



Eagle County Community Wildfire Protection Plan

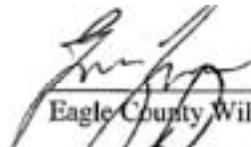
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Amended – 2010
Revised – 2011**

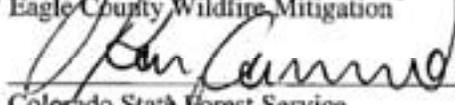
Eagle County CWPP

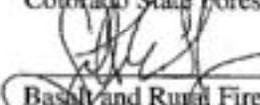
This Community Wildfire Protection Plan developed for Eagle County, Colorado:

- ❖ Was collaboratively developed. Interested parties and state and federal land management agencies in Eagle County have been consulted.
- ❖ This Plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods for treatment that will result in improved protection against wildfire in Eagle County.
- ❖ This plan recommends measures to reduce the ignitability of structures throughout Eagle County

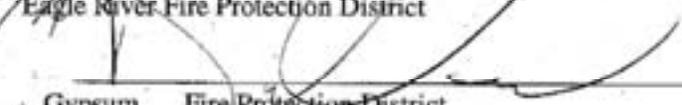
The following entities mutually agree with the contents in this Community Wildfire Protection Plan:

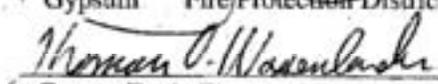
 Eric Loring, March 6, 2012
Eagle County Wildfire Mitigation

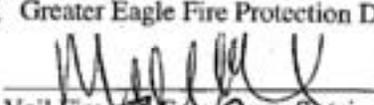
 3/16/12 Ron Cousineau District Forester
Colorado State Forest Service

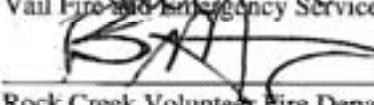
 Scott Thompson, March 6, 2012
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Eagle River Fire Protection District

 4/3/2012
Gypsum Fire Protection District

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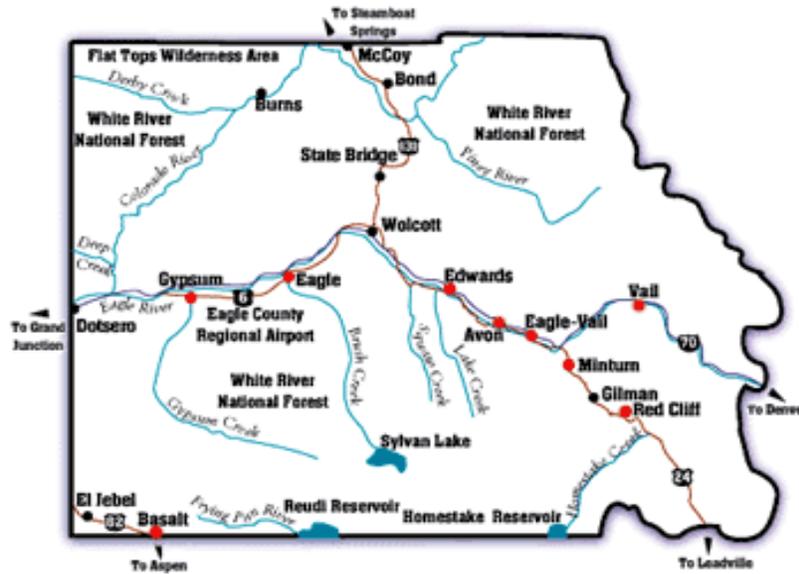
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Figure 1 – Eagle County



I. Introduction

Eagle County is situated in central Colorado and encompasses 1,694 square miles of resort related, mountainous terrain. National Forest and Bureau of Land Management lands comprise approximately 80% of Eagle County's land area. The remaining 20%, held in private ownership, are primarily located along the transportation corridors and within several valleys and canyons feeding off of these corridors. The combined effect of the limited amount of privately owned land, coupled with topographic constraints, forces the majority of the County's population to be concentrated within tight geographical limits.

Population Growth:

Over the past decade, Eagle County's population has more than doubled. 2010 census data shows that approximately 50,000 people call the county home, and thousands more visit the area throughout the year¹. Over the past two decades, development has pushed out of the valley floors and into surrounding wild lands. Nearly 4,000 building permits were issued between the years of 2004 and 2010 in unincorporated Eagle County². As more people move deeper into the undeveloped regions of the county, and further away from fire protection services, the probability for catastrophic

¹ Source: 2010 US Census Data

² Source: Eagle County Building Department

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loss from wildfire has risen exponentially. The purpose of this document is to unite agencies having jurisdiction in Eagle County under a plan to complement local agreements for wildfire protection and aid in implementing a seamless, coordinated effort in determining appropriate fire mitigation actions in Eagle County.

Existing Community Wildfire Protection Plan:

Rapid population growth and changes in forest conditions throughout the region prompted the creation of the first Eagle County Community Wildfire Protection Plan (CWPP) in 2005. The original plan was prospective in nature, and was established to set the framework for various fire management objectives, actions and policies designed to reduce the impact of wildfires in Eagle County. It was agreed upon by all those participating in the creation of the initial plan that it would follow the model set for by the Healthy Forest Restoration Act of 2003, and that a more detailed plan would be established at some point in the future. The Eagle County CWPP is a living document and regular updates are vital to its effectiveness in guiding management decisions.

The purpose of the 2011 revision to Eagle County CWPP is to identify with more detail areas within Eagle County where the potential for negative community impacts from wildfire are the greatest, as well as to coordinate efforts to reduce wildfire threats across jurisdictional boundaries. This plan documents action items tied to the original CWPP that were successfully implemented, and outlines countywide wildfire mitigation strategies aimed at public and fire fighter safety, stakeholder education, reducing hazardous fuels and reducing the structural ignitability of homes in the wildland urban interface (WUI).

II. Summary of Actions Taken to Create this Plan

Eagle County Wildfire Regulations:

In 2002, the Eagle County Interface Evaluation Zone (ECIEZ) committee was formed to introduce a collaborative approach to addressing wildfire issues in Eagle County. The initial group consisted of the Eagle County Board of County Commissioners (BOCC), the Eagle County Department of Emergency Management, and the Northwest Colorado Council of Governments, representatives from each of the County's five Fire Protection Districts (FPDs), USFS personnel, BLM personnel, and CSFS personnel. The committee later expanded to include town officials, homeowner's association representatives, representatives from The Wilderness Society, and State Government officials. Bi-monthly meetings were convened over a two year period.

In May of 2002, Eagle County Community Development proposed amendments to chapters two and three of the Eagle County Land Use Regulations, in order to incorporate language pertaining to Wildfire Hazard Mitigation. The proposed amendments were referred to the Eagle County Planning Commission and the Roaring Fork Valley Planning Commission for their comments and recommendations. The Eagle County Board of County Commissioners held public hearings to consider comments on the proposed amendments in 2002. Comments from these hearings led the

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commissioners to hire a consultant to work towards completing a countywide wildfire hazard map within one year of the resolution adopting the wildfire regulations. The regulations were adopted on January 21, 2003. (See Appendix-E: Wildfire Regulations and Building Resolution).

Creation of Eagle County Wildfire Hazard Map and CWPP:

In 2004, the Dynamac Corporation completed the Eagle County Wildfire Hazard Assessment Map. Due to the large land area covered by this plan, it was determined that it would be near impossible to provide prescriptive solutions, but to offer guidance toward areas that need higher level analysis. The map combines GIS data related to slope, aspect, elevation, vegetation type/density, and then rates any given area *Low, Moderate, High or Extreme* wildfire hazard. This initial mapping exercise provided fire managers a starting point for prescriptive fire mitigation efforts, and has helped guide subsequent projects in Eagle County ever since. The Eagle County Wildfire Mitigation Specialist and Emergency Manager drafted the original Eagle County CWPP in the spring of 2005, and the ECIEZ committee approved and adopted it that summer. (See Appendix-A: Eagle County Wildfire Hazard Map).

Formation of Eagle County Wildfire Council:

As the need for increased forest management across jurisdictional boundaries continued to grow, so too did the need for interagency collaboration. In January of 2009, the Eagle County Wildfire Council was formed. The group meets regularly to review aspects of assessing current wildfire risk and mitigation strategies; funding opportunities to complement private and public land projects; CWPP updates and associated projects; as well as interagency training opportunities. The council consists of agency representatives and stakeholders from throughout Eagle County, including: the USFS/BLM; the CSFS; Eagle County; Basalt FPD; Gypsum FPD; Greater Eagle FPD; Eagle River FPD; Vail Fire and Emergency Services; Rock Creek Volunteer Fire Department; Vail Resorts; Cordillera Metro District; Eagle-Vail Metro District; Eagle River Water and Sanitation District; the Bellyache Ridge HOA, the Colorow HOA, the Pilgrim Downs HOA, the West Lake Creek Company, the Beaver Creek Resort Company and Beaver Creek Public Safety.

Stakeholder Involvement in 2011 Revision to the CWPP

Revisions to the Eagle County CWPP began in the fall of 2010 as the County simultaneously worked to update its FEMA Pre-Disaster Mitigation Plan. Monthly meetings with Eagle County staff and representatives from the Towns and Fire Districts were held to gather input into revising both plans. It was determined by the group that the Eagle County CWPP would be the guiding document for all wildfire mitigation actions associated with the FEMA Plan. The responsibility to revise the existing CWPP was given to the EC Wildfire Council. The revised CWPP was reviewed by the group initially in June of 2011; and then again in December of 2011. Representatives from Eagle County's five fire districts, the USFS, the BLM, the CSFS, Vail Resorts, Cordillera Metro District, Eagle-Vail Metro District, Eagle River Water and Sanitation, and the Bellyache Ridge, Mountain Star and Colorow HOA's all contributed to the CWPP revision process. Additional public input to the plan was gathered by the Eagle County Wildfire Mitigation Specialist during presentations given at several HOA meetings in Vail, Edwards, Wolcott and Basalt.

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III. Goals and Objectives

Goals set forth by this CWPP are as follows:

- ❖ **Goal:** Protect the life safety of residents and emergency responders in Eagle County.
- ❖ **Goal:** Identify areas within Eagle County that are at particular risk from catastrophic wildfire loss.
- ❖ **Goal:** Develop and implement action plans to reduce potential loss of property, critical infrastructure and valued resources while protecting the safety of the public and emergency responders.
- ❖ **Goal:** Provide framework for implementation and management of hazardous fuel reduction projects and other wildfire mitigation actions identified by this plan.
- ❖ **Goal:** Improve understanding of wildfire hazards in Eagle County and mitigation techniques that will result in better protection against wildfire.
- ❖ **Goal:** Continue to develop and implement public awareness campaigns addressing protection and defense against wildfires. Engage the public in understanding their responsibilities to mitigate wildfire loss.

To accomplish these goals, the following objectives have been identified:

- ❖ **Objective:** Conduct ongoing wildfire hazard assessments of residential areas within the WUI of Eagle County in order to prioritize mitigation actions and stay up-to-date on current wildfire risk.
- ❖ **Objective:** Create pre-attack plans and conduct critical infrastructure mapping throughout the developed and outlying areas of Eagle County. Update Eagle County Wildfire Hazard Map to reflect changes in forest conditions and population growth.
- ❖ **Objective:** Continue to coordinate wildfire mitigation projects, CWPP review, training opportunities, interagency collaboration, and successful partnerships with non-governmental organizations through the Eagle County Wildfire Council.
- ❖ **Objective:** Uphold the integrity of Land Use Regulations and Building Code requirements that ensure new development in Eagle County meets standards to reduce or minimize potential negative impacts of wildfire.
- ❖ **Objective:** Continue and enhance existing public awareness campaigns and educational programs in place at the local, state and federal level.

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IV. Authorities

This revised Eagle County CWPP sets standard procedures, agreed upon policies, and prioritized management objectives between all involved governmental agencies to implement cooperative wildfire mitigation in Eagle County. Related documents are the **Healthy Forest Restoration Act of 2003**, which authorizes the development of “Community Wildfire Protection Plans”, the **Interior and Related Agencies Appropriations Act (P.L. 106-291)**, which directs close collaboration among citizens and governments at all levels as a key component to wildfire planning, and the **Colorado House of Representatives, Bill 00-1283**, which authorizes local governmental agencies and Sheriff to implement fire management plans. The Colorado Legislature has also created specific law guiding the community wildfire protection planning process at the County government level - **C.R.S 23-31-312 – Community Wildfire Protection Plans**.

V. Community Profile

Public Lands:

Over 80% of Eagle County is comprised of public lands under the management of the USDA Forest Service and the Bureau of Land Management.

- **White River National Forest (WRNF):** National Forest in Eagle County is primarily managed by the Eagle-Holy Cross Ranger District, including two wilderness areas (Eagle’s Nest and Holy Cross). The Eagle River watershed has most of its land base within the White River National Forest. Much of the managed portion of the watershed consists of minimally-disturbed pine forests. The Eagle-Holy Cross Ranger District reports moderate levels of fire activity over the past 20 years (256 fires from 1986-2006 or just over 12 fire/year). Forest conditions are rapidly changing in the wake of a bark beetle epidemic across the state and region (*see Pine Beetle Epidemic discussion on page 18*).
- **Bureau of Land Management:** BLM lands in Eagle County fall under the jurisdiction of the Craig and Glenwood Springs Field Office(s). In Eagle County, these lands are primarily at lower elevations in the vicinity of the Colorado River basin. The Craig District has reported a very active fire history, with 6,001 fires over the last 34 years, including some large incidents resulting in significant property and resource loss.

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Communities:

Eagle County is made up of many small communities, each as unique and diverse as the people who live here. The different areas show an incredible geographic diversity from lushly forested Vail, Minturn and Red Cliff to the spacious ranches of Eagle and Gypsum.

Vail - Elevation: 8,150 feet; Permanent Population: 4,832



Vail's lifestyle combines one of the best alpine resorts in the world with a friendly, small-town feel. Residents enjoy bountiful recreational and cultural opportunities, and take pride in a quality of life unique to active living at its best. Vail visitors and residents enjoy more than a thousand acres of open space, accounting for 30 percent of town-owned land. Vail is surrounded by 350,000 acres of national forest crowned by more than 5,000 skiable acres on the largest ski resort in North America. At the foot of the ski mountain is the Town of Vail. The town is located in the Gore Creek Valley, which is part of the greater Eagle River Watershed. Topography throughout the area can be characterized by steep slopes above residential areas nestled in the river valley below. Forested lands surrounding Vail range from mature lodgepole pine, to mixed conifer and aspen at higher elevations. Riparian vegetation including mature spruce stands can be found in and along Gore Creek.

Minturn - Elevation: 7,900 feet; Permanent Population: 1,120



Minturn burst to life during Eagle County's mining boom in the late 1800s and was an essential railroad division point. Located just around the corner from Vail, Minturn is an old and friendly town with old time values. A new town center, fire station and other development stand amid historic homes with character and modern amenities. Large expanses of Lodgepole pine blanket the town's western borders, while much of the valley floor is comprised of riparian vegetation and mountain shrub communities. Like Vail, Minturn is surrounded by the White River National Forest forcing all development to the Highway 24 corridor.

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Red Cliff - Elevation: 8,600 feet; Permanent Population: 299



The oldest town in the county and the first county seat, Red Cliff is made up of friendly people with a mountain frontier attitude. At 9,000 feet above sea level, Red Cliff boomed at the turn of the century as a mining town with saloons, a bank, sawmills and even an opera house. Today it is a quaint mountain community that continues to attract rugged individualists from business entrepreneurs to outdoor enthusiasts who enjoy bicycling, hiking, cross-country skiing and fantastic wildflower viewing. From Red Cliff you get close-up views and easy access to the Mount of the Holy Cross and the surrounding White River National Forest.

Avon - Elevation: 7,480 feet; Permanent Population: 6,081



The Town of Avon continues to revere its ranching and agricultural heritage, while growing its reputation as the commercial hub in the heart of the County. Avon sits at the base of the Beaver Creek Ski Resort and along the banks of the Eagle River. Though most of the residential and commercial development in Avon is on the valley floor, several gated communities ring the town's upper boundaries. Vegetation ranges from riparian habitat near the Eagle River, to mountain shrub and sagebrush communities at lower elevations, to mixed conifers and aspen at higher elevations. Topography in Avon is similar to that of Vail, with much of the population situated in the Eagle River Valley.

Basalt – Elevation 6,591; Permanent Population : 3169



Basalt is a quaint mountain community in southwestern Eagle County, located at the confluence of two Gold Medal trout streams; the Frying Pan, and the Roaring Fork Rivers. The Town was founded by the Midland Railroad in 1887 and much of the historic architecture still stands. Basalt is a town where many residents and visitors travel on connecting walkways and trails, and fish year-round. Vegetation in the town of Basalt ranges from cottonwood and alder near riparian areas, to large expanses of mature pinon and juniper woodlands on the south facing slopes of Basalt Mountain, and mature spruce and fir forests surrounding the Frying Pan River Valley.

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Eagle - Elevation: 6,605 feet; Permanent Population: 6,000



Historic Eagle, the county seat, is the essence of Americana...an original compact city, with a traditional main street lined with shops and cafes. Some of the county's most beautiful ranches surround the town while scenic Brush Creek stretches south to public recreation areas.

New has risen next to historic in Eagle from the town hall to a large residential development south of town known as Eagle Ranch. Eagle is the gateway to the Western Slope of Colorado, characterized by semi-arid climatic conditions and large expanses of pinon and juniper woodlands, along with sagebrush flats and the irrigated pastures of several working ranches.

Gypsum - Elevation: 6,334 feet; Permanent Population: 4,584



Incorporated in 1911, the Town of Gypsum enjoys enormous local popularity due largely to its mild climate, decidedly western flavor and hometown feel. Residents claim you can fly fish out the front door and meet at least ten friends in every trip to the post office or grocery store. Longtime locals and newcomers enjoy the convenience of nearby Eagle County Regional Airport and its quick connection to cities all over the globe. Vegetation in the Gypsum area is almost identical to that of Eagle.

Unincorporated Eagle County - Estimated Population: 23,412

There are other well-established communities in unincorporated Eagle County. Each offers its own distinct flavor, with high-quality services provided by Eagle County Government.



Eagle-Vail

Elevation: 7,500; Permanent Population: 4,000

Eagle-Vail is a diverse residential community midway between Vail and Beaver Creek and home to many of our locals.

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Edwards - Elevation: 7,226; Permanent Population: 8,500

With its new and thriving business and shopping complexes, Edwards is a magnet that draws folks down valley who want to be part of the wide open spaces, warmer climates and its growing community spirit. A unique Eagle County partnership with the private and education sectors has brought a new mountain neighborhood – Berry Creek and Miller Ranch – to Edwards. The Cordillera Metro District is adjacent to, and considered part of Edwards. Cordillera is a large gated community southwest of Edwards, comprised of several hundred homes within the WUI. The Lake Creek Valley stretched south from the Edwards and is home to the communities of Pilgrim Downs, Lake Creek Meadows, the Cattlemen’s Club and El Colorow. Additional residential areas of note within the greater Edwards area are Homestead and Singletree. Vegetation throughout the Edwards area is as diverse as the community, ranging from sagebrush to mature aspen stands, to lodgepole with high elevation spruce and fir.

El Jebel - Elevation: 6,480 feet; Permanent Population: 4,488

El Jebel is a growing residential community near Basalt in the southwestern corner of the county. Its location in the Roaring Fork Valley provides some of the most spectacular scenery in the world. Above El Jebel is a large residential area known as Missouri Heights. Vegetation in Missouri Heights and El Jebel is comprised primarily of mature pinon and juniper woodlands intermixed with oak and sagebrush.

Other Communities

Hundreds more county residents live in the unincorporated areas of Dotsero, Wolcott and in Colorado River communities such as McCoy, State Bridge, Burns and Bond. Small residential enclaves can also be found in the remote former mining town of Fulford and near the Ski Cooper Resort on Tennessee Pass.

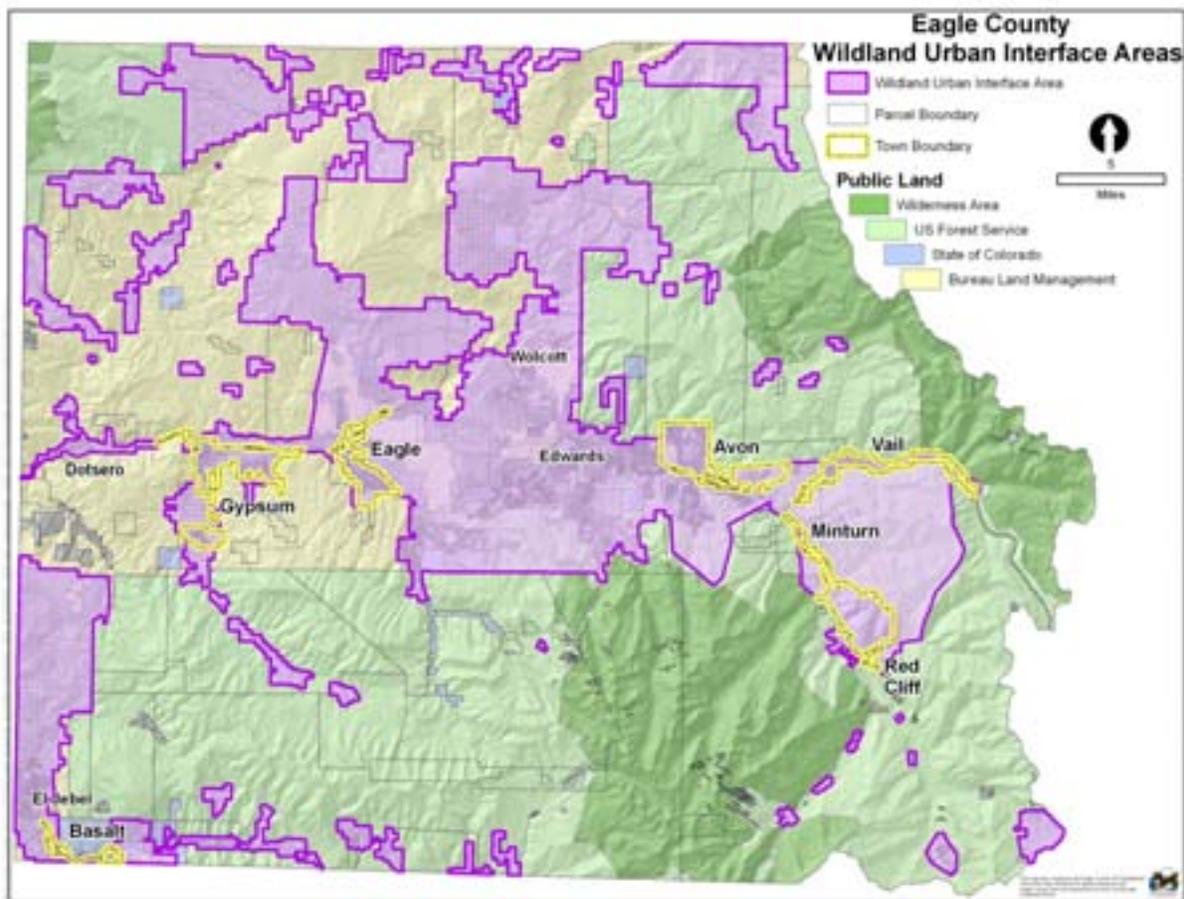
(Note: A more detailed description of Eagle County’s WUI communities can be found in Appendix D: Areas of Elevated Risk – Fire Management Objectives)

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VI. Assessing Wildfire Hazards

For the purpose of this this plan, the Wildland Urban Interface (WUI) is defined as the line, area, or zone where structures and other human development meet or intermingle with undeveloped lands or vegetative fuel³. WUI zones in Eagle County can be a combination of public and privately owned properties, and include lands within town boundaries and intermixed communities in unincorporated areas. For the purpose of mapping WUI boundaries in Eagle County, all private lands and 200ft of adjacent public land are considered WUI areas (*see Figure 2 below*). In some instances, WUI boundaries were extended beyond 200ft on to adjacent public in-holdings to reflect community boundaries regardless of land ownership.

Figure 2 – Eagle County WUI Boundaries

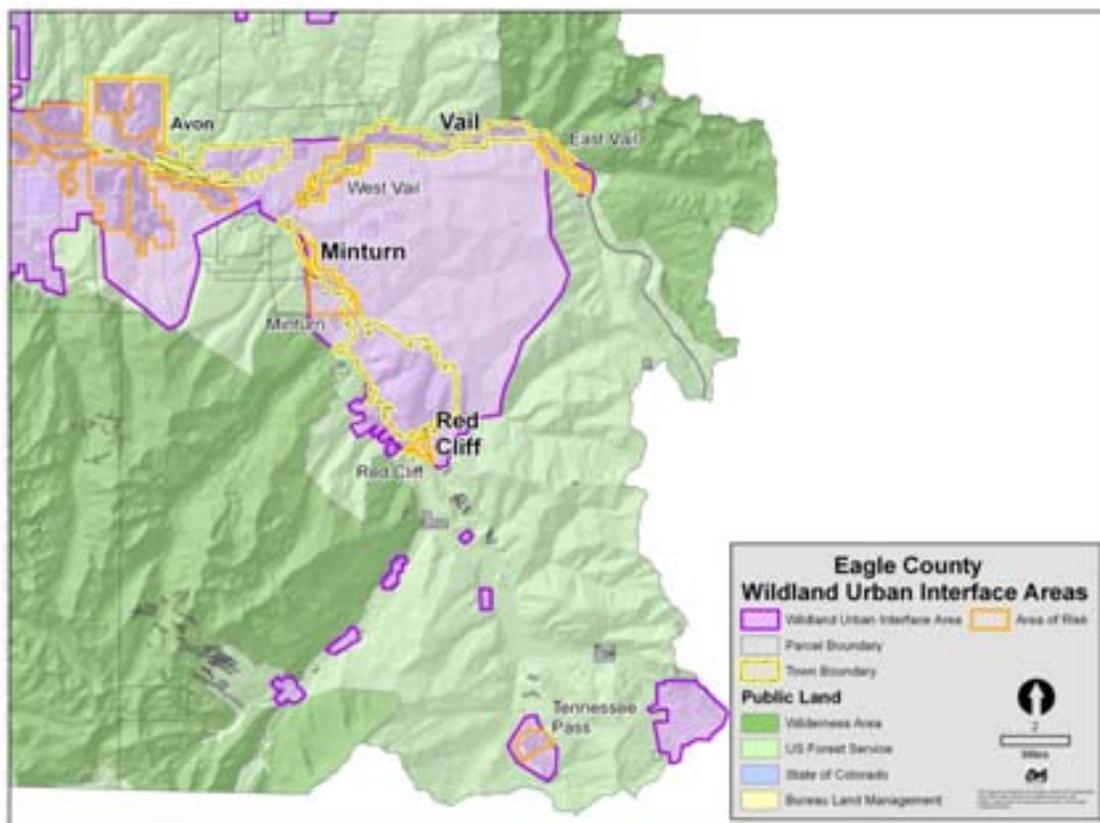


³ NWCG Glossary of Wildland Fire Terminology

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- **Wildfire Hazard Rating Criteria:** Eagle County has been using a Wildfire Hazard Rating system for determining hazards in the WUI since adopting Wildfire Regulations in 2004. (*See Appendix-C for Wildfire Hazard Rating Criteria*). Field observers document certain factors meaningful to fire behavior as they relate to: Fuel Type and Density, Slope, and other topographical and manmade hazards. These factors are weighed against any existing improvements or mitigations as they relate to: access, use of fire resistive construction, and water availability. A point system is then used to assign a wildfire hazard rating to the subject property of **Low, Moderate, High or Extreme**.
- **Areas of Elevated Risk:** By taking the aggregate of all wildfire hazard ratings in a given neighborhood, in conjunction the wildfire hazard map, fire managers are offered a glimpse of the overall wildfire hazard for that community. Areas of elevated risk from fire in Eagle County have been identified in this CWPP, and neighborhood specific fire mitigation recommendations can be found in *Appendix-D: Areas of Elevated Risk – Fire Management Objectives*. These fire mitigation strategies prioritize fuel reduction projects, and guide wildfire mitigation requirements for any new development or construction in the area.

