# **TELLER COUNTY**

# COMMUNITY WILDFIRE PROTECTION PLAN 2025



Pikes Peak from Mueller State Park





The Teller County Community Wildfire Protection Plan was developed in accordance with the guidelines set forth in the 2003 Healthy Forest Restoration Act and the 2022 Colorado State Forest Service's minimum standards for Community Wildfire Protection Plans.

This plan was developed collaboratively with Fire Protection Districts in and adjacent to Teller County, Teller County Office of Emergency Management, Colorado State Forest Service, Colorado Divison of Fire Prevention and Control, US Forest Service, Bureau of Land Management, other federal agencies, other state agencies, local municipalities, utility companies, input from the general public and other organizations that were invited to participate.

The following organizations agree with the contents of this updated Teller County Community Wildfire Protection Plan:

# **TELLER COUNTY ADOPTION** Dan Williams - Teller County Commissioner Date Robert Campbell – Teller County Commissioner Date Eric Stone – Teller County Commissioner Date Jason Mikesell – Teller County Sheriff Date Michelle Boley - Teller County Emergency Manager Date FIRE PROTECTION DISTRICTS ADOPTION (all Fire Chiefs were part of the CWPP CORE Team) Tyler Lambert, Fire Chief Date **NE Teller County Fire Protection District** Chris Hinkle, Fire Chief Date **Divide Fire Protection District**

Date

Joseph O'Conor, Fire Chief

| John Buchan, Fire Chief<br>Florissant Fire Protection District  | Date                   |
|---|------------------------|
| Chris Hawkins, Fire Chief Four Mile Fire Protection District  | Date                   |
| Tucker Freed, Fire Chief Victor Fire Department   | Date                   |
| Steve Brown, Fire Chief Mountain Communities Fire Department  | Date                   |
| Steve Murphy, Fire Chief Green Mountain Falls/Chipita Park Fire Protect                               | Date tion District     |
| COLORADO ST   | TATE AGENCIES ADOPTION |
| Mike Till, Supervisory Forester Woodland Park Field Office  | Date                   |
| Brenda Wasielewski – Battalion Chief Pikes Peak Region Colorado Division of Fire Prevention and Contr | Date                   |



# **Plan Accessibility**

# **Our Commitment to Accessibility**

Teller county is committed to ensuring that all individuals, regardless of ability, can access our digital services and content. In compliance with Colorado House Bill 21-1110 and the Technology Accessibility Rules (8 CCR 1501-11), we are actively working to meet the Web Content Accessibility Guidelines (WCAG) 2.1 Level AA.

Our ongoing work includes reviewing website content, improving the accessibility of documents, and addressing technical issues that may limit access for some users. While this work is in progress, all public content remains available. We appreciate your patience and support as we continue enhancing the accessibility and usability of our digital resources.

Transparency and accountability are important to us. Our efforts are publicly documented - and we regularly publish updates that outline our progress, current initiatives, and future goals. This includes efforts to address our website, internal systems, third-party platforms, and assistive technology compatibility.

#### **Current Accessibility Measures**

To improve digital inclusion and usability, Teller county has adopted several tools and practices:

- AudioEye Visual Toolkit Provides real-time visual accessibility adjustments on our website
- CommonLook PDF and Word tools Used for document remediation and accessible formatting
- Acquia accessibility scans Automated reporting to identify and correct web issues
- Structured accessibility training Delivered to staff for contents creation and communication
- VPAT reviews and procurement checkpoints Ensuring our third-party digital tools meet WCAG 2.1 standards

#### **Reporting Issues or Requesting Accommodations**

We value your patience as we continue to make improvements to our website. Teller County is committed to providing a timely response to reports of inaccessible digital content or requests for reasonable accommodation.

If you encounter inaccessible content on our Teller County website or online services, please contact us via our <u>Website Accessibility Form</u> or by phone at 719-687-7940.

#### **Teller County Accessibility Webpage and Information**

Please reference the Teller County Accessibility webpage: <a href="https://www.tellercounty.gov/925/Accessibility-and-ADA-Information">https://www.tellercounty.gov/925/Accessibility-and-ADA-Information</a>



# **EXECUTIVE SUMMARY**

#### All black and white maps and figures for visual accessibility are located in appendix A

Teller County was founded in 1899 and is located in south-central Colorado between Jefferson County and Douglas County to the North, Fremont County to the South, El Paso County to the East and Park County to the West. U.S. Highway 24 runs east to west through Teller County and Colorado Highway 67 runs north out of Woodland Park and South out of Divide. The county is 559 square miles and is in the 5th Congressional District. The population is between 24,000 and 25,000 but swells considerably with recreationist in the warmer months. 124,000 acres of the County lies within the Pike National Forest. In addition, to Pike National Forest, Teller county is home to Mueller State Park, Dome Rock State Wildlife Area, Pikes Peak State Wildlife Area, Rosemont Reservoir State Wildlife Area, Skagway Reservoir State Wildlife Area, Florissant National Monument, North Slope Recreation Area and Catamount Ranch Open Space.

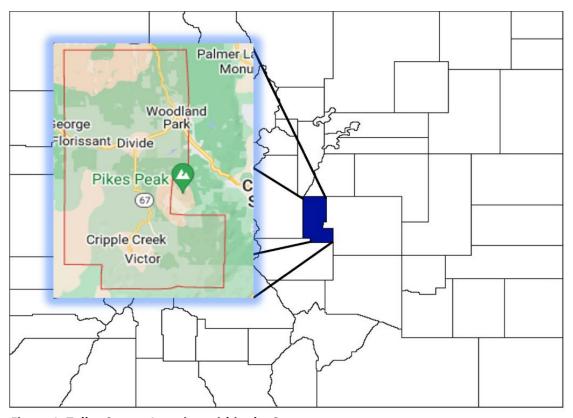


Figure 1: Teller County Location within the State

Teller County is home to municipalities such as Woodland Park, Cripple Creek and Victor, along with unincorporated area like Divide, Florissant and Goldfield. The town of Green Mountain Falls is located in both El Paso County and Teller County. The unincorporated town of Lake George is located in Park County on Teller County's west side, only a few miles from the county line. Lake George and several areas around there were assessed because what happens on the border can affect the county.





Figure 2: Teller County

The Teller County 2025 Community Wildfire Protection Plan was created by a core group of stakeholders assembled by the Teller County Office of Emergency Management and Coalition for the Upper South Platte (preparer of the document). Direction for the plan is provided in the 2003 Health Forest Restoration Act. This updated CWPP serves:

- As an overall plan that encourages communities, subdivisions and fire districts to develop their own CWPP with their residents, which will bring planning and implementation efforts down to the very local level.
- On a broad scale and is not meant to replace existing CWPPs completed by local communities



- As an overall guidance for agencies, fire agencies, county leadership and county residents
- As a collaboration tool between different entities
- As a tool to seek funding for priority mitigation projects

The plan in its entirety addresses wildfire management, risk assessment, wildland emergency operations and capabilities, mitigation strategies, project priorities, homeowner preparation, post fire considerations, monitoring and future recommendations. The plan looks at environmental and social factors involved with wildfire management and education.

Over 16 months of meetings, community input, GIS data collection and on the ground assessments and truthing, this plan integrates the most current collected data and geospatial modeling of wildfire risk and treatment priorities, combined with assessment of community preparedness. Top priority needs were identified, and a community action plan was developed to address those needs.

Community engagement included an online survey which was assessible for over 12 months (Appendix E). 400 surveys were received which gave the core planning team insight into resident social science and community preparedness.

This document can be used to obtain wildfire historical information, identify wildfire risk within the county and to prioritize fuel reduction (mitigation) projects. The CWPP looks at the County as a whole, then includes Potential Operational Delineations (PODS) to use as areas to prioritize control lines in the event of a fire. Emergency managers must realize that county demographics are in constant flux with new residents moving in from other parts of the country and holding different expectations than longtime residents of the county.

The goals for this CWPP are:

Goal #1: Enhance Community Preparedness and Resilience

Goal #2: Foster a Firewise Community Climate

Goal #3: Safe and Effective Wildfire Response

Goal #4: Planning for Effective Post-Fire Recovery

Environmental and human influences have led to a changing intensity of wildfires in Colorado and Teller County. Periodic drought, overcrowded forests, understory fuel continuity, disease and insect epidemics have all contributed to the elevation the wildlife risk in the state. Suppression of natural wildfires and an increase in the state population moving into the Wildland – Urban Interface (WUI) have added to the increased wildfire risk.



Since 2002, Teller County has experienced at least 7 significant wildfires that have had a noteworthy impact on residents. This does not include fire starts that were quickly suppressed by local fire protection districts. The high to very-high wildfire risk rating for Teller County is a concern to all residents, whether they live in an urban area or a rural area. The fuels reduction projects within the county remain a top priority for county leadership and residents, and there should be an increase in the pace and scale.

The core team assessed community wildfire preparedness. Community preparedness for a major wildfire event is a concern, including citizen evacuation planning and home preparedness (e.g. lack of defensible space creation and resources for additional information on the subject). Longtime residents of Teller County tend to be more prepared for a wildfire event than newer residents who are still learning and rural residents tend to be more prepared than urban residents.

Implementing the CWPP is crucial to success of this plan. Building partnerships among stakeholders, community-based organizations, fire protection agencies, private landowners and government agencies is crucial the success of this plan. Another function of this CWPP encourages citizens to be prepared and actively engaged in their community when it comes to wildfire risk.

According to the Colorado Wildfire Risk Assessment Portal, about 74.8% of Teller County Residents live with a wildfire risk of moderate to highest risk, 20.0% live in low risk areas, while 4.3% do not live in a Wildland Urban Interface Risk Area. This simply the potential impact of a wildfire on people and their homes created by using housing density combined with modeled fire behavior to determine where the greatest potential impact to people and homes is likely to occur.



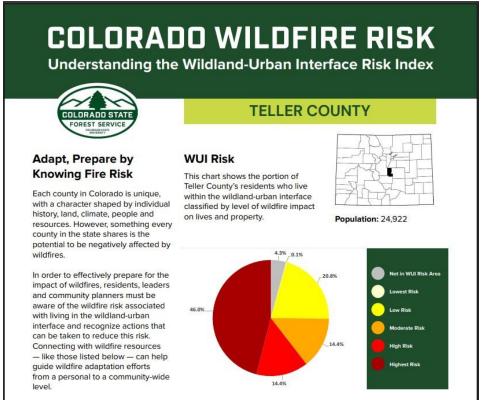


Figure 3: Teller County Wildfire Risk (COWRAP)

According to Wildfirerisk.org risk to homes in Teller County is very high. In fact, it states that Homes in Teller County have, on average, greater risk than 99% of counties in the United States. Risk to homes measures the relative consequence of wildfire to residential structures everywhere on the landscape, whether a home actually exists there or not. This is just a probability due to the county's location in the mountains.



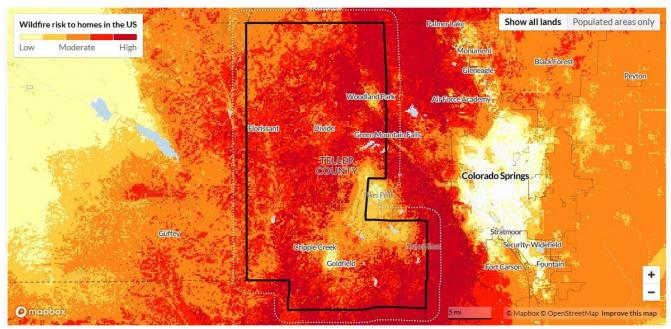


Figure 4: Teller County Risk to Homes (Wildfirerisk.org)

Teller County has, on average, greater wildfire likelihood than 98% of counties in the US. Wildfire likelihood is the probability of wildfire burning in any given year. Wildfire likelihood is the probability of wildfire burning in any given year. It does not say anything about the intensity of fire if it occurs. At the community level, wildfire likelihood is averaged where housing units occur.

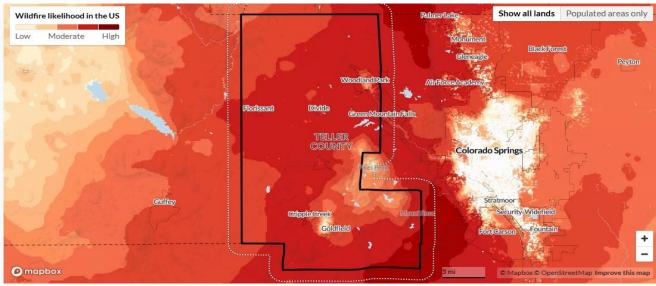


Figure 5: Teller County Wildfire Likelihood (Wildfirerisk.org)



Approximately 40,000 acres of the 138,114 Hayman Fire in 2002 burned in Teller County, mostly in the northwest corner and northern parts of the county. Portions of the Waldo Canyon Fire spread through <u>Ute Pass</u> and came within 1.5 miles of Woodland Park's city limits. In addition, Teller County has seen The High Chateau Fire (2018,) The High Park Fire (2022) and The Highland Lakes Fire (2024).

#### Wildland Urban Interface

Wildfires in Colorado are a natural part of ecosystems and help maintain healthy forests. Decades of fire suppression, increased population and human development in forested areas that have regularly seen fire have led to an expanding wildland-urban interface.

Teller County defines the Wildland-Urban Interface as the geographical area where human development, including structures and other infrastructure, meets or intermixes with undeveloped wildland or vegetative fuels. Teller County utilizes scientific methodologies in the creation of mapping of WUI areas which are informed with weighted spatial analysis that identifies areas where wildlife-related risks and vulnerabilities overlap to reduce structure loss of life, enhance ingress and egress, and prioritize treatment areas.

In Teller County, the WUI is focused along the U.S. Highway 24 corridor between El Paso County and Park County. There are sporadic patches of WUI located near developments outside of this corridor, especially north, south and west of Highway 24, where the housing density exceeds 3 buildings per acre. Many factors went into defining the Teller County WUI including housing density, population density, critical infrastructure, watershed health, vegetation type, slope steepness, aspect, other topographical features, fire history, fire risk and fire intensity. According to the American Planning Association, the WUI is not a fixed geographical location, but rather is based on a dynamic set of conditions.

Existing developments can influence fire behavior in the WUI by encouraging home and business owners, along with community leaders to mitigate vegetation, create fuel breaks, harden structures to reduce the chance of ignitability and educating residents to properly prepare.

Planners and community leaders can influence the WUI by utilizing land use planning tools like zoning, regulations and building codes to shape development patterns and mitigate wildfire risks. This includes updating strategic plans to incorporate wildlife related information, develop and implement WUI codes that address critical issues like access, evacuation, water supply, building construction and landscaping and linking specialized plans to land use maps. When new subdivisions are planned ensure that the layout includes multiple evacuation routes, a pattern that reduces density of homes, sufficient water, mitigation of vegetation and setback distances.



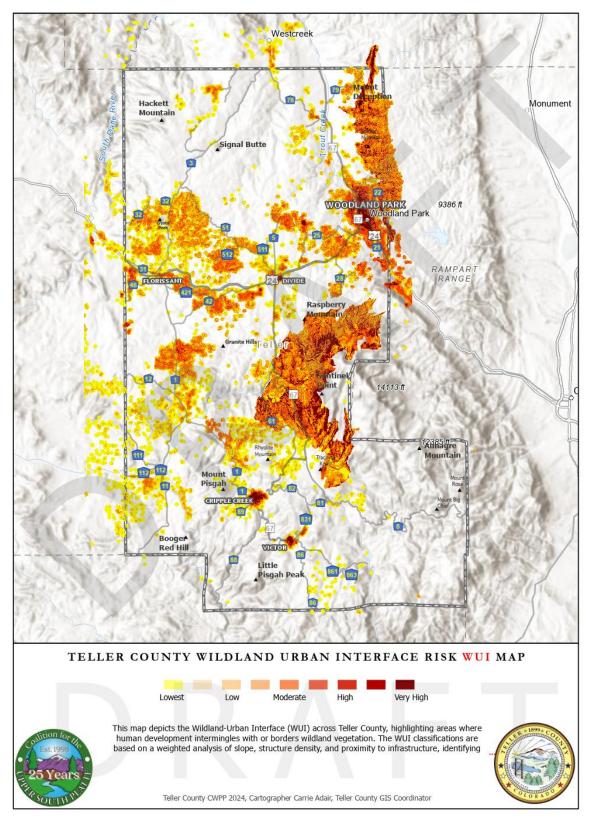


Figure 6: Teller County Wildland Urban Interface



# **Ecological Benefits of Wildfire**

Lightning-induced fire is a historic component of ecosystems in Teller County and Colorado and its occurrence is important to maintaining the health of rangeland and forest ecosystems. Many plant species and ecological communities have adapted to recurring fire. Some plants require reoccurring fire to reproduce.

More than a century of fire-suppression has resulted in large accumulations of surface fuels, ladder fuels, and canopy fuels in western forests and shrublands. Fuel loads also increased as forests and shrublands encroached into grasslands. This increase in fuel loading and continuity has created hazardous situations for public safety and fire management, especially when found in proximity to communities.

Some ecological benefits to wildfire include: cleans underbrush from the forest floor, opens the forest canopy, restores nutrients to the soil, improves wildlife habitat, kills disease and insect affected trees and some species of trees and plants are actually fire dependent - they must have fire every 3-25 years in order for life to continue.

#### **Individual Responsibility**

Individual responsibility is paramount in reducing structural ignitability. Fire science research has demonstrated that ignition potential of structures, including homes, is minimized by modifying the home itself and the area within 100 to 200 feet around the home. A home should be examined for its ignition vulnerabilities to firebrands and flames. Firebrand ignition factors include structure locations of firebrand accumulations on flammable surfaces and unscreened openings allowing firebrand entry. Vulnerabilities to flames depend on the potential for any flame contact with the structure and preventing the occurrence of large flames of high-intensity fires to burn within 100 feet of a home including structures adjacent to a home. (Cohen, 2008).

Homeowners have control over the structural components of their homes and the "home ignition zone." The effectiveness of fire suppression/ protection is subordinate to the individual's responsibility for ignition resistance of their home. Replacing flammable or highly ignitable components of the home and removing fuels from around the home minimizes the ignition potential of the home. A model for engaging community residents on a neighborhood or subdivision basis can be found at <a href="www.firewise.org/usa">www.firewise.org/usa</a> -The national Firewise Communities/USA Recognition Program. Firewise communities are educated about how houses ignite, they provide risk assessments to homeowners, they invest in fuel-reduction projects annually, and they celebrate their successes, building community enthusiasm for fire safety. Education efforts should target homeowners, contractors, realtors, and insurance companies emphasizing the homeowners' responsibility to protect their homes.



# **Record of Changes**

The use of this Record of Change will manage modifications to the Teller County Community Wildfire Protection Plan (CWPP) throughout the life of the document. All attempts have been made to ensure the accuracy of the information within the Teller County CWPP as of the initial distribution date.

| Record # | Change/Revision Summary  | Date           | Updated By         |
|----------|--|----------------|--------------------|
| 1        | Reformatted the plan and fixed grammatical errors.                                   | 09/27/2025     | Aryanna Tushingham |
| 2        | Added Plan Accessibility section, updated Record of Changes page, grammatical errors |                |                    |
|          | And gray scaled the photos/graphs/figures.   | 09/30/2025     | Aryanna Tushingham |
| 3        | Name corrections, edits, suggested revisions.  | 10/06/2025     | Michelle Boley     |
| 4        | Edits, reformatting the master document  | 10/07 to 11/04 | John Geerdes       |
| 5        |  |                |                    |
| 6        |  |                |                    |
| 7        |  |                |                    |
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**Table 1: Record of Change** 



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# **Section 1 -Introduction**



#### **GOALS, OBJECTIVES and ACTION STRATEGIES**

# **Goal #1: Enhance Community Preparedness and Resilience**

Objective #1: Foster Preparedness, Response, Recovery, and Mitigation

- Action Item 1 Expand private/public partnerships between high risk subdivisions/large landowners and public land managers such as USFS, BLM, NPS, CPW and other stakeholders to promote cross-boundary efforts in high risk wildfire areas.
- Action Item 2 Mitigate up to 20,000 acres over 10 years (or 2,000 acres per year) across jurisdictions including on private and public lands to reduce the risk wildfire poses to Teller County communities and assets. This includes ongoing maintenance on properties previously treated.
- Action Item 3 Seek \$10 million in grant funding over the next 10 years to promote healthy and resilient forests by reducing fuels in high risk areas, promoting home hardening and defensible space.
- Action Item 4 Use the best available science to identify high risk areas and appropriate treatments for those areas.

Objective #2: Collaborative Engagement for Education and Protection

- Action Item 1 Hold at least 2 public events per year for 10 years that encourages participation and education among private citizens, landowners, and partners on fire ecosystems and mitigation.
- Action Item 2 Review annually any identified critical infrastructure assets to be protected.
- Action Item 3 Mitigate around critical ingress/egress/escape routes in the county.
- Action Item 4 On county websites, direct residents and tourists to online resources for information.

#### **Goal #2: Foster a Firewise Community Climate**

Objective #1: Support Community Wildfire Protection Plans (CWPPs)

- Action Item 1 Assist the 5 communities with CWPP's less than 10 years to find funding to implement priority projects.
- Action Item 2 Encourage the 8 Fire Protection Agencies with boundaries within Teller County to write CWPPs for their districts.
- Action Item 3 Encourage the 10 communities with a CWPP over 10 years old, to update their plans.
- Action Item 4 There are 109 subdivisions in Teller County. Accounting for the 15 communities that have plans, that leaves 94 communities without a CWPP. Encourage 50% of the communities without CWPPS's and in the highest risk areas to complete plans within 5 years.
- Action Item 5 Ensure county regulations support fire resilience.
- Action Item 6 Create and maintain a Geographic Information System (GIS) database with geographic information and forest health project records for local CWPP development.



- Action Item 7 Improve the county website to guide residents, developers, and contractors in developing individual CWPPs and understanding land use regulations.
- Action Item 8 Encourage collaboration between CWPP communities, public land managers and Fire Protection Agencies to identify cooperative projects for mutual benefit.

#### **Goal #3: Safe and Effective Wildfire Response**

Objective #1: Enable safe and effective wildfire response, including collaborative preparedness for severe wildfires and evacuation events.

- Action Item 1 Ensure Fire Protection Districts, Office of Emergency Management and Colorado Division of Fire Prevention and Control have a workable, useable CWPP and not a shelf document.
- Action Item 2 Seek grant funding to support the Teller County Wildland Task Force to
  ensure they have appropriate and updated equipment and training to adequately respond
  wildfire events.
- Action Item 3 Work with local and Fire Protection Agencies to ensure that all private and public land is in a Fire Protection District within the county.

#### **Goal #4: Planning for Effective Post-Fire Recovery**

Objective # 1 - Develop a Post Fire Recovery Team to respond to post fire impacts on non-federal lands

- Action Item 1 By December 2026, assemble a post fire recovery team that can conduct a swift evaluation of a burn scar to identify high-risk areas like steep slopes, drainage patterns, and potential debris flow pathways to restore the affected ecosystem and rebuild infrastructure while minimizing further environmental impact and to implement immediate erosion control measures like straw wattles, silt fences, jute netting, and hydroseeding to prevent soil loss from heavy rain.
- Action Item 2 Post Fire Recovery Team will provide for public safety by establishing safety protocols, including evacuation plans and access restrictions to burned areas.
- Action Item 3 Post Fire Recovery team to collaborate with others to seek funding to support team activities and post fire recovery efforts.

Objective # 2 - Develop proactive planning and projects for post-fire recovery, flood, and sediment management and continuously monitor post-fire conditions and adjust restoration strategies based on data collected.

- Action Item 4 Within one (1) month of a fire, the post fire recovery team will implement monitoring systems to assess potential impacts on water sources and recommend necessary mitigation strategies.
- Action Item 5 The Post Fire Recovery Team will prioritize repairs to essential infrastructure like roads, bridges, and utilities.
- Action Item 6 The Post Fire Recovery Team will involve local residents, stakeholders, and land managers in the planning process to address specific needs and concerns.



#### PURPOSE OF THE COMMUNITY WILDFIRE PROTECTION PLAN

The purpose of a Community Wildfire Protection Plan (CWPP) is to enable local communities to improve their wildfire-mitigation capacity, while working with government agencies to identify high fire risk areas and prioritize areas for mitigation, fire suppression, and disaster preparedness. Another purpose of the CWPP is to enhance public awareness by helping residents better understand the natural and human-caused risk of wildland fires that threaten lives, safety, and the local economy.

This Community Wildfire Protection Plan for Teller County is an update of the 2011 CWPP. This document has been prepared to assist residents, agencies, fire districts and land managers to:

- 1. Protect lives of residents and emergency personnel
- 2. Protect property and critical infrastructure
- 3. Protect Teller County's quality of life in this rural county

The minimum requirements for a CWPP, as stated in the Healthy Forests Restoration Act of 2003 are the following:

Collaboration: Town, county, and state government representatives, in consultation with federal agencies or other interested groups, must collaboratively develop a CWPP (SAF 2004).

Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuels reduction and treatments and recommend the types and methods of treatment that will protect one or more communities at risk and their essential infrastructures (SAF 2004).

Treatments of Structural Ignitability: A CWPP must recommend measures that local governments, homeowners, and communities can take to reduce the ignitability of structures throughout the area addressed by the plan (SAF 2004).

It is the intent of this 2025 Teller County CWPP to provide a countywide scale of wildfire risk and protection needs and bring together all wildfire management entities and jurisdictions in the Teller County area to address the identified needs, and to support these entities in planning and implementing the necessary mitigation measures.

The 2025 Teller County CWPP is aligned with the National Wildfire Cohesive Strategy by adhering to the nationwide goal to safely and effectively extinguish fire, when needed, use prescribed fire where allowable, manage our natural resources, and live with wildland fire.

The primary, national goals identified as necessary to achieving the vision are:

- Resilient Landscapes Landscapes, regardless of jurisdictional boundaries are resilient to fire, insects, disease, invasive species, and climate change disturbances, in accordance with management objectives.
- Fire Adapted Communities Human populations and infrastructure prepare for, mitigate against, respond to, and recover from wildland fire.



• Safe, Effective, Risk-based Wildfire Response – All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

In addition to aligning with the Cohesive Strategy, the CWPP also incorporates information on post-fire recovery, the significant hazards of a post-fire environment, and the risk that post-fire effects pose to communities.

#### THE NEED FOR THE PLAN

Wildfire is a naturally occurring component on many ecosystems in Teller County. The primary forest ecosystem found in Teller County is the mixed-conifer forest type, followed by montane ponderosa pine forest. Approximately 20% of the county's forests by area did not historically have a frequent fire regime. Forest types such as spruce/fir and subalpine historically experienced infrequent fire and have thus not been negatively impacted by fire suppression.

Historically in Colorado, fires in Ponderosa Pine ecological communities burned naturally on a cycle of one every 5 to 25 years with low intensity surface fires. This regime burned the grasses, shrubs, and small trees, and maintained an open stand of larger Ponderosa Pine trees. This helped open up canopies, remove understory vegetation, maintain age diversity and remove the buildup of surface fuels, such as branches, twigs, pine cones and dead vegetation.

A century of fire suppression in all Colorado forests have led to fuel build ups, dog hair stands (dense, overcrowded stands of young conifer trees with so many stems per acre that they resemble a dog's thick coat) of trees and forests easily susceptible to disease and insect outbreaks. Many areas of Colorado experienced severe mountain pine beetle outbreaks, which killed large stands of conifer trees both on the east and west slopes of the state. Teller County has experienced insect outbreaks of Western Spruce budworm and Spruce Beetle which have affected large stands of Douglas-Fir and Engelman Spruce.

Larger outbreaks of Western Spruce Budworm have caused extensive damage in Teller County. Successive years of Spruce Budworm defoliation weakens trees and can cause reduced growth, top-kill, reduced cone crops and tree death over large areas. Spruce beetles infest Engelmann spruce and occasionally Colorado Blue Spruce in high elevation forests in Colorado, causing significant damage to forests. There have been large spruce beetle outbreaks in parts of Teller County that have killed large standing spruce trees.

While wildfire suppression has been a factor resulting in more unhealthy forests, another factor that leads to the need for fire suppression is the increase in Teller County population and those people moving into forested lands. Once they move into the forests, the need for suppression increases dramatically to protect life and property.

Forest density, increase in population, expanding Wildland/Urban Interface, drought and overall elevated wildfire risk are all factors that lead to the need for an updated CWPP.

This Community Wildfire Protection Plan is necessary to proactively identify and address local wildfire risks within a community, providing a roadmap for actions to prevent, mitigate, respond to, and recover from potential wildfire threats, ultimately aiming to reduce the danger to



residents and infrastructure by prioritizing mitigation strategies based on specific local conditions and hazards.

#### **POLICY FRAMEWORK**

The Teller County CWPP is a planning document and is meant to be an overarching plan for the County to be used by Fire Agencies, land managers, citizens, etc. It takes a high-level overview of the county. There is no legal mandate to implement the recommendations in this plan, but by doing so, it may help reduce the wildfire risk and increase the safety of residents, businesses, and first responders.

Action on federal public lands are subject to adherence to the Healthy Forest Restoration Act, The Wildfire Crisis Strategy and the National Environmental Policy Act, along with USFS and BLM policies, rules and regulations.

Action on state lands are subject to adherence by state law and state agency policies, rules and regulations.

Action on county and municipal lands are subject to adherence by state law, county and municipal ordinances, along with county and municipal policies, rules and regulations.

The following documents were used to provide background, recommendation and guidance for the Teller County CWPP:

Federal Emergency Management Act Disaster Mitigation Act (2000)

Healthy Forest Restoration Act (2003)

Teller County Hazard Mitigation Plan (2021)

Teller County Emergency Operations Plan (2021)

USFS Wildfire Crisis Strategy (2022)

USFS Confronting the Wildfire Crisis Implementation Plan (2022)

Colorado State Forest Service Minimum Standards for Developing Community Wildfire

Protection Plans (2022)

Colorado Forest Atlas

#### **EXISTING CWPPS**

Most CWPP's in Teller County are older than 10 years old and need to be updated. They still provided some valuable information to include in this updated version of the Teller County CWPP.

#### 10 Years old or younger CWPPs:

Colorado Mountain Estates (2024) Ridgewood – 2022 Cripple Creek Mountain Estates – 2021 City of Cripple Creek – 2019 Greater Woodland Park Healthy Forest Initiative – 2018 Arabian Acres – 2018



#### Older than 10 Years CWPPs:

Highland Lakes – 2014
Four Mile – Currant Creek – 2013
Teller County CWPP – 2011
Colorado Outdoor Education Center – 2011
Ute Lakes Fish and Recreation Club – 2011
Majestic Park – 2007
Lone Ranger Road Users (2011)
Indian Creek – 2011
Elk Valley Estates – 2011
Woodrock Property Owner's Association - 2009
Lost Dutchman Resort (2011)

There are 8 fire districts within Teller County and 109 sub-divisions.

#### RECOMMENDATION

- 1. Update the 11 outdated CWPP plans listed above by 2028.
- 2. Each Fire Agency should write a current CWPP by 2028.
- 3. Strongly recommend that Woodland Park and Victor write specific CWPP's for their cities by 2027.
- 4. All communities not within a designated fire district should write specific CWPP's by 2030
- 5. The remaining 92 sub-divisions without a CWPP should write a specific CWPP for their area within the next 5 years, specifically to identify fuel loads, mitigation projects and evacuation plans.
- 6. Community leaders in unincorporated areas such as Divide and Florissant should consider writing a CWPP specific to their areas.



#### **PLANNING PROCESS**

This plan update is the result of an ongoing collaborative effort that was started in 2024. The 2025 update builds upon the continued collaboration between stakeholders that has been fostered over the last 20+ years. This county level plan is intended to be used as a reference and guide for community plans but should not be considered a substitute. A county plan will not provide the detail needed for local project-level planning.

The specific collaborative steps taken to create the Teller County CWPP update include;

Assembled a core team of stakeholders including federal land managers, state land managers, state fire agency, county emergency mangers office, county GIS office, Fire Chiefs from 2 fire departments within Teller County, 5 Fire Chiefs from fire districts within Teller County and 3 Fire Chiefs from fire districts adjacent to Teller County, representatives from local municipalities and a local non-profit

A survey (appendix C) was posted on the Coalitions for the Upper South Platte (CUSP) website and Facebook page and Teller County website and Facebook page. Articles were posted in local media outlets on how to obtain and return the survey. There were 400 surveys returned and the data analyzed by a CUSP social scientist

There were eight (8) core team meetings in 2024 at Teller County OEM Office, Divide Fire and Northeast Teller Fire to outline and discuss various aspects of the plan including data for the WUI, water resources, values at risk, setting CWPP goals, discussing priority projects and weighing hazard attributes

Over three months' time, there were field visits to each of the 109 subdivisions in Teller County. A modified National Fire Protection Association (NFPA) form was used for subdivision assessments and can be found in appendix F Subdivision field visits were completed by Fire Chiefs, CUSP Foresters and CUSP Executive Director. In addition, CUSP GIS contractor was gathering data to develop a Teller County WUI.

Updates and stakeholder input were sought at 4 Teller County Wildfire Council meetings and three (3) Teller County Local Emergency Planning Committee meetings. Both of these meetings attract a diverse group of agencies and members of the public

CUSP held focus groups and sought input from senior citizens at the Teller County Senior Coalition in Woodland Park and at-risk populations at Aspen Mine Center in Cripple Creek

Attended a Board of County Commissioners meeting to verify support and secure authorization to create an updated CWPP.

Sent the CWPP draft to key stakeholders and core team for review



Posted notification in the Local Newspaper regarding the proposed CWPP update and allowed a 30-day public comment period.

#### Teller County Wildfire Council (TCWFC)

The Teller County Wildland Fire Council's mission is to reduce the severity and frequency of wildfires in Teller County, Colorado. The council is dedicated to creating safer communities through wildfire mitigation actions, collaborative partnerships, and improving ecological health.

The Teller County Wildland Fire Council's vision is: Engaged residents collaborate with TCWC partners to create wildfire-ready homes, healthy forests, and a wildfire resilient community.

In 2020, Teller County requested that CMAT (Community Mitigation Assistance Team) come in and assist Teller County Wildfire Council with organizational issues.

This team focused its recommendations on the following themes:

- Strengthen Partnerships
- Improve Community Engagement
- Increase Mitigation Actions
- Update Planning Documents
- Funding Opportunities

The full CMAT report with all its recommendations is in the appendices

Updates on CWPP progress were provided to the TCWFC on a regular basis at their bi monthly (every other month) meetings.

#### Teller County Local Emergency Planning Committee (LEPC)

The Local Emergency Planning Committee (LEPC) is a federally mandated entity composed of state and local officials, business representatives and members of the press. The role of the LEPC is to form a partnership with local governments, stakeholders and industries as a resource for enhancing hazardous materials preparedness and for emergency preparedness.

Updates on CWPP progress were provided to the TCLEPC on a regular basis at their quarterly meetings.



#### THE CORE PLANNING TEAM

The Core Planning team for the 2025 CWPP update includes the following key participants. Some participated frequently, others infrequently and others were invited but never did attend

#### **FEDERAL**

- ➤ U.S. Forest Service Pike/San Isabel National Forest Pikes Peak Ranger District Fire Management Officer
- ➤ Bureau of Land Management Rocky Mountain District Fire Management Officer
- ➤ Natural Resources Conservation Service Woodland Park Office Soil Conservationist
- ➤ National Park Service Florissant Fossil Beds National Monument Superintendent

#### **STATE**

- Colorado Parks and Wildlife Mueller State Park Park Manager
- ➤ Colorado Division of Fire Prevention and Control Pikes Peak Region Battalion Chief
- Colorado State Forest Service Woodland Park Office Supervisory Forester
- Colorado State Forest Service Northeast Area Wildfire Resilience Coordinator

#### **COUNTY**

- ➤ Teller County Office of Emergency Management Interim Emergency Manager
- ➤ Teller County Information Technology GIS Coordinator

#### FIRE DISTRICTS

- Northeast Teller Fire Protection District Fire Chief
- Divide Fire Protection District Fire Chief
- ➤ Florissant Fire Protection District Fire Chief
- ➤ Four Mile Fire Protection District Fire Chief
- Victor Fire Department Fire Chief
- Cripple Creek Fire Department Fire Chief
- ➤ Mountain Communities Fire Department Fire Chief
- ➤ Green Mountain Falls/Chipita Park Fire Protection District Fire Chief

#### **MUNICIPALTIES**

- City of Woodland Park
- City of Victor
- City of Cripple Creek Special Projects Director

#### **UTILITY COMPANIES**

- ➤ CORE Electric Wildfire Mitigation Program Manager
- Colorado Springs Utilities Forest Program Manager
- ➤ Black Hills Energy (invited did not attend)
- Colorado Natural Gas (invited did not attend)

#### **OTHER**

- Coalition for the Upper South Platte Executive Director
- Coalition for the Upper South Platte GIS Contractor

# **Section 2: Teller County Profile**



#### **TELLER COUNTY OVERVIEW**

Teller County is on the western slopes of the Front Range (Pikes Peak area) in central Colorado and was established on March 23, 1899. The county is named for U.S. Senator <u>Henry M. Teller</u>, who served for 30 years in the U.S. Senate. He also served as Secretary of the Interior under President Chester Arthur.

Teller County is 559 square miles (557 square miles of land and 2 square miles of water). The county is the 56<sup>th</sup> largest county (out of 64 counties) in Colorado by total area. The county seat is <u>Cripple Creek</u>. The County begins 20 miles West of Colorado Springs and is accessed via State Highway 24 West and Colorado State Highway 67 North. It is almost directly in the center of the State of Colorado with elevations ranging from 8,000 feet in Woodland Park to over 14,000 feet on the back side of Pikes Peak.

#### **TELLER COUNTY HISTORY**

Gold was discovered in Cripple Creek in 1890. The Cripple Creek district, in the southern part of the Front Range, about 20 miles southwest of Colorado Springs, is one of the most famous gold camps in the world. It is distinctly different from the other districts of the Front Range in having ore deposits associated with an extinct volcano of Miocene age and in having had an exceedingly large output of gold-telluride ores.

The Pike's Peak or Colorado Gold Rush, a major gold rush in North American history, began in 1858 and reached its peak in 1859, drawing an estimated 100,000 gold seekers to the region, which was then part of the Kansas Territory. The name "Pike's Peak Gold Rush" was used because of the prominence of Pike's Peak at the time, though the goldfields were actually 85 miles north of it.

Bob Womack, is credited with discovering gold in Poverty gulch near Cripple Creek in 1890. This marked the beginning of the last Colorado gold rush. At this time there were less than two (2) dozen people living in the 4-mile wide by 6-mile long area that was known as the Cripple Creek Mining District. By 1900 more than 50,000 people lived in this District. Within a few short years there were 12 towns in the area ranging from the larger population centers of Cripple Creek and Victor to several other towns which grew up around mining centers. These were named Goldfield, Elkton, Altman, Independence, Anaconda, Gillette, Cameron, Beaver Park, Arequa and Lawrence. Goldfield and Gillette are the only two (2) which remain.

The gold mining operations required a great deal of outside support and several areas came to the rescue. Woodland Park had five (5) saw mills producing millions of feet of lumber per year, much of which was timber for the mines. 200,000 railroad ties were shipped out annually. Divide was also an important lumber and supply town, but also became known for its high-quality, disease-free potatoes and for its fine crops of lettuce. Each fall, produce was crated and shipped to Cripple Creek and other locations around the United States. Ice to keep lettuce fresh while being transported was cut from ponds in and around the area.



The value of the gold mined in Teller County is greater than all other gold mining operations ever conducted in the United States combined.

Before 1890 most of what is now Teller County was inhabited by nomadic tribes, among them the Tabeguache Ute. The Tabeguache believed that the Pikes Peak region was their home. Their name for the mountain was "Tavakiev", meaning "sun mountain." Living a nomadic huntergatherer lifestyle, summers were spent in the Pikes Peak area mountains, which was considered by other tribes to be the domain of the Utes. This area was known mostly for the old <u>Ute Pass Trail</u> which was an important route because it offered passage through the front range of the Rockies for Native American tribes, buffalo, explorers, prospectors, cowboys and their cattle.

The first permanent settlement in Teller County occurred around 1870 and was at the summit of the Ute Trail in what is now <u>Divide</u>. After having many names, like Rhyolite, Belleview and Theodore, Divide stuck because the Arkansas and South Platte watershed divide in this area. As the tracks of the Colorado Midland Railroad neared Divide in 1887 boarding houses, saloons and restaurants sprang up to meet the demand of railroad workers.

<u>Woodland Park</u>, the most populous city in Teller County, originally was named Manitou Park. It was laid out along the Midland Railroad tracks and was quickly discovered by tuberculosis patients looking for a place to recover. The town became a popular spot for pleasure seekers and train passengers when the new Harvey House was opened in 1890. At that time there were 120 residents in Woodland Park.

According to the United States Census Bureau as of 2023, Teller County has an estimated population of 24,617. The official population in 2010 was 23,350 (United States Census Bureau). The largest economic sectors in Teller County are health care and social assistance, educational services, retail trade, professional, scientific and technical services and public administration.

As of 2024, there are 109 subdivisions in Teller county.

# **Municipalities in Teller County**

Woodland Park is the largest municipality in Teller County. Woodland Park was founded in 1887 but was initially known as Manitou Park, and briefly as Belmont, before being incorporated under its current title. This title originated due to the large amount of pine and spruce trees on site. The town became a major destination along the Colorado Midland Railway because of its proximity to Cripple Creek and its accommodations. Current population of Woodland Park is near 8,000.

Cripple Creek is a statutory city that is the county seat of Teller County. Cripple Creek is a former gold mining camp located 20 miles southwest of Colorado Springs near the base of Pikes Peak. The Cripple Creek Historic District, which received National Historic Landmark status in 1961, includes part or all of the city and the surrounding area. Current population of Cripple Creek is 1,117.



The City of Victor is a statutory city in Teller County. Gold was discovered in Victor in the late 19th century, an omen of the future of the town. With Cripple Creek, the mining district became the second largest gold mining district in the country and realized approximately \$10 billion of mined gold in 2010 dollars. It reached its peak around the turn of the century when there were about 18,000 residents in the town. Depleted ore in mines, labor strife and the exodus of miners during World War I caused a steep decline in the city's economy, from which it has never recovered. The current population of Victor is 364.

# **Unincorporated Towns in Teller County**

The Town of Divide is located about 8 miles southwest of Woodland Park along Highway 24. It is located close to the center of the county in between Woodland Park and Florissant. The Teller County Sheriff's Office and jail are located in Divide. The current population of Divide and surrounding areas is around 4,000.

The Town of Florissant is located on the western edge of the county and is about 8 miles west of Divide along Highway 24. Florissant was founded in 1870 and is home to a national monument. The current population of Florissant and surrounding areas is around 6,700.

Goldfield - Located just south of Victor Pass, Goldfield is a partial ghost town that is still home to about 50 residents in Teller County.

# **Adjacent Communities**

West Creek in Douglas County just to the north of Woodland Park along state highway 67

Green Mountain Falls/Chipita Park – small part in Teller County, most of area is in El Paso County just to the south of Woodland Park along Highway 24 and in an are known as Ute Pass Corridor

Lake George in Park County is just a few miles to the west of Florissant

# **Federal Recreation Areas in Teller County**

- Pike National Forest = 124,000 acres encompasses two (2) ranger districts within the county The Pikes Peak Ranger District and The South Park Ranger District. Visitation to the national forest during peak season swells the population of the county and requires additional effort in search and rescue and medical calls.
- Florissant Fossil Beds National Monument encompasses 6,278 acres within the county and brings over 70,000 visitors to the area annually. This area is day use area only.
- Bureau of Land Management holds 22,080 acres in Teller County with most of their property in the southern part of the county.



# **State Recreation Areas in Teller County**

- Mueller State Park is owned and managed by Colorado Parks and Wildlife. Mueller is about 3.5 miles south of Divide and encompasses 5,112 acres that bring in over 215,000 visitors annually. They have 132 campsites, 55 miles of trails and a visitor center.
- Dome Rock State Wildlife Area and shares a common internal boundary with Mueller State Park. It is operated by Colorado Parks and Wildlife and was part of the same large ranch when the state purchased it in 1978. It is 6,980 acres and home to a bighorn sheep herd.
- Pikes Peak State Wildlife Area is managed by Colorado Parks and Wildlife and is located near Bison Reservoir near Victor. It is 637 land acres and includes a small part of Bison Reservoir on the east end.
- Skaguay Reservoir State Wildlife Area is owned and managed by Colorado Parks and Wildlife located five miles southeast of Victor. It is 715 land acres and 114 surface acres.
- Rosemont Reservoir State Wildlife Area is 357 acres located in the south east part of the County and is owned by Colorado Springs Utilities and managed by Colorado Parks and Wildlife as a State Wildlife Area for wildlife conservation and angling opportunities.

# **Other Recreation Areas in Teller County**

North Slope Recreation Area is owned and operated by Colorado Springs Utilities. It encompasses = 2,267acres and contains three (3) reservoirs which provide water to Colorado Springs. The area is over 9,200 feet in elevation. The three (3) reservoirs are: North Catamount Reservoir (210 surface acres), South Catamount Reservoir (120 surface acres) and Crystal Creek Reservoir (136 surface acres).

Catamount Ranch Open Space is owner and managed by Teller County. It is 1,320 acres with 5.5 miles of trails. It is critically situated between Woodland Park and Divide and has several subdivisions adjacent to the property.



# **Population**

According to the 2024 U.S. Census Bureau estimated, Teller County had a population of 24,862. That represents a 6.5% increase since 2010 and a 0.63% increase since 2020.

Population statistics are captured in the table below.

