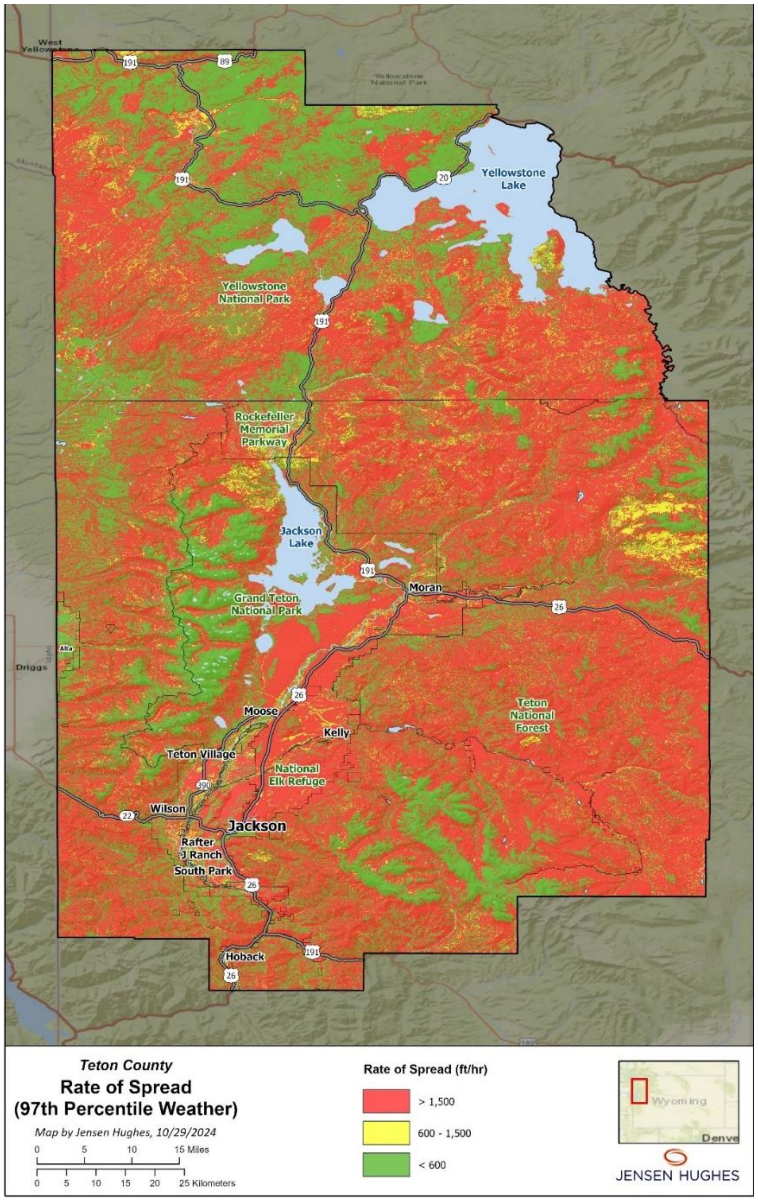


Figure 42: Rate of Spread

5.1.5 Spotting

Spot fires are created when embers, or firebrands, are cast aloft from the flame front and carried by the wind or convective column to ignite structures or vegetation where they land. This process, known as spotting, is a major cause of structure loss during a wildfire. Embers can be parts of twigs, branches, pinecones, or pieces of structure debris. Any vegetation can create embers, but conifer vegetation produces an abundance of them because of its low moisture and high resin content. The distance that an ember from vegetation can travel is dictated by several factors:

- Size of the Wildfire
- Intensity of the Wildfire
- Composition of the Material Burning
- Direction and Strength of the Wind
- Aspect (the compass direction that a slope faces)

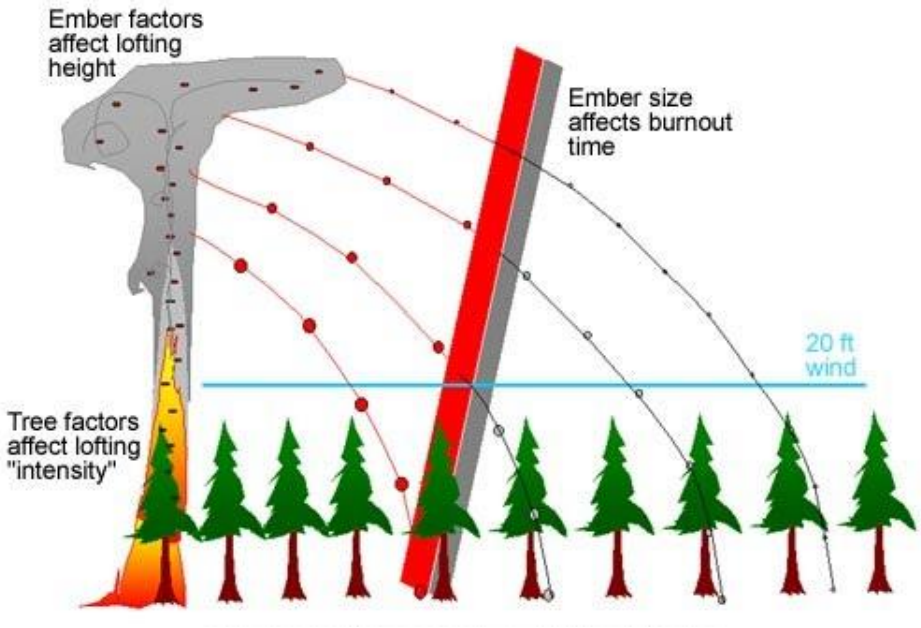


Figure 43: Factors Affecting Spotting

5.1.5.1 Embers

Embers constitute one of the greatest threats to homes and other structures as they may be carried long distances ahead of the main fire front to ignite fuel beds and structures. Fire behavior modeling was used to evaluate the potential ember exposure across Teton County. It is important to recognize that it only takes a single ember in receptive fuels to create a spot fire under the right conditions. Some examples of areas where embers can collect on a structure and smolder are wood shakes, gables, soffits, under decks, wood piles, eves, and corners. Figure 44, below, shows the tens of thousands of embers that can be cast against a structure and cause a possible spot fire. Mitigation and structure hardening measures can reduce the probability of ignition and spread.

Figure 44: Ember Cast

5.2 WILDFIRE HAZARD ASSESSMENT

To evaluate the potential effects a wildfire would have on Teton County, a wildfire hazard assessment was developed using the fire modeling outputs for flame length, fireline intensity, crown fire potential, and rate of spread. (See Appendix A.) All modeling conducted for this process utilized the 97th percentile weather conditions parameters to generate the wildfire hazard analysis (Figure 45) utilizing national imagery and fuel input datasets and a uniquely developed fire model for Teton County.

These inputs were used to develop locations where priority fuel treatments should occur by evaluating where fire would be most impactful to the landscape. Most of the severe fires in the last five (5) years have occurred during 97th percentile weather conditions. As fire behavior intensifies and as a result of these extreme weather conditions, firefighters must adapt their approach to cope with changing conditions on the fireline. Table 7 provides a correlation between flame lengths, fireline intensity, and firefighting strategies.

Table 7: Fire Behavior Characteristics and Suppression Capability

Flame Lengths (feet)	Fireline Intensity (BTU/foot/second)	Interpretation
0-4	0-100	Fires can be generally attacked at the head or flanks by personnel using hand tools. Handlines should hold the fire.
4.1-8	100-500	Fires are too intense for direct attack at the head of the fire by personnel with hand tools. Handlines cannot be relied upon to hold the fire. Equipment such as dozers, engines, and retardant aircraft can be effective.
8.1-11	500-1,000	Fires may present serious control problems – torching out, crowning, and spotting. Control efforts at the head of the fire will probably be ineffective.
11+	1,000+	Crowning, spotting, and major fire runs are common. Control efforts at the head of the fire are ineffective.

Wildfires burning at high intensity are likely to develop under the severe weather conditions used in the modeling for this wildfire hazard assessment. These types of fires are generally more difficult to manage, control, and/or suppress with ground-based firefighters. They are also considered extremely hazardous to firefighter safety. Considerable loss and damage to structures and other values at risk can occur during these wildfire conditions. The fire behavior modeling further illustrates the need for action to remove vegetation and implement structural resiliency strategies.

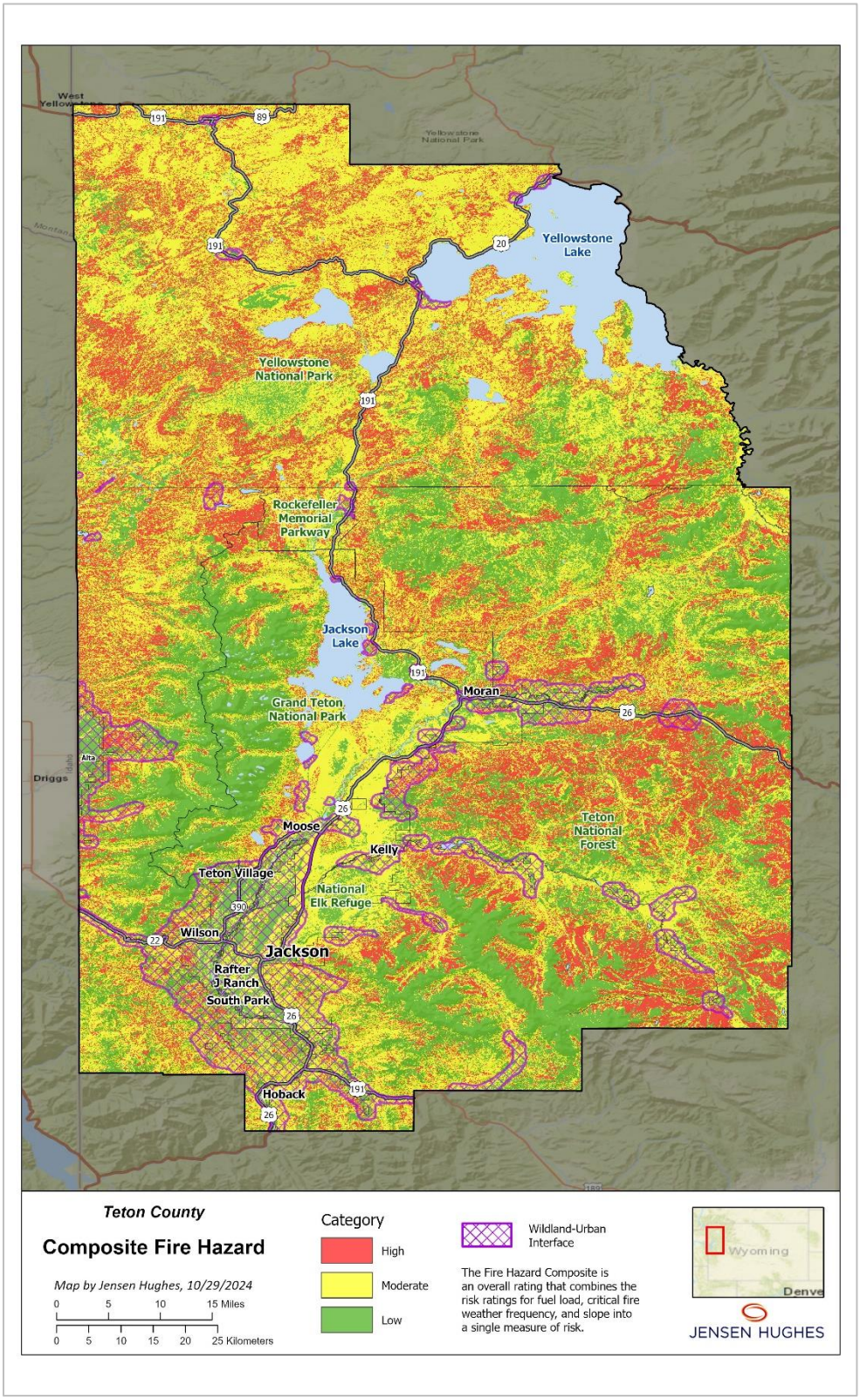


Figure 45: Teton County Wildfire Hazard Assessment

5.3 RISK ASSESSMENT

The assessment of the risk of a wildfire occurring within the Planning Area is based on wildfire hazard, values at risk, and fire frequency. Risk is defined as the Occurrence (probability of a wildfire to occur) and Hazards (wildfire environment) that impact Values at Risk.

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

This theory of risk was used to determine projects and priorities for risk reduction throughout the Planning Area. These recommendations are intended to address risk by reducing the vulnerability of values at risk by lessening the impact of the Occurrence and Hazards. Reduced risk can be simplified to risk divided by mitigation of one or more individual elements. More information on mitigation efforts can be found in the CWPP Recommendations section of this plan (Section 6.0).

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

Risk can be effectively illustrated using the following risk matrix cube.

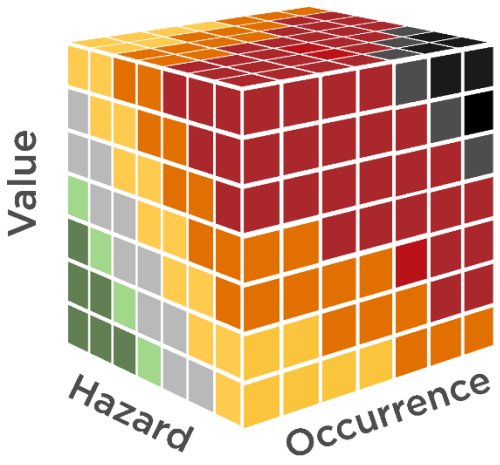


Figure 46: Risk Matrix

Figure 47, right, identifies the relative risk for areas in Teton County and was used as the basis for the evaluation of proposed treatments. Each of the three (3) factors used to determine risk was weighted according to its overall impact on risk. Wildfire hazards were weighed the greatest as they are the most impactful factor on overall risk and can be manipulated through vegetation management. Values at risk and wildfire occurrence were both weighted equally. Values at risk can be hardened against wildfire, but even hardened elements may be susceptible to wildfire under extreme conditions. The probability of wildfire occurrence is the most unpredictable component of risk. To examine the probability of occurrence, we rely on historical data and forest types to determine the likelihood of ignitions across the Planning Area.

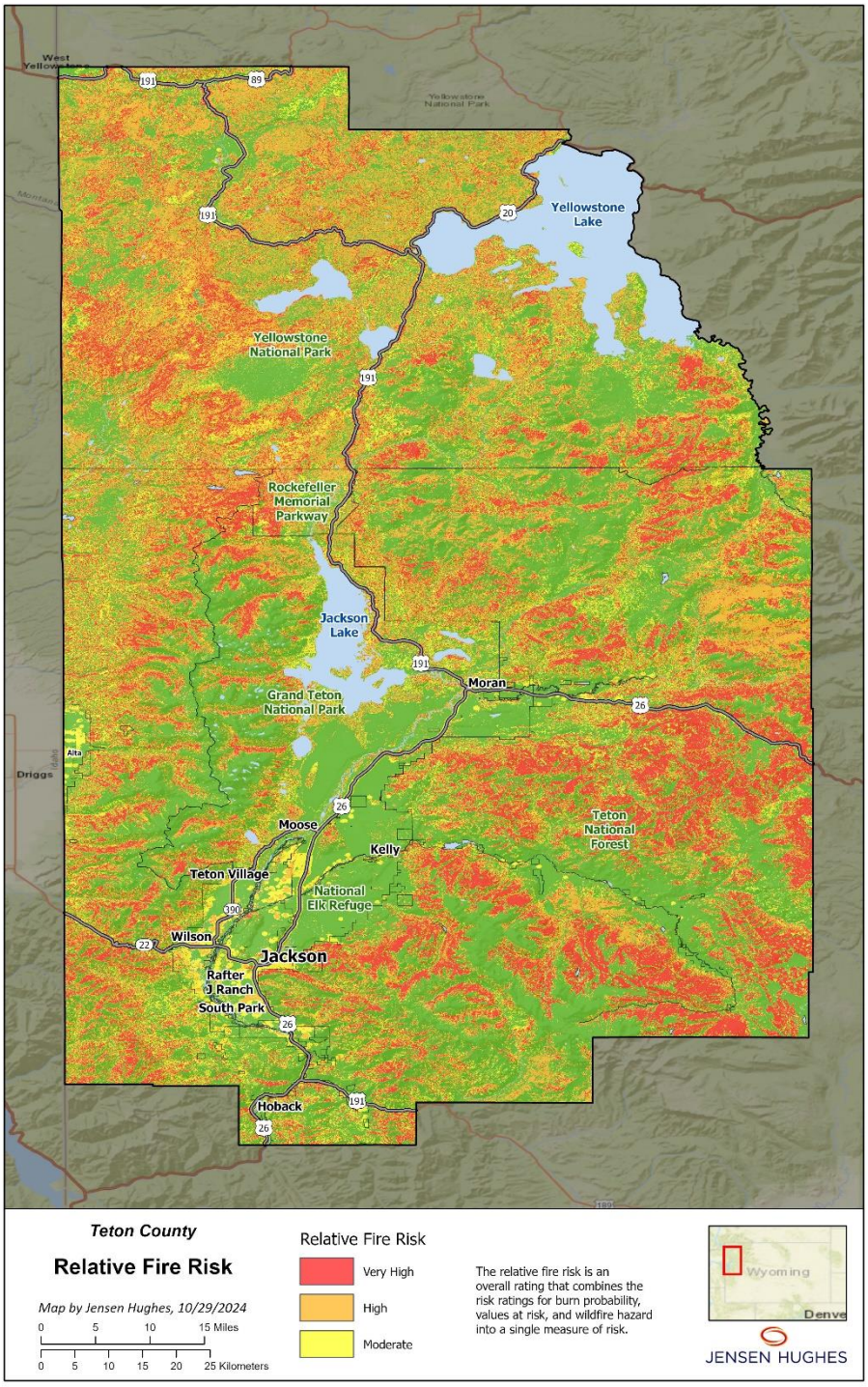
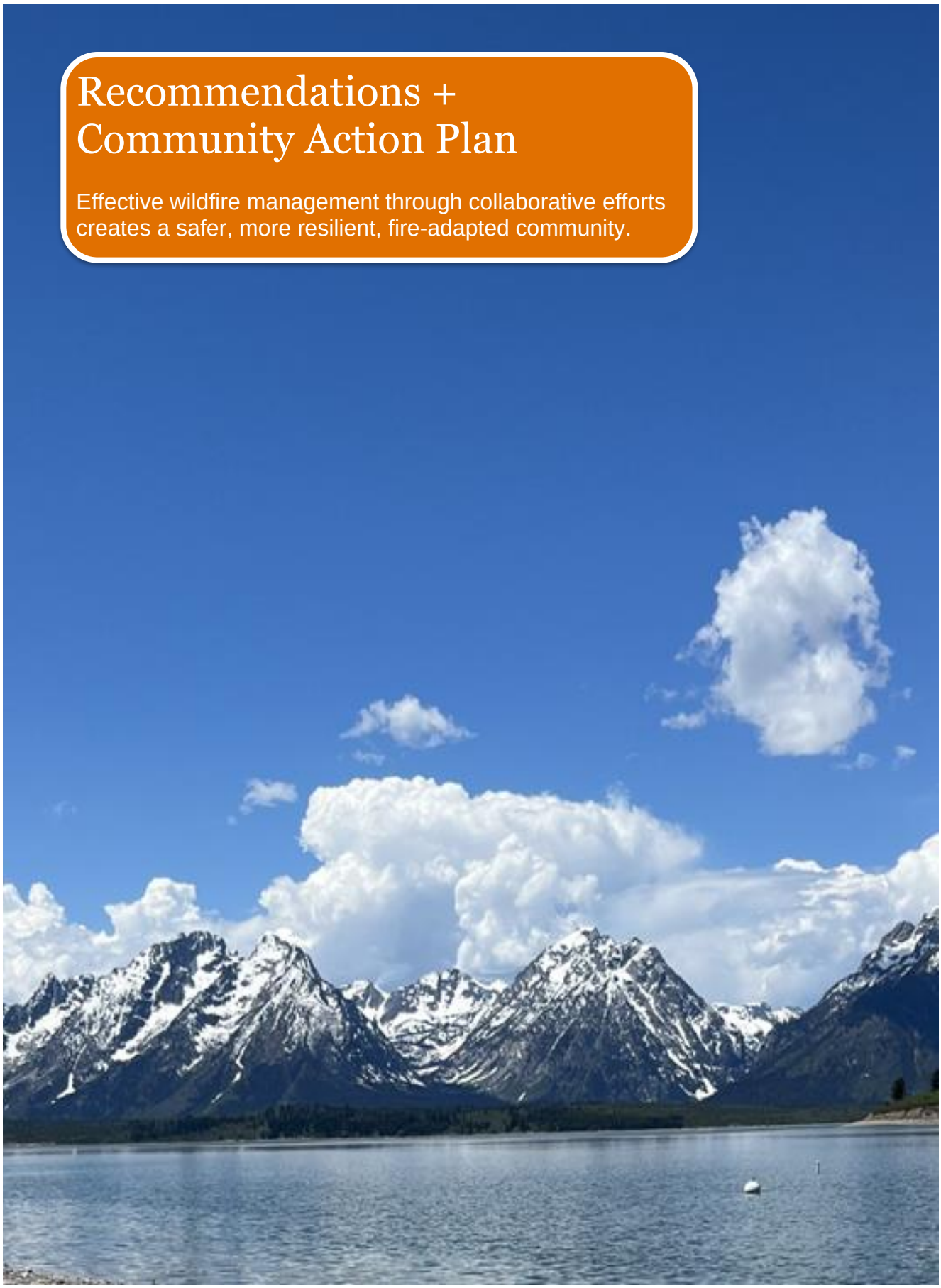


Figure 47: Relative Fire Risk

Recommendations + Community Action Plan

Effective wildfire management through collaborative efforts creates a safer, more resilient, fire-adapted community.



6.0 CWPP Recommendations + Community Action Plan

6.1 COMMUNITY ACTION PLAN

A Community Action Plan can assist in mitigating the impacts, hazards, and risks wildfires will have in Teton County for the next three (3) to five (5) years. The Community Action Plan will utilize and reference this CWPP to provide guidance for collaborative change by identifying stakeholders who will decide how community wildfire risk will be managed.

The following priorities include public education, emergency planning, structural resilience, public education, fuel management, evacuation preparedness, and recovery. To manage and initiate these initiatives, recommendations are identified as part of the alignment with the National Cohesive Wildland Fire Management Strategy and Cohesive Strategy. Through this collaborative effort of developing the Community Action Plan, focus and action can be implemented to create resilient landscapes, fire-adapted communities, and safe and effective, risk-based wildfire response.

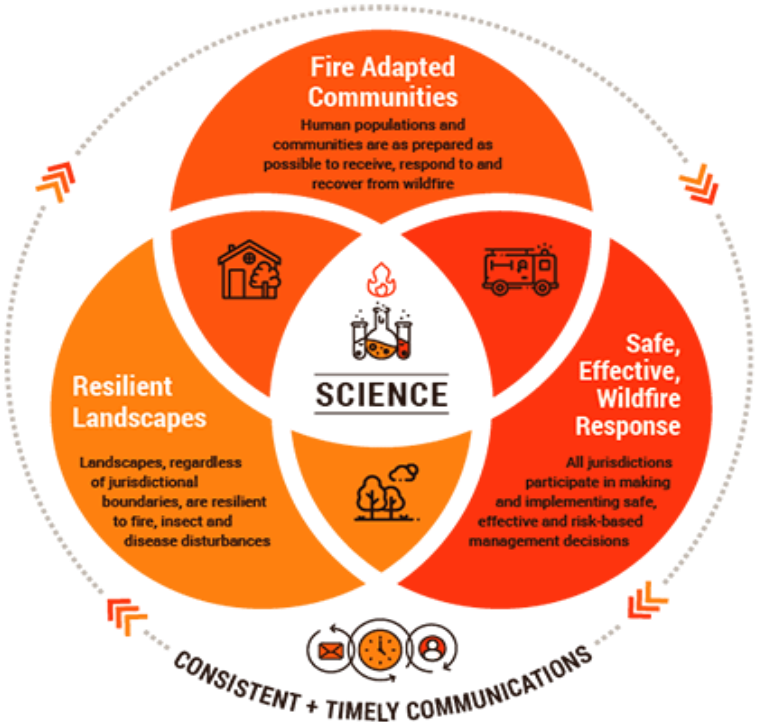


Figure 48: National Cohesive Wildland Fire Management Strategy

6.2 TETON COUNTY ALERT, WARNING, AND NOTIFICATION SYSTEMS

The Teton County/Jackson **Emergency Operations Plan** (Annex B5, Appendix 5.1) identifies Teton County Emergency Management (TCEM) as the primary agency responsible for public Alert, Warning, and Notifications (AWN) in Teton County. TCEM maintains the Teton County/Town of Jackson AWN Standard Operating Procedures (SOP). The Teton County/Jackson AWN SOP assigns TCEM as the Alerting Administrator responsible for the management of the AWN program and systems in Teton County.

Federal land management agencies such as the National Park Service, US Forest Service, and US Fish and Wildlife Service are responsible for Public AWN within their jurisdiction but may request TCEM to alert on their behalf if their request falls within TCEM's AWN SOP. All requests for AWN in Teton County must come from an Incident Commander to Teton County Sheriff's Office Dispatch, who then forwards the request to the appropriate Alerting Gatekeeper (usually TCEM). Essentially, TCEM is the bullhorn broadcasting emergency information that is provided by an Incident Commander using the appropriate AWN system for the situation.

The following AWN dissemination systems are available in Teton County and are used depending upon the incident, audience, and area to be alerted as determined by the Alerting Gatekeeper:

System Name	*Audience*	*Benefits*
Mobile Digital Signage Trailers	General public in vicinity of signs.	Deployable near incident location.
Emergency Alert System (EAS) via IPAWS*	General public tuned in to local EAS broadcast radio and cable television stations in Teton County. EAS participating stations include Charter Spectrum Cable TV, 89.1FM, 93.5FM, 88.3FM, 96.9FM, 1340AM, and 95.3FM. Note that satellite radio/TV, Wyoming PBS, and Wyoming Public Radio will only share state or federal EAS activations and *not* local EAS activations from Teton County, WY.	Broadcast capabilities not subject to bandwidth issues. AM/FM radios are inexpensive and found in most vehicles. Will reach residents and visitors tuned in to local broadcast media.
L.E.D. Electronic Signs (Highway)	Travelers on state highways. Requires compliance with WYDOT rules and WYDOT permission.	Reaches traveling public who may not be looking at mobile devices.
Mass Notifications (Teton WY Alerts powered by Everbridge)	General public subscribed to Teton WY Alerts. The public can **sign up here** for alerts. Anyone without an account can see all alerts **at this website** without logging in. Website translates into multiple languages, including Spanish. **https://member.everbridge.net/337829242601839/ov**	Subscribers can receive alerts via SMS text, voice call, email, mobile app push notification, or TTY. Subscribers can also register to get automated weather alerts, including Red Flag Warnings.