Figure 4 – Areas of Elevated Risk (southeast Eagle County)



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Figure 5 – Areas of Elevated Risk (Central Eagle County)

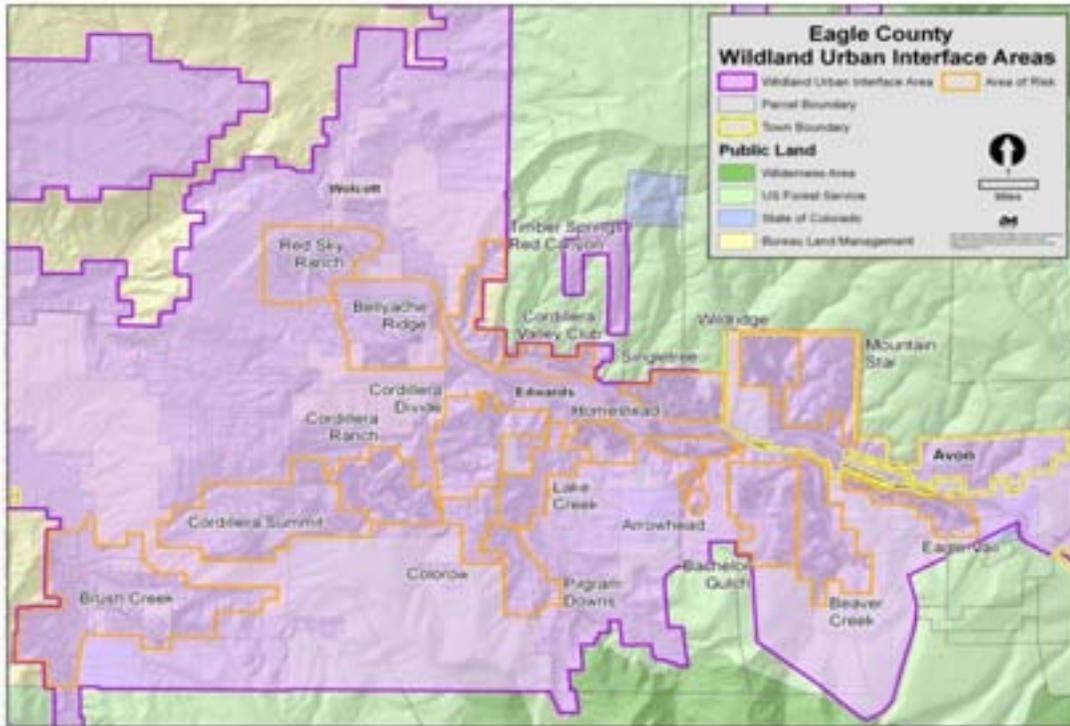
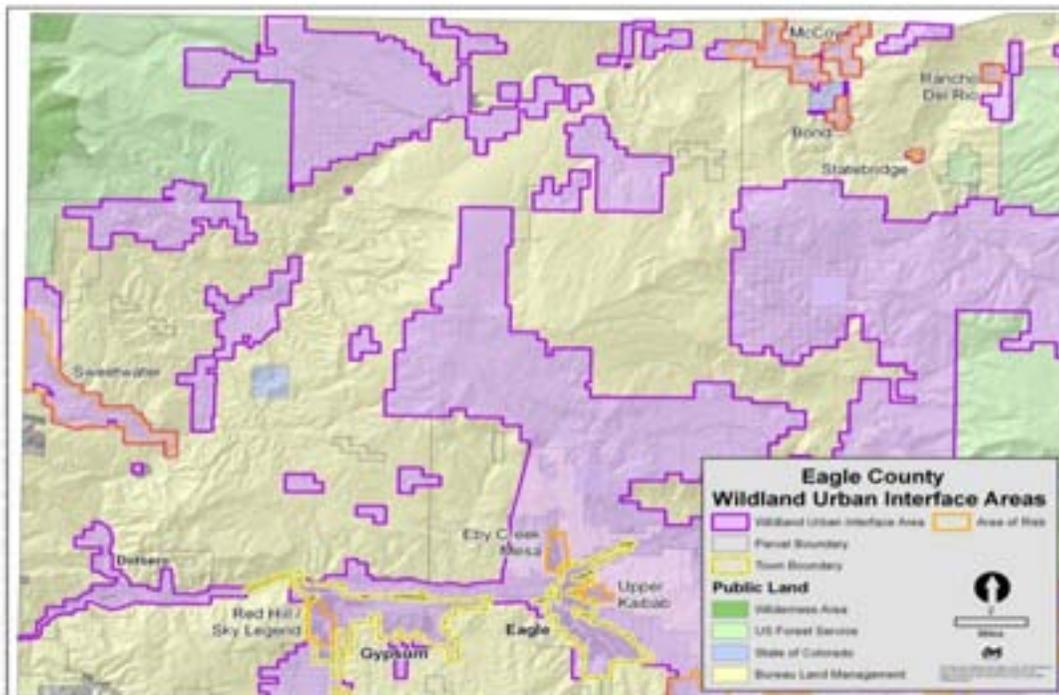
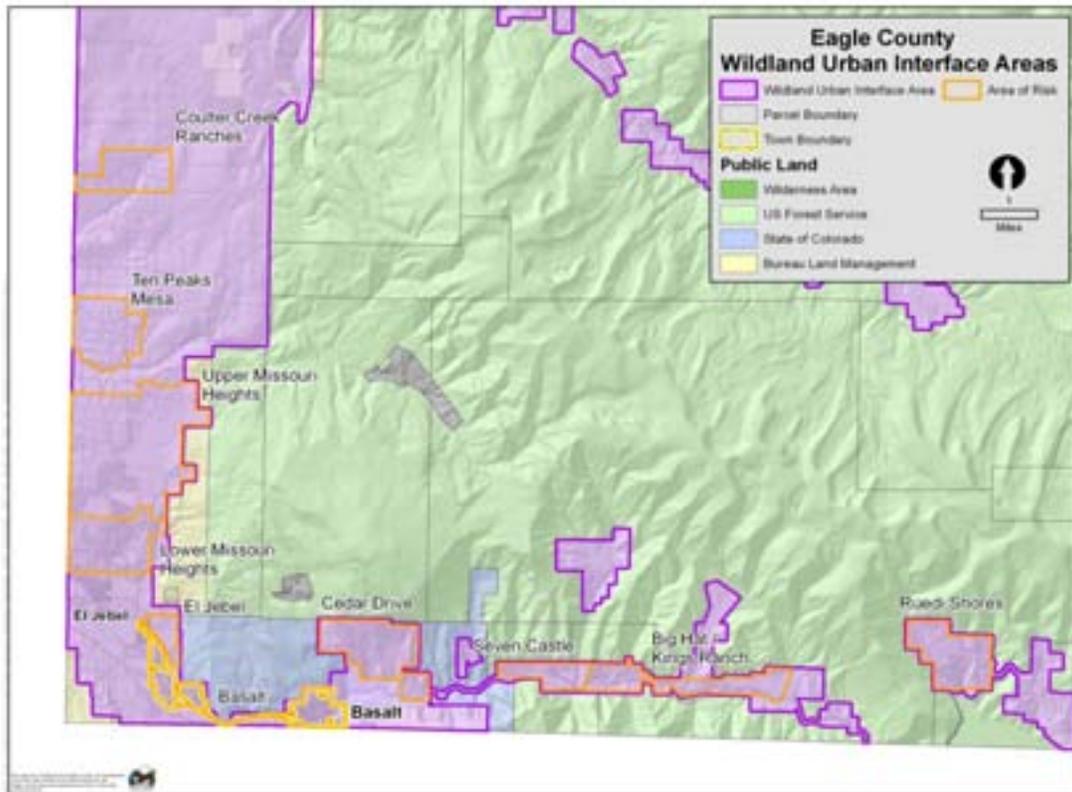


Figure 6 – Areas of Elevated Risk (Northwest Eagle County)



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Figure 7 - Areas of Elevated Risk (Roaring Fork Valley)



Note: A more detailed description of Eagle County's WUI communities can be found in [Appendix D: Areas of Elevated Risk – Fire Management Objectives](#)

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VII. Current Wildfire Hazard Situation

❖ The Pine Beetle Epidemic

For the past decade, Eagle County has been experiencing a mountain pine beetle epidemic. Tens of thousands of acres of lodgepole pine have been infested throughout the county, but this outbreak extends well beyond Eagle County's borders. In 2010, more than 3 million acres of forest in Colorado and Wyoming had some level of pine beetle activity. In the absence of fire, periodic beetle outbreaks kill most large diameter lodgepole pine, resulting in huge accumulations of dead material. A short term increase in wildfire risk can be expected due to the proliferation of flashy fuels in affected stands (ie. dead needles, branches and tall grass). Over the next several decades, large diameter fuels will begin to accumulate on the forest floor, resulting in the potential for catastrophic fires. A fire of this nature could be disastrous for Eagle County communities and affected watersheds. High intensity wildfire can create hydrophobic soils layers, decreasing the infiltration rates of water. These conditions can result in higher storm water runoff, lower base flow levels, and lower recharge rates to aquifers. Large diameter surface fuels lead to increased soil heating during fire, potentially contributing to landslides. In addition to the build-up of hazardous fuels throughout the county, falling trees are a constant threat to those entering beetle infested forests as well as to critical infrastructure like roadways and power line corridors. Mountain pine beetles, like fire, attack trees regardless of ownership affecting public and private lands in Eagle County. In order to ensure the resiliency of the next forest, and the long term sustainability of the communities within these forested areas, fuels management across jurisdictional boundaries must occur during the coming decades.



Photo: Beetle-killed lodgepole pine in Eagle County

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❖ Need for Forest Management

Colorado's forest landscapes are dynamic in nature. Natural agents of change like fire, disease, and insect outbreaks are a key part of maintaining healthy forest ecosystems. Forests, like most natural resources, require proper management to be healthy and productive. Forest management is the practical application of biological, physical, quantitative, managerial, economic, social, and policy principles to the regeneration, management, utilization and conservation of forests to meet specific goals and objectives while maintaining the productivity of the forest. Homes, businesses, and subdivisions are being built on forested lands that have historically seen regular fires, and even need them to remain healthy. In order to preserve human life and property, firefighters have worked hard to suppress and control fires; this has had a negative effect on some of Eagle County's forests. We must learn to adapt to a changing forest landscape, and develop management strategies that protect the forest resources that are so vital to our way of life.

To help return Eagle County's forests to a more "natural" state, it is important that land managers and property owners work together. Development in the WUI should be adapted so that, when fires burn, firefighters can do their job safely to protect man-made structures while allowing fire to play its natural role in the ecosystem. Allowing natural fires to occur will help create a healthier forest and ultimately reduce the risks associated with large and unmanageable fires. It may not always be possible to allow fire to play its natural role in maintaining healthy forests. In instances when allowing fires to burn jeopardizes the health and safety, as well as economic viability of Eagle County, forest management should seek to return balance to fire dependent ecosystems by using the best science and management practices available. Reducing fire hazard and maintaining healthy forests can be achieved by a variety of methods, and is the responsibility of everyone that lives, works, or plays in Eagle County's forests. Management strategies must be a coordinated effort by all stakeholders, and project must cross jurisdictional lines.



Photo: Vail Valley Forest Health Project 2007

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VIII. Fire Protection Strategies

❖ Project Prioritization

The CWPP process identifies areas in that are in critical need of wildfire mitigation projects, and where and how to prioritize management objectives on both federal and non-federal land. Agencies with jurisdiction in Eagle County will continue to meet and discuss priority fire hazard reduction projects through the Eagle County Wildfire Council. This CWPP identifies several “Areas of Elevated Risk” through site-specific hazard assessments and fire hazard modeling. Project priority within these areas will be determined utilizing the following criteria:

1. Life Safety
2. Essential Infrastructure
3. Homes/Businesses
4. Municipal Water Supplies
5. Resource Values
 - i. Forest Health
 - ii. Air Quality
 - iii. Cultural Resources
 - iv. Critical Habitat
 - v. Recreational Infrastructure

Neighborhood specific fire mitigation projects identified by this CWPP will be outlined in *Appendix D: Areas of Elevated Risk – Fire Management Objectives*. Projects will receive *High, Moderate, or Low* priority designations dependent on these criteria with the highest priorities given to projects that seek to protect one or more of these values at risk.

❖ Preparedness and Evacuation Planning

The safety and well-being of the public and firefighting personnel is always top priority on any wildfire incident. In order to ensure the life safety of all those living and working in Eagle County’s WUI, it is imperative that coordination occur between the public and emergency providers well in advance of any interface fire.

- *Preparedness*: Fire suppression in the WUI is exceptionally dangerous due to additional hazards that exist. Coordination of resources and appropriate response are critical to the safety of fire operations in the WUI. The **Eagle County Annual Wildfire Operating Plan for Control and Extinguishment of Wildland Fires (AOP)** will continue to be the guiding document for resource availability, resource mobilization, special resource concerns and training. This AOP is revised and updated annually to provide a detailed description of available resources/equipment and cooperative needs and agency commitments in Eagle County. To ensure functionality of this AOP document, regular multi-jurisdictional exercises should be conducted to test the readiness of local agencies

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responding to a major urban interface fire in Eagle County. Full-scale field and table-top exercises simulating real wildfire scenarios will test emergency responder preparedness and resourcefulness, as well as strengthening interagency collaboration in Eagle County.

Presently, pre-attack plans are being developed for “Areas of Elevated Risk” in Eagle County identified in this plan. Field observers conduct assessments of existing wildfire hazards in these residential areas as they pertain to: structural ignitability, fuel type, slope, structure and neighborhood access; and to identify available water sources, critical infrastructure, safety zones, staging areas, and natural and manmade hazards to fire fighters and other emergency responders. Data collected in the field will be utilized to create a GIS database cataloging the attributes listed above on a neighborhood by neighborhood basis. The GIS data created would become part of the electronic and hard copy map books utilized by fire protection districts, carried on engines and support apparatus, and made available to incoming resources from outside of Eagle County (ie. strike teams, incident management teams, etc.).

- *Evacuation Planning:* The risk of dangerous wildfire in Eagle County’s ever growing WUI means that the public must be prepared to evacuate their properties when ordered to do so. The communication methods available in Eagle County are:
 - Reverse telephone dialing (commonly referred to as Reverse-911™)
 - Eagle County Community Notification System (EC Alert) – text messaging to e-mail, cell phone, smart phone, PDA and other hand held devices.
 - Eagle County web-page alerts
 - Emergency Alert System (EAS) supported by the National Weather Service broadcast
 - Television and radio announcements
 - Public address systems and announcements from public safety vehicles
 - Portable and fixed variable message boards
 - Door-to-door notification

The assessment of current wildfire behavior will be the driving factor in the decision by the sheriff, fire or police chief, or incident commander to order an evacuation. Evacuation routes will be identified by the incident commander and will be communicated to the public by the methods listed above and in coordination with the Eagle County Public Information Officer (PIO) Group.

The decision to evacuate a neighborhood because of wildfire will be influenced by current fire behavior, trigger points related to current weather and fuels, and the ability of the affected segment of the population to safely evacuate their property upon receiving the order. All wildfire evacuations will happen when: the incident commander identifies major thoroughfare roads as evacuation routes; the sheriff’s office or police department isolates the impacted area with established perimeter and restricted access; the incident commander directs the PIO group to use the notification methods identified above to

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announce and give directions regarding the evacuation; and the Office of Emergency Management establishes evacuation centers for those evacuated to report to and continue to receive incident-specific information.

Eagle County has a volunteer-based Animal Response Team. The team provides an ongoing, coordinated program for the evacuation and protection of domestic animals and livestock before, during and after wildfire evacuations.

❖ Neighborhood Design

- *Planning and Zoning:* Eagle County adopted Wildfire Regulations on January 21, 2003. These regulations are present in the Eagle County Land Use Regulations and Building Resolution and are attached to this document in Appendix-E: Eagle County Wildfire Regulations and Building Resolution.

(Note: Due to the length of the Eagle County Land Use Regulations (LURs), only those portions relevant to community wildfire protection planning have been included in this draft.)

- **SECTION 4-430. DEVELOPMENT IN AREAS SUBJECT TO WILDFIRE HAZARDS**

Purpose There are certain regions of Eagle County that have the potential to pose hazards to human life and safety and to property because they can be threatened by wildfire. These regulations are intended to provide standards to reduce or minimize the potential impacts of wildfire hazards on properties, the occupants of properties and the occupants of adjacent properties, as well as to facilitate access to manmade structures by firefighters in the event of a wildfire. Development should attempt to avoid high and extreme wildfire hazard areas whenever possible.

Standards

a. Water Supply.

(1) Fire Hydrants. Fire hydrants shall be provided when a water distribution system will serve the proposed development and shall meet the required fire flow as defined in the fire code in effect at the time of application or as otherwise determined by the Local Fire Authority Having Jurisdiction.

(2) Water tanks, cisterns and/or dry hydrants. Water tanks, cisterns and/or dry hydrants shall be provided in developments that are not served by hydrants unless the Local Fire Authority Having Jurisdiction has approved an alternative fire protection water supply system.

b. Access. Separate routes of entrance and exit into the development shall be provided. Roads shall be laid out with consideration for creating fuel breaks and to ensure the adequacy of access by emergency vehicles, including the provision of regularly spaced turnouts along roadways, the establishment of adequate

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grades and sight distances and the prohibition of dead end streets (but not cul de sacs) in the development.

- **SECTION 4-620. ROADWAY STANDARDS**

(Section 4-620.J.1.h)

J. Geometric Standards. All roads within unincorporated Eagle County, whether publicly or privately maintained, shall conform to the design standards and requirements shown in Table 4-620.J., Summary Of Environmental, Geometric And Design Standards.

1. Horizontal Alignment. The following special considerations for horizontal alignment shall apply to the design and construction or reconstruction of roadways in Eagle County:

h. Dual Access. The applicant shall provide two (2) points of access from the proposed development to the public roadway system, unless prevented by topography or other physical conditions. In any event there shall be a usable and unobstructed (with the exception of breakaway barriers) secondary emergency point of ingress/egress for all new development or redevelopment capable of accommodating emergency response vehicles commonly operated by the Local Fire Authority Having Jurisdiction. All dwellings and other structures shall be accessible by emergency and service vehicles. Depending upon the length of the road, fire hazard rating, number of units proposed, topography and the recommendation of the Local Fire Authority Having Jurisdiction, the Board of County Commissioners may, at their discretion, grant a variance from the required improvement standard.

(4-620.J.9.c.(1))

c. Additional County Standards. In addition to the foregoing, public and private access approaches and driveways shall be subject to the following standards:

(1) Access By Emergency and Service Vehicle. All dwellings and other structures shall be accessible by emergency and service vehicles. A maximum grade of eight (8) percent and a minimum centerline radius of forty-five (45) feet is recommended for driveways on north-facing slopes. On south-facing slopes, a maximum grade of ten (10) percent and a minimum centerline radius of forty-five (45) feet is recommended. Curves should be widened generously in both circumstances.

Public and private access approaches and driveways in excess of 150 feet in length shall be provided with adequate area for emergency vehicle turnaround.

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- **SECTION 4-680. WATER SUPPLY STANDARDS (4-680.B)**

B. Fire Fighting Facilities. The developer shall provide fire hydrants, water tanks, cisterns and/or dry hydrants within the development capable of providing a fire fighting water supply. Such hydrants, water tanks, cisterns and/or dry hydrants shall be of the type, size and number, and shall be installed in locations as specified in Section 4.430.E.1.a, Water Supply of these Land Use Regulations, or as may be alternatively approved by the Local Fire Authority Having Jurisdiction.

Additional Sections of note in the Wildfire Regulations are: 5-240.F.2.a and 5-240.F.3.a which establish procedures for planned unit development districts with respect to wildfire mitigation. Section 5-280.B.4.a.(2).(v).dd. outlines application contents for subdivisions with regards to wildfire mitigation.

- ❖ **Reduction of Structural Ignitability and Defensible Space**

- *Fire Resistant Construction:* Chapter III of the Eagle County Building Resolution establishes minimum design and construction standards for the protection of life and property from fire within the Wildland/Urban Interface. These provisions are meant to aid in the prevention and suppression of fires, lessen the hazards to structures from wildland fires and lessen the hazards to wildlands from structure fires. These regulations are present in the Eagle County Land Use Regulations and Building Resolution and are attached to this document in Appendix-E: Eagle County Wildfire Regulations and Building Resolution.

- **Chapter III - Eagle County Building Resolution**

- 3.13.1 – GENERAL**

- 3.13.1.2.a** All new building construction, exterior modification to existing buildings, and/or additions that increase an existing building's footprint or number of stories in moderate, high and extreme hazard zones shall cause the entire building to comply with the provisions of this regulation with regard to the creation of **Defensible Space**.

- 3.13.1.2.b** All Communities and/or Subdivisions in existence prior to the effective date of these wildfire regulations may opt to prepare a **Comprehensive Wildfire Mitigation Plan**, which includes all lands and buildings within a definitive boundary delineated by said Plan.

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3.13.2 - DEFINITIONS For the purpose of this regulation, certain terms are defined as follows:

COMPREHENSIVE WILDFIRE MITIGATION PLAN means an exhaustive, substantive compilation of commonly accepted practices designed to substantially decrease the hazards to life, property and the natural environment caused by wildfire.

DEFENSIBLE SPACE is a designated area surrounding a building or buildings that will be subject to fuel modification measures intended to reduce fire-spread potential between the structure and adjacent vegetation.

FIRE-RESISTIVE CONSTRUCTION means a fire-resistive shell- exterior walls shall be a listed, one-hour fire-resistive assembly or log (6" min. dia.), and the roof shall be protected by a layer of 5/8" type X gypsum board interior ceiling or nominal 2"x T&G wood interior ceiling. A non-combustible exterior wall surface (cement stucco, brick, stone, cement fiber siding) may be used in lieu of the exterior membrane of a listed wall assembly. Decks shall be one-hour fire resistive construction as defined in the building code in effect at the time of building permit application.

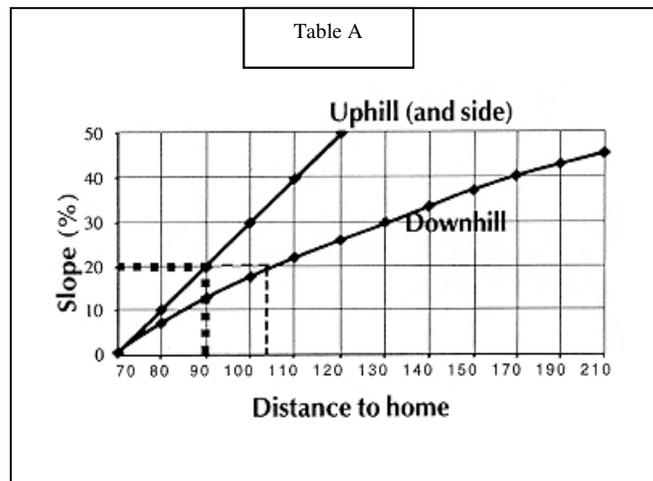
- *Defensible Space:* Community and home-owner responsibility for self-protection from wildfire is essential. The most important element for the improvement of life safety and property preservation is for every home in Eagle County to have compliant, effective defensible space. This is especially important for homes with wood roofs and homes surrounded by dense vegetation located on steep slopes, in chimneys, saddles, or near any other topographic feature that contributes to fire intensity.

When designing defensible space treatments, there is no question any type of dense/flammable vegetation should be removed from around a home in order to reduce the risk of structural ignition during a wildfire. The question is how much should be removed. The basic rule is to eliminate all flammable materials (fire-prone vegetation, wood stacks, wood decking, patio furniture, umbrellas, etc.) from within 30 feet of the home. Steep slopes and/or the presence of dangerous topographic features as described above may require the defensible space distances to be increased.

The term "clearance" leads some people to believe all vegetation must be removed down to bare soil. This is not the case. Removing all vegetation unnecessarily compromises large amounts of forested terrain, increases erosion, and will encourage the growth of weeds in the now disturbed soil. These weeds are considered "flashy fuels," which actually increase fire risk because they ignite so easily. Defensible space must be ecologically sound, aesthetically pleasing and relatively easy to maintain. Only then will the non-prescriptive use of fuels reduction around homes become commonplace.

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Eagle County Defensible Space Guidelines



Zone 1: Is the area of maximum modification and treatment. The intent of Zone 1 is to reduce fuels that are immediately adjacent to flammable elements of the structure and to provide a clear access area for firefighting operations. Zone 1 is an area measured 15-30 feet from the edges of the structure. Ideally, all trees within Zone 1 should be removed to reduce the fire hazard. If a tree or cluster of trees must remain, it will be considered as an integral part of the structure and **Defensible Space** pursuant to Table A will be measured from the drip line of the tree or tree cluster. This is particularly important if the building is sided with wood or other flammable materials. Decorative rock or irrigated, mowed grass creates an attractive, easily maintained nonflammable ground cover. If the house has noncombustible siding, widely spaced foundation plantings of low growing shrubs or other fire resistant plants are acceptable (**Reference CSFS Publication 6.305, *Firewise Plant Materials or, the version of this publication currently in effect.***). Frequent pruning and maintenance of plants in this zone is necessary. All dead branches, stems and leaves must be regularly removed. All trees within Zone 1 must be pruned to at least 10 feet above the ground, but no more than 1/3 the overall height of the tree (Aspen trees, individual spruce, fir and pine specimens are exempt). All branches that interfere with the structure's roof or chimney must be removed. All ladder fuels (small shrubs, trees, tree limbs and other materials that allow fire to climb into the tree crown) must be removed from beneath the tree or tree cluster.