The elderly, children, people who are disabled, those who are low-income or below the poverty line, and those that speak a language other than English are more vulnerable to hazard events. The elderly are more likely to suffer health-related consequences following a disaster, making a recovery slower. They are more likely to be vision, hearing, and/or mobility impaired, and more likely to experience mental impairment or dementia. Also, the elderly are more likely to live in assisted-living facilities where emergency preparedness occurs at the discretion of facility operators. Elderly residents who live in their own homes may have more difficulty evacuating their homes and may be stranded in dangerous situations. This population group is more likely to need special medical attention, which may not be readily available during natural disasters.

Children under 14 are particularly vulnerable to disaster events because of their dependence on others for essential resources. Very young children may additionally be susceptible due to injury or sickness; this vulnerability can increase during natural hazards. Children may not understand the necessary precautions needed to protect themselves.

People with disabilities are more likely to have difficulty responding to hazard events than the general population.

In the U.S., there is an expectation that individual households will use private resources to prepare for and recover from disasters to some extent. This assumption means that individuals or families living in poverty are automatically disadvantaged when confronting hazards. Mobile or modular homes are more susceptible to earthquakes and floods than other types of housing. In urban areas, low-income residents often live in older homes and apartment complexes, which are more likely to be made of un-reinforced masonry. This building type is more susceptible to damage during earthquakes.

Additionally, low-income residents are less likely to have insurance to compensate for losses incurred by natural disasters. In Teller County, 8+ percent (2000 out of 24,862 people) of the population lives below the poverty line, a number that is lower than the national average of 13.1%.

Research shows that minorities are less likely to be involved in pre-disaster planning and experience higher mortality rates during a disaster event. Post-disaster recovery can be ineffective and often characterized by cultural insensitivity.



| Fact   | Teller County,<br>Colorado |
|--|----------------------------|
| POPULATION   |                            |
| Population estimates, July 1, 2024, (V2024)  | 24,862                     |
| Population estimates, July 1, 2023, (V2023)  | 24,617                     |
| Population estimates base, April 1, 2020, (V2024)                                    | 24,706                     |
| Population estimates base, April 1, 2020, (V2023)                                    | 24,707                     |
| Population, percent change - April 1, 2020 (estimates base) to July 1, 2024, (V2024) | 0.60%                      |
| Population, percent change - April 1, 2020 (estimates base) to July 1, 2023, (V2023) | -0.40%                     |
| Population, Census, April 1, 2020  | 24,710                     |
| Population, Census, April 1, 2010  | 23,350                     |
| Persons under 5 years, percent   | 3.70%                      |
| Persons under 18 years, percent  | 15.90%                     |
| Persons 65 years and over, percent   | 26.70%                     |
| Female persons, percent  | 48.90%                     |
| White alone, percent   | 93.10%                     |
| Black alone, percent (a)   | 1.20%                      |
| American Indian and Alaska Native alone, percent (a)                                 | 1.40%                      |
| Asian alone, percent (a)   | 1.20%                      |
| Native Hawaiian and Other Pacific Islander alone, percent (a)                        | 0.20%                      |
| Two or More Races, percent   | 3.00%                      |
| Hispanic or Latino, percent (b)  | 7.90%                      |
| White alone, not Hispanic or Latino, percent   | 86.60%                     |
| POPULATION CHARACTERISTICS   |                            |
| Veterans, 2019-2023  | 3,564                      |
| Foreign-born persons, percent, 2019-2023   | 2.10%                      |
| HOUSING  |                            |
| Housing Units, July 1, 2023, (V2023)   | 13,862                     |
| Owner-occupied housing unit rate, 2019-2023  | 82.20%                     |
| Median value of owner-occupied housing units, 2019-2023                              | \$445,000                  |
| Median selected monthly owner costs - with a mortgage, 2019-2023                     | \$1,843                    |
| Median selected monthly owner costs -without a mortage, 2019-2023                    | \$534                      |
| Median gross rent, 2019-2023   | \$1,746                    |
| Building Permits, 2023   | 194                        |
| FAMILIES AND LIVING ARRANGEMENTS   |                            |
| Households, 2019-2023  | 11,253                     |
| Persons per household, 2019-2023   | 2.19                       |
| Living in the same house 1 year ago, percent of persons age 1 year+, 2019-2023       | 84.30%                     |



| Language other than English spoken at home, percent of persons age 5 years+, 2019- |        |  |
|--|--------|--|
| 2023   | 3.60%  |  |
|  |        |  |
| COMPUTER AND INTERNET USE  |        |  |
| Households with a computer, percent, 2019-2023                                     | 94.50% |  |
| Households with a broadband Internet subscription, percent, 2019-2023              | 92.20% |  |
|  |        |  |
| EDUCATION  |        |  |
| High School graduate or higher, percent of persons age 25 years+, 2019-2023        | 96.20% |  |
| Bachelor's degree or higher, percent of persons age 25 years+, 2019-2023           | 37.80% |  |
|  |        |  |
| HEALTH   |        |  |
| With a disability, under age 65 years, percent, 2019-2023                          | 9.10%  |  |
| Persons without health insurance, under age 65 years, percent                      | 6.30%  |  |
|  |        |  |
| PER SQUARE MILE  |        |  |
| Population per square mile, 2020   |        |  |
| Population per square mile, 2010   |        |  |

Table 2: Teller County Population Demographics (U.S. Census Bureau)

# **Teller County Geography**

The western slopes of Pikes Peak, a 14,115-foot fourteener located in Pike National Forest, dominates the geography of Teller County. Forested slopes, ridges and open meadows cover the county's lower elevations. The County lies in the transition zone between short grass prairies of the High Plains and the eastern edge of the Rocky Mountain Front Range. Teller County is at the intersection of four watersheds: Upper South Platte River, South Platte River Headwaters, Fountain Creek, and the Upper Arkansas River (Teller County, 2019). Major river drainages are the Arkansas and Upper South Platte. Dams and reservoirs provide water for Teller County and recreation sites for residents and visitors. Many small streams cross the county, including Twin, Beaver, Cripple, Four Mile, Rule, and Wilson Creeks, some of which were dammed to create reservoirs such as Catamount and Skaguay.

Over 170,000 acres of Teller County is public land managed by federal, state, and local agencies, including the U.S. Forest Service (Pike National Forest), The Manitou Experimental Forest, the National Park Service (Florissant Fossil Beds National Monument), the Bureau of Land Management, Colorado Parks and Wildlife (Mueller State Park, Dome Rock State Wildlife Area, Skaguay Reservoir, Rosemont State Wildlife Area and Pikes Peak State Wildlife Area) and Colorado State Lands Board lands.



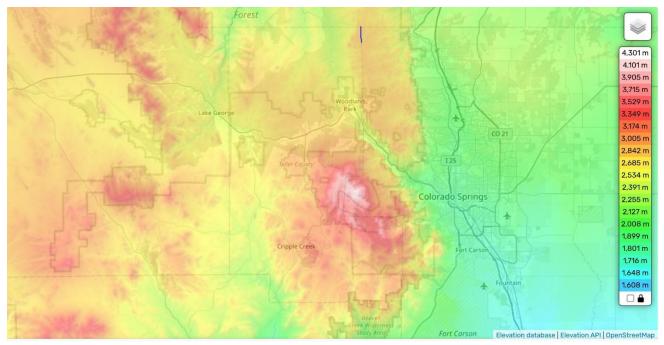


Figure 7: Teller County Elevation Map (topographicmaps.com)

# **Teller County Topography**

Teller County, Colorado is mostly mountainous, with elevations ranging from 6,700 feet to over 14,000 feet. The county is located in the southern part of the Colorado Front Range.

Features of the county include:

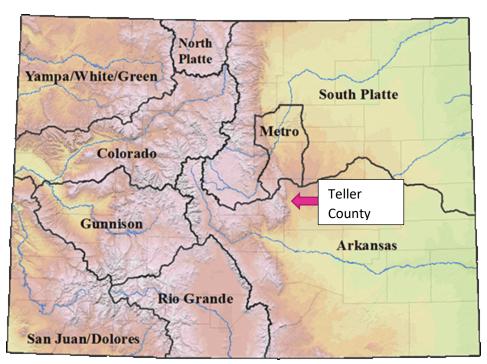
**Pikes Peak**: The west side of Pikes Peak with elevations over 14,000 feet.

Woodland Park: The largest municipality and at an around 8,000 feet.

**Divide Quadrangle**: This quadrangle has a rolling grassy hill region in the east-central part, surrounded by mountainous terrain.

**South Platte River Basin:** The north half of the county is located within the South Platte River Basin meaning that all streams, creeks, etc. drain into the South Platte River and its tributaries. **Arkansas River Basin:** The south half of the county is located within the Arkansas River Basin meaning that all streams, creeks, etc. drain into the Arkansas River and its tributaries.





**Figure 8 Colorado River Basins** 

.

*Slope*, the change in elevation on the land, and *Aspect*, the direction a slope faces, are two (2) factors of topography, or the shape of the land, that have a major impact on fire behavior.

During the day, sun or fire warmed air rises and pushes wildfires upslope. Fires may move four (4) times faster up slopes than on flat ground.

On a slope, the heat rises above a fire, pre- heating and drying the fuel above. The drier upslope fuels ignite more easily and burn more quickly than down slope fuels. The steeper the slope, the more pronounced the effect.

The steepest slopes are in the southeastern part of the county south of Highway 24. These are also the least populated portions of the county.

Aspect is the primary direction that a slope faces is called the aspect and plays an important part in the intensity of wildfire.

At high elevation, slopes in Teller County that face south and west are pre-heated and dried by strong sunlight. This solar heating makes these areas more vulnerable to rapidly igniting fuels.



## **Climate and Weather**

**Climate** is the description of the long-term pattern of weather in a place. Climate can mean the average weather for a particular region and time period taken over 30 years. Climate is the average of weather over time.

**Weather** is how the atmosphere is behaving. Weather can change from minute-to-minute. Most people think of weather in terms of temperature, humidity, precipitation, cloudiness, brightness, visibility, wind, and atmospheric pressure.

Climate and weather conditions significantly influence wildfire risk, with drought creating warmer, drier conditions that extend fire seasons and increase fuel aridity, while short-term weather factors like wind, temperature, and humidity determine how quickly fires spread and their intensity. Data from NASA, NOAA, and Global Forest Watch, including satellite observations and fire weather records, supports that fire seasons are becoming more active due to warmer, drier conditions.

Recent trends indicate increased temperatures and more frequent and severe droughts, drying out vegetation and soil, making landscapes more susceptible to wildfires. Thus, warmer temperatures and drier conditions cause vegetation to dry rapidly, turning leaves, branches, and grasses into highly flammable fuel.

Recent fire seasons seem to be more active, with fires starting earlier in the year, lasting longer into the fall and even occurring in winter months.

Rapid shifts between extremely wet and dry conditions, can lead to a surge in vegetation growth followed by a period of intense drying, creating a large amount of flammable fuel.

**Wind -** Strong winds can rapidly spread wildfires, carrying embers and flames across distances of more than a mile.

**Temperature -** Higher temperatures dry out vegetation and fuels, making them more flammable and increasing the intensity of fires.

**Humidity** - Low humidity levels mean vegetation has less moisture, making it more prone to ignition and rapid burning.

**Lightning -** Lightning strikes can initiate wildfires, especially during dry and windy conditions.

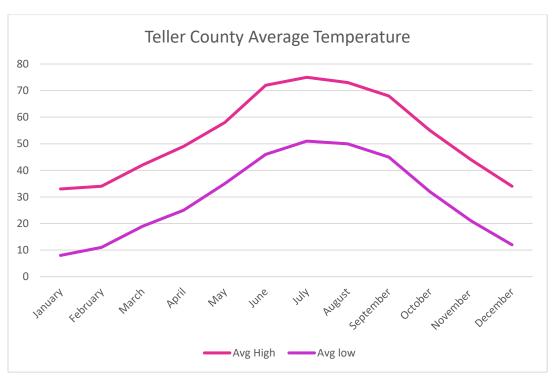
**Rainfall** - Rainfall, especially during dry periods, can help to suppress wildfires by increasing moisture in the soil and vegetation. Intense thunderstorms over a fire scar can cause severe post fire impacts such as flooding and mud slides.

Due to Teller County's diverse topography, the climate is highly variable, and conditions can change quickly. Weather conditions can vary dramatically across seasons. Average temperatures tend to decrease with an increase in elevation, about 3.5 degrees Fahrenheit per 1,000 feet.



|           | Avg<br>High | Avg low |
|-----------|-------------|---------|
| January   | 33          | 8       |
| February  | 34          | 11      |
| March     | 42          | 19      |
| April     | 49          | 25      |
| May       | 58          | 35      |
| June      | 72          | 46      |
| July      | 75          | 51      |
| August    | 73          | 50      |
| September | 68          | 45      |
| October   | 55          | 32      |
| November  | 44          | 21      |
| December  | 34          | 12      |

**Table 3: Teller County Average Temperatures ((in Fahrenheit)** 



**Figure 9: Graph of Average Temperatures** 

July is the hottest month for Teller County with an average high temperature of 75°F, which ranks it as one of the coolest places in Colorado. In Teller County, there are 3 comfortable months with high temperatures in the range of 70-85°F. The most pleasant months of the year for



Teller County are July, August and June. In Teller County, there are 0 days annually when the high temperature is over 90°, which is cooler than most places in Colorado.

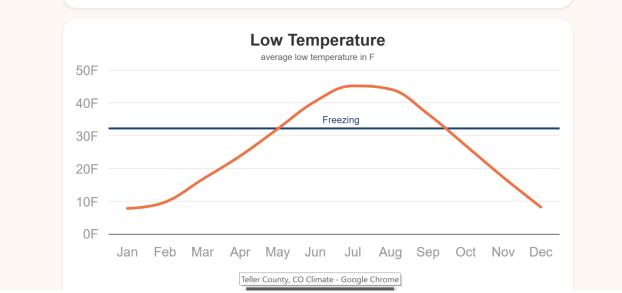


Figure 10: Teller County Low Temperature Graph

January has the coldest nighttime temperatures for Teller County with an average of 8°F. This is colder than most places in Colorado. There are 221.9 days annually when the nighttime low temperature falls below freezing, which is colder than most places in Colorado and there are 22.7 days annually when the nighttime low temperature falls below zero°, which is colder than most places in Colorado.



**Figure 11: Teller County Humidity** 

Humidity is very low in Teller County, so low that the dry air may be uncomfortable for some people. There are few days during the year when the humidity is even noticeable.



# **Precipitation**

Teller County gets some kind of precipitation, on average, 91 days per year. Precipitation is rain, snow, sleet, or hail that falls to the ground. In order for precipitation to be counted there has to be at least .01 inches on the ground to measure.

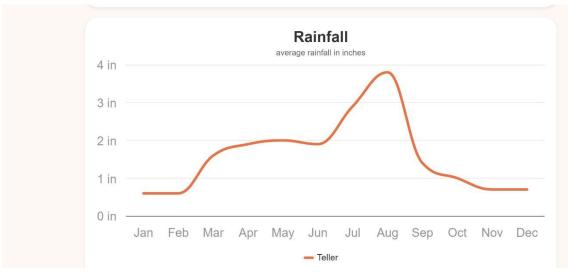
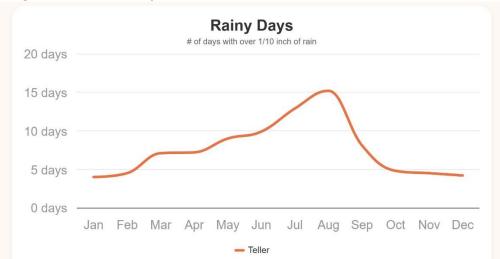


Figure 12: Teller County Rainfall



**Figure 13: Teller County Rainy Days** 

August is the wettest month in Teller County with 3.8 inches of and 15.2 days of rain, and the driest month is January with 0.6 inches. The wettest season is Autumn with 45% of yearly precipitation and 10% occurs in Spring, which is the driest season. The County averages 19 inches of rain per year. The US average is 38 inches of rain per year.



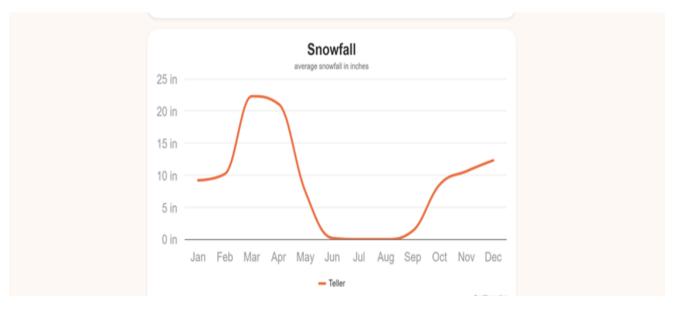


Figure 14: Teller County Snowfall

An annual snowfall of 103.0 inches in Teller County means that it is snowier than most places in Colorado. The U.S. average snow is 28 inches of snow per year. March is the snowiest month in Teller County with 22.3 inches of snow, and nine (9) months of the year have significant snowfall.

# **Economic Environment** (from Teller County Growth Management Plan)

In Teller County, about 8% of the population (1,969 people out of the population of 24,617 people) live below the poverty line, a number that is lower than the national average of 13.1% (United States Census Bureau, 2018b.).

In the next thirty years as opportunities for growth in Teller County are presented, we will continue to maintain our position on the respective roles of government and that of private industry in any development proposal. The development of land should respect personal property rights, while balancing the health, safety, and welfare of all citizens of Teller County. It is the role of industry and not county government to finance commercial development. This plan supports appropriate economic development which will improve and enhance the local economy while seeking to preserve Teller County's unique rural lifestyle, western heritage, culture, and natural environment. Primary Assumption: That the existing economic trends of Teller County will continue into the perceivable future. Observations: The economy of the County can be characterized as primarily "service-retail based". Retail and service establishments provide necessary goods and services to the resident and the tourist. However, many of these retail and service businesses rely substantially on seasonal tourism demand. Tourism is subject to and strongly influenced by the overall trends of the national economy. The Colorado Department of Local Affairs (DOLA) base industry analysis for Teller County in 2017 indicated the following with regards to Teller County's economy: 28.63 % tourism income (includes gaming) 14.3 % retiree income 10.51 % National Services or Regional Center income 7.01 % Households with public assistance income (excluding retirees.) 6.56 % Education and Health Services 6.28 % Mining 2.2 % Government 1.66 % Agricultural Business income.



These percentages have remained relatively constant and are predicted to do so in the foreseeable future. This clearly indicates that tourism remains our number one (1) economic resource by a factor of two (2). It can therefore be surmised that the retention of those qualities in Teller County that attract tourists should be maintained. (Open space, scenic views, public lands, recreational opportunities, gaming etc.). Secondly, while our population is aging which may require additional services for this demographic in the future, the majority of that population will have retirement income which will continue to contribute to our economy. Future development proposals should also be viewed through the economic benefit to Teller County by decision makers. A previous 1990 economic report recognized that a substantial amount of resident dollars for retail goods and services continue to "leak" down Ute Pass to El Paso County establishments. County businesses must take it upon themselves, working with their businessoriented organizations such as Chambers of Commerce, to arrest this trend and stop the flow. In 2020, Teller County has considerably more retail and service establishments than it did in 1990 and an increased population. Additionally, the exponential growth in the use of on-line shopping services have also had an impact on the consumer practices of our residents. Many of our residents no longer need to travel to the Front Range for goods and services that are now readily available here at equitable cost, especially when the costs of fuel and time are factored in. Mining has continued to provide a role in the County's economy. It is anticipated that mining will continue to be a factor in the Teller County economy. Mining has had a significant role in the economy and social perception of the County in the past. It is assumed that the majority of employment opportunities for Teller County residents will continue to be provided in El Paso County. Teller County and its communities have recognized this important aspect of our economy. An unfortunate downside of this has been a dramatic increase in traffic on U.S. Highway 24. This problem will get worse in the future as our population increases and serious consideration should be examined in the future for alternatives (https://www.colorado.gov/dola). Solutions to address traffic along this corridor and other roadways will need to be collaborative. As a State and US Highway road, any solution would need to be part of the Colorado Department of Transportation (CDOT) Statewide Plan (SWP). The SWP identifies the future needs for Colorado's transportation system, establishes a transportation vision and goals for the state, and outlines the strategic direction necessary to achieve these goals. The Plan connects current and future funding realities with business practices and partnering efforts to deliver an effective and efficient transportation system that works for Colorado today and in the future. Teller County government leadership is represented on this board. Colorado, and specifically Teller County, will continue to be a place where people will want to live. Teller County and its Communities can continue to provide both a mountain/western small-town atmosphere and mountain/country living opportunities in a naturally beautiful Rocky Mountain setting that is in proximity to the metropolitan area of Colorado Springs and Colorado's Front Range urbanized area.



| In civilian labor force, total, percent of population age 16 years+, 2019-2023 | 58.00%   |
|--|----------|
| In civilian labor force, female, percent of population age 16 years+, 2019-    |          |
| 2023   | 53.00%   |
| Total accommodation and food services sales, 2022 (\$1,000)                    | 139,406  |
| Total health care and social assistance receipts/revenue, 2022 (\$1,000)       | 90,092   |
| Total transportation and warehousing receipts/revenue, 2022 (\$1,000)          | 4,925    |
| Total retail sales, 2022 (\$1,000)   | 336,028  |
| Total retail sales per capita, 2022  | \$13,517 |
| TRANSPORTATION   |          |
| Mean travel time to work (minutes), workers age 16 years+, 2019-2023           | 32.2     |
| INCOME AND POVERTY   |          |
| Median households income (in 2023 dollars), 2019-2023                          | \$80,666 |
| Per capita income in past 12 months (in 2023 dollars), 2019-2023               | \$46,242 |
| Persons in poverty, percent  | 8.30%    |
| BUSINESSES   |          |
| Total employer establishments, 2022  | 845      |
| Total employment, 2022   | 6,902    |
| Total annual payroll, 2022 (\$1,000)   | 314,003  |
| Total employment, percent change, 2021-2022                                    | 15.50%   |
| Total non-employer establishments, 2022  | 2,890    |
| All employer firms, Reference year 2022  | 610      |
| Men-owned employer firms, Reference year 2022                                  | 323      |
| Women-owned employer firms, Reference year 2022                                | 157      |
| Nonminority-owned employer firms, Reference year 2022                          |          |
| Veteran-owned employer firms, Reference year 2022                              |          |
| Nonveteran-owned employer firms, Reference year 2022                           | 458      |

Table 4: Teller County Economy (Teller County Growth Plan)



# **Land Ownership**

Teller is made up of 557 square miles (356,480 acres) of land and approximately 2 square miles (1,280 acres of water) for a total of 559 square miles (357,760 acres).

Approximately 50.4% of Teller County's 357,760 acres is public land managed by government agencies (include federal, state and county). The Pike National Forest covers 124,000 acres within the county, therefore is the largest public land owner in the county.

The remaining 49.6% of ownership is made up of rural subdivisions (109 subdivisions within the county), unplatted parcels, and other private landholdings.

| Owner                              | Acres   | Square Miles |
|------------------------------------|---------|--------------|
| U.S, Forest Service                | 124,000 | 193.8        |
| Bureau of Land Management          | 22,080  | 34.5         |
| National Park Service              | 6,272   | 9.8          |
| Teller County Parks and Open Space | 1,352   | 2.1          |
| Colorado Springs Utilties          | 9,160   | 14.3         |
| Colorado Parks and Wildlife        | 13,788  | 21.5         |
| Colorado State Land Board          | 3,720   | 5.8          |
| Private                            | 177,388 | 277.2        |
| TOTALS                             | 357,760 | 559          |

Table 5: Teller County Land Ownership by Acres (all acres are approximate)



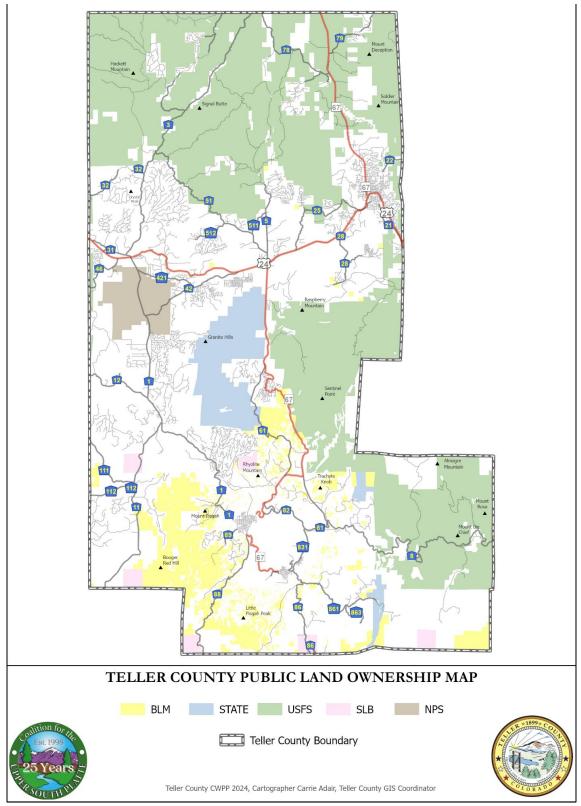
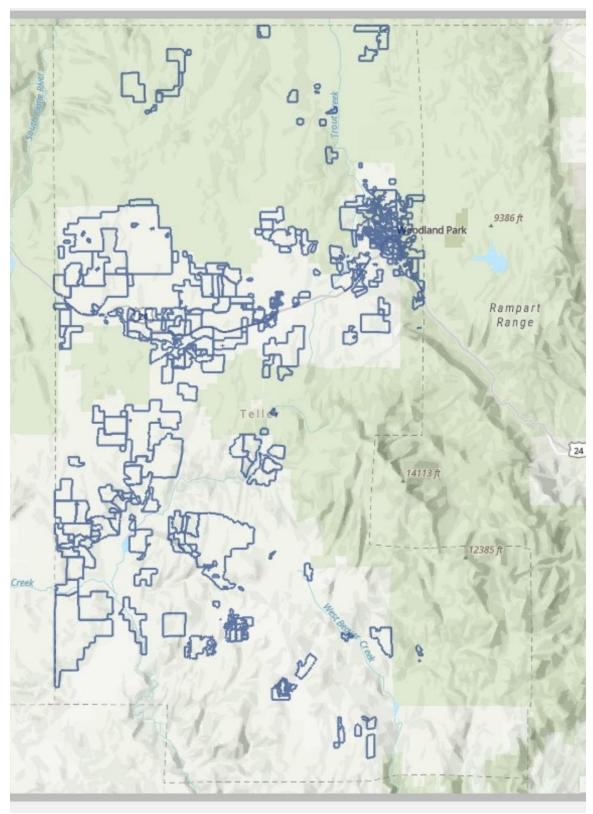


Figure 15: Teller county Public Land Ownership





**Figure 16: Teller County Subdivisions** 



# Section 3: Community Wildfire Preparedness Social Science Survey



#### **Introduction:**

The Coalition for the Upper South Platte (CUSP) has been updating the Teller County Colorado Wildfire Protection Plan (CWPP). To get accurate assessments of the current wildfire risk, several types of data collection were employed. One of these involved conducting a survey to determine the public level or understanding about fire mitigation within Teller County and obtain an accurate assessment of current community needs. The survey was used to collect both quantitative and qualitative data that was analyzed to gain understanding and make recommendations to further wildfire protection measures in the Teller County CWPP.

# **Methodology:**

#### Survey Question Breakdown

The survey was designed to gain information about the following: current wildfire concerns, where wildfire information is obtained, whether residents are prepared to evacuate quickly, how much they are willing to spend on mitigation, how much home hardening and defensible space work has been completed, individual barriers to conducting mitigation, and educational opportunities. Participants were also given the opportunity to voice any comments related to wildfire that may have been missed during the quantitative section of the survey.

Questions were broken down accordingly. Home hardening and defensible space were asked about based on individual activities to measure how much work participants have completed. Home hardening was broken down into repairing/installing screens to block embers, installing an ignition resistant roof, fire resistant siding, double pane windows, ensuring fire engine access to the property, and updating insurance. Defensible space was broken down by each treatment zone, debris removal, moving firewood away from the house, and no activity conducted. Barriers asked about included lack of knowledge, cost, neighbors not participating, physical inability, lack of tools, challenges with slash disposal, not seeing it as a priority, aesthetics, renting, or having no obstacles. All three questions also included a place for participants to list other work completed or barriers they encountered.

#### Sampling and Analysis Methods

Participants were determined through online snowball sampling and in person convenience sampling through partner agencies. Qualitative was analyzed in excel for descriptive statistics and R for chi-square (statistical analysis technique), correlation, and Friedman comparisons to determine relationships within the data. Quantitative data was analyzed in NVivo (qualitative data analysis software) using inductive thematic coding to group comments into specific community needs according to participants. Themes were the overarching needs, and sub-themes were specific concerns that make up each community need. These themes were compiled into a framework based on relationships that participants stated community needs had to each other.



# Focus Group Methods

A focus group was conducted at the Aspen Mine Center in Cripple Creek to verify survey results and obtain new mitigation outcome ideas from the community. Participants were recruited through stratified convenience and snowball sampling. Before starting, participants were asked to sign an ethics consent form. An introduction was given stating background and the intention of the focus group, then participants were asked to answer questions. The three questions were: what your thoughts about mitigation are, what resources would you be willing to dedicate to wildfire mitigation, and what educational opportunities would you choose to participate in in the future. During each discussion, participants were encouraged to provide specific examples, details, and potential solutions for moving forward.

# Participant Breakdown

Survey participants were sampled from all over Teller County (n=321). They were broken down by residency status, age, and which subdivision they resided in. Subdivisions were later compiled into fire district locations within Teller County because the subdivision data was too small to process. Focus groups participants were also recruited from across the county (n=10), and 70% were from the southern half.

Residency status was broken into the following groups: full time resident (86.98%), seasonal resident (8.87%), business owner (0.32%), owner of rental property (0.32%), owner of short-term rental (0.32%), owner of undeveloped lots (2.54%), and other (0.63%). Most participants who responded were also in older age groups. No participants responded to the survey of those who were under the age of 24. Ages were ranked by group: 25-34 (2.62%), 35-44 (7.54%), 45-54 (8.52%), 55-64 (23.28%) and 65+ (58.03%).

Similarly, most participants lived in the higher population areas of Teller County. Netco (21.90%), Divide (24.84%), Florissant (28.43%) and Four Mile (16.01%) and Mountain Communities (0.33%) yielded the most responses. Comparatively, Victor (3.27%) and Cripple Creek (0.65%) yielded less. Participants also responded that they were from Northern Teller County (2.61%) and Southern Teller County (1.63%), which were included as their own categories because there was not enough information to know which fire district they lived in. Responses from Green Mountain Falls were disregarded as the town is not in Teller County.

No demographics were taken about income, race, or gender to avoid asking sensitive questions and ethical missteps, as a formal ethics process was not followed due to lack of availability and capacity.



# Considerations

Several considerations should be taken under advisement with how the survey was conducted and the types of participants who responded. On the survey, several demographic questions were avoided so as not to infringe on possible ethics violations since there was no formal ethics review process readily available. However, this also made it difficult to distinguish how certain variables might affect wildfire preparedness. One such omitted question included income brackets. To make up for this, a question was asked about how much people would be willing to spend on wildfire mitigation, but cognitive, extreme response, and voluntary response biases were accidentally introduced and likely skewed the results. This was not caught until later, so the data obtained from it could not be considered reliable and was only processed to see if demographics affected response.

Some participant demographics were also not as disbursed as initially hoped. No one younger than age 24 responded to the survey and over half of the participants were older than 65. Additionally, only 7.51% of participants responded from the lower half of Teller County. Less responses were expected in the rural areas due to smaller population sizes but getting so few responses may have skewed the data. This heavily limited the ability to accurately determine trends and best practices specific to location within the county. The same problem existed for residency status. 87% of residents reside in the county full time with the rest of the responses distributed somewhat evenly across the other options. The limited numbers made it impossible to assess how residency status may be associated with attitudes towards wildfire and level of completed mitigation work.



#### **Quantitative Results:**

#### General Wildfire Concerns

Participants are very concerned that their community is at risk of wildfire, and that it would be catastrophic for the economy. They also agree that each landowner is responsible for their own mitigation, but results are more evenly distributed (Figure 17). They also strongly support land managers and agencies cutting trees and conducting prescribed burns to mitigate for wildfire (Figure 17). However, results are much more evenly distributed and less significant for property owners doing the same (Figure 17).

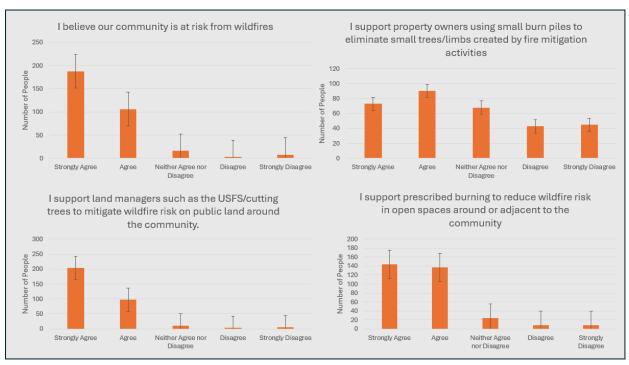


Figure 17: Participants rank their agreement with each community wildfire concern and treatment option

Most participants were very concerned about things related to wildfire that directly affect them. This included: receiving timely and accurate information about the incident, evacuating safely and promptly, fire damaging their home or business, impacting livelihoods (Figure 18), impacting water resources, impacting the economy, losing insurance, and post-fire erosion and flooding. While most people were also very concerned about degraded air quality, this was not as significant (Figure 18). Participants had a more varied level of concern about wildfire impacting historical assets (Figure 18), recreational opportunities (Figure 18), ecological communities, and damaging scenery.



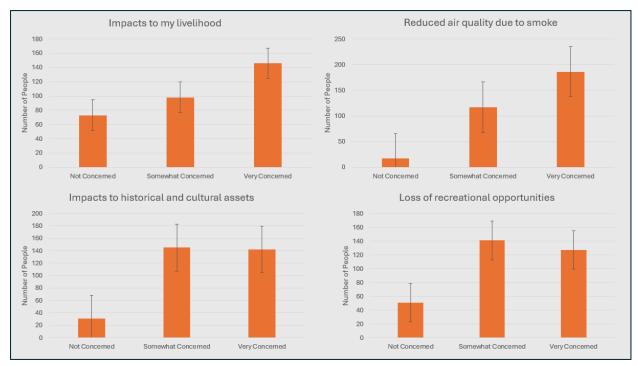


Figure 18: Participants rank how concerned they are about long-term wildfire impacts

#### Concerns in Event of Wildfire

Participants were less worried about what could happen in the event of a wildfire than they were about the general risk. They were not concerned about having children home alone, not knowing primary and secondary evacuation routes, or being able to gather everything in 20 minutes to evacuate (Figure 19). Participants were also generally not concerned about having family with physical limitations, not knowing where to go, and not receiving timely information to evacuate (Figure 19), but these results were less significant. Results averaged being somewhat concerned about evacuation traffic (Figure 19).

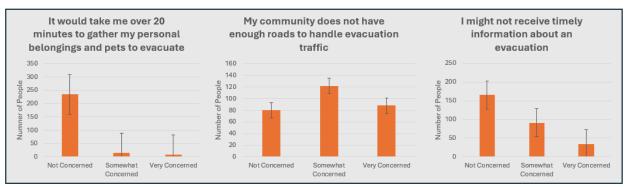


Figure 19: Participants ranking how concerned they are about what to do in the event of a wildfire



## **Obtaining Wildfire Information**

Most participants stated that they get general information about wildfires from social media and agency websites. Obtaining information from tv news as well as friends and family came in as the second most used sources. A small but significant population still got information from printed news, local radio, and other sources which mostly included getting information in person from local agencies (Figure 20). There was a significant association between age and where people obtain news from (p<0.01). Younger populations were more likely to obtain information from social media and older populations are more likely to get it from the tv. All ages obtained information from agency websites, friends/family and printed news. Location was found to generally be a predictor of where participants obtain information, but there was not enough data to get specifics (p<0.05).

There was also a similar pattern with receiving evacuation information. The largest significant population got the information from Peak Alerts, with emergency cell phone alerts, social media, and Teller County Webpages following behind (Figure 20). A significant number of people also obtained information from emergency alerts on the tv or radio. An insignificant number of people got their evacuation information from NOAA radio or other sources (Figure 20).

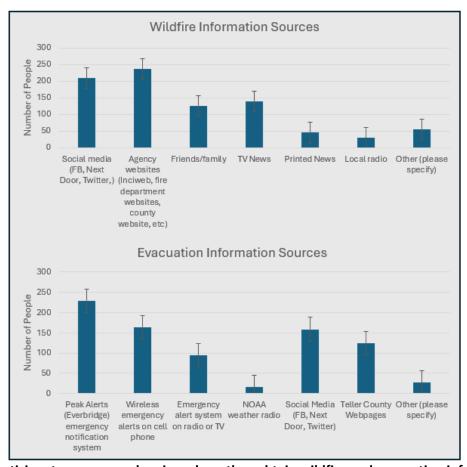


Figure 20: Participants responses showing where they obtain wildfire and evacuation information



## **Evacuation Preparation**

Most participants had a general evacuation plan but were not well prepared otherwise. 56.76% of participants have a Go Bag ready and most were not concerned about being able to gather belongings and leave within 20 minutes. However, 68% of participants did not have a plan to evacuate if they were not home when a wildfire occurred. 70% have not practiced evacuating and 78% of landlords said they did not have an easy way to communicate an evacuation to renters. There was no association between evacuation preparation and age, location, or residency status p>0.05).

# Amount Willing to Spend

Residency status could be generally associated with how much people are willing to spend on mitigation (p<0.01). Full-time residents are more likely to contribute. Age and location were not determined to be predictors (p>0.05).

# Home Hardening and Defensible Space

There was no significant difference between the number of participants who have conducted each type of defensible space activity, although most residents have conducted at least one (p>0.05). There were also very few significant differences between each home hardening activity, with the exception installing screens and fire-resistant siding (Figure 21).

Barriers preparing homes for wildfire were more noteworthy. Cost was the biggest challenge, and significantly stood out from the rest (Figure 21). Physical inability to complete the work, no way to dispose of the slash, and not having any obstacles were the second largest significant responses. No participant stated that home hardening and defensible space were not a priority (Figure 21).

Residency status and location were shown to generally be associated with whether people have conducted both home hardening and defensible space activities (p<0.001). However, age was proven to be directly associated with both (p<0.001). Older populations were more likely to have conducted any of the home hardening and defensible space activities. Age was also strongly associated with barriers such as cost physical inability, lack of tools, and slash disposal (p<0.001).



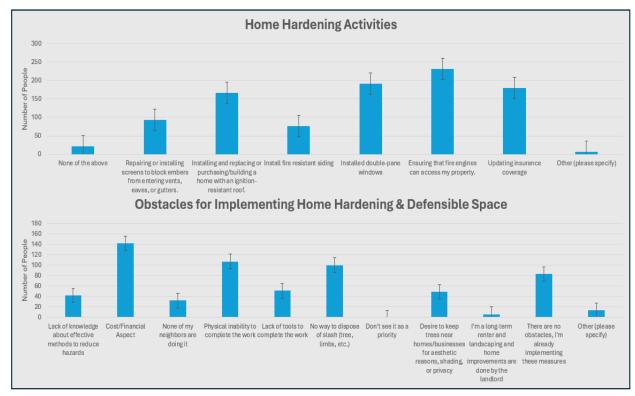


Figure 21: Participants responses showing what home hardening activities have been conducted and what obstacles prevent them from completing home hardening and defensible space

#### Education

Most participants engaged in some form of wildfire education. The most attended overall were public meetings, publications, and grants/incentive programs in all of Teller County. However, these were not significant from home assessments, workshops, information on why wildfire is good, and national programs (Figure 22). There are also a lot of participants taking part in Ready Set Go and social media.

Location was associated with which educational opportunities participants attended Northern Teller County (p<0.001), except for the Mountain Communities Fire District. There was not enough data to get an accurate idea of this relationship within this area or Southern Teller County. The Florissant and Divide Fire Districts attracted the most participation in every type of educational opportunity, with Netco close behind and Four Mile being harder to engage (X<sup>2</sup>=621.450, (2 N=321), p<0.001). When averaged out by each fire district, workshops turned out to be the most attended educational event (X<sup>2</sup>=132.73, (2 N=321), p<0.001). Younger age groups were more likely to participate in social media (p<0.05).



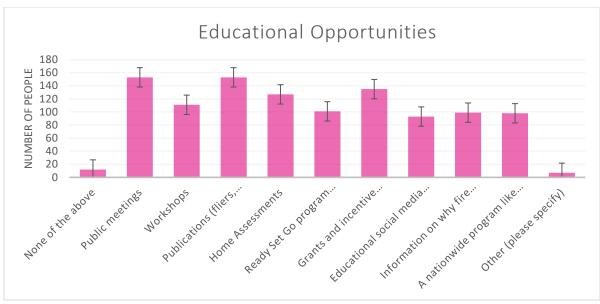


Figure 22: Current educational opportunities that participants attend

## **Qualitative Results**

Qualitative results were broken down into themes and subthemes (Figure 723. Theme and subtheme definitions can be found in (Table 6).

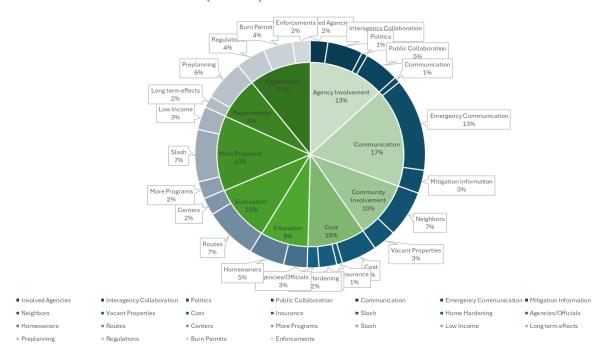


Figure 23: Themes and subthemes are broken down by frequency mentioned by participants. Themes are displayed in green, and subthemes that make up the themes are displayed in blue around the edge.



Table 6: Theme and subtheme definitions

| Themes                   | Subthemes                    | Definitions  |
|--------------------------|------------------------------|--|
| Agency<br>Involvement    |                              | The way agencies function together to serve the public               |
|                          | Interagency<br>Collaboration | The methods in which agencies work together                          |
|                          | Politics                     | Political aspirations coming into with wildfire protection           |
|                          | Public<br>Collaboration      | The methods in which agencies work with the public                   |
|                          |                              |  |
| Communication            |                              | The way people are communicating with each other                     |
|                          | Emergency<br>Communication   | Communication about wildfire while it is on the ground               |
|                          | Mitigation<br>Information    | Communication about mitigation and wildfire preparedness             |
|                          |                              | propuredness   |
| Community<br>Involvement |                              | The way in which the public is involved with wildfire mitigation     |
|                          | Neighbors                    | The way neighbors handle mitigation on their property                |
|                          | Vacant Properties            | The way in which vacant properties effect the community              |
|                          |                              |  |
| Cost                     |                              | The ways in which cost interferes with wildfire mitigation           |
|                          | Insurance                    | Help with affordable insurance                                       |
|                          | Slash                        | Slash being costly and difficult to deal with and dispose of         |
|                          | Home Hardening               | Ability to afford higher priced home hardening                       |
|                          |                              |  |
| Education                |                              | The knowledge needed about wildfire prevention                       |
|                          | Agencies/Officials           | Public feelings about the knowledge officials have                   |
|                          | Homeowners                   | Questions and feelings about the knowledge homeowners have           |
|                          |                              |  |
| Evacuation               |                              | Concerns being able to successfully evacuate in case of wildfire     |
|                          | Routes                       | Concerns about evacuation routes                                     |
|                          | Centers                      | Concerns about evacuation shelters                                   |
|                          |                              |  |
| More Programs            |                              | The additional support people would like around living with wildfire |
|                          | Slash                        | Help requested for affordable slash programs                         |



|              | Low Income        | Low income preventing the ability to mitigate and requesting help                  |
|--------------|-------------------|--|
|              |                   |  |
| Preparedness |                   | How prepared the county is to tackle wildfire                                      |
|              | Long term effects | Concerns about how fire and firefighting will change and affect the land long term |
|              | Preplanning       | Suggestions and comments about risk and how to be prepared for wildfire            |
|              |                   |  |
| Regulations  |                   | Thoughts and feelings about wildfire regulations                                   |
|              | Burn Permits      | Thoughts and feelings about burn permits   |
|              | Enforcements      | Discussion about how regulation enforcement is<br>handled                          |

# Theme: Agency Involvement

The agency involvement theme focused on how agencies interact with the public and each other. The overall sentiment from participants was "More cooperation, collaboration, & transparency are needed in Teller County" – participant 148. Agency ability to follow through on plans was also a concern: "I would like to see suggestions from the CMAT implemented in the teller county wildfire council" – participant 223. The subtheme expressed by the public was about how politics interferes with wildfire prevention: "Teller County officials also need to keep their political views & connections separate from doing what's right for the community" – participant 181.

#### Theme: Communication

Many participants commented on communications during a wildfire emergency, and some mentioned communications in relation to mitigation. Most of the communication emergency comments related to improving Peak Alerts: "I wish Peak Alerts worked the way it used to. I relied on it but now cannot." – Participant 30. Additional comments related to making information available to the public: "Publish or release area maps with familiar roads of evac zone or fire areas with notices to enable understanding of exact areas of concern" – participant 103. Missing information was also reflected in the mitigation communication comments: "I have contacted several companies to treat my spruce trees so they don't succumb to the budworm and die and thus become firewood. NONE have ever replied." – participant 89.