System Name	*Audience*	*Benefits*
NOAA Weather Radio (NWR) via IPAWS*	General public with a NOAA weather radio in the coverage area of NOAA transmitters. Teton County has **NOAA transmitters** on Snow King Mountain and at Grant Village. TCEM also has a unique agreement with NOAA that allows Teton County to broadcast directly over the Snow King NOAA transmitter if the connection with the National Weather Service Office in Riverton is lost.	Broadcast capabilities not subject to bandwidth issues. Inexpensive radio receivers are silent until activated by an emergency tone or turned on by the user. Radio also provides 24/7 weather reports when not activated for emergencies.
Outdoor Warning Sirens	General public outdoors **in audible range of sirens**. Teton County currently has seven (7) outdoor warning sirens situated near population centers.	Reach people that are away from traditional media sources. Sirens are used in conjunction with other dissemination systems. Sirens can still operate if infrastructure such as cell towers and radio repeaters go down.
Route notification (e.g., knocking on doors)	People in the impacted area of an emergency along the notification route.	Direct reach and contact with affected individuals. Typically conducted by uniformed personnel with JHFEMS, Teton County Sheriff's Office, Teton County Search and Rescue, Jackson Police Department, or Community Emergency Response Team to help lend credence to the alert.

System Name	*Audience*	*Benefits*
Social media	Twitter and Facebook followers of TCEM. TCEM is authorized through Facebook as a public safety agency and can issue Local Alerts. These are special Facebook posts that will not only go to TCEM Facebook followers but will reach anyone in the area with location services turned on and will post to all followers' timelines with a special icon. Facebook includes built-in translation services, including into Spanish.	Wide reach and easily shared, particularly with visitors and tourists.
Traditional Media (press release, TV or radio broadcast, etc.)	General public.	Reach out with follow-up information following an alert, warning, or notification.
Public Safety Two-Way Radio	First responders on Teton County's public safety radio system.	Rapid and wide reach of on-duty first responders through use of alert tones.
Warning & Disaster Fanout List	Key leadership in the community is notified through an internal Everbridge text/email/phone/app notification.	Notification to government/ NGO disaster response organizations
Website tcincident.org	The public seeking more detailed official information. The website translates into multiple languages, including Spanish.	The website allows for more detailed information that can be updated as the incident evolves.
Wireless Emergency Alerts (WEA) via IPAWS*	General public with WEA-enabled cell phones in Teton County that are within the polygon drawn by TCEM. Messages are sent in both English and Spanish.	Wide reach, message is retained by phone for future reference. Opt-out service as opposed to subscription-based.

TCEM and Yellowstone National Park are currently the only two (2) **FEMA Integrated Public Alert and Warning System (IPAWS)** alerting authorities in Teton County, WY. IPAWS allows alerting authorities to activate Wireless Emergency Alerts via cell phones, Non-Weather Emergency Messages via NOAA All Hazards Radio, and Emergency Alert System messages via broadcast radio and TV.

Inform

- Continue public outreach around AWN systems and provide assistance to the public in getting registered.

Monitor

- Monitor registration levels for Teton_WY Alerts powered by Everbridge to determine the effectiveness of outreach efforts.

Expand

- Expand the outdoor warning siren system to cover gaps in populated areas.

6.3 SOCIAL MEDIA AND MEDIA PROGRAMS

Local agencies use social media to keep stakeholders up to date on events, advisories, and alerts. Table 8 provides a list of all current and primary social network links for emergency preparedness in Teton County.

Table 8: Social Media and Media Programs

Source	Weblink
Teton County EM	https://twitter.com/tetonwyo_em?lang=en
	https://www.facebook.com/teton.wy.ema/
Jackson Hole Fire/EMS	https://www.facebook.com/JHFireEMS/
	https://twitter.com/jhfireems

Teton County Sheriff's Office		https://www.facebook.com/tetonwysheriff/
		https://twitter.com/tcsheriff?lang=en
Teton Area Wildfire Protection Coalition		https://www.facebook.com/TAWPC/
Teton Interagency Fire		https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/

Expand

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

Reach

- Develop a robust social media presence to allow the county to reach a broader audience as social media use for information gathering becomes more common.

6.4 PROTECTING VALUES AT RISK

This section describes actions to enhance the protection of values at risk in Teton County. The protection of values at risk prioritizes life and property and must include the key recommendations of pre-planning and preparedness for residents and first responders.

6.4.1 Life Safety

Human life safety is the most important value agreed upon by all members of the Core Planning Team and the public. Life safety measures are essential for ensuring the protection of both the public and first responders during emergencies. These measures encompass a range of strategies and practices designed to minimize risks and enhance safety for everyone involved.

6.4.1.1 Firefighter Safety

Teton County has a limited number of personnel available to respond to incidents. The majority of first responders are volunteers, and most must travel long distances to respond to and arrive at an incident. Before firefighters can effectively engage in a fire attack, they should have the appropriate numbers of personnel and the correct equipment available. (Refer to specific agency firefighting SOP/SOGs. These documents are not included in this CWPP.)

6.4.1.2 Public Safety

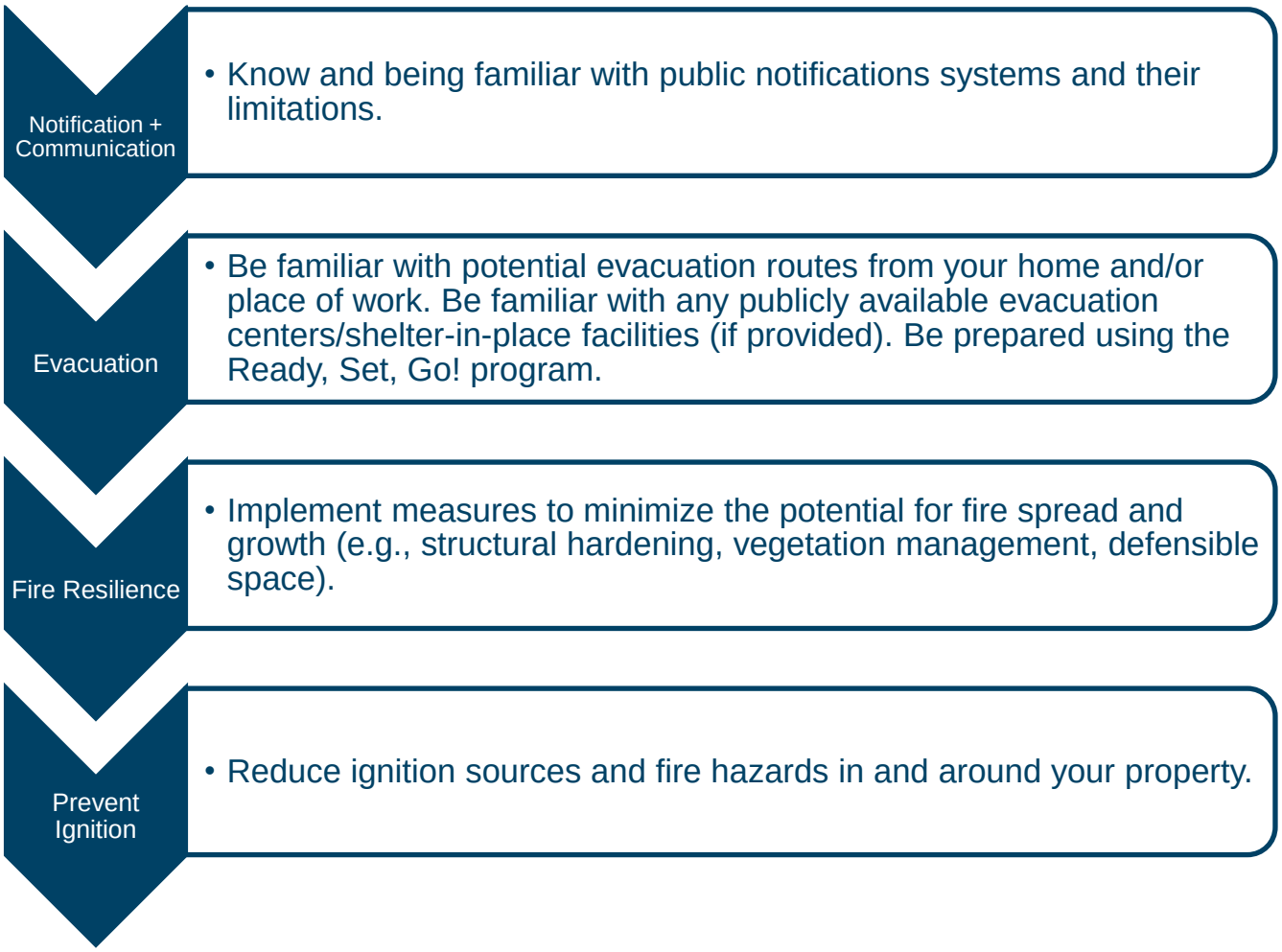
Minimizing the risk of wildfire to human life and public safety necessitates a comprehensive approach, including prevention, mitigation, preparedness, response, and recovery.

Teton County Life Safety Priorities:

- Emergency evacuation and management.
- Difficult and potentially congested travel routes during evacuations.
- Flawed egress and access for citizens, firefighters, and law enforcement.
- Limited and/or deficient defensible space in neighborhoods.
- Existing buildings with deficient structural hardening.

The action items listed below will help reduce the wildfire risk to human life in the public and private sectors. Individuals should become aware and actively engage in understanding the various wildfire hazards and risks that may impact where they live and work. Residents must take the necessary steps and the responsibility to prepare themselves, their homes, and their family members.

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



6.4.1.3 Vulnerable Populations

The most critical priority for Teton County is human life safety. Nearly 18% of the population in Teton County is over the age of 65, and nearly 3% of the residents have a physical disability (US Census Bureau). Typically, the most at-risk/vulnerable people are disproportionately affected when fire strikes, as these populations may have limited capacities to prepare for, respond to, and/or recover from a major wildfire incident (Palaiologou). In addition, young children, the elderly, and physically disabled populations may require additional assistance.

Research shows that people living near or below the poverty line, ethnic minorities, and persons who rent their primary residence all experience some degree of more severe effects from disaster than the general population (Davies). Vulnerable populations are also less likely to engage in wildfire mitigation activities. Additional information regarding population demographics and vulnerable populations can be found in the Teton County Hazard Mitigation Plan.

6.4.2 Evacuation

Teton County is a relatively isolated, rural area of Wyoming. There are limited transportation corridors, access, and egress routes. Many roadways within the county are two-lane roads, which limit the capacity of both egress and access. Roadways that contain more than two lanes are present, but present challenges such as pinch points and bottlenecking. There are numerous Forest Service, neighborhood roads, and private roads that lead to primary routes.

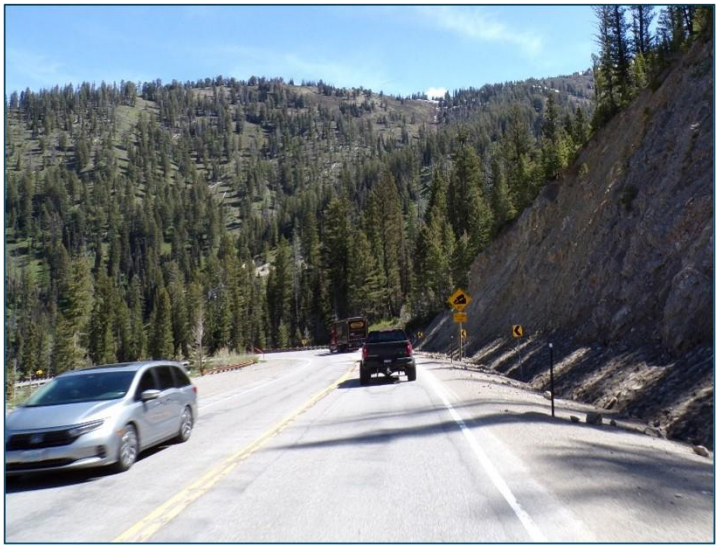


Figure 49: Teton Pass, WY State Highway 22

The primary routes include US 191, 20, 26, and 89. State Highways include 22 and 390. There is viable access or egress to the east, Highway 14 and 26. To the west, Highway 22. To the south, Highway 191 and 89. And north, Highway 191. The short-term evacuation solution is to provide public education and situational awareness to residents living in these areas. The long-term solution is to reduce and/or eliminate hazardous fuels that threaten access and egress routes and identify alternative roads.

For planning purposes, the capacity of all roadways should be assumed as two (2) lanes. Additionally, there is a robust tourism industry year-round, which presents a significant logistics issue for residents and visitors if they are required to evacuate an area due to wildfire. Non-residents and tourists may not be familiar with the road system and can easily become confused, further complicating the egress effort. There are areas within these travel routes that have vegetation encroachment that presents a significant risk during a wildfire and may be impacted or rendered unsafe for egress.

During an emergency, “flow/contra flow” is a concern. First responders will be traveling into the fire area as residents are departing. Many roads have security gates and cattle guards, are very narrow, have steep grades, are not paved, and have switchbacks and/or sharp curves, all of which present challenges for fire personnel responding to an area and residents leaving. Ultimately, decisions to evacuate and locations for evacuation routes may be determined by Incident Commanders or Emergency Managers, as roads and routes could be impacted depending on fire location. Residents should be aware of multiple evacuation routes year-round and should evacuate early — long before being told to evacuate by emergency personnel.

6.4.2.1 Safety Zones, Temporary Refuge Areas, and Shelter-in-Place

Safety Zones are preplanned areas where people can survive without protection and in a location easily accessible for evacuees and fire personnel. This area should allow for people to congregate until conditions are survivable. Safety zones include road intersections, irrigated fields, sports complexes, large schools, shopping complexes, parking lots, an identified emergency shelter, or any large open areas with little or no ignitable fuels. Safety zones are identified in all hazard planning documents. However, additional safety zones should be identified and made available to the public. Safety zones must be large enough that radiant heat or flame front does not impact the ability of a person to breathe normally.

Temporary Refuge Areas (TRA) are pre-identified areas where fire personnel or evacuees can take shelter from extreme heat or a passing fire front on short notice in extreme circumstances when a safe evacuation has been compromised, and the fire has become a direct, life-threatening event. The TRA is a last resort to protect human and animal respiratory systems, prevent burn injuries, and assist with rescue and evacuation efforts.

The purpose of the TRA is to give evacuees and fire personnel temporary relief from life-threatening heat and smoke conditions and provide the opportunity to reevaluate fire behavior and determine if escape routes are viable. TRAs may include the inside of a structure, an outbuilding, or a vehicle that will protect a person from extreme heat and smoke and provide a temporary haven during the passing 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.

Figure 50: Example of a Potential TRA

Shelter-in-place is a plan to protect people who are not immediately threatened by a wildfire in an area adjacent to the fire. They should be implemented at the direction of emergency managers, public health officials, or fire managers. Shelter-in-place encourages people to secure a shelter for safety and remain in that structure instead of evacuating. Shelter-in-place can be implemented for any number of emergencies, including wildfires.

As fire behavior conditions change, re-evaluate the shelter-in-place decision and decide if leaving the threatened area is a better alternative. There have been several fires in which people sheltered in place and survived, and those who did not take shelter perished. In the US, San Diego's Cedar Fire in 2003 and

Australia's Black Saturday Fires in 2009 are two (2) examples of fires in which people sheltered in place and survived.

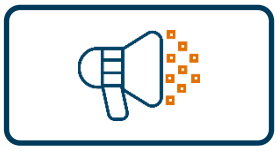
If directed to shelter-in-place, occupants of a structure should remain inside until the threat subsides and they receive official notification that they are no longer in a threatened area. Additionally, shelter-in-place may be implemented when a fire approaches so quickly that an evacuation is not prudent or when law enforcement and firefighters are not able to provide evacuation directions or reach every inhabited structure.

A wildfire can greatly limit evacuation routes for the community. Various factors play a role, including the time of day (burn period), unfamiliarity with the area, nighttime visibility, rush hour congestion, high-attendance events, extreme fire conditions, rapid spread, long-range spotting, and excessive flame lengths. Any of these elements may render evacuation routes impassable. Although evacuation planning should be the primary focus, it's important to consider alternative strategies such as safety zones, temporary refuge areas (TRA), and shelter-in-place options.

6.4.2.2 Potential Evacuation Issues

The following section outlines issues that may be encountered during an evacuation event and should be considered by the emergency operations planning staff responsible for evacuation planning.

- Many residents and business owners may not have considered having a personal Wildfire Preparedness Plan. Public outreach and education are vital to promoting awareness and preparation among the community and business owners.
- Residents and business owners may choose to stay and defend their homes/businesses or decide to shelter in place until the danger of fire passes. These decisions can put their life safety at risk, as well as that of emergency personnel. While they should be aware of alternatives (shelter-in-place, TRA, safety zones), they must understand the potentially fatal consequences of not having a wildfire preparedness plan and evacuating early.
- Individuals often delay their evacuation with the intent of defending their property or are slow to leave their homes due to packing personal items, thereby jeopardizing their own and first responders' life safety. A public education and notification process can help educate residents and visitors on emergency evacuation preparedness when to evacuate, and the items appropriate to bring when evacuating.
- Recent research on social behaviors during wildfire evacuations indicates that people tend to take multiple vehicles when fleeing their homes. People have also been known to evacuate large animals in trailers, creating additional problems for both first responder access and evacuees.
- Vulnerable populations and/or individuals with limited mobility may be less likely to respond to, cope with, or recover from wildfires. Identification, education, and preplanning for this population demographic are critical.
- Evacuating pets, service animals, and large animals (livestock) pose significant problems since panicked animals behave unpredictably and may refuse to respond to normal handling.



Promote

- Promote evacuation awareness through Ready! Set! Go! 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

- Develop TRAs and educate the public on their use.
- Create a program to establish shelter-in-place procedures and an accompanying public messaging campaign.

Evaluate

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

Monitor + Update

- Work with partners and stakeholders to develop an evcauation plan for Teton County.

Develop

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

6.4.3 Resilient Landscapes

Resilient landscapes require considerations for improved wildfire protection for communities and protecting visual, biological, and cultural resources within the Planning Area. Following a resilient landscape strategy provides best practices on where and how to mitigate vegetation to reduce wildfire hazards. County, state, and federal agencies play an important role in fuel mitigation, but the greatest responsibility for improvements in the protection of communities is in the control of individual property owners. The development of adequate defensible space and structural hardening should be encouraged and implemented as part of the resiliency effort.

Figure 51: Thinned Forest

Fuel treatments are conducted using a strategic plan and the application of appropriate treatment techniques. These strategies and techniques are selected based on the fuel types, topography, forest health, ecology, and the type of protection best suited for the area.

The following sections outline the different strategies and techniques, as well as the environments in which they are best suited. These are techniques and best practices for vegetation management and fuel treatments. Combinations of different techniques may be applicable depending on the size, scope, and location of a project.

6.4.4 Fuel Treatment Strategy

The fuel treatment strategy for Teton County is to reduce the severity, threat, and damage from wildfires through the reduction and/or removal of fuels while preserving and promoting a healthy natural landscape. This is accomplished through treatments at different scales, including:

6.4.5 Fuel Treatment Techniques

6.4.5.1 Fuel Breaks

Fuel breaks can be natural or human-made changes in fuel characteristics that reduce fire intensity and fire behavior. In addition to slowing the spread of fires, fuel breaks provide firefighters with anchor points to begin or connect control lines during fire suppression efforts. Reduced fire intensity allows firefighters a safer place to operate during a fire and increases the defensibility of structures, infrastructure, or other values at risk. There are three (3) main subcategories of fuel breaks, which include shaded fuel breaks, non-shaded fuel breaks, and access/egress route fuel breaks.

- Shaded fuel breaks: Fuel breaks are built in timbered areas where 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 significantly thinned to remove and separate vegetation canopy density in an effort to reduce fire spread potential.
- Access/egress route fuel breaks: Fuel breaks built adjacent to roadways to reduce fire intensity directly adjacent to the roadway, allowing for safe access/egress. These breaks are critical to the life safety of both the public and firefighters.

6.4.5.2 Defensible Space

Defensible space is the area around homes or structures that have been treated to reduce the structure ignition potential and increase the structure's survivability during a wildfire. This includes the removal of vegetation and other combustible materials around the structure to remove fuel sources that could ignite and/or carry flames to the structure. Defensible space allows firefighters a safe space to operate during a wildfire but does not guarantee that the structure will not ignite.

Defensible space should be provided within the Home Ignition Zone (HIZ). Recommendations as an adjunct to the HIZ for Teton County are found in Section 6.4.14. More information about the HIZ can be found in Section 6.4.14 or on the National Fire Protection Association (NFPA) website under "Preparing Homes for Wildfire."

6.4.5.3 Private Ownership Land Recommendations

Much of the Teton County Planning Area land is federally managed, and collaboration is paramount to protect and reduce collective risk on federal and privately managed lands. In doing so, land managers and landowners are responsible for mitigating their respective risks while working cross-boundary to share the responsibility of making landscapes more resilient to trespass wildfire. Below are the recommendations for reducing wildfire risk on private land.

- Follow best practices for creating defensible space and structural hardening.
- Remove fire-prone vegetation species from the defensible space zones.
- Remove all combustibles within five (5) feet of a structure. The first five (5) feet from a structure should be free of combustible material of any kind. A recent study focused on the flammability of landscape mulches and found that all the mulches evaluated were combustible under the test conditions of dry, hot, and windy weather and more than 2½ months of outdoor exposure (Quarles). Key recommendations from the study are:
    - Since all mulch tested is flammable, maintain a noncombustible, ignition–resistant area immediately adjacent to the house and other structures. During a wildfire, embers may accumulate in this area, providing an ample source of ignition for combustible materials.
    - Composted wood chips demonstrated the least hazardous fire behavior of the eight (8) mulch treatments tested and would be the best choice for use in a residential landscape in the 5 to 30-foot defensible space zone.
- Encourage and educate large landowners to manage their vegetation and forested landscapes and develop a vegetation management plan for long-term management and monitoring. On larger parcels, consider applying the Vegetation/Fuel Treatment Prescriptive Guidelines presented in this plan where appropriate. Organized by vegetation types, these guidelines provide direction on how to manage vegetation in larger areas to reduce potential wildfire impacts as well as limit resource damage by reducing fire intensity.

6.4.6 Fuel Treatment Methods

6.4.6.1 Burning

BROADCAST BURNING

Broadcast burning is the use of prescribed fire that burns most or all of a targeted area with defined boundaries for a specific objective. Forest restoration, fire mitigation through fuel reduction, or ecological objectives are the most common purposes. This method of prescribed fire is a very efficient and effective method for reducing slash and surface fuels. Broadcast burning also supports natural forest ecology and allows for fire-dependent species to flourish. This method of treatment is typically cheaper than mechanical treatments but does present some challenges. There are limited opportunities to conduct burns under appropriate fire weather conditions, which requires careful planning and execution. Public concerns related to smoke and flames, as well as the potential for a fire to escape the intended burn area, are all things that make broadcast burning difficult to achieve.

UNDERSTORY BURNING

A prescribed fire ignited under the forest canopy that focuses on the consumption of surface fuels but not the overstory vegetation. Under burning (understory) is generally used following a pre-treatment such as thinning and /or pile burning to further reduce the surface fuels, slash, and help maintain the desired vegetation conditions and enhance the overall health and resiliency of the forest stand (US Department of the Interior).

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 way to remove biomass, but it still requires labor to remove and stack the slash. Pile burning reflects the same challenges as broadcast burning but is lower in complexity and can be achieved during winter months when there is snow on the ground. An example of pile burning is shown below.

Figure 52: Pile Burning

6.4.6.2 Mechanical

MASTICATION

Mastication involves the use of specialized machinery to grind trees, shrubs, and litter into wood chips that are 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 while providing an increased surface fuel load and limiting chip decomposition.

Figure 53: Masticator

TIMBER HARVESTING

Timber harvesting is the process of cutting and harvesting trees, delimbing the branches and tops, and stacking the larger tree trunks to be transported to a sawmill or wood utilization facility. This forestry method allows for minimized biomass left on the landscape and for the timber to be utilized as a profitable product.

MOWING

Mowing reduces the intensity of fire in light, flashy fuels like small shrubs and grasses. Keeping grass short, especially adjacent to roadways and structures, is critical for slowing fire growth and reducing fire intensity. Mowing is labor intensive and does require maintenance for the treatment to be effective.

HAND THINNING AND STACKING

This technique involves the manual removal and piling of slash and small woody biomass. The slash and biomass are then removed, chipped, or burned. This process is very labor intensive but is an effective method of reducing fuel loading. Some hand thinning may require material to be cut into small sizes and spread out across the forest floor at a depth of less than ten (10) inches. This technique is called lop-and-scatter and is utilized in areas of steep terrain for sediment retention due to the limited ability to remove biomass.