Zone 2: Is an area of fuel reduction. It is a transitional area between Zones 1 and 3. The size of Zone 2 depends on the slope of the ground where the structure is built (Reference Table A). Within this zone, the continuity and arrangement of vegetation is modified to reduce the intensity of any fire approaching the structure. Trees and shrubs must be thinned so that there is a minimum of 10 feet between crowns. Crown separation is measured from the furthest branch of one tree to the nearest branch on the next tree. All ladder fuels from under these trees must be removed. All trees must be pruned to at least 10 feet above the ground, but no more than 1/3 the overall height of the tree (Aspen trees, individual spruce, fir and pine specimens are exempt).

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❖ Landscape Scale Fuels Reduction

- *Fuel-breaks:* A fuel-break is an easily accessible strip of land, of varying size depending on vegetation and terrain, in which fuel density is reduced to improve fire control opportunities. Fuel-breaks under normal burning conditions can limit the uncontrolled spread of fires and aid firefighters in slowing a fire's rate of spread. Factors to consider when determining the need for fuel-breaks in WUI communities include:
 - The continuity, arrangement and density of hazardous fuels
 - Average slope and other topographic features leading to increased rates of fire-spread
 - Potential for crowning
 - Ignition sources

Fuel breaks should be created in strategic locations around and within WUI communities in a manner that best serves to:

- Protect vital infrastructure
- Protect homes in more hazardous areas
- Protect ingress/egress routes
- Connect with existing natural and man-made anchor points like rock outcroppings, bodies of water, or roadways.
- Connect with existing residential defensible space
- Provide responding fire department personnel a place to get started.
- Disrupt the continuity and arrangement of hazardous fuels
- Create safety zones when all other options are exhausted

Fuel-break design should include:

- Vegetation thinning focused on the removal of diseased, standing dead and down trees, and the selection of more fire resistant species.
- Removal of ladder-fuels, such as low limbs and heavy understory regeneration
- Removal of brush, dead and down material, logging slash and other surface fuels
- Creation of significant breaks in the canopy to mitigate crowning potential

Since fuel-breaks can have an undesirable effect on aesthetics, crown separation should be emphasized over reductions in stand densities. Another important issue with the creation of fuel-breaks is the removal of cut materials. In Eagle County's dry climate, slash decomposes very slowly, potentially making an area more hazardous by increasing surface fuel loading. It is imperative that all materials be disposed of by piling and burning, chipping, physical removal from the area, or by lopping and scattering the slash.

It is also important to note that fuel-breaks must be maintained to be effective. Thinning usually accelerates the process of regeneration in forest communities. A fuel-breaks effectiveness may be lost if ladder fuels and regeneration are not controlled. Fuel-breaks should not be constructed without a maintenance plan.

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❖ Public Education

Awareness is the key element to fire prevention. Videos, pamphlets, and posters made available on issues related to wildfire preparedness and prevention should be made available to the public through local government offices, libraries, and schools. Public forums should be held prior to fuels mitigation projects and on an as needed basis. Topics to be included in these forums will include FireWise information, introductory fire behavior, what to do in case of a wildfire, etc.

The Eagle County Wildfire Mitigation Specialist and local fire prevention officials have implemented a stakeholder specific education campaign over the past 5 years. Several public service announcements have aired on local TV and radio stations regarding fire safety and mitigation strategies. Educational material and interactive videos can be found on the Eagle County website in conjunction with links to agency websites: (<http://www.eaglecounty.us/Building/Wildfire/Overview/>).

Presentations on fire mitigation, fire safety, evacuation planning, and forest health have been given at HOA meetings, landscape design seminars, elementary school classrooms and at various public events and meetings countywide.

IX. Existing Fire Protection Infrastructure

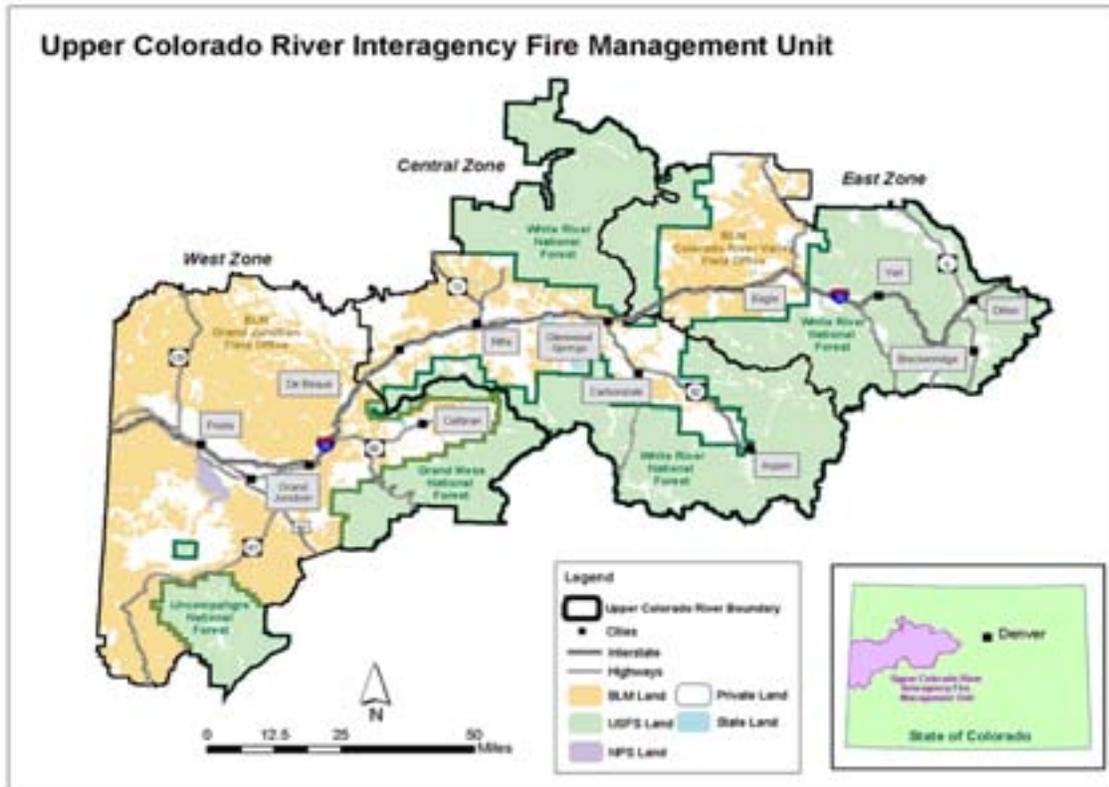
Agencies having jurisdiction within Eagle County include: Eagle County (state and private lands), the Upper Colorado River Interagency Fire Management Unit (USFS and BLM – federal lands), and the Colorado State Forest Service (private and Denver Water Board lands).

There are four Fire Protection Districts in Eagle County (Basalt, Gypsum, Greater Eagle, Eagle River); the Town of Vail Fire and Emergency Services, as well as the Rock Creek Volunteer Fire Department. Each jurisdictional agency has ultimate responsibility for wildland fire protection on its own lands. The Eagle County Sheriff is responsible for fire suppression on all non-federal (state and private) lands in unincorporated areas of Eagle County that are not located in a fire protection district.

Upper Colorado River (UCR) Interagency Fire Management Unit: The UCR is composed of the Colorado River Valley and Grand Junction Field Offices of the Bureau of Land Management; Grand Valley Ranger District of the Grand Mesa, Uncompahgre and Gunnison National Forests; White River National Forest, and the Colorado National Monument. The UCR cooperates with state agencies, local communities and fire departments on a wide range of activities including fuels treatments, fire prevention and fire suppression.

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Encompassing over 4.5 million acres of land managed by participating Federal agencies, the UCR is oriented along the Interstate 70 corridor from the Continental Divide on the east to the Utah state line on the west. Vegetation types in the area range from those typifying high desert species such as native bunchgrasses, sagebrush and various types of brush, to woodland species such as pinon-juniper, aspen and mixed conifer species at higher elevations.

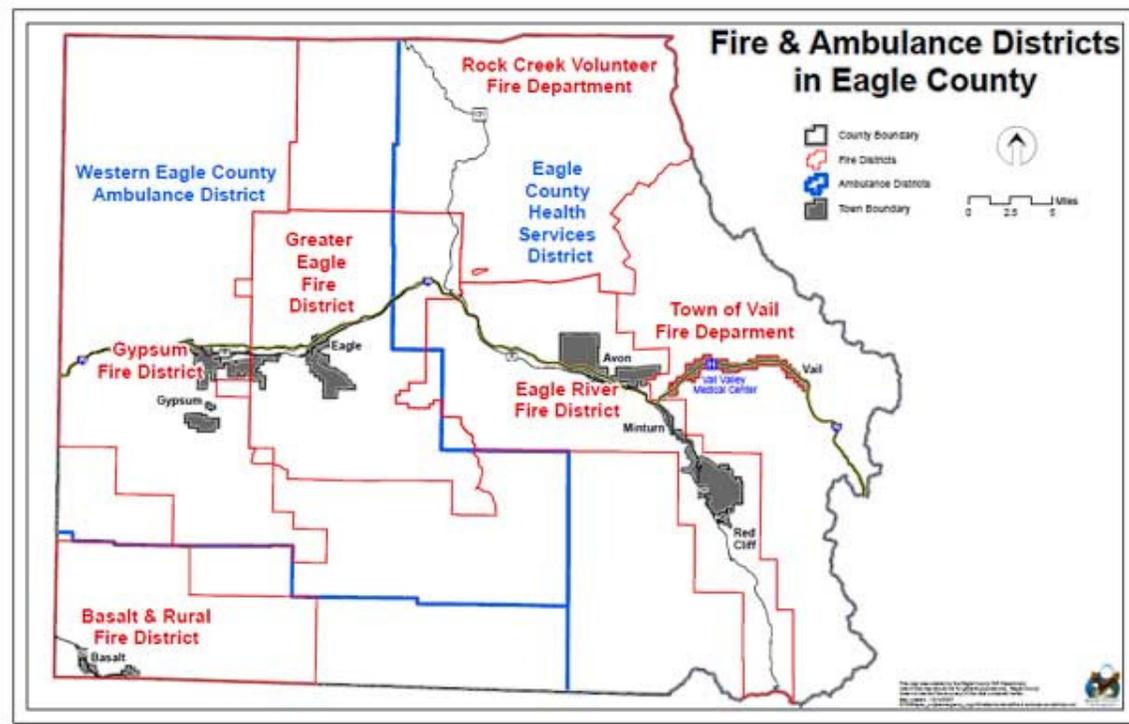


Eagle County: Colorado law identifies the sheriff as the fire warden for the county and the individual ultimately responsible for controlling and extinguishing prairie and forest fires on private and state lands within that county (CRS 30-10-513). The sheriff coordinates with federal, state and local agencies to implement and enforce fire restrictions and fire bans on private lands in Eagle County. Eagle County Emergency Management works to protect lives and property in Eagle County through effective emergency management practices and procedures. The office coordinates with local response agencies to prepare for, mitigate, respond to, and recover from natural or human-caused emergency situations. Eagle County Wildfire Mitigation is responsible for implementing and enforcing the County’s Wildfire Regulations, open burning permits, fuel reduction projects, and CWPP development.

Colorado State Forest Service (Granby District): The state forestry role is to assist the sheriff and county fire departments with the responsibility for controlling and extinguishing wildfires. The Colorado State Forest Service (CSFS) fulfills this role by providing training, equipment,

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technical assistance and funding, and by facilitating interagency mutual aid agreements and annual operating plans. The CSFS assists Eagle County in their role to prepare, adopt and implement a county fire management plan that details individual county policies on fire management for prescribed burns, fuels management or natural ignition burns on lands owned by the state or county. The CSFS also administers the Emergency Fire Fund (EFF) and the Wildfire Emergency Response Fund (WERF), and subsequently manages fires qualifying for funding under these programs. The CSFS has also been designated the primary point of contact with the Federal Emergency Management Agency (FEMA) when wildfires pose an imminent threat to life and property. CSFS requests, and if awarded, administers FEMA Fire Management Assistance Grants (FMAG).



Basalt and Rural Fire Protection District: Encompassing an area of 492 square miles from Highway 82 near Carbondale, the district follows the Frying Pan River east to the Continental Divide. The Basalt and Rural FPD provides emergency and non-emergency services throughout Basalt, Colorado and the surrounding areas. This includes 24-hour emergency response to a wide variety of critical situations, including structural, wildland, and urban interface fires. The department also operates active fire prevention and emergency preparedness programs which provides for fire inspections, burn permits, fire code enforcement, community education, and business emergency planning in accordance with Colorado laws. The department maintains four fire stations in Snowmass, Basalt, Thomasville and El Jebel.

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Gypsum Fire Protection District: Located in Central Eagle County, Gypsum FPD is a combination department of paid and volunteer fire-fighters, able to respond to all alarms within their district. The District includes the town of Gypsum, and the rural communities of Dotsero, Sweetwater and the Colorado River Road below Burns. The department has a prevention program that provides fire code inspections, training opportunities, burn permits and controlled burn assistance.

Greater Eagle Fire Protection District: The Greater Eagle FPD, located in central Eagle County, serves the town of Eagle, and the rural communities of Wolcott, Fulford, Bond, McCoy and State Bridge, providing fire, EMS, Haz-Mat and rescue services. Greater Eagle FPD provides wildland fire protection within its own district, as well as on assignment to other locations as needed. The department employs several paid and volunteer fire fighters.

Eagle River Fire Protection District: The Eagle River Fire Protection District (ERFPD) serves a 240 square mile area of Eagle County, including the communities of Avon, Arrowhead, Bachelor Gulch, Beaver Creek, Cordillera, Eagle-Vail, Edwards, Minturn, Red Cliff, and Wolcott. Eagle River Fire District is a professional fire service agency with six stations staffed 24-hours per day, equipped to protect residences, businesses, rural areas, high-rise resort hotels, and forested areas throughout the District.

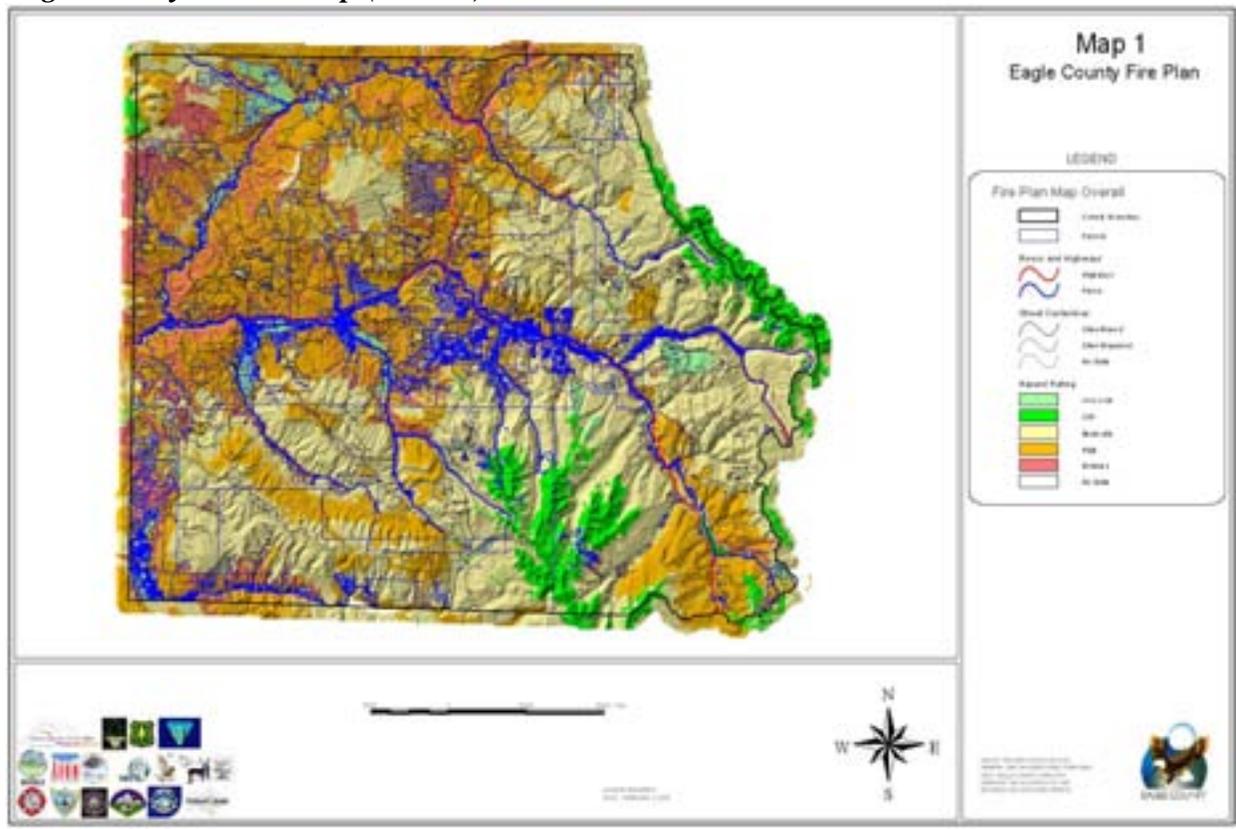
Vail Fire and Emergency Services: Vail Fire and Emergency Services operate within the town of Vail and surrounding area. The department has an agreement with Vail Resorts Inc., operator of Vail Mountain, to provide fire suppression services on Vail Mountain and agreements with districts outside of the Town of Vail's city limits. Since 2007, Vail Fire has employed a 6 person wildland fire crew available to complete mitigation work in and around Vail, as well as to respond to fires locally and nationally.

Rock Creek Volunteer Fire Department: the Rock Creek Volunteer Fire Department (RCVFD) borders the northern reaches of Greater Eagle FPD, and the eastern boundaries of Gypsum FPD, providing emergency response to 244 square miles of rural land in northern Eagle County including the communities of Bond, Burns, and McCoy. The RCVFD was formed to train, equip, facilitate and ready the dispatch of strictly volunteer emergency personnel in coordinated response with established emergency service agencies in Eagle County, Routt County, and Grand County.

Appendix A: Eagle County Wildfire Hazard Map

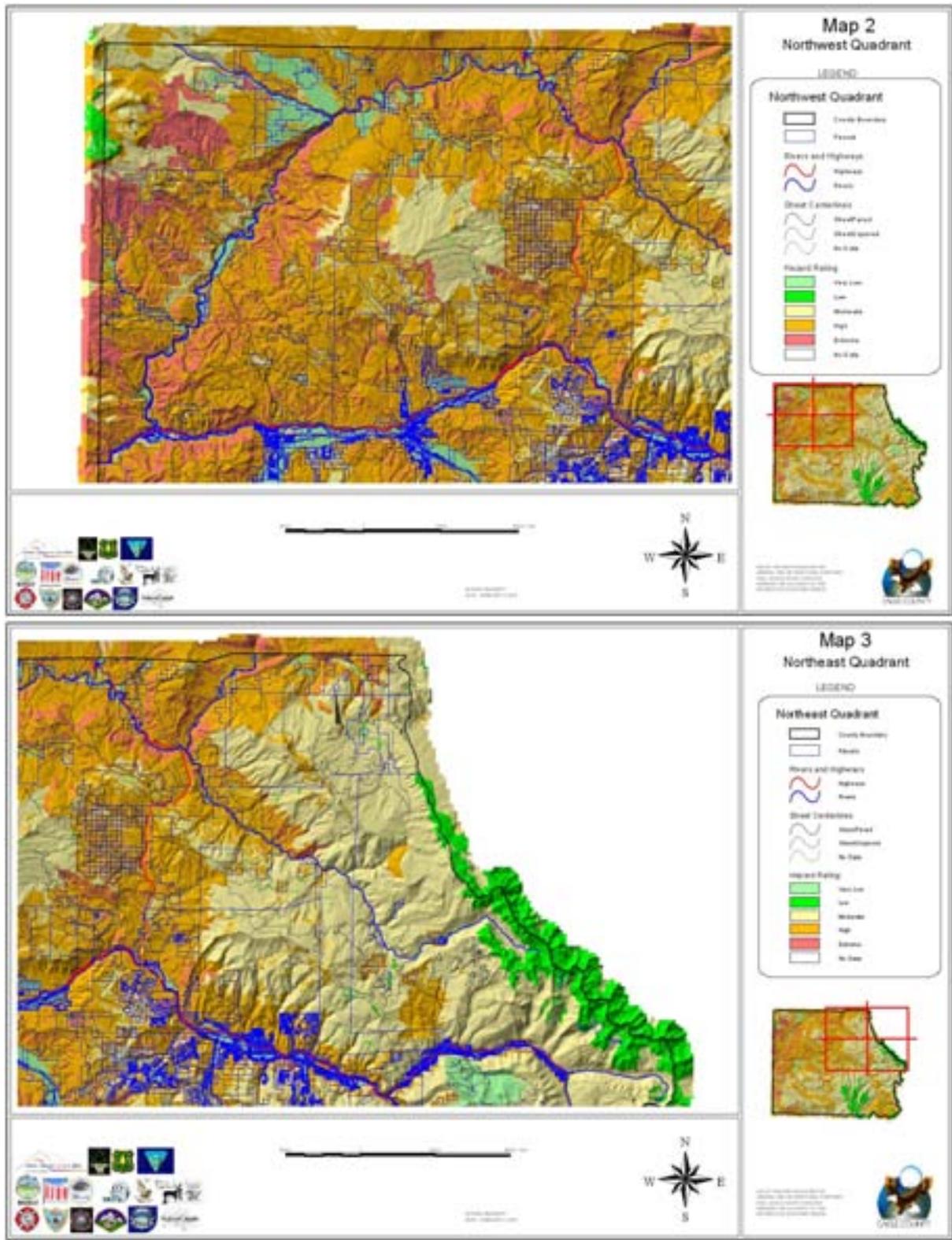
In 2003 Eagle County contracted with Dynamac Corporation to model wildfire hazards on all private lands in the county, and 200 meters into any public lands adjacent to private property. Fire Behavior Fuel Models (FBFM's) were digitized from aerial photographs with a two acre minimum mapping unit. Fuel models developed were visually verified through on the ground assessments to ensure accuracy. A wildfire hazard index was then calculated using the *Colorado Wildland Urban Interface Hazard Assessment Methodology (Edel 2002)*, the FBFM's developed, and a 30 meter Digital Elevation Model (DEM) of Eagle County acquired from the National Elevation Dataset (NED). The result is a wildfire hazard rating map that ranks wildfire hazard into 5 categories as follows; **Low**, **Moderate**, **High**, and **Extreme**. The resulting map has been used to identify subdivisions that are located in elevated risk from fire. Once wildfire risk areas have been identified by fire managers, a Community Wildfire Hazard Assessment is conducted in order to rate the communities overall wildfire hazard.

Eagle County Hazard Map (Overall)

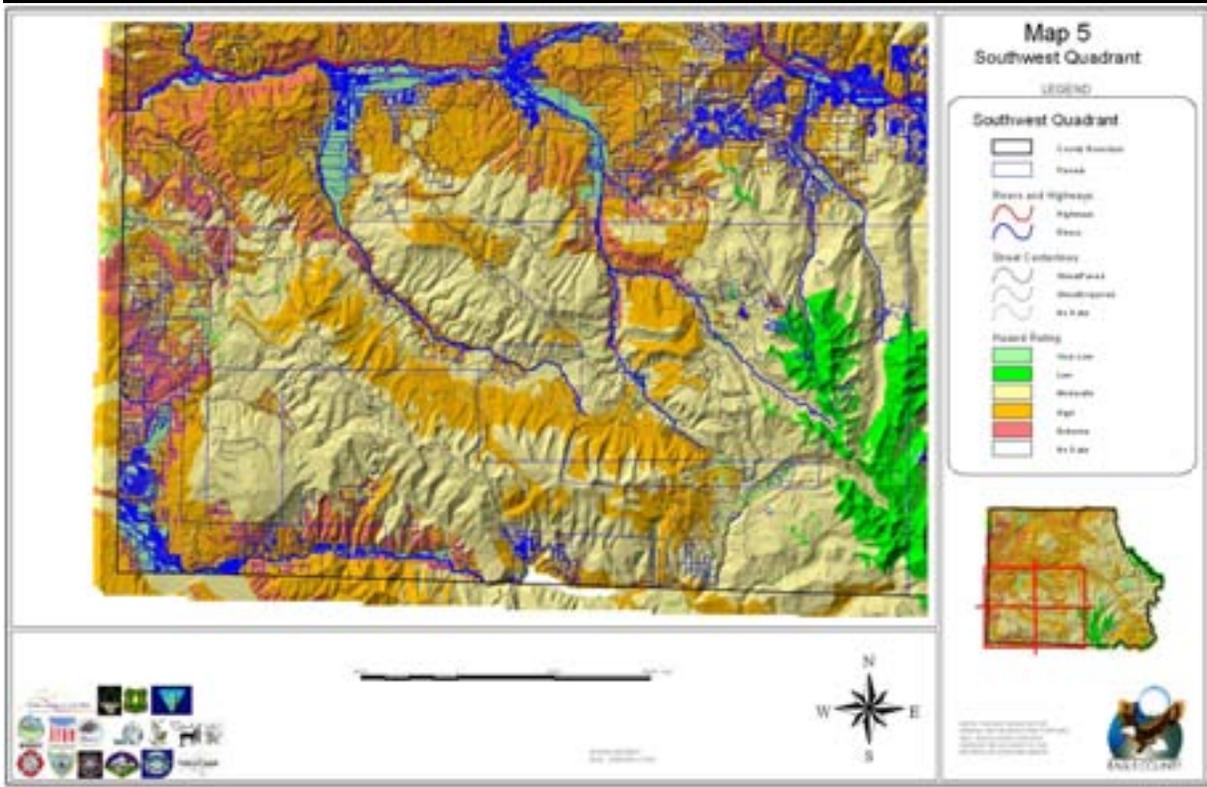
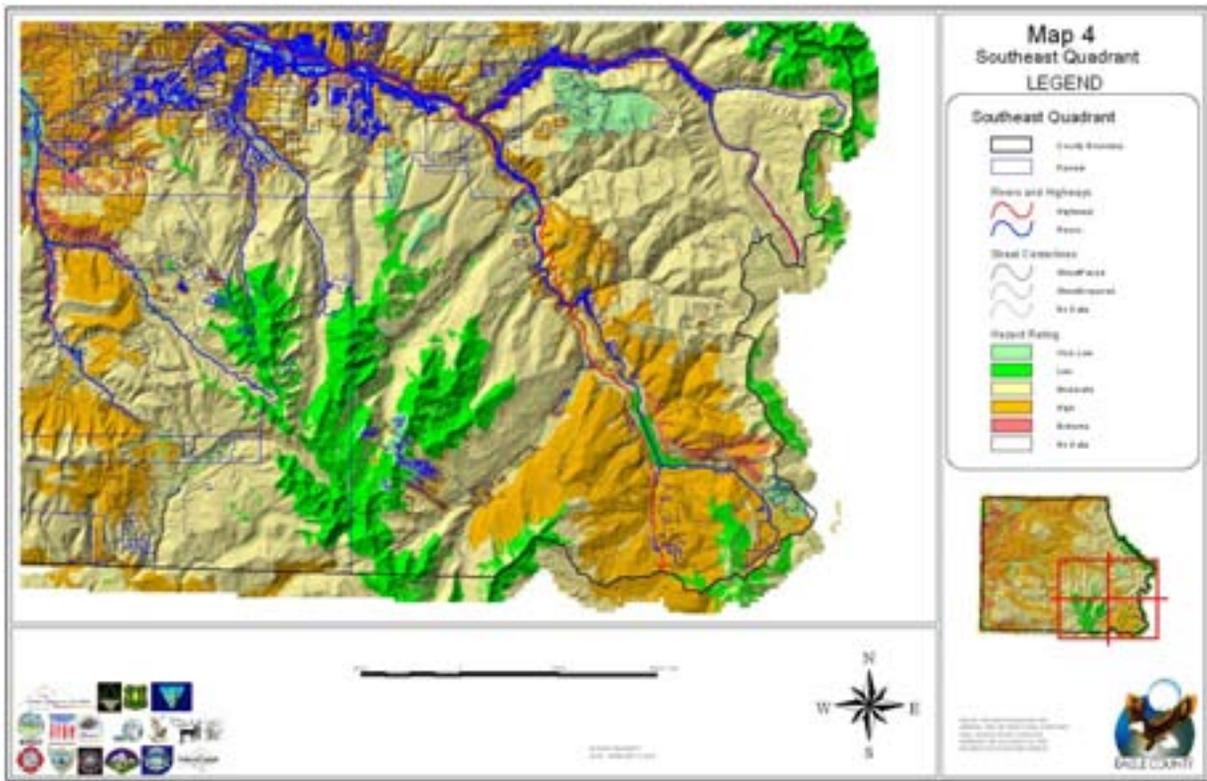


It is important to update the Eagle County Wildfire Hazard Map regularly to reflect changes in forest conditions and population growth. Hazard Mapping should be updated at a minimum once every 10 years. Future mapping should include all private and public lands within Eagle County.