# **Theme: Community Involvement**

Participants brought up interactions they have had with their own community in relation to mitigation. Subthemes mentioned included interactions with both vacant properties and neighbors who are present. Vacant properties would be harder to mitigate according to participants: "Adjacent properties belong to absentee owners, most out of state. Would need permission or statutory authority to mitigate those properties" – participant 120. More



suggestions were offered for why their neighbors do not mitigate: "As a retiree I don't have the strength & energy to do more mitigation work like I did 20 years ago. Many of the new neighbors don't volunteer to help others like in the past with mitigation" and "I try to do my part but so few of my neighbors or fellow citizens care enough to do even a minimal amount of work. So many folks that have migrated into our community are very ignorant, don't care and are oblivious to the hazards." – participants 200 and 20.

## Theme: Cost

Participants discussed a large variety of concerns associated with the cost of wildfire protection. Subthemes were broken down into general mitigation cost, home hardening cost, cost of dealing with slash, and cost of insurance. General concerns mostly focused on large landowners: "I have concerns that residents in subdivisions assume that large land owners are wealthy and can afford the \$1,000+/acre mitigation costs, and that they should be responsible for protecting the subdivisions that they adjoin. Even with matching funds from state and federal grants, mitigation could cost individual landowners hundreds of thousands to millions of dollars." – participant 17.

Smaller property owners were largely addressed in the slash subtheme: "Currently we are capable of removing slash on our property ourselves. There are just very limited yet costly avenues to dispose of the slash. I feel this prevents others from doing anything on their property. Making disposal more available and cost friendly would go a long way." – participant 182. Seasonal residents also acknowledged this as a problem "I would be willing to help in any way I can. Living outside of Colorado and not having much free income prohibits me from paying someone to do the work. With notice and planning, I could be available for a week or two in the Spring and/or Summer to help with the physical work. Currently, no one lives there... but I know I have many neighbors that live there full-time, and fire mitigation requires us all to care for our lots." – participant 79. Comments on home hardening costs and insurance were more direct: "I really want metal siding and a metal roof. Can't afford it" and "I would like to see state, county and local governments working with insurance companies to develop regulations that will motivate mitigation on private property (both vacant and developed) and help keep insurance available and costs down. I am not in favor of state sponsored insurance, however" – participants 6 and 215.

# Theme: Education

Comments about wildfire education related to both agency officials and homeowners. Participants stated that they do not feel like they trust certain officials to know what they are talking about, either because of outdated or missing information: "Our county commissioners are completely ignorant about how to mitigate for wildfires. They need to attend the classes that every other county leaders have attended" and "His information is outdated and he doesn't have a clue as to how to handle wildfires" — participants 7 and 145. Identified officials ranged from the fire and police chiefs to politicians running the county. Participants also highlighted where they are lacking knowledge and resources: "Most people think fire mitigation is just pruning and getting rid of dead. There is an Extreme lack of knowledge of what a healthy Forest should look like" and "Need list of reputable landscape/tree services" – participants 24 and 94.



#### Theme: Evacuation

Most comments in this theme discussed evacuation routes, with a few participants raising concerns about evacuation centers. Concerns about evacuation routes varied from lack of egress to large populations causing traffic in an emergency: "We need evacuation routes marked in rural areas. There are neighborhoods with only main road in and out" and "Concerned about Woodland Park allowing Victory Life building a 1500 seat mega church on CR25. It is a 2 lane road. Also bottling up Highway 24" - participants 239 and 35. Comments about evacuation centers were also related to communication: "If and when evacuated we need to be told where evacuation center is. That should be established immediately. Also updates meetings should be held at the evacuation sites" – participant 197.

# **Theme: More Programs**

Prominent subthemes included programs for slash disposal and low-income populations. Comments ranged from requests for help to ideas for new programs: "We need more ways to remove slash/forest debris such as more assistance with burn piles or chipping/chip disposal sites" and "I believe access to a large woodchipper would really help out with cleaning things up. Right now, a few of us bring our slash down to the springs "Rocky Top Resources" — participants 257 and 161. Several requests were directly related to help for underserved groups: "Would like to have a program for seniors with limited income that would pay for mitigation" — participant 276.

# Theme: Regulations

Participants mentioned concerns about a large variety of regulations. Specific types of governance, burn permits, and enforcement were the most frequently mentioned. Specific suggestions included: "County regulations on mitigation must be "nuanced" for different sizes of ownership" and "ease restrictions for water storage for the fire protection ponds allowing ponds to remain at full capacity on our ranch." Burn permits were the most controversial topic. Some participants want easier access: "burn permits should be activated at 8am (not 10am) and smaller burn piles should be allowed on private property" – participant 262, while others want more restrictions: "very concerned about volunteer group doing 'controlled burns' on private properties. Should never be permitted" – participant 86.

#### Theme: Preparedness

The preparedness theme was different from other themes, as it displayed more long-term thinking and accountability from participants. Concerns included long term effects: "I'm concerned that when a fire occurs in town, planes will dump the toxic fire retardant and poison the whole area for decades" – participant 233. However, there were more frequent comments about pre-planning for wildfire: "Living in the WUI is inherently dangerous due to the risk of wildfire. Residents, especially new ones, need to understand that the risk can be reduced, but not removed. Mitigation also has many forms, from concrete everywhere, to tree thinning as recommended by the Forest Service. Mandated mitigation would require some agreement on what that looks like" – participant 17.



#### Wildfire Community Needs Framework:

The Wildfire Community Needs Framework (Figure 24) has been compiled to reflect how themes interact together. If any solution from the CWPP addresses one theme, it will also reduce negative impacts to those it connects with.

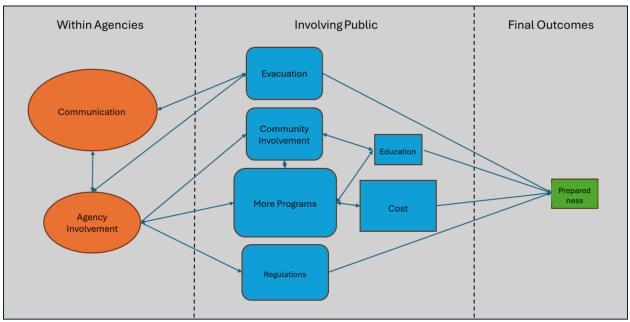


Figure 24: The Wildfire Community Needs Framework shows how each theme affects each other. Shapes are scaled to size based on frequency of participant mentions.

# **Focus Group Results:**

#### Thoughts on Mitigation:

Participants were generally concerned about wildfire and stated that they believe homeowners are responsible for their own mitigation. They acknowledged that the best way to protect themselves was to mitigate before a wildfire ignites, but discussed how not everyone in the community understands this and stressed the importance of education. Participants were especially concerned about underserved populations, those who could not afford to mitigate, and those more difficult to contact. Vacant lots were also a concern. Participants suggested that landowners living outside of the watershed may rely on insurance to rebuild, and not have a sense for how their property might affect surrounding communities.

Participants were also concerned with communication channels both pre-wildfire and during a wildfire. They were concerned with how challenges could affect response and firefighter safety. The discussion heavily centered on frustrations around interagency communication, lack of egress routes, and a lack of mitigation around communications infrastructure. Stated interagency communication challenges reflected the survey results. Participants especially highlighted challenges with the level of bureaucracy both when the public tries to communicate with



agencies, and when agencies communicate with each other. Suggested solutions to this challenge included publishing and advertising a list of mitigation resources that homeowners could refer to for mitigation work, and having agencies actively support volunteer groups.

Participants also discussed where wildfire protection efforts have been going well. Mitigation in the Rampart Range area, Catamount, and Wilkerson Pass were all mentioned and praised. They also suggested that utilizing different types of GIS software would improve data collection and information sharing between different agencies and the public.

# Resources to Contribute

Participants were hesitant to say how or what they would be willing to contribute to mitigation, as it was highly circumstantial. Specifics were hard to obtain, but participants agreed that homeowners should have some skin in the game. The highest number presented was \$2500, but the suggestion was made to look directly at income per town and surrounding area. Participants agreed that putting 2% of their annual income might create an accurate estimate and suggested using the county mitigation budget as a guideline since this is sourced from local taxes. However, participants stressed that, even with this estimation, many residents would still be unable to afford it.

Several ideas were proposed to ease the financial strain of mitigation. Participants suggested utilizing property liens to conduct mitigation by integrating the cost with selling the property or bequeathing it to family. There was also a lot of stated support for establishing county level tax credits, especially as state tax credits are difficult to claim. To make the mitigation work cheaper, participants brought up the idea of using mitigation crews made up of those working off their court appointed community service. However, they acknowledged that some residents might not be comfortable with potential felons working on their property. Another proposed solution was to ask different community volunteer associations to hold mitigation days on properties of those who could not afford it.

The discussion also addressed a desire for specific resources. Requested support included resources dedicated to enforcing codes and ordinances, more resources for underserved populations, more education, and more community outreach. Participants also spent a lot of time speaking about grants. They wanted more grant funding and removal of barriers to applying. Concerns specifically addressed competition favoring those who already know how to work with grant systems, which participants stated have usually been large organizations and not the average HOA or homeowner. Other discussed barriers included the time and resources it takes to research and write grant proposals.

#### **Educational Opportunities**

Participants stated that they would be interested in attending educational events not for themselves, but so they could contribute to their communities and educate their neighbors. They suggested opportunities to educate by sharing videos about wildfire, home hardening demonstrations, and using newspapers to highlight successes and inform the public. Information



about the science of fire behavior and the science behind best practice mitigation strategies were highly requested topics. Participants also recommended highlighting local success stories to draw residents into the conversation.

Participants also highlighted that, to be effective, educational sessions had to be heavily advertised and located in locations with high foot traffic. Suggestions local to Cripple Creek included the Aspen Mines Center, Butte Theater, and the Cripple Creek Mountain Estates (CCME) clubhouse. Firehouses and local community centers were suggested outside of Cripple Creek. Participants also stressed that, for mitigation to be effective, outreach needs to reach people who are not engaged and before a wildfire occurs. Suggestions for why they were not ranged from only living in Teller County seasonally to populations purposely living off the grid and without cell phones. However, participants did not have ideas about how to successfully reach these populations.

#### **Discussion:**

The results conclude that Teller County residents support mitigation and see it as a priority. The public also trusts agencies to complete the work both with fuels removal and prescribed burning, more so than they trust their own neighbors. However, interagency conflict, lack of communication, and lack of education mar that trust. Other obstacles such as lack of engagement, the cost of mitigation, inadequate regulation, and a lack of preparedness also hinder wildfire protection.

Almost 1/3 of qualitative responses were related to agency involvement and communication collectively. These two themes are initial drivers in both wildfire protection and the Wildfire Community Needs Framework (Figure 9), which can arguably make them a priority to address. Participants specifically brought up challenges related to conflict between agencies and finding contradictory information from different sources, both of which negatively affect their perceptions. Participants also commented about their frustration of information feeling hidden. Therefore, transparency, public collaboration, and trust building should be on the forefront of wildfire protection strategies. There is a need to balance these with credibility, finances, and protecting public safety, but that balance has not yet been found.

The focus groups also revealed some important trends. While focus group participants were largely from southern Teller County, all except one (1) was already heavily involved in wildfire discussions. Several represented demographics where outreach could be needed, but everyone except one (1) person has been heavily involved for at least the last few years. The demographics and the desire for education to help their neighbors spoke to the potential for educational ambassador programs to be successful.



#### **Actionable Recommendations:**

Several steps are recommended to improve community resilience to wildfire based on the study results. There is a need to focus on education, engagement, program support, and bridging gaps with both communication and regulation across Teller County. Where possible, site-specific recommendations have also been made.

#### Education

Education can address many of the challenges found in this study. Some of the biggest public requests were for transparency and to publish maps containing egress routes, high risk areas, and potential evacuation center locations. Requests were also made for documents like CMAT, CWPP, and available mitigation resources. This information is largely already publicly available. Unfortunately, if the people cannot find it, then the information will have little impact. Thus, it would be beneficial to either compile the information into an easily accessible database or conduct public education on where they can find the information in current locations.

Local mitigation resource lists should be included in this information. This will increase accessibility to mitigation and improve communication, which will improve public trust and mitigation outcomes. To avoid liability or endorsement, mitigation companies should be required to sign up to be included on the list. A disclaimer in the final document or database can also be placed to ensure legal protection. Sensitive information should not be published, but there should be some level of transparency about why it is not publicly available.

Additionally, study participants showed multiple gaps in knowledge over a variety of mitigation topics. Thus, educational events should be held to educate new community members about the science of fire behavior, explaining the difference between home hardening and defensible space, discussing mitigation best practices, and educating about post-fire effects in relation to their livelihoods, soil composition, and ecological restoration. Education should be shared by public meetings, videos, newspapers, publications, and demonstrations. Results also showed that most people do not have go-bags, have not practiced evacuation, and do not have a communication strategy in case of evacuation. Thus, workshops should be held to assist in developing these resources.

#### Engagement

This study covered older age groups and northern Teller County locations very well. However, it was more difficult to engage younger participants, seasonal residents, and those living in southern Teller County. Therefore, an emphasis should be placed on engaging these demographics. Agencies should prioritize outreach to these groups, especially to those who border treated property to ensure connectivity. Invites to educational events that are directly addressed to specific homeowners and planned at times when homeowners are not working may boost engagement. Online events could also help to include seasonal residents who may be out of town. Neighbors already engaged in mitigation may be particularly helpful in initial contact, recruitment, outreach, and gathering names of who to outreach to. As such, a focus should be placed on creating education ambassador programs. Newspapers and other online and offline



publications about education and success stories may also be helpful in engaging missed demographics.

# **Programs**

Results showed that there was a large gap between people who want to mitigate and those who can afford it. There were also limited resources for the underserved. Therefore, agencies and non-profit organizations (NGOs) should focus on creating and supporting programs to assist these groups, especially in high-risk areas or places bordering other treatments. A significant number of participants also asked for help with slash disposal. These programs exist across most of Teller County, so a focus should be placed on advertising local options. Community service mitigation crews should also be created and considered in addition to SWIFT crews.

Efforts should also be made to implement suggestions made by CMAT, CWPP, and wildfire mitigation working groups. If something is implemented that fails, or if it is not implemented for any reason, agencies should be transparent with the public instead of ignoring the issue. Doing so will maximize resource use, increase mitigation effectiveness, and build public trust. Additionally, new programs can be established at the county level to encourage mitigation. A county tax program and education about leveraging liens to afford mitigation will increase incentives to participate in wildfire protection.

#### Communication

To rebuild public trust, agencies need to be professional when speaking with the public. They should also minimize political interference with both the emergency response planning and mitigation planning processes. Differences should be resolved privately as much as possible. Participants have also stated that information gets inconsistent between agencies and information sharing platforms. This could be resolved by interagency coordination and communication. Wildfire information should be updated between agencies for consistency across all platforms or people should be directed to look at specific sources. This is especially true for communicating non-evacuation information during a wildfire. Agency working groups may be the most effective way to achieve this outcome.

Participants also focused on communication in the event of emergency. Problems with Peak Alerts was one of the most frequently mentioned challenges. Updating the software to include alerts to neighborhoods further away from wildfire would give the public more time to safely evacuate their families and themselves, especially those with young children or mobility issues. It would also reduce frustration from people unable to check in on their livelihoods during a wildfire. However, while the alert radius should be expanded, specifics should be balanced with safety and financial concerns. Additionally, it could help to include evacuation center location information in Peak and other emergency alerts.

# **Egress**

To improve evacuation efficiency in the event of wildfire, agencies should work with neighborhoods to create more egress routes through mitigation, removal of physical obstacles, and emergency public access agreements. There should also be a focus on improving early



warning systems to mitigate heavy traffic. Educational workshops could assist in helping homeowners create their own family evacuation strategies for personal circumstances, like if they are not home when an evacuation occurs.

# Regulation

Per the study results, regulations should be tailored by the location and size of property, as larger areas will have more effect on fire behavior and the livelihoods of surrounding homeowners. They should also be established for seasonal property owners with proper enforcement. Thresholds for vacant properties should be created, along with a plan to assist if a vacant property poses significant risk to neighbors and encourage mitigation if a property is sold. Resources should also be devoted to enforcing current codes and ordinances. Burn permits should continue being regulated in the manner they are now.

#### **Targeted Recommendations**

In general, most fire districts in Teller County should utilize workshops, public meetings, publications, and grants as these were the most frequently attended educational events. However, a significant number of people attended all the other types of events, so these should also be considered if enough resources are available to hold them. Additionally, education should be conducted in manners that do not require in person attendance, such as online options or publications. If they are, well-known local public meeting spaces should be utilized for the event. Efforts should also be made to educate younger populations about best practices for home hardening and defensible space.

Some recommendations can also be made based on location. Both the Divide and Florissant Fire Districts should continue holding public meeting educational events specifically. They should focus on scheduling them in the afternoons or on the weekends, when possible, to make them more accessible. The Netco, Divide, and Florissant Fire Districts are also the most conflict heavy and should prioritize improving both interagency collaboration and communication to rebuild public trust. Cripple Creek should conduct similar education, and also focus on mitigating around exposed gas lines and communication infrastructure between themselves and Victor.

#### **Conclusion:**

The results and recommendations from the social science survey should be used to advise the CWPP. Effective wildfire protection and response requires collaboration from residents, agencies, and organizations across the county. This survey compiled direct input from the residents, and the data has revealed some surprising conclusions which need to be accounted for. Agencies and organizations should use this information to create and implement the CWPP in Teller County.



# Section 4: Teller County Fire Environment

#### **Wildfire Causes**

A wildfire is a fire that can burn out of control in an area like a forest or grassland. Wildfires can and often do spread into urban areas, causing damage to homes, businesses and property and threatening life. Wildfires are typically sparked by the interaction of dry vegetation, hot conditions, and an ignition source. While natural causes like lightning strikes are a factor, human activities are responsible for the majority of wildfires in the United States.

According to The National Fire Protection Association, the 10-year average of human-caused fires account for 85% of all wildfires nationally, while about 15% of wildfires are naturally caused – mostly by lightning.

#### **Natural Causes:**

Lightning: Lightning strikes can ignite dry vegetation, starting wildfires. Lightning can reach temperatures between 50,000°- and 60,000° Fahrenheit. Not all lightning ignites a wildfire. Lightning strikes can ignite fuel immediately or it can cause smoldering fires in the litter or a tree until conditions are right for flames.

Some natural caused fires in remote areas can be used as prescribed fires for management purposes to reduce vegetation fuel loads. In these cases, the fire is managed under carefully controlled conditions with minimal suppression costs.

**Human Causes:** All human-caused fires are preventable if proper care and attention is taken to prevent that ignition spark.

<u>Campfires</u>: Campfires are responsible for about 5% of human-caused wildfires. That figure may be higher in Teller County due to the large amount of remote public land that is open for camping. **Campfire escapes** can be caused by several factors including:

- Failure to properly extinguish.
- Lack of attendance.
- Improper clearance or construction.
- Careless placement.
- Improper discarding of coals/ash.
- Improper use of accelerants such as liquid fire starter

<u>Discarded Cigarettes</u>: Carelessly discarded cigarettes can ignite dry vegetation - smoking fires are generated from discarded unextinguished cigarettes and other materials used for smoking. Wildfires caused by smoking activities include matches, cigarettes, cigars, pipes, electronic cigarettes (vape heads), and drug paraphernalia.

<u>Equipment Malfunctions</u> cause about 11% of wildfires - Sparks from machinery like chainsaws, mowers, chippers and heavy equipment can start fires. Causes in this category include vehicles and equipment ranging from heavy construction to small portable engines (passenger vehicles/RVs, motorcycles, OHV, ATV, trailers, road graders, bulldozers, tractor trailers, welders, grinders, wind generators, chain saws, pumps, generators, etc.). Ignitions can occur



from a variety of sources of mechanical breakdown or malfunction such as exhaust (direct heat transfer, organic material collecting on the exhaust system, and particles), catalytic converter pieces, hot metal fragments, metal/pavement contact (dragging trailer chains and metal parts), friction, flat tires, spark arrestor malfunctions, faulty electrical system/wiring, collisions, refueling operations, rock/hard surface strikes, and chains/dragging metal objects on a hard surface.

<u>Arson</u> accounts for about 21% of human caused wildfires. Arson acts can include setting the forest on fire or setting a structure on fire that turns into a wildfire.

<u>Debris Burning</u> - Burning yard waste and other debris can lead to wildfires, especially when wind conditions are unfavorable. windblown embers or fire creeping from the control burn area into un-cleared vegetation are the primary ignition mechanisms.

<u>Fireworks</u> - Fireworks burn at extremely high temperatures making all fireworks competent ignition sources especially the airborne type (i.e., bottle rockets and roman candles). Even sparklers burn at 1,200 degrees Fahrenheit. Most fireworks will fall into one of three categories, ground based and hand-held, aerial, or explosive. Ground base and hand-held such as fountains, smoke bombs, and sparklers emit flame and sparks which when set off adjacent to flammable vegetation can easily ignite a fire. Aerial fireworks such as bottle rockets, parachutes, and various mortars explode or create an aerial flash. The hot remains of an aerial firework may land in flammable vegetation and ignite a fire. Explosive fireworks such as firecrackers, M-80s and cherry bombs have a flash powder charge which is accompanied by a boom or bang which can start fires. Flaming paper particles may also start fires immediately adjacent to the blast area.

<u>Firearms and Explosives Use</u> - Any firearms projectile along with exploding targets should be considered as a potential ignition source. Black powder and projectiles such as steel core, steel jacket, steel component, copper, lead, lead core copper jacket, armor piercing (AP), incendiary, and tracer, are among those types of ammunition which can ignite wildland vegetation from the hot particles they leave behind. Some manufacturers of shotgun shells have marketed shells which cause flame and sparks to be ejected from the barrel of the shotgun. Firearms and ammunition are a frequent cause of wildfires at the USFS Turkey Tracks shooting range near the Teller County/Douglas County line.

<u>Power lines</u> - The most common cause of a power generation wildfire is from power lines. Wildfires can ignite from the generation, transmission, and distribution of electrical power (arcing, fuses, transformers, lightning arrestors, vegetation contact, wildlife contact, loose connectors, etc.). **Power line** caused wildfires are often due to high winds, contact with vegetation, equipment failure, or human or animal contact with a power line (conductor wire). Sometimes several of these factors may work to cause a fire, such as wind blowing vegetation into contact with the electrical equipment.



# **Types of Wildfires**

For most purposes, wildfires can be classified into three categories: Ground, Surface and Crown Fires.

<u>Ground Fires</u> - Occur on or below the forest floor, burning in the soil, organic matter, and buried fuels like roots and peat. They are typically slow-moving, smoldering, and may burn for days or even months.

Surface Fires - Surface fires burn on the surface of the ground, consuming surface litter, undergrowth, and low-lying vegetation like grasses and shrubs. They spread relatively slowly but can be intense, and they are the most common type of wildfire. Most prescribed fires are considered surface fires. Surface fires burn loose needles, moss, lichen, herbaceous vegetation, shrubs, small trees, and saplings that are at or near the surface of the ground, mostly by flaming combustion. Surface fires spreading in surface fuels dictate much of a fire's expansion. They can grow in intensity to scorch or even consume the forest canopy, a characteristic that is seen in crown fires, depending on: the amount of surface fuel (is high), fuel moisture content (is low); slope and/or wind, the surface flame length (is high); the height to the base of tree crowns (is small); and the density and compactness of tree crowns (is tight). This type of fire is typical of open Ponderosa Pine forests and open grasslands. In forests that are not overgrown, wildfires burn more slowly and often stay closer to the ground, clearing away excess fuel such as needles, fallen branches and small seedlings. Such a fire revitalizes the forest without destroying the healthy trees. The heat produced is less intense, does little damage to the soil and rarely penetrates the thick fire- resistant bark of the ponderosa trees. Due to the release of nutrients that results from such a fire, new herbaceous plants re-sprout quickly after the fire cools.

<u>Crown Fires</u> - Crown fires burn in the canopies of trees, spreading rapidly from one tree top to another. They are the most dangerous and destructive type of wildfire, spreading rapidly and intensely due to the height and wind. The most severe type is a crown fire, such as the Hayman Fire of 2002 and the Waldo Canyon Fire of 2012. A crown fire burns in the canopy of the forest, driven by wind and continuity of fuels. There are several types of crown fires classifications (National Wildfire Coordinating Group):

- Passive Crown Fire (Intermittent or Persistent Torching) occurs where surface fire intensity is sufficient to ignite tree crowns, individually or in groups, but winds are not sufficient to support propagation from tree to tree.
- Active Crown Fire occurs where surface and crown fire energy are linked. Surface
  intensity is sufficient to ignite tree crowns, and fire spread and intensity in the tree
  crowns encourages surface fire spread and intensity.
- Independent Crown Fire occurs (rarely) where tree crown loading, and flammability is sufficient to carry fire without surface fire contribution under ambient weather and wind conditions.
- **Isolated Tree Torching** should not be considered crown fire, though it may be an indicator of potential later in the burn period. It usually occurs due to anomalies in surface fire behavior due to jackpots of surface fuel, isolated terrain features, or brief wind gusts.



The frequent high winds in Teller County increase the risk of active and independent crown fires. The heat produced in a crown fire is intense enough to damage the soil. Long after a crown fire is extinguished, precipitation runs off the impermeable soil causing flash flooding and environmental degradation far beyond the burn area. In addition, because of the intense heat and soil damage connected with a crown fire, vegetation re-growth is significantly delayed. In a large portion of Teller County, the current forest condition is classified as a closed canopy with a high rating for crown fire risk



Figure 25: Type of Wildfires (Western Fire Chiefs Association)

#### The Basics of Wildfire Behavior

To understand the wildfire risk and hazard in Teller County, it is necessary to understand the factors that influence wildfire behavior. There are three primary environmental factors that affect wildfire behavior though there may be other factors that contribute to how a wildfire reacts to its environment, especially in a wildland-urban interface area. The three primary factors are: fuels, weather and topography.

#### **Fuels/Vegetation**

The two types of fuel in a wildland-urban interface are vegetative and structural. The fuel available to a fire influences how much heat is produced. Vegetative fuels consist of living and dead trees, brush and grasses. While the focus of wildfire management is usually on forested areas, some portions of Teller County have more grassland and brush than trees. Typically, grass and brush fires ignite more easily and move faster than fires in timber.

Structural fuels, which can include houses, outdoor equipment, lawn furniture, secondary buildings, fences and firewood, add to the natural fuel load available to a fire. Not only can a wildfire move into a structure from a forest or grassland, a structure fire can move outward into the grassland or forest and become a wildfire as seen with the 2024 Highland Lakes Fire in Teller County.



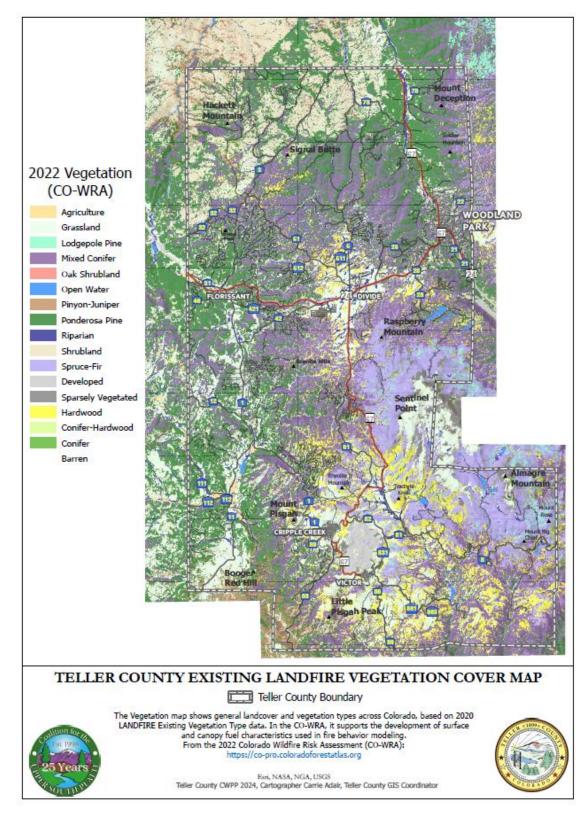
Any wildland fire, regardless of fuel type, can be extremely hazardous to life and property. The severity of a wildfire is proportional to the amount of available fuel. The size of fuel and fuel moisture affect fire behavior. In a wildfire, the smaller fuels such as dry grass or small branches ignite easily, create relatively low heat, and can act as kindling. Even a slight breeze can move a fire in these fuels rapidly. The larger fuels such as dead or down trees ignite more slowly but create significantly greater levels of heat and damage.

The dense forest conditions in area of Teller County not only raise the potential of catastrophic wildfires, it also increases the opportunity for cyclical outbreaks of insects and disease. Trees weakened by overcrowding and competition for water and sunlight are more susceptible to invasion.

Teller County has a diverse range of forest types which occupy three ecological life zones - Foothills, Montane, and Subalpine. These zones support various plant communities, including Ponderosa Pine, Douglas-Fir, Aspen, and Engelman Spruce forests, along with riparian areas. However, mixed conifer forests dominate Teller County. These forests are comprised of the above species with the occasional Limber Pine, Bristlecone Pine and Blue Spruce. Ponderosa Pine, Douglas-Fir, Limber Pine, Engelman Spruce and Blue Spruce. Lodgepole Pine typically found in the Montane Zone is not a common species in Teller County.

The heaviest concentration of dense conifer forests in Teller County are located in the northeast and western part of the county (see vegetation map). In reality, there are significant conifer forests throughout the county and they should be considered as a risk.





**Figure 26: Teller County Vegetation Cover** 



A typical conifer forest in Teller County also exhibits dense canopy cover, as many areas have not been thinned.

A closed tree canopy refers to a forest or woodland where tree crowns densely cover the area, minimizing the amount of sunlight reaching the forest floor. Conversely, an open tree canopy describes a situation where trees are more spaced out, allowing a greater amount of sunlight to penetrate to the understory.

#### Closed Canopy Characteristics:

- Dominant trees with extensive crowns that interlock or overlap, creating a continuous layer of foliage
- Shade-tolerant understory plants adapted to low light conditions
- Potentially higher humidity and more stable temperatures
- Nutrient-rich litter layer due to reduced decomposition rates

### **Open Canopy Characteristics:**

- Widely spaced trees with individual crowns not touching or overlapping
- More sunlight reaching the forest floor, supporting a wider range of plant and animal species
- Greater temperature fluctuations and drier conditions
- Potentially lower nutrient levels in the litter due to increased decomposition

The lower elevations of Teller County where Ponderosa Pine is be the dominant species tend to be more open canopy forests but there are areas that have not been thinned and the Ponderosa forest have grown tight. The areas where is there are more mixed conifer forests tend towards closed canopy and can be a higher risk of crown fire.



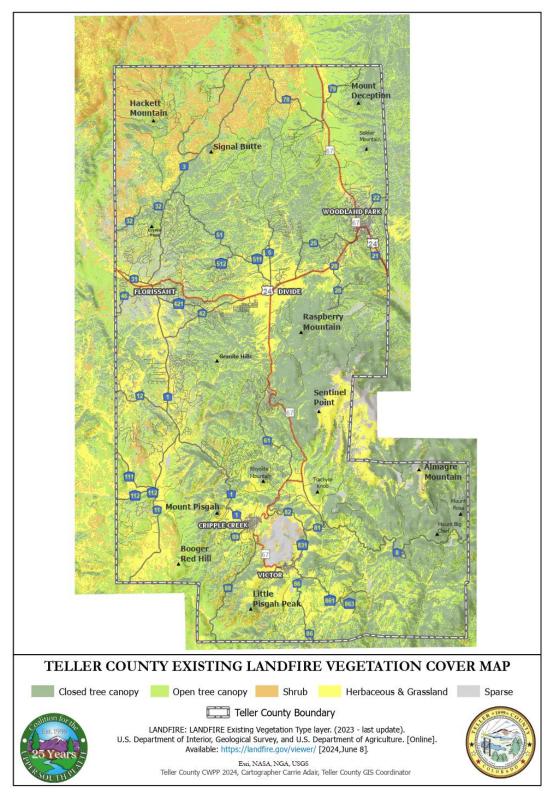


Figure 27: Teller County Vegetation Cover – Open vs Closed Canopy



#### Weather

Weather is the "wild card" of fire behavior and cannot be predicted. While lightning or human activity may ignite a fire, high temperatures, low humidity and strong winds increase its intensity. Drought and dry conditions any time of year can increase the frequency and intensity of wildfires; however, such fires are usually less severe in cold seasons

Temperature - Temperature significantly impacts wildfire behavior by influencing fuel flammability and indirectly affecting other factors like wind and fuel moisture, which in turn affect fire spread and intensity. Higher temperatures generally lead to drier fuels, increasing the risk of ignition and rapid-fire spread.

Relative Humidity - Relative humidity, the amount of moisture in the air, significantly impacts wildfire behavior by affecting fuel moisture content. Lower relative humidity leads to drier fuels, which are more flammable and contribute to faster fire spread and higher intensity. Conversely, higher humidity can dampen fuels, making them less likely to burn and reducing fire intensity.

Precipitation - Precipitation significantly impacts wildfire behavior, generally reducing fire danger by moistening fuels and slowing fire spread. Rain, especially during the fire season, helps to decrease the intensity of fires and makes it harder for them to spread, according to the Western Fire Chiefs Association. Conversely, a lack of precipitation, especially during the fire season, can contribute to increased fire activity, as dry fuels are more easily ignited and spread

Wind - Wind significantly impacts wildfire behavior by influencing spread rate, intensity, and fire-plume interactions. Strong winds accelerate fire spread by carrying heat and embers, and increasing oxygen supply to the flames, leading to more rapid combustion and spread. The direction and speed of wind also influence fire behavior, potentially altering the direction of spread and the intensity of the fire. Wind speed can differ at ground level, eye level and even up at crown level. Wind speed can spread wildfire in fine fuels and in the crowns of trees rapidly.

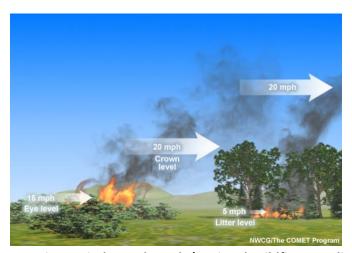


Figure 28: Various Wind Speed Levels (National Wildfire Coordinating Group



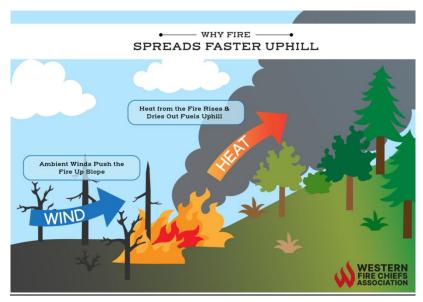


Figure 29: Wind Spreads Fire Uphill Faster (Western Fire Chiefs Association)

Fire position on a slope can be critical and, in many cases,, it may depend where a structure may be located. Often homes are built at the top of a slope, thus increasing their risk.

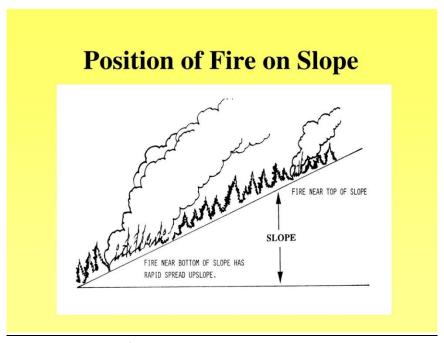


Figure 30: Position of Fire on a Slope



# **Topography**

*Slope*, the change in elevation on the land, can have a major impact on fire behavior. During the day, sun or fire warmed air rises and pushes wildfires upslope. Fires may move four times faster up slopes than on flat ground. On a slope, the heat rises above a fire, pre- heating and drying the fuel above. The drier upslope fuels ignite more easily and burn more quickly than down slope fuels. The steeper the slope, the more pronounced the effect. In Teller county, the steepest slopes are in the southeastern part of the county south of Highway 24.

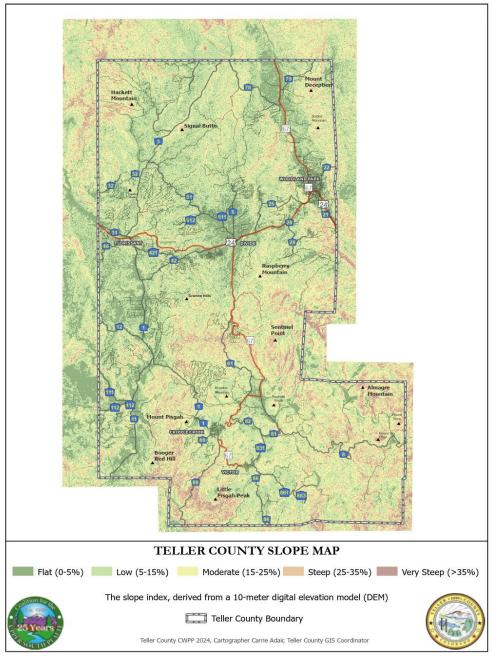


Figure 31: Teller County Slope Map



### <u>Aspect</u>

The primary direction that a slope faces is called the aspect and plays an important part in the intensity of wildfire. At this high elevation, slopes in Teller County that face south and west are pre-heated and dried by strong sunlight. This solar heating makes these areas more vulnerable to rapidly igniting fuels.

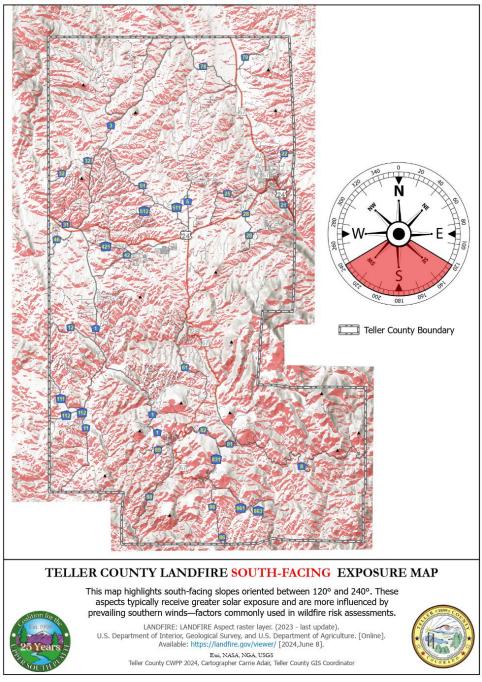


Figure 32: Teller County South Facing Slope Map



### Shape of the Topography

The shape of the land has a lot to do with how fire reacts to its environment.

- Canyons and Ridges can funnel wind, potentially increasing wind speed and intensifying fire behavior.
- Narrow Canyons can act as chimneys, creating strong updrafts and increasing convective heat transfer, preheating fuels uphill.
- Ridge Tops can act as barriers to fire spread.

### Flame Length and Intensity Influence on Fire Behavior

Fire behavior is the manner in which a fire reacts to the influences of fuel, weather, and topography. Fire behavior is typically evaluated at the fire line and described most simply in terms of intensity, flame length, and in rate of forward spread. The implications of observed or expected fire behavior are important components of suppression strategies and tactics, particularly in terms of the difficulty of control and effectiveness of various suppression resources. The fire behavior chart described in the table below is an excellent tool for measuring the safety and potential effectiveness of various fire line resources given a visual assessment of active flame length. The chart is valuable because it infers the relative intensity of the fire behavior to identified action stages for decision makers. Specific trigger points can indicate when to mobilize various resources, change fire suppression strategies, or request additional specialized equipment and/or assistance. It is important to note that the listed categories do not to be used for personnel safety measures.

| Flame<br>Length<br>(Ft) | Fire Line<br>Intensity<br>(BTU/Ft/Sec) | Interpretation  |
|-------------------------|--|---|
| 0-4                     | 0-100                                  | Fires can generally be attacked at the head or flank by persons using hand tools. Handline should hold the fire.  |
| 4-8                     | 100-500                                | Fires are too intense for direct attack on the head by persons using hand tools. Handline cannot be relied on to hold fire. Equipment such as dozers, engines, and retardant aircraft can be effective. |
| 8-11                    | 500-1,000                              | Fires may present serious control problems such as torching, crowning, and spotting. Control efforts at the head of the fire will probably be ineffective.  |
| 11+                     | 1,000+                                 | Crowning, spotting, and major runs are common; control efforts at the head of the fire are ineffective.   |

Table 7: Fire Behavior Characteristics Chart and Fire Suppressions Interpretations (Source: Fireline Handbook - National Wildfire Coordinating Group 2006)



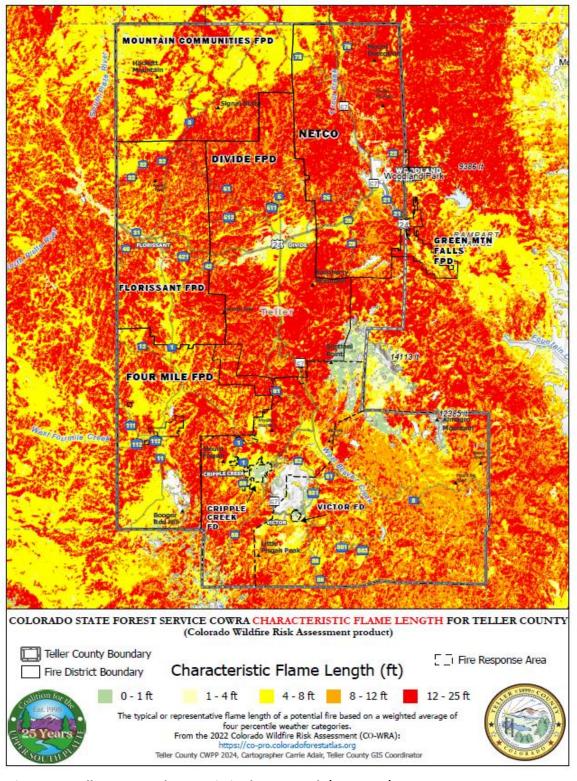


Figure 33: Teller County Characteristic Flame Length (COWRAP)



# **PODS (Potential Operational Delineations)**

The Rocky Mountain Research Station <u>Wildfire Risk Management Science (WRMS) Team</u> codeveloped Potential Operational Delineations (PODs) to pre-plan for fire using a risk management approach, and to give land managers a formal process for developing landscape-scale wildfire response options before fires start. PODs are spatial units or containers defined by potential control features, such as roads and ridge tops, within which relevant information on forest conditions, ecology, and fire potential can be summarized. PODs combine local fire knowledge with advanced spatial analytics to help managers develop a common understanding of risks, management opportunities, and desired outcomes to determine fire management objectives. The PODs pre-planning framework has been applied on over 40 national forests and counting, often including adjacent landowners and jurisdictions for cross-boundary planning.

Sometimes, fires resulting from natural ignitions can be strategically managed to achieve goals similar to a prescribed fire: ecological restoration, watershed health, reduced risk of catastrophic wildfire, and reduced future fire suppression costs. When values are likely to benefit, the right kind of fire can be managed for risk reduction and restoration objectives rather than immediately suppressed. Collaborative pre-planning during the PODs process helps to identify these opportunities, as well as conditions and locations where rapid initial attack may still be the best option to protect sensitive resources and assets. Where and when possible, leveraging natural ignitions for non-suppression objectives can reduce fire risk to adjacent high-value PODs over the near term, with benefits for maintaining lower risk conditions with future actions. The PODs framework naturally lends itself to planning and prioritizing other fuel and vegetation projects, as well as outreach and communication efforts.

One key aspect of PODs is the physical cross-boundary, i.e., the recognition that fire readily crosses boundaries and assessment of risks and control opportunities irrespective of ownership boundaries. Another key aspect of PODs is the social cross-boundary, i.e., the recognition of the need to bring multiple partners, cooperators, and stakeholders to the table to develop a shared understanding of values, opportunities, and challenges, to foster collaborative, cross-boundary planning and prioritization, and to support shared stewardship for fire.



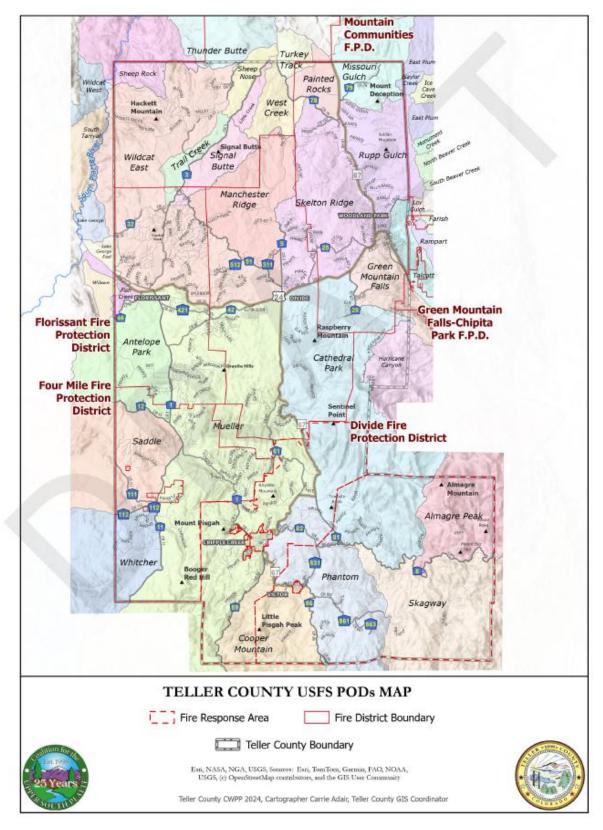


Figure 34: PODS in Teller County



PODS boundary descriptions for each main area that fall mostly in Teller County.