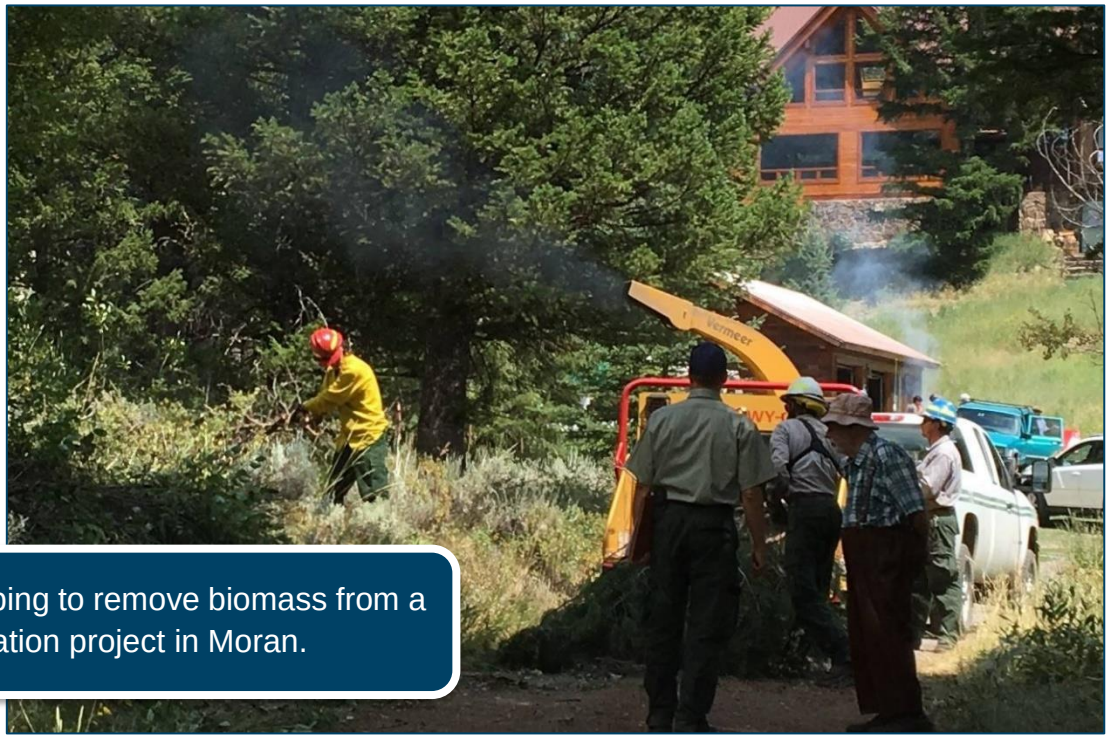


Figure 54: Chipping Biomass

GRAZING

Grazing is used to accomplish the same objectives as mowing using goats, cows, or other livestock animals. Grazing is an environmentally friendly option and does have added benefits to native plants and habitat restoration. Grazing has proven to be a highly effective method of removing flashy fuel, such as grass, in steep and difficult terrain.

6.4.6.3 Biomass Removal

Biomass removal is not an issue unique to Teton County. However, it is critical to establish safe and effective biomass removal plans and programs even in challenging terrain. Without biomass removal, mitigation efforts do not reduce risk — they simply 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 higher fire intensity and increased ember production.

Every effort should be made to work between agencies and landowners to develop reasonable methods for the removal of biomass. Examples of biomass removal include chipping programs, pile burning, and transportation of biomass to treatment or utilization facilities. Biomass removal is a critical function of mitigation efforts and an area of concern expressed by residents during community engagement meetings.

6.4.7 Existing Fuel Treatment Activities

Teton County has completed many fuel treatment and mitigation projects. Federal and state agencies, insurance companies, Homeowner's Association (HOA), neighborhood groups, and individual property owners have contracted or completed mitigation projects on their own. The Bridger-Teton and the Caribou-Targhee

National Forests have implemented aggressive fuel management plans. The Wildfire Risk Reduction Program (WRRP) run by Teton Conservation District is currently developing and implementing projects. The Wyoming State Forestry Division and the Teton Area Wildfire Protection Coalition (TAWPC) continue to encourage forest health management. The recognition of levels of risk and associated threats will continue to be key drivers in implementing reduction strategies, fire mitigation, and awareness.

Invasive species present an increased fire risk in the County. The Teton County Weed and Pest District's Cheatgrass Mitigation Program reduces the amount of invasive Cheatgrass in the county. Cheatgrass is a fast-growing species that cures early in the summer, creating the potential for ignition and rapid fire growth.

Figure 56 shows the location of completed vegetation management projects as well as the perimeter of larger acreage fires in Teton County since 2015. Recent fires were included to show areas where fuels have been removed through natural means. In terms of prioritizing fuel treatments, identify where existing treatments have occurred and can be expanded. Anchoring into existing treatments expands the treatment and provides a larger fuel break to slow fire activity during a wildfire.

Figure 55: Broadcast Burning on the Caribou-Targhee

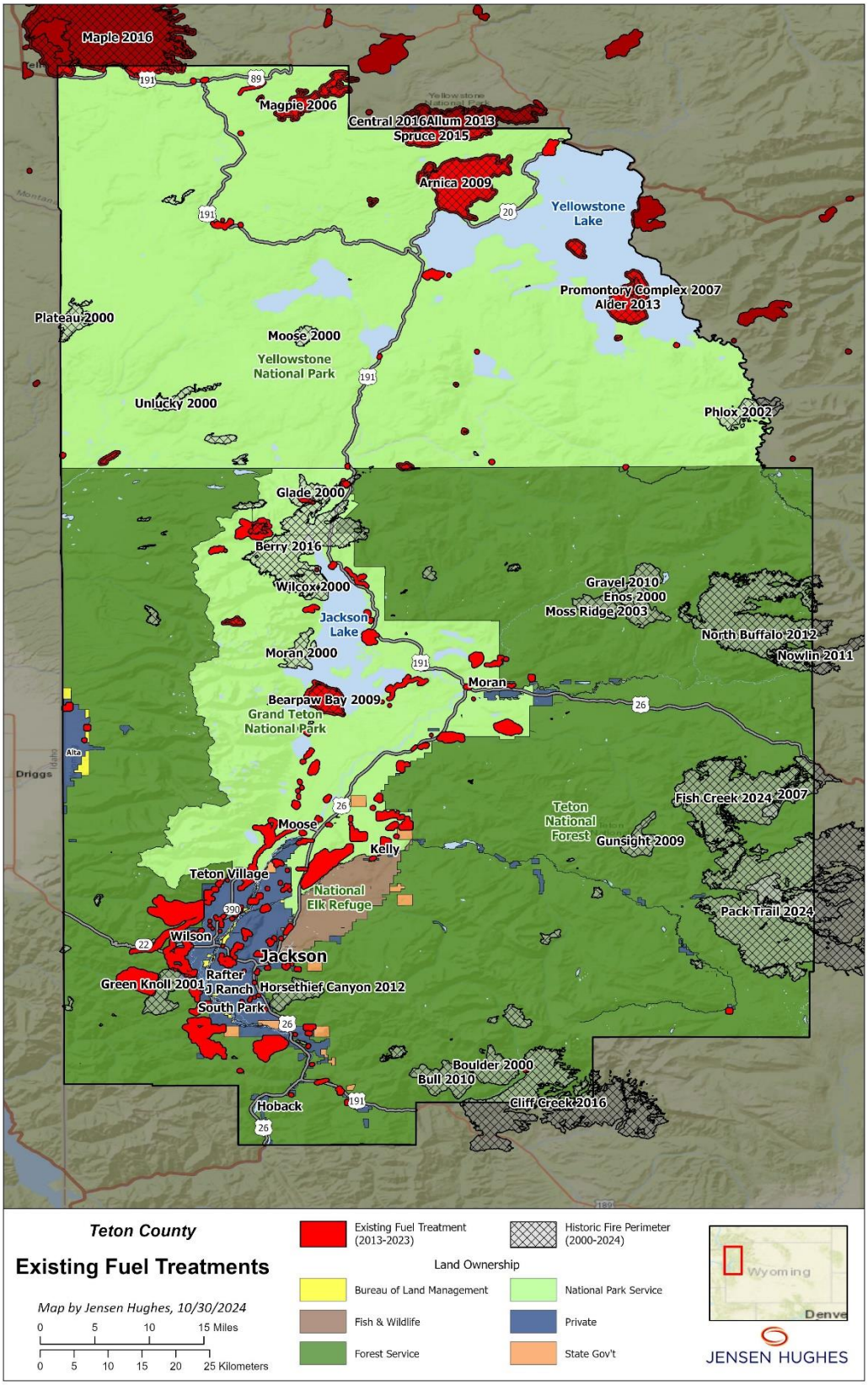


Figure 56: Existing Fuel Treatments

6.4.8 Focus Fuel Treatments for Greatest Impact

When determining a project, it is essential to consider and utilize the data provided from the wildfire hazard assessment (relative fire risk, wildfire hazard, project flame length, rate of spread, fireline intensity, crown fire potential, and defensibility). Considering these attributes and the goals of the fuel treatment—such as reducing wildfire risk, improving forest health, supporting wildlife, and restoring watersheds—it is crucial to evaluate the project's impact. This assessment helps determine how it will affect the values at risk. The most effective projects will utilize all attributes and be directly adjacent to the greatest values at risk. Once these areas have been determined spatially on a map, confirmation through site visits is the most effective way to further develop fuel treatment priorities and cross-boundary opportunities for risk reduction.

6.4.9 Prioritizing Fuel Treatment Activities

Prioritization of projects should be determined by several inputs. Data from the wildfire hazard assessment (projected flame length, rate of spread, fireline intensity, crown fire potential, and defensibility), values at risk, community input, boots-on-the-ground analysis, existing fuels treatments, collaboration potential, and fire history were used to determine the projects that will give the county the greatest return on investment. The projects identified will provide the greatest increase in resiliency and prevent life and property loss.

Projects that have the potential to reduce risk through more than one risk component will be given a higher priority. Examples of various potential mitigation measures are provided below.

Table 9: Potential Mitigation Measures

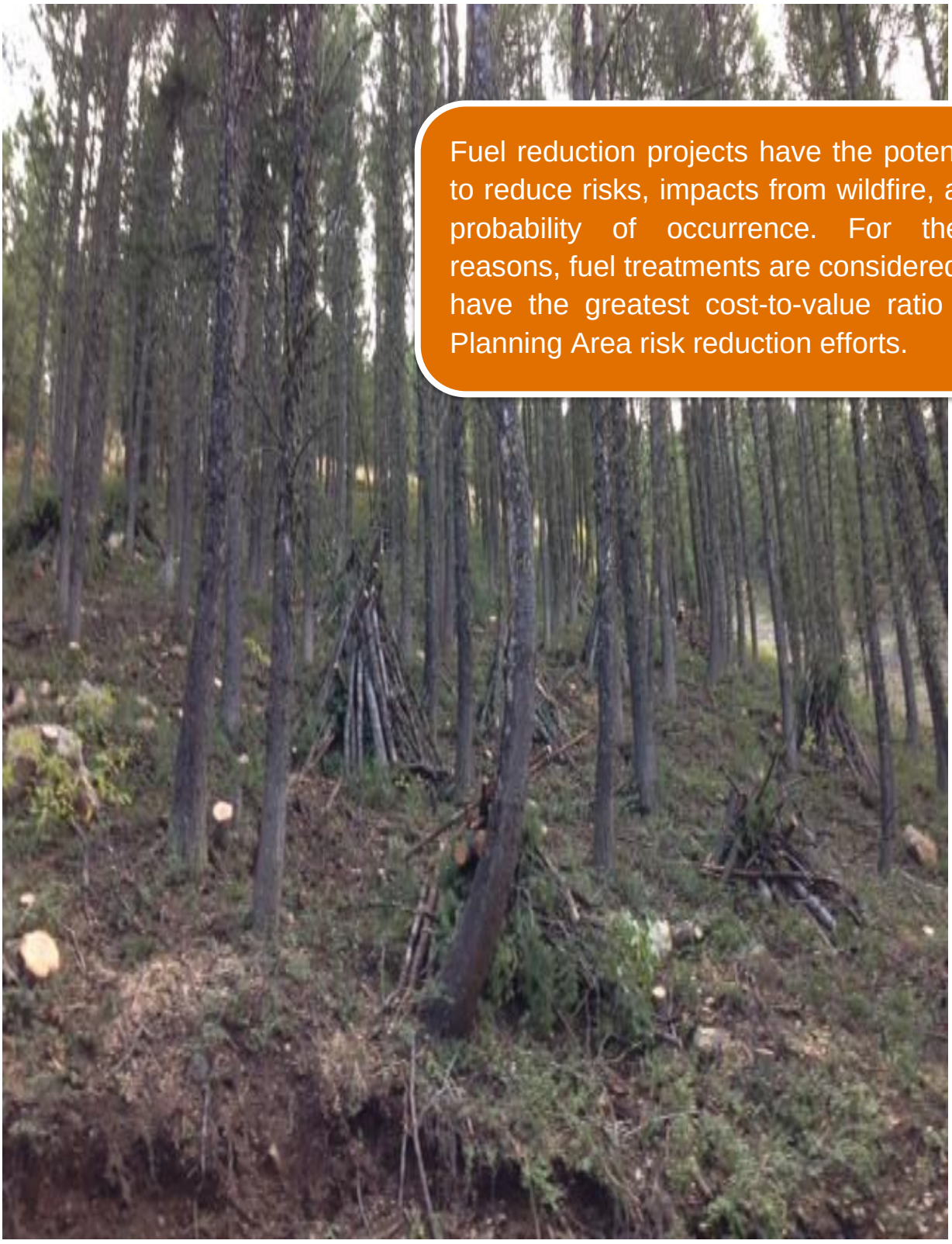
Values at Risk Mitigation	*Hazard Mitigation*	*Occurrence Mitigation*
+ Structural Hardening + Reduced Structure Density + Firewise/HIZ + Evacuation Capability + Community Notification Systems	+ Fuels Reduction + Early Detection and Suppression + Irrigation	+ Lightning Protection Systems + Public Education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

Fuel reduction projects have the potential to reduce risks, impacts from wildfire, and probability of occurrence. For these reasons, fuel treatments are considered to have the greatest cost-to-value ratio for Planning Area risk reduction efforts. Landscape and focused fuel treatment project areas are designed to enhance resiliency for identified values at risk while restoring and managing forest health.

The list of priority projects that follows is not intended to be a complete list of fuel treatment project opportunities that should be undertaken. Instead, it provides areas of targeted opportunity based on priority and assessed risk modeling. More targeted fuel management areas and opportunities can be expanded over time, with ground truthing of the identified project areas and the feasibility of treatment opportunities. By developing cross-boundary fuel treatments, the county can further reduce the county's risk and unwanted consequences of wildfire. See Appendix F for Prescriptive Guidelines and Best Management Practices for Fuel Treatments.

The following tables are a consolidated list of priorities and recommendations that identify actions that the County should consider in its efforts to reduce the wildfire threat to values at risk. These items were developed from the results of the public survey, wildfire assessments, public workshops, core group meetings, and existing reports. This list of actionable items is intended to guide where fuel treatments should occur within the county.

Figure 57: Risk Mitigation Diagram



Fuel reduction projects have the potential to reduce risks, impacts from wildfire, and probability of occurrence. For these reasons, fuel treatments are considered to have the greatest cost-to-value ratio for Planning Area risk reduction efforts.

6.4.10 Teton County Priority Projects

The priority treatment areas were identified through a collaborative approach of public comment, fire behavior modeling, and input from land management partners to develop a comprehensive list of priority areas for fuel treatment. These areas are identified in their relative location to the WUI and values at risk. Priority areas have been broken down into privately owned and publicly owned treatment areas.

6.4.10.1 Privately Owned Land Fuel Treatments

In the areas identified as priorities for private lands, it is imperative to work with homeowners to conduct meaningful project work. Fuel treatments in these areas should follow the Home Ignition Zone (HIZ) guidance to the fullest extent possible. The HIZ guidelines can be found in Section 6.4.5.3 and Section 6.4.14. Additional recommendations to implement home hardening best practices for private property are highly encouraged. Refer to Section 6.4.12.

Table 10: Private Land Priority Areas

Priority	Area Name
Very High	North Fish Creek
	Teton Village
	Town of Jackson
	Fall Creek Corridor
High	Alta
	Butler Creek
	Grand Targhee Resort
	South Fall Creek
	Teton Wilderness
	Trails End
Moderate	Buffalo Fork
	Coburn Creek
	Heart 6 Ranch
	South Park Feed Grounds

6.4.10.2 Publicly Owned Land Fuel Treatments

Areas identified as priorities on public lands have the potential to significantly impact private lands in the event of a wildfire. Conducting treatments in these areas has the potential to reduce the impact on communities and establish a more fire-adapted environment. These project areas are not prescriptions. A qualified and trained forester should develop a prescription to determine the size and method of each treatment on respective public

lands. The areas are separated into three (3) priority classifications based on proximity to population densities and fire behavior modeling.

Table 11: Public Land Priority Areas

Priority	Area Name
Very High	Alta/CTNF Boundary
	Colter Bay to JLL Corridor
	Snow King Mountain
	Teton Pass
	Teton to Snake 1
	Teton to Snake 2
	Teton to Snake 3
	Teton to Snake 4
High	Bryan Flats
	Cache Creek
	Camp Loll
	Darby Ranch
	Deer Creek
	Highway 26 Corridor
	Hoback Canyon
	Hoback Trail
	Leigh Canyon
	Ski Hill Road
	South Fish Creek
	Teton Canyon West
	Togwotee Pass
Moderate	Bierer Creek
	Buffalo Valley
	Cave Falls
	Flat Creek
	Grizzly Lake
	Little Horse Creek
	Lost Creek
	Munger Mountain
	Squirrel Meadows

6.4.11 Additional Fuel Treatment Recommendations

An important component of this CWPP is project prioritization and implementation with strategies over a three (3) to five (5) year implementation period. For this reason, a limited number of priorities were developed for Teton County. The following table contains a list of fuel treatment projects that were not included in the priority project areas. Although the list below was not determined to be the highest priority, they are recognized as areas that require further risk reduction. These additional areas also include areas the public identified during public meetings as a concern and should be given serious consideration.

Table 12: Additional Fuel Treatment Areas

Location Name	
Badger Creek	May Park
Beaver Creek	Moose Creek
Bechler	Pacific Creek
Curtis	Palmer Creek
Colter Bay	Phillips Canyon
Darby Canyon	Phillips Ridge
Dry Ridge	Poker Flats
East Hoback Canyon	Prichard Pass
Game Creek	Shadow
Jackson Lake Lodge	Signal Mountain
Jenny Lake	

6.4.12 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 are primary residences (National Interagency Fire Center).

Research has shown repeatedly that the main reason for structure loss during wildfire is due to the ignitability of the structure itself, which is not always associated with large, high-intensity fires. Low-intensity fires can destroy structures that are highly ignitable while structures with low ignitibility can survive high-intensity fires (Cohen).

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

Adjacent Wildland Open Space

- Fuels
- Terrain
- Weather
- Fire behavior and its influence on itself

Community

- Housing density
- Zoning
- Separate distance
- Physical barriers

Structure

- Exterior structure construction material
- Structural design
- Site location (e.g., mid-slope, hilltop)
- Structure maintenance
- Heat sources (e.g., landscaping, flammable exposures) within 100 to 200 feet

A detailed description of common structural vulnerabilities is provided later in this section. Some of the most common vulnerabilities include combustible vegetation directly adjacent to the structure, roofing materials such as shake shingles, and attachments like wooden decks and fences. Examples of these items are shown below.

Figure 59: Structure Vulnerability Examples

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:

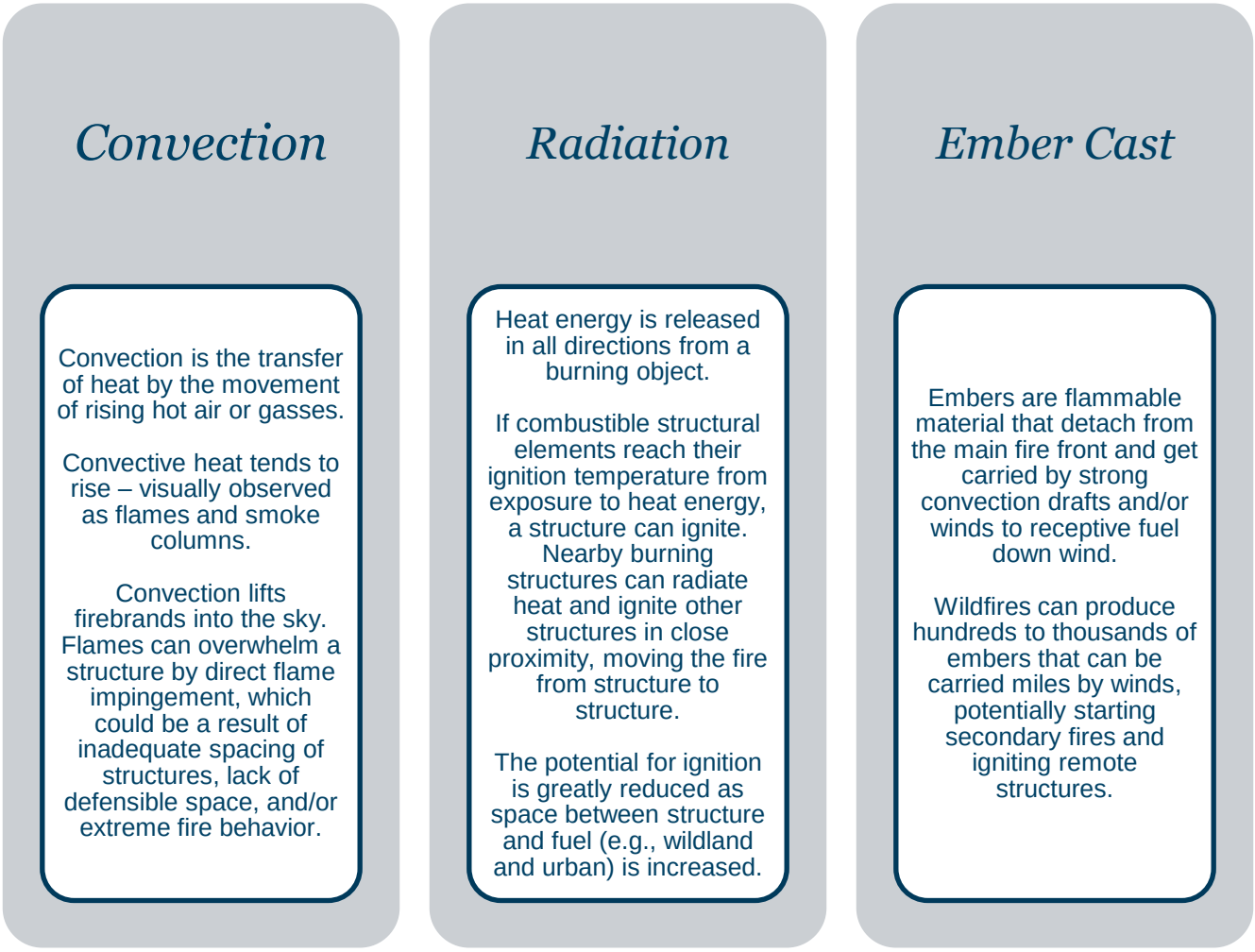


Figure 60: Causes of Structure Ignition

Receptive fuel beds can include ornamental landscaping, dead vegetation, litter, and debris build-up in rain gutters, mulch beds, etc. Enclaves, islands, and riparian corridors of wildland vegetation, as well as ornamental vegetation, 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 the communities within Teton County despite all efforts to prevent them from occurring. However, stakeholders, landowners, and homeowners can and should take proactive measures to mitigate vulnerable areas around their structures.

The vulnerable portions of a structure that can contribute to ignition during a wildfire include:

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 that is attached 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 make structures 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. It is essential for structure survivability during wildfires.

Figure 61: Structural Vulnerable

6.4.13 Fire Adapted Communities

Fire-adapted communities embrace the need for community-wide collaboration, coordination, and engagement by all stakeholders and partners. Several Teton County stakeholders are currently engaged in reducing the threat of wildfire through preplans, mitigation and fuel projects, code adoption, land use planning, and public education as a collaborative effort in Teton County.

The following is a list of current preparedness groups and national programs that enhance the message of fire-adapted communities, improve community wildfire resiliency, and educate residents on wildfire preparedness.

6.4.13.1 County and Regional Programs

Teton Area Wildfire Protection Coalition

In Teton County, the Teton Area Wildfire Protection Coalition (TAWPC) has worked to develop and create resilient, fire-adapted communities to reduce the potential impacts of wildfire. The coalition is comprised of city and county officials, local, state, and federal agency representatives, homeowner's associations, local businesses, and private landowners. More information about the council can be found **here.**

Fire Adapted Communities Learning Network

Fire Adapted Communities Learning Network focuses on creating resilient communities through numerous components of community vulnerability from the parcel level to the entire neighborhood or town. It assists homeowners with building fire-resistant structures, fire codes, and associated costs. Additionally, they enhance community engagement, public education, and guidance with recovery after a wildfire. More information about Fire Adapted Communities can be found **here.**

Ready, Set, Go!

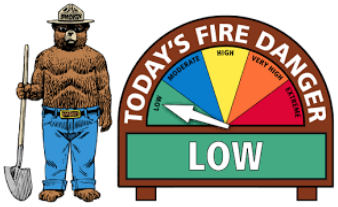
This program was developed through the cooperation of numerous agencies and includes information on defensible space, structural hardening, evacuation, preparing families before and during a wildfire, and developing checklists to help residents prepare before a wildfire. More information on Ready! Set!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

NFPA Firewise

This program, developed by the National Fire Protection Association, provides residents with information such as the Home Ignition Zone Guidelines. This national program encourages creating defensible space and hardening your home against wildfire. Through its Firewise Communities Program, the program promotes community and neighborhood risk reduction. More information about Firewise can be found **here.**

Red Flag Warnings

Red Flag Warnings identify weather conditions that are favorable to dangerous wildfire conditions. 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 can be found **here**.



Fire Danger Rating System

Understanding current fire danger can help residents react appropriately when notified of an emerging fire situation. The daily fire danger rating system (Low, Moderate, High, Very High, Extreme) is a helpful and essential tool that creates situational awareness and education for visitors and residents. More information about Fire Danger Ratings can be found **here.**

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 HIZ Guidance, and Ready! Set! Go! Programs across the county to provide consistent messaging.

Conduct

- Conduct “walk and talk” meetings with HOAs to demonstrate recommended mitigation practices and answer questions about fuel management and structural hardening.

Educate

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

6.4.14 Structural Resiliency Guidance

In the event of a wildfire, firefighting resources may be quickly overwhelmed. During fires that escape an initial attack, first responders may be faced with many more structures and values at risk than fire apparatus and personnel can defend. Firefighter safety is paramount. It may not be safe for firefighters to engage in structure protection due to a variety of factors such as the intensity of the fire, weather conditions, local topography, access and egress, escape routes not viable, lack of water supplies, etc. The survivability of firefighters and structures in a wildfire event is improved by the mitigation efforts the homeowner has implemented.