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Appendix B: CWPP Action Plan – Work Completed 2005-10

A. Prevention

The Eagle County Wildfire Mitigation Specialist and local fire prevention officials have implemented a stakeholder specific education campaign over the past 5 years. Several public service announcements have aired on local TV and radio stations regarding fire safety and mitigation strategies. Educational material and interactive videos can be found on the Eagle County website in conjunction with links to relevant agency websites. Presentations on fire mitigation, fire safety, evacuation planning, and forest health have been given at HOA meetings, landscape design seminars, elementary school classrooms and at various public events and meetings countywide.

B. Planning and Zoning

Hazard assessments and home mitigation: Since adopting the Eagle County Wildfire Regulations in 2003, over *1,200* properties Countywide have had wildfire hazard assessments completed as a requirement of their building permit. Subsequently, a database of these properties has been created and made available to each fire protection district in Eagle County.

This database catalogs all the homes and businesses that have been through the Eagle County Wildfire Mitigation process, and the mitigation strategies developed for each. It is to act as a reference guide for the ongoing maintenance of each property's defensible space, as well as the potential need to re-evaluate the long-term effectiveness of fire resistant construction materials mandated by the Eagle County Building Resolution. This catalog of properties may also prove useful to Incident Management Teams as they assess fire suppression and structure protection capabilities for each neighborhood during a large fire in the urban interface of Eagle County.

Fire Resistant Construction Requirements: Eagle County requires the use of fire resistant building materials and the creation of defensible space for all new construction in areas at risk from wildfire. Those requirements are listed on the next page.

Several towns and metropolitan districts in Eagle County have also adopted ordinances or regulations that ban the use of wood roofing materials in wildfire areas.

- **Town of Vail** – Ordinance banning wood roofing materials
- **Cordillera Metro District** – POA covenant banning wood roofing materials and requiring the mandatory creation and maintenance of defensible space
- **Beaver Creek Resort** – Wildfire Mitigation Plan banning wood roofing materials

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Construction Guidelines for Wildfire Areas in Un-incorporated Eagle County

Low Hazard

No limitations, any material allowed by the Building Code.

Moderate Hazard

Roof covering must be a minimum class B rating.

Roof venting

If the roof venting is in the soffit, it shall be in the outer 1/3rd.

Deck Construction

Decks > 30" above finished grade shall be fire-resistive construction.

Beams, posts, joists, decking (trim, fascia, guards and handrails are exempt)

Options:

- 1) Completely built with non-combustible construction.
- 2) Construct a waterproof deck and protect the underside with 5/8" type X gypsum board.
Decking can be of any material allowed by code with this method.
- 3) Construct using Type IV construction (Chapter 6 of the 2003 IBC)
 - a. Joist and beams to be minimum 6" x 10"
 - b. Decking to be minimum 4" x in depth
 - c. Posts to be minimum 8" x 8"
- 4) Structural members and decking materials having a flame spread of less than 25 (tested to ASTM E84 and listed for exterior use). Some materials that have been accepted are:
 - a. "Exterior FireX" by Hoover Mfg.
 - b. Ipe, aka: ironwood, Brazilian Redwood and Brazilian Walnut, Brazilian Koa
 - c. Boardwalk decking by Certainteed
 - d. FRX Exterior Fire-retardant treated wood
 - e. Amerideck Fire Resistive composite decking
 - f. "Trex Escapes" composite decking.

Combinations of the above are acceptable. This is not to limit any other product. We encourage the public to submit products and the test data for evaluation.

Soffit Construction

Any soffit and bump outs projecting over 48" from the structure shall be fire resistive construction.

- 1) Any option listed above for decks
- 2) Under Type IV construction, open rafters can be 4" x 6" min. and sheathing can be 2" x T&G
- 3) Posts supporting roof only, can be 6" x 6"

High Hazard

All the Moderate Hazard requirements apply including the following.

Roof covering must be a class A rating.

General Construction

- 1) The exterior of the structure is to be of fire resistive material including all soffits, excluding trim.
 - a. Non-combustible siding
 - b. 1 hour listed assembly (5/8" type X under combustible siding)
 - c. Cement Stucco (1/2" min. thickness)
 - d. 6" diameter log

The interior of the roof structure is to be protected with 5/8" type X gypsum board or 2x T&G

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C. Preparedness

Eagle County Wildfire Council: The Eagle County Wildfire Council was formed in 2009. The group meets regularly to review:

- Aspects of assessing current wildfire risk and mitigation strategies countywide
- Interagency collaboration
- Funding opportunities to complement private land projects
- CWPP updates and associated projects
- Agency training needs and opportunities

The Eagle County Wildfire Council consists of representatives from the following agencies and stakeholder groups:

- Eagle County
- UCR Inter-Agency Fire Management Unit (BLM/USFS)
- Colorado State Forest Service
- Basalt & Rural Fire Protection District
- Gypsum Fire Protection District
- Greater Eagle Fire Protection District
- Eagle River Fire Protection District
- Vail Fire and Emergency Services
- Rock Creek Volunteer Fire Department
- Cordillera Metro District
- Eagle River Water and Sanitation District
- Vail Resorts
- Beaver Creek Resort Company
- Beaver Creek/Bachelor Gulch/Arrowhead Public Safety
- Bellyache Ridge HOA
- El Colorow HOA
- Pilgrim Downs
- W. Lake Creek Company

Wildfire Field Exercise (2009): In the spring of 2009 the Wildfire Council facilitated a full scale field exercise in central Eagle County. The goal of this exercise was to test the readiness of local agencies responding to a major fire in the urban interface. The simulation used real wildfire scenarios to test emergency responder preparedness and resourcefulness. The exercise centered on a wildfire threatening homes in Cordillera and Lake Creek, with mandatory evacuations of the area. In addition to examining emergency responder readiness, the simulation provided a real-life framework for administering a Unified Incident Command System. The exercise also tested the County's radio communication network and Eagle County Alert system.

Wildfire Table-Top Exercise (2010): In the spring of 2010 the Wildfire Council facilitated an interagency table-top exercise simulating a local response to a transition fire (initial to extended attack). The goal of this exercise was to test the readiness of command and general staff from local fire districts, and to gain a working knowledge of the **Eagle County Annual Wildfire Operating Plan for Control and Extinguishment of Wildland Fires.**

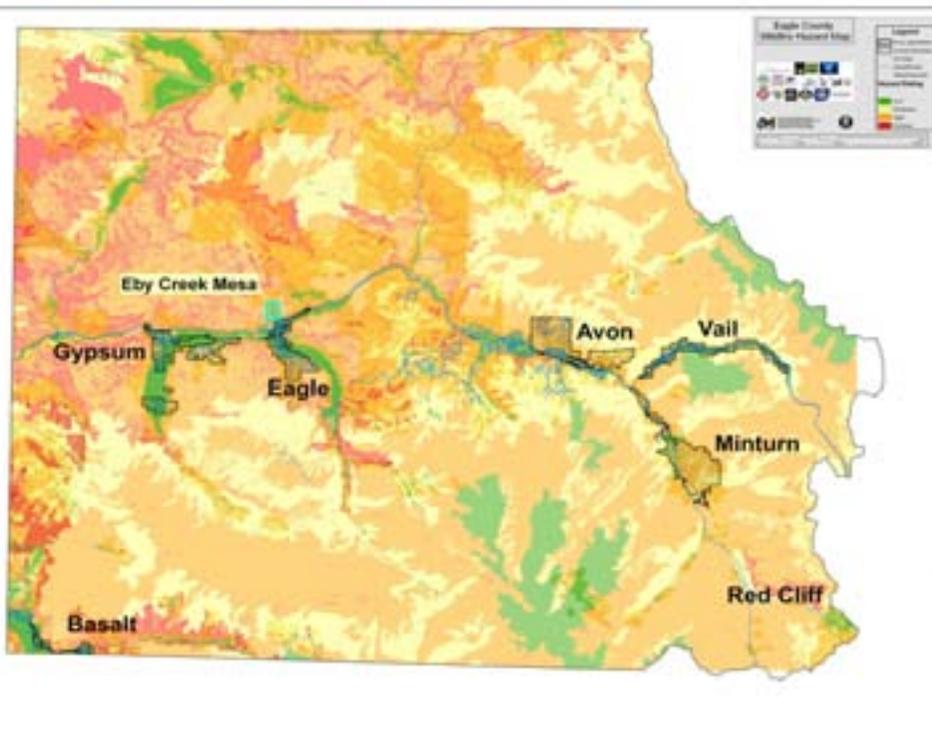
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D. Mitigation - Fuel Reduction Projects in Areas of Elevated Risk

Eby Creek Mesa: Community Wildfire Hazard Assessment - HIGH

The Eby Creek Mesa neighborhood is located approximately one mile north of Eagle, Colorado (**figure 2**). The subdivision has one primary access point from Interstate 70 via Eby Creek Road. The dominant vegetation throughout the study area is Pinyon Pine (*Pinus edulis*) and Rocky Mountain Juniper (*Juniperous scopulorum*) with short grass and sagebrush understory, varying in coverage from uniformly dispersed Pinyon-juniper stands to continuous stands with significant ladder fuels.

Figure B1 – Eby Creek Mesa Vicinity Map



Hydro-Axe Treatment Area:

Eagle County, the Colorado State Forest Service, and the BLM completed a fuel-break along the western boundary of the subdivision in 2004. The fuel-break follows the contours of the ridgeline west of the neighborhood (**figure 6**). A non-maintained 4-wheel drive road can be used to position resources along the fuel-break.

Neilson Gulch Hand Treatment:

A hand treatment of an area inside the subdivision known as Neilson Gulch was completed in 2007 (**figure 6**). In this area all trees were thinned to achieve a minimum 10 foot canopy separation, and remaining trees were limbed 1/3 their overall height from the ground to reduce ladder fuels.

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Figure B2 – Eby Creek Fuels Treatments



(Photo 1: Eby Creek Hydro-Axe Fuel Treatment)

Treatment	Hydro-Axe – remove 90% of mature trees, masticate slash
Completion Date	2004
Acreage	50
Fuel Type	Fuel Model 4 (Anderson)
Slope	20-30%
Canopy Spacing	50-75 feet



(Photo 2 – Neilson Gulch Hand Treatment)

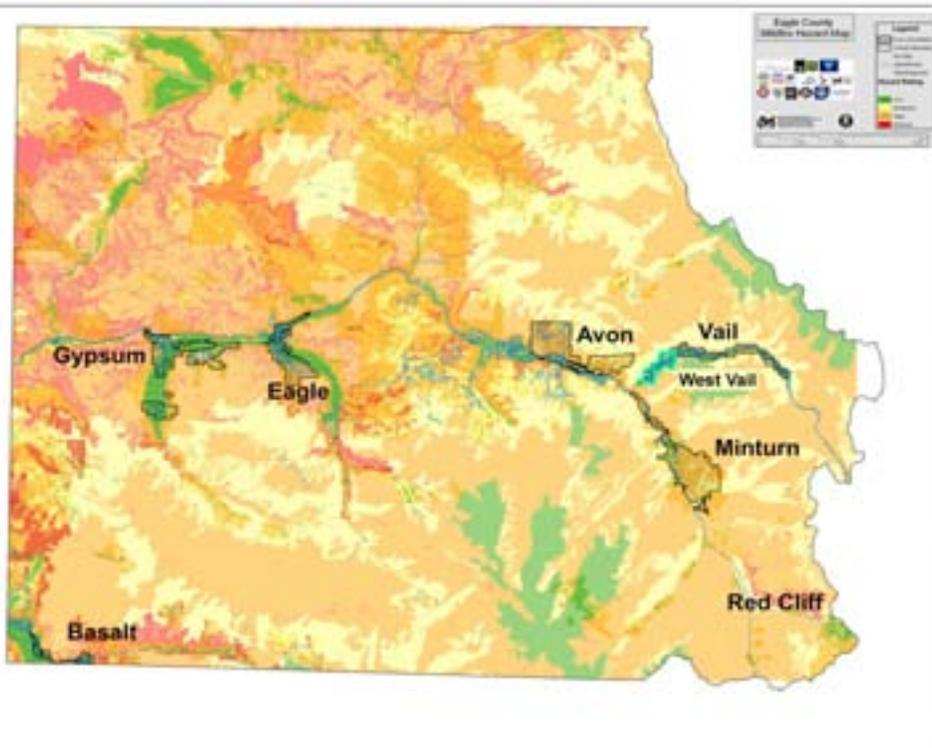
Treatment	Hand Treatment – thin canopy, remove ladder fuels, burn slash
Completion Date	2007
Acreage	9
Fuel Type	Fuel Model 4 (Anderson)
Slope	20-30%
Canopy Spacing	10-15 feet

Eagle County CWPP

West Vail: Community Wildfire Hazard Assessment - HIGH

West Vail consists of several neighborhood areas and is located approximately two miles West of Vail, Colorado (*figure 7*). The area can be accessed by frontage roads on the north and south sides of I-70 from the main Vail exit, or directly from the W. Vail I-70 exit. The dominant vegetation throughout the area is Lodgepole Pine (*Pinus contorta*) mixed with Aspen (*Populus tremuloides*). Private land ownership falls under the jurisdictional boundaries of the Town of Vail and Eagle County, with all adjacent lands being managed by the USDA Forest Service – White River National Forest.

Figure B3 – West Vail Vicinity Map

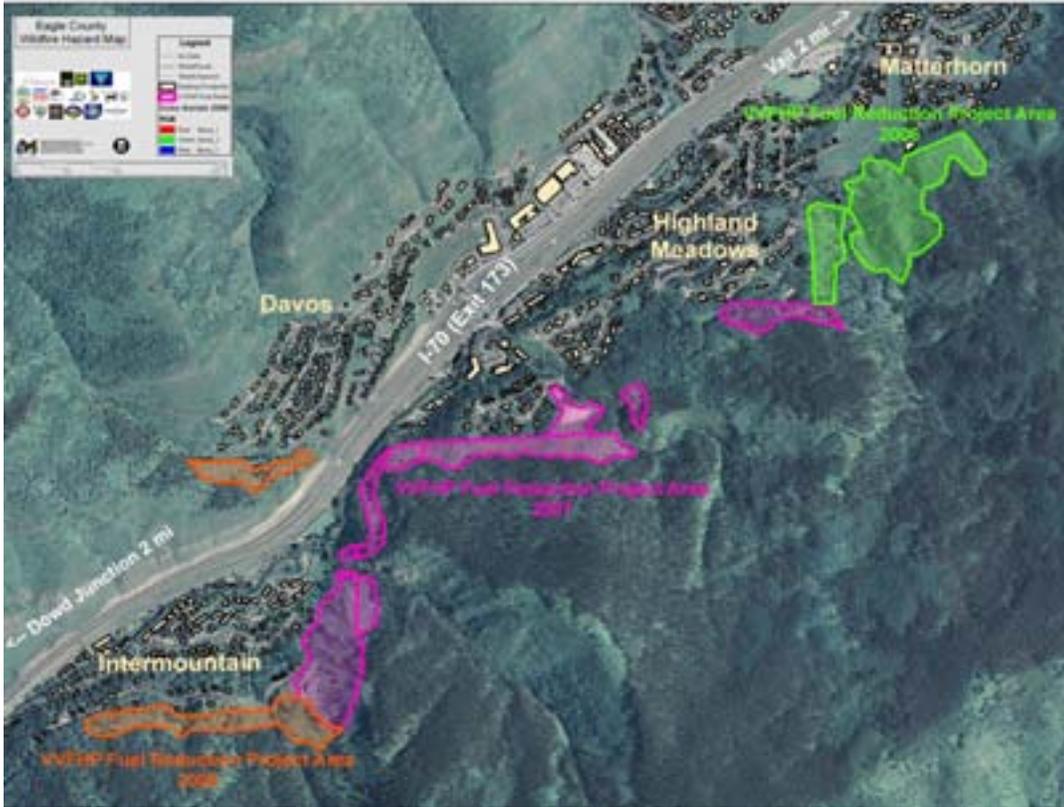


Vail Valley Forest Health Plan (2005-2010)

The Vail Valley Forest Health Plan (VVFHP) is a collaborative effort entered into by the White River National Forest, Eagle County, Town of Vail, Colorado State Forest Service and numerous public and private stakeholders. The overall goal of the VVFHP is to reduce the threat of wildfire in Mountain Pine Beetle (MPB) affected forests surrounding Vail. Over the past 5 years, this partnership successfully completed approximately 86 acres of fuel breaks in the West Vail area (*Figure 8*), and an additional 138 acres of forest health enhancement work throughout the Gore Creek Valley. In the West Vail project area: all MPB infested trees and lodgepole pine over 5” dbh were removed, and the slash was burned or chipped on-site.

Eagle County CWPP

Figure B4 – West Vail Fuels Treatments



(Photo 3 – View from Highlands Meadow facing west)



(Photo 4 – View from Davos facing east)

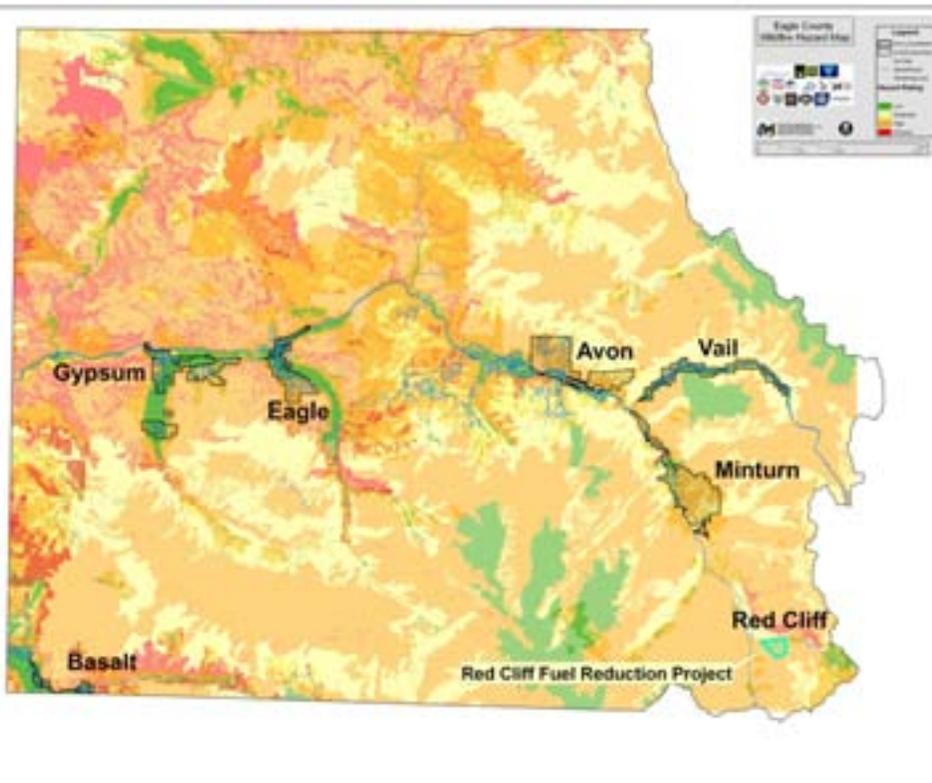
Treatment	Hand cut all LPP >5" dbh, helicopter removal of trees, burn/masticate slash on-site
Completion Date	2008
Acreage	86
Fuel Type	Fuel Model 10 (Anderson)
Slope	30-40%
Canopy Spacing	300-500ft

Eagle County CWPP

Red Cliff: Community Wildfire Hazard Assessment – MODERATE to HIGH

The town of Red Cliff is the oldest incorporated area in Eagle County (founded 1879). This community, located approximately twelve miles South of Minturn (*figure 9*), maintains its original frontier charm and architecture. Many of the homes and businesses are as old as the Town itself. The primary access to Red Cliff is via High Street and Water Street from Highway 24, as well as Shrine Pass Road in the summer months from Vail Pass and I-70. The dominant vegetation throughout the area is Lodgepole Pine (*Pinus contorta*) mixed with Aspen (*Populus tremuloides*). Private land ownership falls under the jurisdictional boundaries of the Town of Red Cliff and Eagle County, with all adjacent lands being managed by the USDA Forest Service – White River National Forest.

Figure B5 – Red Cliff Vicinity Map



Red Cliff Hazardous Fuel Reduction Project

In 2009, Eagle County conducted hazardous fuel reduction in the Mountain Pine Beetle (MPB) affected forests on the town's borders. A 500 foot wide fuel break on approximately 4 acres of private land separating homes and the town cemetery was cleared in conjunction with an additional 7 acres of hazard tree removal in the Greenwood Cemetery (*figure 10*). All MPB infested trees and lodgepole pine over 5" dbh were removed from the project area, and the slash was burned or chipped on-site.

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Figure B6 – Red Cliff Fuels Treatments



(Photo 5: Red Cliff Project Area – Before)



(Photo 6: Red Cliff Project Area – After)

Treatment	Hand cut and remove all LPP >5" dbh, burn/chip slash on-site
Completion Date	2009
Acreage	11
Fuel Type	Fuel Model 10 (Anderson)
Slope	15-30%
Canopy Spacing	50-100ft

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Appendix C: Wildfire Hazard Rating Criteria

1. WILDFIRE HAZARDS (Slope and Fuel Type) Add points for categories A and B

A. Predominant Vegetation Type (on lot, or within 200 foot radius of proposed structure)

Low Density Fuels or Low Combustion Potential

- 0 L1 no vegetative cover
- 0 L2 irrigated pasture, manicured lawn, golf course
- 5 L3 riparian zone/wetland grasses, shrubs, trees (willow, alder, dogwood, aspen cottonwood, etc), no coniferous trees
- 10 L4 dryland native grasses and forbs < 2 feet, no shrubs or trees
- 15 L5 dryland native grasses, forbs < 2 feet + dispersed shrubs < 4 feet w/ crown spacing >2x ht., no trees
- 20 L6 dryland native grasses, forbs <2 feet + dispersed shrubs <4 feet and isolated coniferous trees, crown spacing > 3x ht.
- 10 L7 native grasses, forbs <2 feet + isolated healthy aspen, little dead wood, no shrubs or widely dispersed deciduous shrubs.
- 15 L8 native grasses, forbs <2 feet + clustered or dispersed healthy aspen, little dead wood, no shrubs or widely dispersed deciduous shrubs.
- 20 L9 native grasses, forbs <2 feet + continuous healthy aspen, little dead wood, no shrubs or widely dispersed deciduous shrubs
- 25 L10 native grasses, forbs <2 feet under continuous healthy aspen stand, little dead wood, no shrubs or widely dispersed understory deciduous shrubs, with widely dispersed single coniferous trees, crowns spaced > 3x ht.

Additional Hazard

- 20 L11 homesite/structure within 200 feet of medium density fuel zone, add points to above.
- 40 L12 homesite/structure within 200 feet of heavy density fuel zone, add points to above.

Medium Density Fuels

- 30 M1 sage / desert shrub, < 4 feet, dispersed or clustered with native grasses.
- 35 M2 sage / desert shrub, < 4 feet, discontinuous with native grasses.
- 40 M3 sage / desert shrub, < 4 feet, uniform/continuous (many branches touching).
- 40 M4 continuous sage / desert shrub, < 4 feet, with isolated tall shrub (>4 feet).
- 45 M5 continuous sage / desert shrub with isolated tall shrub + isolated coniferous.
- 30 M6 isolated tall shrub, crown spacing > 3x ht, with native grass/forb understory.
- 35 M7 mixed tall shrub / aspen, with native grass.
- 35 M8 continuous aspen stand, dense, poor condition, dead branches, dead fall, few shrubs.
- 35 M9 continuous healthy aspen stand with spreading juniper understory.
- 45 M10 mixed coniferous / deciduous stand.
- 45 M11 uniformly dispersed pinion/juniper.
- 45 M12 uniformly dispersed spruce/fir.

Additional Hazard

- 20 M13 homesite, structure within 200 feet of heavy density fuel zone, add points to above.