- 1. **Wildcat East**: The boundary is defined by US 24, CR 51, CR 31, and the tributary of Fish Creek, extending to Vermillion Creek and the South Platte River to Longwater Gulch. The eastern boundary follows Trail Creek and the Sheep Nose watershed boundary.
- 2. **Sheep Nose**: The eastern boundary is along CR 3/Trail Creek, with the western boundary at the watershed boundary, CR 33, and Stump Road. The area is defined by the boundaries of Trail Creek and surrounding watersheds.
- 3. **Little Creek**: Boundaries include CR 3/Trail Creek to the west, with the eastern boundary running along FS 366, FS 364 A, and the ridgeline. These features mark the limits of the Little Creek area.
- 4. **West Creek**: The western boundary is defined by FS 782, Rule Ridge Rd (FS 357), and CR 78, while the eastern boundary is marked by the Little Creek boundary and part of Trail Creek Rd. The area is contained within these roads and ridgelines.
- 5. **Painted Rocks**: This area is bounded by CR 78, Hwy 67N, and FS 343. The roadways and forest service boundaries clearly delineate the region.
- 6. **Turkey Track**: The boundary is outlined by FS 343, CR 78, and Hwy 67 N. These roads serve as the primary boundary markers for the area.
- 7. **Manchester Ridge**: The region is bounded by FS 357, FS 782, Phantom Creek, CR 51, CR 511, and CR 5. The boundaries are defined by these features and roadways.
- 8. **Skelton Ridge**: The boundary follows US 24, US Hwy 67, CR 5, FS 357, and CR 78. These markers define the eastern, southern, and western limits of the area.
- 9. **Rupp Gulch**: Boundaries include US Hwy 67 N, Hotel Gulch, Rampart Range Road, CR 22, and US 24. These features delineate the boundaries of Rupp Gulch.
- 10. Missouri Gulch: The region is bounded by Hotel Gulch, Rampart Range, US Hwy 67 N, FS 350, FS 348, and FS 351. These roads and forest service areas form the boundaries of the gulch.
- 11. **Talcott**: Boundaries are defined by CR 22, US 24, and Rampart Range Road. These geographic features outline the Talcott area.
- 12. **Green Mountain Falls**: The boundary is marked by US 24, CR 28, and Catamount Reservoir Road. These roads define the limits of Green Mountain Falls.
- 13. **Cathedral Park**: The area is bounded by US 24, S Hwy 67 S, Pikes Peak Hwy, CR 81, and FS 376. These features mark the boundaries of Cathedral Park.
- 14. **Mueller**: The boundaries of Mueller are defined by US 24, S Hwy 67 S, CR 1, CR 11, and CR 88. These roads form the boundaries for the Mueller area.
- 15. **Antelope Park**: Boundaries include CR 1, CR 46, and CR 12. These roads serve as the defining features for Antelope Park.
- 16. **Saddle**: The boundary is outlined by CR 12, CR 1, CR 11 (High Park Rd), and CR 112. These roads establish the boundaries of the Saddle area.
- 17. **Whitcher**: The boundaries are defined by CR 112 and CR 11 (High Park Rd). These roads form the limits of the Whitcher area.
- 18. **Cooper Mountain**: Boundaries include CR 88, US Hwy 67 S, and CR 86. These geographic features mark the limits of Cooper Mountain.



- 19. **Phantom**: The area is bounded by US Hwy 67 S, CR 86 (Phantom Canyon Rd), and the eastern boundary of Beaver Creek and Skagway. CR 81 defines the eastern boundary of Phantom.
- 20. **Skagway**: Boundaries are defined by CR 8 to the west, with the eastern boundary along Beaver Creek and Skagway. CR 81 forms the boundary for Skagway.
- 21. **Almagre Peak**: The region is bounded by CR 8, FS 376, and Reservoir 5 Rd. These boundaries outline the limits of Almagre Peak.

#### **TELLER COUNTY FIRE AGENCIES**

There are eight fire agencies within Teller County:

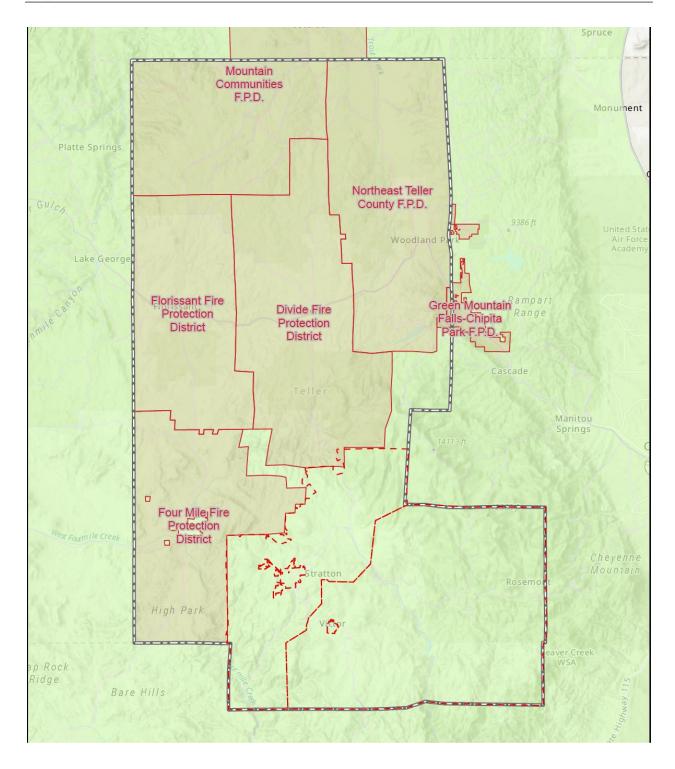
- Mountain Communities Fire Protection District (Teller and Douglas Counties)
- Northeast Teller County Fire Protection District (NETCO)
- Florissant Fire Protection District
- Divide Fire Protection District
- Four-Mile Fire Protection District
- Green Mountain Falls/Chipita Park Fire Protection District (Teller and El Paso Counties)
- Cripple Creek Fire Department
- Victor Fire Department

Lake George Fire Protection District (Park County) borders

The Fire Departments and Fire Protection Districts are members of the Teller County Wildland Task Force for wildfire throughout the county and they have mutual aid agreements with each other. Teller County also has a mutual aid agreement with Lake George Fire Protection District on the western boundary of the county.

The southeastern part of the county is not located within a Fire Protection District. Cripple Creek Fire Department and Victor Fire Department will respond to this area in practice, but legally they are confined to their respective city limits. Response may also come from other fire districts such as Four Mile or Divide.





**Figure 35: Teller County Fire Districts** 



### **Cripple Creek Fire Department (CCFD)**

- Funded by the 1.1 square mile municipality but frequently responds into the 54 square miles of unprotected areas surrounding the city that lack any organized fire protection.
- The Cripple Creek Fire Department has a total of 22 staff members, consisting of 13 full-time and 9 part-time firefighters.
- Cripple Creek Fire Department is a participant in County-wide mutual-aid agreements and a member of the Wildland Task.
- The CCFD operates out of one (1) fire station, which is located at 147 E Bennett Avenue in Cripple Creek.

### Cripple Creek Apparatus

- CHIEF 10 Ford Expedition 4×4
- ENGINE 11 2014 Pierce Saber 4×4/Type 1/2000 GPM and 1000-gallon water tank with foam
- ENGINE 12 1998 HME 1871 /Type 1/1500 GPM and 500-gallon water tank with foam
- ENGINE 16 2004 Ford F-550 4×4 XL Super Duty /Type 6/low volume, high pressure pump and 250-gallon water tank
- ENGINE 18 2014 Ram 5500 4×4 / BFX Attack One Type 6 (WaterAx BB-4) pump, 300- gallon water tank
- QUINT 13 1999 Pierce Dash (ED585) 75' rear-mount aerial 1500 GPM pump and 300-gallon water tank
- RESCUE 10 2021 Ram 5500HD 4×4 / BFX Highland walk-around (Light Rescue).
- TRAINING Ram 1500 4×4



#### **Divide Fire Protection District (DFPD)**

- Covers about 100 square miles The District covers significant portions of Pikes Peak
  National Forest and Mueller State Park, along with several large commercial structures
  such as the Teller County Sheriff's office and jail complex, Summit Elementary School
  and the Highlands Shopping Center. Approximately 2,200 residences are scattered
  throughout the District in fourteen major subdivisions.
- The terrain is mountainous and most of the District is comprised of mixed conifer forest with occasion expanses of grassy meadows. The Divide Fire Protection District is considered an "urban/wildland interface area" with most residential structures nestled into the wooded hillsides.
- DFPD has three (3) paid staff and about 40 volunteers.
- DFPD participates in a mutual aid agreement with the surrounding departments.
- DFPD operates out of two (2) stations Shoemaker station at 103 Cedar Mountain Road and a substation in Rainbow Valley (Station 2).

### **Divide Apparatus**

- BRUSH 20 2002 Ford F-550 4×4 XL Super Duty Type 6, 300-gallon water tank
- BRUSH 22 2020 Dodge Ram 5500 4×4 / Type 5/ 1250 GPM (Waterous PTO) and 400-gallon water tank with foam
- BRUSH 29 2002 Ford F-550 4×4/ Type 6/ 300-gallon water tank
- ENGINE 21 2022 International HV507 4×4 / Type 3/ 1250 GPM (Waterous PTO) pump, 750-gallon water tank with foam
- ENGINE 24 2010 International Work Star 4×4 / 1500 GPM (Waterous pump) and 1000- gallon water tank with foam. Moved to Station 2
- RESCUE 6 Ford F-350 4×4 Super Duty walk-in.
- RESCUE 7 (Medical Response) Ford F-150 4×4 XLT.
- RESCUE 21 (Technical Rescue) 2007 Ford F-350 4×4 XL Super Duty
- RESCUE 22 2018 Dodge Ram 5500HD 4×4 / Danko walk-around (Medium Rescue)
- TENDER 22 2005 International WorkStar 7400 / Vacuum 1000 GPM/1000-gallon water tank
- UTILITY 2022 Ford 3500 4x4 with Utility Box



#### Florissant Fire Protection District (FFPD)

- Cover 66 square miles including the areas of Cedar Mountain, Colorado Mountain Estates, Druid Hills, Florissant Fossil Beds National Monument, Florissant Heights, Indian Creek, La Montana Mesa, North Indian Creek, Palmer Village, Pike National Forest, Trail Creek, Twin Creek, Twin Rock, Wildhorn & Valley-Hi Mountain Estates.
- FFPD has two (2) paid Firefighters and 15 volunteer firefighters.
- FFPD operates three (3) stations 2606 West Highway 24 in Florissant, 49 N Mountain Estates Road in Colorado Mountain Estates and 3204 Trail Creek Road near Indian Creek.
- FFPD participates in a mutual aid agreement with the surrounding departments.

### Florissant Apparatus:

- BRUSH 51 2009 Dodge Ram 5500 4x4/250 GPM and 400-gallon water tank with foam
- BRUSH 53 2024 Dodge Ram 3500/250 GPM and 250-gallon water tank with foam and
- CAR 51 2024 Suburban AWD
- CHIEF 50 2024 Dodge Ram 2500 4×4
- ENGINE 51 1992 International 4×4 / 1000 GPM and 750-gallon water tank with foam
- ENGINE 52 1992 International 4×4 / 1000 GPM and 500-gallon water tank with foam
- ENGINE 53 1999 International 4×4 1000 GPM and 900-gallon water tank with foam.
- RESCUE/ENGINE 51 2003 HME Type 1, 1750 GPM and 500-gallon water tank with foam
- RESCUE 51 2002 Ford F550 4×4/250 GPM and 300-gallon water tank with foam
- RESCUE 52 2024 Dodge Ram 4×4/250 GPM and 400-gallon water tank with foam
- SQUAD 51 2011 Chevy 4x4
- SQUAD 52 2001 Ford 4x4
- TENDER 51 1997 International 4x6/300 GPM pump and 3000-gallon water tank.
- TENDER 52 1989 Freightliner / 750 GPM and 2500-gallon water tank
- TENDER 53 2006 International 4x6/750 750 GPM and 4000-gallon water tank
- UTILITY 51 2002 Ford 4x4 (snow plow)
- UTV 51 and UTV 52 Wildfire UTVs



#### **Four Mile Fire Protection District**

- Covers 68 square miles in Teller County.
- FMFPD has a paid chief, three) 3 paid firefighters and about 30 volunteers
- Four Mile (4 Mile) Fire Protection District has auto-aid and / or mutual-aid agreements with Cripple Creek Fire Department, Divide Fire Protection District, Florissant Fire Protection District & Victor Volunteer Fire Department.
- FMFPD has (two) 2 stations Station 1 is located at 8437 Teller County Road 11 and Station 2 is located at 142 Anges Dr. at Hwy. 67 and used as a sub-station and storage station.

#### Four Mile Apparatus

- ATV 31 Kawaski Mule 4×4 / FireLite 70-gallon water tank
- BRUSH 3 AM General 6×6
- BRUSH 31 Ford F-550 4×4 XL Super Duty Type 6
- BRUSH 32 2010 Ram 5500 4×4 / Northern Type 6, 300-gallon water tank
- BRUSH 33 Ford F-550 4×4 XL Super Duty / 1000-gallons water tank
- ENGINE 31 2001 International 4900 4×4, Type 3
- ENGINE 31 2003 Ford F-550 Super Duty / 400-gallon water tank
- ENGINE 32 1987 Ford C8000 /2000-gallon water tank
- ENGINE 33 1989 Spartan Gladiator / 1500 GPM and 300-gallon water tank with foam
- REHAB 1 Ford Econoline Custom Van 4×4
- REHAB 1 Ford E-350
- RESCUE 31 Ford F-550 4×4 XL Super Duty
- RESCUE 32 Ford Expedition 4×4
- SQUAD 3 GMC Suburban 4×4
- TENDER 32 1999 Freightliner FL80 2500-gallon water tank



#### **Mountain Communities Volunteer Fire Department**

- Cover 100 square miles in Teller and Douglas Counties.
- The Mountain Communities Volunteer Fire Department (MCVFD) protects and serves a community of about 2,000 residents and thousands of visitors within Douglas and Teller Counties and the Pike National Forest in Colorado. As the closest agency, they also cover 75 miles USFS trails and land not designated in the district.
- MCVFD is an all-volunteer fire department with 25 active responders.
- The Fire Chief and all Captains receive a monthly expense stipend.
- MCVFD operates with 3 stations Fire Station 1 (Turkey Rock) at 869 Appleby Drive, Fire Station 2 (West creek) at 15000 Westcreek Road, Westcreek and Fire Station 3 (Lutheran Valley Ranch) at Trail Creek Road & Chestnut Road.
- Mountain Communities Fire Protection District (400) has mutual-aid agreements with all Teller County Fire Departments and with Castle Rock Fire & Rescue, Conifer Fire Protection District, Franktown Fire Protection District, Jackson 105 Fire Protection District, Palmer Lake Fire Department & South Metro Fire Rescue.

### Mountain Communities Apparatus

- BRUSH 43 Dodge Ram 3500 4×4 SLT / Type 6/300-gallon water tank with foam
- BRUSH 444 2006 Ford F-350 4×4 XL Super Duty / Type 6/300 GPM
- BRUSH 448 1985 Ford F-550 4×4 XL Super Duty / Type 6/200-gallon water tank
- BRUSH 449 1968 AM General / 1000-gallon water tank
- ENGINE 441 1984 Chevy C70 4×4 / 500 GPM and 500-gallon water tank
- ENGINE 442 1989 Pierce Dash, 1000-gallon water tank
- ENGINE 442 American LaFrance open-cab
- ENGINE 443 1984 Chevy / 500-gallon water tank
- RESCUE 41 Jeep Laredo 4×4
- RESCUE 42 Chevy 3500 4×4 RESCUE 440 1995 Ford E-350 4×4
- RESCUE 441 Chevy 3500 4×4
- RESCUE 441 Ford F-350 4×4 XLT Power Stroke / MedTec
- RESCUE 446 1994 Ford F-250 4×4 XL Super Duty
- TENDER 445 2003 Ford F-650 4×4 XL Super Duty /2000-gallon water tank
- UTV 42
- UTV 43



### **Northeast Teller County Fire Protection District**

- Covers 87 square miles in Teller County.
- Has two (2) operational fire stations with 15 career firefighters 15 career part time firefighters, one (1) Master EVT mechanic, a Fire Chief, Deputy Fire Chief and one (1) office manager.
- Fire Station 1 is located at 1010 Evergreen Heights Drive in Woodland Park.
- Fire Station 3 is located at 35 County Rd. 28.

#### **NETCO** Apparatus

- BRUSH 71 2008 Ford F-550 4×4 XLT Super Duty
- BRUSH 73 2020 Freightliner M2-106 4×4 / Type 3
- CHIEF 70 2014 Ford Explorer
- CHIEF 71 2019 Ford F-150 XLT 4×4
- ENGINE 71 2015 Pierce Velocity 4×4/750-gallon water tank with foam
- ENGINE 72 2003 International  $7400 \, 4 \times 4 / \text{Type } 3$
- ENGINE 72 1987 Pierce Arrow
- PARADE TRUCK 1955 International
- RESCUE 71 2008 Ford F-350 4×4 Super Duty
- SERVICE TRUCK 1993 Ford F-550 service truck
- TENDER 71 2011 Mack Granite / Osco Fusion
- TRUCK 71 1993 Pierce Lance (E-7881) 75' rear-mount ladder 1500 GPM and 300gallon water tank
- UTILITY 71 2002 Ford F-350 4x4 Super Duty
- UTV 71 Arctic Cat 4×4 used for back country rescue
- UTV 74 2022 Polaris 4x4 used for wildland suppression



#### **Victor Fire Department**

- Victor Volunteer Fire Department was founded in 1894 and is funded by the 0.3 square mile municipality but frequently responds into the 100 square miles of unprotected areas surrounding the city that lack any organized fire protection.
- Department has a Fire Chief and between 12 and 20 volunteers.

#### Victor Apparatus

- ENGINE No. 1 (Fire Chief) Chevy
- ENGINE 60 Ferrara / Spartan
- ENGINE 61 Ford F-550 4×4 Super Duty. Former Engine 621
- ENGINE 62 Chevy 4×4 /
- RESCUE 63 Ford F-150 4×4

### Green Mountain Falls/Chipita Park Fire Department

- Covers 12 square miles in El Paso & Teller Counties.
- GMF has a paid chief, four (4) part time paid firefighters/EMTs and 13 volunteers.
- GMF has mutual aid agreements with El Paso and Teller County Fire agencies, Colorado Springs Utilities Catamount Wildland Team.
- GMF operates with two (2) stations Station 1 2 Carsell Road and Station 2 9060 Chipita Park Road.

# **GMF** Apparatus

- ENGINE 810 1996 HME 1871 P Series / Smeal 1250 GPM pump and 750-gallon water tank
- ENGINE 811 2007 GMC 5500 4×4 / Crimson Dakota 1000 GPM pump, 300-gallon water tank and 25-gallon foam cell
- ENGINE 840 2012 Dodge Ram 5500 4×4 100 GPM pump and 300-gallon water tank
- TENDER 862 1997 GMC C7500 250 GPM pump and 1500-gallon water tank
- BRUSH 840 2003 Ford F-450 4×4 Super Duty 100 GPM (Darley) pump and 300-gallon water tank
- RESCUE 870 Ford Explorer 4×4
- RESCUE 871 2023 Toyota Tacoma 4x4
- RESCUE 872 2021 Chevrolet Silverado 2500HD 4×4



## Lake George

Covers 250 square miles in Park County including up to the border of Teller County Lake George Fire Protection District presently has one paid Chief, an Admin and over 30 volunteer members.

Lake George operates out of 5 stations:

- Fire Station 1 is located at 8951 County Rd. 90.
- Fire Station 2 is located at 5897 County Rd. 98.
- Fire Station 3 is located at 6160 County Rd. 92.
- Fire Station 4 is located on 29468 Country Rd. 77.
- Fire Station 5 (Sub-Station-Additional Equipment Station) is located at 86 Stoll Circle.
- Fire Station 6 (Sub-Station-Additional Equipment Station) is located at 494 County Road 403.

#### Lake George Apparatus

- UTV RESCUE -2003 Polaris Ranger 4×4 with 30-gallon water and farm pump
- UTV RESCUE 2025 Polaris Ranger 4x4 with 70-gallong water tank, 105 GPM pump and rescue litter platform
- BRUSH 81 2018 Ford F-550 4×4 Super Duty / Type 6/375 GPM pump and 300-gallon water tank
- BRUSH 84 1991 GMC Sierra 3500 4×4 / Type 6/250 GPM and 200-gallon water tank
- COMMAND 80 2023 Chevy Tahoe 4x4
- ENGINE 81 2018 Freightliner M2-106 / 1250 GPM and 1250-gallon water tank
- ENGINE 82 1987 Ford F-800 with 1250 GPM pump and 1200-gallon water tank
- ENGINE 83 1985 GMC Brigadier /1000 GPM and 1500-gallon water tank
- ENGINE 84 1984 E-One/1000 GPM and 1500-gallon water tank
- RESCUE 81 1990 Chevy Silverado 3500 4×4 / Wheeled Coach
- SQUAD 81 2020 Ford F-55- 4x4 Super Duty/Medical/Extrication
- $\bullet$  SQUAD 82 2005 Ford F-550 4×4 XL Super Duty  $\,/$  Type 6/ 500 GPM pump and 300-gallon water tank with foam
- $\bullet~$  SQUAD 83 2008 Ford F-550 4×4 XL Super Duty / Type 5/250 GPM and 450-gallon water tank with foam
- SQUAD 84 20223 F-550 Crew Cab 4x4/Type 6/135 GPM pump and 300-gallong water tank with foam
- TENDER 81 1982 International S1700 250 GPM and 1500-gallon water tank
- TENDER 82 1985 GMC Brigadier / 500 GPM and 3000-gallon water tank
- UTILITY 81 2013 Chevy 2500 Extended Cab 4x4
- UTILITY 84 1987 Ford Explorer 4×4



### **Teller County Wildland Task Force**

The Teller County Wildland Task Force is a rapid response team for wildland fire incidents in and around Teller County. The following fire agencies are participants in the task force:

Cripple Creek Fire Department
Divide Fire Protection District
Florissant Fire Protection District
Four Mile Fire Protection District
Green Mountain Falls/Chipita Park Fire
Department
Lake George Fire Protection District
NE Teller County Fire Protection District
Southern Park County Fire & EMS
Victor Volunteer Fire Department
Teller County Sheriff's Office
Southwest Teller County EMS
Ute Pass Regional Ambulance District



#### **FEDERAL**

#### U.S. Forest Service

The Pike Peak Ranger District and the South Park Ranger District are located in Teller County and respond to wildfire events. Both of these Ranger Districts employ permanent and season fire personnel.

Pikes Peak Ranger District - 601 South Weber Street, Colorado Springs

- Division 9
- Division 9-1
- Patrol 9 (3152) Ford F-350 Type 7

Woodland Park Work Center - 1410 Rampart Range Road, Woodland Park

- Battalion Chief 9
- Battalion Chief 9-1 Chevrolet Silverado 2500HD 4x4
- Fuels 9
- Engine 391 International 7400 / BME Type 3
- Engine 692 Type 6
- Module 9

South Park Ranger District - 320 US Highway 285, Fairplay

- Division 10
- Dozer 10 Caterpillar D3 Type 3 Bulldozer
- Dozer Transport 10 International HV613

Lake George Work Center - 140 Trail Creek Road, Lake George

- Battalion Chief 10
- Fuels 10
- Engine 6101 (2503) Ford F-550 Type 6 wildland
- Engine 6102 Type 6 wildland
- Patrol 10 (3289) Ram 3500 4×4 / Weatherguard Type 7 (?/75)
- Module 10

Pike Hot shots - Monument Fire Center / Monument Helibase - Schilling Avenue, Monument

- Superintendent 9 (5952) Ford F-550 4x4 (Pike Hotshots)
- Crew 19A (7236) 2022 Freightliner M2 106 4x4 / BME (Pike Hotshots)
- Crew 19B (7237) 2022 Freightliner M2 106 4x4 / BME (Pike Hotshots)
- Crew 19C (7238) 2022 Ram 5500
- Helitack (5137) Ford F-450 (Monument Helitack)
- Helitack 12 (6165) Ford F-350 (Monument Helitack)
- H-3BH 2009 Eurocopter AS-350B3 Type 3 Helicopter C/N 4614 (Civil Registration N173BH) (Monument Helitack) (Leased from BHH Leasing #4 LLC)



<u>The Bureau of Land Management (BLM)</u> - The Royal Gorge Field Office in Canon City has permanent and seasonal fire personnel

BLM Royal Gorge Field Office - 3028 East Main Street, Cañon City

- Chief 4101 Chevrolet Silverado
- Chief 4102
- Battalion Chief 4103
- Fuels 4105
- Fuels 4106
- Engine 4451 Type 4
- Engine 4652 2017 Ford F-550 4×4 / BFX DOI Model 662 Type 6 wildland

<u>National Park Service</u> – Florissant Fossil Beds National Monument – wildfire response comes from NPS fire teams located in Rocky Mountain National Park

### **STATE**

Colorado Division of Fire Prevention and Control (DFPC) Southeast District Pikes Peak Region Tava Module – 3755 Mark Dabling Blvd in Colorado Springs

20 Person Fire Crew
Battalion Chief 31 – Ford F250 4x4 XL
Module 311 – 2019 Ford F250 4x4 XL
Module 312 - 2019 Ford F250 4x4 XL
Module 313 – 2019 Ford F550 4x4 XL Super Dity
ATV 311 and Trailer 311 – Polaris Ranger 4x4
Trailer 312 – enclosed trailer

DFPC operates two (2) airplanes that are outfitted with state-of-the-art infrared (IR) and color sensors (EO) operated by sensor operators from the Division of Fire Prevention and Control Wildland Fire Management Staff. The PC-12 is a high-performance turbo-prop aircraft that can cruise and work safely at altitudes above 20,000 feet. Based out of Centennial Airport, the PC-12 can take off and be over a wildland fire almost anywhere in Colorado in less than an hour.

Wildland 27 - Multi-Mission Aircraft (MMA) - 2003 Pilatus PC-12/45 (511). Wildland 28 - Multi-Mission Aircraft (MMA) - 1999 Pilatus PC-12/45 (269).



#### **OTHER**

# Colorado Springs Utilities

The Catamount Wildland Fire Team

40-member team that represent all four utilities services – electric, natural gas, water and wastewater.

### The team provides:

- Initial attack on wildland fires on Colorado Springs Utilities property, including watersheds.
- Quick response to fires in the wildland/urban interface and supports local fire departments.
- Response to wildland fires as part of the Pikes Peak Mutual Aid Type 6 Strike Team and through mutual aid requests.



#### **SURFACE FUEL MODELS**

Scott and Burgan surface fuel models are used to predict fire behavior by categorizing fuels into different types based on their characteristics and how they influence fire spread. To effectively use these models, one must first understand the different fuel types and then classify the vegetation in the area of interest into the appropriate fuel model. This classification helps in estimating fire behavior parameters like rate of spread, flame length, and fire intensity.

### How to use the Scott and Burgan surface fuel models:

### **Understand Fuel Types:**

<u>Surface Fuels</u>: These are the primary carriers of fire and include grasses, shrubs, and dead and down woody material on the forest floor.

<u>Fine Fuels</u>: These are small, easily ignitable fuels like grasses and needles (often categorized as 1-hour fuels).

<u>Dead Fuels</u>: These are further categorized by time lag (1-hour, 10-hour, 100-hour, and 1000-hour) based on how quickly they respond to changes in moisture.

**Slash Fuels:** These are fuels from downed trees, branches, and logging debris.

### **Identify and Classify Vegetation:**

Categorize: First, categorize the vegetation into broad groups: grasses, brush, timber, and slash. Fuel Model Descriptions: Use the Scott and Burgan Fuel Model

Descriptions (https://www.fs.usda.gov/rm/pubs\_series/rmrs/gtr/rmrs\_gtr153.pdf

Find the model that best matches the vegetation type and characteristics in your area.

**Match to Model:** For example, if you have a large area of tall, dry grass, you might choose Fuel Model GR7 (107), which is a dynamic grass model. If you have mature timber with understory, you might choose Fuel Model 10.

#### **Estimate Fuel Moisture:**

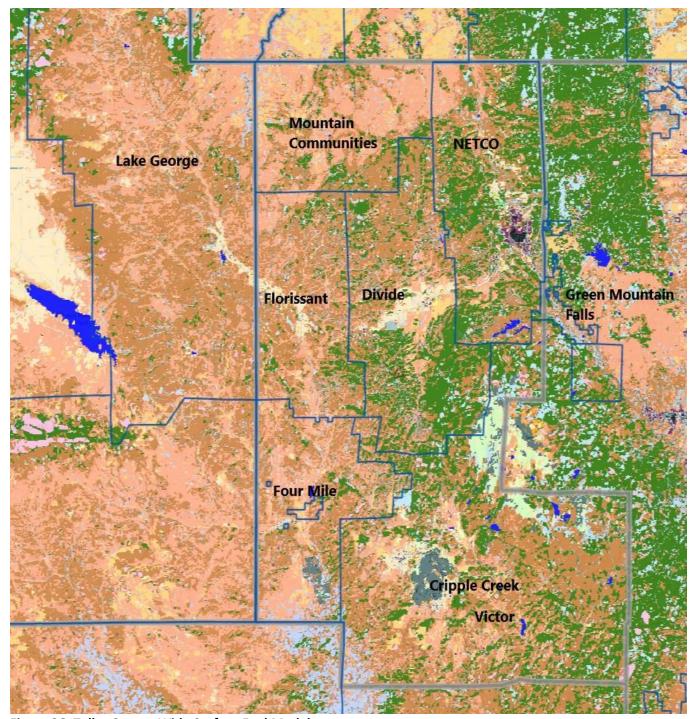
- Moisture Content: The moisture content of fuels directly impacts fire behavior.
- Dead Fuel Moisture: Low dead fuel moisture (typically below 30%) indicates fuels are easily ignited and will burn readily.
- Live Fuel Moisture: Live fuels also have a moisture content that can be estimated or measured, and it significantly impacts fire behavior, especially in shrub and timber fuels.

### **Consider Other Factors:**

- Slope: Fire spreads faster uphill.
- Wind: Wind speed and direction influence fire spread.
- Terrain: Terrain features can affect fire behavior.

By carefully considering these steps and utilizing the Scott and Burn fuel models, you can improve your understanding and prediction of fire behavior in various wildland environments.





**Figure 36: Teller County Wide Surface Fuel Models** 



Teller County, Colorado utilized the Surface Fuel Models defined in the 2022 Colorado Wildfire Risk Assessment (CO-WRA) Update. These models are crucial for accurately assessing wildfire risk and behavior. Here's a breakdown of the types of fuel models used for Teller County:

- Non-burnable (NB–90): This model represents areas with minimal or no burnable fuel.
- Grass (GR or 100): This model represents areas with a predominance of grass, which are typically more prone to rapid fire spread.
- Grass-Shrub (GS or 120): This model represents areas with a mix of grass and shrubs, which can have varied fire behavior depending on the specific fuel load and moisture content
- **Shrub** (**SH** or **140**): This model represents areas with a predominance of shrub, which can also vary in fire behavior based on fuel load and moisture.
- **Timber Understory (TU or 160):** This model represents areas with a forest floor containing a mix of grass, shrubs, and litter, which can influence fire intensity and spread.
- **Timber Litter (TL or 180):** This model represents areas with a forest floor dominated by leaf litter, which can be a significant fuel source during wildfires.
- Slash-Blowdown (SB or 200): This model represents areas where large woody debris, such as fallen trees, has accumulated, which can be a major factor in fire behavior.



Figure 37: Surface Fuel Models Legend



In the context of the Scott and Burgan fuel models, **ML refers to machine learning**, which has been used to create advanced, customized fuel models that improve on the standard versions.

# **Fire Agency Surface Fuel Models**



**Figure 38: Mountain Communities Fire Surface Fuel Models** 

TUML1 (171) – Timber understory, dynamic ML GS2 (122) – ML – dry climate grass – shrub SH7 (147) very high load, dry climate shrub TLML1 (191) – Timber litter ML



**Figure 39: NETCO Surface Fuel Models** 



TUML1 (171) – Timber understory, dynamic

TLML1 (191) – Timber litter

GS2 (122) – Low load, dry climate grass

ASL (931) – Agricultural, low fuel loads with seasonal changes of its burnable conditions

GR4 (104) – Moderate load, dry climate grass

GR3 (103) – Low load, very coarse, humid climate grass

SB4 (204) – High load blowdown

SB3 (203) – High load activity fuel or

moderate load blowdown

RNL (942) – Minor roads, low Fire Behavior

VCH (916) - Variable curing of herbaceous fuel. This dynamic variable accounts for the seasonal drying process, or curing, of grasses and forbs

WBD – Water Body

ANB (939) – Agricultural fields maintained in a non-burnable condition

UNB (919) – unburnable urban areas



**Figure 40: Florissant Fire Surface Fuel Models** 

SH7 (157) – Very high load, dry climate shrub

TLML1 (191) – Timber litter

GS2 (122) – Low load, dry climate grass

ASL (931) – Agricultural, low fuel loads with seasonal changes of its burnable conditions

RNL (942) – Minor roads, low Fire Behavior

RNL (941) - timber-litter fuel model that represents residual, normal-load fuels after a fire

SB4 (204) – High load blowdown

ASH (932) – Agricultural high load fuels with seasonal changes of burnable condition

WBD – Water Body





Figure 41: Divide FPD Surface Fuel Models

TUML1 (171) – Timber understory, dynamic

SH7 (157) – Very high load, dry climate shrub

RNH (942) – minor roads, high fire behavior RML (943) – major roads, low fire behavior RMH (944) – major roads, high fire behavior

TLML1 (191) – Timber litter VCH (916) - Variable curing of herbaceous fuel. This dynamic variable accounts for the seasonal drying process, or curing, of grasses and forbs

GS2 (122) – Low load, dry climate grass ASL (931) – Agricultural, low fuel loads with seasonal changes of its burnable conditions

GR4 (104) – Moderate load, dry climate grass

GR3 (103) – Low load, very coarse, humid climate grass

SB4 (204) – High load blowdown SB3 (203) – High load activity fuel or moderate load blowdown



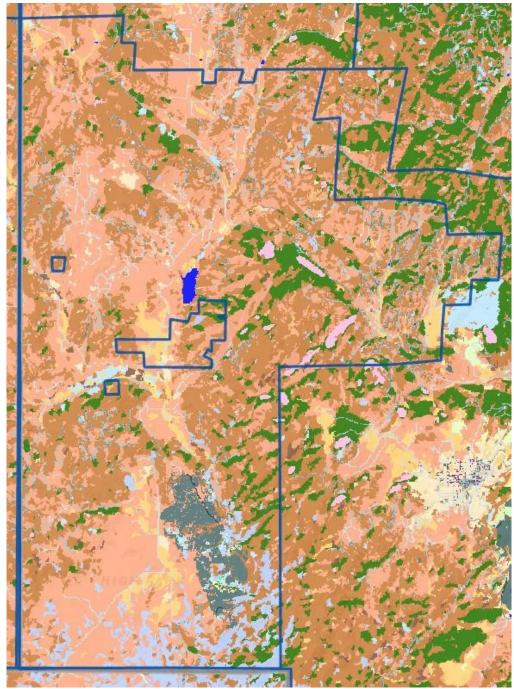


Figure 42: Four-Mile FPD Surface Fuel Models

TLML1 (191) – Timber litter

SB3 (203) – High load activity fuel or moderate load blowdown

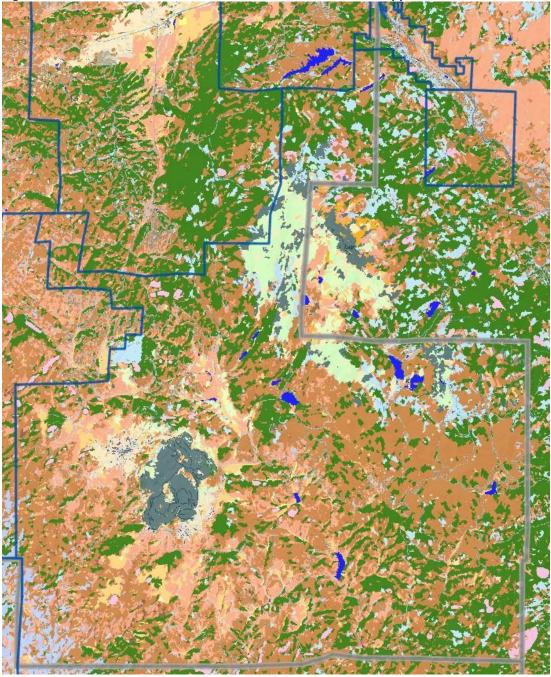
GS2 (122) – Low load, dry climate grass

TUML1 (171) – Timber understory, dynamic

GS1 (121) – Low load, dry climate grass shrub



Figure 43: Vacant Fire District Surface Fuel Models – includes Cripple Creek FD and Victor FD



TUML1 (171) – Timber understory, dynamic

TLML1 (191) – Timber litter

GS2 (122) – Low load, dry climate grass

SB3 (203) – High load activity fuel or moderate load blowdown

GS1 (121) – Low load, dry climate grass shrub

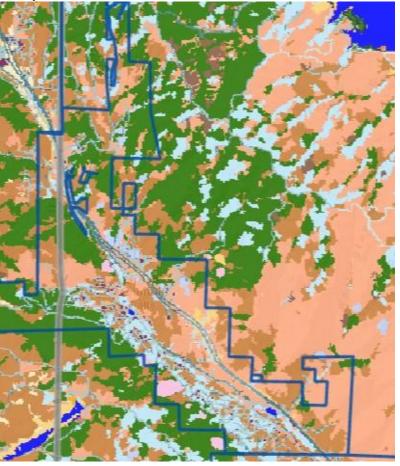
GS2 (122) – Low load, dry climate grass

WBD - Water Body



Figure 44: Green Mountain Falls-Chipita Park FPD Surface Fuel Models (El Paso and Teller

Counties) – Teller County eastern border



TUML1 (171) – Timber understory, dynamic

TLML1 (191) – Timber litter

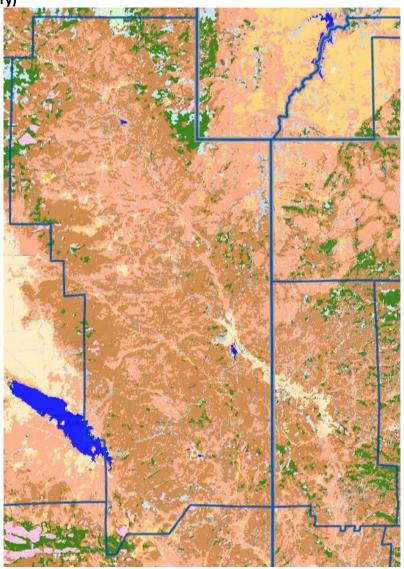
GS1 (121) – Low load, dry climate grass shrub

GR2 (112) – Low load, dry climate glass

SB3 (203) – High load activity fuel or moderate load blowdown



Figure 45: Lake George FPD Surface Fuel Models (Park County) – Teller County Western Boundary)



TUML1 (171) - Timber understory, dynamic

TLML1 (191) – Timber litter

SB3 (203) – High load activity fuel or moderate load blowdown

GS1 (121) – Low load, dry climate grass shrub

GR2 (112) – Low load, dry climate glass

WBD – Water Body

GR1 (111) – Short, sparse dry climate grass



# Section 5: Teller County Risk Assessment



## **History of Wildfire in Teller County**

Teller County has a history of wildfires, including the devastating Hayman Fire of 2002, and has experienced a number of smaller blazes since then, some of which have led to evacuations and property damage.

| Year | Fire Name          | Acres   |
|------|--------------------|---------|
| 2002 | Hayman Fire        | 138,114 |
| 2012 | Waldo Canyon       | 18,247  |
|      | Fire               |         |
| 2015 | Western Hills Fire | 100     |
| 2018 | High Chateau Fire  | 1,400   |
| 2022 | High Park Fire     | 1,570   |
| 2023 | 403 Fire           | 1,500   |
| 2024 | Highland Lakes     | 166     |
|      | Fire               |         |

## **Hayman Fire**

The **Hayman Fire** on June 8, 2002 and was for 18 years, the largest wildfire in the state's recorded history at over 138,114 acres in five (5) counties, including about 40,000 acres in Teller County. It was an arson-caused blaze started near Lake George in Park County. Hundreds of firefighters fought the fast-moving fire, which caused nearly \$40 million in firefighting costs, burned 133 homes and forced the evacuation of 5,340 people. The fire resulted directly in the death of one (1) civilian, and five (5) firefighters that were killed enroute to the fire.

As a result of the fire, post fire impacts were severe including flooding in the burn area, washing out of roads and bridges and sediment runoff into Cheesman Reservoir that is used as a water source for Denver. The removal of this sediment cost \$25 million.

### **Waldo Canyon Fire**

While primarily an El Paso County event, this fire had significant impacts to the residents and economy in Teller County. The fire started on June 2012 above the Waldo Canyon hiking area. Teller County residents were evacuated, but the irreparable harm was to local business, as the main route into places like Woodland Park (Highway 24) was not only closed during the fire, but also due to the post fire impacts such as flooding and mud slides.

The fire had a devastating impact on the collective sense of safety and security in the region and it highlighted the importance of wildfire mitigation measures, including ignition-resistant building materials and defensible space creation. The Waldo Canyon Fire prompted further development of post-fire response plans, re-entry processes, and streamlined damage assessments.

**Western Hills Fire:** More than 100 acres burned, and a dozen homes evacuated in April 2015. A dozen homes were evacuated. The Teller County Sheriff's Office said the fire was *caused by a discarded cigarette* 



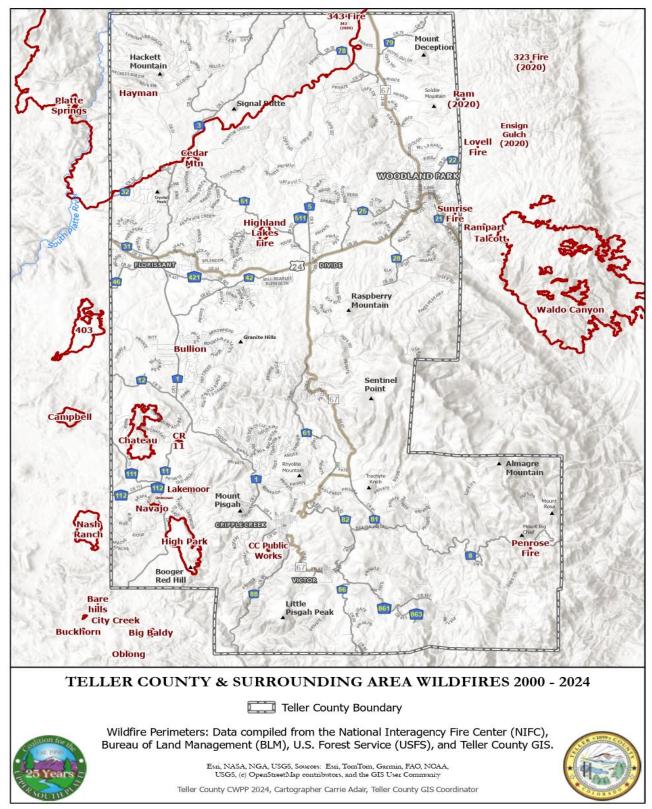
**High Chateau Fire:** Started June 29, 2018. More than 1,400 acres burned. At least 10 homes and an unknown number of barns, other outbuildings, campers and vehicles were burned in the fire. Origin was a campfire. Three (3) persons arrested and charged.

**High Park Fire:** Started about six (6) miles west of Cripple Creek on May 12, 2022. More than 1,570 acres burned. Cause unknown.

**403 Fire:** Started March 30, 2023. Burned more than 1,500 acres in Park and Teller counties. Investigators determined that a resident near Florissant started the fire on their property by dumping ashes from a fireplace into their backyard of their home.

**Highland Lakes Fire**: started on October 28,2024. The fire burned 166 acres northwest of Divide, CO. Fire started as house arson that turned into wildfire forcing the evacuation of over 700 homes in the area. Fire is currently under litigation.





**Figure 46: Teller County Historical Fires** 



## **Teller County Risk and Intensity**

## FIRE RISK (from Colorado Wildfire Risk Assessment Portal)

Fire risk is the chance of fire starting, as determined by the presence and activity of causative agents (NWCG 2012). Fire hazard is a fuel complex, defined by volume, type condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control. Fire severity, on the other hand, is the degree to which a site has been altered or disrupted by fire; loosely, a product of fire intensity and residence time.

The characteristics of fuels, topography, and weather conditions combine to dictate fire behavior, rate of spread, and intensity. Wildland fuel attributes refer to both dead and live vegetation and include such factors as density, bed depth, continuity, density, vertical arrangement, and moisture content.

Structures with flammable materials are also considered a vegetation-fuel source.

Fuels may also be described in terms of size. The terms one-hour, ten-hour, one-hundred-hour, and one- thousand-hour time lag fuels refer to the amount of time required for the water content of the fuel particle to reach equilibrium with the ambient environment. This time lag corresponds to the diameter of the fuel particle.

For fire to spread, materials such as trees, shrubs, or structures in the flame front must meet the conditions of ignitability. The conditions needed are the presence of oxygen, flammable fuel, and heat. Oxygen and heat are implicitly available in a wildland fire. However, if the potential fuel does not meet the conditions of combustion, it will not ignite. This explains why some trees, vegetation patches, or structures may survive a wildland fire and others in the near vicinity are completely burned.

Groupings of trees comprise a mosaic and effective management of the mosaic can influence fuel loads. Forest managers may increase spacing between groups to reduce potential crown spread. However, in some species of trees, root interdependency is an important element for trees survival (rhizome interactions).