The ignition potential of a structure is dependent on fire conditions, construction materials, and the Home Ignition Zone (HIZ). The HIZ is the structure as well as an area that extends from the foundation in increments of 5 feet, 30 feet, and 100 feet. However, the Teton County Core Planning Team recommends 100 to 200 feet. This is a fire-prone area that should be treated or mitigated to reduce ignition and fire spread. It’s the responsibility of the property owner to make their structure resilient before a fire starts. Property owners can help themselves and firefighters by being proactive and implementing mitigation in the HIZ.

The HIZ is divided into three (3) zones, as shown in Figure 62, below.

Figure 62: Home Ignition Zone (HIZ)

Zone 1: 0-5 feet from the structure. In this zone:

- The structure and all attachments (e.g., wooden decks, fences, and patios) are the most vulnerable to ignition caused by embers.
- Avoid anything combustible in this area, including woody plants, 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 structure'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.
- Mow regularly and prune trees so branches do not touch other vegetation.
- Create space between tree crowns and trim any trees that overhang the house.
- Create a "fire-free" area within five (5) feet of the home, using non-combustible landscaping materials and/or high-moisture-content annuals and perennials.
- Remove dead vegetation from under the deck, combustible piles, and within ten feet of a house.
- Consider fire-resistant material for patio furniture, etc.
- Remove firewood and/or stacks or piles of combustible material
- Water vegetation and mulch regularly.

Figure 63: HIZ Zone 1 Examples

Zone 2: 5-30 feet from the structure. In this zone:

- Mow grasses to four (4) inches tall or less.
- Create spacing between small groups of two (2) or three (3) trees, spacing ten (10) feet apart depending on tree size.
- Encourage a mixture of deciduous and coniferous trees.
- Create breaks in vegetation, such as driveways, gravel walkways, and lawns.
- Prune trees so branches do not come into contact with other vegetation.
- Keep firewood and other combustible materials from this zone.

Zone 3: 30-100 feet (Teton County recommends 100-200 feet) from the structure. In this zone:

- Create tree crown spacing of six (6) to ten (10) feet. Create meadows and openings where possible.
- Clear understory and undesired shrubs and brush in areas where overstory trees are desired.
- Thin vegetation and remove heavy accumulation of combustible growth, ground litter, and debris.
- If firewood is used, ensure it is at least thirty (30) feet from any structure and clear of other combustibles.

Figure 64: Defensible Space Example

Table 13: Structure Mitigation Actions

Structure Component	*Mitigation Actions*
Defensible Space	Refer to HIZ Guidance
Addressing	Provide premises identification at the entrance of the driveway in a manner that is visible from both directions. Characters should be a minimum of four (4) inches tall with a minimum stroke width of ½ inch.

Structure Component	Mitigation Actions
Roof	Replace wood-shake or shingle roofs with a Class-A material suitable for extreme fire exposure. Plug openings in roofing materials, such as the open ends of barrel tiles, to prevent ember entry and debris accumulation. Regardless of the type of roof, keep it free of bird's nests, fallen leaves, needles, and branches.
Chimneys	Install chimney and stovepipe cover over openings with an approved spark arrestor cap with a ½-inch screen.
Eaves	Cover the underside of the eaves with a soffit or box in the eaves, which will reduce the ember threat. Enclose eaves with fiber cement board or $^{5}/_{8}$-inch thick, high-grade plywood. If enclosing the eaves is not possible, fill gaps under open eaves with caulk.
Exterior Siding	Non-combustible siding materials (e.g., stucco, brick, cement board, and steel) are better choices. If using non-combustible siding materials is not feasible, keep the siding in good condition and replace materials in poor condition.
Windows and Skylights	Single-pane windows and large windows are particularly vulnerable in older homes built before current fire codes. Install windows that are at least double-glazed and that utilize tempered glass for the exterior pane. The type of window frame (e.g., wood, aluminium, or vinyl) is not as critical. However, vinyl frames can melt in extreme heat and should have metal reinforcements. Keep skylights free of leaves and other debris and remove overhanging branches. Skylights in the WUI must be flat, constructed of double-pane glass, and must be kept free of vegetation.
Vents	All vent openings should be covered with $^{1}/_{8}$-inch or smaller wire mesh. Another option is to install ember-resistant vents. Do not permanently cover vents, as they play a critical role in preventing wood rot.
Rain Gutters	Always keep rain gutters, if applicable, free of bird's nests, leaves, needles, and other debris. Roof gutters shall be provided with a means to prevent the accumulation of leaves, needles, and debris. Check and clean them several times during the year.
Decks	Keep all deck materials in good condition. Consider using fire-resistant rated materials or heavy timber construction. Routinely remove combustible debris (e.g., pine needles, leaves, twigs, and weeds) from the gaps between deck boards and under the deck. Enclosing the sides of the deck may reduce this type of maintenance. Do not store combustible material under the deck.
Combustible Items	Keep the porch, deck, and other areas of the home free of flammable materials (e.g., baskets, newspapers, pine needles, and debris). Keep firewood, bales of hay or straw, and other combustible/flammable materials at least 30 feet away from a structure.
Detached Accessory Structures	All detached accessory structures should ideally follow the same provisions as the main structure. Detached accessory structures should be constructed of non-combustible materials or ignition-resistant materials.

Education

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

6.4.15 Safe, Effective, Risk-Based Wildfire Response

6.4.15.1 Suppression Capabilities

Teton County faces a unique combination of risk factors, including its resident and transient populations, tourism, geographic interface, size, topography, fuel types, and access routes. Early detection and swift response are essential to effectively control fires during the initial attack. Wildland fire management relies on interagency cooperation among federal, state, and local resources for prevention, mitigation, and response efforts. All agencies are trained to meet NWCG and NFPA standards for combating wildland fires. In Teton County, agencies depend on one another, especially if a fire escapes initial containment or there is an urgent need to evacuate residents. Given the numerous occluded interfaces and potential risks to public safety, it is likely that first-arriving fire suppression resources may prioritize evacuations over firefighting. Over the past two decades, the size and severity of wildfire incidents have steadily increased, with the majority attributed to human activities.

Figure 65: Firefighters Suppressing a Wildland Fire

6.4.15.2 Water Supply

Teton County relies on a combination of municipal water, cisterns, and mobile water supply (tenders and water shuttle operations) for fire suppression. As part of this plan, the water supply was evaluated to determine areas where water supply could be increased to add additional suppression capabilities. The recommendations are based on creating a network of water supplies that will reduce water shuttle times across the county. It is not feasible to install municipal water supply everywhere in the county, so the following recommendations provide a starting point for where additional water supply would maximize and improve coverage. Additionally, coordination with landowners to establish water use agreements for dip sites on static water supplies should be evaluated as an option for increased suppression capacity. A map of the water supply in Teton County is located below (Figure 66).

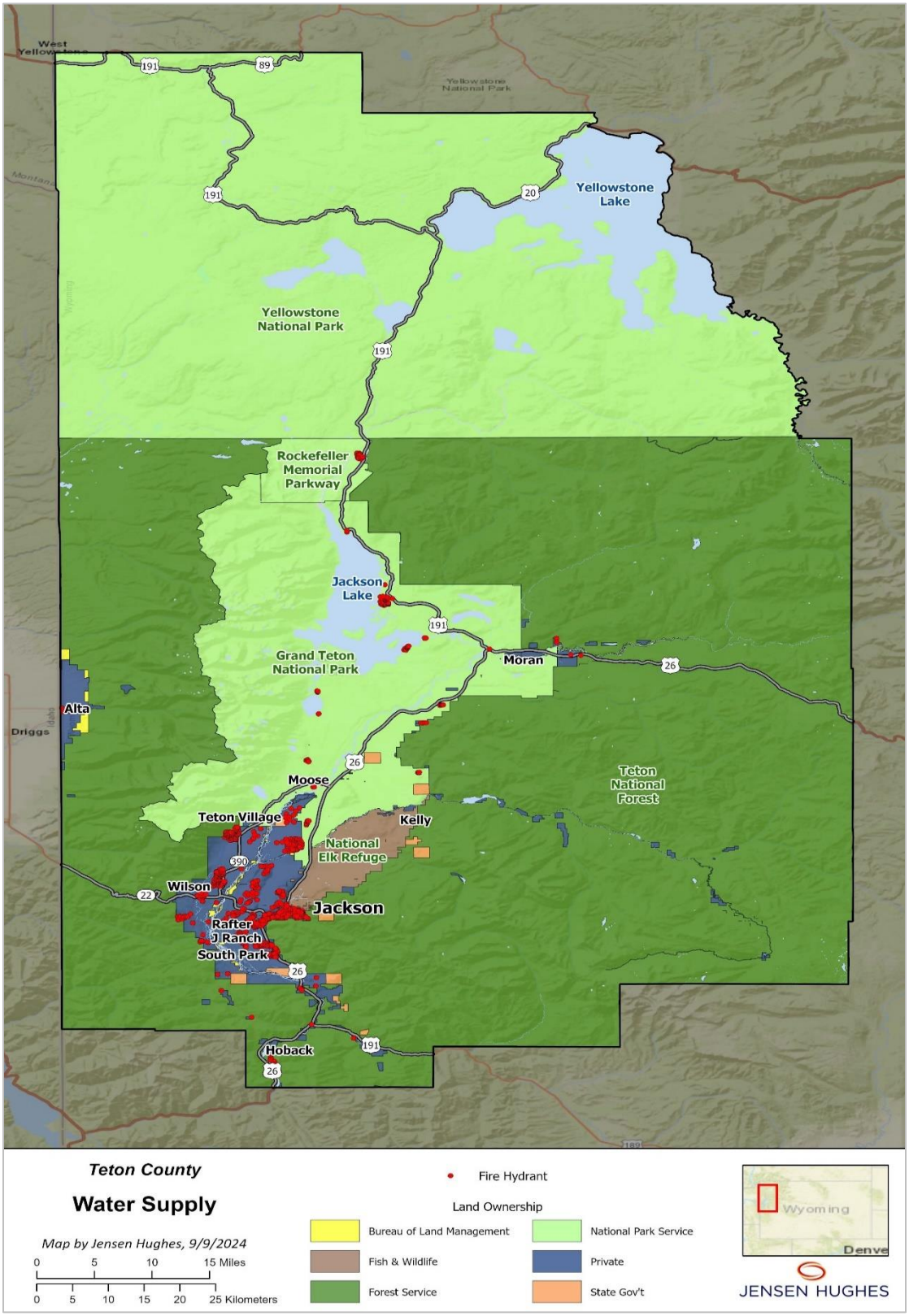


Figure 66: Teton County Water Supply

Water supply for wildfire suppression is provided by a combination of static water sources and water shuttle/transport methods. The highest structural density in the county is served by a hydrant network predominantly located in the southwest (Figure 66). However, water supply for the remainder of the county is limited and dependent on water supplies from static sources, including lakes, ponds, and streams. This requires a method of transportation from the water source to the fire.

Type 3 and Type 6 Engines can obtain water easily and negotiate complex roads. However, due to their limited tank size, they can become exhausted very quickly.

A structure fire that threatens the wildland or a wildfire that threatens structures both require an adequate and sustainable water delivery system. This can be achieved via a water distribution network (hydrant network) or transported in heavy apparatus (tenders, etc.) as needed. These vehicles, however, are limited in access to a fire as they are slowed by steep grades, narrow roads, and the inability for tight turnarounds. Heavy apparatus delivering water can establish static sources, including porta tanks for drafting, relay pumping, or directly supplying firefighters. The long travel distances, times, and lack of accessibility for water delivery outside of the hydrant areas should be minimized.

It is recommended to stage static water supplies in areas where water for fire suppression is minimal. Cisterns, water (porta) tanks, or staged tenders during high-fire potential days can be implemented through the pre-planning of tactical decisions and agreements.

6.4.15.3 Personnel

The Teton County agencies responsible for fire suppression have trained and certified firefighters for wildfire suppression, management, and recovery. First-response agencies have state-of-the-art tools, equipment, and apparatus. However, due to the distances responders must travel and the limited access to rural areas of the county, there may be a deficiency in the number of firefighting personnel that initially arrive on the scene.

Agencies must receive early notification, respond, and arrive early in the fire's development to contain the fire during an initial attack or the first burn period. Although most fires are contained and controlled during the incipient (early) stages, the number of personnel available at any one time in Teton County is not sufficient to contain and control a fire that escapes the initial attack.

The 2023 Wildland Fire Management AOP addresses wildfire response guidelines. Additional seasonal firefighters have been trained at Jackson Hole Fire/EMS. However, any fire that escapes the initial attack has the potential to become a large event in Teton County. The entire response system is dependent on interagency collaboration, regional mobilization, and aviation resources during the initial attack.

Figure 67: Swinging Bridge Fire Briefing

6.4.15.4 Apparatus

All fire suppression agencies in Teton County have apparatus designed for wildfire suppression. Apparatus is dependent on water as the primary agent for suppression. Fire agencies possess at least one (1) piece of apparatus designed specifically for wildland fire. Most agencies have some capacity to supply themselves with water carried on apparatus or develop a water source in the early stages of a fire. However, if the fire escapes the initial attack, water supply and delivery for fire suppression are established and maintained. In some areas, water tenders can be delayed for extended periods of time. Static water sources should be identified for drafting, porta tanks, etc. Existing water use agreements must be maintained, and additional water use agreements should be secured.

Figure 68: JHFEMS Brush 68

6.4.15.5 Air Resources

Teton County emergency managers and fire agencies are very aware of the threat that any fire could easily escape containment during the initial attack. Local agencies realize and depend on aviation resources (SAR Helicopter and Federal fixed wing, rotor, and support) that are needed to support firefighting operations. Air resources have been prepositioned in Sublette County (a county to the southeast of Teton County) to assist with wildfire response. However, this resource is subject to availability as local weather conditions or assignments to other fires may limit the effectiveness and ability to request aircraft. Rotary and fixed-wing platforms are available through Teton and Eastern Idaho Dispatch Centers.

Figure 69: Bae 146 Performing a Slurry Drop

6.4.15.6 Law Enforcement

Law enforcement, primarily the Teton County Sheriff and Town of Jackson Police Departments, have been trained to assist with evacuations, traffic control, and scene security. As with the fire agencies, law enforcement capacity is also challenged during a fire. Since deputies and officers may be pressed into emergency evacuation duties initially, access and egress corridors, roads, and highways may become congested, creating access problems for fire suppression personnel.

Promote

- Continue to promote collaboration and training opportunities across agencies.

Provide

- Continue to provide support through mutual aid agreements.

6.4.16 Post-Fire Assessment

Post-fire damage assessments and emergency stabilization through the Burned Area Emergency Response (BAER) framework are critical aspects of wildfire response. Response to wildfire events does not start and stop with the suppression efforts.

Traditionally, the BAER is viewed as a post-fire stabilization team that assesses damage and works to stabilize the burn area for rehabilitation and long-term recovery. Post-fire recovery should begin while the fire is still active. The collaboration between suppression activities and recovery efforts will provide value for both parties and ensure a smooth transition once the fire has been contained.

It is also important to note that the BAER team is not implemented on every fire. Traditionally, fires that have devastating impacts on the forest due to high severity will result in a BAER response. Smaller wildfires with high burn severity can have many negative impacts and result in the local community and partners relying upon each other to initiate the recovery process and plan.

A plan should be developed utilizing BAER data to guide local decisions on 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, but decisions and collaboration will likely be managed by Teton County. If post-fire recovery planning is included in the planning division of the incident management structure, they will be able to monitor how the fire behavior is affecting the landscape in real-time, identify potential challenges, and emergency managers can begin making decisions and acquiring resources. Collaboration during a fire event could be done in as little as one (1) hour during each operational period but provide tremendous value for the recovery efforts.

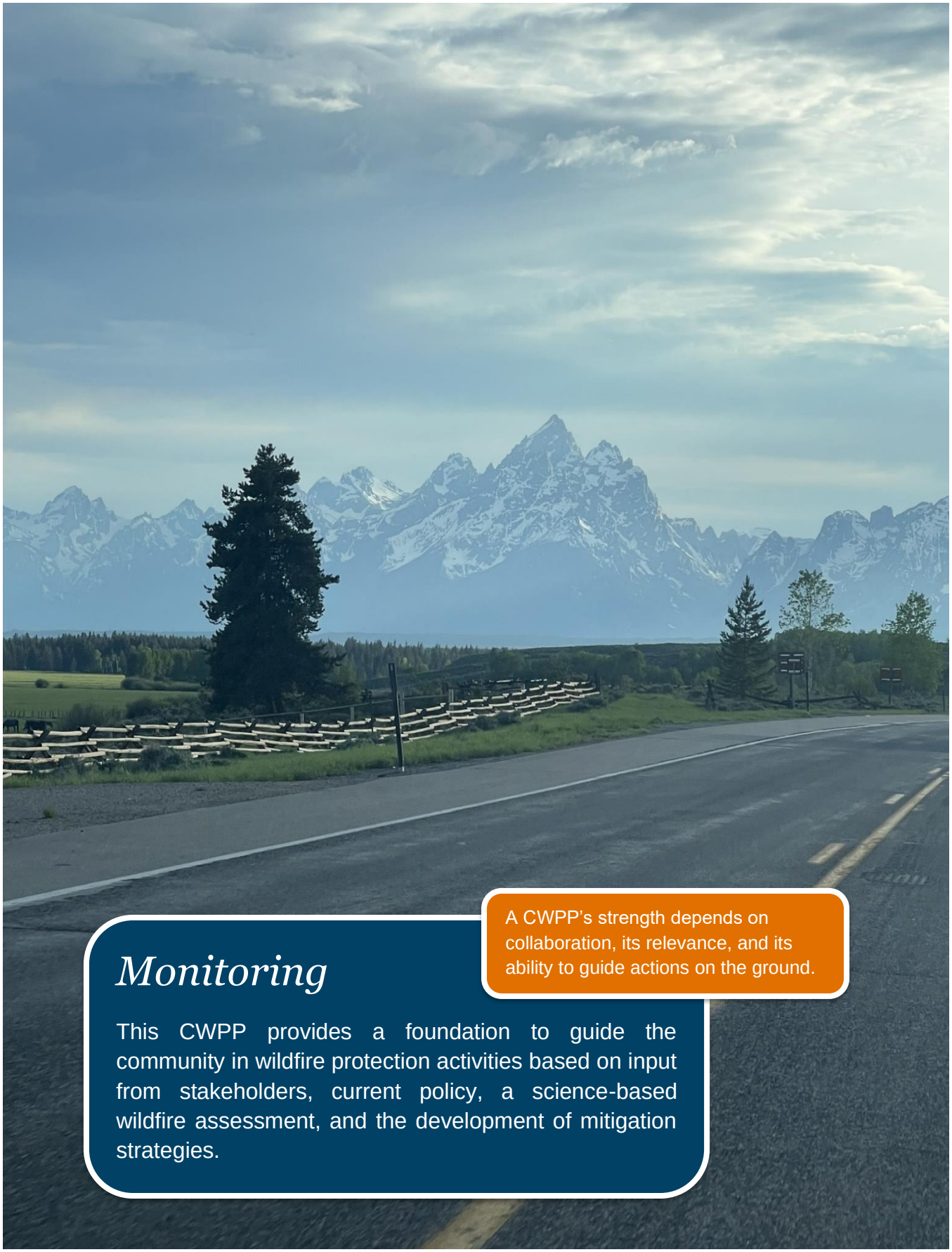
The recovery plan should also include strike teams designated for conducting post-fire damage assessment as soon as it is safe to do so. Providing an efficient, coordinated response for post-fire stability is equally as critical as the suppression activities and could reduce the potential for long-term adverse effects on the landscape and the community.

Table 14: Community Action Plan

Community Recommendations				
Objective	*Action*	*Responsible Official*	*Target Date*	*Status*
Public Education	Create a public messaging campaign targeted at wildfire preparedness that is consistent and constant and shows county-wide cohesion that addresses wildfire risk reduction.	Teton County PIO, Jackson Hole Fire Prevention Division, and Federal Prevention Specialists	January 2025	
	Share a priority map of the wildfire risk and opportunities for fuel treatment.	CWPP Core Planning Team Teton County	December 2024	
	Conduct "walk and talk" meetings with HOAs and neighborhoods to demonstrate recommended mitigation practices and answer questions about fuel mitigation on private property.	Jackson Hole Fire Chiefs and Staff	May 2025	
	Educate the public on grants, tax credits, and other potential funding sources to support mitigation projects on private property.	Jackson Hole Fire Prevention Division	May 2025	
	Promote the use of the Ready, Set, Go! Program for the County and all partners.	Teton County PIO, Jackson Hole Fire Prevention Division, TAWPC, and other public education partners	April 2024	
Evacuation	Conduct roadside fuel treatment projects. Where possible, 1/4 mile on either side of the roadway is recommended to reduce the potential of spotting across roadways.	Land managers and local jurisdictions	July 2025	
	Develop a plan to increase the capability for livestock evacuations through shelter locations and livestock transportation.	Teton County Emergency Management	May 2027	

Objective	Action	Responsible Official	Target Date	Status
Evacuation (continued)	Create a program to identify temporary refuge areas and educate the public on their use.	Jackson Hole Fire/EMS	May 2027	
	Create a program to establish shelter-in-place procedures and create a public messaging campaign to accompany the program.	Teton Area Wildfire Protection Coalition	May 2025	
	Evaluate where improvements can be made to existing rights-of-way to improve evacuation capability.	Wyoming Department of Transportation and Teton County Road & Levee	July 2025	
	Implement improvements to existing right-of-way.	Teton County Road & Levee Department	2028	
	Discuss and initiate evacuation and shelter in place plans.	Teton County Emergency Management, Jackson Hole Fire/EMS and Teton County Sheriff's Office	Annual	
Fuel Treatment	Identify priority watershed areas for fuel treatment. Further refine project areas based on fuel treatment opportunities, funding, ownership, and feasibility.	Teton Area Wildfire Protection Coalition and land managers from all partners	Annual	
	Identify opportunities to leverage programs like the Good Neighbour Authority (GNA) and others for cross-boundary fuels treatment projects.	All land managing agencies	Continuous	
	Pursue funding opportunities for mitigation projects through multiple avenues, including grants, taxes, mill levies, and any other potential sources.	Local agencies and land managers	Continuous	
	Establish biomass removal programs across the county to assist homeowners in their efforts to reduce the risk to their private property.	Jackson Hole Fire/EMS and land managing agencies	August 2025	

Objective	Action	Responsible Official	Target Date	Status
Fuel Treatment (continued)	Monitor the progress of recommended projects and update them as necessary.	All land managing agencies	Continuous	
Critical Infrastructure Hardening	Develop a plan to harden critical infrastructure values at risk, including electric distribution, communication systems, public utility infrastructure, hospitals, schools, temporary refuge locations, etc.	Teton County Emergency Management	December 2027	
	Review and adopt the IWUI Code section on home hardening, as applicable to Teton County.	Jackson Hole Fire/EMS	2027	
Private Property Structural Hardening	Provide guidance and resources for homeowners to protect their homes through structural hardening measures.	Teton County PIO, Jackson Hole Fire/EMS, local jurisdictions, and the Town and County building departments	December 2026	
	Enforce and continually update the International WUI Code for new construction and homes and businesses located within WUI and applicable fire hazard severity zones, as defined by the Fire Marshal.	Jackson Hole Fire/EMS, Teton Town and County Building Department	December 2026	
Post-Fire Planning	Identify post-fire plans for recovery for the community (built environment) and landscape (vegetated areas).	Teton County Emergency Management, land managers, NRCS, Jackson Hole Fire/EMS, other national partners	March 2027	



A CWPP's strength depends on collaboration, its relevance, and its ability to guide actions on the ground.

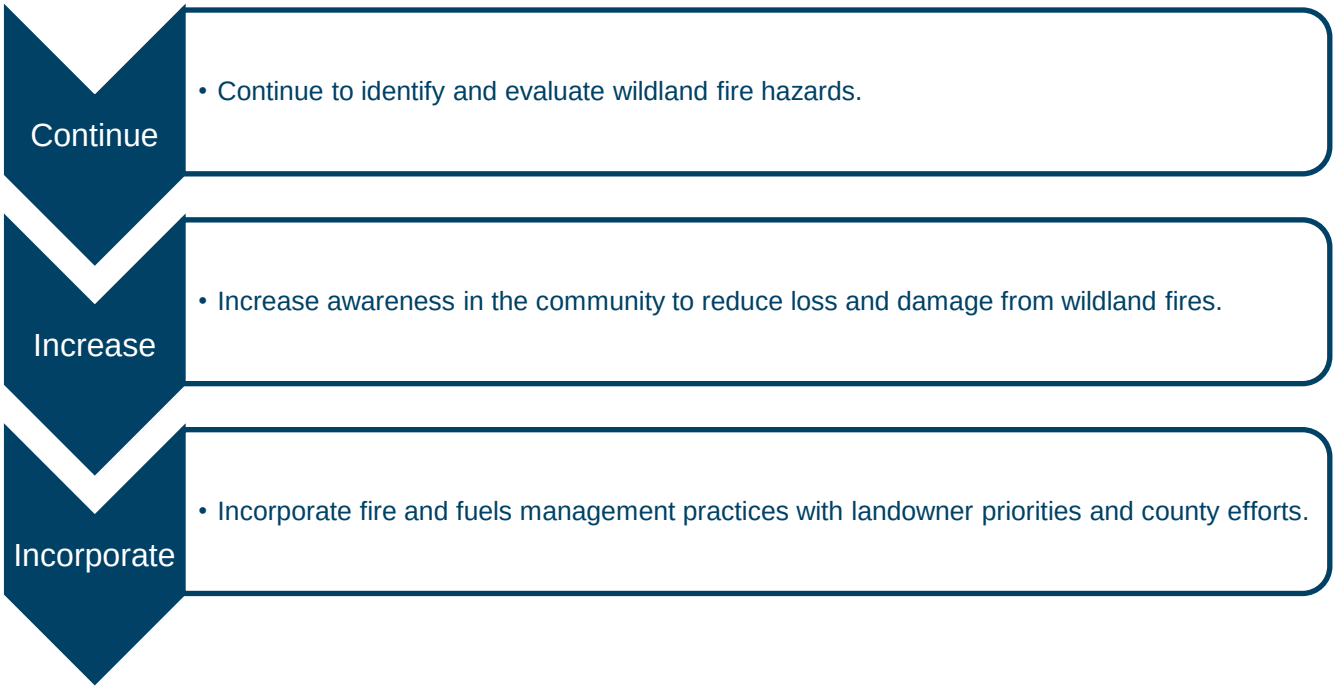
Monitoring

This CWPP provides a foundation to guide the community in wildfire protection activities based on input from stakeholders, current policy, a science-based wildfire assessment, and the development of mitigation strategies.