Heavy Fuels

- 50 H1 mixed desert/tall shrub, continuous.
- 50 H2 mixed desert/tall shrub, continuous, with isolated coniferous.
- 60 H3 continuous dense tall shrub.

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<u>60</u> H4	continuous dense tall shrub with isolated coniferous.
<u>70</u> H5	mixed tall shrub / coniferous.
<u>70</u> H6	pinion/juniper, continuous.
<u>70</u> H7	spruce/fir, continuous.
<u>60</u> H8	lodgepole with deadfall, little or no ladder fuels.
<u>70</u> H9	lodgepole with significant ladder fuels.
<u>70</u> H10	mixed coniferous stand, continuous.

B. Average Slope (of lot, 1 acre or less in size or, on larger lots, slope of area defined as within 200 foot radius of proposed structure)

<u>5</u>	less than 8%.
<u>15</u>	8% to 20%.
<u>30</u>	21% to 30%.
<u>40</u>	31% or greater.

Additional Topographic Hazards (pre-determined by GIS and/or site visit, add points to above)

<u>20</u>	Lot/homesite is within 50 feet of chimney feature, v-canyon or ridge top.
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Total Points, **Wildfire Hazards (A+B)** _____

2. IMPROVEMENTS/MITIGATIONS Add points for categories C, D, E, F and G

C. Access

<u>5</u> A1	two or more primary roads, in and out, 20 foot + width.
<u>4</u> A2	two or more primary roads, in and out, <20 foot width.
<u>3</u> A3	one primary road, one emergency access (limited capacity).
<u>2</u> A4	one primary road, 20 foot + width.
<u>1</u> A5	one primary road, <20 foot width.

D. Access Surface

<u>5</u> AS1	paved.
<u>3</u> AS2	maintained road base, gravel.
<u>2</u> AS3	poorly maintained, weathered surface.
<u>0</u> AS4	primitive, 4 wheel drive.

E. Access Grade

<u>5</u> AG1	0% to 5%.
<u>4</u> AG2	6% to 8%.
<u>2</u> AG3	9% to 12%.
<u>0</u> AG4	over 12%.

F. Electric Service Lines

<u>3</u> ES1	all underground.
<u>2</u> ES2	mixed above/below (may be below within subdivision, but above along primary access).
<u>0</u> ES3	all above ground.

G. Water supply

<u>5</u> WS1	250 gpm - 31 + minutes.
<u>4</u> WS2	250 gpm - 21 to 30 minutes.
<u>3</u> WS3	250 gpm - 10 to 20 minutes.

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0 WS4 < 250 gpm or 250 gpm for less than 10 minutes.

Total Points, Improvements/Mitigations (Add C, D, E, F, G) _____

Overall Hazard Rating Points: *subtract 2. IMPROVEMENTS/MITIGATIONS from 1.*
WILDFIRE HAZARDS = _____

Hazard Rating

< 20 points LOW
21 to 40 points MODERATE
41 to 60 points HIGH
> 60 points EXTREME

Definitions

- Forbs** - herbaceous perennial plants other than grasses (wildflowers).
Crown - the edge of a tree or shrub=s outer most growth, a tree or shrub=s "drip line"
"x ht" - indicates a spacing between shrubs and trees based on the average anticipated mature height of the specific plant. "3x ht" for a shrub with average anticipated mature height of 4 feet indicates a crown spacing of 3 x 4 = 12 feet.
- Ladder Fuel** - live or dead plant material that facilitates or supports the movement of fire from the surface of the ground into the canopy or crown of larger shrubs or trees.
- Isolated** - a single plant with significant spacing (> 4x ht) from other similar plants. Very low density.
- Dispersed** - widely spaced individual shrub or trees (crowns spaced > 2x ht) or widely spaced small clusters of plants, evenly distributed across the site. Low to medium density.
- Clustered** - two or more plants (maximum number allowed per cluster would be relative to the size of the site) growing in close proximity to one another, but significantly spaced from other similar plants or clusters of plants. Low to medium density.
- Discontinuous** - Plants touching but in "bands" separated by significant spaces, resulting in a "patterned" rather than uniform coverage on the site. Medium density.
- Continuous** - plants touching or in very close proximity to one another, resulting in uniform coverage of the site. High density.
- Understory** - plants or mix of plants growing below a stand of taller plant species.
- Desert shrub** - rabbit brush and other woody xeric species commonly found with sage, < 4 feet tall.
- Tall shrubs** - sage (>4 feet), oak, service berry, choke cherry, mountain mahogany, skunk bush (sumac),bitter brush, etc.
- Mixed shrub** - sage, desert shrubs within and beneath tall shrub species, 50/50.
- Mixed coniferous stand** - lodgepole with spruce/fir understory.

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Appendix D: Areas of Elevated Risk

Eagle River Fire Protection District

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Red Sky Ranch	Pg. 77
Colorow	Pg. 79
Lake Creek.....	Pg. 82
Mountain Star	Pg. 84
Wildridge/Wildwood	Pg. 86
Eagle-Vail.....	Pg. 88
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Greater Eagle Fire Protection District

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Eby Creek.....	Pg. 97
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Gypsum Fire Protection District

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Basalt and Rural Fire Protection District

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Seven Castles/Big Hat.....	Pg. 124
Ruedi Shores.....	Pg. 126

Vail Fire and Emergency Services

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East Vail.....	Pg. 131

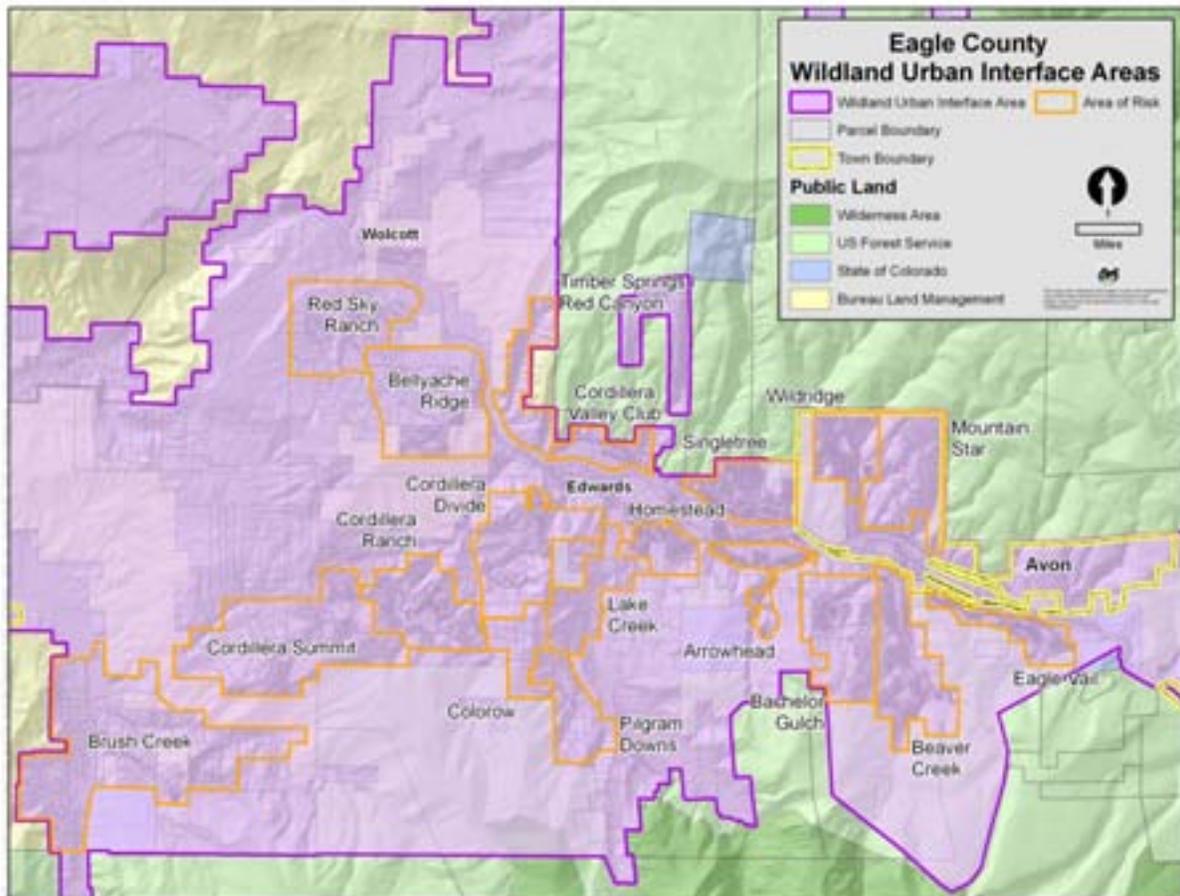
Rock Creek Volunteer Fire Department

McCoy/Burns/Bond.....	Pg. 134
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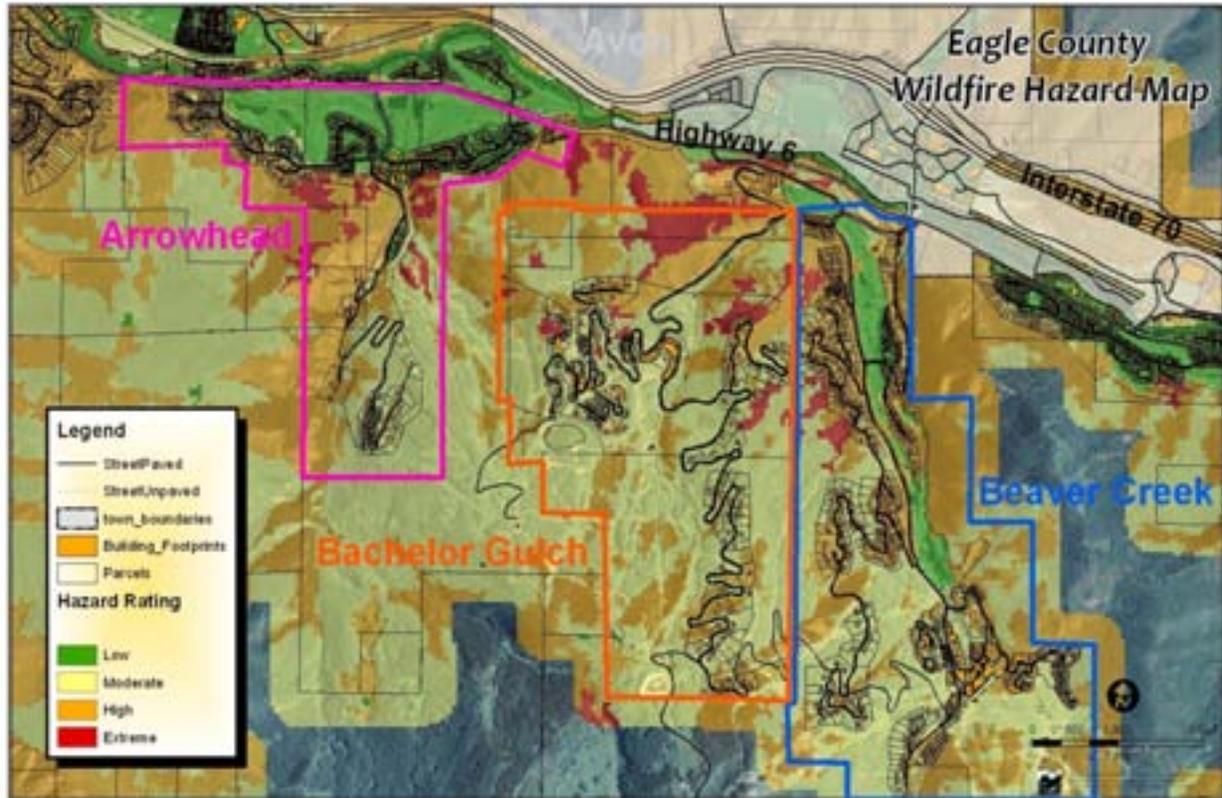
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Eagle River Fire Protection District: The Eagle River Fire Protection District (ERFPD) serves a 240 square mile area of Eagle County, Colorado including the communities of Avon, Arrowhead, Bachelor Gulch, Beaver Creek, Cordillera, Eagle-Vail, Edwards, Minturn, Red Cliff, and Wolcott. Eagle River Fire District is a professional fire service agency with six stations staffed 24-hours per day, equipped to protect residences, businesses, rural areas, high-rise resort hotels, and forested areas throughout the District.



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Arrowhead/Bachelor Gulch/Beaver Creek

Located south of Highway 6, between the towns of Edwards and Avon; are the gated resort communities of Arrowhead, Bachelor Gulch and Beaver Creek. The area is characterized by large second homes, and has few year-round residents. The dominant vegetation throughout these communities ranges from mature stands of quaking aspen to mixed stands of lodgepole pine or Douglas fir at higher elevations; with serviceberry, sage and other shrubs at lower elevations.

Neighborhood specific CWPP's have been developed for each of these areas. They can be viewed on-line at:

<http://csfs.colostate.edu/pages/documents/ArrowheadCWPP.pdf>

<http://csfs.colostate.edu/pages/documents/BachelorGulchCWPP.pdf>

<http://csfs.colostate.edu/pages/documents/BeaverCreekCWPP.pdf>

(Pages 50-57 of this document contain specific fire management objectives outlined by these CWPP's.)

Arrowhead Fire Management Objectives

(Developed by Anchor Point Group – 2008)

Addressing

Throughout the study area streets are generally well marked. Most homes have some sort of address marker, usually at the structure, however many of these are not reflective and may be difficult or impossible to see from the street. Many homes, especially in the Trailside and Cresta communities, do not have an additional address marker at the street. In both Trailside and Cresta most of the existing address markers are not reflective and/or not of a consistent type or location.

Reflective or illuminated street signs and address markers visible from the access road are a critical operational need. The time saved, especially at night and in difficult conditions, is not to be underestimated. Knowing at a glance the difference between a road and a driveway (and which addresses are on that driveway) cuts down on errors and time wasted interpreting maps. This is especially true for volunteer operators who have not had the opportunity to train on access issues as often as career firefighters.

Evacuation Routes

In the northern portion of Arrowhead, access to the communities is generally very good and evacuation, if it becomes necessary, should represent no difficulty. The Trailside community is a long way from the highway and the primary access is via Cresta Road, which is a steep, winding two-lane. The Cresta community is located at the bottom of a steep drainage, which affords limited opportunities for escape. The primary access is also via Cresta Road. There are two drivable routes that could serve as alternative evacuation routes from Trailside and Cresta, should Cresta Road become compromised by fire.

- **Cresta Road to Bachelor Gulch: *Priority level-High.*** It is possible to escape from the southern end of Arrowhead to Bachelor Gulch by using an existing service road connecting Cresta Road to Horizon Lane. This road is dirt, but is passable by most vehicles in dry conditions. The road is of adequate width and generally has good clearance, but it should be inspected annually to ensure adequate surface conditions and to remove any potentially hazardous vegetation. This is a high-priority project because it provides a secondary escape route for the Trailside and Cresta communities, should Cresta Road become impassable due to heat and smoke.
- **Cresta Road Bypass: *Priority level-High.*** This existing dirt service road provides a connection between the northern side of the Cresta community and Escape Route 1. The road is of adequate width and generally has good clearance, but it should be inspected on annually to ensure adequate surface conditions and to remove any potentially hazardous vegetation. This is a high-priority project because it provides a secondary escape route for the Cresta community, should Cresta Road become impassable due to heat and smoke.

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FUELS MODIFICATION RECOMMENDATIONS

These recommendations have been designed to take advantage of prevailing wind patterns in this area (winds from the west and southwest) and cannot account for all weather conditions and circumstances.

Recommendations are listed by priority level. However, recommendations within each priority level are of relatively equal importance and no further sorting is necessary. The prioritization of recommendations was driven principally by life safety concerns. Conservation of property and operability were considered as secondary factors. Only treatments affecting values inside the boundaries of the study area have been included. Obviously, fire does not respect administrative boundaries, so cooperative efforts with adjoining land owners/managers and other stakeholders are highly recommended. Many of the recommendations in this report will require the cooperation of private landowners, and in some cases, land managers from public agencies. Negotiations and public education efforts should begin as soon as possible to secure a consensus for future fuels reduction projects on the landscape scale.

These recommendations are not a replacement for defensible space or other recommendations in this report. It is important to understand defensible space for all homes is a critical element in reducing hazards to life and property. It is critical land owners and managers understand the importance of defensible space for all structures in close proximity to flammable vegetation. These recommendations will only achieve maximum effectiveness in conjunction with defensible space treatments.

- **Cresta Road Fuel Treatment (Approx. 12 Acres) *Priority level: High*** – This project is designed to provide safer access to the Trailside community and Escape Routes 1 and 2. Thinning and limbing to shaded fuel break standards in order to reduce ladder fuels and interrupt the continuity of fuels is recommended for a distance of at least 225 feet (approximately three times the maximum flame lengths predicted by the extreme weather scenario fire behavior model) downhill from the centerline of Cresta Road south of the Cresta community to the Trailside fuel break. The project area should be inspected on an annual basis and maintained as necessary to reduce the potential for re-growth.
- **Trailside Fuel Break (Approx. 4.4 Acres) *Priority level: High*** – This project is designed to interrupt the fuels continuity on steep slopes below homes on the west side of the Trailside community. Mowing and brush removal to reduce the continuity of fuels is recommended for a distance of at least 50 feet (approximately three times the maximum flame lengths predicted by the extreme conditions fire behavior model) from the service road below homes on the west side of this community, downhill to the west and south anchoring back to the road at the hairpin turn.

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- **West Arrowhead Drive Fuel break (Approx. 26.2 Acres) *Priority level: High*** – This project is designed to interrupt the continuity of heavy fuels to the south and west of homes on the west side of the Arrowhead Drive community. Thinning and limbing to shaded fuel break standards in order to reduce ladder fuels and interrupt the crown continuity of fuels is recommended for a distance of at least 300 feet (approximately three times the maximum flame lengths predicted by the extreme weather scenario fire behavior model) from US 6 along the lot lines to Cresta Road.
- **Cresta Fuel break (Approx. 16.8 Acres) *Priority level: Moderate*** – This project is designed to interrupt the fuels continuity between Cresta Road and escape route 2 in order to protect the escape route and promote forest health. Thinning, limbing and removal of downed materials to shaded fuel break standards in order to reduce ladder fuels and interrupt the crown continuity of fuels is recommended from Cresta Road east to the ski run and Escape Route 2. Patch cuts in conifer stands may also be necessary to remove beetle infested and red-needle trees. A stand survey should be used to determine the final acreages and priority of these cuts.

OTHER FUELS RECOMMENDATIONS

- Both aspen and lodgepole pine stands can be kept healthy and fire resistant by using sound forestry practices. Maintaining these stands with a scheduled thinning and limbing program will reduce potential for fire growth. A forest management plan should be considered to define proper forestry practice and to assure sustainability of the local ecosystems.
- In 2006, mountain pine beetle was detected in lodgepole stands in the study area. Tree mortality due to mountain pine beetle infestation is becoming an increasing problem in the entire Vail Valley. An ongoing beetle inventory should be conducted on an annual basis until the current epidemic subsides. In addition to the fuels treatments recommended in this report, cross-boundary discussions designed to facilitate cooperation between public and private landowners in removing dead and diseased trees and treating for beetles are recommended.

Bachelor Gulch Fire Management Objectives

(Developed by Anchor Point Group – 2008)

Addressing

Throughout the study area streets are generally well marked, however some street signs, especially along Daybreak Ridge, are made of wood and are mounted on wood poles; these signs would most likely be consumed by intense fires. Most homes have an address marker at the

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structure, but in some of the communities the length of the driveway and/or position of the home make it difficult or impossible to see the address marker from the street. Some of these homes do not have an additional address marker at the street and of those that do, many of the markers are not reflective and/or not of a consistent type or location. This situation was noted in the both communities, but was especially prevalent in Bachelor Ridge above Tall Timbers.

Reflective or illuminated street signs and address markers visible from the access road are a critical operational need. The time saved, especially at night and in difficult conditions, is absolutely crucial for ensuring effective suppression efforts. Knowing at a glance the difference between a road and a driveway (and which houses are on the driveway) cuts down on errors and time wasted interpreting maps. This is especially true for volunteer operators who do not have the opportunity to train on access issues as often as career firefighters.

Evacuation Routes

Throughout Bachelor Gulch, access to the communities is generally very good. Of some concern, however, is the southern end of Daybreak Ridge, which is a long way from the highway on primarily winding two-lane roads. There is a service road that could serve as alternative evacuation route from the southern end of Daybreak Ridge to the Strawberry Park community in Beaver Creek.

- **Daybreak Ridge to Strawberry Park: *Priority level: High*** It is possible to escape from Bachelor Gulch to US 6 or I-70 by using an existing service road that connects from Daybreak Ridge Road to the Strawberry Park community in Beaver Creek. This road is asphalt and is passable by all vehicles including passenger cars; however it currently has a gate that blocks access at the upper (western) end. This gate should be replaced or refitted for fire department access and this road included in the fire department pre-plan as a firefighter access point as well as a potential escape route. This road is of adequate width and generally has good clearance, but thinning should be conducted to shaded fuel break standards wherever predominately conifer stands are below the road, especially where the road crosses the major drainage. The priority level is high because a relatively small amount of work will greatly improve the usefulness of this route.

FUELS MODIFICATION RECOMMENDATIONS

These recommendations have been designed to take advantage of prevailing wind patterns in this area (winds from the west and southwest) and cannot account for all weather conditions and circumstances.

Recommendations are listed by priority level. However, recommendations within each priority level are of relatively equal importance and no further sorting is necessary. The prioritization of recommendations was driven principally by life safety concerns. Conservation of property and operability were considered as secondary factors. Only treatments affecting values inside the

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boundaries of the study area have been included. Obviously, fire does not respect administrative boundaries, so cooperative efforts with adjoining land owners/managers and other stakeholders are highly recommended. Many of the recommendations in this report will require the cooperation of private landowners, and in some cases, land managers from public agencies. Negotiations and public education efforts should begin as soon as possible to secure a consensus for future fuels reduction projects on the landscape scale.

These recommendations are not a replacement for defensible space or other recommendations in this report. It is important to understand that defensible space for all homes is a critical element in reducing hazards to life and property. It is critical that land owners and managers understand the importance of defensible space for all structures in close proximity to flammable vegetation. These recommendations will only achieve maximum effectiveness in conjunction with defensible space treatments.

- **Daybreak Ridge Safety Zone (Approx. 2.9 Acres) *Priority level: High*** There is an existing large clearing located near a pond on McCoy Park Road approximately 1,000 feet the intersection with Daybreak Ridge Road. The existing clearing should be maintained to be free of flammable vegetation (other than light grasses to prevent erosion and provide a natural appearance) for a separation distance (firefighter to the outer edge of the treatment area) of at least four times the flame lengths predicted by an extreme fire weather scenario.
- **McCoy Park Road Fuel Treatment (Approx. 3.3 Acres) *Priority level: High*** This project is designed to provide safer access from Daybreak Ridge to the safety zone on McCoy Park Road. The project area extends from the junction of Daybreak Ridge to the safety zone on McCoy Park Road (See Project A). Thinning and limbing to shaded fuelbreak standards in order to reduce ladder fuels and interrupt the crown continuity of fuels is recommended for a distance of at least three times the flame lengths predicted by the extreme weather scenario fire behavior model from the centerline of the road to each side. The project area should be inspected on an annual basis and maintained as necessary to reduce the potential for re-growth.
- **Elk Horn Ridge Service Road Fuel Treatments (Approx. 7.6 Acres) *Priority level: High*** This project is designed to interrupt the fuels continuity on the steep slopes below homes at the end of Elk Horn Road. Thinning and limbing to shaded fuelbreak standards in order to reduce ladder fuels and interrupt the crown continuity of fuels is recommended for a distance of at least 50 feet from the center line of the two dirt service roads running from the end of Elk Horn Road downhill to the north and west.
- **Daybreak Ridge Fuel Treatments (Approx. 5.6 Acres) *Priority level: High*** This project is designed to interrupt the fuels continuity on the steep slopes below homes located on Daybreak Ridge Road and promote forest health. Patch cutting in lodgepole pine stands is recommended for a distance of at least 100 feet downhill from Daybreak

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Ridge Road. Thinning and removal of materials should be conducted as necessary to isolate homes from down-slope conifer fuels and remove beetle infested trees. The Bachelor Gulch Forest Management Plan (currently being written) will determine the final acreages and priority of these cuts.

- **Tall Timber Fuel Treatment (Approx. 6.0 Acres) *Priority level: High*** This project is designed to interrupt the fuels continuity on the steep slopes below homes located on Tall Timber Trail. Thinning and limbing to shaded fuel break standards in order to reduce ladder fuels and interrupt the crown continuity of fuels is recommended for a distance of at least 100 feet from the center line of the dirt service road paralleling Tall Timber Trail to the north below the homes.

Beaver Creek Fire Management Objectives

(Developed by Anchor Point Group – 2007)

Addressing

Throughout the study area streets are well marked. Most homes have an address marker at the structure. However, in some of the communities, the length of the driveway and/or position of the home make it difficult or impossible to see the address marker from the street. Some of these homes do not have an additional address marker at the street, and of those that do, many of the markers are not reflective, are of differing types, and are located inconsistently. (This situation was noted in the Holden, Wayne Creek and Strawberry Park communities.)

Reflective or illuminated address markers visible from the access road are a critical operational need. From a firefighting perspective, the value of the time saved—especially at night and in difficult conditions—cannot be overstated. Knowing at a glance the difference between a road and a driveway (and which houses are on the driveway) cuts down on errors and time wasted interpreting maps. This is especially true for volunteer operators who do not have the opportunity to train on access issues as often as career firefighters.

Evacuation Routes

Throughout Beaver Creek, access to the communities is generally very good. The only exception is the Strawberry Park community, where timber fuels in the drainages below the access road could possibly produce enough heat and smoke to compromise the primary access. Two roads that could serve as alternative evacuation routes to the primary access of Strawberry Park have been identified. Of these, one is potentially important, depending on the location and expected behavior of the fire. The other route's usefulness may be compromised by rough terrain, position, and poor surface condition.

- **Strawberry Park to Bachelor Gulch Service Road: *Priority level High***. It is possible to escape from Strawberry Park to Bachelor Gulch by using an existing service road that connects to US 6 and I-70 via Daybreak Ridge Road. This road is asphalt and is passable

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by all vehicles including passenger cars. However, it currently has a gate that blocks access at the upper (western) end. This gate should be replaced or refitted for fire department access, and this road should then be included in the fire department pre-plan as a firefighter access point, as well as a potential escape route. This road is of adequate width and generally has good clearance, but thinning should be conducted to shaded fuel break standards wherever predominately conifer stands are below the road, especially where the road crosses the major drainage. The priority level is high due to the relatively small amount of work needed to improve the usefulness of this route.