Potential surface fire behavior may be estimated by classifying vegetation in terms of Fire Behavior Fuel Models and using established mathematical models to predict potential fire behavior under specific climatic conditions. Weather conditions such as high ambient temperatures, low relative humidity, and windy conditions favor fire ignition and high-intensity fire behavior. Under no-wind conditions, fire burns more rapidly and intense on upslope than on level terrain. The effects of terrain can be particularly pronounced in steep narrow canyons often referred to as "chimneys" due to their convective characteristics. Wind tends to be the driving force in fire behavior in the most destructive WUI fires. Gusting or sustained winds can be problematic for firefighters.



## Wildfire Likelihood

Very High according to wildfire.org

 $Teller\ County\ has,\ on\ average,\ greater\ wild fire\ likelihood\ than\ 98\%\ of\ counties\ in\ the\ US.$ 

Wildfire likelihood is the probability of wildfire burning in any given year.

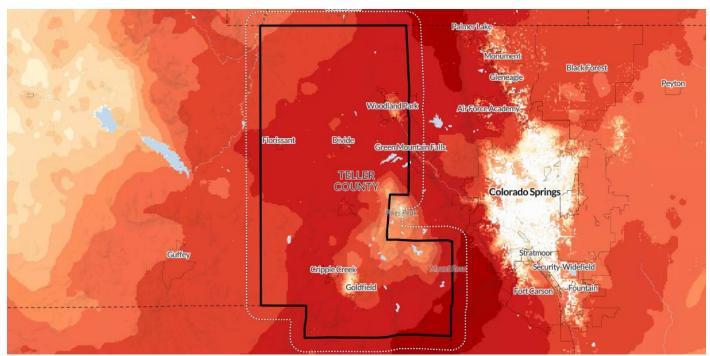


Figure 47: Wildlife Likelihood



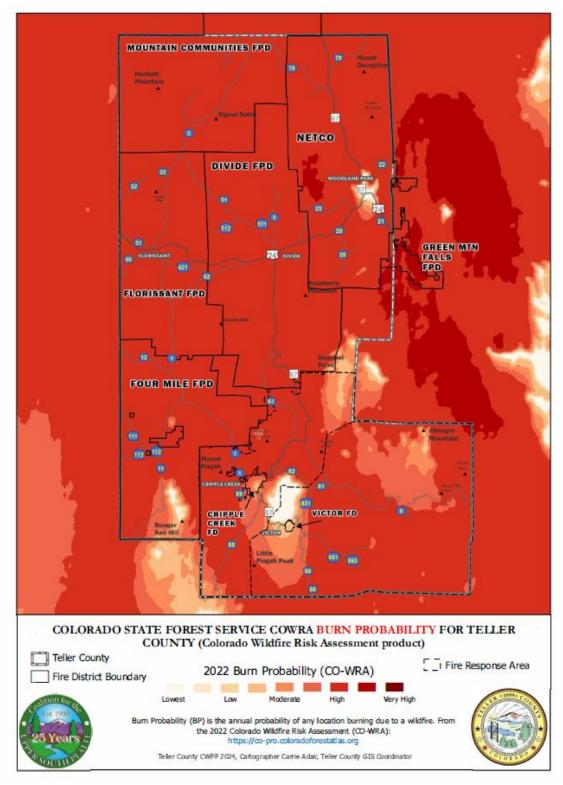


Figure 48 – Teller County Burn Probability



#### Risk to Homes

Very High according to wildfire.org

Homes in Teller County have, on average, greater risk than 99% of counties in the US.

Risk to homes measures the relative consequence of wildfire to residential structures everywhere on the landscape, whether a home exists there or not.

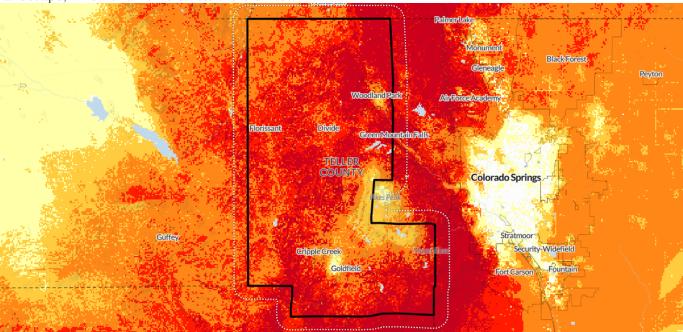


Figure 49: Risk to Homes

## **Fire Intensity**

Fire Intensity Scale (FIS) specifically identifies areas where significant fuel hazards and associated dangerous fire behavior potential exist. Similar to the Richter scale for earthquakes, FIS provides a standard scale to measure potential wildfire intensity. FIS in Colorado consists of four (4) classes where the order of magnitude between classes is ten-fold. The minimum class, Class 1, represents lowest wildfire intensities and the maximum class, Class 4, represents the highest wildfire intensities.

- 1. **Class 1, Lowest Intensity**: Very small, discontinuous flames, usually less than 1 foot in length; very low rate of spread; no spotting. Fires are typically easy to suppress by firefighters with basic training and non-specialized equipment.
- 2. Class 2, Low: Small flames, usually less than two feet long; small amount of very short-range spotting possible. Fires are easy to suppress by trained firefighters with protective equipment and specialized tools.
- 3. **Class 3, Moderate**: Flames up to 8 feet in length; short-range spotting is possible. Trained firefighters will find these fires difficult to suppress without support from aircraft or engines, but dozer and plows are generally effective. Increasing potential for harm or damage to life and property.



4. **Class 4, High**: Large Flames, up to 30 feet in length; short-range spotting common; medium range spotting possible. Direct attack by trained firefighters, engines, and dozers is generally ineffective, indirect attack may be effective. Significant potential for harm or damage to life and property.

Since all areas in Colorado have fire intensity scale calculated consistently, it allows for comparison and ordination of areas across the entire state. For example, a high fire intensity area in Eastern Colorado is equivalent to a high fire intensity area in Western Colorado.

Fire intensity scale is a fire behavior output, which is influenced by three environmental factors - fuels, weather, and topography – and the spread itself (back, flank or head fire influences fire behavior for a given pixel for a specific fire simulation). Weather is by far the most dynamic variable as it changes frequently. Thus, each pixel may burn many times with different fire spread patterns based on the aforementioned factors. The fire intensity scale maps represent an average fire intensity map.

The fire intensity scale map is derived at a 20-meter resolution. This scale of data was chosen to be consistent with the accuracy of the primary surface fuels dataset used in the assessment. While not appropriate for site specific analysis, it is appropriate for regional, county or local planning efforts.



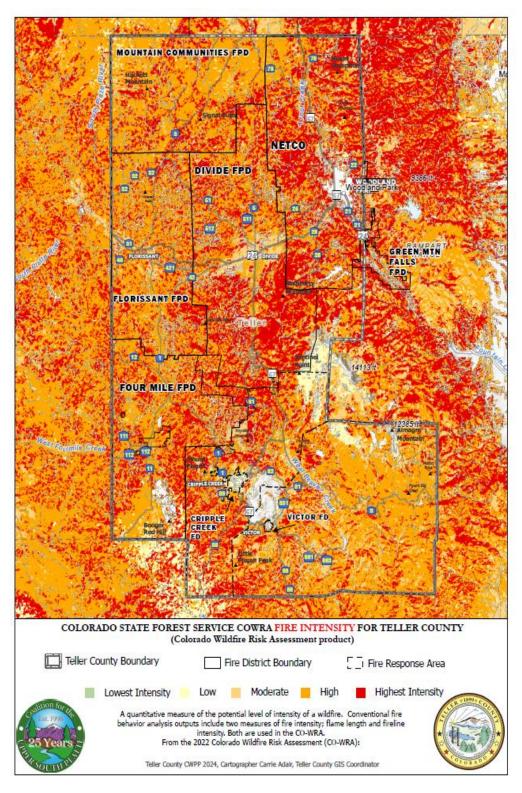


Figure 50: Teller County Fire Intensity



## Spotting (with 50 MPH winds)

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.

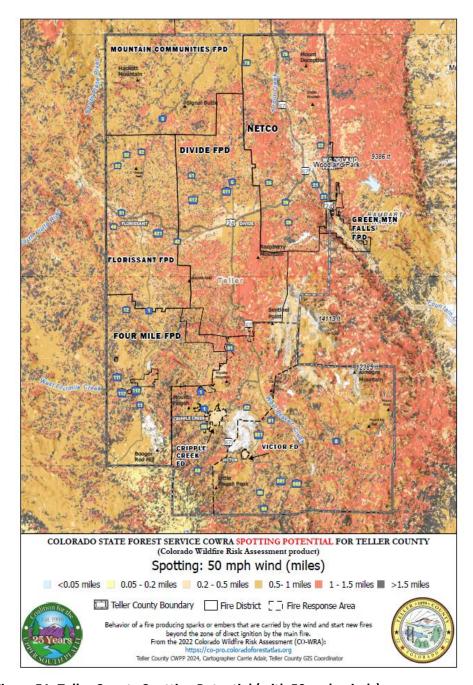


Figure 51: Teller County Spotting Potential (with 50 mph winds)



## WILDLAND URBAN INTERFACE (WUI)

Wildfires in Colorado are a natural part of ecosystems and help maintain healthy forests. Decades of fire suppression, decreased thinning, increased population along with residential and business development in forested areas have led to an expanding wildland-urban interface.

According to the Colorado State Forest Service, the wildland-urban interface (WUI) is generally defined as an area where structures and other human developments meeting or intermingle with vegetation.

According to the Federal Emergency Management Agency (FEMA) the WUI is the zone of transition between unoccupied land and human development. It is the line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

WUI areas create an environment in which fire can move rapidly between structural and vegetative fuels and have become increasingly prevalent as human development has progressed into the region's wildland areas.

The 2024 data collected and analyzed shows that the Teller County WUI is focused around the Woodland Park area and runs south along the eastern Teller/western El Paso County border and then south of U.S. Highway 24 along parts of Colorado Highway 67. There are scattered pockets in the far western and southern parts of the County where the housing density may exceed three (3) structures per acre.

Many factors were considered in the updated Teller County WUI including housing density, population density, critical infrastructure, watershed health, vegetation type, slope steepness, aspect, topographical features, fire history, fire risk and fire intensity. According to the American Planning Association, the WUI is not a fixed geographical location, but rather is based on a dynamic set of conditions.

To support strategic wildfire mitigation planning in Teller County, a composite WUI hazard surface was developed using weighted spatial analysis. This layer identifies areas where multiple wildfire-related risks and vulnerabilities overlap, helping guide local efforts to reduce structure loss, enhance access, and prioritize treatment.

The WUI hazard model integrates four (4) key layers:

- **Buildings**: A focal statistics surface capturing the density and distribution of residential, critical, and historical buildings.
- **Infrastructure**: Includes facilities such as power substations, towers, and known ignition-prone or at-risk features.
- Water Infrastructure: Represents the proximity to cisterns, wells, and wastewater infrastructure relevant to suppression capacity.
- **Slope and Watersheds**: A composite layer capturing the influence of steep terrain and critical watersheds prone to post-fire erosion or flooding.



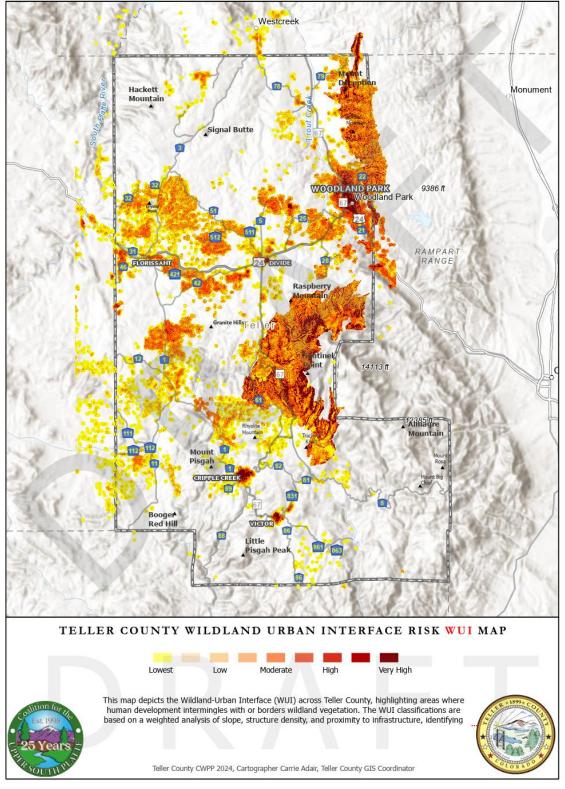
Each input was standardized to a common 1-5 hazard scale and smoothed using focal statistics to reflect how risk spreads beyond individual points. These layers were then combined using a weighted overlay approach

Existing developments can influence fire behavior in the WUI by encouraging home and business owners, along with community leaders to mitigate vegetation, create fuel breaks, harden structures to reduce the chance of ignitability and educating residents to properly prepare.

Planners and community leaders can influence the WUI by utilizing land use planning tools like zoning, regulations and building codes to shape development patterns and mitigate wildfire risks. This includes updating strategic plans to incorporate wildlife related information, develop and implement WUI codes that address critical issues like access, evacuation, water supply, building construction and landscaping and linking specialized plans to land use maps. When new sub-divisions are planned ensure that the layout includes multiple evacuation routes, a pattern that reduces density of homes, sufficient water, mitigation of vegetation and setback distances.

See Appendix E for further considerations for the WUI







## Figure 52: Teller County WUI Map

## **Explanation of Focal Statistics:**

Focal Statistics helps us identify areas of concentrated wildfire risk by averaging nearby values, revealing where hazards or important assets cluster together across the landscape.

OR

To better represent how wildfire risk behaves across the landscape, this analysis applied **Focal Statistics** to each input layer before performing the Weighted Overlay. Unlike the standard method, which evaluates each pixel individually, focal statistics calculate the **average of nearby cells**, capturing the **influence of surrounding features**.

This approach:

- Highlights clusters of risk or value
- Reduces sharp, unrealistic boundaries
- Reflects how wildfire threats **spread beyond individual points**
- Produces a smoother and more interpretable risk surface

By combining focal smoothing with weighted overlay, the final WUI hazard layer offers a more **realistic** and actionable view of wildfire risk across the community.

## **Colorado Wildfire Resiliency Codes**

## 4.1 Code Application

The Board hereby declares that, in accordance with the provisions of C.R.S. 24-33.5-1236, the Code adopted in 3.1 and its referenced standards shall apply to the construction and maintenance of property, buildings, and structures subject to these rules that are within the wildland-urban interface as defined by these rules and that are subject to a Fire Intensity Classification of Low or greater.

## 4.2 Fire Intensity Classification

The Board hereby adopts the Wildfire Resiliency Code - Fire Intensity Classification layer for the Colorado Wildfire Resiliency State Code Map, developed by the Division of Fire Prevention and Control (DFPC) and the Colorado State Forest Service (CSFS) at the direction of the Wildfire Resiliency Code Board (WRCB), for the purposes of determining the Fire Intensity Classification for a given location.

- 4.2.1 The Fire Intensity Classification layer encompasses both the current and potential Wildland Urban Interface (WUI), as defined by these rules.
- 4.2.2 The Fire Intensity Classification's starting point is the 2022 Colorado Wildfire Risk Assessment (CO-WRA) Fire Intensity Scale (FIS) layer, which primarily relies on vegetative fuel data, but also topography and weather conditions to generate a state-wide indication of how intense a wildfire may be in a given location and therefore can be used to forecast the potential harm or damage if a wildfire occurs. (Note: The layer does not consider probability or risk of wildfire ignition or structure-to-structure conflagration).
- 4.2.3 The intensity values are classified into standard fire intensity levels based on flame



length values for easy interpretation, and the levels in the original 2022 CO-WRA FIS layer include lowest, low, moderate, and high intensity. The original layer was generated at a 20-meter resolution, and was deemed too detailed for state-wide planning, code

implementation, and enforcement efforts by the WRCB. The layer was further refined through smoothing, filtering, and aggregation techniques to provide simple but consistent transitions across classification types based on WRCB input.

- 4.2.4 The final form illustrates only three levels of the original fire intensity (low, moderate, and high) for the purpose of code application, and appears as a hexagon layer, a GIS method that is useful for grouping geospatial data into hexagonal grids. (Note: This aggregation method supports the reality that wildfire hazards are experienced at scales beyond that of an individual parcel or home and is influenced in part by adjacent conditions).
- 4.2.5 Fire Intensity Classifications shall be applied to the code adopted in 3.1 in the following manner:
  - A. Moderate and High Fire Intensity Classifications correspond to Class 2 construction and site hardening requirements.
  - B. Low Fire Intensity Classification corresponds to Class 1 construction and site hardening requirements within the Colorado Wildfire Resiliency Code.

## **EMBER IGNITION RISKS**

Embers are a major cause of structure ignition during wildfires, often traveling miles from the main fire front and igniting new fires. Many structures are lost because of embers landing on or near the structure and igniting flammable materials. Understanding how embers behave and how they can ignite a home is crucial for wildfire preparedness.

Key points about ember ignition risks:

**Ember travel:** Embers can travel significant distances, potentially igniting fires far from the main wildfire.

**Common ignition points:** Embers can ignite flammable materials on roofs, decks, under decks, and near siding.

**Home Ignition Zone:** The area around a structure is crucial for preventing ember ignition. Removing flammable vegetation and debris within a certain distance (e.g., 5 feet) of a structure is essential.

**Structural vulnerabilities:** Features like wood shake roofs, decks, and unenclosed eaves can be particularly susceptible to ember ignition.

**Ember accumulation:** Embers can accumulate in areas like deck gaps, under decks, and near siding, increasing the risk of ignition.

**Smoldering embers:** Embers can smolder for extended periods before igniting, making it crucial to address potential ignition sources such as accumulated pine needles even after the wildfire front has passed.

Specific areas of concern:



Embers travelling or spotting in Teller County is a normal phenomenon. Most spotting will occur in the more heavily forested areas around Green Mountain Falls and the western parts of the County. Homeowners and businesses can find prevention recommendations and protection against embers in the homeowner chapter.



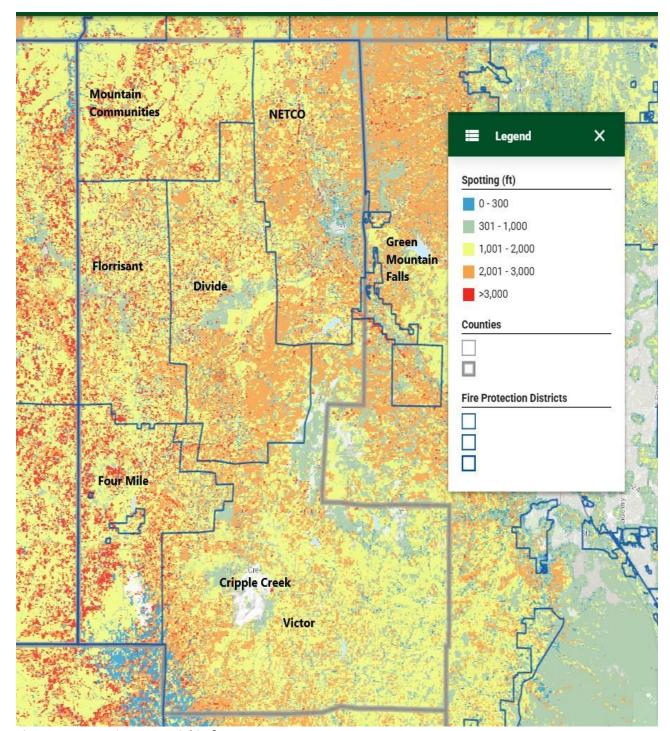


Figure 53: Spotting Potential in feet



## **COMMUNITY ACCESS AND EVACUATION**

Access is an important component of Teller County's wildfire hazard and risk profile. Community access characteristics dictate the efficiency of emergency evacuation as well as the effectiveness of emergency response. The preferred method is for communities to have multiple ingress and egress routes, but this is frequently not the case, especially with subdivisions that were developed in the 1970s and 1980s. In fact, many of our on the ground community assessments showed only one (1) primary ingress and egress.

Ingress/egress roads should support two-way traffic flow, especially as emergency response vehicles are seeking to access an area. Road improvements should be maintained on primary routes. This can be anything from road grading, improving paving, filling potholes, widening a tight road or improving a section of road that does not support fire access.

Evacuation planning in mountain communities such as Teller County has its limitations. There are very few transportation corridors into or out of the main communities. Effective planning requires numerous avenues of emergency egress.

There nearly 200 subdivisions and communities in Teller County. It is impossible in this document to plan effective escape routes for all these areas. Therefore, this CWPP as an umbrella plan, considers main routes only.

Some subdivisions have Home/Property Owner's Associations and others do not. It is strongly recommended that each subdivision and community at a minimum work with their property owners and identify primary and secondary emergency egress routes and that all residents within that community are aware of the escape routes. Part of that identification will be what types of vehicles may travel on those routes, what risks are associated with those routes, how to access those routes and if there are any obstacles that have to be dealt with during as escape. And if emergency routes cross private property, strongly consider having written agreements in place so there are no issues during an emergency. Therefore, secondary routes are not included in this plan.

In 2025, the Colorado Legislature passed House Bill 25-1053 - The Landowner Immunity for Emergency Access to Property Act. This legislation has been signed by the Governor and takes effect at 12:01 a.m. on the day following the expiration of the 90-day period after final adjournment of the general assembly.

The act provides immunity from civil liability for damage or injury to persons or property, other than that which arises from gross negligence or willful and wanton misconduct, to a landowner who, in good faith and without compensation, allows access to the landowner's property for entry and exit in connection with an emergency. An emergency is a fire, a rescue call, a hazardous materials incident, a natural or human-caused disaster, or an incident reasonably determined to be an emergency by a first responder. This will be codified into Colorado Revised Statues as 13-21-108.9.

When assessing an escape route, it is important to keep in mind roadway survivability. Roadways with heavy forestation on either side may not be survivable for those who are caught in traffic jams with



greater than 8-foot flame lengths. In order to prevent mortality of escapees, these non-survivable roads can be properly mitigated to remove fuel and create survivable roads.



Figure 54: Examples of Non-survivable escape routes – heavy fuels on either side of the roads – can be mitigated to create survivable routes







Figure 55: Examples of survivable escape routes



## **Description of Teller County Road Classifications**

**Principal Arterial Roads** - Serves the major traffic movement within areas of the County such as between business districts and outlying residential areas, or between major suburban rural centers. Provides continuity for all rural arterial roads which intersect the urban areas of the County.

**Minor Arterial Roads -** Serves trips of moderate length at a somewhat lower level of travel mobility than Principal Arterial roads. Provides access to geographic areas smaller than those served by the higher system. These roads connect to rural collector roads to facilitate the movement of vehicles from rural subdivisions and areas.

**Collector Roads -** Collector roads collect traffic from local subdivision areas and channel it into the arterial system. These roads provide both land access and traffic circulations within residential neighborhoods. Only some collector roads will receive hard cover (Chip and Seal) depending on the volume of traffic traveling these roads.

**Local Roads -** The local street system is comprised of roads not of the higher system. Provides direct access to abutting land and access to the higher order system. Through traffic is deliberately discouraged.

**Other Roads -** Roads designated on plats filed with the County or dedicated for public use, but were not constructed to County standards. Until such time that these roads are upgraded the County will only provide emergency access and maintenance.



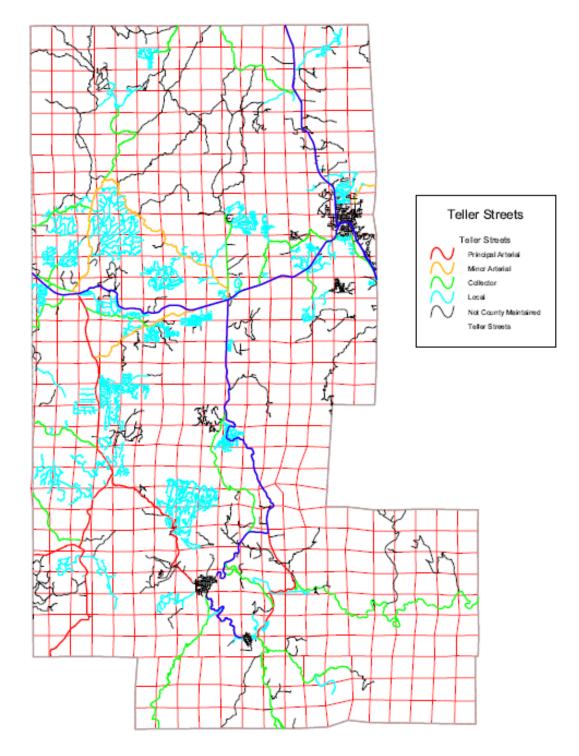


Figure 56: Teller County Roads



#### **Teller County Main Highways**

U.S. Highway 24 Colorado 67 North - Woodland Park to Deckers Colorado 67 South - Divide to Cripple Creek

### **Teller County Principal Arterial Routes**

Teller County Road 1 – Florissant to Cripple Creek
Teller County Road 11 – Evergreen Station to High Park Road to Canon City
Teller County Road 112 – Evergreen Station to CR 11 to CR 112 to Guffey

## **Teller County Minor Arterial Roads**

Rampart Range Road - Woodland Park to Colorado Springs

Teller County Road 42 (Lower Twin Rocks road) – cut off between Divide and Florissant – can access Teller CR 1

Teller County Road 51 (Cedar Mountain Road) – Divide to Wildhorn Road to Florissant

## **Proposed Primary Escape Routes**

#### **Northeast Fire Protect District**

Primary Routes include

- US Highway 24 east towards Manitou Springs
- US Highway 24 west towards Divide and Florissant
- Colorado Highway 67 North towards Deckers
- Rampart Range Road east toward Rampart Reservoir and Colorado Springs
- Trout Creek Road from Westwood Lakes to Tranquil Acres and Highway 24

#### **Divide Fire Protect District**

- US Highway 24 east towards Woodland Park
- US Highway 24 west towards Florissant and Lake George
- Colorado Highway 67 South towards Cripple Creek and Victor
- Teller CR 512 into the National Forest and towards West Creek or Florissant

#### **Florissant Fire Protect District**

- US Highway 24 east towards Divide and Woodland Park
- US Highway 24 west towards Lake George
- Teller CR 1 south towards Cripple Creek

## **Cripple Creek Fire Department**

- Teller CR 1 south towards Florissant
- Colorado 67 south towards Divide
- Colorado 67 towards Victor
- Teller CR 81 at Gillette Flats towards Victor

#### **Four Mile Fire Protect District**

• Teller CR 1 south towards Cripple Creek



- Teller County CR 11 to CR 112 towards Guffey in Park County
- Teller County CR 11 to High Park Road towards Colorado 9 and Canon City

## **Victor Fire Department**

- Teller CR 81 towards CO 67 and Divide
- CO 67 towards Cripple Creek
- Phantom Canyon Road towards Canon City

## **Mountain Communities Fire Department**

- West Creek Road to CO 67 North towards Deckers
- West Creek Road to CO 67 towards Woodland Park
- West Creek Road to Painted Rocks Road to Woodland Park

## **Green Mountain Falls Fire Department**

- Chipita Park Road to Highway 24 west towards Woodland Park
- Chipita Park Road to Highway 24 east towards Colorado Springs

Again, it should be emphasized that each subdivision and each community should plan their own primary and secondary evacuation routes and practice those routes with their residents. It will be too late once a fire is forcing evacuations!

Each community should have a plan to help those in need that may not be able to evacuate on their own such as the elderly, those that are disabled or incapable of self-evacuation, those that cannot afford a personal vehicle or those who may be at home ill.

#### **Egress with Social Vulnerability**

Egress was defined as road availability considering the evacuation potential of a surrounding population with major and minor roads nearby. In addition, the ability of the population to evacuate was not considered equal. Basic socio-demographic and economic characteristics of the population were considered, namely:

- Senior population ratio (percent of population over 65 years of age)
- Poverty ratio (percent of population below the poverty line)
- Disability ratio (percent of the population with limiting disabilities

Egress with Social Vulnerability: the vulnerability population has more weight in the egress calculation

Poor egress areas exist throughout the county and within each fire district. Because of the mountainous terrain and road accessibility, the poorest egress conditions exist in Florissant, Divide and Four Mile Fire Districts, though there is a fair amount of poor egress in the southeastern part of the county where no fire district exists.



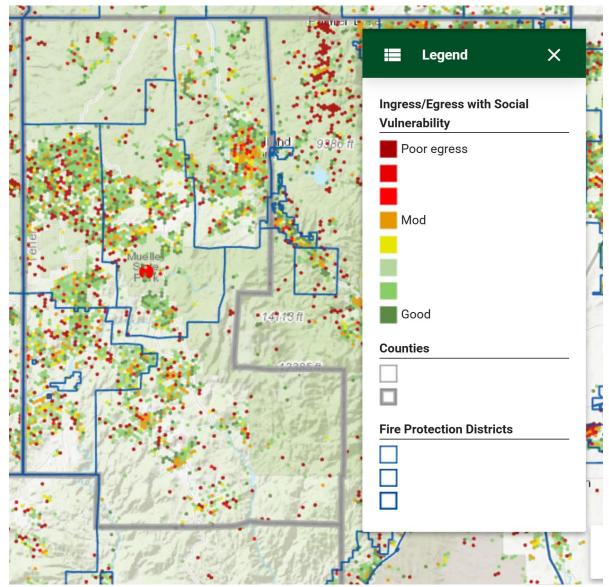


Figure 57: Egress with Social Vulnerability

## **EVACUATION SAFE ZONES**

Evacuation safe zones are designated areas where people can seek refuge during emergencies like a wildfire. It is possible that a rapidly moving wildfire burning on single or multiple fronts can close off primary and secondary evacuation routes. In this case, local Fire Protection Districts should plan for evacuation zones – areas that are:

- relatively free of vegetation
- hardened in some capacity



- large enough to hold a large amount of people
- provide easy access

Safe Zones should be determined by local Fire Districts working with the communities within their Fire Protection District and Teller County Office of Emergency Management.

Below are some suggested safe zones. When determining an evacuation zone, be sure to consider access and pinch points where traffic may get held up at. Safe zones should be last ditch efforts if escape route options are cut off and residents have nowhere else to go. Traffic flow will require law enforcement assistance to prevent traffic jams.

## NOT ALL FIRE DISTRICTS, ESPECIALLY THE MORE RURAL FIRE DISTRICTS WILL HAVE THIS CAPABILITY

The following are preliminary recommendations only. The Fire District will have to make the call as to whether the area can serve as an evacuation safe zone.

#### **Northeast Fire Protect District**

Walmart Area Safeway Area City Market Area

## **Divide Fire Protect District**

Divide Area Divide Venture Foods area, Teller County Sheriffs Office Area, Tregos Storage area

## **Florissant Fire Protect District**

Florissant Area - Florissant Mercantile, Tregos Storage - Florissant

## **Cripple Creek Fire Department**

Cripple Creek Business District Cripple Creek and Victor Gold Mine

#### **Victor Fire Department**

Cripple Creek and Victor Gold Mine (see above) Victor Business Area

**Four Mile Fire Protect District** - No determination made for this plan – should be determined by Fire Protection District

**Mountain Communities Fire Department** – No determination made for this plan – should be determined by Fire Protection District



**Green Mountain Falls Fire Department** - No determination made for this plan – should be determined by Fire Protection District

## STRUCTURE INGNITABILITY

The Structure Ignition Assessment Model (SIAM). SIAM is designed for the purpose of assessing potential structure ignitions during wildfires burning in vegetation and structures. The full model can be found at <a href="https://www.fs.usda.gov/psw/publications/documents/psw\_gtr158/psw\_gtr158">https://www.fs.usda.gov/psw/publications/documents/psw\_gtr158/psw\_gtr158</a> 05 cohen.pdf and can be used by fire professionals to assess specific structures. The model uses general descriptions of the structure, the topography at the building site, and the potential fire characteristics around the structure to compute an index of ignition risk. It is designed to provide a flexible approach toward achieving residential fire safety by rating the potential for ignitions based on a structure's ignition resistance characteristics and its potential fire exposure. Thus, one can "trade off" various design features of a building's exterior and its surroundings to meet fire-safe requirements.

SIAM is intended for the facilitation of improved fire safety as well as to identify potential wildland/urban interface fire problems. In its basic form, the model can be adapted to a variety of applications ranging from single home assessments to planned developments. The basic applications can include:

- Establishment of fire safety requirements based on potential ignition risk for a mix of factors.
- Integration of a resident's exterior home design and landscaping interests with fire safety requirements.
- Integration of a developer's home and neighborhood design interests with fire safety requirements.
- Ability of fire agencies to assess wildland/urban interface fire risks for pre-suppression and suppression planning.

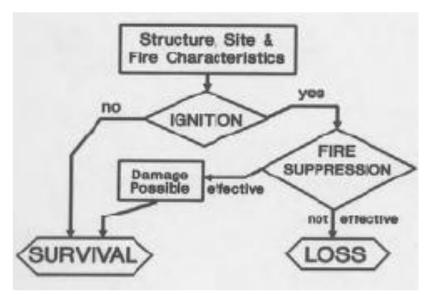




Figure 58—Structure survival depends on factors influencing ignition and factors influencing effective fire suppression. Regardless of the fire suppression effectiveness, survival initially depends on ignition.

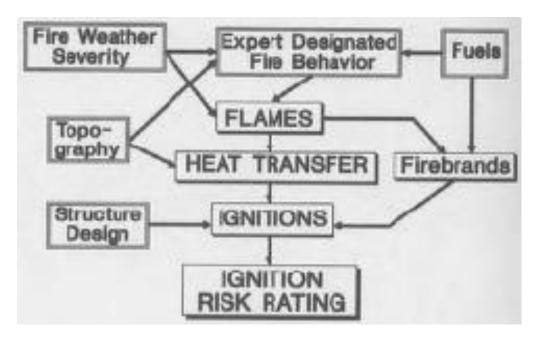


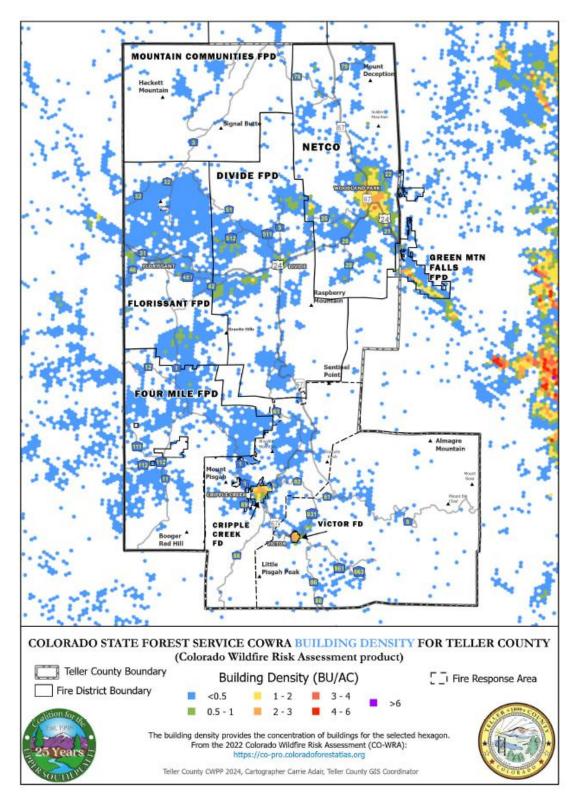
Figure 59—The Structure Ignition Assessment Model (SIAM) uses the inputs (double line boxes) to calculate the potential for ignitions from direct flame exposure (Heat Transfer) and exposure to aerially trans-ported burning embers (Firebrands). SIAM produces a dimensionless ignition risk rating index, not a prediction of outcomes.

## **BUILDING DENSITY AND DAMAGE POTENTIAL**

Generally, building density within the county is less than 0.5 buildings per half acre. This reflects the county's rural environment. Subdivisions tend to be located in rural settings throughout the county.

Exceptions do occur in the municipalities such as Woodland Park, Victor and Cripple Creek. In these areas, data shows greater than two (2) to three (3) buildings per acre. These areas tend to reflect an urban environment or small-town environment. In towns such as Cripple Creek and Victor, many of the buildings are historic, having been constructed during the gold rush. In some areas in Woodland Park and the adjacent Ute Pass, density lessens a bit to One (1) to two (2) buildings per acre.





**Figure 60: Teller County Building Density** 



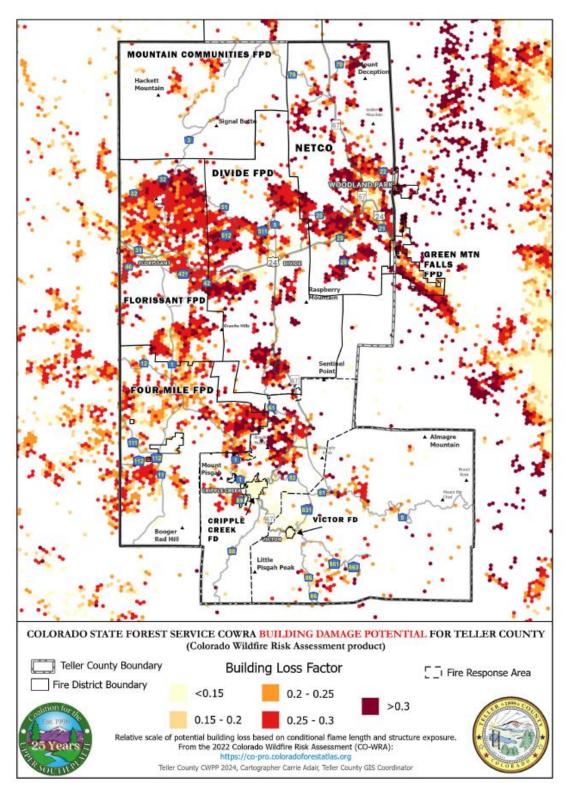


Figure 61: Teller County Building Damage Potential



Building damage potential mirrors building density, in that the most potential for significant damage to structures is in the Woodland Park area, Cripple Creek area, just north of Florissant Fossil Beds and in the Green Mountain Falls area.

#### RECOMMENDATIONS OF REDUCTING STRUCTURAL IGNITABILITY

- These recommendations can apply to residential and business properties.
- Discourage building in fire prone areas.
- Implement firewise type practices (firewise.org).
- If possible with commercial structures, install sprinkler systems.
- Landscaping is critical to structure survivability. Landscape with non-flammable materials and follow HIZ rules.
- The primary goal in landscaping for firewise is fuel reduction, especially in Zone 1.
- Construct out of non-flammable materials.
- At a minimum, roofs should be A1 fire resistant rated.
- Build decks out of non-flammable materials.
- 1/8 -inch metal mesh over vents and other openings in a building.
- Double pane windows.

# **SUBDIVISION/COMMUNITY ASSESSMENTS**

Subdivisions and communities not in a subdivision were assessed in the field by Fire Protection Districts and CUSP staff. Areas included the entirety of Teller County and areas on the border of Teller County which were Green Mountain Falls in El Paso County and Lake George in Park County. An adapted NFPA 1144 form was used to be certain to capture data the CORE team was after in order to make appropriate analysis of each community.

The assessment was expanded to include additional areas and communities not formally defined as subdivisions but known to have residential development and wildfire exposure. Additional scoring factors were incorporated that including proximity to water resources and whether a draft source was readily available.

These newly assessed community areas naturally ranked higher (indicating greater risk) in the final scores due to a combination of factors: limited or single ingress/egress routes, greater distances from water resources, more combustible building materials, nearby propane tanks, and minimal visible mitigation efforts. They also tended to lack formal organization, coordinated signage, or defensible space practices seen in more established subdivisions.

As a result, many of the previously top-ranked subdivisions shifted downward in relative position — not because their risk decreased, but because the inclusion of new, higher-risk areas adjusted the overall comparison. These original subdivisions still remain among the highest-priority areas, and their ranking shift highlights the broader scope and inclusiveness of this CWPP assessment.