7.0 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 risk reduction efforts provides important opportunities to evaluate the overall success of the CWPP's ability to reduce wildfire risk and improve planning processes. This plan does not end when it is adopted but evolves with a continuous cycle of collaborative planning, implementation, monitoring, and adapting based on lessons learned.

Basic recommendations that will lead to a successful monitoring program are:



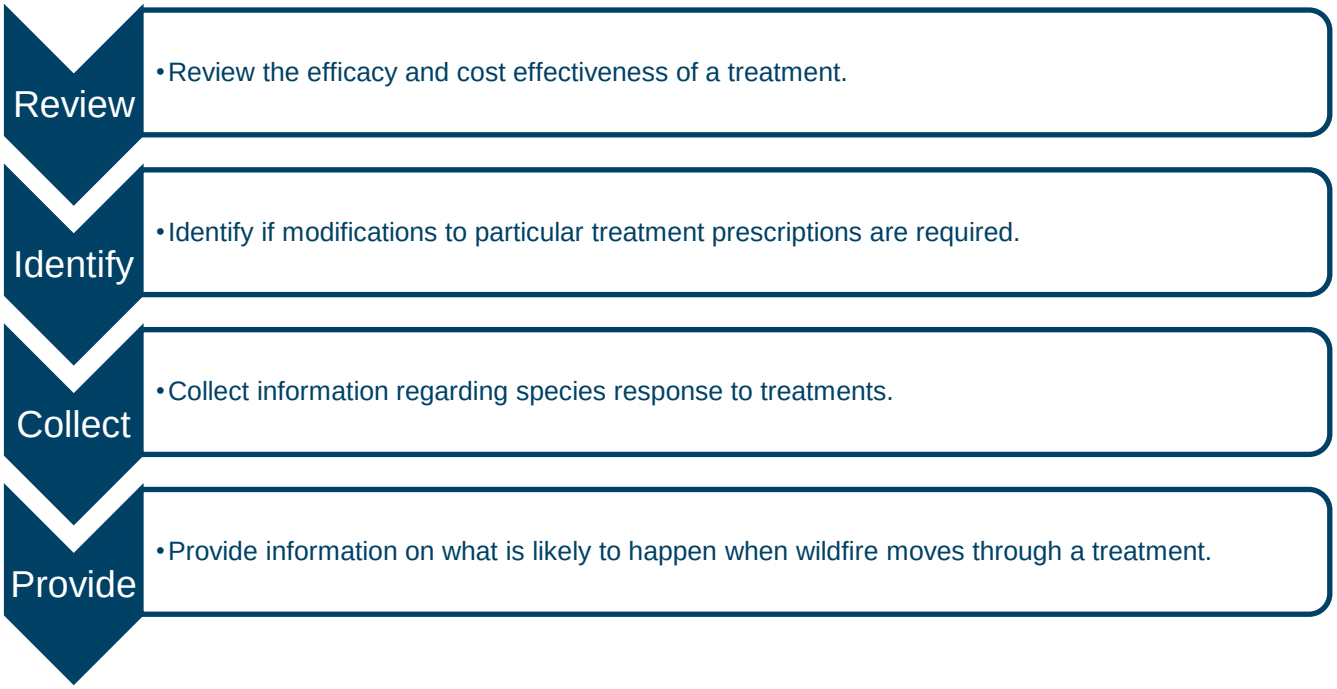
7.1 CWPP MONITORING

The CWPP should be constantly monitored and updated as needed 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 in the county. This includes monitoring project progress for both fuel treatments and other recommended projects. In addition to an annual review, a comprehensive review and update with all major stakeholders should be completed every three to five (3-5) years. A re-write and update to the CWPP may be appropriate at the end of the five (5) years. The process for updates should begin in year three and be completed by year five.

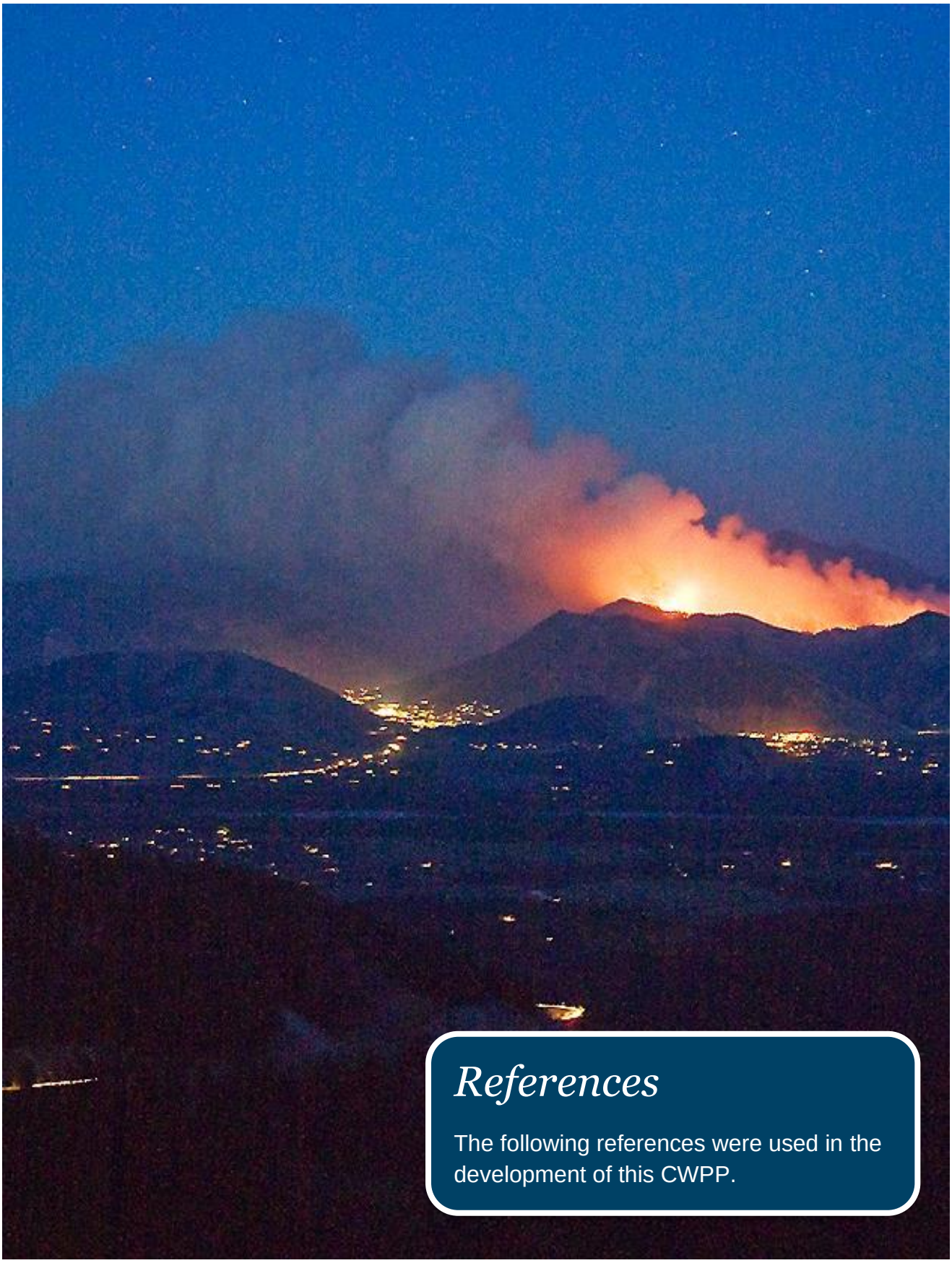
7.2 FUEL TREATMENT MONITORING AND MAINTENANCE

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 CWPP 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.

Fuel treatment monitoring information should be used to:



There are three (3) phases of fuel management monitoring: short-term, medium-term, and long-term. Short-term monitoring addresses the immediate results of treatment and the impacts of the treatment on the landscape. The medium-term monitoring allows for recovery to begin and for the regeneration of some species to return to the disturbed area. This phase also allows managers to decide if objectives were met and begin establishing timelines of re-treatment or additional management. Long-term monitoring provides information regarding the effectiveness of fuel treatments to enhance wildfire resiliency and typically identifies conditions that require minimal maintenance. Retreatment may occur during this phase depending on the level of disturbance and return interval of vegetation. All three (3) phases of fuel management monitoring must occur depending on the return interval of the vegetation, level of disturbance, and depending on results of the targeted fuels treatment in relation to the project objectives and goals.



References

The following references were used in the development of this CWPP.

8.0 References

The following references were used in the development of this report:

1. Abatzoglou, J., & Williams, A. (2016). Impact of anthropogenic climate change on wildfire across western US forests. Proceedings of the National Academy of Sciences, 113(42), 11770-11775.
2. Andrews, P. (et al.). (2008). BehavePlus fire modeling system, version 4.0 user's guide. Frames Resource Catalog. Retrieved from https://www.frames.gov/catalog/5506g
3. ASTM. (n.d.). Standard Test Method for Evaluating the Ability of Exterior Vents to Resist the Entry of Embers and Direct Flame Impingement. In E2886/E2886M-20. Retrieved from E2886/E2886M Standard Test Method for Evaluating the Ability of Exterior Vents to Resist the Entry of Embers and Direct Flame Impingement
4. Bradshaw, L. & McCormick, E. (2009). FireFamily Plus user's guide version 4.0. Frames Resource Catalog. Retrieved from https://www.frames.gov/catalog/21989
5. Burgan, R. & Scott, J. (2005). Standard Fire Behavior Fuel Models: A Comprehensive Set for Use With Rothermel's Surface Fire Spread Model. USDA General Technical Report RMRS-GTR-153. Retrieved from https://www.fs.usda.gov/rm/pubs/rmrs_gtr153.pdf
6. Climate Signals via Quest. (n.d.). Climate Change Impacts Explained in Real Time. Retrieved from https://www.climatesignals.org/resources/explainer-what-vapor-pressure-deficit-vpd
7. Cohen, J. (1999). How Homes Ignite. USDA Forest Service General Technical Reports. Retrieved from Proceedings of the Symposium on Fire Economics, Planning, and Policy: Bottom Lines
8. Cohen, J., & Butler, B. (1996). Modeling Potential Structure Ignitions from Flame Radiation Exposure with Implications for Wildland/Urban Interface Fire Management. US Forest Service. Retrieved from https://www.fs.usda.gov/rm/pubs_other/rmrs_1998_cohen_j001.pdf
9. Davies, I. (et al.). (2018). The unequal vulnerability of communities of color to wildfire. PLOS ONE.Retrieved from https://doi.org/10.1371/journal.pone.0205825
10. Dey, D. (n.d.). Puls Blog: What are the 6 Types of Garage Doors. Retrieved July 2022 from https://blog.puls.com/what-are-the-6-types-of-garage-doors
11. Federal Emergency Management Agency. (n.d.). (2008). Technical Fact Sheet No. 6: Eaves, Overhangs, and Soffits. Home Builder's Guide to Construction in Wildfire Zones.
12. Federal Emergency Management Agency. (n.d.). Community Lifelines. Retrieved from https://www.fema.gov/emergency-managers/practitioners/lifelines
13. Finney, M.A. (2006). An overview of FlamMap Fire Modeling Capabilities. USDA.gov.
14. Fire Research and Management Exchange System. Retrieved from https://www.frames.gov/behave/home
15. Fire Safe Marin. (2022). Fire-Resistant Vents. Retrieved from https://firesafemarin.org/harden-your-home/fire-resistant-vents/
16. Fire Safe Marin. (2022). Fire-Resistant Windows. Retrieved from https://firesafemarin.org/harden-your-home/fire-resistant-windows/
17. Garthwaite, J. (2022). Stanford researchers Identify 'Double-Hazard' Zones for Wildfire in the West. Stanford News Service.
18. International Association of Fire Chiefs. (n.d.). Ready, Set, Go!. Retrieved from https://www.wildlandfirersg.org/s/?language=en_US

19. Insurance Institute for Business and Home Safety. (n.d.). (2019). Embers Cause Up to 90% of Home & Business Ignitions During Wildfire Events. Retrieved from https://ibhs.org/ibhs-news-releases/embers-cause-up-to-90-of-home-business-ignitions-during-wildfire-events/
20. Merriam Webster. (2022). weather strip,. Merriam-Webster.com Retrieved from https://www.merriam-webster.com/dictionary/weather%20strip
21. National Fire Protection Association. (n.d.). Firewise Fact Sheet Exterior Sprinklers. Retrieved from https://www.nfpa.org/-/media/Files/Firewise/Fact-sheets/FirewiseFactSheetsExteriorSprinklers.ashx
22. National Fire Protection Association. (n.d.). Firewise USA. Retrieved from NFPA: https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA
23. National Fire Protection Association. (n.d.). (2023). Preparing Homes for Wildfire. Retrieved from https://nfpa.org
24. National Interagency Fire Center. (2023). Annual Report. Retrieved from https:// Nifc.gov/NICC/2-predictive services intelligence annual reports
25. National Park Service. (2022). Wildfire Causes and Evaluations. National Park Service Articles. Retrieved from https://www.nps.gov/articles/wildfire-causes-and-evaluation.htm
26. National Weather Service. (n.d.). Red Flag Warning. Retrieved from https://www.weather.gov/mqt/redflagtips#:~:text=A%20Red%20Flag%20Warning%20means,3%2F4%20of%20an%20inch.
27. National Wildfire Coordinating Group. (n.d.). Fireline Handbook. Retrieved from https://www.nwcg.gov/
28. National Wildfire Coordinating Group. (n.d.). Standards for Mitigation in the Wildland-Urban Interface. Retrieved from https://www.nwcg.gov/
29. National Wildfire Coordinating Group. (n.d.). Wildland Fire Incident Management Field Guide. Retrieved from https://www.nwcg.gov/
30. Palaiologou, P. (et al.). (2016). Social vulnerability to large wildfires in the western USA. Landscape and Urban Planning.189, 96-118.
31. Quarles, S. (2011). The Combustibility of Landscape Mulches. University of Nevada, Reno. SP 11-04. https://extension.unr.edu/publication.aspx?PubID=2982
32. Teton County EOP. (2022). Annex B5, Appendix 5.1. Retrieved from https://www.tetoncountywy.gov/DocumentCenter/View/471/Emergency-Operations-Plan-PDF
33. Teton County Internal Sustainability Strategy.(2017). Retrieved from https://www.tetoncountywy.gov/DocumentCenter/View/28075/Teton-County-Sustainability-Plan---FINAL
34. The Nature Conservancy. (n.d.). Home. Retrieved from The Nature Conservancy: https://www.nature.org/en-us/
35. US Census Bureau. (2022). Teton County, Wyoming. Retrieved from Census Data: https://data.census.gov/profile/Teton_County,_Wyoming?g=050XX00US56039
36. US Census Bureau. (2023) Teton County, WY. Retrieved from Census Reporter: https://www.census.gov/quickfacts/fact/table/tetoncountywyoming,WY/PST045223
37. US Department of Agriculture. (n.d.). The National Cohesive Wildland Fire Management Strategy. Retrieved from Forests and Rangelands. https://www.forestsandrangelands.gov/strategy/thestrategy.shtml
38. US Department of Agriculture. (n.d.). United States Forest Service. Retrieved from United States Forest Service. https://www.fs.usda.gov/
39. US Department of the Interior. (n.d.). Bureau of Land Management. Retrieved from Bureau of Land Management. https://www.blm.gov/

40. US Department of the Interior. (n.d.). Prescribed Burn Terminology. Retrieved from Bureau of Land Management. https://www.blm.gov/or/resources/fire/prescribedburns/burn_terminology.php
41. US Forest Service. (n.d.). Colorado. Retrieved from Wildfire Risk to Communities. https://wildfirerisk.org/explore/overview/08/08107/
42. US Forest Service. (n.d.). Smokey Bear. Retrieved from Smokey Bear: https://smokeybear.com/
43. US Forest Service. (n.d.). Wildfire Risk to Communities. Retrieved from Wildfire Risk. https://wildfirerisk.org/explore/overview/08/08107/
44. US Forest Service. (2020). Wildland-Urban Interface Growth in the US. Retrieved from US Forest Service Research and Development. https://www.fs.usda.gov/research/nrs/projects/wuigrowth#overview
45. Wildfire Risk to Communities. Retrieved from https://wildfirerisk.org/explore/overview/56/56039/)
46. Wyoming Economic Analysis Division. (2021). Retrieved from http://eadiv.state.wy.us/wef/Economic.html

9.0 Tables

10.0 Figures

Appendices

Additional information relevant to the Teton County Community Wildfire Protection Plan is provided in the following pages.