FUELS MODIFICATION RECOMMENDATIONS

In 2003, the Beaver Creek Resort Company contracted for a wildland fire hazard and risk analysis. One of the recommendations of the hazard and risk analysis was to develop a comprehensive forest management plan. This recommendation was implemented and the forest management plan was completed in May of 2004. This plan identified three management compartments of lodgepole pine stands for fuels reduction and forest health thinning. These stands are shown in Figure 17 and a summary of these projects is given below.

Mountain pine beetle infestations are occurring in epidemic proportions throughout Colorado. Mountain pine beetle was detected for the first time in conifer stands in the study area in 2006. In August of 2007, fuel treatments to control mountain pine beetle were begun in the lodgepole pine stands identified in the 2004 management plan. Pine beetle inventory and treatments are expected to continue on an annual basis in the study area until the current epidemic subsides.

- **Beaver Creek Drive (Approx. 14.1 Acres)** - This area has a higher wildfire hazard than most of the other communities in the study area. The road is narrow but has two ingress/egress routes, although one is through a gate. The road lies in the bottom of the Beaver Creek drainage. There are homes along the river on the east side with little or no defensible space. These homes are located in fairly dense mixed conifer with intermixed riparian vegetation. The riparian vegetation is typically lush and very fire resistant except in dormancy and during severe drought. On the east side of the creek, there is a sparse and patchy mixed conifer forest with grass. This area could have rapid rates of spread on steep slopes and could generate embers to the west along the houses. It is recommended that all homes implement and maintain defensible space treatments. If possible and legal, the creek should be kept flowing to maintain a healthy riparian corridor. Dead wood was pruned and removed from within the riparian corridor in 2006-2007, but this area should nonetheless be inspected on an annual basis and maintained as necessary to reduce the potential for re-growth.
- **Holden Road Shrub Treatments (Approx. 4.4 Acres)** – This treatment area is located adjacent to the Wayne Creek Community. Removal of flammable shrubs has been recommended for a distance of 50 feet from the property lines above and west of 236 Holden Road to 171 Holden Road. These polygons do not represent the exact treatment

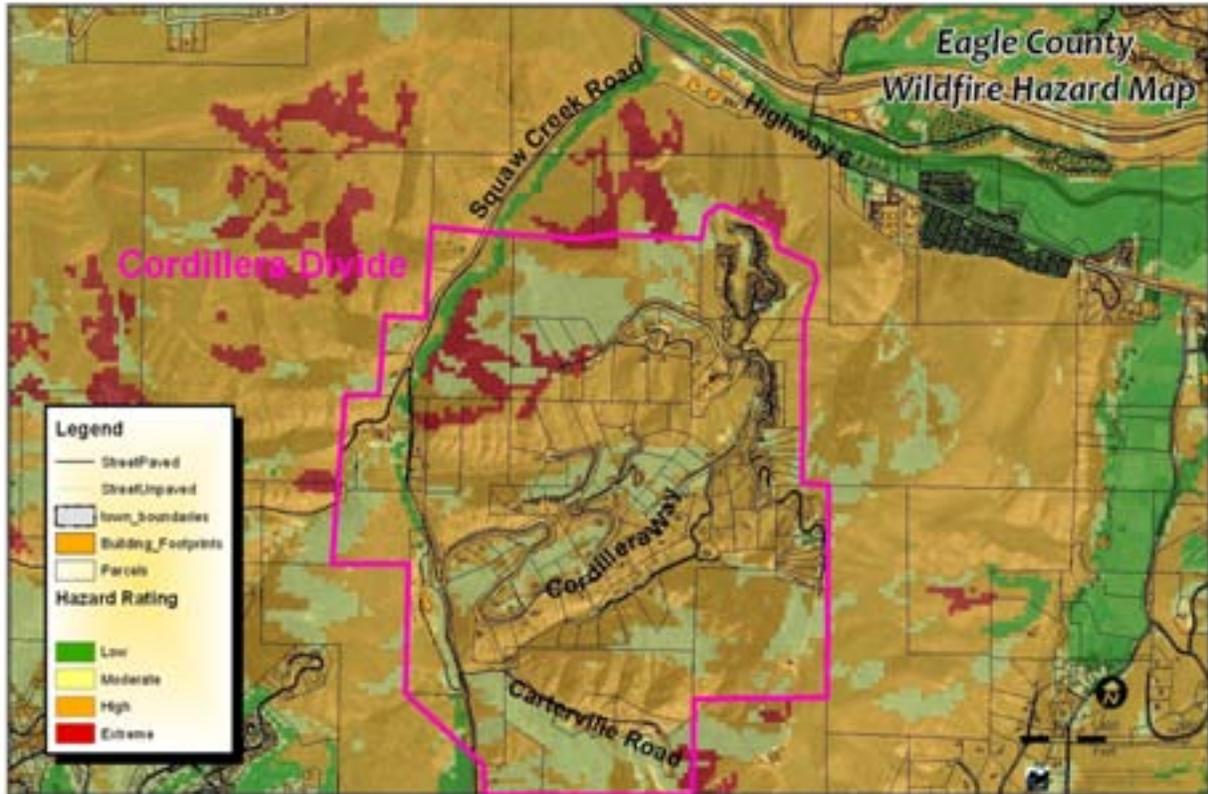
Eagle County CWPP

boundaries but are a close representation. This project is in the planning stages and is scheduled for implementation in 2008. The project area should be inspected on an annual basis and maintained as necessary to reduce the potential for re-growth.

- **Strawberry Park Lodgepole Treatments (Approx. 10.1 Acres)** – Modified patch clear cuts are recommended for the lodgepole pine stands extending into and adjacent to the Strawberry Park community, and for the stands separating the north end of Strawberry Park from the Holden community. The large accumulations of dead and down materials in the project area should also be removed. This project will serve to limit the spread and intensity of an approaching fire in the stands of lodgepole adjacent to the road and the community. This treatment also helps limit mountain pine beetle mortality by removal of infected trees. This project was begun in 2007, but could continue for several years depending on the extent and severity of the beetle infestation. Surveys for additional damage have already been planned for summer/fall of 2008. At the time of this writing (late 2007) the following work had been completed:
 - **Strawberry Park Unit 1** – Removed all lodgepole pines from the Chateau to the lower portion of the Strawberry Park community. An additional two to three patches are planned for removal at the lower end of Unit 1 in the summer/fall of 2008.
 - **Strawberry Park Unit 2B** – All diseased or dead trees removed at 1052 Strawberry Park Road and next to 373 Strawberry Park Road with the permission of the owner.
 - **Strawberry Park Unit 3** – Hazard trees removed and limbed. Some materials were lopped and scattered and some were piled for burning.

Details of these projects can be found in the Beaver Creek Forest Management Summary (2007).

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The Divide - Cordillera

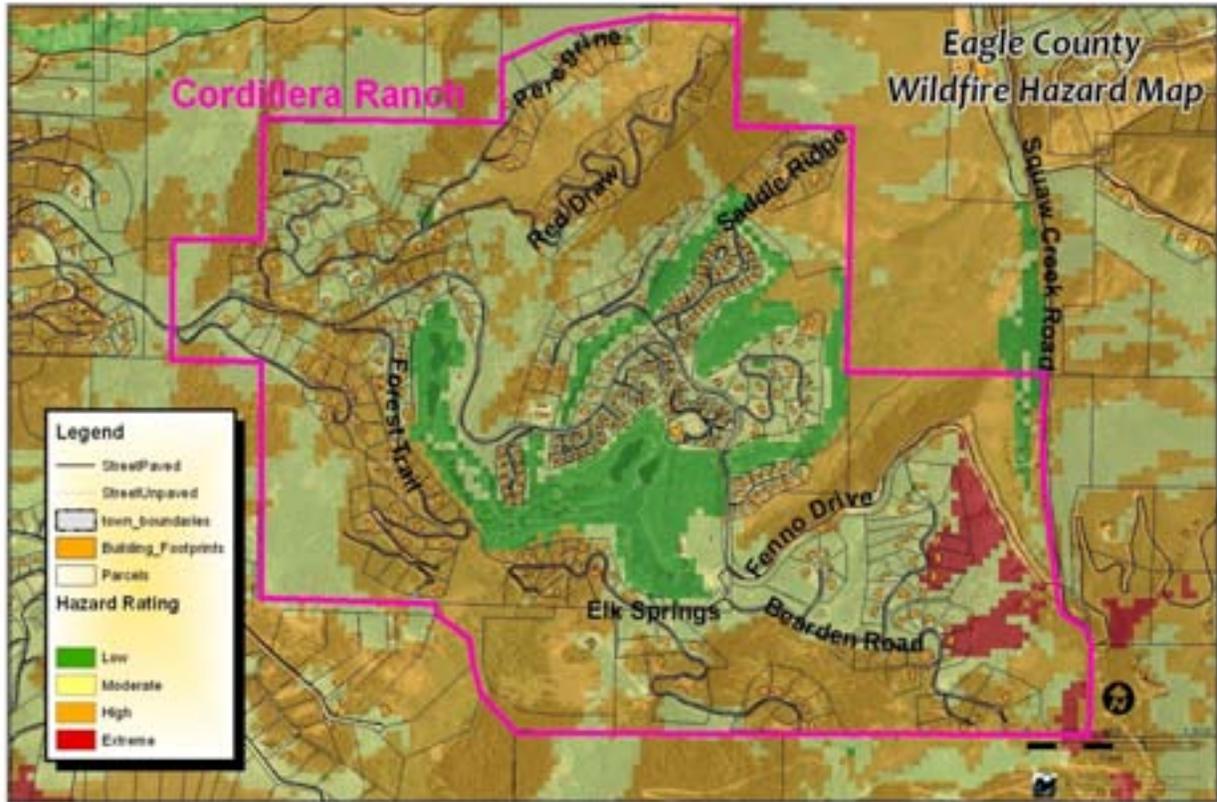
Cordillera is located in central Eagle County, a few miles west of Edwards, accessed by Highway 6. Cordillera is split into four residential areas: The Divide, The Ranch, The Summit, and The Valley Club. Predominant vegetation throughout the Cordillera Divide consists of quaking aspen (typically with a dense understory of serviceberry and chokecherry mixed with and other mountain shrubs), and dense stands of mixed conifers including lodgepole pine, subalpine fir Douglas-fir and Englemann spruce. Other flora that occur commonly, particularly on drier slopes, include Gambel's oak, pinyon pine Rocky Mountain juniper and various species of sagebrush.

A Neighborhood specific CWPP has been developed for Cordillera. It can be viewed on-line at:

<http://csfs.colostate.edu/pages/documents/CordilleraCWPP.pdf>

(Pages 61-69 of this document contain specific fire management objectives outlined by the Cordillera CWPP.)

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The Ranch - Cordillera

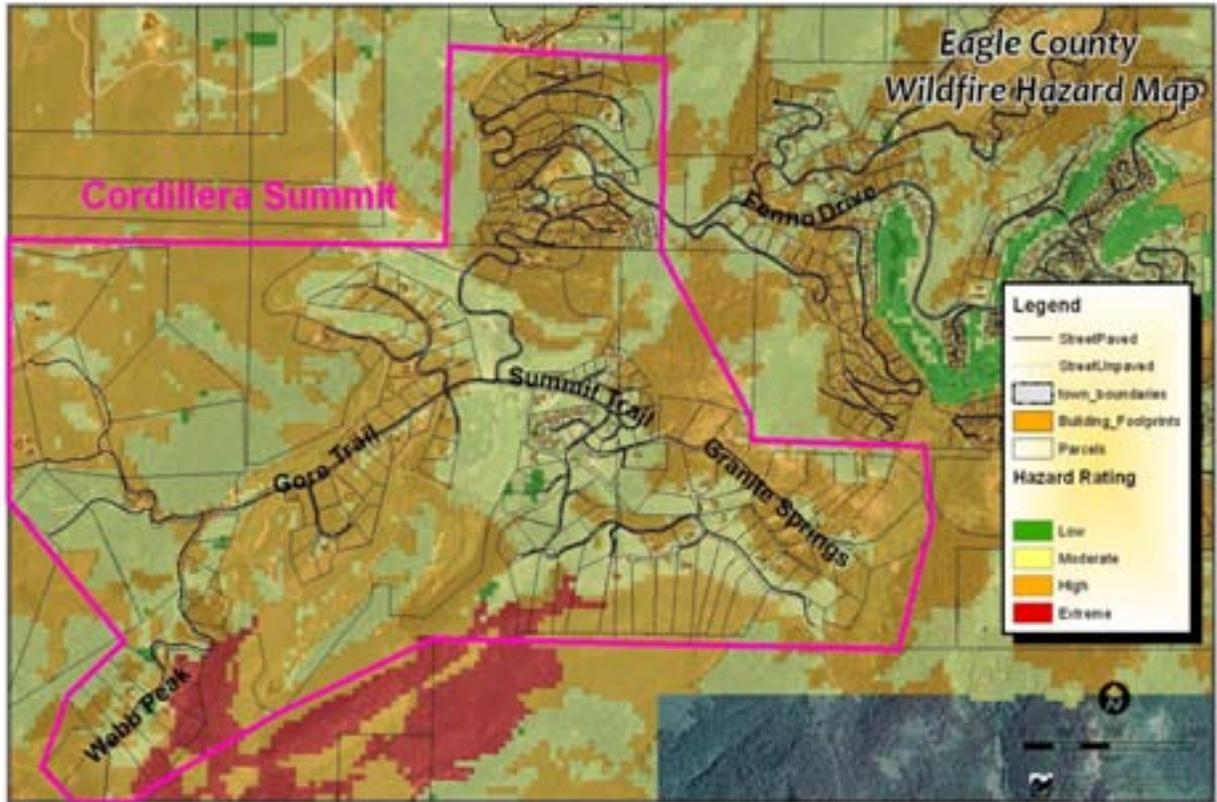
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A Neighborhood specific CWPP has been developed for Cordillera. It can be viewed on-line at:

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(Pages 61-69 of this document contain specific fire management objectives outlined by the Cordillera CWPP.)

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The Summit- Cordillera

Cordillera is located in central Eagle County, a few miles west of Edwards, accessed by Highway 6. Cordillera is split into four residential areas: The Divide, The Ranch, The Summit, and The Valley Club. Predominant vegetation throughout the Cordillera Divide consists of quaking aspen (typically with a dense understory of serviceberry and chokecherry mixed with and other mountain shrubs), and dense stands of mixed conifers including lodgepole pine, subalpine fir Douglas-fir and Englemann spruce. Other flora that occur commonly, particularly on drier slopes, include Gambel's oak, pinyon pine Rocky Mountain juniper and various species of sagebrush.

Fire Management Objectives:

A Neighborhood specific CWPP has been developed for Cordillera. It can be viewed on-line at:

<http://csfs.colostate.edu/pages/documents/CordilleraCWPP.pdf>

(Pages 61-69 of this document contain specific fire management objectives outlined by the Cordillera CWPP.)

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Fire Management Objectives: Cordillera Divide, Ranch, and Summit (Developed by Anchor Point Group – 2004; Updated in 2011)

Cordillera is an unincorporated community of 910 properties located in Eagle County, Colorado. The Cordillera Property Owners Association (CPOA) and the Cordillera Metro District (CMD) work together to administer and manage day-to-day operations in Cordillera. This document is intended to serve as the 2011 update for Cordillera’s Community Wildfire Protection Plan (CWPP). It is the first update to the plan written by Anchor Point in 2004. Section I addresses general issues that are frequently referenced by Anchor Point, such as roofing materials. Section II will review each neighborhood as identified by Anchor Point in 2004.

In October 2003, Cordillera entered into an agreement with the Anchor Point Group to conduct a “Wildfire Hazard and Risk Analysis.” The analysis from Anchor Point was submitted to Cordillera in August 2004 as the “Wildland Urban Interface Community Fire Plan.” This plan, which pre-dates the current format for a formal CWPP, was accepted by Eagle County and the Colorado State Forest Service as Cordillera’s CWPP in 2004.

Cordillera has been recognized as a Firewise Community since 2005.

SECTION I – GENERAL ISSUES

Roofs

The original Design Guidelines for Cordillera specified that structures in the geographic areas Ranch and Summit must have cedar-shake roofs. In the 2004 document, Anchor Point frequently references the hazards of combustible roofs. In 2005, Cordillera’s Design Guidelines were revised so that combustible roofing materials, including treated cedar shakes and Class A assemblies, were prohibited on new structures. Remodels and replacement roofs that affect more than 25 percent of a roof must replace the entire roof with approved noncombustible roofing material. The Cordillera Design Review Board (DRB) has reviewed and approved several noncombustible roofing materials. Most of these products are plastic versions that resemble cedar-shake shingles.

Mandatory Private Property Wildfire Mitigation

In 2006, the CPOA passed a resolution that required all Cordillera properties to address wildfire hazards according to a five-year schedule. 2011 is year five of the five-year cycle. Properties will be required to maintain the wildfire mitigation and inspected according to the same five-year schedule. The resolution requires all properties to develop wildfire zones one, two, and three, according to Eagle County and Colorado State Forestry standards except that Cordillera requires properties sized three acres or under to mitigate Zone Three (remove all dead and down material) to the property line. Properties over three acres in size are required to mitigate to Zone Three standards to 210 feet. Vacant lots are required to mitigate to Zone Three standards to 210 feet from the center of the building envelope. Cordillera extended the distance for Zones Two and Zone Three in order to encourage extended defensible space, have more continuity, and

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minimize chunks of unmitigated property. Cordillera requires Zone One extend 20 feet from the drip edge to allow plants room to grow without encroaching on the 15 feet required by the county and state. The five-year schedule and number of affected properties is listed below.

2007 – 73 properties

2008 – 165

2009 – 238

2010 – 209

2011 – 156

The Design Guidelines have been changed to comply with Eagle County and CSFS standards for defensible space. Although landscape architects and the DRB continue to favor the use of conifers, the density and placement warrants wildfire protection. Aspen trees are encouraged.

Prior to Cordillera's efforts to mitigate wildfire hazards, the DRB required substantial planting of shrubs and trees near structures, often at the cost of tens of thousands of dollars. When conducting parcel level hazard assessments, Cordillera staff advised property owners of the hazards associated with this landscaping, but staff did not require shrub or tree removal. If or when a property conducts any remodel or construction activity that requires a permit, wildfire mitigation standards must be met.

Community Cleanup Days

CMD supports the property owner's efforts by conducting Community Cleanup Days. Cordillera is divided into three geographic areas: Divide; Ranch; and Summit. Each area receives one free pickup of yard debris each month in June, July, and August. Note: Current cost estimates put landfill fees, labor, and equipment at \$70,000 each summer.

Wildfire Mitigation Maintenance

Cordillera requires, at a minimum, the maintenance of defensible space every five years. When the five-year cycle to create the initial defensible space ends in 2011, Cordillera will use the same schedule to inspect properties for maintenance on a five-year cycle.

Access/Egress

Cordillera has four geographic neighborhoods. On the east is The Divide accessed by Cordillera Way. On the west are Ranch, Summit, and Territories accessed by Fenno Drive.

In 2009, a road was built between Diamond Star Ranch and Summit of Cordillera. Diamond Star Ranch is a private community, located to the northwest of Cordillera, which has access from Highway 6. The new road is an improved graveled road that allows for emergency exit and access for Cordillera through the adjacent Diamond Star Ranch. In most conditions, this road will support a Type I fire apparatus.

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In 2005, Cordillera negotiated a right-of-way agreement with the Bureau of Land Management (BLM) to use an old road and utility easement that runs from Territories to Brush Creek Road south of Eagle. The agreement allows Cordillera to use the road and perform basic maintenance to assure travel, such as cutting and removal of brush. Cordillera has cut brush and attempted basic grading, but the geology prevents reasonable grading, so use of this road is restricted to sport utility vehicles. This road would not support two-way traffic and, if a fire was near the road, the road would not be safe.

Between Emma's Way, which is located in the Ranch, and West Squaw Creek Road, which is a county road, lies a natural gas easement. Cordillera grades this road in the summer, which makes it passable for most vehicles to use as an emergency exit. Emma's Way is too steep for most fire equipment, excluding wildland apparatuses, to use to access Cordillera.

Dry Hydrant

In 2005, Cordillera installed a dry hydrant for fire suppression use at the Granite Springs Pond, which is located at the Summit in Cordillera. The Granite Springs pond is a manmade pond for golf-course irrigation. The pond is fed by water from the Eagle River. The dry hydrant shares a gravity-fed cistern from the pond. Pond capacity is approximately 10-acre feet or 3,260,000 gallons of water.

Water Supplies

In 2003, Schmueser, Gordon, Meyer, Engineers, Inc. (SGM) conducted a survey of the Cordillera water system. Since that time, Cordillera has been upgrading portions of the water system each summer in compliance with SGM's recommendations. In 2005, a 500,000-gallon storage tank, with improved piping for delivery, was added above El Mirador Road. This tank improved storage and solved hydraulic issues along El Mirador Road and Granada Hill. CMD also has converted dead-end water pipes to loops in order to improve hydraulic performance and water quality.

Community Wildfire Projects

In 2004, the CPOA initiated a series of community wildfire projects, designed to protect neighborhoods or streets at the higher end of the fire hazards. The sewer easements below the homes were excellent starting points for fuel breaks as they were already cleared of vegetation and provided platforms for work crews and equipment. Attached is a list and description of completed community wildfire projects.

Mountain Pine Beetle

During wildfire mitigation work in 2005, crews detected an increase in MPB activity in Cordillera. During the winter of 2005-2006, Cordillera contracted for a survey of all lodgepole pine in Cordillera. Infested trees were assigned a GPS waypoint and the Eagle County GIS Department made maps. This survey showed significant beetle activity and cause for action in 2006.

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In 2006 and 2007, Cordillera removed all accessible beetle-infested trees and sprayed all healthy, accessible lodgepole pine trees on open space and private property.

As MPB activity continued to increase, in 2007, focus shifted from wildfire mitigation projects to MPB mitigation, hoping to slow the spread of the pine beetle and to mitigate the fire danger associated with the dead trees.

In August 2007, there was another shift in philosophy concerning how to deal with the MPB. The approach of removing infested and dead lodgepole pine was resulting in unhealthy stands of lodgepole pine. As the density of the trees in the forests declined, there was an increase in the number of trees that were falling or breaking. Repeated entries by heavy equipment to remove the trees was causing soil compaction and retarding natural re-vegetation. In August 2007, Cordillera began clear cutting stands of lodgepole pine on open space. In most cases, the entire tree was removed and processed at a separate staging area. This prevented the fire danger of slash and the smothering effect of chipping. Tree tops and limbs were ground-up and transported off site. At the end of 2010, Cordillera and its property owners had removed over 35,000 lodgepole pine trees.

Roadside Shaded Fuel Breaks

Throughout the report Anchor Point recommends roadside shaded fuel breaks. In many locations, this is not practical. First, much of the private property along the roads has been landscaped. Therefore, it has irrigated vegetation and is often not filled with dead and down material. In some situations, there is not sufficient space between the road and the property to have a shaded fuel break. Property owners with thick brush along the road are encouraged to thin the vegetation, and when Cordillera staff thin vegetation along roads, they must be sensitive to privacy issues when the structures are near the road.

Fire Department Coverage

In 2004-2005, when Anchor Point conducted its review of Cordillera, most of Cordillera was in the ERFPD with an area west of Golden Bear Drive being in the Greater Eagle Fire Protection District (GEFPD). ERFPD has two stations in Cordillera, and GEFPD's closest station was in the town of Eagle. In 2008, a boundary line change between the districts was negotiated, and Cordillera now is entirely within the boundaries of the ERFPD.

Eagle County 2009 Wildfire Exercise

In 2009, Cordillera was a participant in an Eagle County multi-agency wildfire exercise designed to test resources and communications. The Cordillera portion of the exercise tested evacuation procedures. Cordillera staff performed door-to-door visits while Eagle County tested Reverse 911 and EC Alert.

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SECTION II - COMMUNITIES

#1 Webb Peak

Webb Peak property owners were required to address defensible space in 2007, the first year of the mandatory program. Four homes have been added to this neighborhood since the Anchor Point report, all in accordance with Eagle County wildfire regulations for construction and defensible space. Two vacant lots were initially exempt from the 2008 deadline as they had significant dead lodgepole pine that was adjacent to CMD open space, which also had significant dead lodgepole pine. The dead lodgepole trees were removed from this area, a total of 6.17 acres, in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

In 2004, a shaded fuel break was created in the open space along the east side of Webb Peak Road. Dead and down trees and ladder fuels were removed. Trees were thinned, and the limbs on the evergreens were cut to a height of approximately eight feet. In 2008, crews extended this fuel break and cleaned up debris left by the 2004 contractor. In 2008, the west side of Webb Peak Road received similar treatment. Also in 2008, a fire road/fuel break was constructed below Webb Peak along an existing horse trail. The trail was re-graded to allow access for wildland fire trucks. In certain areas, vegetation was removed. Turnarounds/safety zones were constructed at the middle and the end of the trail. Both 2008 projects were cost-share grants from Colorado State Forestry.

#2 Redtail Ridge

Redtail Ridge property owners were required to address defensible space to three acres, or 210 feet, in 2008. All property owners in this neighborhood have addressed their wildfire-mitigation issues. In 2005, a shaded fuel break was created along the east side of Redtail Ridge, below the homes, utilizing the existing sewer easement. The oak brush and sage brush were thinned. Where there were large junipers, the lower limbs were cut, and the ladder fuels were removed. In 2006, a shaded fuel break was constructed between Peregrine Drive and Redtail Ridge, utilizing the existing sewer easement. The fuel break involved several different fuel types, ranging from aspen with brush understory, tall serviceberry, gambrel oak, and mature Douglas-fir. Maintenance work was performed along the fuel break in 2008. In 2009, a shaded fuel break was created on the open space on the west side of Redtail Ridge at the end of the road. This area was extremely thick gambrel oak and serviceberry.

#3 El Mirador

El Mirador properties were required to address defensible space to three acres, or 210 feet, in 2008. All property owners in this neighborhood have addressed their wildfire-mitigation issues. In 2006, a fuel break was cut below and north of Alcazar and Granada Hill. In 2008 and 2010, maintenance work was conducted. The fuel break extends approximately 100 feet downhill to the irrigated lawns behind the homes and the existing sewer easement. Anchor Point recommended thinning 100 feet from the road centerline. This is difficult when the adjacent property is privately owned and in one area is U.S. Forest Service property.