#### Total Assessment Results (Teller and adjacent areas):

- 216 assessments completed
- 30 assessments in the extreme category
- 54 assessments in the severe category
- 85 assessments in the high category
- 16 assessments in the moderate category
- 31 assessments in the low category

#### **Teller County Results:**

- 200 assessments completed
- 28 assessments in the extreme category
- 50 assessments in the severe category
- 75 assessments in the high category
- 16 assessments in the moderate category
- 31 assessments in the low category



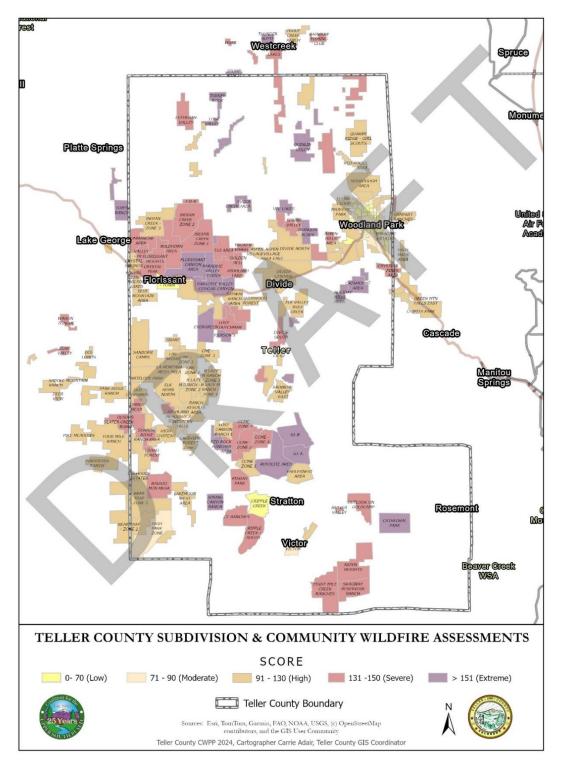


Figure 62: Teller County Sub-Division and Community Assessments



# **CWPP COMMUNITY ASSESSMENTS**

**Table 8: Mountain Communities Areas Assessed** 

| Community     | Structures | Acres    | Score | Rating  | CWPP  |
|---------------|------------|----------|-------|---------|-------|
|               |            |          |       |         | Score |
| TRAIL CREEK   | 12         | 524.838  | 159   | Extreme | 5     |
| RANCHES       |            |          |       |         |       |
| STUMP RANCH   | 23         | 134.8961 | 157   | Extreme | 5     |
| LOST VALLEY   | 22         | 226.1236 | 156   | Extreme | 5     |
| TURKEY ROCK   | 138        | 381.9389 | 156   | Extreme | 5     |
| THUNDER BUTTE | 22         | 239.7628 | 152   | Extreme | 5     |
| AREA          |            |          |       |         |       |
| WASS          | 7          | 94.76845 | 145   | Severe  | 4     |
| WESTCREEK     | 29         | 899.0118 | 139   | Severe  | 4     |
| RANCHES AREA  |            |          |       |         |       |
| LUTHERAN      | 118        | 966.644  | 137   | Severe  | 4     |
| VALLEY        |            |          |       |         |       |
| 9J-FOUR MILE  | 16         | 146.6491 | 136   | Severe  | 4     |
| AREA          |            |          |       |         |       |
| WESTCREEK     | 175        | 833.9433 | 134   | Severe  | 4     |
| LAKES         |            |          |       |         |       |
| CADILLAC      | 15         | 143.9422 | 133   | Severe  | 4     |
| RANCH AREA    |            |          |       |         |       |
| RAINBOW       | 16         | 263.237  | 131   | Severe  | 4     |
| FISHING CLUB  |            |          |       |         |       |
| WILDHORN      | 43         | 329.6864 | 127   | High    | 3     |
| TROUT CREEK   | 80         | 488.5546 | 105   | High    | 3     |
| RANCH         |            |          |       |         |       |

# Mountain Community Results:

14 assessments completed

5 in extreme category

7 in severe category

2 in high category



**Table 9: Northeast FPD Community Assessments** 

| Community                                 | Structures | Acres    | Score | Rating   | CWPP<br>Score |
|---|------------|----------|-------|----------|---------------|
| QUINLIN GULCH                             | 83         | 1204.971 | 171   | Extreme  | 5             |
| TRANQUIL ACRES                            | 280        | 636.0132 | 159   | Extreme  | 5             |
| CATAMOUNT AREA                            | 22         | 683.9026 | 157   | Extreme  | 5             |
| HOLIDAY HILLS AREA                        | 82         | 347.4799 | 157   | Extreme  | 5             |
| MANITOU PARK - HUGHES AREA                | 76         | 291.807  | 155   | Extreme  | 5             |
| RANCH ESTATES                             | 118        | 154.7267 | 152   | Extreme  | 5             |
| BOY SCOUT CAMP                            | 14         | 156.9912 | 148   | Severe   | 4             |
| HOMESTEAD AREA                            | 25         | 491.496  | 141   | Severe   | 4             |
| DEER MEADOW - EAGLE POINT AREA            | 60         | 1203.003 | 141   | Severe   | 4             |
| ASPEN HILLS AREA                          | 101        | 275.9813 | 139   | Severe   | 4             |
| RIDGEWOOD AREA                            | 191        | 1072.835 | 134   | Severe   | 4             |
| QUAKER RIDGE - GIRL SCOUTS                | 47         | 1532.27  | 130   | High     | 3             |
| RAMPART RANCHES                           | 47         | 589.382  | 130   | High     | 3             |
| ROSEWOOD HILLS AREA                       | 67         | 245.4283 | 127   | High     | 3             |
| SUMMER HAVEN                              | 49         | 135.214  | 127   | High     | 3             |
| CASEY LUMBER - GALUTH AREA                | 30         | 830.8078 | 123   | High     | 3             |
| RED ROCKS AREA                            | 65         | 387.1882 | 122   | High     | 3             |
| DIAMOND CAMPGROUND                        | 150        | 19.85926 | 117   | High     | 3             |
| RAMPART - SOUTH                           | 45         | 136.0534 | 115   | High     | 3             |
| WESTWOOD LAKES                            | 171        | 217.5023 | 115   | High     | 3             |
| FLYING CLOUD                              | 36         | 163.1905 | 107   | High     | 3             |
| WOODLAND WEST                             | 133        | 373.3441 | 104   | High     | 3             |
| BROKEN WAGON -ASPEN VALLEY RANCH          | 52         | 255.7643 | 102   | High     | 3             |
| MAJESTIC PARK                             | 18         | 580.7947 | 102   | High     | 3             |
| SOURDOUGH AREA                            | 191        | 1492.074 | 101   | High     | 3             |
| GOLD HILL - STURMAN - TROUT CREEK<br>AREA | 49         | 604.9149 | 100   | High     | 3             |
| COLUMBINE - BLUE BIRD HILL AREA           | 147        | 519.5688 | 99    | High     | 3             |
| RAMPART - NORTH                           | 146        | 205.222  | 95    | High     | 3             |
| SUNNYWOOD - TAMARAC AREA                  | 378        | 356.0352 | 93    | High     | 3             |
| HIGHLAND HILLS                            | 106        | 43.02796 | 92    | High     | 3             |
| TAMARAC WEST                              | 24         | 51.73556 | 92    | High     | 3             |
| WOODLAND VALLEY                           | 146        | 79.37502 | 91    | High     | 3             |
| NORTHWOODS                                | 138        | 61.36964 | 89    | Moderate | 2             |
| SUNNY SLOPE ACRES AREA                    | 266        | 291.2951 | 89    | Moderate | 2             |
| PAINT PONY - NORTH                        | 83         | 95.54464 | 82    | Moderate | 2             |
| COUNTRY RIDGE                             | 60         | 55.57886 | 80    | Moderate | 2             |



| WOODLAND - CENTRAL                                     | 568 | 254.3856 | 80 | Moderate | 2 |
|--|-----|----------|----|----------|---|
| EVERGREEN  | 35  | 26.68188 | 80 | Moderate | 2 |
| SPRUCE HAVEN -WOODLAND HILLS -<br>WISPERING WINDS AREA | 236 | 126.4132 | 80 | Moderate | 2 |
| FOREST EDGE - EAST                                     | 85  | 79.04696 | 79 | Moderate | 2 |
| WAL-MART CENTER  | 60  | 143.7549 | 74 | Moderate | 2 |
| ASPEN ACRES  | 103 | 62.6526  | 73 | Moderate | 2 |
| PARADISE ESTATES                                       | 167 | 198.1855 | 71 | Moderate | 2 |
| THE SANCTUARY  | 19  | 145.8684 | 70 | Low      | 1 |
| DEWELL   | 103 | 33.47473 | 65 | Low      | 1 |
| FOSTER-FAIRVIEW  | 122 | 50.72785 | 65 | Low      | 1 |
| FULLVIEW   | 111 | 31.20022 | 65 | Low      | 1 |
| PAINT PONY - SOUTH AREA                                | 107 | 74.42245 | 65 | Low      | 1 |
| CUMMINS AREA   | 70  | 75.39586 | 64 | Low      | 1 |
| EVERGREEN HEIGHTS                                      | 117 | 67.74391 | 64 | Low      | 1 |
| MORNING SUN -SUN CREST                                 | 160 | 193.908  | 64 | Low      | 1 |
| PARADISE OF COLORADO AREA                              | 139 | 137.6848 | 60 | Low      | 1 |
| CRESTWOOD PARK   | 75  | 39.96415 | 60 | Low      | 1 |
| GRAY HORSE   | 49  | 34.73683 | 60 | Low      | 1 |
| WOODLAND PARK PLAZA                                    | 8   | 19.59265 | 60 | Low      | 1 |
| EAGLE PINES  | 48  | 42.4593  | 55 | Low      | 1 |
| FOREST EDGE - WEST                                     | 134 | 129.0034 | 55 | Low      | 1 |
| KELLEY'S   | 43  | 38.99511 | 55 | Low      | 1 |
| WOODLAND- COMMERCE NORTH                               | 192 | 137.5975 | 54 | Low      | 1 |
| PARK VIEW  | 49  | 28.13749 | 54 | Low      | 1 |
| WOODLAND - COMMERCE SOUTH                              | 52  | 60.31355 | 53 | Low      | 1 |
| FAIRWAY PINES  | 58  | 37.88856 | 52 | Low      | 1 |
| SUNDANCE   | 15  | 8.136767 | 51 | Low      | 1 |
| ARROWHEAD -GREENWAY AREA                               | 126 | 54.97321 | 50 | Low      | 1 |
| MORNING SUN BUSINESS AREA                              | 24  | 25.78417 | 48 | Low      | 1 |
| PARADISE HOMES AREA                                    | 32  | 24.35732 | 48 | Low      | 1 |
| MURPHY   | 20  | 19.59223 | 40 | Low      | 1 |
| CAREY  | 10  | 17.55938 | 34 | Low      | 1 |
| TRAIL RIDGE SUBDIVISION                                | 22  | 17.14707 | 34 | Low      | 1 |
| TRAILHEAD- VALLEY PEAK & VIEW TOWNHOMES AREA           | 28  | 6.2578   | 33 | Low      | 1 |
| COLUMBINE VILLAGE                                      | 107 | 24.18824 | 33 | Low      | 1 |
| STONE RIDGE VILLAGE AREA                               | 139 | 112.1666 | 24 | Low      | 1 |
| Park View  | 49  | 28.13749 | 54 | Low      | 1 |

# NETCO Results:

72 assessments completed 5 in severe category 6 in extreme category



11 in moderate category

29 in low category

**Table 10: Florissant FPD Community Assessments** 

| Community                      | Structures | Acres    | Score | Rating   | CWPP<br>Score |
|--------------------------------|------------|----------|-------|----------|---------------|
| PARADISE VALLEY -COUGAR CANYON | 36         | 1205.875 | 169   | Extreme  | 5             |
| EVERGREEN                      | 37         | 1196.764 | 167   | Extreme  | 5             |
| PIERSON'S                      | 9          | 325.7795 | 163   | Extreme  | 5             |
| FLYING DUTCHMAN                | 10         | 83.36301 | 162   | Extreme  | 5             |
| FLORISSANT CANYON AREA         | 89         | 1884.454 | 162   | Extreme  | 5             |
| WILDHORN AREA                  | 70         | 1659     | 147   | Severe   | 4             |
| J-D-K                          | 27         | 161.0891 | 146   | Severe   | 4             |
| INDIAN CREEK - ZONE 1          | 346        | 1858.893 | 146   | Severe   | 4             |
| VALLEY - HI                    | 65         | 413.0686 | 144   | Severe   | 4             |
| FLORISSANT HEIGHTS             | 178        | 705.7835 | 136   | Severe   | 4             |
| INDIAN CREEK - ZONE 2          | 420        | 2081.451 | 133   | Severe   | 4             |
| FOREST GLEN                    | 43         | 92.10906 | 132   | Severe   | 4             |
| CRYSTAL PEAK                   | 45         | 1086.41  | 132   | Severe   | 4             |
| COMMANCHE AREA                 | 41         | 1079.631 | 131   | Severe   | 4             |
| LA MONTANA MESA AREA           | 260        | 454.3772 | 130   | High     | 3             |
| BLUE MOUNTAIN AREA             | 62         | 726.7499 | 129   | High     | 3             |
| CME - ZONE 3                   | 133        | 684.4079 | 129   | High     | 3             |
| LAS BRISAS                     | 384        | 626.5348 | 127   | High     | 3             |
| INDIAN CREEK - ZONE 3          | 235        | 1660.961 | 123   | High     | 3             |
| SANBORN CAMPS                  | 63         | 2619.51  | 115   | High     | 3             |
| CRYSTAL SPRINGS                | 29         | 458.7925 | 114   | High     | 3             |
| SNARE                          | 13         | 348.9694 | 111   | High     | 3             |
| PALMER VILLAGE - TWIN ROCKS    | 159        | 579.8703 | 103   | High     | 3             |
| CME - ZONE 2                   | 296        | 916.7291 | 102   | High     | 3             |
| WILSON LAKES                   | 122        | 255.7756 | 101   | High     | 3             |
| DRUID HILLS - MOUNTAIN VIEW    | 184        | 882.9531 | 91    | High     | 3             |
| CME - ZONE 1                   | 129        | 542.9904 | 84    | Moderate | 2             |
| FLORISSANT - TOWN              | 172        | 675.4082 | 67    | Low      | 1             |

#### Florissant Results:

- 28 assessments completed
- 5 in extreme category



- 9 in severe category
- 12 in high category
- 1 in moderate category
- 1 in low category

Table 11: Divide FPD Community Assessments

| Community                      | Structures | Acres    | Score | Rating  | CWPP<br>Score |
|--------------------------------|------------|----------|-------|---------|---------------|
| ASPENWILDE                     | 4          | 203.4892 | 172   | Extreme | 5             |
| PARADISE VALLEY - DIVIDE       | 29         | 909.056  | 171   | Extreme | 5             |
| RASPBERRY MTN                  | 14         | 151.2234 | 159   | Extreme | 5             |
| YUCCA CREEK AREA               | 20         | 477.1238 | 159   | Extreme | 5             |
| UTE LAKES                      | 52         | 423.2488 | 157   | Extreme | 5             |
| BROKEN WHEEL                   | 61         | 262.6241 | 150   | Severe  | 4             |
| 512 AREA                       | 54         | 996.3319 | 149   | Severe  | 4             |
| GOLDEN BELL                    | 97         | 311.3377 | 149   | Severe  | 4             |
| TROUT HAVEN - WHISPERING PINES | 182        | 751.1244 | 142   | Severe  | 4             |
| SPRING VALLEY                  | 316        | 553.0485 | 142   | Severe  | 4             |
| DIVIDE - METHODIST CAMP        | 64         | 123.6098 | 142   | Severe  | 4             |
| WOODROCK                       | 49         | 304.1522 | 139   | Severe  | 4             |
| LOST DUTCHMAN                  | 28         | 1071.166 | 136   | Severe  | 4             |
| ASPEN MOORS - SKY CREST        | 87         | 251.1621 | 135   | Severe  | 4             |
| HIGHLAND LAKES                 | 408        | 971.9028 | 135   | Severe  | 4             |
| DIVIDE SOUTH                   | 64         | 451.0369 | 132   | Severe  | 4             |
| DIVIDE - CR 62                 | 64         | 234.2125 | 130   | High    | 3             |
| ELK VALLEY -RULE CREEK         | 41         | 1252.058 | 127   | High    | 3             |
| SHERWOOD FOREST                | 272        | 399.7583 | 127   | High    | 3             |
| ARABIAN ACRES                  | 156        | 391.4863 | 125   | High    | 3             |
| RAINBOW VALLEY RANCH - WEST    | 20         | 580.7526 | 119   | High    | 3             |
| PHANTOM CREEK AREA             | 3          | 94.70643 | 118   | High    | 3             |
| RAINBOW VALLEY -EAST           | 146        | 690.7276 | 112   | High    | 3             |
| DIVIDE CENTRAL                 | 476        | 2693.271 | 111   | High    | 3             |
| SKYWAY RANCH AREA              | 28         | 644.3152 | 108   | High    | 3             |
| ASPEN VILLAGE                  | 54         | 266.6189 | 106   | High    | 3             |
| ASPEN VILLAGE AREA EAST        | 66         | 719.3895 | 104   | High    | 3             |
| DIVIDE NORTH                   | 71         | 2231.784 | 95    | High    | 3             |

# Divide Results:

• 28 assessments completed



- 5 in extreme category
- 11 in severe category
- 12 in high category
- 0 in moderate category
- 0 in low category

**Table 12: Four Mile FPD Community Assessments** 

| Community                 | Structures | Acres    | Score | Rating  | CWPP<br>Score |
|---------------------------|------------|----------|-------|---------|---------------|
| ALPINE VALE               | 13         | 107.0691 | 159   | Extreme | 5             |
| RED ROCK RANCHES AREA     | 14         | 492.7671 | 151   | Extreme | 5             |
| HIGHLAND MEADOWS          | 22         | 269.1638 | 150   | Severe  | 4             |
| SUNRISE RIDGE RANCH AREA  | 14         | 539.6294 | 145   | Severe  | 4             |
| OLSONS SLATER CREEK RANCH | 13         | 703.9938 | 141   | Severe  | 4             |
| CCME - ZONE 1             | 93         | 846.5736 | 140   | Severe  | 4             |
| CCME - ZONE 2             | 159        | 1109.04  | 140   | Severe  | 4             |
| EAGLECREST                | 36         | 556.8217 | 137   | Severe  | 4             |
| TIMBER MESA               | 10         | 371.2301 | 137   | Severe  | 4             |
| CCME - ZONE 4             | 74         | 761.0278 | 135   | Severe  | 4             |
| LIVING FOREST             | 7          | 320.1422 | 134   | Severe  | 4             |
| NAVAJO MTN MESA           | 233        | 1426.47  | 133   | Severe  | 4             |
| FOUR MILE RANCH           | 113        | 3065.447 | 130   | High    | 3             |
| PINDEROSA RANCH           | 18         | 494.5551 | 130   | High    | 3             |
| PIKE MEADOWS              | 51         | 631.9639 | 129   | High    | 3             |
| DEER VIEW                 | 15         | 102.0956 | 129   | High    | 3             |
| B LAZY M RANCH - ZONE 1   | 23         | 640.1416 | 128   | High    | 3             |
| ELK HORN NORTH            | 37         | 1645.635 | 128   | High    | 3             |
| SADDLE MOUNTAIN RANCH     | 83         | 1162.742 | 127   | High    | 3             |
| CHATEAU WEST              | 17         | 322.3477 | 124   | High    | 3             |
| LOST CANYON RANCH 1       | 11         | 607.3141 | 124   | High    | 3             |
| HIGHLAND MEADOWS 2        | 56         | 393.8945 | 123   | High    | 3             |
| HIGH CHATEAU              | 139        | 959.1941 | 122   | High    | 3             |
| PARK RIDGE RANCH          | 98         | 1500.952 | 118   | High    | 3             |
| LAKEMOOR WEST AREA        | 78         | 920.4962 | 114   | High    | 3             |
| CREEKSIDE ESTATES         | 15         | 343.8598 | 113   | High    | 3             |
| OLD CHAPARRAL             | 16         | 778.6597 | 113   | High    | 3             |
| CCME - ZONE 3             | 103        | 913.3017 | 110   | High    | 3             |
| RANCH RESORTS AREA        | 143        | 961.8427 | 107   | High    | 3             |



| LAKEVIEW FOREST Zone 2  | 7   | 501.5871 | 104 | High     | 3 |
|-------------------------|-----|----------|-----|----------|---|
| B LAZY M RANCH - ZONE 3 | 7   | 609.4892 | 102 | High     | 3 |
| ANTELOPE PARK           | 15  | 1230.706 | 101 | High     | 3 |
| BEAR TRAP - ZONE 1      | 193 | 2986.068 | 99  | High     | 3 |
| BEAR TRAP - ZONE 2      | 194 | 2358.072 | 99  | High     | 3 |
| DEER MOUNTAIN           | 59  | 389.226  | 98  | High     | 3 |
| EAGLE PROPERTIES        | 7   | 308.9143 | 97  | High     | 3 |
| B LAZY M RANCH - ZONE 2 | 11  | 377.6916 | 92  | High     | 3 |
| RANCHES AT SLATER CREEK | 28  | 961.3948 | 91  | High     | 3 |
| LAKEVIEW FOREST Zone 1  | 1   | 53.45711 | 89  | Moderate | 2 |
| WESTERN HILLS           | 25  | 439.5434 | 87  | Moderate | 2 |
| HIGH PARK ZONE          | 5   | 2274.912 | 81  | Moderate | 2 |

#### Four Mile Results:

- 41 assessments completed
- 2 in extreme category
- 10 in severe category
- 26 in high category
- 3 in moderate category
- 0 in low category

**Table 13: Cripple Creek FD Community Assessments** 

| Table 19: Cripple Creek 19 Community 715 |            |          |       |         |               |
|--|------------|----------|-------|---------|---------------|
| Community                                | Structures | Acres    | Score | Rating  | CWPP<br>Score |
| 61 A                                     | 112        | 1012.23  | 170   | Extreme | 5             |
| 61 B                                     | 74         | 1541.052 | 165   | Extreme | 5             |
| SPRING CANYON RANCH                      | 13         | 628.8576 | 159   | Extreme | 5             |
| RHYOLITE AREA                            | 144        | 2163.009 | 157   | Extreme | 5             |
| CRIPPLE CREEK - SOUTH                    | 77         | 1397.345 | 144   | Severe  | 4             |
| PISGAH PARK                              | 43         | 899.1071 | 136   | Severe  | 4             |
| CC RANCHES                               | 83         | 1030.334 | 135   | Severe  | 4             |
| EAGLESNEST AREA                          | 92         | 970.8493 | 121   | High    | 3             |
| CRIPPLE CREEK                            | 741        | 1071.772 | 68    | Low     | 1             |

## Cripple Creek Results:

- 9 assessments completed
- 4 in extreme category
- 3 in severe category



- 1 in high category
- 0 in moderate category
- 1 in low category

**Table 14: Victor Community FD Assessments** 

| Community                | Structures | Acres    | Score | Rating   | CWPP<br>Score |
|--------------------------|------------|----------|-------|----------|---------------|
| CATHEDRAL PARK           | 31         | 1462.187 | 169   | Extreme  | 5             |
| BEAVER VALLEY            | 10         | 67.77449 | 149   | Severe   | 4             |
| OUTLOOK ON GOLDCAMP      | 67         | 1012.742 | 147   | Severe   | 4             |
| SKAGWAY RESERVOIR RANCH  | 20         | 1329.93  | 146   | Severe   | 4             |
| ASPEN HEIGHTS            | 53         | 2064.391 | 144   | Severe   | 4             |
| EIGHT MILE CREEK RANCHES | 123        | 2106.926 | 140   | Severe   | 4             |
| GOLDFIELD                | 70         | 278.2054 | 105   | High     | 3             |
| VICTOR                   | 366        | 404.1946 | 84    | Moderate | 2             |

#### Victor Results:

- 8 assessments completed
- 1 in extreme category
- 5 in severe category
- 1 in high category
- 1 in moderate category
- 0 in low category

**Table 15: Green Mountain Falls FPD Community Assessments** 

| Community              | Structures | Acres    | Score | Rating | CWPP<br>Score |
|------------------------|------------|----------|-------|--------|---------------|
| CRYSTOLA PINES AREA    | 106        | 530.6041 | 134   | Severe | 4             |
| HIGH MARK AREA         | 29         | 292.6393 | 127   | High   | 3             |
| GREEN MTN FALLS TOWN 2 | 246        | 233.1237 | 107   | High   | 3             |
| CHIPITA PARK           | 489        | 551.5679 | 107   | High   | 3             |
| GREEN MTN FALLS TOWN 1 | 222        | 212.3696 | 107   | High   | 3             |
| GREEN MTN FALLS EAST   | 161        | 1200.128 | 102   | High   | 3             |

#### Green Mountain Falls Results:

- 6 assessments completed
- 0 in extreme category



- 1 in severe category
- 5 in high category
- 0 in moderate category
- 0 in low category

**Table 16: Lake George Community Assessments** 

| Community             | Structures | Acres    | Score | Rating  | CWPP<br>Score |
|-----------------------|------------|----------|-------|---------|---------------|
| TOM'S RANCH           | 150        | 678.5649 | 159   | Extreme | 5             |
| SPORTSMAN'S PARADISE  | 407        | 308.4268 | 158   | Extreme | 5             |
| WAGON TONGUE          | 142        | 303.2154 | 143   | Severe  | 4             |
| ECHO VALLEY           | 26         | 150.753  | 140   | Severe  | 4             |
| ECHO VALLET ESTATES   | 13         | 79.87325 | 140   | Severe  | 4             |
| SYLVANHURST           | 5          | 36.93678 | 125   | High    | 3             |
| PIKE FOREST ESTATES   | 27         | 160.5589 | 125   | High    | 3             |
| DOS LOMOS             | 6          | 118.689  | 125   | High    | 3             |
| BEAVER VALLET ESTATES | 22         | 101.7546 | 124   | High    | 3             |
| LAKE GEORGE           | 119        | 263.8189 | 112   | High    | 3             |

# Lake George FPD Results:

- 10 assessments completed
- 2 in extreme category
- 3 in severe category
- 5 in high category
- 0 in moderate category
- 0 in low category



#### **VULNERABLE POPULATIONS AT RISK**

Social and economic factors can make it more difficult for some people to prepare for, respond to, and recover from wildfire. Vulnerable populations may lack access to resources, experience cultural and institutional barriers, have limited mobility, be elderly or have medical conditions exacerbated by stress or smoke.

For example, people over age 65 and people who are disabled are more susceptible to air pollution and particulates associated with wildfire smoke.

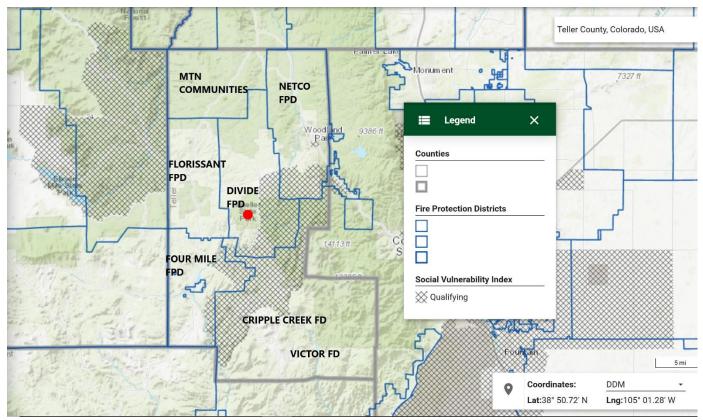
Language barriers can make it difficult to follow directions during an evacuation or to access support after a disaster. Race and ethnicity are strongly correlated with disparities in health and access to aid and resources. Wildfires can disproportionately impact people with low incomes because of factors such as inadequate housing and a diminished ability to evacuate or relocate.

# **Vulnerable populations in Teller County** (U.S. Census Bureau) – all values incorporate a margin of error not shown

| Indicator                  | Percent |
|----------------------------|---------|
| Families in poverty        | 8.5%    |
| People with disabilities   | 9.1%    |
| People over 65 years       | 26.7%   |
| People under 5 years       | 3.7%    |
| People of color            | 13.4%   |
| African American           | 1.2%    |
| Native American            | 1.4%    |
| Hispanic                   | 7.9%    |
| Difficulty with English    | 3.6%    |
| Households with no vehicle | 4.3%    |
| Mobile homes               | 11%     |

**Table 17: Teller County Vulnerable Population Statistics** 





**Figure 63: Socially Vulnerable Populations** 

According to Colorado Wildfire Risk Assortment Portal (COWRAP), the socially vulnerable populations in Teller County are mostly found east of Divide and south towards Cripple Creek. But vulnerable populations can be found throughout the County. Barriers for Socially Vulnerable Index (SVI) populations include access to transportation, lack of childcare, lack of technology resources to know about events. It is important for areas with SVI populations to engage community organizations, faith-based groups, senior coalitions, etc., to assist vulnerable people with understanding wildfire risk, communicate evacuation orders and assist with actual evacuation and access to evacuation shelters.

Once suggestion is to establish Community Emergency Liaisons where volunteers can access data to know where vulnerable populations live and can assist with communication, information and evacuation.

Translate emergency messages for non-English speaking populations to ensure everyone understands evacuation orders and safety information.

Disseminate information through various social media platforms, community organizations and education materials geared towards specific populations.



## **VALUES AT RISK (VAR)**

Core team input, public input, history and community assessments helped define the important values at risk.

Values a risk consist of critical infrastructure, cultural values, natural values and socioeconomic values. Of course, the most important VAR in any environment is protection of life and personal property.

#### LAND USE AND DEVELOPMENT

Teller County remains, for the most part, a rural county with most residents living in subdivisions in unincorporated Teller County or Teller County's incorporated communities and cities.

Per the 2020 Teller County Growth Management Plan - any future development will place additional demands on the county's rural lands, public lands, and government services. As the population of Colorado increases, the pressure to develop more of Teller County will increase. The more people that move into the Wildland/Urban Interface (WUI) the more pressure it puts on firefighting, police and medical services. And the more likely that Teller County that the Wildland Urban Interface will increase and/or we will see an increase in the number of homes burned by wildfire in the coming years.

Teller County has a finite amount of land. It lies directly adjacent to rapidly expanding Front Range growth areas, such as Colorado Springs. Pressure from population growth on the Front Range could result in conflict between agricultural, rural lifestyles, and residential development.

#### **CRITICAL FACILITIES AND INFRASTRUCTURE:**

- Bridges
- Main highways and County primary roads
- Communication Towers
- Electric Substations and power lines
- Natural Gas main pipelines
- Emergency Operations Centers Teller County Dispatch, Woodland Park Dispatch, Cripple Creek Dispatch
- Fire Stations
- Hospitals and medical facilities including mental health facilities
- Law Enforcement facilities Teller County Sheriff's Office, Colorado State Patrol Office, Woodland Park Police Department, Cripple Creek Police Department, Victor Police Department
- Schools often used as evacuation centers and/or shelters as designated by Red Cross
- Water Infrastructure such as pipelines, water tanks, water supply reservoirs
- Teller County Regional Animal Shelter
- Business Districts

#### Electrical

Most electric utility providers conduct regular inspections and follow their own clearance specifications. Inspection processes that identifies vegetation that could be a hazard to the lines and ensures that



vegetation management activities follow our pruning and clearance specifications. With hundreds if not thousands of miles of overhead lines across the county, scheduled mitigation and hazard tree removal around electrical service lines and substations is critical.

#### **Natural Gas**

Natural gas was introduced to parts of Teller County beginning in 1997, when Colorado Natural Gas (CNG) was founded to deliver the fuel to rural communities. However, service is not available throughout the entire county, and many areas still rely on alternative fuel sources like propane. Within Teller County, natural gas service is available in Woodland Park via Black Hills Energy and in certain areas by Colorado Natural Gas. Most gas pipelines are buried but there are some exposed lines near Cripple Creek.

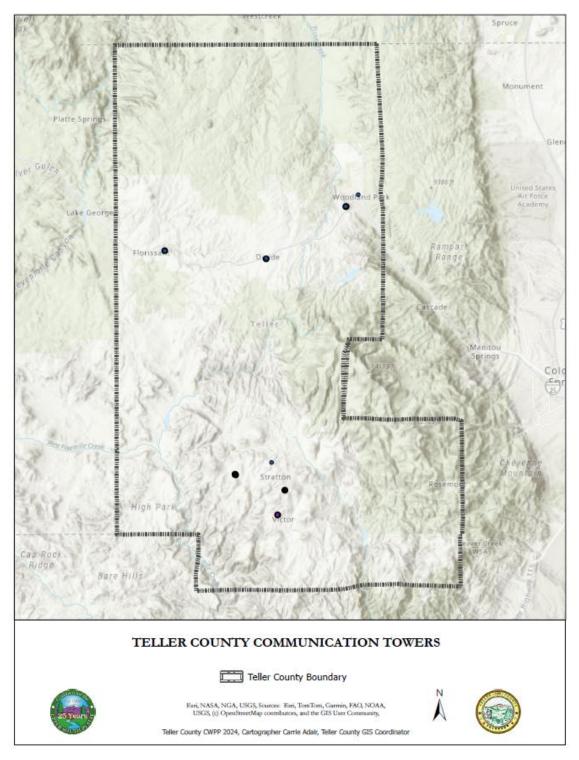
#### **Communication Towers**

Protecting communication sites during a wildfire is crucial for maintaining emergency response capabilities including medical, fire and law enforcement, public safety alerts, and essential communication networks for both first responders and the general public. If communication infrastructure is damaged or destroyed, emergency services can become overwhelmed, residents may be unable to receive timely evacuation orders, and people can be cut off from receiving help or contacting family. Critical communications to the community are provided by several towers in the area. Some of these sites support law enforcement communications, others support fire communications and others cell phone communications. Communication sites are strategically place situated on high ground for optimal coverage. Public safety facilities are generally separate from commercial and broadcast infrastructure. While these sites sit at the top the slopes running up to them are in need of mitigation in order to change fire behavior.

Gold Hill -near Woodland Park
Mt. Pisgah and Mt. Pisgah Cemetery near
Cripple Creek
Squaw Mountain near Victor
Badger Mountain – close to Florissant

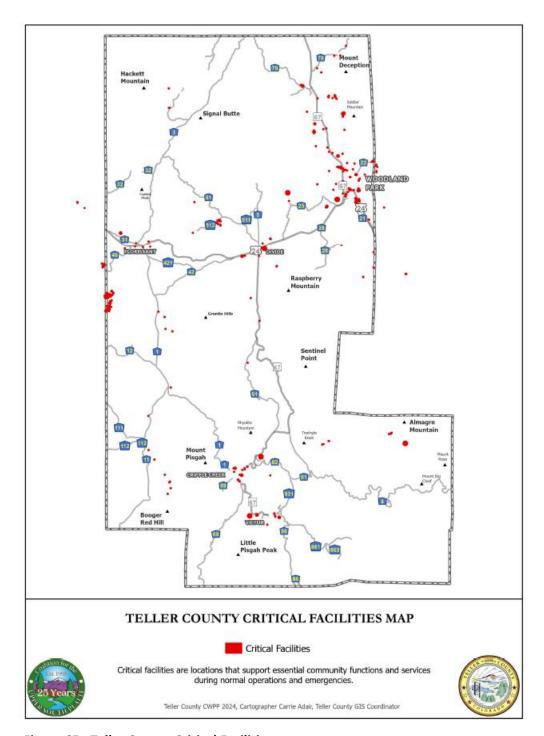
Tenderfoot Hill near Cripple Creek Little Grouse Mountain between Victor and Cripple Creek Divide – Sheriff's Office and cell phone tower near Highways 24 and 67 South





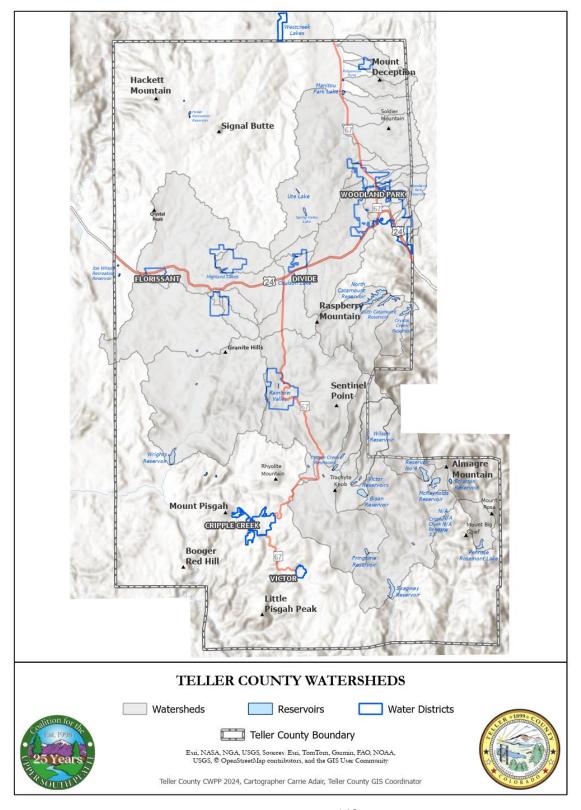
**Figure 64: Teller County Communication Tower sites** 





**Figure 65: Teller County Critical Facilities** 







#### Figure 66: Teller County Water Resources Values at Risk

One of the most critical at-risk resources is water – streams, lakes, reservoirs, ponds and underground sources. Water resources are particularly vulnerable to post fire impacts – debris flows, ash, sediment, etc. Protection of these resources is further discussed in Section 8 on Post Fire Considerations

#### **Cultural Values at Risk**

- Historic sites
- Churches
- Museums
- Libraries

#### **Natural Values at Risk**

- Bodies of water
- Watersheds
- Pike National Forest
- Mueller State Park
- Dome Rock, Pikes Peak, Rosemont Reservoir and Skaguay State Wildlife Areas
- Florissant Fossil Beds National Monument
- Teller County Parks and Open Space
- City of Woodland Park Avenger Open Space
- City of Woodland Park Paradise Open Space
- City of Cripple Creek Mountain View Adventure Park
- State wildlife areas
- Trailheads and Trail systems non-motorized and motorized
- Agricultural and Ranching
- Wildlife Habitat and Species

# Socio-Economic Values at Risk

- Church Camps
- Other Camps
- Senior Centers and Care Facilities
- Restaurants
- Resorts/Hotels/Cabins



# Section 6: Fuels Reduction



#### **FUELS REDUCTION**

Wildfire behavior is dictated by fuel characteristics, weather conditions, and topography. Because fuel is the only variable of these three that can be practically managed, it is the focus of mitigation efforts. The objectives of fuels management include reducing surface fire intensity, reducing the likelihood of crown fire initiation, reducing the likelihood of crown fire propagation, and improving forest health. By breaking up vertical and horizontal fuel continuity in a strategic manner, fire suppression resources are afforded better opportunities to control fire rate of spread and contain wildfires before they become catastrophic. These objectives may be accomplished by reducing surface fuels, limb branches to raise canopy base height, increase canopy base height by removing small trees (thinning from below), thinning trees to decrease crown density, and retaining larger fire-resistant trees.

#### What is Mitigation?

Mitigation focuses on pre-incident actions that reduce community risk of wildfire. It is an effort to reduce the loss of firefighter and civilian life and to lessen the impact on the economy and environment.

Mitigation can be supported through:

- Consistent and sustainable funding of wildfire mitigation efforts on the ground.
- Participation in wildfire mitigation coalitions or collaboratives that get work done on the ground.
- Funding, requiring, and enforcing codes, ordinances, and policies that reduce wildfire risk to communities.
- Cross-boundary fuels reductions on a landscape scale.
- Outreach programs to engage the public in mitigation efforts.
- Incentives that elicit community engagement and action.
- Improved application of relevant research findings on structural ignition, fuels reduction, and key social dynamics.

#### THE IMPORTANCE OF MITIGATION

Undertaking wildfire mitigation in the Wildland Urban Interface (WUI) can reduce or eliminate the risk of damages caused by wildfire to the human environment like homes, neighborhoods, and communities. Mitigation can also reduce risk to the natural environment such as wildlife, watersheds, and ecosystems.

Mitigation actions offer multiple benefits, including:

- Contributing to firefighter and public safety.
- Creating communities that are more resilient.
- Allowing individuals and communities to minimize post disaster disruptions and recover more quickly.
- Lessening the financial impact on individuals, communities, business, and the natural environment.
- Enhancing other important values such as ecological benefits and aesthetics.



#### **Mitigation Guiding Principles**

- Learn about the barriers to mitigation such as lack of funding, lack of resources lack of knowledge of the issue, and just general lack of support
- Understand the community's hazards, areas of risk, and available options to reduce exposure.
- Build trust-based relationships through in-person engagement during all phases of mitigation.
- Develop on the ground actions that are strategic, selective, and focused to reduce vulnerability and increase resiliency.
- Build partnerships to work collaboratively across boundaries and jurisdictions.
- Support vulnerable populations.
- Leverage resources with other partners.
- Track program investments, progress, and partner contributions. Share success stories.
- One size does not fit all. Be flexible and adjust mitigation strategies according to community demographics, local values, and wildfire hazards.

#### **FUELS REDUCTION STRATEGIES**

Fuels reduction is the emergency. It is essential to work collaboratively to accomplish fuels reduction in order to protect communities, lives and property. Fuels reduction resources must be deployed for thinning projects, much like suppression resources are deployed for an active fire.

#### Strategies for collaborative fuels reductions include:

- Mitigation: Actions taken to create defensible space, a Home Ignition Zone and reduce structural ignitability
- Suppression: Tactically deploying firefighting crews and aerial resources to contain and control a fire
- Prevention: Land-use planning, building codes requiring non-flammable materials and training
- Education and Outreach: Teaching residents how to be prepared for a wildfire, about home ignition zones and how to safely evacuate
- Preparedness: Investing in early warning systems, getting citizens registered on Peak Alerts and informing residents where to go for up to date information
- Resilience: Building resilient communities through disaster preparedness initiatives, insurance coverage, post-fire recovery efforts and creating fuel breaks around communities and sub-divisions

#### **Types of Mitigation**

<u>Mastication</u> - Mastication uses cutting heads mounted on carrier machines to fragment small trees (usually less than 10 inches in diameter) and shrubs thus reducing ladder and canopy fuels. Mastication does leave broken up chunks of fuel on the ground. The biomass on the ground should not be more than a couple of inches deep and spread out over a wide area. Some benefits of mastication are:

- Affordability for the private landowner
- Reduce wildfire risk
- Reduce forest density to improve forest health
- Reduce inter and intra species competition to provide more nutrients



• Increases amount of sunlight that reaches the forest floor

<u>Mechanical thinning</u> - Mechanical thinning is one of the most important tools to reduce fire risk. It is used to restore more natural forest structure with a focus on tree density, tree species distribution, tree age distribution and natural gaps in the canopy. Additionally, reduction of the number of trees reduces stress and competition in forested areas susceptible to insect and disease. This method is most often used on large tracts of land and rarely in sub-divisions. Benefits of mechanical thinning include:

- Reduces wildfire risk
- Reduces forest density to improve forest health
- Increased understory diversity
- May improved wildlife habitat depending on the prescription
- Provides merchantable wood for market

<u>Hand Thinning</u> - Hand thinning is primarily undertaken to remove small diameter trees from stands that are too dense. It can involve a few people or entire crews appropriately trained. Often used on steeper terrain, but also can be expensive due to the non-mechanized form. Benefits of hand thinning are:

- Not necessarily limited by terrain or inaccessible for mechanical equipment
- May improved wildlife habitat depending on the prescription
- Reduces wildfire risk
- Reduces forest density and forest health
- Depending on prescription, can modify fire behavior

<u>Prescribed fire</u> - Prescribed fire is mostly used to treat a defined area (broadcast burn) or used to burn piles of slash. Broadcast burns are used to mimic naturally occurring wildfire but only under specific weather conditions, fuel loads, and expert supervision. Prescribed fire is an important tool of restoration in Colorado's forests because burning influences nutrient cycling and germination or fire-adapted understory plant species. Without prescribed fire, needle litter and wood build up on the forest floor, creating high levels of surface fuels. Prescribed fire is most often used by USFS and BLM to meet land management goals. Burn piles are utilized to dispose of biomass such as slash after thinning. USFS and BLM burn piles to dispose of slash. Private residents should carefully review state and county regulations related to burning before attempting to burn slash piles.

- Benefits of prescribed fire are:
- May improved wildlife habitat depending on the prescription
- Improved recreation opportunities
- Reduces wildfire risk
- Reduces forest density removes surface fuels and improves forest health
- Mimics naturally recurring fire cycles
- Increases opening size and frequency
- Regenerates fire-dependent species



#### Shaded Fuel Break

Shaded fuel breaks can enhance forest health and improve fire safety. A shaded fuel break does not remove all vegetation in the treatment area and instead favors the growth of large native species by removing the understory, ladder fuels and thinning out the canopy. Shaded fuel breaks favorably modify wildfire behavior while providing the foundation for a healthy and resilient forest. A shaded fuel break, alone, will not stop a wildfire. Instead, shaded fuel breaks increase the probability of a successful wildfire containment by reducing fire intensity, severity, and by keeping the wildfire low to the ground and decreasing the rate of speed. These treatments provide safer conditions for direct attack by air and ground resources. These types of breaks may be accomplished by mastication, mechanical thinning or hand thinning.

#### Slash

In any fuel's treatment, there is always the issue of what to do with the slash. There are several options:

Divide Slash Site – Residents who do their own mitigation can bring their slash to the Divide slash site on Saturdays between the beginning of May and end of September. There is a fee to dump slash at the slash site. At the end of a year, slash is then grinded up and hauled off.

Chipping - Slash can be chipped by a fire department or a business that charges for the service. Chipped slash should be spread across a wide area and should be no more than two inches deep. Chips should be kept away from all structures.

Lop and Scatter – a method often used when a site is inaccessible. Slash is cut up and scattered across the landscape. Not a preferred method as it puts ignitable fuel on the ground.

Pile Burning – See above under prescribed fire.

#### Windstorms

Windstorms can damage structures, infrastructure and natural ecosystems. They may lead to defoliation, branch loss and the destruction of trees and shrubs that become deadfall. Deadfall refers to the jumbled mass of trees, branches and other dead vegetation.

Deadfall can provide habitats for a variety of species, including fish, insects and birds. However, under certain conditions — especially when it is hot and dry — this dead material can serve as additional fuel in ecosystems, increasing the likelihood of ignition and fire intensity.

<u>Cannon et al.</u> states, "Understanding the interactions between wind damage and fire is important." To improve prevention, response and mitigation strategies, the report offers several recommendations for local, state and tribal fire and emergency service responders and land managers such as:

- Pre-position firefighting resources in high-risk areas for quicker response times.
- Enhance public awareness and fire prevention efforts in regions affected by hurricane damage and drought.

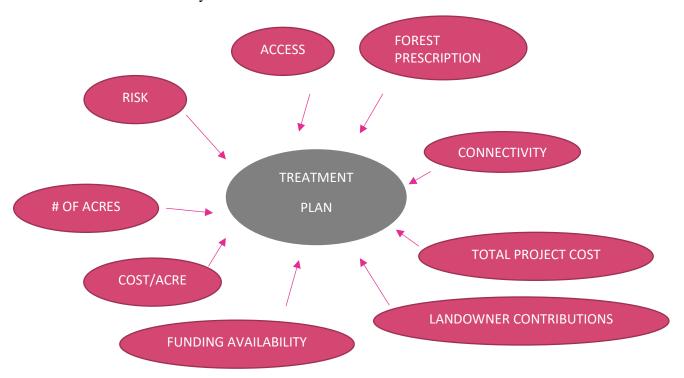


- Encourage residents to make improvements to homes to make them safer from wildfires as well as work together to protect local infrastructure.
- Strengthen multiagency coordination to ensure a well-prepared and unified response.
- Monitor fire environment trends and precipitation forecasts closely to adapt suppression activities accordingly.

#### **Fuels Treatment Factors**

When developing fuel reduction treatments there are several factors to consider

- Risk
- Access
- Treatment prescription
- Cost per acre
- Total Cost of project (Budget)
- Funding availability (grants, fee for service)
- Ability of landowner to match funding at some level
- Treatment connectivity



**Figure 67: Treatment Factors** 



# **Completed Projects (2018-2023)**

Estimated Completed Acres (2018-2023) – data is only as good as the data entered into the Forest Tracker database.

USFS = 35,734
BLM = 6,090
National Park Service = 10
Colorado State Forest Service = 3067
Coalition of the Upper South Platte = 861
Colorado Parks and Wildlife = 364
Colorado Springs Utilities = 4650
National Resource Conservation Service = 777

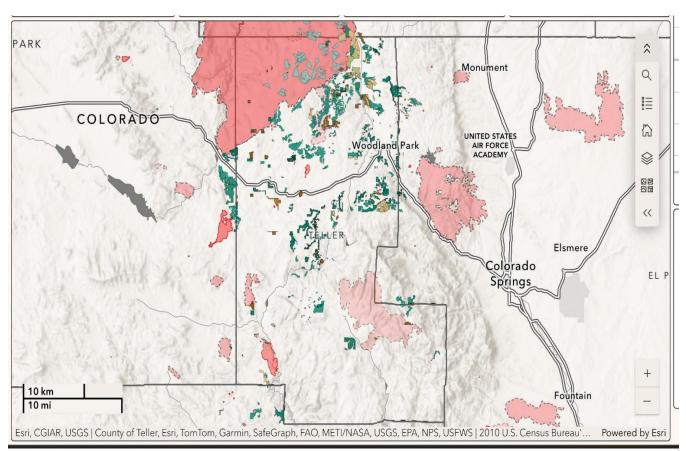


Figure 68: Completed Fuel Treatments (from Forest Tracker)



#### TELLER COUNTY RECOMMENDED PRIORITY MITIGATION PROJECTS

- Estimated costs reflect potential contracted costs only and do not include planning, mapping or writing forest prescriptions these latter activities vary between companies.
- Contracted costs vary widely depending on location, steepness, transportation, hand work v mechanical work, etc.
- Structures may include houses, detached garages, sheds and barns
- Maps show general locations and provide an estimate of acres to be treated.
- <u>Projects should be broken up into smaller projects as to make them affordable and accomplishable.</u> This plan only deals with the total acres involved
- The plan uses an average treatment cost of \$3,800/acre. This is for mechanical treatments only and does not include hand

#### CRITICAL UTILITY INFRASTRUCTURE

Critical utility infrastructure should be a priority for utility companies, customers and local governments. In the event of a catastrophic event, electric lines, gas lines, communication towers and water should be mitigated around to protect the infrastructure and services restored.

#### **Electrical**

Description: Continue to mitigate around overhead service lines including removing hazardous trees and mitigating around substations. Utility companies can mitigate wildfire risk through a multi-faceted approach including grid hardening (e.g., undergrounding lines, replacing poles) and vegetation management. Vegetation management along overhead distribution and transmission line rights of way helps reduce power outages and enhances safety.