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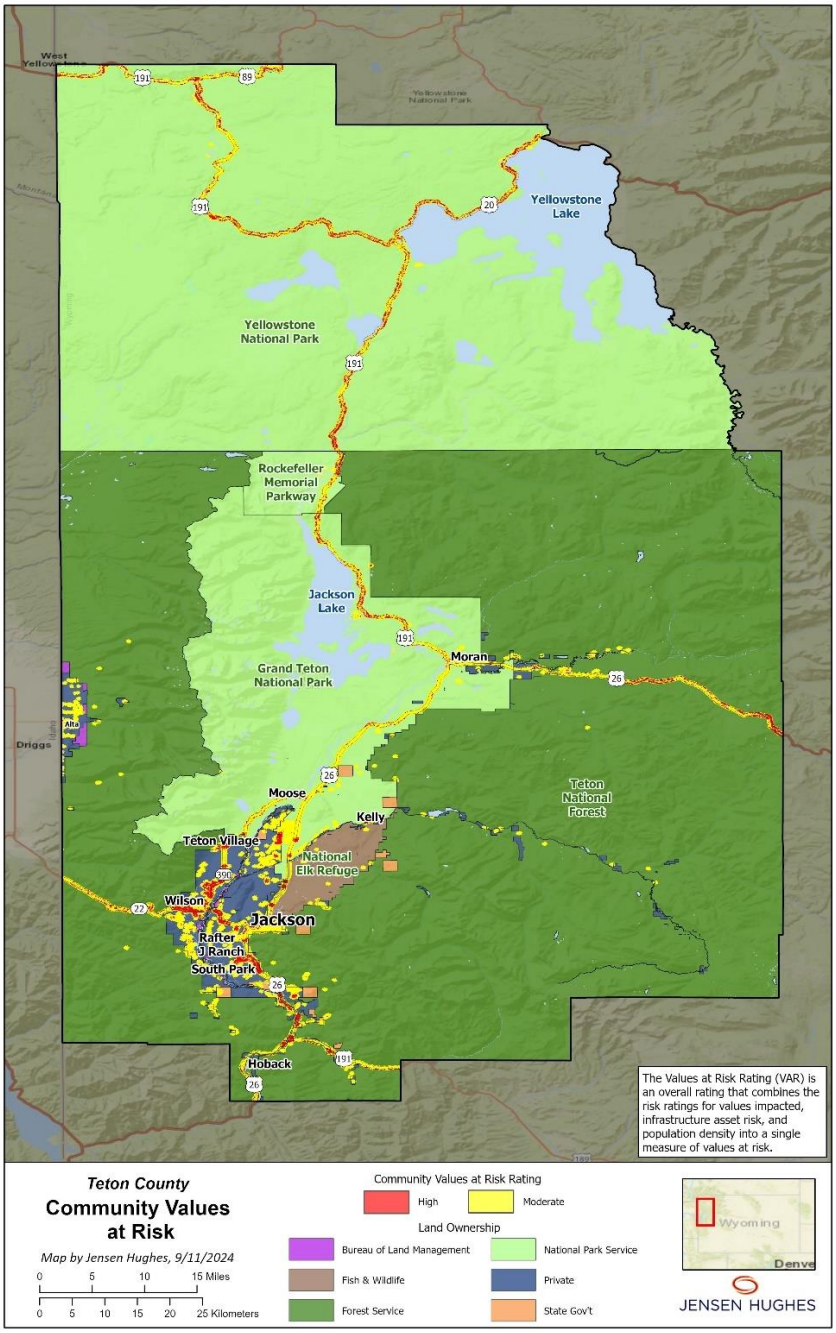
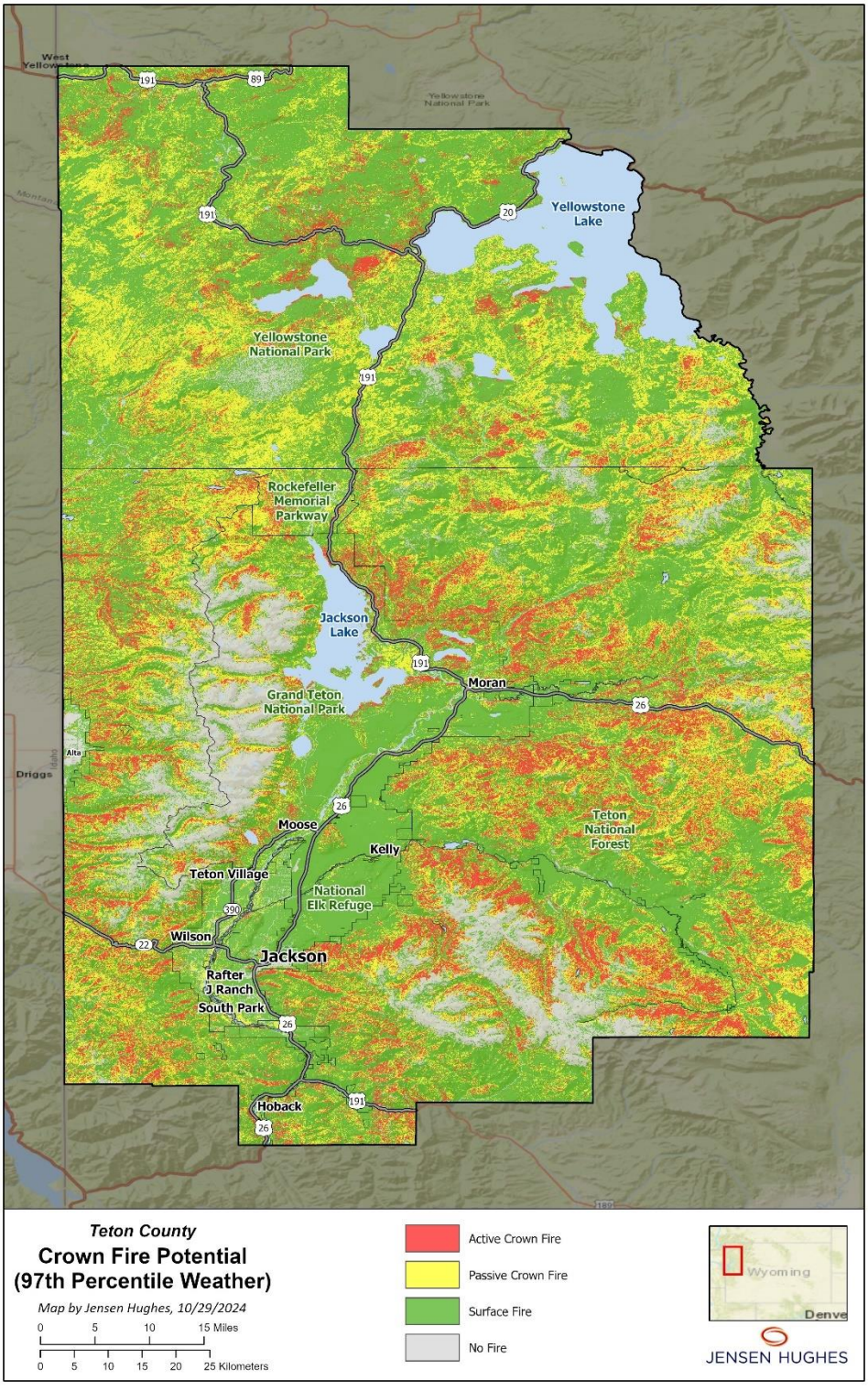
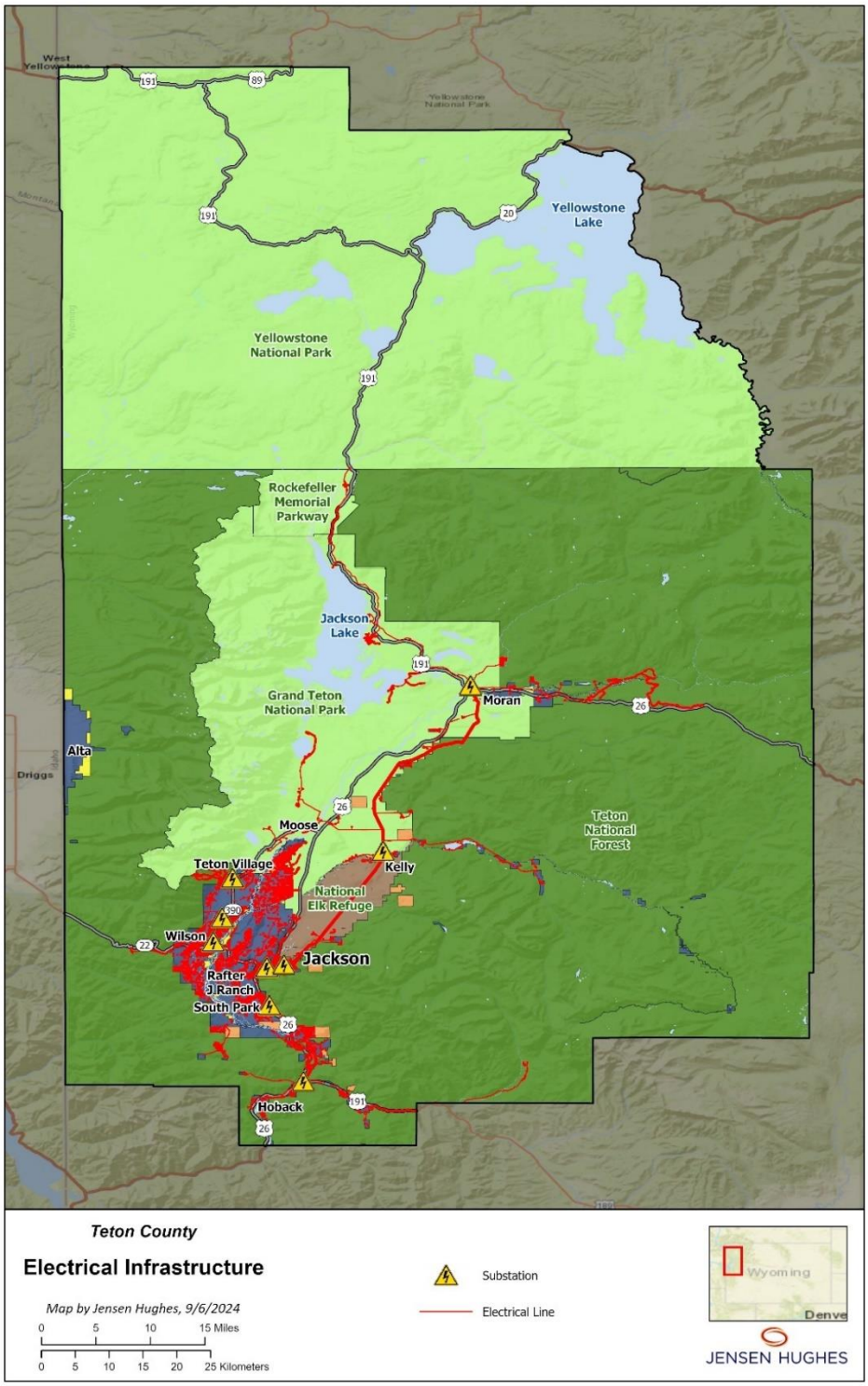
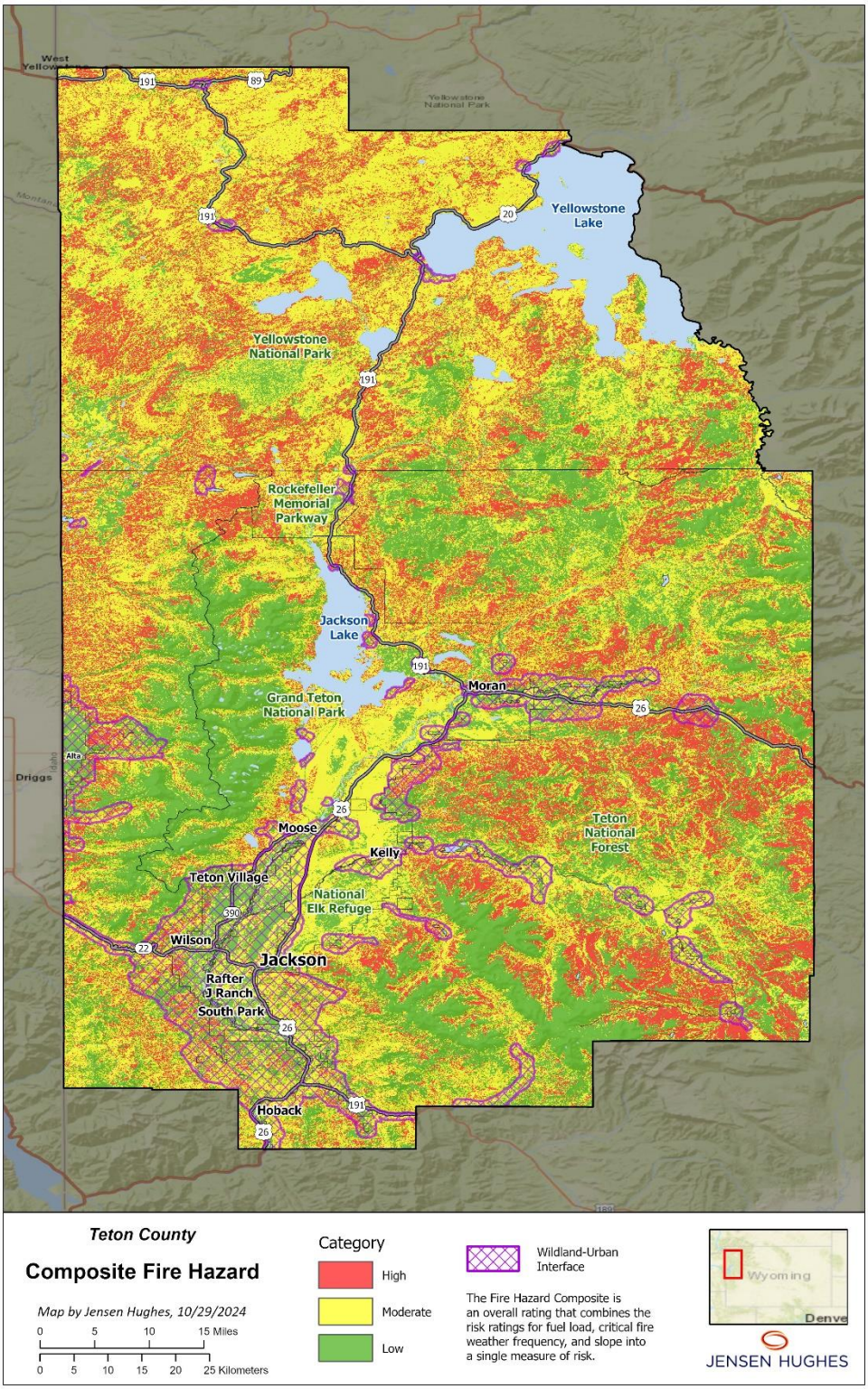
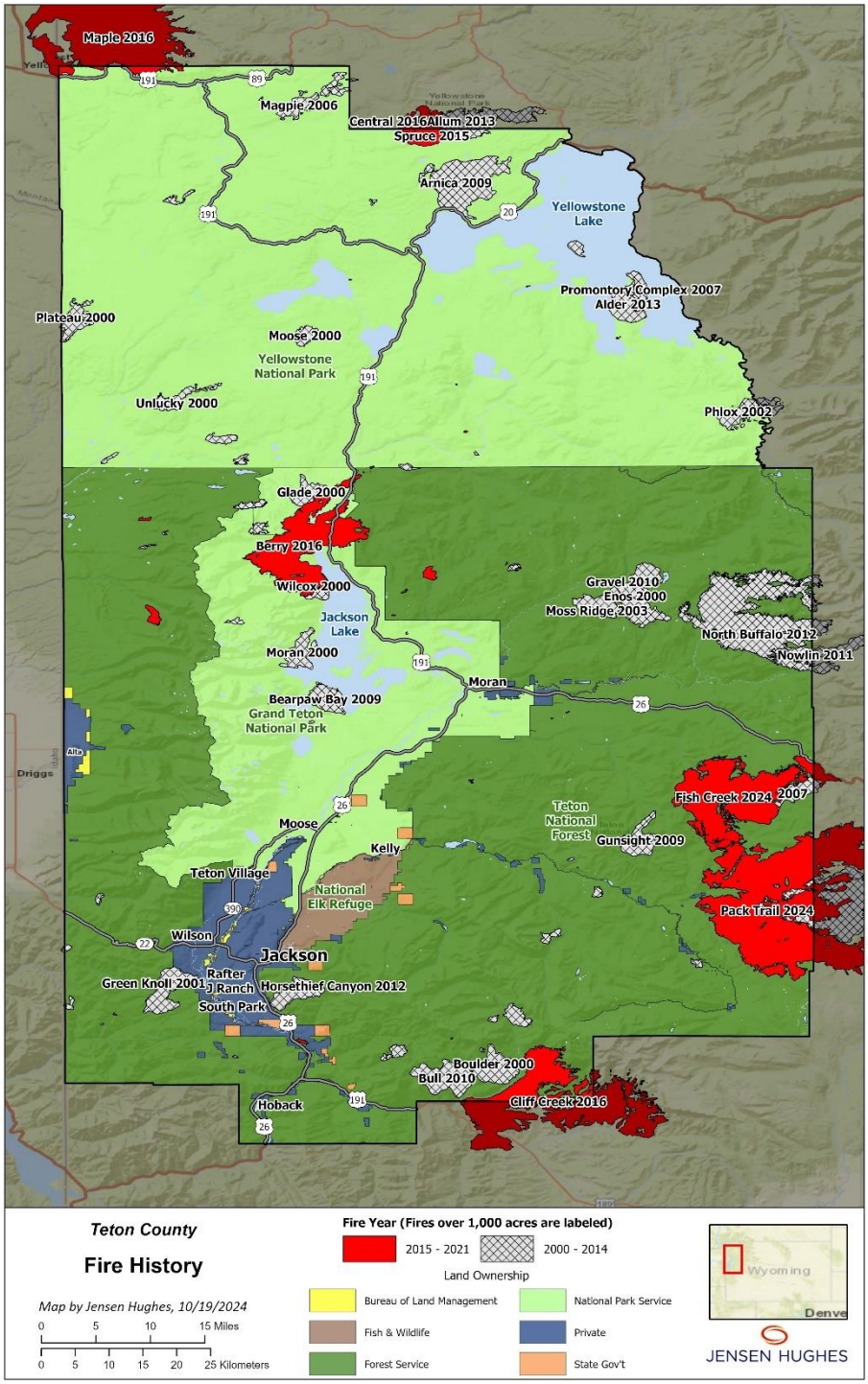
Appendix A Maps