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#4 Saddleridge

Saddleridge properties were required to address defensible space to three acres, or 210 feet, in 2006. All property owners in this neighborhood have addressed their wildfire mitigation issues. A shaded fuel break was constructed below Saddleridge in 2006 utilizing the sewer easement that runs below the homes on the end of Saddleridge. Brush was thinned. Lower limbs were cut from large junipers, and ladder fuels were removed. The northwest slope below Saddleridge is dense old age Douglas-fir trees. The area was reviewed with Anchor Point in 2006. It was agreed by Anchor Point and Cordillera land managers that with such large trees, the amount of fuel needing removal to mitigate the hazard was either prohibitive or impossible.

#5 Timbers and Fairways

Timbers property owners were required to address defensible space to three acres, or 210 feet, in 2007. Fairway property owners were required to address defensible space in 2009. All property owners in these neighborhoods have addressed their wildfire-mitigation issues. A shaded fuel break was created below the Timbers in 2005, utilizing an existing sewer easement that began at Fenno Drive and went across to East Timber Draw Road.

Beginning in 2006, all dead and dying lodgepole pine trees have been removed on open space and on private property.

#6 Granite Springs

Property Owners on Granite Springs were required to address defensible space to three acres, or 210 feet, in 2009. All property owners in this neighborhood have addressed their wildfire-mitigation issues. In 2007 and 2008, the owners of Lots 10-15 on Granite Springs removed all lodgepole pine and the dead and dying trees of other species. These five lots range in size from 10-15 acres. Cordillera coordinated the projects by building the skid trails across the lots that allowed access and removal of material. The property owners of Lots 16-18 have also cleared the dead and dying lodgepole from their properties. Cordillera has cleared most of the lodgepole pine immediately (200 feet) behind lots 16-18. The Anchor Point report references an abandoned road on the south side of Granite Springs Road that is now CMD open space. Work in this area has been budgeted for summer 2011.

#7 Grey Hawk

Grey Hawk property owners were required to address defensible space in 2009. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

The sub-association coordinated work for all properties. Most of the work involved clearing the steep hillside on the south side of the enclave. The Anchor Point report references an overhead power line on the opposite hillside that is also below Fenno Drive. This hillside was treated in 2006 when dead and down timber from MPB trees was removed. In 2009, any remaining trees along the power line that could fall and hit the power line were removed. In 2010, the remaining lodgepole were removed.

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#8 Casteel Ridge

Casteel Ridge property owners were scheduled to address wildfire-mitigation concerns in 2009. All but one property have completed their work. The remaining property was in the middle of foreclosure and has since been purchased. The new owner has committed to completing the work in 2011. The open space along Cordillera Way below Casteel is one of several roadside fuel-break projects on a work list. No safety zones have been constructed although there are two large cul-de-sacs, one at the junction of Cordillera Way and Casteel and the other at the junction of Cordillera Way and Alhambra.

#9 Aspens/Black Bear/Whitaker Ponds

This neighborhood was required to address wildfire-mitigation concerns in 2009. All but one property, which is in foreclosure, have complied. In 2007, most of the lodgepole pine trees above Forest Trail were removed. This was a collaborative effort between the private property owners, the Cordillera Property Owner's Association and the Cordillera Metro District. Aspen trees along Black Bear have been dying at a rapid rate. Most property owners have removed all of their dead aspen trees. Cordillera removed 160 dead aspen along the road in 2010. In 2011, Cordillera is budgeted to treat a 25-acre section of open space that parallels the south side of Black Bear. This project would involve removal of approximately 5,000 lodgepole pine trees and 2,000 dead aspen trees. Patches of green aspen will be cut hoping to stimulate new growth of aspen trees.

#10 Red Draw and Peregrine

Properties along Peregrine were required to address wildfire issues in 2007. Properties along Red Draw were required to address wildfire issues in 2008. A shaded fuel break was created from the end of Peregrine to Redtail Ridge in 2006. In 2008, maintenance work was conducted along this fuel break.

#11 Kensington Green

Kensington Green was scheduled for wildfire mitigation work in 2009. All property owners in this neighborhood have addressed their wildfire-mitigation issues. The Cordillera portion of an overhead power line that feeds the divide from Highway 6 was cleared in 2005.

#12 Bearden Meadows

Properties in Bearden Meadows were required to address wildfire issues in 2009. All property owners in this neighborhood have addressed their wildfire-mitigation issues. In 2008, a three-acre section of lodgepole pine in poor health was clear cut below the end of Bearden Road. In 2010, a 3.5-acre section of lodgepole pine below Aspen Meadows was clear cut. In 2010, a 40-acre section of lodgepole pine between Elk Woods and Bearden was clear cut. For all of these projects, the whole trees were removed by yarder to avoid leaving slash as a fire hazard or chips that would smother new growth. With minimal impact from heavy equipment, we hope re-vegetation will be accelerated.

#13 Andorra/Central Divide

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Properties in the Andorra neighborhood were scheduled for wildfire mitigation in 2008. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

#14 Red Draw Meadows

Properties in the Red Draw Meadows neighborhood were scheduled for wildfire mitigation in 2008. All property owners in this neighborhood have addressed their wildfire-mitigation issues. The initial Anchor Point report references establishing an alternative exit at the bottom of Red Draw Road. In 2009, Cordillera contacted the owner of the private property adjacent to Cordillera in order to establish this exit utilizing an existing utility easement. *The private property owner would not agree to such an arrangement.*

#15 Settler's Woods

Properties at Settler's Woods were scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues. The Anchor Point report references a two-track dirt road that can be used as an escape route. This road is a natural gas line easement. Cordillera grades this road in the summer to enhance its suitability as an exit. It is too steep to use as an alternative entrance for most fire apparatuses.

#16 Elk Woods and Elk Springs

The Elk Woods and Elk Springs neighborhoods were scheduled for wildfire mitigation in 2009. All but two property owners have complied. This area has considerable lodgepole pine. Owners have been removing dead and infested trees and spraying healthy trees.

#17 Summit Club

The Summit Club area was scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

#18 Granada

The Granada Glen neighborhood was scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues.

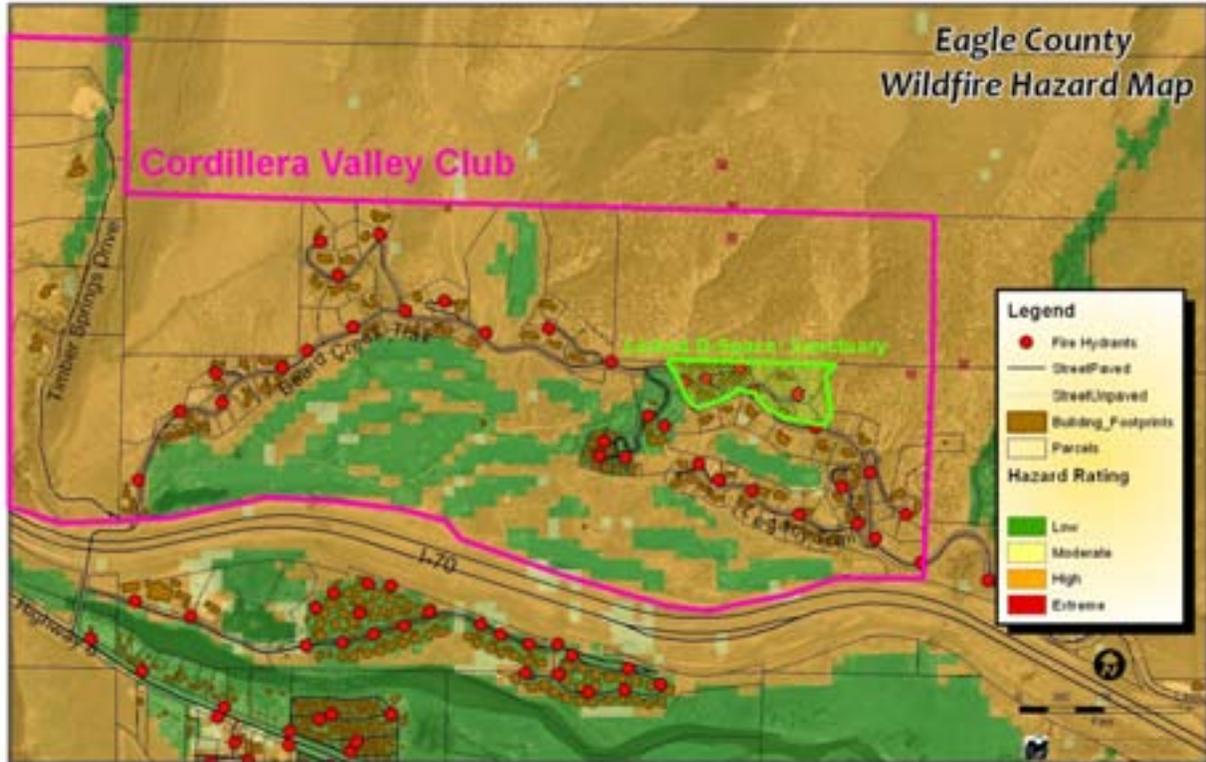
#19 Settler's Loop

Settler's Loop was scheduled for wildfire mitigation in 2010. All property owners in this neighborhood have addressed their wildfire-mitigation issues. This neighborhood has several new homes and all have noncombustible roofs.

#20 Territories

The Territories is scheduled for wildfire mitigation in 2011. The one property constructed prior to the Anchor Point report has addressed its wildfire-mitigation issue. The one property constructed after the Anchor Point report has addressed its wildfire mitigation per Eagle County requirements and has a noncombustible roof. Currently, there is one house under construction in the Territories.

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The Valley Club - Cordillera

The Cordillera Valley Club is located north of Edwards, adjacent to Interstate 70. The entirety of the community surrounds an 18-hole golf course (with the exception of homes in Timber Springs) which could serve as a large safety zone in the event of a fast moving wildfire. The primary fuels found in the community are grass, sage, and juniper, all of which will actively spread fire, especially during a strong wind event. Should such a wind event occur, rapid rates of spread are possible, with torching and running crown fire is a possibility in areas of dense juniper. The vast majority of homes have done little to no defensible space implementation, and many homes are surrounded on all sides by combustible fuels. The community is located at the base of a steep hillside, with a number of steep drainages and ridges. Moreover, many homes are located on these steep ridges and inside drainages, and, therefore, could be more susceptible to a fast moving fire. Street signs in the community are wooden, and, thus, are combustible and non-reflective, meaning they could be difficult to see in dark and/or smoky conditions. Pressurized hydrants can be found throughout the Cordillera Valley Club.

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Fire Management Objectives: Cordillera Valley Club

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Cordillera Valley Club fuels can be characterized by old growth trees and mature tall shrubs. In general, the area is comprised of significant surface fuels with continuous stands of juniper surrounding the neighborhood. The Valley Club is a golf-course community, so fuels near homes are broken-up by irrigated fairways.
 - *Defensible Space: **Priority Level: High***

Many new homes in the study area have adequate defensible space; most of the older homes in the Valley Club have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in the Cordillera Valley Club.
 - *Linked Defensible Space: **Priority Level: High***

Linked defensible space behind homes in the Sanctuary would act as a larger fuel break protecting homes from ember showers generated by fires on the hillside above the area.
- ❖ **Fire Resistant Construction:** Homes built in the Valley Club after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the Valley Club prior to 2006 have wood shake roofing and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials
- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Unrated Bridges: Timber Springs **Priority Level: High***

The community is located in a valley, with a creek running down the center. A narrow one-way-in-and-out road is the only access for the community. The road is on the east side of the creek, and homes are on the west side, meaning that all homes are accessed by private, unrated bridges. Bridge ratings should be clearly posted on non-combustible, reflective signs so that emergency personnel can determine if large firefighting apparatus access these homes.

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Homestead

The Homestead community is located on the hillside south of Edwards. There is currently only one way in and out of the community, though a secondary egress route that connects to Bull Run could be developed, and should be strongly considered to aid in the evacuation of residents. The primary fuels in the community are grass and sage, with small patches of juniper, aspen, and planted ornamental trees. The main concern in the community is the small, narrow drainages that run uphill into the community. Numerous homes are located on the edges of these drainages and they could act to quickly spread fire throughout the community. Most homes on the edges of the drainages currently lack adequate defensible space, though this could be changed relatively easily by removing some down-slope fuels and mowing immediately around the entirety of the home. The light, flashy fuels found throughout the community are likely to result in rapid rates of spread, though flame lengths in most areas would be less than four feet. Pressurized fire hydrants can be found throughout Homestead.

Fire Management Objectives: Homestead

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Homestead fuels can be characterized by tall grass mixed with sage and mature tall shrubs. In general, the area is comprised of significant surface fuels with continuous sage and isolated juniper surrounding the neighborhood.
 - *Defensible Space: **Priority Level: High***
Many new homes in the study area have adequate defensible space; most of the older homes in Homestead have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in the Homestead.
 - *Linked Defensible Space: **Priority Level: High***
Linked defensible space behind homes on Gold Dust and Russell Trail would act as a larger fuel break protecting homes in the area.
- ❖ **Fire Resistant Construction:** Homes built in Homestead after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood shake roofing and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.
- ❖ **Improve Access:** There is one primary access point to Homestead neighborhood via Homestead Drive; this will also be the only way in/out during a mandatory evacuation of the neighborhood.
 - *Secondary Access (Egress): **Priority Level: Moderate***
A secondary egress route that connects to Bull Run could be developed, and should be strongly considered to aid in the evacuation of residents. This access route could be developed in connecting to Cassidy Place or Gold Dust.

Eagle County CWPP



Singletree:

Singletree is located north of Interstate 70, northwest of the town of Edwards. Many of the homes surround an 18-hole golf course. The primary vegetation types in the community consist of grass and sage, which grow against many homes on the perimeter of the community. These light, flashy fuels will act to spread fire quickly, especially when driven by high winds. The southern section of the community surrounding the golf course is mostly flat, while the northern section consists of some steep and narrow drainages, all of which have homes within them. These drainages will act to further increase rates of spread by funneling winds and heat from a growing fire. While homes in the center areas of the community have lawns and decent defensible space, many homes on the perimeter do not. Clearing of sage brush behind homes and mowing of grasses would help protect these areas. Street signs throughout the community are metal and reflective, while home addresses are not reflective.

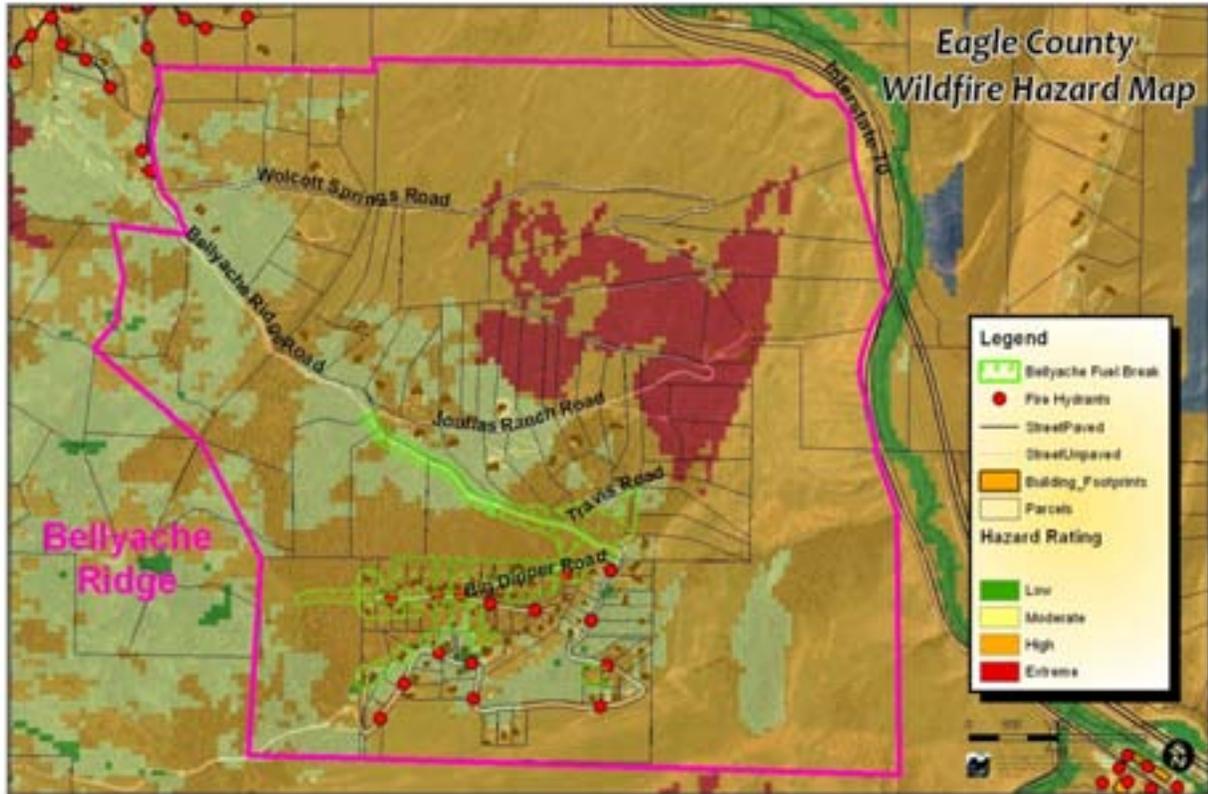
Fire Management Objectives: Singletree

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Singletree fuels can be characterized by tall grass mixed with sage and mature tall shrubs. In general, the area is comprised of significant surface fuels with continuous sage and isolated juniper surrounding the neighborhood.
 - *Defensible Space: **Priority Level: High***

Many new homes in the study area have adequate defensible space; most of the older homes in Singletree have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in the Singletree.
 - *Linked Defensible Space – Chaparral and June Creek: **Priority Level: High***

Linked defensible space around homes on Chaparral would act as a larger fuel break protecting homes on the East side of the neighborhood from ignitions along I-70. Linked defensible space around homes on June Creek should also be created given the dense fuel loading in the drainage below homes in the area.
- ❖ **Fire Resistant Construction:** Homes built in the Singletree after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the Singletree prior to 2006 have wood shake roofing and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County’s Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Bellyache Ridge

The community of Bellyache is located south of Wolcott on the western edge of the ERFPPD. Access into the community is via a long, winding road (one way in and out). Many different fuel types are found within the community, including grass, sage, aspen, and Douglas fir. Also, a large component of beetle-killed lodgepole pine is found throughout the center of the community. In many areas, homeowners and the utility company have done a significant amount of clearing around homes and power lines. Additional clearing is both ongoing and planned, and, as a result, many homes have decent defensible space. Street signs in the community are wooden, and, thus, are combustible and non-reflective, meaning they could be difficult to see in dark and/or smoky conditions. The entirety of the community is located on a hillside, and there are steep slopes and drainages that lead into the community. Many homes are located on the edge of the steep hillsides, and will be more susceptible to fire spread uphill. Rapid rates of spread can be expected in these steep areas, especially those containing grass and sage. Flame lengths could easily exceed 11 feet in areas of standing dead lodgepole pine.

Fire Management Objectives: Bellyache Ridge

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by six fuel models (Anderson FM): FM 1, 2, 4, 6, 8, 10; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Bellyache fuels can be characterized by tall grass mixed with sage and mature tall shrubs at lower elevations, and mixed conifer stand, aspen and beetle affected lodgepole pine.
 - *Defensible Space: **Priority Level: High***

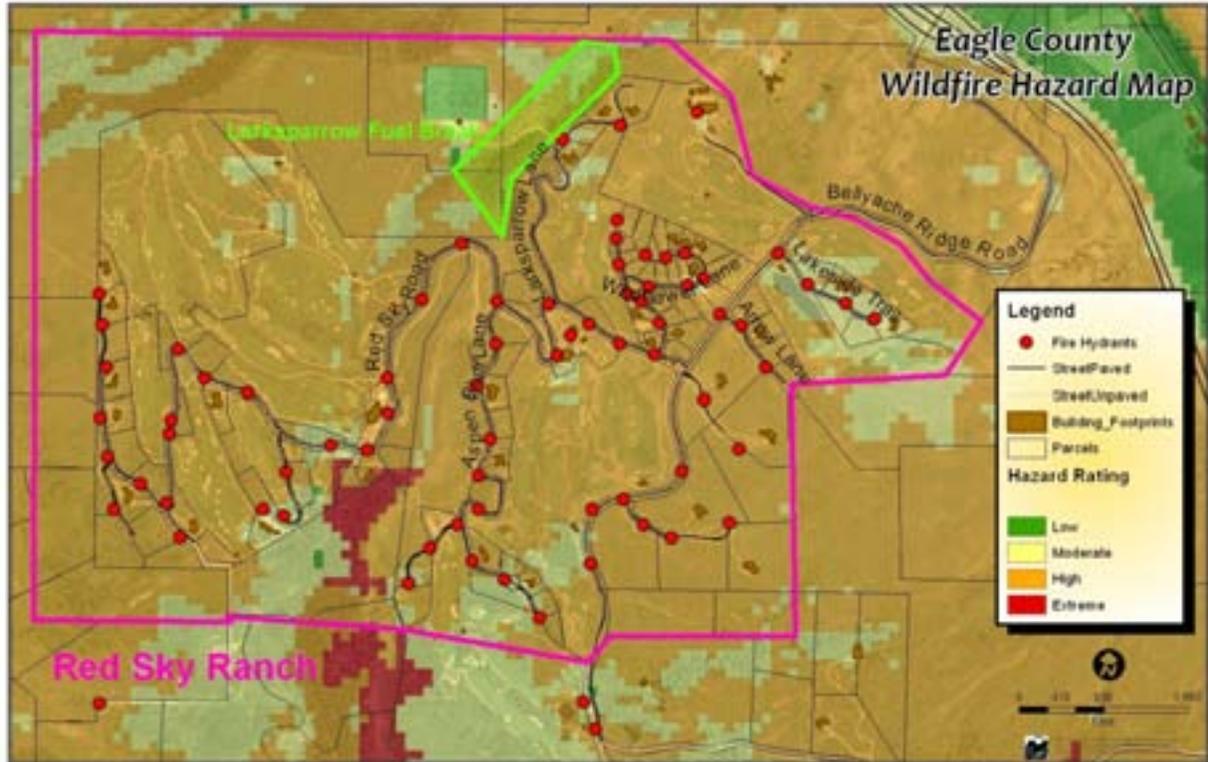
Many new homes in the study area have adequate defensible space; most of the older homes in Bellyache have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in the Bellyache.
 - *Linked Defensible Space: **Priority Level: High***

Linked defensible space around homes on Little Dipper and Big Dipper Roads would act as a larger fuel break protecting homes nestled in the lodgepole pine stands on Bellyache.
 - *Fuels Breaks: Maintain Bellyache Ridge Road Treatments - **Priority Level: Moderate***

The neighborhood is built on a hillside, characterized by steep slopes (*Average Slope 20-30%*), with numerous ravines and natural chimney features. Landscape fuel reduction projects should seek to protect the only ingress/egress point to the area via Bellyache Ridge Road. Hazardous fuel build-up associated with Mtn. Pine Beetle mortality in the lodgepole pine stands surrounding the neighborhood should be addressed with increased timber harvesting over the next decade. Maintenance of existing roadside fuel-breaks will need to occur over the coming decade, and opportunities to expand on these treatments should be sought.
 - *Fuels Breaks: Joufflas Ranch Road - **Priority Level: High***

The neighborhood is built on a hillside, characterized by steep slopes (*Average Slope 20-30%*), Roadside fuel reduction work in the tall shrub and oak brush along Joufflas Ranch Road could help reduce fire intensity and rates of spread below homes in the area.
- ❖ **Fire Resistant Construction:** Homes built in Bellyache Ridge after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood shake roofing and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Red Sky Ranch

Located south of Wolcott, Red Sky Ranch is on the western edge of the Eagle River Fire Protection District. Homes surround two private 18-hole golf courses, which provide great safety zones in the event of a wildfire. The primary fuels in the community are grass, sage, and juniper, all of which will actively spread fire, especially during a strong wind event. During such an event, rates of spread have the potential to be so fast that firefighters may not be able to respond in time. Most homes have some level of defensible space protection due to the presence of the golf course and the type of landscaping that has been done around the home. However, combustible fuels abut most homes on at least one side. A steep ridge runs through the middle of the community, which will further act to increase rates of spread and could potentially result in the road out of the community being unusable. Street signs consist of metal lettering on rocks, and pressurized hydrants can be found throughout the neighborhood.

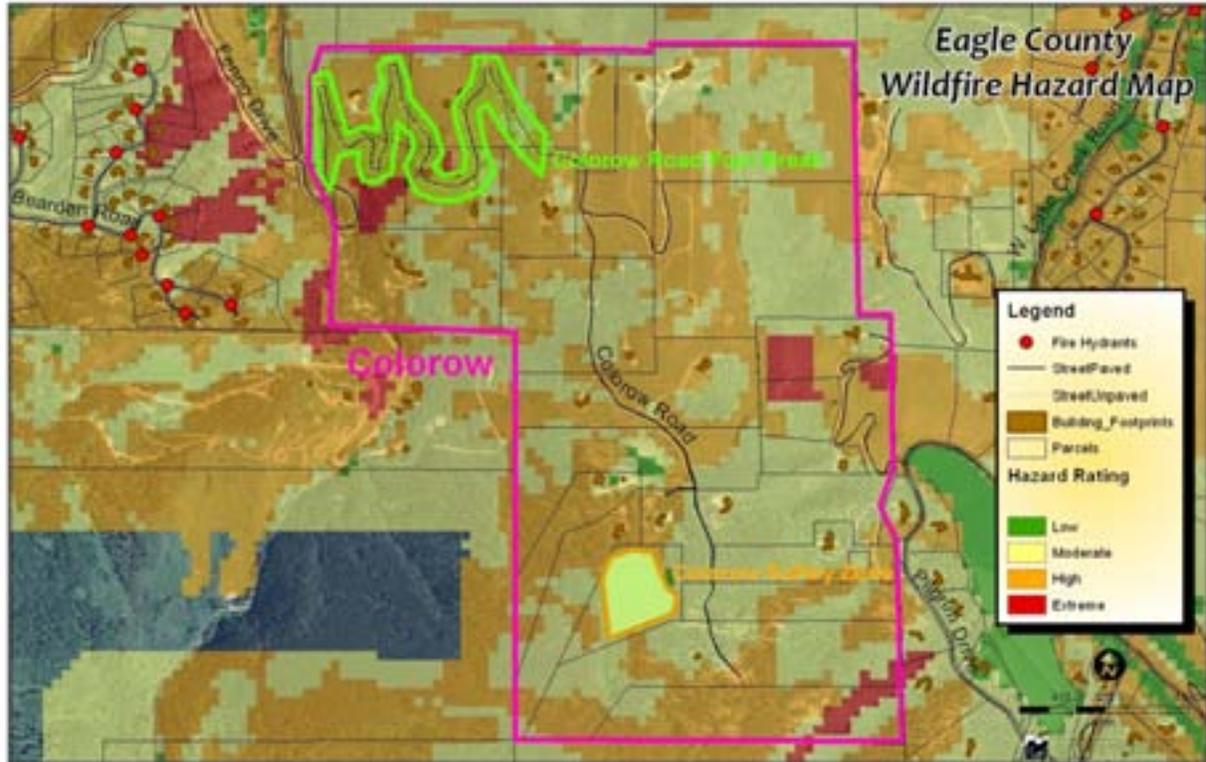
Fire Management Objectives: Red Sky Ranch

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Red Sky Ranch fuels can be characterized by tall grass mixed with sage and mature tall shrubs.
 - *Defensible Space: **Priority Level: High***

Many new homes in the study area have adequate defensible space; most of the older homes in Red Sky Ranch have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in the Red Sky Ranch.
 - *Fuels Breaks: Lark Sparrow Lane - **Priority Level: High***

The neighborhood is built on a hillside, with numerous ravines running through the center of the neighborhood. Many homes on Lark Sparrow Lane are built on the edge this ravine. Landscape fuel reduction projects should seek to minimize fuel loading in this area.
- ❖ **Fire Resistant Construction:** Homes built in Red Sky Ranch after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood shake roofing and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Colorow

Colorow is a residential neighborhood in unincorporated Eagle County approximately 6 miles southwest of Edwards, Colorado. The community is made up of approximately 20 home sites within the Wildland Urban Interface, and borders public lands on its western and southern boundaries. Colorow is currently accessed via a narrow, steep road with tight switchbacks that is the only way in and out. There are a number of potential egress routes down to Pilgrim Downs, one of which should be designated and improved for use by residents. Terrain surrounding the community is steep, with drainages running up into the community on the western side. The steep terrain combines with the light, flashy fuels found throughout the area to create the potential for rapid rates of spread. Other fuels in the area include aspen, Douglas fir, spruce, and serviceberry. Adjacent hillsides are covered with dead lodgepole pine. Flame lengths in these areas could easily exceed 11 feet. Residents have been doing some clearing around their homes, but most homes lack adequate defensible space. No pressurized hydrants are within the community, though limited water is available from small ponds, two existing 10,000-gallon tanks, and three planned 5,000-gallon tanks. Street signs in the community are wooden, and, thus, are combustible and non-reflective, meaning they could be difficult to see in dark and/or smoky conditions.