Project Lead: CORE Electric (serves Woodland Park, Divide, Florissant, and portions of Cripple Creek; Black Hills Energy (serves parts of Cripple Creek and Victor, as well as the southern portions of the county) and Colorado Springs Utilities (serves a portion of eastern Teller County)

**Estimated Costs: TBD** 

#### **Natural Gas**

Description: Natural gas companies prepare for wildfires through a multi-faceted approach that includes vegetation management, site and infrastructure hardening, employee training and drills, and emergency response planning. Combustible materials should be cleared around facilities and infrastructure such as storage tanks, pipelines, and wells to create "defensible space" and reduce the risk of direct flame contact. In areas of exposed pipeline, vegetation should be cleared 15 feet or more. Employees should know emergency procedures such as how to shut off gas meters and follow evacuation plans. Emergency plans should be shared with local fire agencies and county emergency personnel.

Project Lead: Colorado Natural Gas and Black Hills Energy



**Estimated Costs: TBD** 

#### **Communications Infrastructure**

Description: Protecting communication sites during a wildfire is crucial for maintaining emergency response capabilities including medical, fire and law enforcement, public safety alerts, and essential communication networks for both first responders and the general public. Communication sites are strategically place situated on high ground for optimal coverage. Public safety facilities are generally separate from commercial and broadcast infrastructure. While these sites sit at the top the slopes running up to them are in need of mitigation in order to change fire behavior. (See Table 64)

Gold Hill -near Woodland Park
Mt. Pisgah and Mt. Pisgah Cemetery near Cripple Creek
Squaw Mountain near victor
Badger Mountain – close to Florissant
Tenderfoot Hill near Cripple Creek
Little Grouse Mountain between Victor and Cripple Creek
Divide – Sheriff's Office and cell phone tower near Highways 24 and 67 South

Project Lead: = Teller County Office of Emergency Management, communication providers and municipalities

Costs: TBD



#### **Water Supplies**

Specific guidelines for thinning around a reservoir for wildfire mitigation are not universally set, as the project's scope depends on factors like vegetation, topography, and the size of the reservoir and surrounding watershed. The goal is to create a defensible buffer zone, not to clear-cut. A multi-zone approach is recommended. When mitigating around a reservoir watershed impacts must be considered, USFS research shows that treating only a small percentage of a watershed can significantly reduce wildfire risk to water supplies. Strategic placement is more effective than widespread clear-cutting, which can cause erosion and degrade water quality. Each reservoir will have different forest prescriptions, but as a guideline:

- Zone 1 (0–50 feet): This inner zone, closest to the water source and any infrastructure like pumps or treatment facilities, requires the most aggressive clearing. Remove and reduce highly flammable vegetation.
- Zone 2 (50–100 feet): This transitional area moves outward from the reservoir and has reduced fuel to minimize fire intensity. Thin trees and shrubs and removing ladder fuels. maintain a minimum of 10 feet of space between them. The required spacing may increase on slopes.
- Zone 3 (Beyond 100 feet): In this outermost zone, fuel modification is less intense, focusing on disrupting the continuity of the forest to slow a fire's spread. Remove pockets of dense, fire-prone vegetation and selectively thinning to create a more open forest.

Acres are estimations only. Actual acres determined at project development. An estimated cost of \$4,000/acre is used for following water resource protection due to the difficult terrain. Costs and acreage will differ with each reservoir.



**Project Name:** Cripple Creek Reservoirs

Owned by: City of Cripple Creek

**Description:** Cripple Creek Reservoir #2 and #3 on West fork of West Beaver Creek. Mitigate approximately 300± acres around each reservoir, between the reservoirs, up and down stream of each reservoir and the access road along northwest side that connects the reservoirs. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Protect municipal water supply

Project Lead: City of Cripple Creek

Estimated contract cost: \$1,200,000

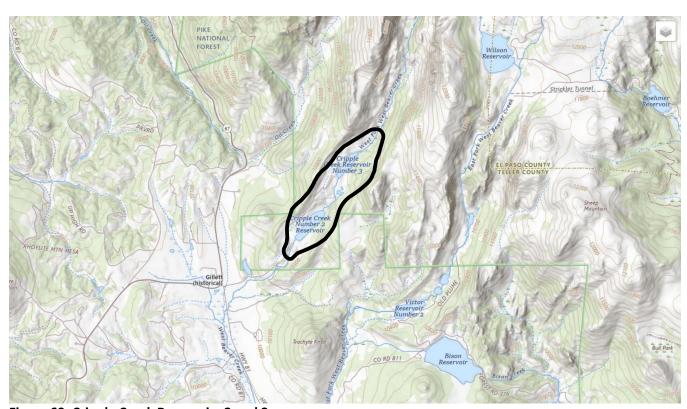


Figure 69: Cripple Creek Reservoirs 2 and 3



Project Name: Bison Reservoir

Owned by: City of Victor

**Description:** Bison Reservoir on Bison Creek.

Mitigate approximately 225±acres around the reservoir, up and down stream of the reservoir and the access roads. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Protect municipal water supply

Project Lead: City of Victor

Estimated contract cost: \$900,000

Project Lead: City of Victor

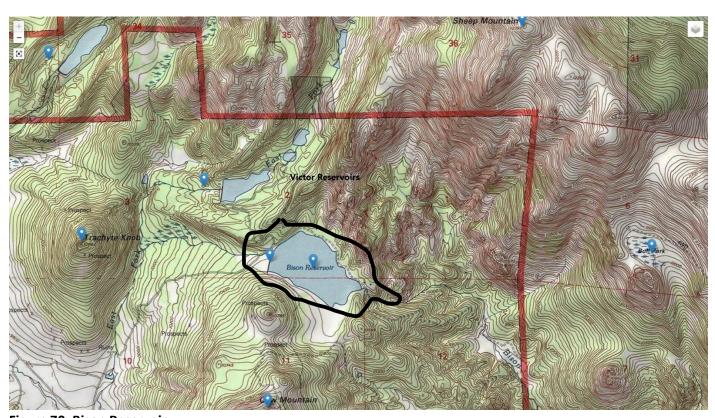


Figure 70: Bison Reservoir



**Project Name:** Victor Reservoir #2

Owned by: City of Victor

**Description:** Victor Reservoir # 2 on East Fork of West Beaver Creek

Mitigate approximately 240±acres around the reservoir, up and down stream of the reservoir and the access roads that connect this water body to Bison Reservoir to the southeast. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Protect municipal water supply

Project Lead: City of Victor

Estimated contract cost: \$960,000

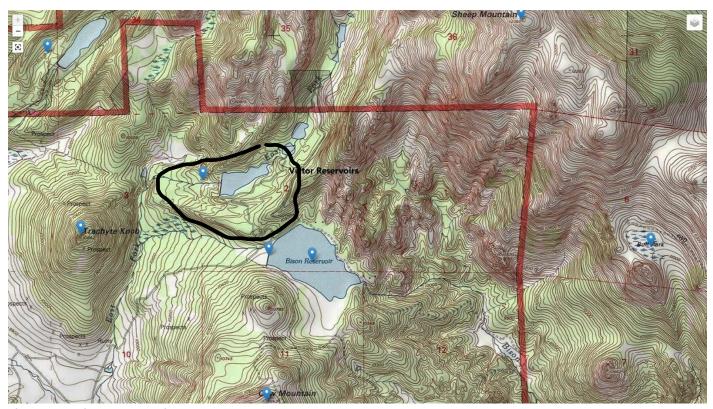


Figure 71: Victor Reservoir #2



**Project Name:** South Slope Reservoirs

Owned by: Colorado Springs Utilities

**Description:** McReynolds Reservoir on Middle Beaver Creek and Mason Reservoir on Boehmer Creek Mitigate a total of 1,159 acres around both reservoirs including, up and down stream of each reservoir between reservoirs and around access roads. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Protect municipal water supply

**Project Lead**: Colorado Springs Utilities

Estimated contract cost: \$4,640,000

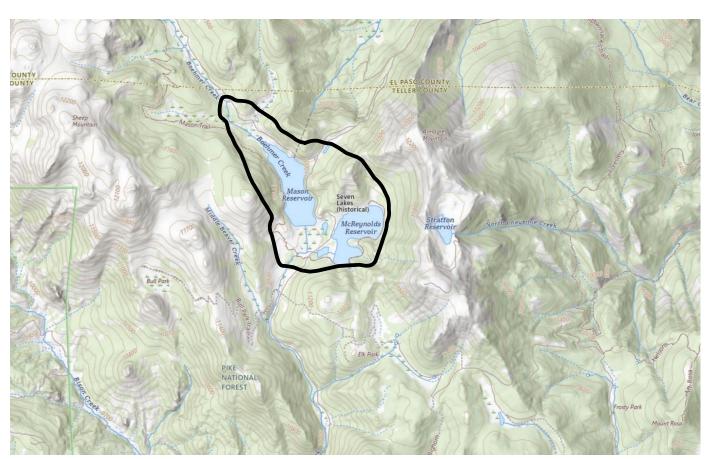


Figure 72: Mason Reservoir and McReynolds Reservoir



**Project Name:** Penrose-Rosemont Reservoir

Owned by: Colorado Springs Utilities

**Description:** Penrose-Rosemont Reservoir on East Beaver Creek Mitigate approximately 410±acres around the reservoir and access roads. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Protect municipal water supply and recreation opportunities

Project Lead: Colorado Springs Utilities

Estimated contract cost: \$1,640,000

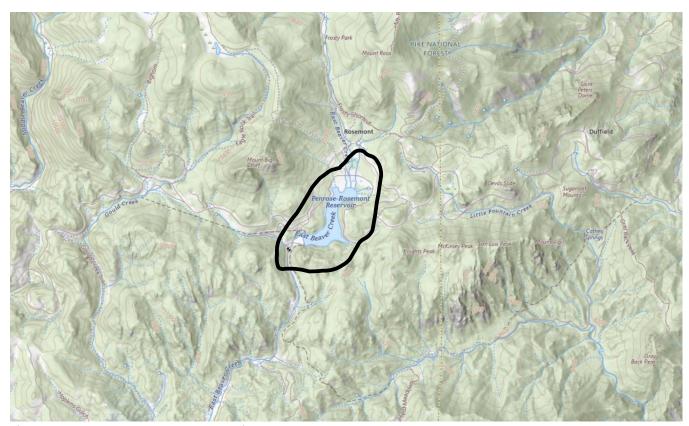


Figure 73: Penrose-Rosemont Reservoir



Project Name: Skaguay Reservoir

Owned by: Colorado Parks and Wildlife

**Description:** Skaguay Reservoir on West Beaver Creek

Mitigate approximately 336±acres:

- 155 acres on east side
- 72 acres on west side
- 27 near dam
- 82 acres around access road

Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Protect hunting and recreation opportunities

Project Lead: Colorado Parks and Wildlife

Estimated contract cost: \$1,344,000

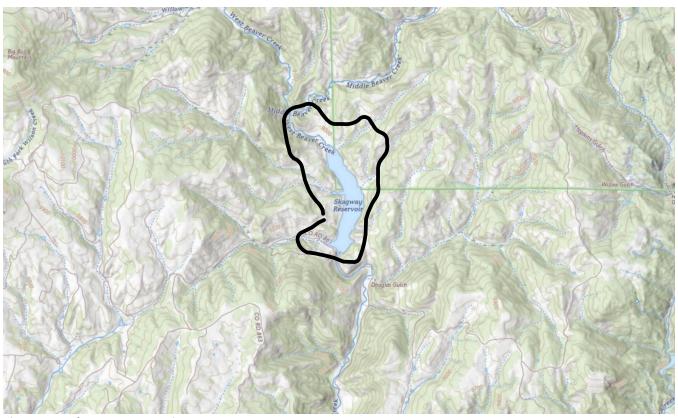


Figure 74: Skaguay Reservoir



**Project Name:** Florissant Canyon (Highway 24)

Owned by: Private Property Owners

**Description:** An 8-mile stretch of U.S. Highway 24 between Divide and Florissant is a primary escape route for many residents trying to escape an event to the east or west. Approximately 500 acres along the south side Highway 24 in Florissant Canyon is densely forested with a large amount of dead or dying trees. In addition, approximately 195 acres on the north side of the highway is in similar condition. A fire in the canyon could turn into a non-survivable escape route if the fire is down near the highway. At a minimum, fuel within 75 yards of the paved highway should be removed to make the route safe for residents – at least on the south side of the road. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Reduce fuel load along major escape route and a major highway

**Project Lead:** Collaborative efforts between Teller County, private property owners, State Forest Service and Non-Profits

Estimated contract costs: \$2,000,000

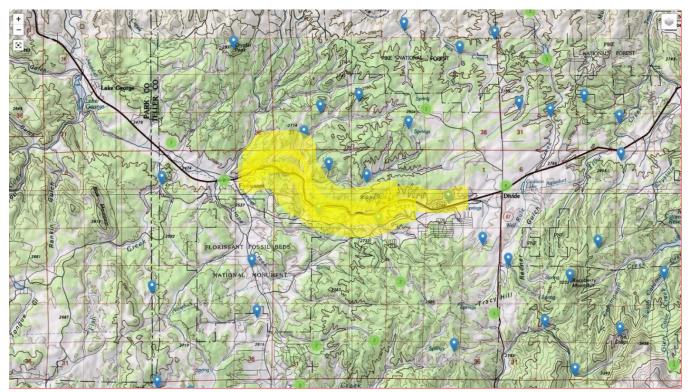


Figure 75: Florissant Canyon



**Project Name:** Teller County Road 25

Owned by: Private Property Owners and USFS

**Description:** Teller County Road 25 starts 1.6 miles east of Divide and eventually comes out at Charis Bible College in Woodland Park. The road passes Tranquil Acres subdivision (630 acres) with its 280 structures and extreme fire risk. The areas adjacent to CR 25 are heavily forested. The June 17 tornado did open up the canopy about a mile up CR 25, but the rest of the area is untouched. Around 1,350 acres need to be mitigated adjacent to CR 25 and including Tranquil Acres. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Reduce fuel load along CR 25 which provides escape route for Tranquil Acres

Project Lead: Collaborative efforts between Teller County, private property owners, State

Forest Service, USFS and Non-Profits

Estimated contract costs: \$5,400,000

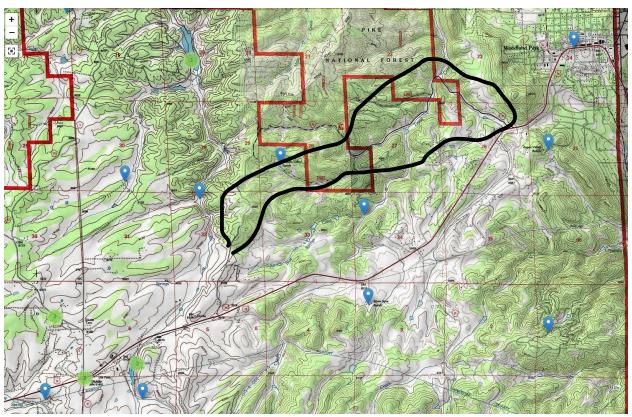


Figure 76: County Road 25



**Project Name:** Woodland Park Fuel Break

Owned by: Private Property Owners and USFS

**Description:** Woodland Park is the County's largest municipality, surrounded by dense mixed conifer forests. A fuel break around the entire town will protect the town against catastrophic wildfire. Woodland Park was affected by both the Hayman Fire in 2002 and the Waldo Canyon Fire in 2012. Exact location and acres to be determined. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity.

Goal: Protect largest municipality from catastrophic wildfire

Project Lead: Woodland Park, Colorado State Forest Service, USFS and Non-Profits

Estimated contract costs: TBD with more planning

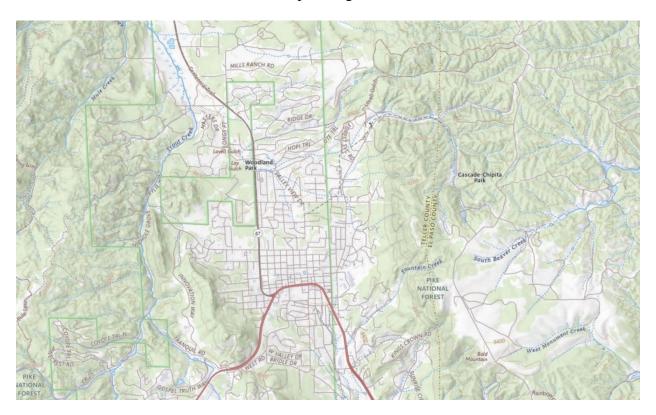


Figure 77: Woodland Park



Project Name: Catamount Area

Owned by: Private Property Owners, Colorado Springs Utilities and USFS

**Description:** The Catamount area sits near the top of Ute Pass on the north side of Pikes Peak. The area encompasses Catamount Ranch Open Space, the North Slope Recreation Area, BLM parcels and adjacent subdivisions of Holiday Hills, Catamount Estates, Ranch Estates and several large landowners. The area is rated extreme in the community assessments. There are several projects that could be developed in this area. Acres and exact projects to be determined. Recommend phasing in projects over several years. Follow up maintenance will be required in perpetuity. Colorado Springs Utilities has thinned around 8,000 acres on the north slope and Coalition of the Upper South Platte has thinned 200 acres on the Open Space and around 120 acres near Catamount Estates. Future projects should focus on completing the open space mitigation along with work in the adjacent subdivisions.

**Goal:** Protect homes, water supplies and recreation areas

**Project Lead:** Collaboration between Teller County, private land owners, USFS, CSFS and Non-Profits

Estimated contract costs: TBD with more planning



Figure 78: Catamount Area



#### **Community Projects**

Begin working is Teller County Subdivisions that are rated Extreme, Severe and High and have significant acreage and more than 50 structures in order to protect the highest number of homes. The following tables represent those areas not listed above in other projects. The best approach is to treat as many connected properties as possible in a subdivision to not only create defensible space but also a fuel break.

Costs will vary between each area and can be developed at the time of project development. Contracted costs may run between \$2500 per acre to \$4000± per acre depending on difficulty of the project. The other variable to consider is how much funding a property owner can contribute to a project on their parcel. The acres shown in the following tables represent the total acres of an area and not actual number of acres to be mitigated.

Another approach is to collaborate with adjacent subdivisions with or without more than 50 structures and create the connectivity necessary to change fire behavior and protect lives and property.

Table 18: EXTREME Rating - at least 50 structures

| Area                 | FPD         | # Structures | Acres |
|----------------------|-------------|--------------|-------|
| Rhyolite Area        | Cripple     | 144          | 2163  |
|                      | Creek       |              |       |
| Turkey Rock          | Mountain    | 138          | 382   |
|                      | Communities |              |       |
| Ranch Estates        | NETCO       | 118          | 155   |
| 61 A and B           | Cripple     | 186          | 2533  |
|                      | Creek       |              |       |
| Quinlan Gulch        | NETCO       | 83           | 1205  |
|                      |             |              |       |
| Manitou Park- Hughes | NETCO       | 76           | 292   |
| Area                 |             |              |       |
| Ute Lakes            | Divide      | 52           | 423   |



Table 19: SEVERE Rating - at least 50 structures

| Table 19: SEVERE Rating - at least 50 structure |                         |                 | ictures |
|---|-------------------------|-----------------|---------|
| Area  | FPD                     | #<br>Structures | Acres   |
| Indian<br>Creek                                 | Florissant              | 1001            | 5601    |
| Highland<br>Lakes                               | Divide                  | 408             | 972     |
| Spring<br>Valley                                | Divide                  | 316             | 553     |
| Navajo<br>Mtn Mesa                              | Four Mile               | 233             | 1426    |
| Ridgewood<br>Area                               | NETCO                   | 191             | 1073    |
| Trout<br>Haven<br>Area                          | Divide                  | 182             | 751     |
| Florissant<br>Heights                           | Florissant              | 178             | 706     |
| West<br>Creek<br>Lakes                          | Mountain<br>Communities | 175             | 834     |
| Cripple<br>Creek Mtn<br>Estates                 | Four Mile               | 326             | 2717    |
| Eight Mile<br>Creek<br>Ranches                  | Victor                  | 123             | 2107    |
| Lutheran<br>Valley                              | Mountain<br>Communities | 118             | 967     |
| Aspen Hills<br>Area                             | NETCO                   | 101             | 276     |
| Golden<br>Bell                                  | Divide                  | 97              | 311     |
| Aspen<br>Moors –<br>Sky Crest                   | Divide                  | 87              | 251     |

| Area                                    | FPD              | #<br>Structures | Acres |
|---|------------------|-----------------|-------|
| Cripple<br>Creek<br>Ranches             | Cripple<br>Creek | 83              | 1030  |
| Cripple<br>Creek<br>South               | Cripple<br>Creek | 77              | 1397  |
| Wildhorn<br>Area                        | Florissant       | 70              | 1659  |
| Outlook on<br>Goldcamp                  | Victor           | 67              | 1013  |
| Valley Hi                               | Florissant       | 65              | 413   |
| Divide<br>South                         | Divide           | 64              | 451   |
| John<br>Wesley<br>Methodist<br>Camp     | Divide           | 64              | 124   |
| Broken<br>Wheel                         | Divide           | 61              | 263   |
| Deer<br>Meadow –<br>Eagle Point<br>Area | NETCO            | 60              | 1203  |
| CR 512<br>Area                          | Divide           | 54              | 996   |
| Aspen<br>Heights                        | Victor           | 53              | 2064  |



Table 20: HIGH Rating - at least 50 structures

| Table 20: HIGH Rating - at least          |            |                 |       |
|---|------------|-----------------|-------|
| Area                                      | FPD        | #<br>Structures | Acres |
| Divide<br>Central Area                    | Divide     | 476             | 2693  |
| Las Brisas                                | Florissant | 384             | 627   |
| Sunnywood<br>– Tamarac<br>Area            | NETCO      | 378             | 356   |
| Colorado<br>Mountain<br>Estates           | Florissant | 558             | 2144  |
| Sherwood<br>Forest                        | Divide     | 272             | 400   |
| La Montana<br>Mesa Area                   | Florissant | 260             | 454   |
| Bear Trap                                 | Four Mile  | 387             | 5344  |
| Sourdough<br>Area                         | NETCO      | 191             | 1492  |
| Druid Hills –<br>Mountain<br>View         | Florissant | 184             | 883   |
| Westwood<br>Lakes                         | NETCO      | 171             | 218   |
| Palmer<br>Village –<br>Twin Rocks<br>Area | Florissant | 159             | 580   |
| Arabian<br>Acres                          | Divide     | 156             | 391   |

| Area                                  | FPD                     | #<br>Structures | Acres |
|---------------------------------------|-------------------------|-----------------|-------|
| Diamond<br>Campground                 | NETCO                   | 150             | 20    |
| Columbine –<br>Blue Bird Hill<br>Area | NETCO                   | 147             | 520   |
| Rainbow<br>Valley                     | Divide                  | 166             | 1271  |
| Woodland<br>Valley                    | NETCO                   | 146             | 79    |
| Rampart                               | NETCO                   | 191             | 341   |
| Ranch<br>Resorts Area                 | Four Mile               | 143             | 962   |
| High<br>Chateau<br>Woodland<br>East   | Four Mile               | 139             | 959   |
| Wilson Lakes                          | Florissant              | 122             | 256   |
| Four Mile<br>Ranch                    | Four Mile               | 113             | 3065  |
| Highland<br>Hills                     | NETCO                   | 106             | 43    |
| Park Ridge<br>Ranch                   | Four Mile               | 98              | 1501  |
| Eaglenest<br>Area                     | Cripple<br>Creek        | 92              | 971   |
| Saddle<br>Mountain<br>Ranch           | Four Mile               | 83              | 1163  |
| Trout Creek<br>Ranch                  | Mountain<br>Communities | 80              | 489   |
|                                       |                         |                 |       |



| Area                                       | FPD        | #<br>Structures | Acres |
|--|------------|-----------------|-------|
| Lakemoor<br>West Area                      | Four Mile  | 78              | 920   |
| Divide North                               | Divide     | 71              | 2232  |
| Goldfield                                  | Victor     | 70              | 278   |
| Rosewood<br>Hills Area                     | NETCO      | 67              | 245   |
| Aspen<br>Village Area                      | Divide     | 120             | 986   |
| Red Rocks<br>Area                          | NETCO      | 65              | 387   |
| CR 62 Area                                 | Divide     | 64              | 234   |
| Sanborn<br>Camps                           | Florissant | 63              | 2619  |
| Blue<br>Mountain<br>Area                   | Florissant | 62              | 727   |
| Deer<br>Mountain                           | Four Mile  | 59              | 389   |
| Highland<br>Meadows                        | Four Mile  | 56              | 394   |
| Aspen<br>Village                           | Divide     | 54              | 267   |
| Broken<br>Wagon –<br>Aspen Valley<br>Ranch | NETCO      | 52              | 256   |
| Pike<br>Meadows                            | Four Mile  | 51              | 632   |



Assist Communities with obtaining funding to implement their priority projects as outlined in their current CWPP. Those communities include:

- Colorado Mountain Estates (2024)
- Ridgewood 2022
- Cripple Creek Mountain Estates 2021
- City of Cripple Creek 2019
- Greater Woodland Park Healthy Forest Initiative 2018
- Arabian Acres 2018

#### Green Mountain Falls, CO

Green Mountain Falls is an approximate population of 700 full time residents and 525 housing units. Only a part of Green Mountain Falls is located in Teller County, with the majority of the town in El Paso County and on the border with Teller County. The town covers 1.2 square miles with a population density of 620 people per square mile. Approximately 7% of the community are 70+ years old and could be considered at risk. The town is one of the highest at-risk communities for wildfire in Colorado.

- 1. Continuation of expanding and extending the fuel break along Thomas trail to Catamount Falls and as far beyond as practical.
- 2. Continuation of private property owner fuels reduction and compliance to NFPA Firewise and Colorado State Forestry Service guidelines for:
  - a. Creating a home ignition zone.
  - b. Reducing structural ignitability.
  - c. Creating defensible space around the home.

2025 goal for this project is 25-50 treated properties by year end with the help of cost sharing funds and volunteer organizations such as Team Rubicon to assist private property owners with these projects.

Continue fuels reduction on rights of way and opening the width of streets to provide appropriate access and egress for emergency equipment and evacuation.

- Crystola Pines Area Severe
- Chipita Park High
- Town of GMF High
- GMF east High
- High Mark Area High



#### **Lake George Fire Protection District**

Lake George is not located in Teller County but is on the western border with Teller County.

- Sportsman's paradise Severe
- Toms' Ranch Extreme
- Wagon Tongue Severe
- Echo Valley Severe
- Echo Valley Estates Severe
- Town of Lake George High
- Pike Forest Estates High
- Beaver Valley Estates High
- Dos Lomos High
- Sylvanhurst High



#### STORM DAMAGE

2024 and 2025 have seen unusual though not unheard-of storm events on the west side of Pikes Peak. In at least three incidents, tornadoes have formed and either touched down causing damage or the outflow winds from the storm have caused damage. All three of these events were labeled EF1 tornadoes by the National Weather Service. In each case a large number of trees were uprooted and blown over, leaving behind a lot of continuous fuel on the ground. The last tornado in 2025 was almost entirely on USFS land and that agency is handling the cleanup. Though these areas may not lead to crown fires, they will have the potential for severe surface fires with homes in the immediate vicinity. Costs to remove the storm damage will vary depending on the wishes of the landowner involved.

#### **Teller County Road 25 Tornado Salvage**

**Description:** On June 17, 2025, a supercell thunderstorm moved east southeast across Teller County during the early afternoon. As it intensified, it produced a tornado just north of Divide, along County Road 25. The result was thousands of trees uprooted on private land (estimates are over 24,000 trees downed over 109.2 acres. The trees on the ground are now a continuous fuel source if ignited. Still to be determined how to fund this effort and who will be involved. This can be an expensive project for several reasons:

- 1. The number of trees down
- 2. Trees to be either physically removed to a mill or decked and left for firewood
- 3. The amount of slash that must be removed it is recommended that the most cost-effective way for slash disposal is piling and burning. Slash could be chipped but that will add to the cost as chipping is labor intensive.
- 4. What to do with the root balls from so many trees is going to be an issue and take a collaborative effort to come up with solutions

Immediate work should focus on the **severely impacted** areas along County Road 25 which encompasses around 65-70 acres and nearly 20,000 trees.

**Project Lead**: Collaborative efforts between Teller County private landowners, Colorado State Forest Service and non-profits.

Estimated Cost: TBD with detailed project planning



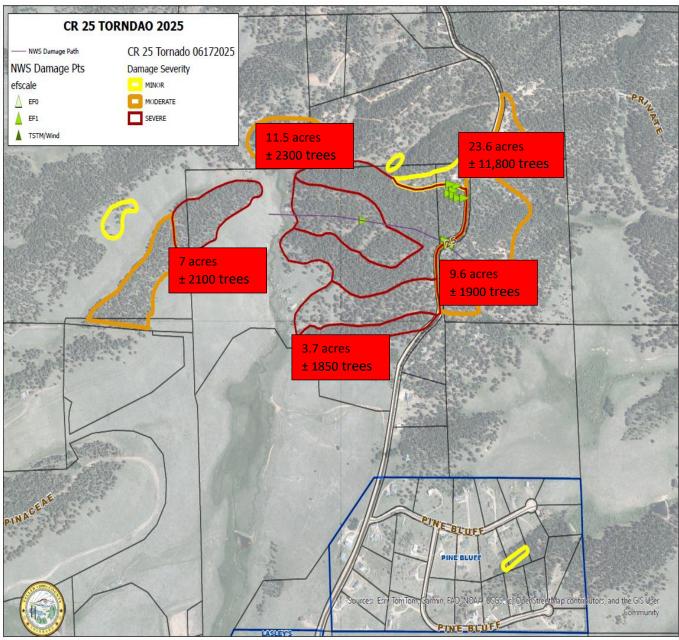


Figure 79: County Road 25 Storm Damage Areas



#### **Teller County Road 61 Tornado Salvage**

**Description**: On August 9, 2024, an EF-1 tornado touched down in the area of Teller County Road 61, impacting about 92 acres and uprooting around 5,000 trees on several private properties. The tornado stayed on the ground for approximately a mile with an estimated 400-yard path of damage. About 15 acres of this storm damage has already been completed by the landowners, leaving about 77 acres to complete.

**Project Lead:** Collaborative efforts between Teller County private landowners, Colorado State Forest Service and non-profits.

Estimated Cost: TBD with detailed project planning

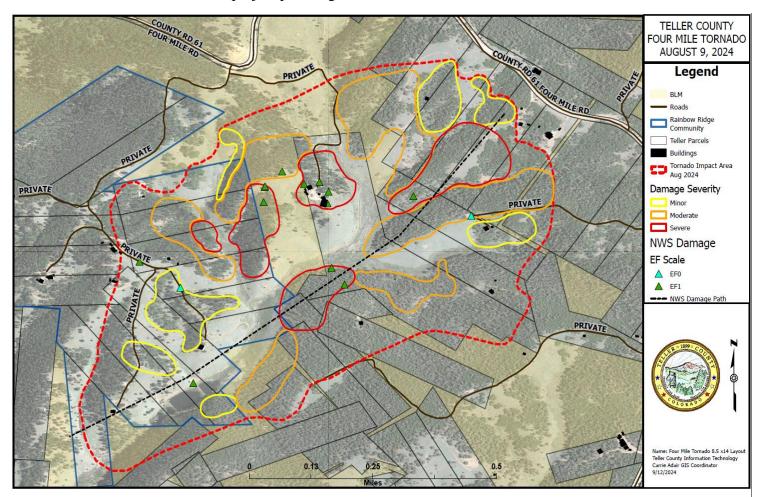
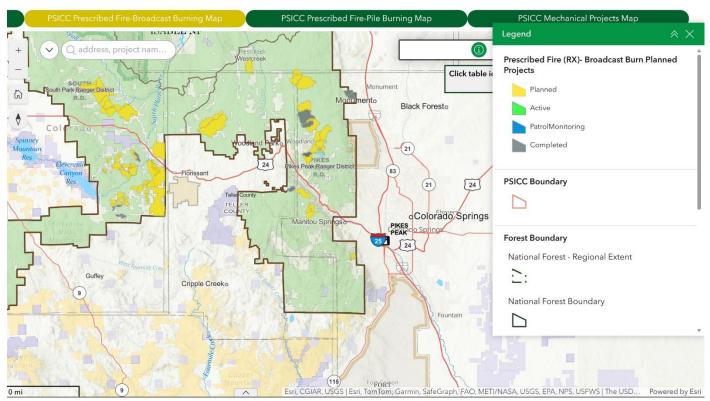


Figure 80: CR 61 Storm Damage Areas

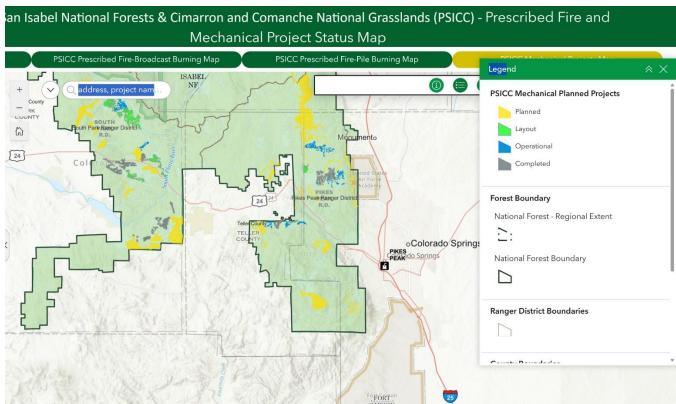


#### **USFS** Treatments



**Figure 81: USFS Planned Prescribed Fire Treatments** 





**Figure 82: USFS Planned Mechanical Treatments** 



# Section 7: Homeowner Preparedness



#### HOMEOWNER PREPARATION

Homeowners, HOAs, subdivisions, businesses, and agencies within need to work together to prepare for wildfire. Preparation, planning and mitigation are key elements of reducing wildfire risk and increasing safety once wildfire is on the ground (Finney *et al.*, 2021).

Preparedness must happen at the local level. It is the responsibility of <u>each</u> homeowner, large landowner, subdivision and community to prepare for a natural disaster such as wildfire.

It is strongly recommended that each subdivision and community develop their own CWPP to assist their residents during an emergency. By doing so, you can analyze risk, mitigation projects and evacuation routes on each local level.

It is also strongly recommended that each homeowner develop their own Wildfire Action Plan.

#### **Peak Alerts**

<u>Sign up for emergency notifications at Peak Alerts</u>. Peak Alerts is the emergency notification system used in El Paso and Teller County. Alerts are sent for natural or man-made disasters that threaten people or property. Get alerts for fire and flood evacuations, law enforcement activity, safety notices, and more. Sign up for an account at PeakAlerts.org. Enter up to five addresses to get alerts for home, work, school, or other places important to you. Choose how you receive the alerts: through text, phone calls, email, or the Everbridge app. Make sure each person in your home has a Peak Alerts account.

There are things a homeowner can do to increase the likelihood of structural survival and prepare for safe and effective evacuation.

#### START WITH A FAMILY WILDFIRE ACTION PLAN.

Your Wildfire Action Plan must be prepared, and familiar to all members of your household well in advance of a wildfire. Use the checklist below to help create your plan. Each family's plan will be different, depending on a variety of issues, needs, and situations.

| Meeting point: A predetermined meeting location outside high-risk areas to determine what family member   |
|---|
| have evacuated from the affected area   |
| Escape routes: Several escape routes, known to all in your household. Practice these often so everyone in |
| your family knows where to go   |
| Animal arrangements: Specific arrangements for pets and larger animals, like horses and other livestock.  |
| Communication plan: A family communication strategy names someone outside the area to be the main         |
| contact point for all family members if you get separated or have trouble with phone networks. Decide how |
| you will communicate with family members – texting is the best way to communicate during a disaster       |
| Know where you will shelter once you do evacuate  |
| Know where and how to obtain information  |
| Teller County Sheriff's Office  |
| https://www.tellercounty.gov/Sheriff  |
| https://www.facebook.com/tellersheriff  |
| Keep a GO BAG prepared for each family member   |
| Know when to evacuate   |



#### **GO BAG**

- Each family member should always have a bag ready to go. When disaster strikes is not the time to start packing a bag.
- Pack clothing, comfort items, sanitation and hygiene items for a minimum of 3 days
- Pack for Colorado changing weather conditions
- Have food and water ready to go for at least 3 days
- Prescriptions (medications, eyeglasses and medical devices).
- Phones, personal computers, hard drives or disks, and chargers.
- Papers medical papers, mortgage papers, insurance information, vehicle titles and other important papers you may need
- Personnel needs whatever you wish to take with you during an evacuation credit cards, ID,
- Priceless items photographs, jewelry, other items that have personal meaning to you
- In case of a rapid evacuation, residents should keep a go-bag ready. It should contain essential medications, glasses or contacts, a first aid kit, extra keys, snacks and water, a change of clothes, toiletries, cash and credit cards, ID and insurance cards, flashlight with batteries, a portable radio, face masks to deal with smoke, and a cellphone, charger and portable battery pack. If there is time, residents should also gather computers, important papers and documents, and other irreplaceable items such as photos. An emergency kit containing necessities is also a good idea in case of having to shelter in place. The emergency kit should contain a first aid kit, 3 days or non-perishable food and water, and a flashlight with extra batteries (Wildfire Resilience, 2025).



## Wy Personal Wildland Fire ACTION PLAN

Write up your Wildland Fire Action Plan and post it in a location where every member of your family can see it. Rehearse it with your family.

During high-fire-danger days in your area, monitor your local media for information and be ready to implement your plan.

Hot, dry, and windy conditions create the perfect environment for a wildland fire.

|                     | Phone:            |
|---------------------|-------------------|
| Work                | THORE.            |
|                     |                   |
| Other               |                   |
| otrier              | 23483             |
| EVACUATION ROUTES   |                   |
| 1                   |                   |
| 2                   |                   |
| 3                   |                   |
|                     |                   |
| LOCATION OF EMERGEN | ICY SUPPLY KIT(S) |
| LOCATION OF EMERGEN | ICY SUPPLY KIT(S) |
|                     |                   |
|                     | ICY SUPPLY KIT(S) |
|                     |                   |
|                     |                   |
|                     |                   |
|                     |                   |
| NOTES               |                   |

Figure 83: Wildfire Action Plan



#### **Evacuation Planning**

Each household should have their own personal wildfire evacuation plan including what to do if a fire starts while residents are away from home. Residents should practice this plan until they feel comfortable that they can execute it in a stressful situation (*Plan Ahead for Disasters*, 2025).

For those in a dead zone, all weather radios may be the best method of communication. HOAs can contact the Teller County Office of Emergency Management for assistance purchasing them. In addition to risk within subdivisions themselves, wildfire could destroy critical infrastructure such as roads, power lines, communication towers and a water lines that block residents and first responders from ingress and egress and inhibits communication.

Many subdivisions in Teller County have limited ingress/egress routes, so it is recommended for residents to evacuate as early as possible, such as during a pre-evacuation notice. Shelter locations will depend on location of the fire. If you wait too long, you may get caught in traffic chaos as everyone tries to evacuate at once. Do not try to ride out a wildfire and protect your home and property with a garden hose. If you stay during evacuation notices you may be putting First Responder lives in danger as they come and check on you.

When disaster strikes, don't hesitate to listen to your instincts. If you feel unsafe or know that conditions are deteriorating in your area, it's ok to leave before officials mandate that you leave. "When you get that evacuation notice or you smell the smoke on the other side of the city, you can always choose to leave early," Trost said. "And if you do choose to leave early, then it helps officials get folks out of the area." It's key to give yourself enough time to gather your family, your animals and any other items you need to safely evacuate.

#### The 6 P's of Evacuation

- People & pets
- Papers, phone numbers & important documents
- Prescriptions, vitamins & eyeglasses
- Pictures & irreplaceable memorabilia
- Personal computer, cell phones and chargers
- "Plastic" (credit cards, ATM cards) & cash

#### **Before Leaving Home**

ELECTRICAL – It is generally recommended to turn off the main breaker or shut off the power to your home. This helps prevent electrical fires, especially if power lines are damaged during the wildfire. It also reduces the risk of electrical hazards for firefighters and other emergency responders.

GAS and PROPANE - Turning off the gas or propane to your home when evacuating for a wildfire is recommended. This helps prevent gas leaks and potential explosions if the fire spreads, and also helps to prevent the fire from spreading into the home.

EVACUATION TAG – Hand the red evacuation tag on your front door so first responders know that you have left the area. These tags can be picked up at the Teller County Sheriff's Office ahead of time.



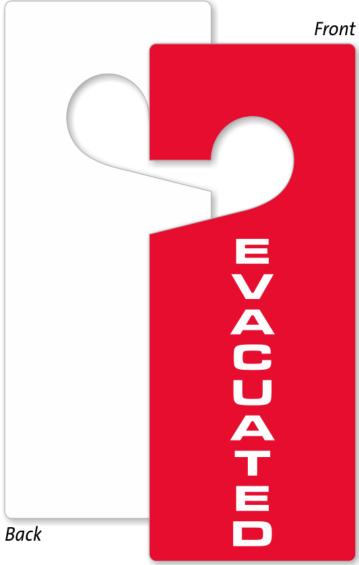


Figure 84: Evacuation Tag

#### **Livestock and Pets**

Livestock prep

- Have a trailer available and sure the trailer is current on registration, insurance, working lights, brakes, etc.
- Teach your livestock to load in trailer evacuations are not the time to teach them to load
- Have your band inspection papers, photos of your animals, registrations and all pertinent information in your vehicle on your phone
- Identify friends who will be able to house your animals in an emergency have multiple locations available
- Post information in your barn for contact information, special diet and who your vet is
- Generally, livestock may be taken to Teller County Fairgrounds in Cripple Creek



#### **House Pet Preparation**

- Pet food and water for at least 3 days
- Treats, toys, collars and leashes, pet first aid kit, grooming supplies, water and feed bowls
- Medications, pet carriers and bedding
- Current photos, registration paperwork, microchip and vet records, put in vehicle and cell phone
- List of animal emergency contacts, pet names and ages along with any health concerns posted on the refrigerator is useful. Include cell phone number for contact.
- Know a place to stay with your pets
- Often small pets can be taken to Teller County Animal Shelter during an evacuation

#### HOME HARDENING

Individual responsibility is paramount in reducing structural ignitability. Fire science research has demonstrated that ignition potential of structures, including homes, is minimized by modifying the home itself and the area within 100 to 200 feet around the home. A home should be examined for its ignition vulnerabilities to firebrands and flames. Firebrand ignition factors include structure locations of firebrand accumulations on flammable surfaces and unscreened openings allowing firebrand entry. Vulnerabilities to flames depend on the potential for any flame contact with the structure and preventing the occurrence of large flames of high-intensity fires to burn within 100 feet of a home including structures adjacent to a home. (Cohen, 2008).

Homeowners have control over the structural components of their homes and the "home ignition zone." The effectiveness of fire suppression/ protection is subordinate to the individual's responsibility for ignition resistance of their home. Replacing flammable or highly ignitable components of the home and removing fuels from around the home minimizes the ignition potential of the home. A model for engaging community residents on a neighborhood or subdivision basis can be found at <a href="https://www.firewise.org/usa">www.firewise.org/usa</a>, the national Firewise Communities/USA Recognition Program. Firewise communities are educated about how houses ignite, they provide risk assessments to homeowners, they invest in fuel-reduction projects annually, and they celebrate their successes, building community enthusiasm for fire safety. Education efforts should target homeowners, contractors, realtors, and insurance companies emphasizing the homeowners' responsibility to protect their homes.

Home hardening is that act of making structures themselves less susceptible to wildfire by reducing potential for ignition. There are different levels of home hardening (*Home Ignition Zone Guide*, n.d.). The first level includes steps that are relatively quick to implement and take short amounts of time. Other levels are more expensive, involves more resources, or should be considered when initially building the home.

New structures should be hardened at the time it is built. Homeowners should consider retroactively upgrading already standing structures as is feasible based on the following recommendations. Both the siding and roof and should be made of non-combustible materials. Homeowners should prioritize the roof as it is especially vulnerable to ember ignition. Porches and decks should likewise be made out of non-combustible or fire-resistant materials built close to or on the ground. If made out of wood, metal plates should be installed where railings and flooring connect to the house to create a barrier. Wooden pillars should be encased in non-combustible materials such as concrete, brick, rock, stucco, or metal (*Home Hardening*, 2025).



#### Recommended options for home hardening include:

- Class AI fire rated asphalt shingles or metal roof
- Fire resistant siding such as stucco
- Chimney cleaned regularly if burning wood
- Clean pine needles and debris from gutters and off roof
- $\boxed{\phantom{0}}$  1/8 inch 1/16 mesh over vents and other openings to keep out embers
- Repair or replace damaged screens and windows
- Double pane windows
- Decks constructed of non-flammable materials
- ☐ Move firewood 30+ feet from home do not stack on or under decks
- Don't store flammable items under deck
- Keep deck free of debris
- Propane tanks at least 30 feet from home and keep area around trimmed
- If patio furniture is combustible, consider putting inside the house before evacuating to prevent it from catching the deck, porch, or eaves on fire (*Home Hardening*, 2025).
- Make certain address is clearly marked with a reflective, metal sign out near the road. Make sure it is clearly visible to first responders.



Figure 85: Reflective Metal Address Sign

Subdivisions – Subdivisions should focus on establishing and clearing rights-of-way, access routes, and creating fire breaks around neighborhoods. The bigger the fire break, the more likely it is to be effective. Several organizations around Teller County provide services to help. Subdivisions should be aware of liability and ensure that the agency helping them has insurance coverage so as not to make homeowners pay for property damage, accidental injury, or worse. Cut trees, called bolls, should be offered to the residents for firewood, and can also be donated to local firewood ministries for disposal and to ensure wood products benefit the local communities. Subdivisions may also consider becoming a Firewise community, which includes national recognition and additional mitigation funding resources (*Firewise USA*, 2025).