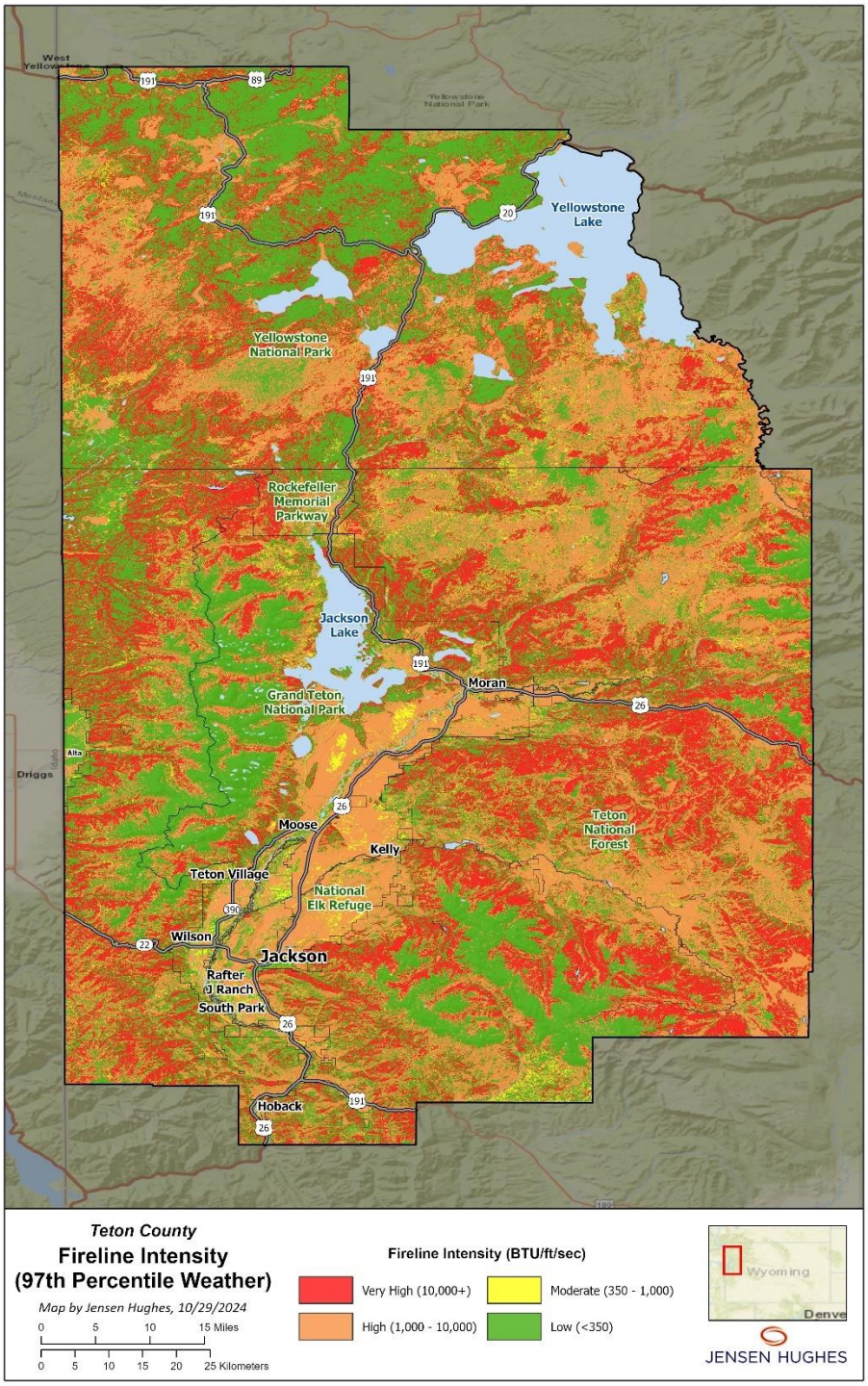


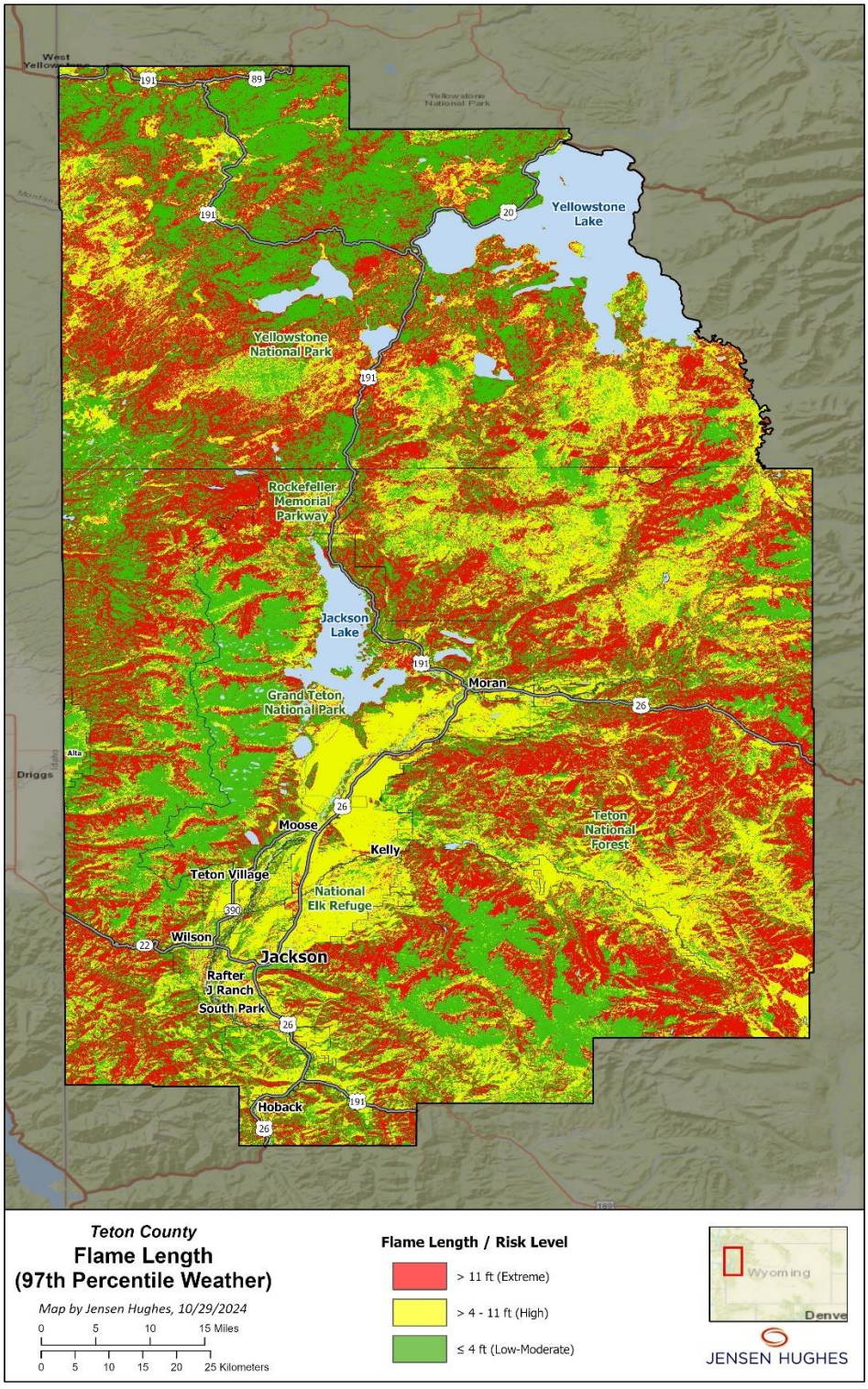


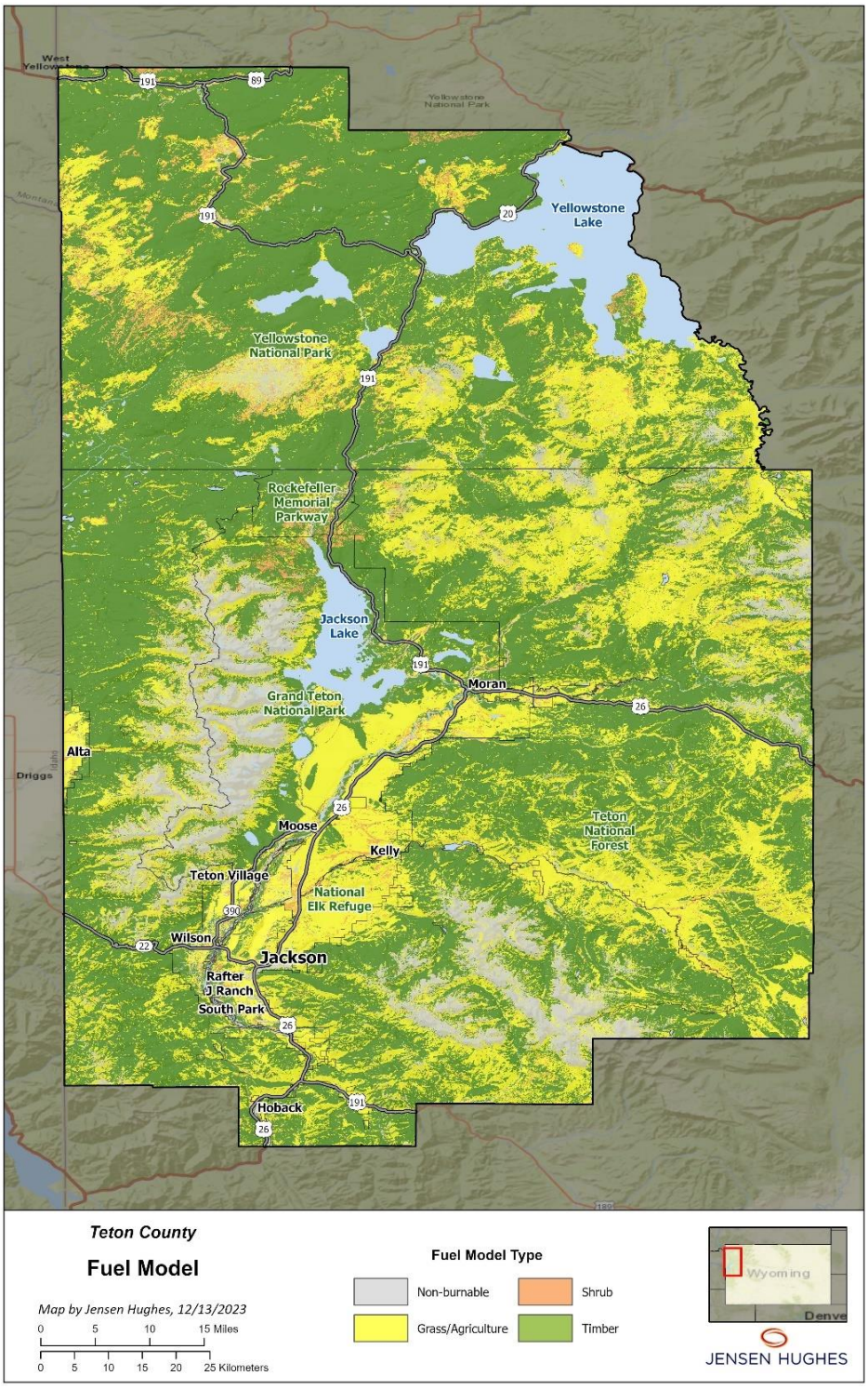


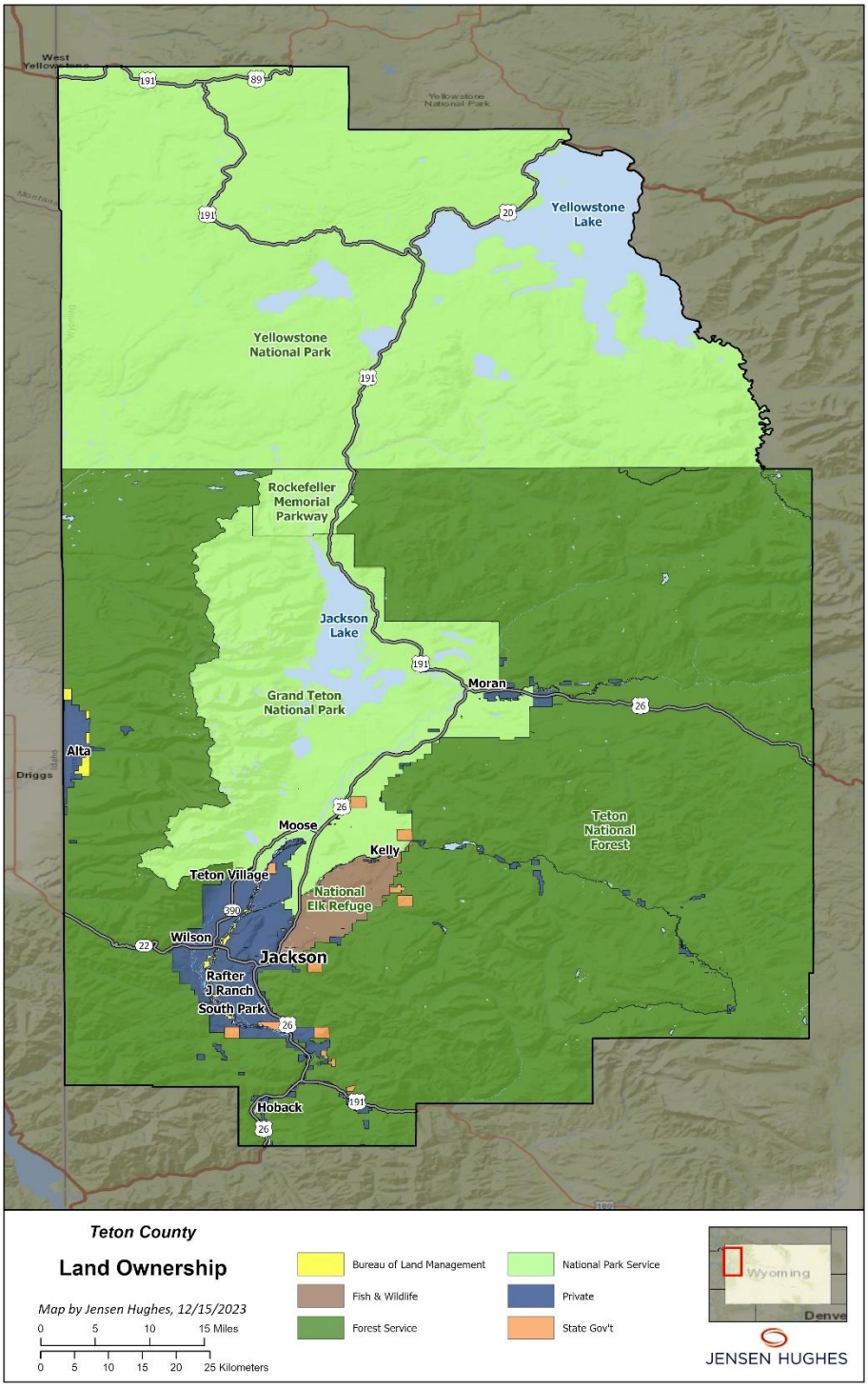


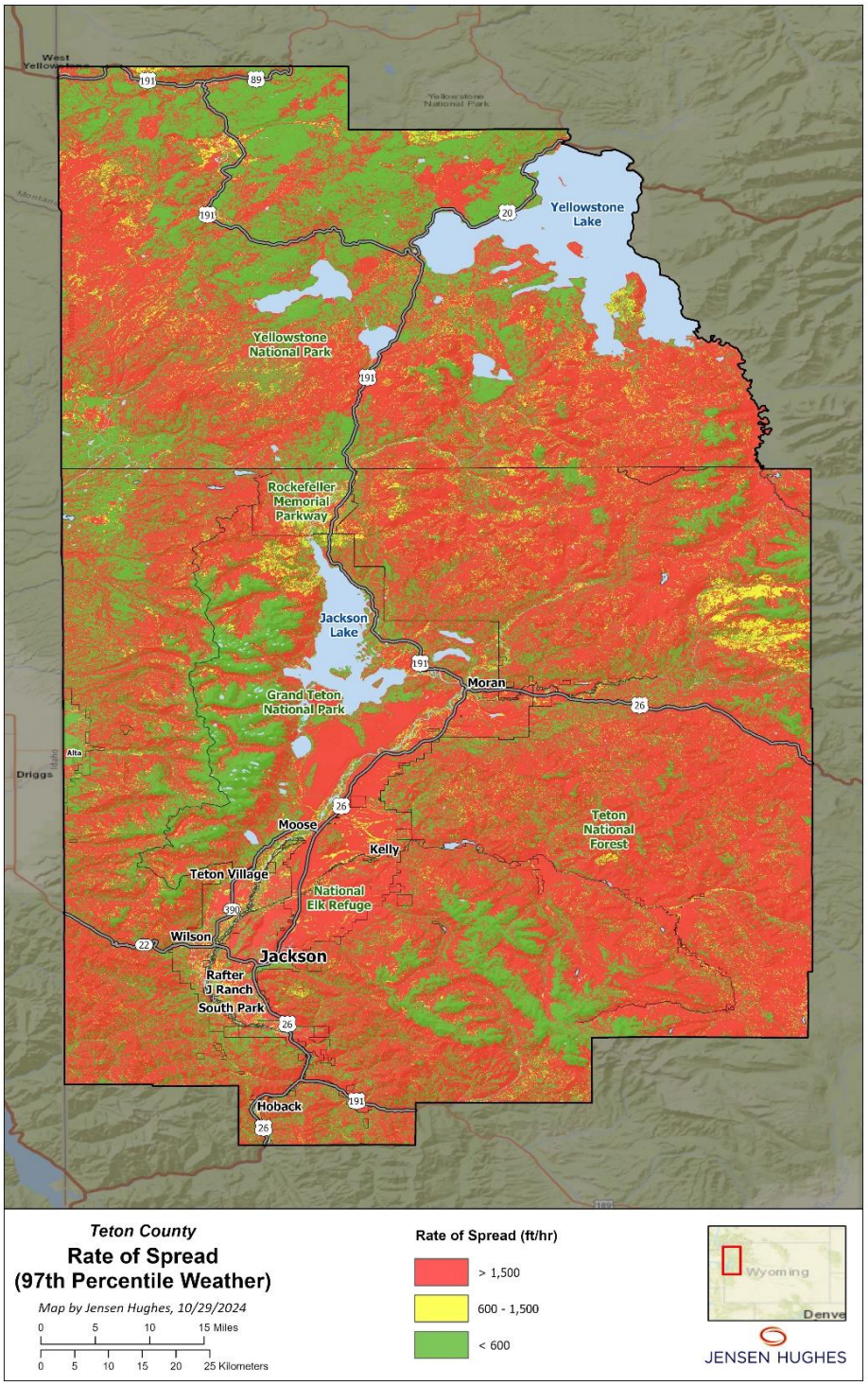


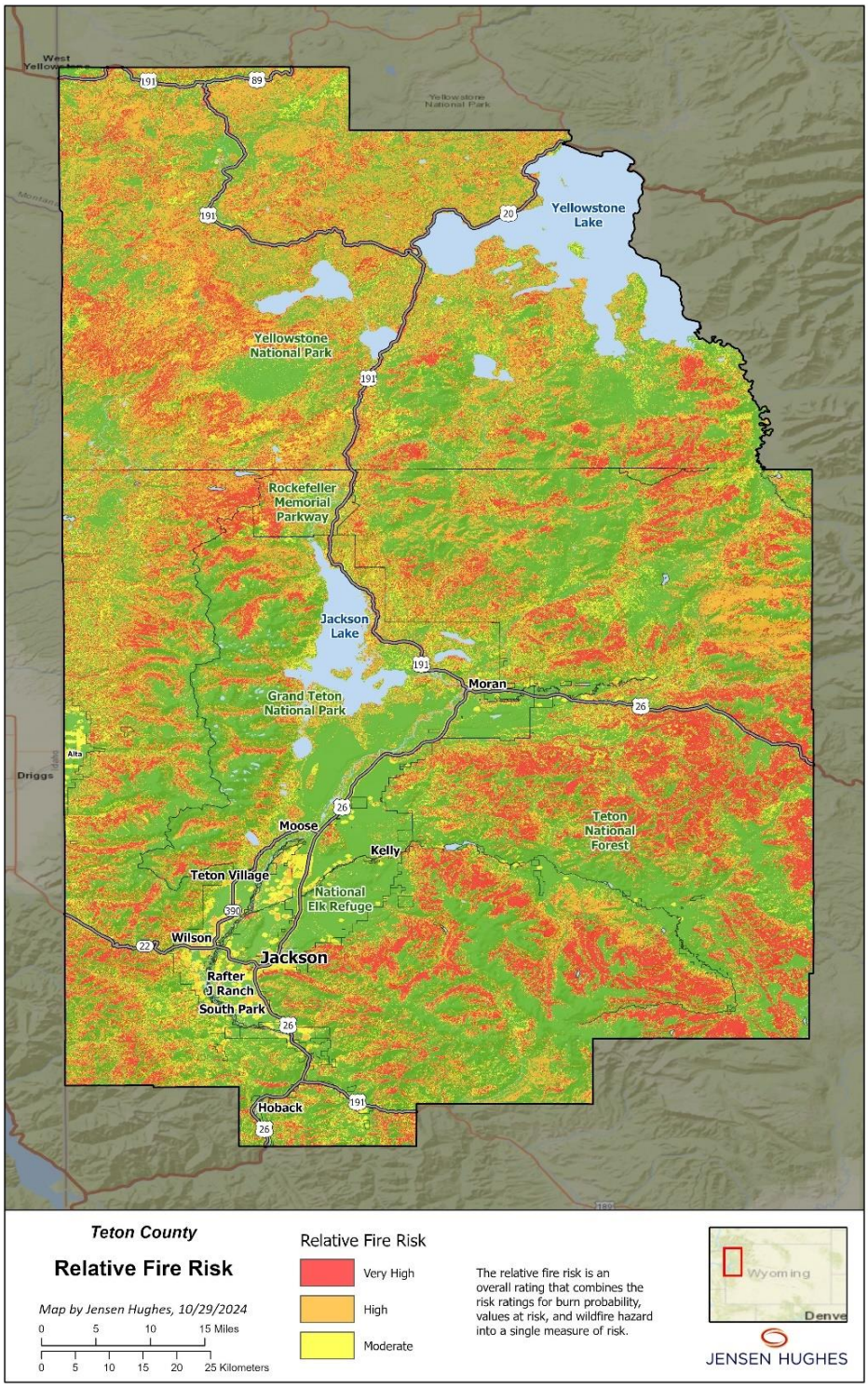


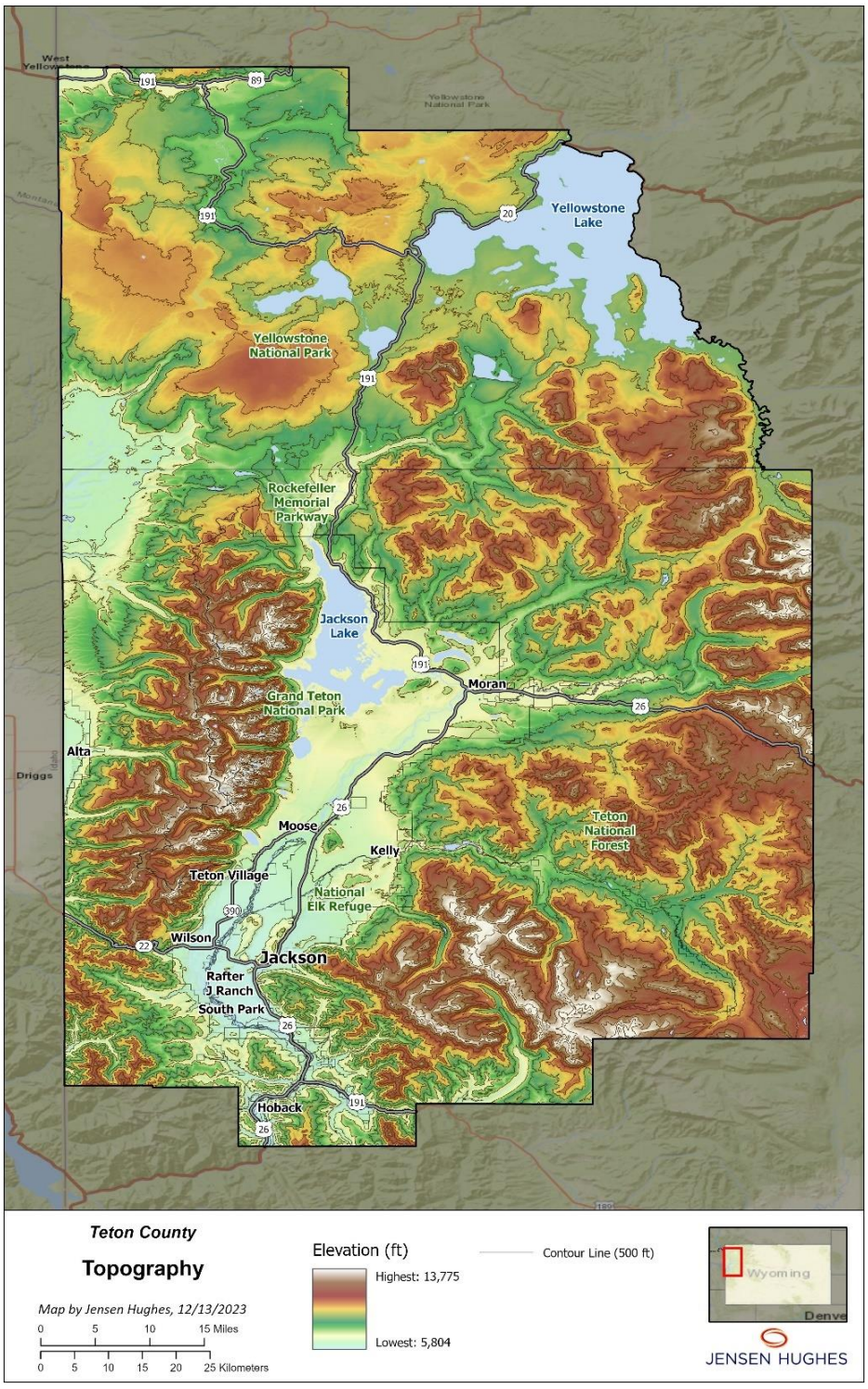


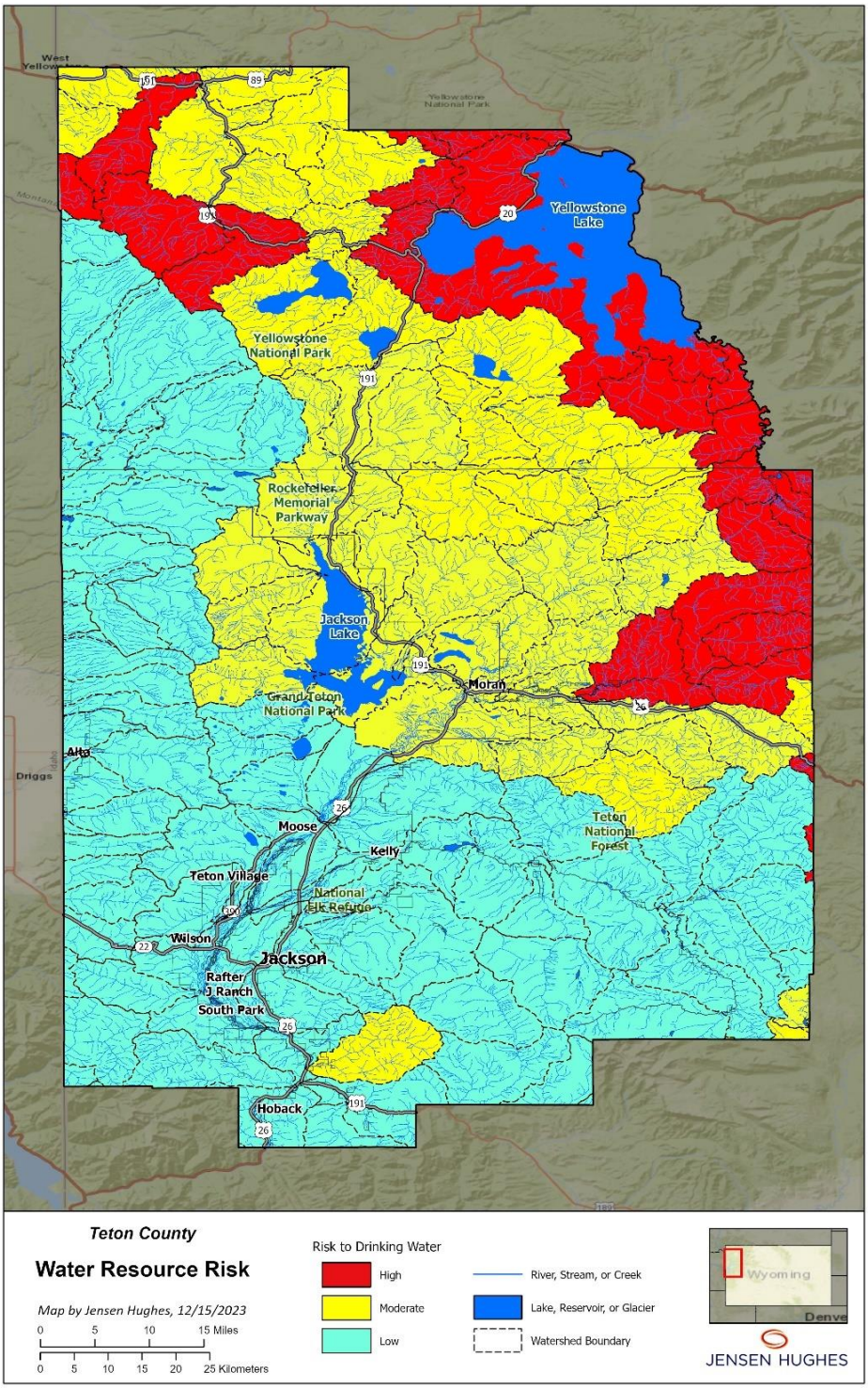


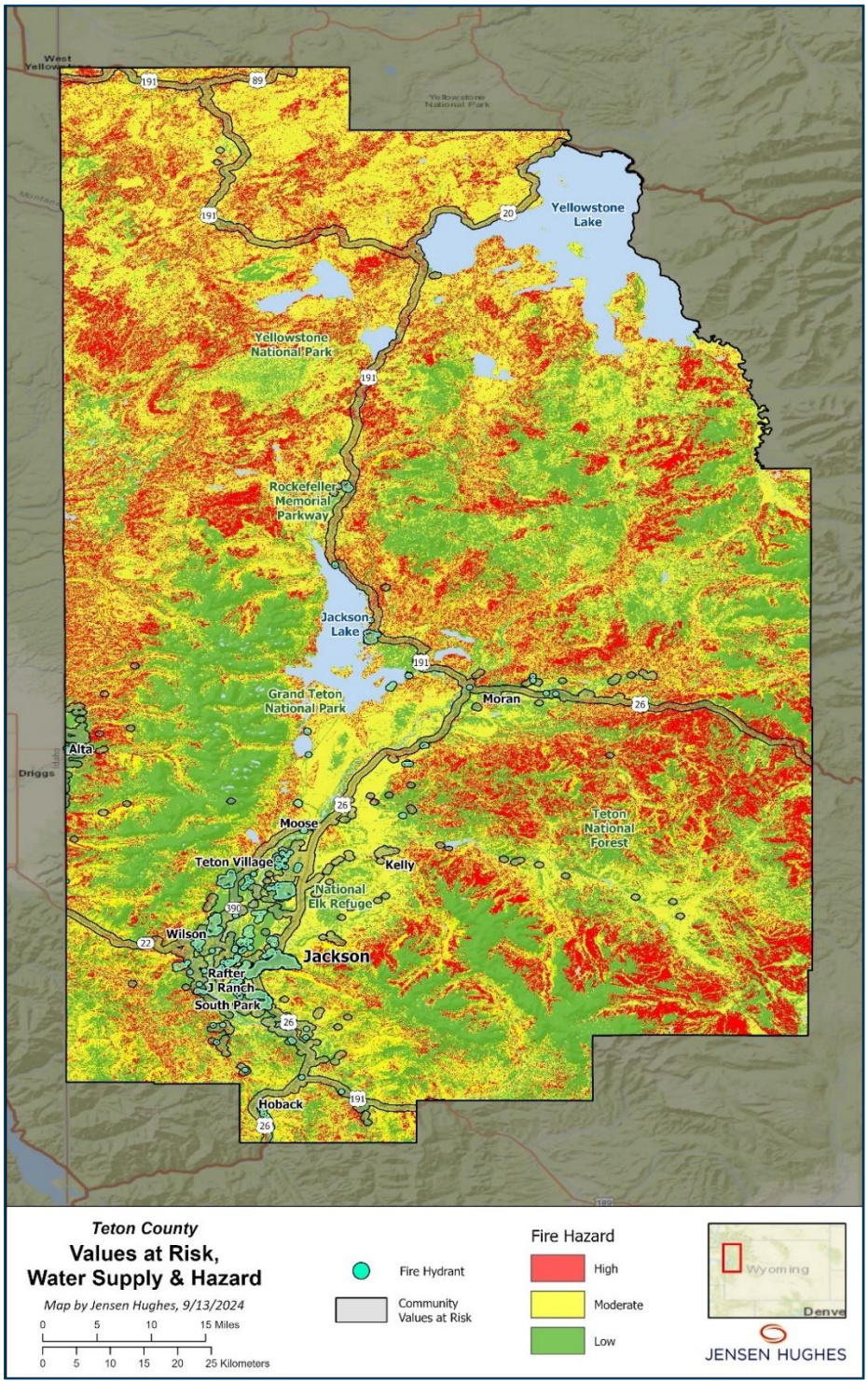


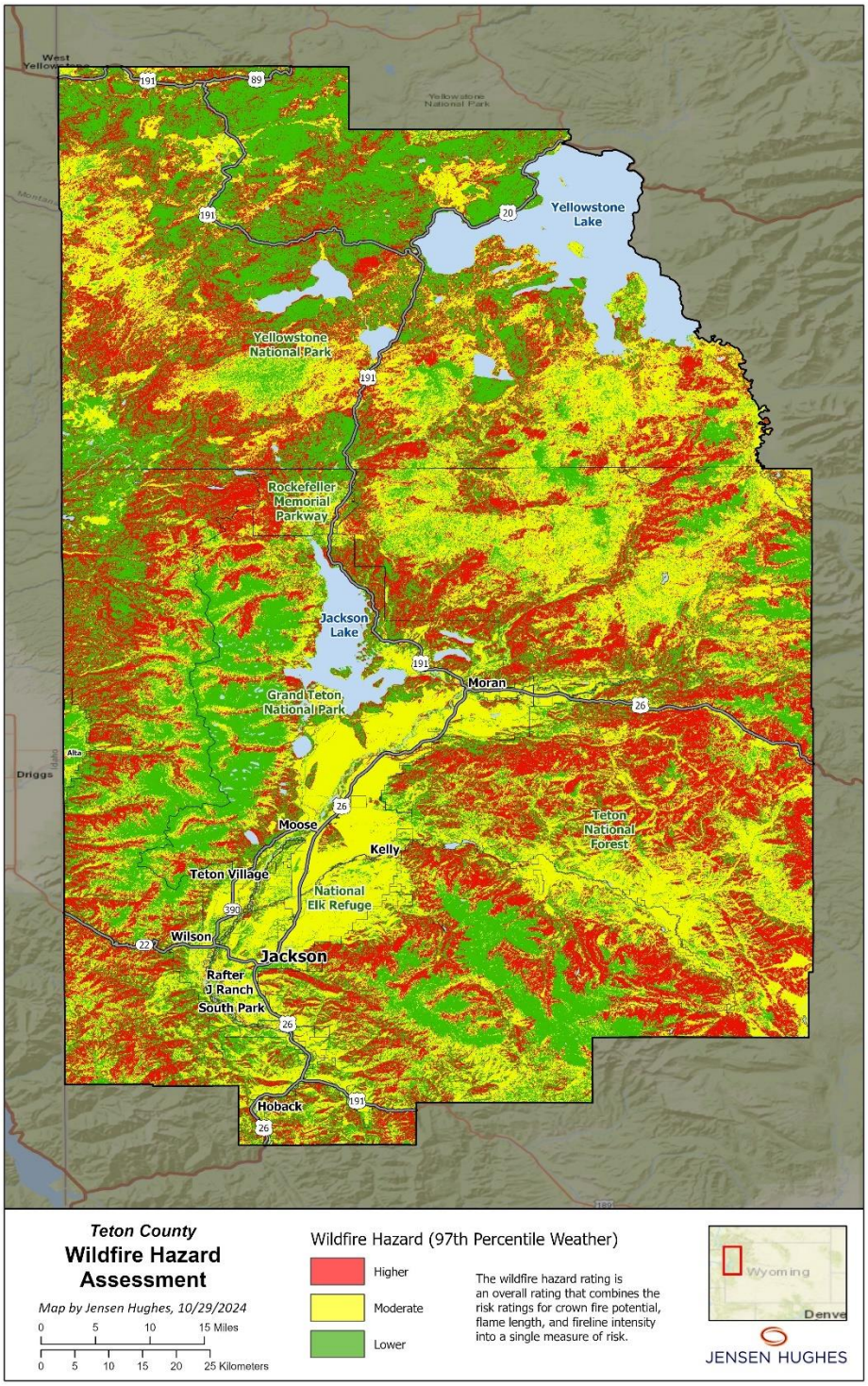


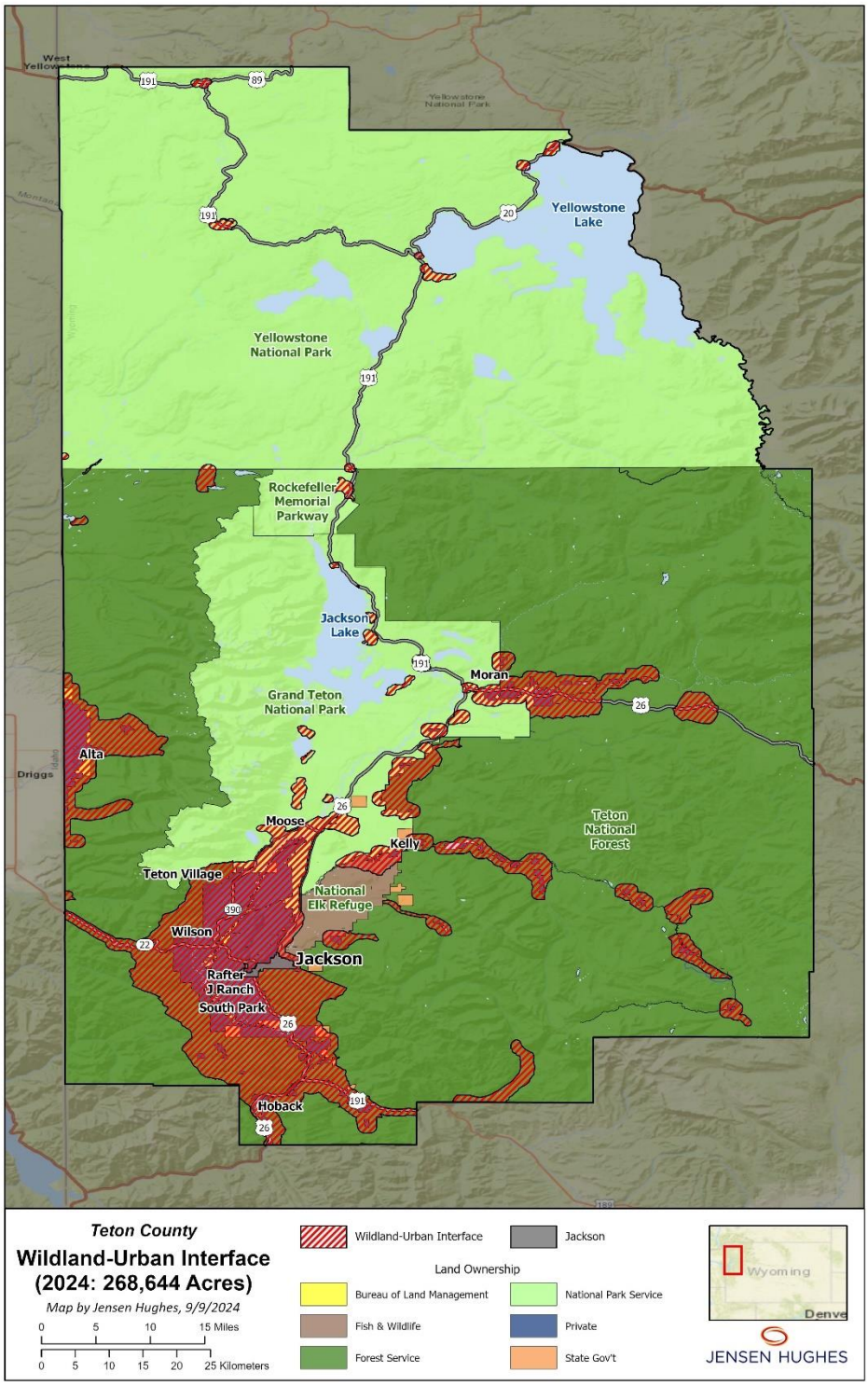












Appendix B Glossary of Key Terms

The following provides a description of terms and words found in or related to this plan. Additional terms are available at www.nwcg.gov/glossary.

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

10-Hour Timelag Fuels (Ten-hour Fuels): Dead fuels consisting of roundwood ¼ to one (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 Timelag Fuels (Hundred-hour Fuels): Dead fuels consisting of roundwood in the size range of one (1) to three (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 four (4) inches (10 cm) below the surface.

1,000-Hour Timelag Fuels (Thousand-hour Fuels): Dead fuels consisting of roundwood three (3) to eight (8) inches in diameter and the layer of the forest floor more than four (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: 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: How a fire reacts to the influences of fuel, weather, and topography.

Fire Frequency: A general term referring to the recurrence of fire in a given area over time.

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 (fire lanes) 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 particular 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 the 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 access 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 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. This is considered to be most representative of the speed of the wind that is affecting fire behavior.

Objectives: Something to which effort is directed in order to contribute to the fulfillment of specified goals, and which is 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.

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, and other human developed resources needed to sustain daily life and characteristics 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 any area that has a wildfire risk, Wildland-Urban Interfaces (WUI), or similar hazardous risk.

Appendix C Fire Behavior Modeling

METHODOLOGY

A risk-analysis methodology that evaluates the likelihood a fire will occur and fire severity predictions from fire behavior modeling was employed to determine the wildfire hazard. This information was collected using an industry-standard, federally provided, and widely used fire behavior modeling package called FlamMap (v5) (Finney, 2006). FlamMap uses maps of fuel characteristics and topography along with information about past weather patterns to predict what would happen in the event of a wildfire. The following sections provide specific information about the FlamMap modeling system, and the data and parameters used to predict fire behavior.

MODEL BACKGROUND AND LIMITATIONS

FlamMap draws heavily on calculations from the BEHAVE fire behavior prediction and fuel modeling system BEHAVE is a nationally recognized set of calculations used to estimate a surface fire's intensity and rate of spread given topographical, fuel, and weather information.

The BEHAVE modeling system has been used for a variety of applications, including current fire predictions, prescribed fire planning, fuel hazard assessment, initial attack dispatch, and fire-prevention planning and training. Predictions of wildland surface fire behavior in BEHAVE are made for a single point in time and space given user-defined fuels, weather, and topography (Andrews).

The following are standard assumptions of BEHAVE:

- The fire is predicted at the flaming front. Fire behavior is not modeled for the time after the flaming front of the fire has passed.
- The fire is free burning, uncontrolled by suppression efforts.
- The behavior is heavily weighted toward the fine fuels (grasses and small-diameter wood).
- The fuels are continuous and uniform.
- The fires are considered to be surface fires. Crown fire activity is modeled separately.

BEHAVE makes calculations at a single point. To make calculations for an entire landscape (important for preplanning for the effects of a wildfire at the community, district, or county scale), fire behavior is modeled using FlamMap, which models surface fire predictions, potential for crown fire development, and burn probability (Fire Research and Management Exchange System).

The following are standard assumptions of FlamMap:

- Each calculation in each area is independent of calculations in any other area. The fire is not modeled dynamically across the landscape but statically as a series of individual calculations.
- Weather inputs such as wind and fuel moisture do not change over time.
- Fire behavior modeling calculations are performed in a series of uniform squares (or "pixels") across the landscape. These pixels determine the level of detail, and nothing smaller than a pixel (30 meters × 30 meters, in this case) is explicitly addressed in the modeling.

The model also includes the following limitations:

- Crown fire is not calculated for shrub fuel models. The best method for determining the probability of crown fire in shrubs is to look at the flame length outputs and assume that if the flame length is greater than half the height of the plant, it will likely torch and/or crown.
- The surface fire model does not calculate the probability that a wildfire will occur–but it assumes that a fire will burn everywhere (an ignition in every 30 meter × 30 meter pixel. These calculations may be conservative (overpredict) compared to observed fire behavior.
- Weather conditions are extremely variable, and all possible combinations cannot be accounted for. Outputs are best used for preplanning and not as a stand-alone product for tactical planning. Whenever possible, fire behavior calculations should be made with actual weather observations during the fire. The most current Energy Release Component (ERC) values should also be calculated and distributed during the fire season to be used as a guideline for fire behavior potential. The ERC is a National Fire Danger Rating System (NFDRS) index related to how hot a fire could burn. ERC is defined as the potential available energy per square foot of flaming fire at the head of the fire and is expressed in British Thermal Units (BTU) per square foot.
- This evaluation is a prediction of likely fire behavior given a standardized set of conditions and a single point source ignition in every 30 meters of a pixel inside the area of interest. The evaluation does not consider the cumulative impacts of increased fire intensity over time and space.

FLAMMAP MODELING PROCEDURE

The study area was broken down into grid cells with dimensions of 30 meters × 30 meters. Fire behavior was predicted for each cell based on input topographic, fuel, and weather information. Data from the LANDFIRE 1.4 dataset provided the topographic (aspect, slope, and elevation) and fuel (surface fuels, Canopy Closure [CC], Canopy Height [CH], Canopy Base Height [CBH], and Canopy Bulk Density [CBD]) information that is required for the FlamMap model to run. While the topographic inputs are straightforward, the fuel inputs are less intuitive and are, therefore, described in Appendix C. Reference weather and fuel moisture information were obtained from a Remote Automated Weather Station (RAWS) site as described in Appendix C.

A second analysis model was run to evaluate the potential impact on the Town of Jackson from embers spotting from the south. A small one-acre fire was simulated on Snow King Mountain and allowed to burn for seven (7) hours within this model. The results show embers impacting most homes south of Cache Creek Drive and the surrounding neighborhood within a 1.5-mile distance from Snow King Mountain.

While there is currently no model that can predict home-to-home, or structure-to-structure ignition, it is well documented that when multiple structures are burning under strong wind conditions, it will continue to generate viable embers that will land on structures ahead of the fire, thus causing more spot fires and loss. The distance the fire will penetrate the town will be dictated by the windspeeds and the intensity of the fire. It is safe to say that there will be impacts beyond where the model shows the embers in the results, but this model applies to many of the WUI areas throughout Teton County.

To demonstrate the applicability and reality of this type of modeled event, the model utilized the weather profile from the Horsethief Canyon fire (09/08/2012). This fire was chosen because of its location in the area and the

impact it had on the community. The modeled simulation was run from 1300 - 1900hrs (1:00 pm to 7:00 pm), the warmest parts of the day.

Table 15: Weather Information from 2012 Horsethief Canyon Fire

Time	Temp	RH	Precipitation	Wind Speed	Wind Direction
1300	75	17	0.0	13	180
1400	76	16	0.0	14	180
1500	77	15	0.0	12	180
1600	79	14	0.0	11	180
1700	79	15	0.0	12	180
1800	71	20	0.0	10	180
1900	59	27	0.0	14	180

FUELS

In the context of fire behavior modeling, fuel models are a set of numbers that describe fuels in terms that the fire behavior modeling equations can use directly. Seven (7) characteristics are used to categorize fuel models: fuel loading, size and shape, compactness, vertical arrangement, horizontal continuity, moisture content, and chemical content. Different vegetation classes are categorized according to these characteristics into fuel models that represent how they will respond to fire. The Scott and Burgan Fire Behavior Fuel Model (FBFM40) layer was obtained from the LANDFIRE 2.1 dataset and represents distinct distributions of fuel loading found among surface fuel components, size classes, and fuel types; this layer served as the baseline for the fuel's inputs for FlamMap. For standard fire behavior fuel models, a comprehensive set for use is Rothermel's Surface Fire Spread Model and a national standard guide to fuel modeling (Bradshaw & McCormick, 2009; Burgan & Scott,2005) describe 40 fuel models in the following six (6) groups: Non-Burnable (NB), Grass (GR), Grass/Shrub (GS), Shrub (SH), Timber Understory (TU), and Timber Litter (TL). Table 16 shows the primary fuel models (FM) found in the project area.

Table 16: Fuel Models Found in Study Area

Non-Burnable	Grass	Grass/Shrub	Shrub	Timber Understory	Timber Litter
91	101	121	141	161	181
93	102	122	142	162	183
98	103	123	147	165	184
99					186

Table 17: Description of Fuel Model Categories

Grass (GR) Fuel Type Models	The primary carrier of fire in the GR fuel models is grass. Grass fuels can vary from heavily grazed grass stubble or sparse natural grass to dense grass (more than six [6] feet tall). Fire behavior varies from moderate spread rate and low flame length in the sparse grass to extreme spread rate and flame length in the tall grass models.
Grass/Shrub (GS) Fuel Type Models	The primary carrier of fire in the GS fuel models is grass and shrubs combined; both components are important in determining fire behavior.
Shrub (SH) Fuel Type Models	The primary carrier of fire in the SH fuel models is live and dead shrub twigs and foliage in combination with dead and down shrub litter. A small amount of herbaceous fuel may be present.
Timber Understory (TU) Fuel Type Models	The primary carrier of fire in the TU fuel models is forest litter in combination with herbaceous or shrub fuels.
Timber Litter (TL) Fuel Type Models	The primary fire carrier in the TL fuel model is dead and down woody fuel. Live fuel, if present, has little effect on fire behavior.

REFERENCE WEATHER AND FUEL MOISTURE

Climate and fuel moisture inputs for FlamMap (Version 6.2) were created by using data collected from RAWS. The Hoback RAWS (481302) was chosen because it best reflected the study area in terms of location, elevation, topographic position, and surrounding fuels. Weather observations for 11 years (2012-2023) were used. The 97th percentile, sorted by the Energy Release Component (ERC), was calculated for each variable (1-hour, 10-hour, and 100-hour live herbaceous and live woody fuel moistures and 20-foot wind speed) using Fire Family Plus Version 5 software (Bradshaw). The 97th percentile is used as it represents a very high fire danger condition based on the local weather data and is helpful to show differentiation on the landscape for pre-planning purposes. 20 feet is the standard height above the vegetation for measuring open wind speed in the US to determine unobstructed wind speed. An annual burn window from June 1 to October 31 was chosen based on the green-up and earliest freeze dates of the RAWS site.

Predominant wind directions and speeds were calculated from the frequency distributions of the RAWS records. For the flame length, rate of spread, crown fire activity, and fireline intensity model runs, an upslope wind direction was used (i.e., the fire was assumed to burn uphill always). This simulated the worst-case scenario (winds aligned with slopes) and is considered to be a better scenario to run for preplanning. Both live and dead fuel moistures for each landscape pixel are calculated by the model based on the topography (slope, aspect, and elevation) and shading from forest canopy and clouds, as well as the recorded weather (precipitation, high and low temperatures, and high and low relative humidity) for the previous three (3) days that lead up to the date chosen to get the best representation of the standard conditions. The dead fuel moisture that has been calculated by the start date and time of the analysis is used to determine the outputs in fire behavior models. The final weather and fuel moisture inputs to FlamMap are shown in Table 18.

Table 18: Input Wind and Fuel Moisture for Fire Behavior Models

97th Percentile Weather Conditions	
Variable	*Value*
20-foot wind speed upslope	11 mph
Wind direction used	Always Uphill
1-hr fuel moisture	5%
10-hr fuel moisture	6%
100-hr fuel moisture	12%
Herbaceous fuel moisture	72%
Woody fuel moisture	98%

Appendix D Firefighting Capacity + Fire Behavior Correlation

Evaluating the effectiveness of firefighting resources against wildfire is a complex matter. On the same wildland fire, there are locations where firefighters can be successful in defending structures or securing portions of the fire's perimeter while at the same moment in time firefighters elsewhere on the fire are being overmatched by the intensity and rate of spread of the fire. Elements such as the alignment (topography and wind) or the head, flank, or backing fire, can significantly change fire conditions faced by firefighters. Other elements that can influence firefighter success include access/egress, the ability to secure a safe operational space, and the availability of aerial resources to support ground operations.

A common standard used to evaluate the potential of firefighting resources to succeed on the fire ground is fire suppression interpretations based on flame length found in the Wildland Fire Incident Management Field Guide. Generally, these interpretations evaluate what type of firefighting resources would be required to successfully suppress the head of a wildland fire based on the observed fire length (Table 19). Since flame lengths can be directly related to potential firefighting success, these breakpoints are used for classifying modeled fire behavior throughout the CWPP.

Table 19: Suppression Capabilities Based on Flame Lengths

Flame Lengths *(feet)*	Fireline Intensity *(BTU/foot/second)*	*Interpretation*
0-4	0-100	Fires can be generally attacked at the head or flanks by persons using hand tools. Handlines should hold the fire.
4.1-8	100-500	Fires are too intense for direct attack at the head of the fire by persons with hand tools. Handlines cannot be relied upon to hold the fire. Equipment such as dozers, engines, and retardant aircraft can be effective.
8.1-11	500-1,000	Fires may present serious control problems – torching out, crowning, and spotting. Control efforts at the head of the fire will probably be ineffective.
11+	1,000+	Crowning, spotting, and major fire runs are common. Control efforts at the head of the fire are ineffective.

The classifications in Table 19 provide insights into resource capabilities but can be misinterpreted if applied out of context. For example, eight (8) ft flame lengths can be successfully suppressed by engine crews using hose lays, if they can approach the fire from a direction where convective and radiant heat are focused away from the firefighter. The same eight (8) ft flame length will likely overwhelm firefighters positioned in a manner where they are receiving large portions of the heat flux from the fire. This can be the case where firefighters are performing structure defense or attempting a frontal assault on the advancing fire front. It has been found that convective energy transferred by wind gusts, fire whirls, or air turbulence can significantly increase the total heat transfer to the firefighter and increase the required safety zone size necessary to engage the fire (Butler, Cohen, 1998).

Appendix E NWCG Standards for Mitigation in the Wildland-Urban Interface

The National Wildfire Coordinating Group (NWCG) Standards for Mitigation in the Wildland-Urban Interface establishes the standards, understanding, and implementation of concepts, issues, and best practices to increase community fire adaptation. The publication, PMS 052, establishes community fire adaption standards to include:

- Understanding best practices
- Implementing risk reduction
- Improving resiliency and survivability

The information provided in PMS 052 is not the same as a fire code. Teton County has approved and adopted WUI Fire Code requirements that must be adhered to under the respective standards and requirements under the code. The NWCG Standards for Mitigation in the Wildland-Urban Interface is simply a reference to support best practices as recognized at the national level.

Refer to the NWCG Standards for Mitigation in the Wildland-Urban Interface, PMS 052, here: **https://www.nwcg.gov**

Appendix F Fuel Treatment Prescriptive Guidelines + Techniques

This Appendix provides fuel treatment prescriptions and guidelines to assist the county and property owners in implementing fuel treatments. This prescriptive guidance incorporates fire behavior assessment factors and Best Management Practices (BMPs) for achievable wildfire hazard mitigation actions. Understanding and working within BMP standards will help minimize impacts to surrounding natural resources.

F.1 ROADSIDE FUEL TREATMENT PRESCRIPTIVE GUIDELINES

The following table describes the intensity levels for roadside and driveway fuel treatments.

Table 20: Roadside Fuel Treatment Prescriptive Guidelines

Location – Primary Zone (A) (10’ minimum; up to 50’) (distance varies with terrain & accessibility)	
Grass/forbs	Reduce fuel depth to less than two (2) inches.
Surface dead/down material	Remove all large (> three (3) inches diameter) dead/down material.
Shrub	Remove all shrub vegetation within this zone. Retain the root system in the ground to provide for soil stabilization.
Trees Overstory (without shrub understory)	Prune all trees to six (6) feet or ½ of the live crown height, whichever is less. Remove dead-standing trees and branches extending over roadways to a minimum height of 13 feet six (6) inches.
Trees Overstory (with shrub understory)	Thinning specifications, same as Trees Overstory (without shrub understory), but remove all understory shrubs below trees in this zone.

F.2 VEGETATION FUEL TREATMENT PRESCRIPTIVE GUIDELINES

The following table describes prescriptive guidelines for vegetation management in the HIZ.

Table 21: Vegetation Management Prescriptive Guidelines

Location	*Primary Defense Zone (A) (0 – 30' from a structure)*	*Fuel Reduction Zone (B) (30' – 100' from a structure)*	*Fuel Reduction Zone (C) (100' and greater from a structure)*
Fuel Type	*Based on HIZ Recommendations*		*Based on Firefighter Safety*
Grass/Forbs	Reduce fuel depth to two (2) inches maximum.	Reduce grass height to four (4) inches or less. Longer grass in discontinuous open areas is acceptable.	Treatment may not be needed.
Surface Dead/Down Material	Remove all dead/down materials.	Reduce dead/down flammable material to < three (3) inches depth	Reduce heavier pockets of dead/down flammable material to < five (5) inches depth.
Shrub	Remove all but individual specimen chaparral plants. Individual ornamental/native shrubs should be spaced at a minimum of 2x the shrub height.	Allow for intermittent small pockets or clumps of shrub vegetation. Pockets and clumps of shrubs remaining should be healthy, all dead material removed and limbed to 1/3 height of the shrub crown.	Less intensive shrub vegetation removal with up to 30 feet for spacing of pockets and clumps of shrubs. The remaining pockets and clumps of shrubs should be healthy, and all dead material removed.
Trees Overstory (without shrub understory)	Thin smaller trees leaving larger trees (>than six [6] inches DBH) at 10-20 ft crown spacing; limb/prune lower branches six (6) feet above grade level or lower ⅓ of tree height on smaller trees. Remove dead standing trees.	Thin smaller trees leaving larger trees (> than six [6] inches DBH) at approximately 10-foot crown spacing; limb/prune lower branches six (6) feet up or lower ⅓ of tree height on smaller trees; remove all broken limbs and dead material.	Limb and prune lower branches of larger trees up to six (6) feet and remove all broken limbs and dead material.

Location	*Primary Defense Zone (A) (0 – 30' from a structure)*	*Fuel Reduction Zone (B) (30' – 100' from a structure)*	*Fuel Reduction Zone (C) (100' and greater from a structure)*
Trees Overstory (shrub understory)	Thinning specifications: the same as Trees Overstory without shrub understory. Understory: remove shrub; limb/prune healthy ornamental shrubs to ⅓ of shrub height, maintain spacing between shrubs.	Thinning specifications are the same as Trees Overstory without shrub understory. Understory: occasional less dense shrubs or small tree clumps in openings are acceptable.	Thinning specifications are the same as Trees Overstory without shrub understory. Understory specifications are the same as shrub except the pockets and clumps are limited to tree openings (non-canopy).

F.3 IMPLEMENTATION GUIDELINES FOR FUEL TREATMENTS

The following describes possible restrictions to implementing fuel treatments.

Noxious Weeds

- To limit the spread and establishment of invasive plant species (e.g., noxious weeds) in project areas, all off-road equipment used during project implementation will be washed free of invasive exotic weeds and seeds before entering project areas. If any equipment works in an area where weeds occur, it will be washed to remove weed propagules before entering other work locations.
- All equipment staging areas will be located away from known areas with noxious weed occurrences and outside of riparian habitat areas.

Historical and Cultural Resources

- Any known historical and cultural resources within the proposed treatment area will be protected. If any sensitive historical and cultural resources are found, work will stop, and a qualified Archaeologist will be notified.

Soil and Watershed

- Every effort should be made to minimize damage to the soil surface to reduce the potential for erosion and sediment transport due to project implementation activities.
- No mechanical equipment is used on slopes greater than 30% with the following exception: mastication can occur on slopes greater than 30% where the equipment is operating on slopes less than 30% and accessing steeper slopes with a boom arm.
- Chipped or masticated material may be "blown" back onto the slope where feasible to maximize soil coverage.

F.4 RECOMMENDED BEST MANAGEMENT PRACTICES (BMP)

- Biomass from limbing/cutting should be scattered, not piled
- Chipped material should not exceed four (4) inches in depth.
- Boundaries between treatment levels will maintain free-form shapes and feathered edges that replicate natural patterns; avoid straight lines by scalloping and feathering along edges of vegetation. The feathering of edges includes undulating edges horizontally and diverse heights of the brush retained on site.
- Precautions will be taken to prevent scarring of trees or retained shrubs by equipment.
- Signs should be posted warning the public of potential hazards during fuel treatment activities.
- Environmentally Sensitive Habitat Areas (ESHA) will be marked on the project area maps.
- Known landslides and unstable areas should be avoided as vegetation treatment activities may result in increased potential for mass wasting and erosion.
- Heavy equipment should not work on slopes greater than 30%. Movement of any heavy equipment across slopes should be minimized. Heavy equipment will not be used in ESHA.
- When operating equipment off roadways, the use of rubber-tracked equipment, with a low ground pressure coefficient, is preferred.
- When treating herbaceous/grass fuels, mowing or weed whipping is preferred over discing to limit soil disturbance.
- Required riparian zone setbacks will be identified, mapped, and flagged before project implementation work.
- Any project-generated vegetation debris shall be removed from the stream course.
- Water bars and other erosion control structures will be located where necessary to limit erosion and associated run-off causing sediment movement into stream courses.
- No servicing or refueling of equipment will occur on site. Operators must remove residues, waste oil, engine coolants, and other harmful materials from all worksites. Spill containment will be established before any on-site servicing or refueling, even in approved on-site service locations.

Appendix G Threatened and Endangered Species

USFWS Threatened and Endangered Species – Teton County

Listed species with spatial current range believed to or known to occur in Wyoming

https://ecos.fws.gov/ecp/report/species-listings-by-state?stateAbbrev=WY&stateName=Wyoming&statusCategory=Listed

Species	*Status*
Wyoming Toad, Amphibian	Listed Endangered
Piping Plover, Bird	Listed Threatened
Rufa Red Knot, Bird	Listed Threatened
Yellow-billed Cuckoo, Bird	Listed Threatened
Whitebark Pine, Conifer, and Cycads	Listed Threatened
Kendall Warm Springs Dace, Fishes	Listed Endangered
Blowout Penstemon, Flowering Plant	Listed Endangered
Desert Yellowhead, Flowering Plant	Listed Threatened
Ute Ladies'-tresses, Flowering Plant	Listed Threatened
Western Prairie Fringed Orchid, Flowering Plant	Listed Threatened
Western Glacier Stonefly, Insect	Listed Threatened
Canada Lynx, Mammal	Listed Threatened
Grizzly Bear, Mammal	Listed Threatened
Preble's Meadow Jumping Mouse, Mammal	Listed Threatened
North American Wolverine, Mammal	Listed Threatened
Northern Long-Eared Bat, Mammal	Listed Endangered

Appendix H Historical Sites in Teton County, WY

National Register of Historic Places – Teton County
National Register of Historic Places, State Listing, Teton County

https://nationalregisterofhistoricplaces.com/wy/teton/state2.html

Name	*Location*
4 Lazy F Dude Ranch	Moose
AMK Ranch	Moran
Old Administrative Area Historic District	Moose
Alpenhof Lodge	Teton Village
Bar B C Dude Ranch	Moose
The Brinkerhoff	Moose
Cascade Canyon Barn	Moose
Chambers, Andy, Ranch Historic District	Moose
Chapel of the Transfiguration	Moose
Cunningham Cabin	Moose
Darwin Ranch	Bridger-Teton National Forest
Death Canyon Barn	Moose
Double Diamond Dude Ranch Dining Hall	Moose
Flat Creek Ranch	Jackson
Gap Puche Cabin	Jackson
George Washington Memorial Park	Jackson
Highlands Historic District	Moose
Huckleberry Mountain Fire Lookout	Teton National Forest
Huff Memorial Library	Jackson
Hunter Hereford Ranch Historic District	Moose
Jackson Hole American Legion Post No.43	Jackson
Jackson Lake Lodge	Moran
Jackson Lake Ranger Station	Moose
Jenny Lake Boat Concession Facilities	Moose
Jenny Lake CCC Camp	Moose

Name	*Location*
Jenny Lake Ranger Station	Moose
Kimmel Kabins	Moose
Lake Fish Hatchery Historic District	Canyon Village
Lake Hotel	Yellowstone National Park
Leek's Lodge	Moran
Leigh Lake Ranger Patrol Cabin	Moose
Lucas, Geraldine Homestead	Moose
Madison Museum	Madison Junction
Manges Cabin	Moose
Mendor's Ferry	Moose
Miller Cabin	Jackson
Miller, Grace and Robert Ranch	Jackson
Moose Entrance Kiosk	Moose
Moran Bay Patrol Cabin	Moose
Morman Row Historic District	Moose
Murie Ranch Historic District	Moose
Murie Residence	Moose
Norris, Madison, and Fishing Bridge Museums	Yellowstone National Park
Old Administrative Area Historic District	Moose
Old Faithful Historic District	Yellowstone National Park
Old Faithful Inn	Yellowstone National Park
Queen's Laundry Bath House	Yellowstone National Park
Ramshorn Dude Ranch Lodge	Moose
Rosencrans Cabin Historic District	Moran
Snake River Land Company Residence and Office	Moose
Snake River Ranch	Wilson
Squirrel Meadows Guard Station	United States Forest Service
St. John's Episcopal Church and Rectory	Jackson
String Lake Comfort Station	Moose
Triangle X Barn	Moose

Name	*Location*
Upper Granite Canyon Patrol Cabin	Moose
Van Vleck House and Barn	Jackson
White Grass Dude Ranch	Moose
White Grass Ranger Station Historic District	Moose
Wort Hotel	Jackson

Appendix I Finding of Fact

In 1929, Grand Teton National Park was created and dedicated. The park at that time included the mountains in the Teton Range and a narrow strip of land that contained the major lakes at the base of the peaks. But that was enough to develop the tourism industry, which has now replaced cattle ranching as the primary economic base of Jackson Hole. In 1950, the park was enlarged to include the Jackson Hole National Monument, established in 1943. The rededicated park contained 52 square miles, acquired by John D. Rockefeller, Jr., during the 1930s and '40s. Grand Teton National Park now totals 485 square miles. These areas contain historic value and elements of Wyoming's history that should be preserved against wildfire, as much as possible.

The National Elk Refuge, the direct descendant of the original refuge, contains nearly 25,000 acres and feeds over 7,000 elk every winter.

The Town of Jackson was named in 1894 and acquired a plan for streets and major buildings in 1900. Some of the buildings and houses of that early era remain a part of Jackson today.

EXHIBIT 1: FINDINGS

Jensen Hughes has determined that critical climatic, topographic, geological, and construction features exist in Teton County. Emergency services planning, response, and recovery will be impacted by these features. The adoption of the Wildland-Urban Interface boundary is recommended to facilitate mitigation and reduce the impact of wildfire on those features.

FINDING 1

Teton County has experienced significant growth and development since the adoption of the previous Wildland-Urban Interface boundary. This growth has created an increased potential for loss of life and structures in the event of a wildfire.

FINDING 2

The United States Forest Service considers Teton County at a higher risk from wildfire than 88% of other counties in the Country (Wildfirerisk.org).

FINDING 3

Since the adoption of the previous Wildland-Urban Interface boundary, there has been an increase in development and construction which has resulted in a greater risk of wildfire spread, structure-to-structure ignition, and ember cast ignition.

FINDING 4

A large percentage of the existing buildings in Teton County have wood shake/shingle roof coverings. This roof type is extremely vulnerable to ignition during a wildfire.

FINDING 5

Fire behavior modeling, conducted in support of the 2024 Community Wildfire Protection Plan Update, validates that the potential for fire spread and ember generation in Teton County is significant.

FINDING 6

Teton County has defined the Wildland-Urban Interface as “The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. This general interface term technically refers to the areas where communities, structures, critical infrastructure, essential resources, and values at risk encroach onto wildfire-prone landscapes and vegetation. In Teton County, the land, developments, and communities adjacent to and surrounded by wildlands are at risk from flames or firebrands of a wildfire event.”.