#### **EMBER IGNITION**

Ember ignitions pose a significant hazard during wildfires. When we think about wildfires, we generally envision huge walls of flames engulfing homes. The reality is that most homes do not ignite from direct contact with a flaming front. It's estimated that 90% of homes are destroyed indirectly by wind-borne embers that are carried ahead of the fire perimeter. When the heat generated by an intense wildfire is combined with wind, small burning embers can travel several miles away from the fire perimeter. (frontline wildfire defense).

These wind-blown embers travel miles ahead of the main fire front, landing on roofs, decks, or in gutters, and can ignite new fires. This "spotting" phenomenon contributes to the rapid spread of wildfires. Embers can land on dry leaves, grass, or other flammable materials, creating spot fires that can then spread to the structure. Embers can be drawn into a home through vents, windows, or other openings, igniting interior surfaces or igniting flammable materials inside. Complex roofs with dormers or other nooks and crannies can create areas where embers accumulate and ignite. Decks, especially those constructed with combustible materials, are highly vulnerable to ember ignition.

Once they're picked up by strong winds, embers can travel several miles in front of the active front of a wildfire. Before flames get anywhere near a structure, embers can land in dry or flammable vegetation or small open spaces of a roof or wall, and ignite, threatening the structure. If embers fall on and ignite nearby plants, the radiant heat created by the fire can burn combustible siding, doors, or window frames. Radiant heat can also cause windows to break, creating openings that allow flames and embers to enter your home. Once the home is on fire, it will create more embers that can be picked up by winds, travel to other homes and neighborhoods, and increase fire damage for the entire community.

Embers may land smolder in flammable materials such as pine needles or dry grass and smolder for many hours before leading to the ignition of fire. In this case, visible flames may not appear until hours after the wildfire flame front has passed.

4 primary areas where embers can lead to structure ignition are:

- 1. Landing on the structure.
- 2. Entering the structure.
- 3. Landing on the landscape surrounding the structure.
- 4. Landing on nearby fuels (fences, sheds, woodpiles, etc.)

#### THREE REASONS HOUSES BURN DURING A WILDFIRE



Figure 86: Three Reasons Homes Burn During a Wildfire



Homeowner's can protect themselves against ember ignition.

- Clear Decks and Crawl Spaces Remove any combustible materials (dry leaves, firewood, etc.) stored beneath decks and in crawl spaces.
- **Screen Vents** Install 1/8-inch metal mesh screening over vents in eaves, soffits, and crawl spaces to prevent embers from entering.
- **Maintain a Home Ignition Zone -** Create a defensible space around the home by removing flammable vegetation and trimming trees and shrubs.
- **Improve Deck Construction** Increase the gap between deck boards to allow better airflow and reduce the risk of ember ignition.
- Choose Fire-Resistant Materials Select fire-resistant roofing materials, siding, and decking.
- **Maintain Gutters and Roofs -** Regularly clean gutters and roofs to remove accumulated debris that can easily ignite from embers.

#### EMBER RESISTANT CHECKLIST

| Class Al fire rated asphalt shingles or metal roof                          |
|---|
| Clear debris such as pine needles from roof                                 |
| Fire resistant siding   |
| Seal openings in eaves  |
| Double paned tempered glass windows   |
| Chimney cleaned regularly   |
| Vents and other openings covered with 1/16 to 1/8 inch metal mesh           |
| Plastic skylights replaced with double paned tempered glass                 |
| Gutters free of pine needles and other debris                               |
| Firewood at least 30 feet away from house, deck and garage                  |
| Deck constructed of non-flammable materials such as Trex                    |
| Put flammable patio furniture in the house or garage if evacuating          |
| Remove plants and other debris from the deck                                |
| Do not store flammable items or equipment under the deck                    |
| Remove wooden flower boxes from beneath windows                             |
| Maintain wooden fences in good condition – trim vegetation away from fences |



#### THE HOME IGNITION ZONE AND DEFENSIBLE SPACE

The home ignition zone (HIZ) extends 100 feet around any structure on the property, including houses, sheds, garages, and greenhouses. It is broken into three zones. Zone 1 extends from 0-5 feet away from the structure, zone 2 covers 5-30 feet away, and zone 3 covers 30-100 feet. Zone 3 may overlap with HIZ from other structures, allowing for continuous wildfire treatment which further decreases the risk to each structure (*Home Ignition Zone Guide*, n.d.).

#### **Zone 1 – Ember Resistant Zone (0 to 5 Feet)**

Goal: Keep fire away from the base of the structure to prevent direct contact and ember ignitions. To achieve this goal, all flammable vegetation and mulch from within this zone should be removed. Non-flammable materials such as rock, gravel, sand, pavers, or other similar items can be used to keep weeds away and increase aesthetic appeal. Tree branches that overhang the roof and that are within 10 feet of the chimney should be pruned. All pine needles, leaves, and debris from roof, gutters, and decks should be disposed of regularly. Nothing should be stored underneath decks, and lawn furniture should ideally be made of non-combustible materials.

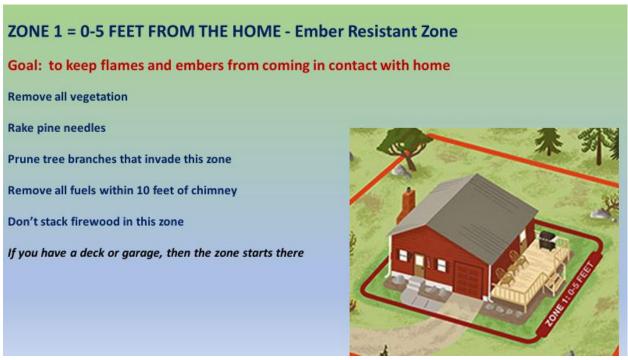


Figure 87: Zone 1



#### **Zone 2 – Fuel Reduction Zone (5 to 30 Feet)**

Goal: Reduce the amount of fuels to decrease fire intensity and keep it on the ground as it moves towards structures, thus reducing the chance of radiant heat ignition. Trees in this zone should be limbed to 10 feet high or 2/3rds the height of the tree, and ladder fuels should be removed. Slash treatments should focus on removing fuels, such as burning or dragging to zone 3. Well-trimmed bushed and shrubs can be retained if they are isolated from other large fuels, but juniper should be removed as it is highly flammable. Grasses should be mowed to 4 inches and stressed or dying trees and foliage should be removed. Retained trees can be left as a single or in clumps of 2-3, with at least 30 feet spacing between stands or 10+ feet spacing between crowns. Large accumulations of fuel, such as mulch piles and slash should be removed.



Figure 88: Zone 2



#### **Zone 3 – Forest Health Zone (30 to 100 feet)**

Goal: Balance lowering fire intensity with forest health promotion. Treatment looks similar to zone 2 but is less aggressive. Ladder fuel removal and limbed treed should mirror zone two (2). However, four (4) – five (5) trees can be grouped in a stand and crown spacing between clumps should be 6-10 feet. Any slash treatment can be used in this zone, including mastication and chipping that do not remove fuels but bring them to the ground. Dead or dying trees should mostly be treated, but one (1) large standing dead tree may be retained in this zone to provide habitat.

For residents with the ability to work on their land, several options are readily available to dispose of slash. Most local Fire Districts within Teller County have a chipping program and Coalition for the Upper South Platte has a Neighborhood Fuels Reduction Program, all of which offer chipping in each property or subdivision. Alternatively, private property owners can bring slash to a site in Divide behind the Teller County Sheriff's Office.

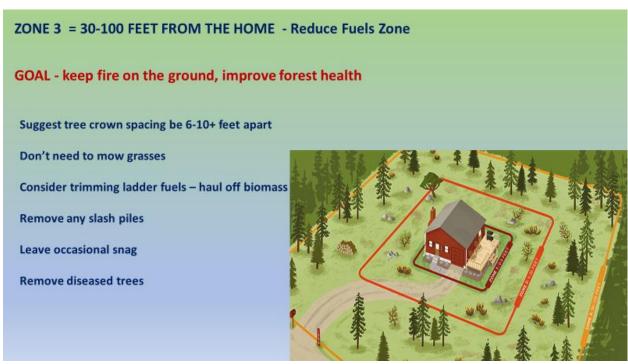


FIGURE 89: ZONE 3



#### HOME IGNITIONS ZONE SELF CHECKLIST

| Top P | Priorities for Structural Ignitability   |
|-------|--|
|       | Ensure roof has a Class A fire rating  |
|       | Remove all leaves, needles and other debris from all decks, roofs and gutters  |
|       | Screen attic, roof, eaves and foundation vents with 1/8-inch metal mesh  |
|       | Screen or wall in stilt foundations and decks with 1/8-inch metal mesh   |
|       | Tempered, double pane windows  |
|       | Create 6 inches of vertical clearance between the ground and home siding   |
|       | Replace combustible fencing or gates, at least within 5 feet of the home   |
| Тор о | f Priorities for Defensible Space  |
|       | Mow grass and weeds to a height of 4 inches or less  |
|       | Rake and removal pine needles and other flammable debris from a 5-foot radius around the foundation of your home and deck  |
|       | Treat or mow shrubs that re-sprout every 3-5 years or more depending on growth rates   |
|       | Remove branches that hang over the roof and chimney  |
|       | Dispose of slash after thinning trees by chipping or hauling to a disposal site such as the Divide Slash Site. Any accumulation of slash that's chipped should be isolated 30 feet or more from the home             |
|       | Avoid creating continuous areas of wood chips on the ground when chipping slash. Allow for wide gaps of 3 feet or more between chip accumulations  |
|       | Keep firewood stacked uphill from any structures (or at the same elevation) and woodpile should be at least 30 feet away from the home. Do not stack firewood between remaining trees, under the deck or on the deck |
|       | Remove vegetation within 10 feet of firewood piles   |
|       | Keep above ground propane tanks at least 30 feet and at least the same elevation from the home   |
|       | Remove vegetation within 10 feet of propane tanks and gas meters   |
| Drive | wavs   |
|       | Maintain at least 10 feet between crowns and keep trees at least 30 feet back from each site of the driveway   |
|       | along the entire distance from the house to the main access road   |
|       | Remove ladder fuels beneath trees after thinning   |
|       | Remove shrubs within 10 feet of the outer edge of the tree crowns  |
|       | Post address in metal, reflective numbers at the top of the driveway off of the main access road so that first responders can easily find you  |

#### FIRST RESPONDER ACCESS

In event of fire, firefighters prioritize saving structures that easy to find, access, and defend. Increasing access includes clearing ingress/egress routes, clearly marking houses, and maintaining good HIZ. Roads should be wide enough for firetrucks to get through. Trees lining the roads and driveways should be limbed to 10 feet and ladder fuels should be removed. Shrubs in the same areas should be no closer than 2.5 times their mature height to prevent fire from spreading and blocking ingress and egress. Houses should be clearly marked at the end of the driveway using reflective, non-combustible material.

Additional homeowner resources can be found in Appendix G



### **Section 8: Post Fire Considerations**



#### POST FIRE EFFECTS

Wildfires have significant, long-lasting impacts on the environment and human populations, extending far beyond the initial blaze. These impacts can include changes to the physical, chemical, and biological properties of ecosystems, as well as increased risks of flooding, erosion, and air quality issues. Additionally, communities face challenges related to rebuilding infrastructure, restoring habitats, and addressing potential health consequences.

#### **Environmental Impacts:**

- Wildfires can severely impact water sources. Increased runoff carries ash, sediment, and debris into streams, rivers, lakes and ponds, affecting water quality and potentially harming aquatic life.
- Burned areas are susceptible to erosion due to the loss of vegetation cover and altered soil properties. These can severely impact infrastructure
- Burned areas are particularly vulnerable to flash flooding again due to lack of vegetation to help stabilize soils. Runoff can be as high as 5 to 10 times+ higher that rates in severe burn areas than in moderate burn severity areas. Even small rain events can trigger flash flood warnings
- Due to the instability of the soil and lack of vegetation cover, combined with steep slopes, burned areas are subject to debris flows which can impact water infrastructure, residential homes, businesses and transportation corridors.
- People living directly downslope of mountainous wildfire areas should be aware that, in addition to debris flows, landslides, and rockfall; there is another, potential deadly hazard—mud flooding at and near the mouths of channels that drain burned-over, ash-laden slopes. Studies have shown that, in the first year following a wildfire, the volume of sediment and water runoff in streams greatly increases. People living, working, or traveling near such streams could be killed or injured by flooding that contains enormous *amounts of debris and mud washed off burned hillsides*
- Smoke from wildfires can travel long distances, impacting air quality in burned areas and neighboring regions, potentially causing respiratory problems and other health issues
- Wildfires can impact forest habitats, impacting biodiversity and potentially leading to long-term changes in ecosystem structure and function

#### **Human Impacts:**

- Wildfires can destroy homes, roads, and other essential infrastructure, requiring significant rebuilding efforts
- Wildfires can lead to financial losses for individuals, businesses, and communities due to property damage, lost tourism revenue, and increased costs associated with recovery and restoration
- Smoke inhalation from wildfires can cause coughing, wheezing, shortness of breath, and irritation of the nose, throat, and eyes. It can also worsen existing respiratory conditions like asthma and COPD, leading to increased hospital visits and emergency room trips.
- Wildfire smoke has been linked to increased risk of heart attacks, strokes, and other cardiovascular events, particularly in vulnerable populations.
- Studies suggest that long-term exposure to wildfire smoke can contribute to the development or exacerbation of chronic lung diseases, heart disease, and even certain types of cancer.
- Wildfires can be traumatic events, leading to symptoms of PTSD, anxiety, and depression among survivors.
- Displacement, loss of property, and the uncertainty of the future can lead to significant stress and grief for those affected.



#### PROTECT AGAINST POST FIRE IMPACTS

Wildfires can have devastating long-term consequences that extend far beyond the initial flames. To effectively mitigate these impacts, it's crucial to implement strategic measures both during and after a wildfire event.

#### 1. Erosion and Flood Control

- Mulching: Covering exposed soil with mulch (like certified weed-free straw, wood chips, or hydromulch) can significantly reduce erosion and runoff, especially during the crucial first year or two after a fire. Mulching also helps retain soil moisture and improve soil health
- Barriers: Install physical barriers on hillslopes and in streams to slow water flow and trap sediment. Examples include log barriers, straw wattles, sandbags, and silt fences
- Seeding and Revegetation: Planting native, deep-rooted plants is vital for long-term soil stabilization and restoring the ecosystem. Fast-growing grasses are particularly effective in the immediate aftermath to quickly establish vegetative cover
- Drainage Systems: Ensure proper drainage systems are in place and clear debris from gutters and downspouts to divert water away from structures and slopes
- Structural Protections: In high-risk areas, consider debris basins and early warning systems to protect communities downstream of burn scars
- Innovative Solutions: Drones and sensors can be used for mapping high-risk areas and monitoring soil moisture and erosion in real-time. Soil stabilization polymers can also create a protective layer over bare soil, helping to bind particles together and reduce runoff
- Bioengineering: Combining living plant materials with structural elements like rock walls or log terraces can provide immediate protection while allowing natural systems to establish over time

#### 2. Long-Term Recovery and Community Resilience

- Post-wildfire recovery programs: There are agencies that offer programs that provide a holistic approach to recovery, including fire suppression repair, emergency stabilization, burned area rehabilitation, and restoration
- Build resilient communities: This includes reducing vegetation fuel, upgrading building standards to include fire-resistant materials, creating defensible space around structures, enhancing emergency preparedness through drills and simulations, and potentially burying power lines in critical areas
- Support vulnerable populations: Recognize that wildfires may impact low-income families, older adults and people with disabilities. Develop inclusive evacuation systems, ensure equitable allocation of recovery resources, and build resilient community transportation systems to address the needs of these groups
- Community engagement: Foster partnerships and actively engage residents in wildfire mitigation efforts.

  Conduct home site visits and risk assessments to identify specific vulnerabilities and guide homeowners' actions
- Education and awareness: Implement public awareness campaigns to educate residents about wildfire risks including post fire impacts, prevention strategies, and safe practices
- Collaborate and plan: Work with local governments, conservation districts, and fire officials to develop comprehensive pre-disaster recovery plans and implement fire management practices

#### 3. Health and Safety

- Wait to return to buildings during daylight hours and only after authorities deem it safe. Document property damage with photos and contact your insurance company
- Wear Personal Protective Equipment (PPE) when cleaning up inside a home or business. This will include an approved N95 respirator, gloves, safety goggles, and long-sleeved clothing to avoid contact with ash
- Keep children and pets away from ash and cleanup activities



- Air out a structure as much as possible by opening windows and doors, especially if the indoor air smells worse
  than the outdoor air. Change HVAC or furnace filter monthly. Consider using portable air cleaners with HEPA
  and activated carbon filters to remove particles and volatile organic compounds
- Wet mop and wipe down hard surfaces to minimize resuspending dust into the air. Use diluted soapy water or an all-purpose cleaner; avoid harsh chemical cleaners or vinegar. When cleaning outdoors, gently dampen the ash before sweeping or scooping it up. If using a vacuum, ensure it has a high-efficiency HEPA filter
- Dispose of food that has been exposed to heat, smoke, soot, or contaminants. Do not drink, brush teeth, prepare food, or wash/bathe in water until officials indicate the water source is safe

#### THE POST-FIRE EROSION INDEX

A measure of the increased potential for soil erosion following a wildfire. It's used to assess the risk of soil loss and sediment movement after a fire, helping to identify areas most vulnerable to erosion and prioritize mitigation efforts.

- **Increased erosion potential:** Wildfires significantly alter soil and vegetation, making them more susceptible to erosion from rainfall and runoff.
- **Vulnerability assessment:** The index helps determine which areas are most likely to experience significant soil loss after a fire.
- **Prioritization:** By identifying areas with high erosion risk, the index helps land managers prioritize areas for post-fire rehabilitation and erosion control measures.

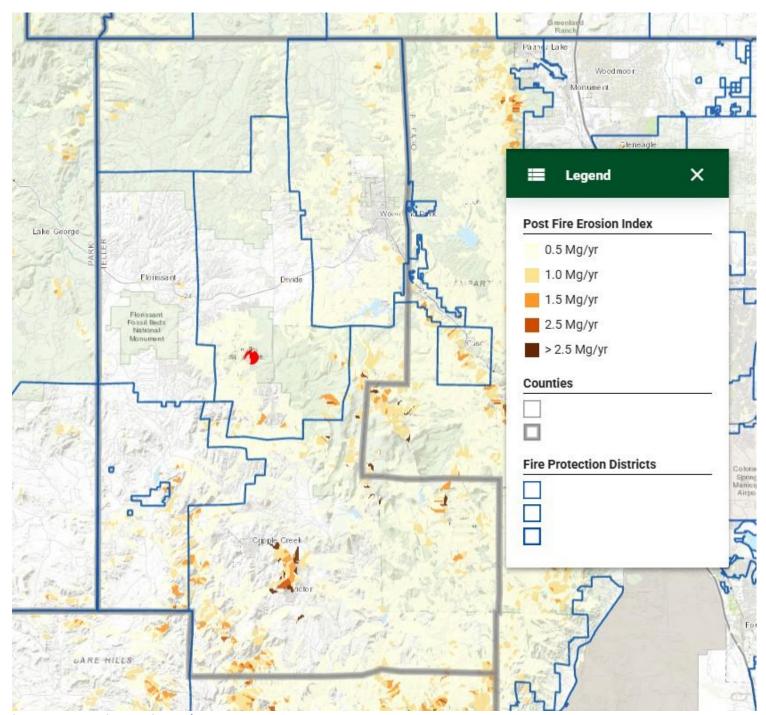
#### **Factors influencing the index:**

- Fire severity: Higher severity fires, which burn hotter and longer, generally lead to greater vegetation and soil damage, increasing erosion potential.
- Burned area: The extent of the burned area influences the overall volume of sediment that could be mobilized.
- Soil properties: Soil characteristics like texture, infiltration rate, and water repellency affect how easily soil erodes.
- Topography: Steep slopes and areas with concentrated runoff are more prone to erosion.
- Climate: Rainfall intensity and duration after a fire play a crucial role in the magnitude of erosion.

#### How it's used:

- **Risk assessment:** The index provides a numerical or qualitative assessment of the likelihood of erosion in a burned area.
- **Mitigation planning:** Based on the index, land managers can implement strategies like seeding, mulching, or installing erosion control structures.
- **Research and monitoring:** The index is used in research to understand the impacts of fire on erosion and to evaluate the effectiveness of mitigation measures.





**Figure 90: Post Fire Erosion Index** 

For Teller county, the COWRA map indicates that the heaviest debris flows will be in the southern part of the county following a wildfire and then a rainfall event. The COWRA uses the WEPP model (Water Erosion Prediction Project).



#### **Post-Fire Strategies**

Strategies can be used before or after such events to help curtail damage. Many of these strategies were used by CUSP after the 2002 Hayman Fire and the 2012 Waldo Canyon Fire. These strategies include:

- Dry mulching Dry mulching is the practice of spreading dry, loose materials like straw, wood chips, or shredded bark on the soil surface to help retain moisture, suppress weeds, and regulate soil temperature. It's a form of mulching that uses materials that don't decompose as quickly as <u>organic matter</u>.
- Wet mulching Wet mulching, also known as <a href="https://hydro-mulching">hydro-mulching</a>, is a process of applying a mixture of organic fibers, tackifiers, suspension agents, and seeds, mixed with water, to the soil surface. This technique is often used for erosion control, particularly after wildfires, and helps to hold soil in place, retain moisture, and foster seed germination
- Erosion control mats organic mats that are staked into the ground and provide vegetation stability
- Log erosion barriers trees felled and placed perpendicular to the slope to slow water velocity can also trap sediment
- Check dams placed in stream channels or erosion channels to slow water velocity and catch sediment
- Stream bank armoring reinforcing streambanks with trees or rock to reduced stream bank cutting
- Debris basins large pit like structures used to catch and store large amounts of sediment
- Channel deflectors an engineered structure designed to direct water flow away from unstable banks and/or areas
- Post fire replanting planting native vegetation to help stabilize a burn scar and ecosystem.

#### **After the Fire Environmental Treatments**

Depending on slope and safety, burned timber can be salvaged. Dead, burned trees may pose a safety issue by being blown over. At a minimum some dead trees can be left for wildlife habitat or to help with soil retention. It is recommended that these type of tress in a burn scar be removed by a forestry contractor.

Another potential issue with burn scars is invasive weed species. Many non-native plants and weeds may actually thrive in burn scars. Only approved seed mixes should be used. Any straw that is spread should be weed free. Any machinery working in a burn scar should be cleaned and inspected prior to entering a burned area. Early prevention and treatments are key to stopping the invasion of unwanted species.

#### WATER RESOURCES PROTECTION

In a post-wildfire environment, protecting water resources involves preventing contamination from ash, debris, and altered runoff patterns, as well as implementing measures to mitigate the impacts of fire on water quality and infrastructure. This includes proactive measures like installing sediment traps, monitoring water quality, and adapting treatment processes, as well as long-term planning for watershed restoration and community resilience.

#### 1. Preventing Water Contamination:

- Monitoring and Assessment: Regularly monitor water sources for changes in turbidity, pH, chemical
  contamination (including volatile organic compounds like benzene and heavy metals), and microbial
  contamination
- **Sediment and Debris Control:** Implement measures to prevent sediment and debris from entering waterways, such as sediment traps, debris booms, and straw bale check dams
- Soil Stabilization: Address soil erosion and runoff by reseeding vegetation, implementing erosion control blankets, and using other techniques to stabilize slopes
- Water Treatment Adaptation: Adjust water treatment processes to address changes in water quality, potentially including increased filtration, coagulation, or other methods to remove fire-related contaminants



• **Emergency Connections:** Establish temporary or emergency connections with neighboring communities to ensure water access in case of contamination or infrastructure damage

#### 2. Protecting Water Infrastructure:

- **Dam maintenance and Inspection**: Inspect and maintain dams and water storage facilities to prevent damage from erosion, debris flows and runoff
- **Pipelines**: protect pipelines from damage and ensure functionality in the event of landslides
- Water Supplies: Ensure that water delivery systems can handle increased demand and disruptions due to a wildfire and the post fire impacts

#### 3. Long-Term Planning and Community Resilience:

- Community Engagement: Engage with local communities and stakeholders to develop strategies for protecting water resources and building community resilience
- Watershed Restoration: Support efforts to restore burned watersheds, including reforestation, erosion control, and stream restoration
- Long-Term Monitoring: Implement long-term monitoring programs to track water quality and ecosystem health in post-fire environments

#### 4. Addressing Unique Challenges:

- **Hydrophobicit**y: Wildfires can create hydrophobic (water-repelling) soils, which can increase runoff and erosion
- Ash and Organic Matter: Recognize that ash and organic matter from wildfires can be difficult to filter and treat, requiring specialized treatment processes
- **Delayed Impacts**: Water quality impacts may include sediment spikes and nutrient changes, can persist for years after a fire

#### **Vegetation and Soil Stabilization:**

- Reforestation and planting native vegetation: Re-establishing vegetation in the burned area helps stabilize the soil and reduce erosion, thus minimizing the amount of sediment that can be carried by runoff.
- Mulching and erosion control blankets: These can help stabilize the soil surface and reduce erosion until vegetation re-establishes itself.

Water protections should include streams, lakes and reservoirs in Teller County.

#### **STREAMS**

North Catamount Creek South Catamount Creek Crystal Creek Trout Creek North Cheyenne Creek Rule Creek Bison Creek

Four Mile Creek West Beaver creek East Beaver Creek Middle Beaver Creek Boehmer Creek Dry Creek

# **RESERVOIRS** (see project priorities)

Colorado Springs Reservoirs – North Slope

- North Catamount Reservoir on North Catamount Creek on the north slope
- South Catamount on South Catamount Creek on the north slope
- Crystal Creek Reservoir on Crystal Creek on the north slope

# Colorado Springs Reservoirs – South Slope

- McReynolds Reservoir on Middle Beaver Creek on the south slope
- Mason Reservoir on Boehmer Creek on the south slope
- Penrose-Rosemont Reservoir on East Beaver Creek

#### Colorado Parks and Wildlife

• Skaguay Reservoir on West Beaver Creek

# City pf Cripple Creek

• Cripple Creek Reservoir #2 and #3 on West fork of West Beaver Creek

# City of Victor

• Bison Reservoir on Bison Creek

#### **USFS**

• Manitou Lake on Trout creek

#### Unknown

• 3 un-named Reservoirs on East Fork of West Beaver Creek

# Protect water supplies and infrastructure

Many subdivisions have their own water supply in the form of lakes, wells, springs and reservoirs. These areas should consider action around these water supplies with wildfire in mind. Areas around water supplies should be thinned especially if there are steep slopes above the water supply. Some preventative measures include:

# **Structural Controls:**

- Debris Barriers: Constructing barriers upstream of culverts and water intakes can intercept and trap debris before it reaches the water source.
- Channel Modifications: Modifying the streambed and banks to improve flow capacity and reduce erosion can help manage water flow and prevent debris from entering the water supply.
- Culvert Upgrades: Replacing or upgrading culverts to handle increased water flow and debris can prevent blockages and overflows.
- <u>Sediment Traps</u> and Basins: Constructing sediment traps or basins further upstream can help capture debris before it reaches the water supply.

For more Post Wildfire Information and Resources see Appendix H

# Section 9: Monitoring and Evaluation

# MONITORING and EVALUATION

A CWPP does not end when it is adopted. A CWPP involves a continuous cycle of collaborative planning, implementation, monitoring and adapting strategies based on lessons learned. As Teller County learns from successes and challenges during implementation of this plan, stakeholders may identify new actions, propose a shift in how decisions are made, or actions are accomplished, and they may evaluate the resources necessary for continued successful CWPP implementation.

Teller is a relatively small county and may lack the resources to engage in long or complex monitoring processes, so the plan should focus on what matters. A way to track accomplishments and identify the extent to which CWPP goals have been met is needed. In addition, need to identify actions and prioritize fuels projects that have not been implemented and determine what the barriers are to implementation.

The key to monitoring and evaluation is to determine if the funds (grant, private, county, municipal, etc.) being spent wisely and on priority projects. Are the funds put on the ground meeting the goals of the CWPP and the needs of the community?

It is important that not only are acres treated being tracked, but are the acres in extreme, severe or high-risk areas. If on private land, are the landowners contributing funding.

# Things to consider when evaluating success of the CWPP

- Are the goals of developing other CWPPs being met?
- What outreach events for residents are being accomplished?
- Are more Firewise communities in the County being developed?
- Have social service agencies (or groups that might assist low-income and vulnerable populations) partnered on CWPP efforts?
- How has population growth/change and development in your community affected wildfire risk?
- Are there new or updated data sources that may change the risk assessment and influence fuels priorities?
- How is the risk assessment being used to make decisions about fuels priorities or the designation of the WUI boundary?
- Are the current codes and regulations for wildfire hazard adequate? If not, are there efforts to change or update them?
- How many fuels reduction projects have spanned ownership boundaries to include public and private land?
- What is the number and percent of residents that have participated in projects and completed defensible space on their land?
- How many hazardous fuels reduction projects have been implemented in connection with a forest restoration project?
- Has the public knowledge and understanding about structural ignitability been increased by strategies adopted in the CWPP?
- How many Firewise Communities have been recognized? How many citizens, neighborhoods, or communities have taken action to increase the resilience of their structure to fire?
- Has a change in public awareness about wildfire resulted from the plan?

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- What kinds of activities have citizens taken to reduce wildfire risk?
- Does the CWPP include an evacuation plan? If yes, has it been tested or implemented since the CWPP adoption?

# Other ways that monitoring and evaluation will help:

- Avoid duplication
- Alert to any changes or potential changes in ecosystem health
- Assist land managers in natural resources decisions
- Monitor for when maintenance treatments are due
- Information can be more readily assessible to all agencies
- Monitor HIZ work done on private properties
- Supports further collaborative efforts between stakeholders

# **Evaluation of CWPP Goals**

| Goal #1: Enhance Community Preparedness and Resilience |  |          |           |  |
|--|--|----------|-----------|--|
| Objectiv   | Objective #1: Foster Preparedness, Response, Recovery, and Mitigation    |          |           |  |
| Action   | Description  | In       | Completed |  |
| Item#  |  | Progress | _         |  |
| 1  | Expand private/public partnerships between high risk subdivisions/large  |          |           |  |
|  | landowners and public land managers such as US Forest Service,           |          |           |  |
|  | Bureau of Land Management, National Park Service, Colorado Parks         |          |           |  |
|  | and Wildlife and others to promote cross-boundary efforts in high risk   |          |           |  |
|  | wildfire areas   |          |           |  |
| 2  | Mitigate up to 30,000 acres over 10 years across jurisdictions including |          |           |  |
|  | on private and public lands to reduce the risk wildfire poses to Teller  |          |           |  |
|  | County communities and assets. This includes ongoing maintenance on      |          |           |  |
|  | properties previously treated  |          |           |  |
| 3  | Seek \$20 million in grant funding over the next 10 years to promote     |          |           |  |
|  | healthy and resilient forests by reducing fuels in high risk areas,      |          |           |  |
|  | promoting home hardening and defensible space                            |          |           |  |
| 4  | Use the best available science to identify high risk areas and           |          |           |  |
|  | appropriate treatments for those areas                                   |          |           |  |

| Objective #2: Collaborative Engagement for Education and Protection |   |          |           |
|---|---|----------|-----------|
| Action  | Description   | In       | Completed |
| Item#   |   | Progress |           |
| 1   | Hold at least 2 public events per year for 10 years that encourages           |          |           |
|   | participation and education among private citizens, landowners, and           |          |           |
|   | partners on fire ecosystems and mitigation                                    |          |           |
| 2   | On an annual basis, identify and protect critical infrastructure and          |          |           |
|   | assets, including wildlife habitat, recreation trails and tourist attractions |          |           |
| 3   | Mitigate around critical Ingress/Egress/Escape routes in the County           |          |           |
| 4   | On county websites, direct residents and tourists to online resources for     |          |           |
|   | information   |          |           |

Table 21: Goal 1 Evaluation

# **Goal #2: Foster a Firewise Community Climate**

Objective #1: Support Community Wildfire Protection Plans (CWPPs)

| Action | Description  | In              | Completed |
|--------|--|-----------------|-----------|
| Item#  |  | <b>Progress</b> |           |
| 1      | Assist the 5 communities with CWPP's less than 10 years to find  |                 |           |
|        | funding to implement priority projects   |                 |           |
| 2      | Encourage the 8 Fire Protection Districts with boundaries within Teller County to write CWPPs for their districts  |                 |           |
| 3      | Encourage the 10 Communities with a CWPP over 10 years old, to update their plans  |                 |           |
| 4      | There are 109 subdivisions in Teller County. Accounting for the 15 communities that have plans (whether there are current or not) that                   |                 |           |
|        | leaves 94 communities without a CWPP. Encourage 50% of the   |                 |           |
|        | communities without CWPPS's and in the highest risk areas to   |                 |           |
|        | complete plans within 5 years  |                 |           |
| 5      | Ensure County regulations support fire resilience  |                 |           |
| 6      | Create and maintain a GIS database with geographic   |                 |           |
|        | information and forest health project records for local  |                 |           |
|        | CWPP development   |                 |           |
| 7      | Improve the county website to guide residents, developers, and contractors in developing individual CWPPs and understanding land use regulations         |                 |           |
| 8      | Encourage collaboration between CWPP communities, public land managers and Fire Protection Districts to identify cooperative projects for mutual benefit |                 |           |

**Table 22: Goal 2 Evaluation** 

# Goal #3: Safe and Effective Wildfire Response

Objective #1: Enable safe and effective wildfire response, including collaborative preparedness for severe wildfires and evacuation events.

| Action | Description  | In       | Completed |
|--------|--|----------|-----------|
| Item # |  | Progress |           |
| 1      | Ensure Fire Protection Districts, Office of Emergency Management and Colorado Division of Fire Prevention and Control have a workable, useable CWPP and not a shelf document |          |           |
| 2      | Seek grant funding to support the Teller County Wildland Task Force to ensure they have appropriate and updated equipment and training to adequately respond wildfire events |          |           |
| 3      | Work with local and Fire Protection Districts to ensure that all private and public land is in a Fire Protection District within the county                                  |          |           |

**Table 23: Goal 3 Evaluation** 

# **Goal #4: Planning for Effective Post-Fire Recovery**

Objective # 1 - Develop a Post Fire Recovery Team to respond to post fire impacts on non-federal lands

| Action<br>Item # | Description   | In<br>Progress | Completed |
|------------------|---|----------------|-----------|
| 1                | By December 2026, assemble a post fire recovery team that can conduct a swift evaluation of a burn scar to identify high-risk areas like steep slopes, drainage patterns, and potential debris flow pathways to restore the affected ecosystem and rebuild infrastructure while minimizing further environmental impact and to implement immediate erosion control measures like straw wattles, silt fences, jute netting, and hydroseeding to prevent soil loss from heavy rain. |                |           |
| 2                | Post fire Recover Team will provide for public safety by establishing safety protocols, including evacuation plans and access restrictions to burned areas.   |                |           |
| 3                | Post fire recovery team to collaborate with others to seek funding to support team activities and post fire recovery efforts  |                |           |

Objective # 2 - Develop proactive planning and projects for post-fire recovery, flood, and sediment management and continuously monitor post-fire conditions and adjust restoration strategies based on data collected.

| Action | Description   | In              | Completed |
|--------|---|-----------------|-----------|
| Item#  |   | <b>Progress</b> |           |
| 1      | Within 1 month of a fire, the post fire recovery team will Implement    |                 |           |
|        | monitoring systems to assess potential impacts on water sources and     |                 |           |
|        | implement necessary mitigation strategies.                              |                 |           |
| 2      | The Post Fire Recovery Team will prioritize repairs to essential        |                 |           |
|        | infrastructure like roads, bridges, and utilities.                      |                 |           |
| 3      | The Post Fire Recovery Team will involve local residents, stakeholders, |                 |           |
|        | and land managers in the planning process to address specific needs and |                 |           |
|        | concerns.   |                 |           |

**Table 24: Goal 4 Evaluation** 

# **Section 10: Future Considerations**

# **FUTURE RECOMMENDATIONS**

# **CWPP Update Schedule**

The CWPP will be treated as a dynamic document to be updated every 5 years (as per the Colorado State Forest Service Minimum Standards). Teller County will review and revise the plan annually to reflect changes, modifications, or new information such as projects completed or added, and lessons learned from public education and project implementation. Teller County will an assessment in 2030 and a complete update in 2035.

# **Non-Mitigation Recommendations for Future Actions**

Non-mitigation recommendations are directly related to fire but are meant to build collaboration, partnerships and find ways to work together to protect lives and property in Teller County from wildfire and post fire impacts.

# **Communication/Collaboration**

- Improve interagency communication and transparency
- Advertise collaboration efforts and clarify messaging
- Educate the public on Peak Alerts and promote ReachWell app
- Use QR codes and signage in high-traffic areas to share information
- Create how-to videos and newsletters for residents and responders
- More readily share reliable information between agencies federal, state and local so that everyone is working from the same set of data
- Partner to more effectively engage in outreach and community events to educate a changing population about wildfire, being prepared and Firewise
- Standardize how HIZ assessments are being performed by Fire Departments, Colorado State Forest Service and other organizations
- Develop agreements with federal agencies for cross boundary fuel reduction treatments
- Increase collaboration between Wildfire Council and Local Emergency Planning Committee to streamline wildfire and post fire planning efforts

# **Community Wildfire Protection Plans**

- Each Fire District should consider developing their own CWPP that incorporates subdivisions and areas not in subdivisions and considers risk, mitigation priorities, subdivision assessments, escape routes, topography, vegetation, department capability and response time within their district. Complete CWPPs for all fire districts within 5 years
- Each HOA/POA/Community/municipality should develop their own CWPP. The County CWPP is meant to serve as an umbrella document. This will bring mitigation and safety

priorities down to the lowest local level and something residents can buy into. The focus should be to complete CWPP's for areas rated extreme or severe within the next 5 years. Then focus on areas rated high within the next 7 years. It may be possible to combine some efforts for subdivisions or communities that are adjacent or close to one another

#### Education

- Compile wildfire-related information into an easily accessible database
- Educate residents on fire behavior, home hardening, defensible space, and post-fire effects
- Hold workshops on evacuation planning and Go Bag preparation
- Use videos, newspapers, and publications to reach broader audiences
- Advertise existing resources like meeting rooms and slash sites

# **Egress**

- Work with communities to identify and mitigate primary and secondary escape routes
- Create evacuation safe zones in high-risk areas
- Use House Bill 25-1053 to establish emergency access agreements
- Educate residents on evacuation planning and practice drills

# **Engagement**

- Target outreach to younger residents, seasonal residents, and southern Teller County
- Use social media and local publications to highlight success stories
- Partner with HOAs and community organizations for outreach events
- Provide workshops and training for homeowners
- Host mitigation events
- Fire districts organize neighborhood work days
- Encourage mitigation on vacant and seasonal properties.
- Promote Colorado State Forest Service "A Home Ignition Zone A guide to preparing your home for wildfire and creating defensible space"
- Establish a second slash disposal site

# **Information Technology**

• Develop a data base of completed and planned mitigation projects that is specific to Teller County. Data base will be accessible to all agencies and organizations working on wildfire mitigation. Data base should include monitoring efforts

# **Programs**

- Develop a post-fire navigator program modeled after the program in Boulder <a href="https://bouldercountynavigatingdisaster.gov/">https://bouldercountynavigatingdisaster.gov/</a>
- Develop a Wildfire Mitigation Ambassador Program in subdivisions and communities. Ambassadors will serve as their community's liaison to the Teller County Wildfire Council and help keep their local residents informed and engaged on wildfire issues including mitigation.
- Establish a year around wildfire education campaign lead by Fire Departments, Office of Emergency Management, US Forest Service, Colorado State Forest Service, BLM and other professional organizations
- Research and invest in bio-char site similar that developed by Douglas County bio-char site: <a href="https://www.douglas.co.us/wildfire-action-collaborative/douglas-county-biochar-and-waste-diversion-site/">https://www.douglas.co.us/wildfire-action-collaborative/douglas-county-biochar-and-waste-diversion-site/</a>
- Develop and support programs for underserved populations and slash disposal
- Implement CMAT recommendations and track progress
- Create community service mitigation crews
- Establish county-level tax credits and promote lien-based mitigation financing

# **Promote Land Use Planning related to fire risk including:**

- Promote hazard reduction and landowner responsibility as it relates to fire risk
- Implement structural ignitability activities
- Develop outreach materials related to wildfire education, mitigation, defensible space and home hardening
- Secure funding opportunities for home and community assessments
- Support community chipper programs and slash disposal sites
- Consider how to make mitigation efforts less cumbersome and affordable
- Maximize economic efficiency and utilization of removed woody material
- Tailor regulations based on property size and location
- Support enforcement of existing codes and ordinances
- Promote Firewise community development and land use planning

# **Staffing**

- County should consider hiring a County Wildfire Mitigation Coordinator to assist Office of Emergency Management and coordinate fuels reduction efforts and wildfire education efforts county wide.
- City of Woodland Park should consider hiring a forester for urban forestry projects and to collaborate with other entities in the County

# **Teller County Wildfire Council**

Reorganize Teller County Wildfire Council to be a functioning body. The Goals of the Council could be to:

- Increase partnerships and collaboration among individuals, property owners, and public, private, and nonprofit organizations to share information
- Using available data, identify changing wildlife risks
- Prioritization and implementation of forest management projects to protect property, infrastructure, watersheds, and ecosystems
- Seek grant funding opportunities including matching funds to complete mitigation projects
- Promote public awareness and understanding of wildfire risk to foster community-driven action to reduce risk and the impacts of wildfire in Teller County
- Review and update the CWPP annually as conditions on the ground change
- Keeps county residents informed though print media, social media and other methods

# POTENTIAL FUNDING SOURCES

Almost all grants have a matching money requirement. These requirements vary, but they are important in being successful in obtaining a grant. Matching funds can come from a variety of sources such as private, local government, etc. Generally, you cannot match a state grant with another state grant or a federal grant with another federal grant.

# **STATE GRANTS**

# Colorado State Forest Service (https://csfs.colostate.edu/grants/)

- Forest Restoration and Wildfire Risk Mitigation (FRWRM) grants reduce the risk of wildfire to people, property and infrastructure and promote forest health and restoration
- Rural Grant Navigator grants provide state funding assistance to non-governmental organizations that provide assistance to rural Colorado communities applying for federal or state grants related to wildfire mitigation and preparedness
- IRA Urban and Community Forestry grants support actions to grow the tree canopy in disadvantaged areas of Colorado
- Community Wildfire Defense grants help at risk local communities plan for and reduce wildfire risk
- Wildfire Mitigation Outreach grants support outreach among landowners in high wildfire hazard areas
- Forest Ag more resilient forests better able to withstand insect and disease activity, a reduced threat of catastrophic wildfire and the prevention of forest fragmentation

- Forest Legacy a federal program administered by individual states. It supports protection of private forest lands that are environmentally, economically and socially critical
- Forest Stewardship protect water quality, increase habitat diversity for wildlife and increase the growth rate of trees

# **Colorado Department of Natural Resources**

- Colorado Strategic Wildfire Action Program (COSWAP) https://dnr.colorado.gov/divisions/forestry/co-strategic-wildfire-action-program
- Colorado Water Conservation Board Colorado Wildfire Ready Watersheds https://www.wildfirereadywatersheds.com/
- Great Outdoors Colorado Restore Grant collaborative funding model to support large scale habitat restoration and stewardship projects on public and private lands https://goco.org/grants/programs/restore-colorado

# **Colorado Department of Local Affairs**

• Wind and Wildfire Home Protection Mitigation Program https://cdola.nxt-test.colorado.gov/press-release/the-wind-and-wildfire-home-protection

# **Colorado Division of Fire Prevent and Control**

Home Hardening Grant
 <u>https://dfpc.colorado.gov/sections/fire-and-life-safety/crr-education-risk-reduction-crr</u>

#### FEDERAL GRANTS

Unfortunately, federal grants are in a state of transition as of this writing. Many grants have been frozen cancelled or are being re-evaluated

#### **USFS**

- State Fire Assistance This is a federal grant that is passed through the states. Through the State Fire Assistance program, the Forest Service supports and assists State Foresters and local communities in building capacity for wildfire prevention, mitigation, control, and suppression on non-Federal lands. The program helps state agencies create more fire-adapted communities by implementing pre-fire prevention and mitigation programs and emphasizing pre-fire planning and risk reduction in the Wildland Urban Interface. <a href="https://fundingnaturebasedsolutions.nwf.org/programs/state-fire-assistance/">https://fundingnaturebasedsolutions.nwf.org/programs/state-fire-assistance/</a>
- Wood Innovations Grant
   https://www.fs.usda.gov/science-technology/energy-forest-products/wood-innovation/grants
- Community Wildfire Defense Grant https://www.fs.usda.gov/managing-land/fire/grants/cwdg

#### **FEMA**

- Post Fire Grants: https://www.fema.gov/ht/grants/mitigation/learn/post-fire
- Hazard Mitigation Grant Program (HMG) https://www.fema.gov/grants/mitigation/learn/hazard-mitigation/before-you-apply

# **EPA**

• Hazard Mitigation Grant https://www.epa.gov/fedfunds/hazard-mitigation-grant-program-hmgp

#### **BLM**

• Community Assistance Grants https://www.blm.gov/services/financial-assistance-and-grants

# **NRCS**

https://www.nrcs.usda.gov/programs-initiatives

# **OTHER GRANT OPPORTUNITIES (award amounts vary)**

- Fire Adapted Colorado (FACO)
- National Fish and Wildlife Foundation (NFWF)
- National Fire Protection Association (NFPA) for recognized Firewise Communities
- International Association of Fire Chiefs (IAFC) Fuels Reduction grant and Community Safety Grant
- Private Foundations
- Council of Western State Foresters Wildland Urban Interface Grant Program