Eagle County CWPP

Fire Management Objectives: Colorow

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by six fuel models (Anderson FM): FM 1, 2, 5, 6, 8, 10); other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Colorow fuels are characterized by old growth trees and mature tall shrubs. In general, the area is comprised of significant surface fuels with a continuous, mixed conifer or aspen canopy.
 - *Defensible Space: **Priority Level: High***

Most homes in the study area have adequate defensible space; however there is a lack of available water and poor access to many of the home-sites. Many homes have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Colorow.
 - *Fuels Breaks: Colorow Road Fuel Break - **Priority Level: High***

The neighborhood is built on a hillside, characterized by steep slopes (*Average Slope 20-30%*), with numerous ravines and natural chimney features. Many homes are built on the edge these ridgelines or ravines. Landscape fuel reduction projects should seek to protect the only ingress/egress point to the area via Colorow Road. Hazardous fuel build-up associated with Mtn. Pine Beetle mortality in the lodgepole pine stands surrounding the neighborhood should be addressed with increased timber harvesting over the next decade.

- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Water: **Priority Level: High***

There is very little available water in Colorow; limited to dry-hydrants at 3 locations (approx. 10,000gal/each) and a few small ponds and draught points along Squaw Creek Road. A large community cistern to provide additional water for fire suppression within Colorow will improve firefighting capabilities and minimize water shuttling along the one point of access to the neighborhood.
 - *Safety Zones: **Priority Level: High***

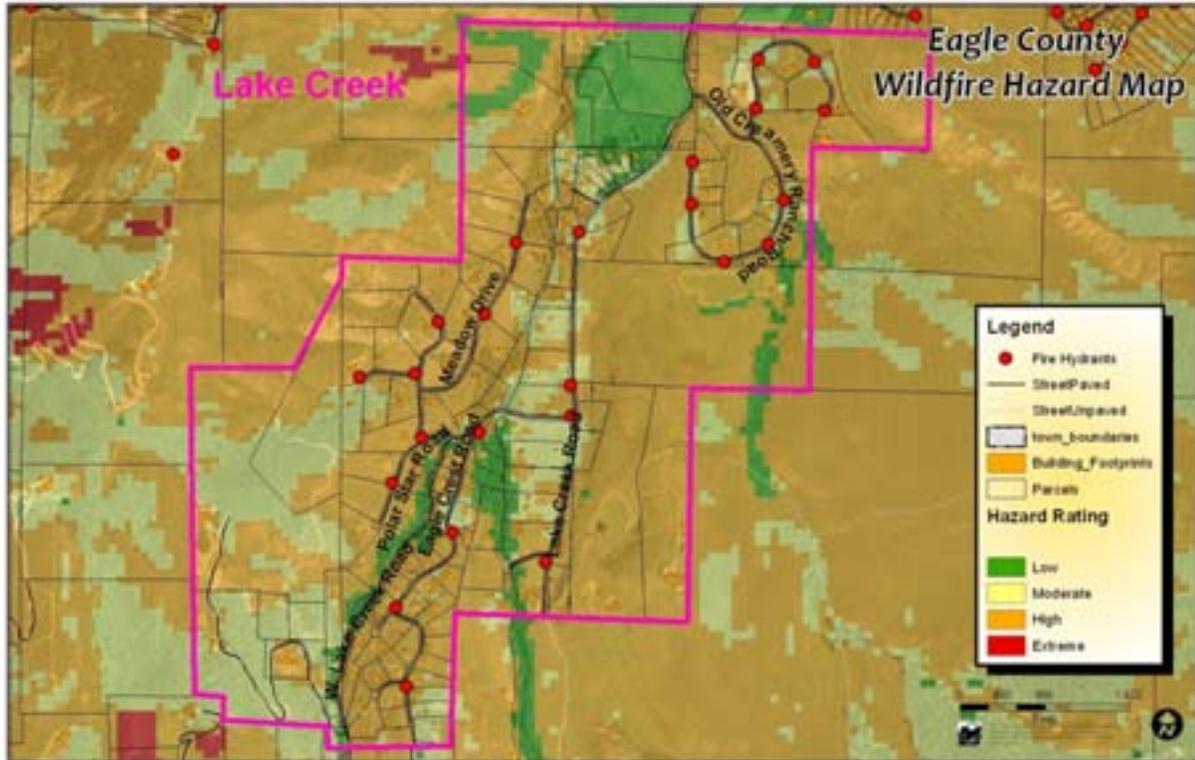
Reliable safety zones are at a premium within the Colorow neighborhood, but some do exist. There is a large meadow surrounded by aspen at the upper reaches of Colorow Road, within 0.5 miles of the escape route connecting to Pilgrim Downs. This would be a good location for a large tank or cistern. Given the poor access and fuels below this part of the neighborhood, it is of paramount importance to maintain this area as a viable safety zone. The tall-grass in the meadow should be cut, or have animals graze on it, during fire season to keep it low to the ground.

Eagle County CWPP



- ❖ **Improve Access:** There is one primary access point to the Colorow neighborhood via Colorow Road; this will also be the only way in/out during a mandatory evacuation of the neighborhood.
 - *Secondary Access (Egress): **Priority Level: High***
A non-maintained 4WD road connects Colorow to the Pilgrim Downs subdivision. The road is less than 0.5 miles in length and can be accessed from two points on the 2000 block of Colorow Road. This non-maintained road is in need of improvement in order to accommodate 4WD vehicles, and potentially Type VI engines. There is a series of old logging roads connecting Colorow to Pilgrim Downs through public and private properties. Road improvements and access easements should be investigated and implemented in order to create a viable secondary access point to the neighborhood.

Eagle County CWPP



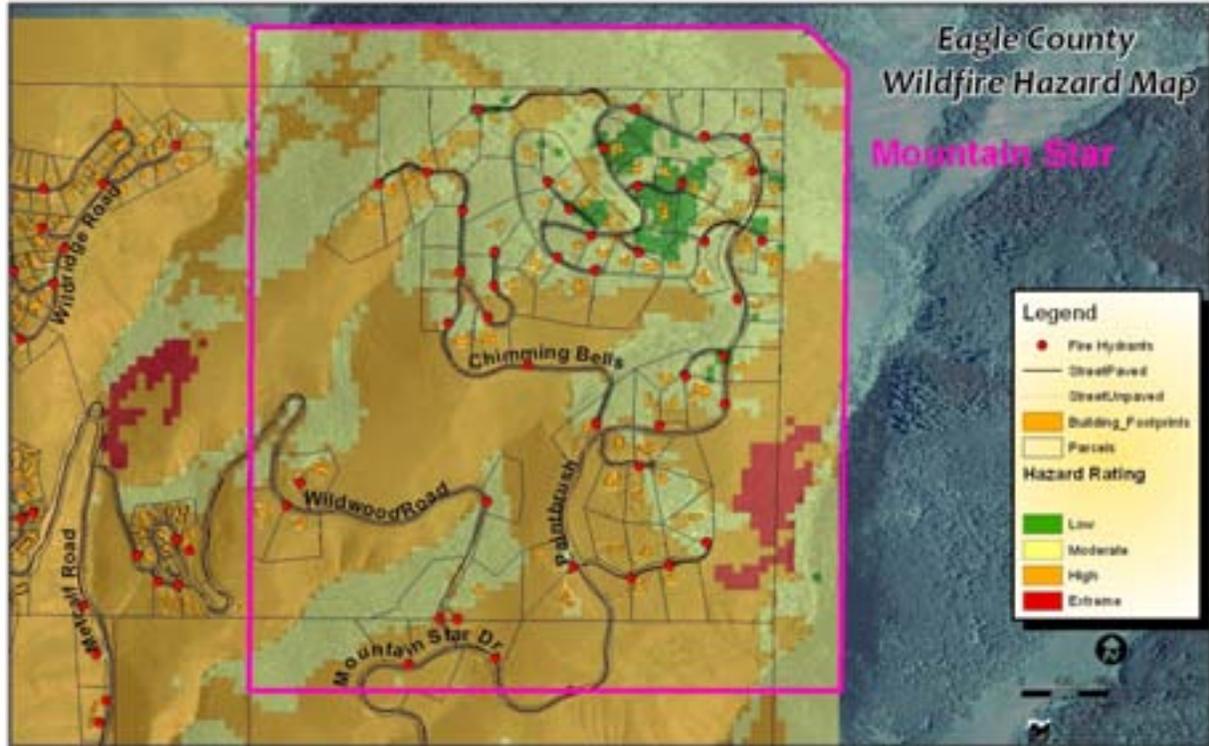
Lake Creek

The Lake Creek community, located southwest of Edwards, is primarily comprised of homes located immediately along Lake Creek Road. Access into the community turns from a paved road to a dirt road, and there are many narrow side roads with poor turnaround areas. Numerous homes are located mid-slope, as well as atop steep hills and at the bases of hillside drainages. A wide variety of fuel types are in the community, including grass, sage, juniper, aspen, and spruce-fir. The rolling hills and drainages in the community, along with light, flashy fuels such as grass and sage, will act to spread fire quickly throughout the area. Many homes in the community lack adequate defensible space, and some neighborhoods have high housing densities. Street signs throughout the community are not always present, and of those that are present, many are made of wood, meaning they are both combustible and non-reflective. Pressurized fire hydrants can be found throughout the area.

Fire Management Objectives: Lake Creek

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by five fuel models (Anderson FM): FM 1, 2, 4, 6, 8; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Lake Creek fuels can be characterized by tall grass mixed with sage and mature tall shrubs. In general, the area is comprised of significant surface fuels with the highest concentrations of trees and shrubs located in and around Lake Creek and other drainages
 - *Defensible Space: **Priority Level: High***
Most of the older homes in Lake Creek have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Lake Creek.
 - *Linked Defensible Space – Eagle Crest: **Priority Level: High***
Linked defensible space around homes on Eagle Crest would act as a larger fuel break protecting homes in the neighborhood from ignitions in the valley below associated with human activity (*ie. agricultural open burning*). Linked defensible space around homes in this area should also be created given the dense fuel loading in the drainage below homes in the area.
- ❖ **Fire Resistant Construction:** Homes built in the Lake Creek area after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in Lake Creek prior to 2006 have wood shake roofing and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County’s Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Mountain Star

The Mountain Star community is part of the Town of Avon, and is located on the hillsides north of the town center. Most of the homes in the community are located within a large aspen stand, which is surrounded by sage and grass. Rapid rates of spread can be expected up to the community due to the presence of steep terrain, the funneling of nearby drainages, and the presence of light, flashy fuels. A number of homes in the community are located atop these steep drainages and slopes, and, thus, are at an increased risk. Most homes in the community lack any defensible space, and many have more flammable species such as spruce amongst the aspen around their homes. Above the community are large stands of beetle-killed lodgepole pine which are also of concern. Street signs throughout the community consist of metal lettering on rocks, and although they are noncombustible, they will be difficult to see under nighttime and/or smoky conditions.

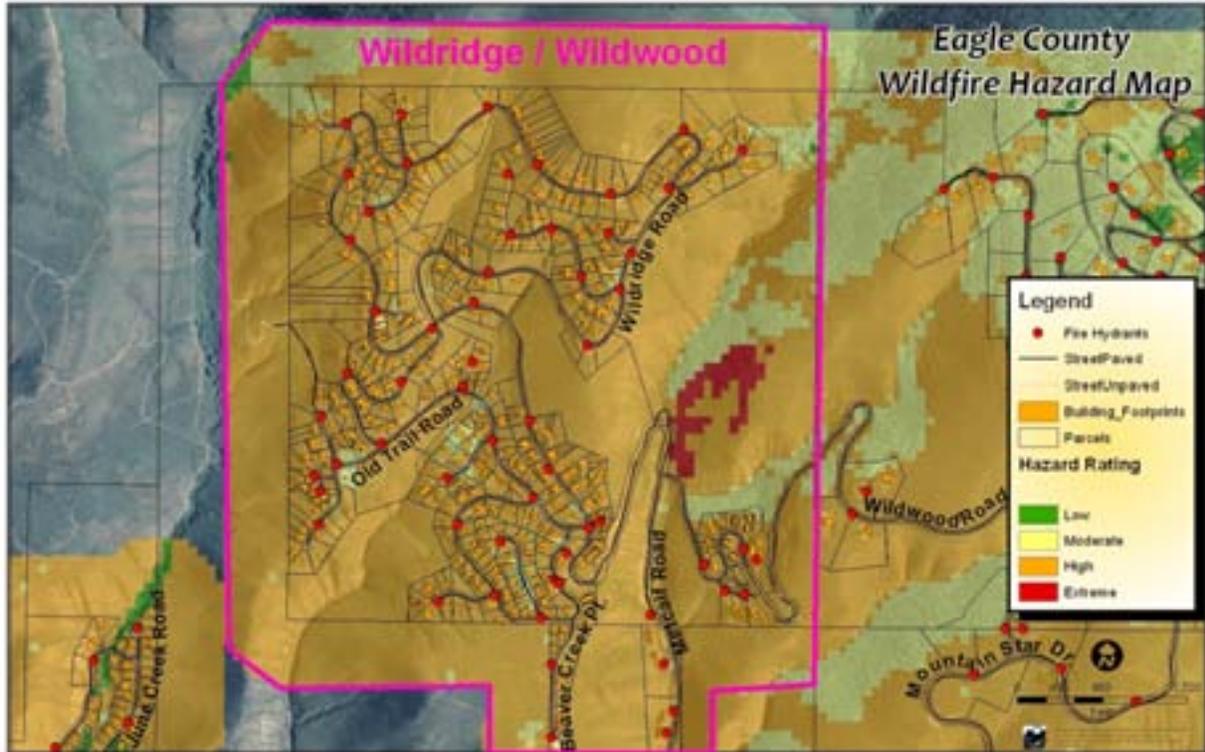
Fire Management Objectives: Mountain Star

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by seven fuel models (Anderson FM): FM 1, 2, 5, 6, 8, 10) other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Mountain Star fuels are characterized by tall grass and shrub understory, with a continuous, mixed conifer or aspen canopy.
 - *Defensible Space: **Priority Level: High***

Most homes in the study area have adequate defensible space; however there is a lack of available water and poor access to many of the home-sites. Many homes have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Mountain Star.
 - *Fuel Reduction Work: **Priority Level: Moderate***

The neighborhood is built on a hillside, characterized by steep slopes (*Average Slope 20-30%*), with numerous ravines and natural chimney features. Many homes are built on the edge these ridgelines or ravines. Landscape fuel reduction projects should seek to protect the only ingress/egress point to the area via Mountain Star Road. Hazardous fuel build-up associated with Mtn. Pine Beetle mortality in the lodgepole pine stands surrounding the neighborhood should be addressed with increased timber harvesting over the next decade.
- ❖ **Fire Resistant Construction:** Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Wildridge/Wildwood

The community of Wildwood/Wildridge includes the two different subdivisions and is part of the Town of Avon. It is located on the hillsides north of the town center. Terrain in the community is steep, and a number of steep drainages are throughout, all which have homes on the edges of them. The main vegetation types in the community are grass and sage. These light, flashy fuels will actively promote rapid rates of spread, especially as a result of the steep terrain within the community. Most homes have some defensible space, due to the presence of watered lawns and some mowing of grasses and sage. However, more work needs to be done to protect all of the homes in the community. Street signs are metal and reflective, but they are located on combustible, wooden posts. Pressurized hydrants can be found throughout Wildridge and Wildwood.

Eagle County CWPP

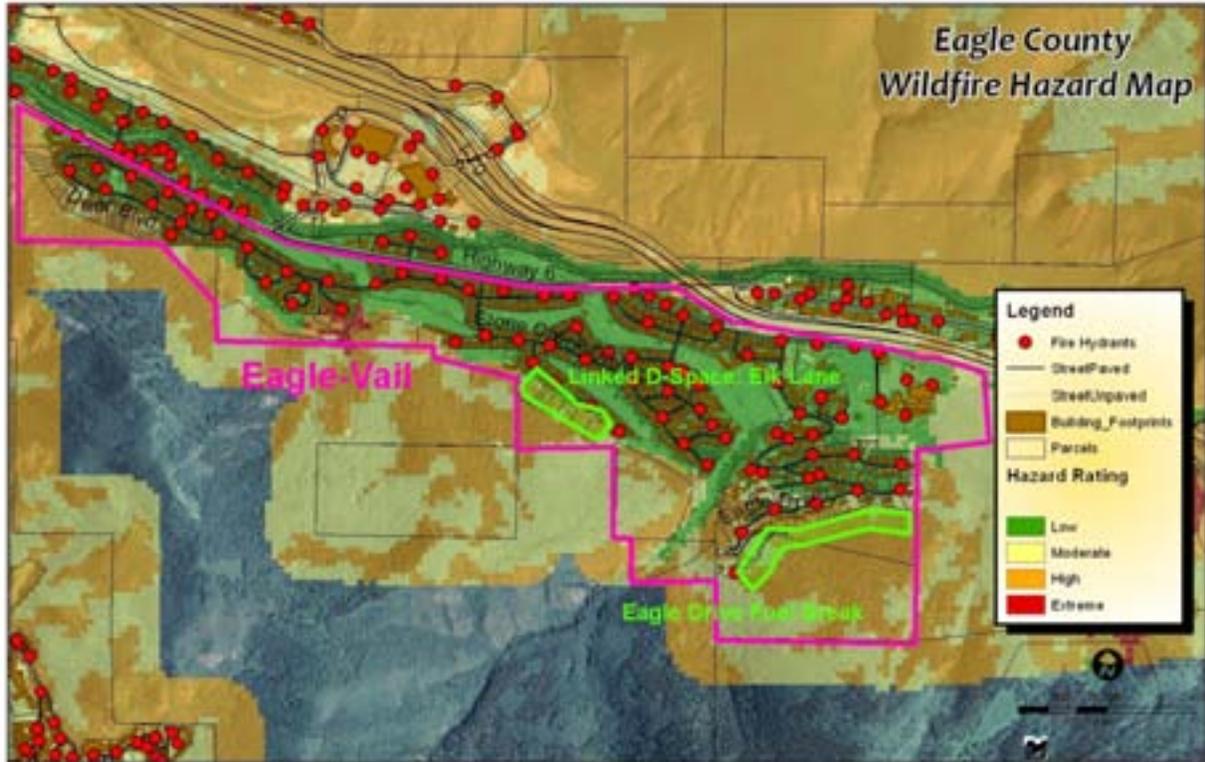
Fire Management Objectives: Wildridge/Wildwood

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Wildwood fuels can be characterized by tall grass mixed with sage and mature tall shrubs. In general, the area is comprised of significant surface fuels on steep slopes.
 - *Defensible Space: **Priority Level: High***

Most of the older homes in Wildridge and Wildwood have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Wildridge and Wildwood.
 - *Linked Defensible Space: **Priority Level: High***

Linked defensible space around homes on outer edges of the neighborhood would act as a larger fuel break protecting homes in the neighborhood from ignitions in the valley below associated with human activity. Linked defensible space around homes in this area should also be created given the dense fuel loading in the drainage below homes in the area.
- ❖ **Fire Resistant Construction:** Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Eagle-Vail

The community of Eagle-Vail is located on the western edge of Dowd Junction, near the Interstate 70 and Highway 24 interchange. This unincorporated community includes more than 1,400 homes, not all of which have been included in this analysis. Although the southern edge of the community abuts combustible vegetation, much of the remaining community area could be considered urban and, thus, is at a lower risk from wildfire. Vegetation found on the southern hillside of the community includes sage, aspen, Douglas fir, and lodgepole pine. Many homes on the edges of the community lack adequate defensible space. Other areas of the community are protected by the golf course, which could also serve as a safety zone in the event of a fast-moving wildfire. Street signs in the community are wooden, and, thus, are combustible and non-reflective, meaning they could be difficult to see in dark and/or smoky conditions.

The Whiskey Hill neighborhood is located on the hillside above Eagle-Vail. The area is accessed via a narrow, steep one way road that travels through Eagle-Vail (Eagle Drive). Access and egress during a wildfire are likely to be difficult depending on how many residents are present. Fuels in the area include aspen and beetle-killed lodgepole pine. Most homes in this part of the community lack any defensible space and have wood-shingle roofs.

Eagle County CWPP

Fire Management Objectives: Eagle-Vail

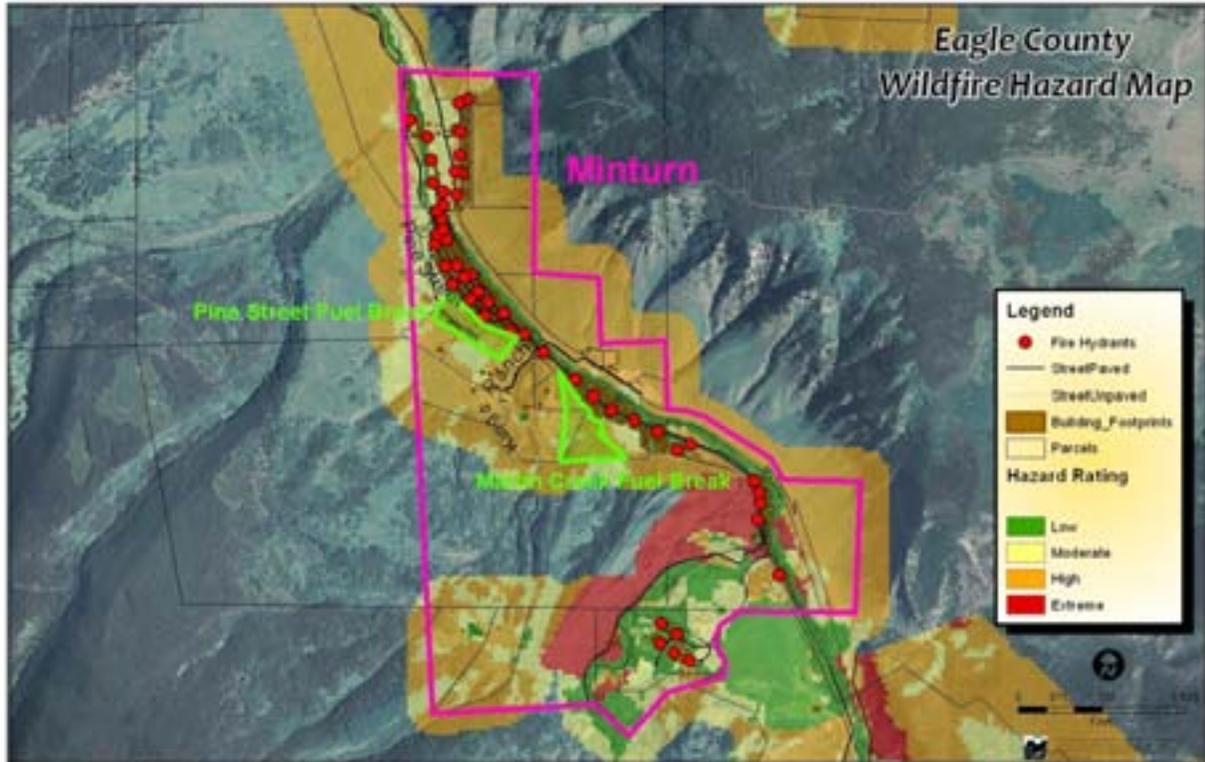
- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by six fuel models (Anderson FM): FM 1, 2, 4, 6, 8, 10; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface.
 - *Defensible Space: Whiskey Hill - **Priority Level: High***

Most of the older homes on Whiskey Hill have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in the Eagle-Vail.
 - *Linked Defensible Space: Elk Lane - **Priority Level: Moderate***

Linked defensible space around homes on outer edges of the neighborhood would act as a larger fuel break protecting homes in the neighborhood from ignitions caused by ember-showers generated by fires on the hillside above. Linked defensible space around homes in this area should also be created given the dense fuel loading in the drainage below homes in the area.
 - *Fuel Breaks: Whiskey Hill above Eagle Drive - **Priority Level: High***

Remove all dead trees associated with MPB infestation and thin further to create a fuel break behind the community. This will limit fire-branding by embers into the community as well as the potential spread of fire into the forest surrounding the neighborhood as the result of structure fires.
- ❖ **Fire Resistant Construction:** Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Minturn

The town of Minturn is located in the valley bottom along Highway 24. The population of the town is approximately 1,100. The valley sides surrounding the town are steep, and are covered primarily with grass and sage on the northern side; and grass, sage, aspen, and lodgepole pine on the southern side. Most lodgepole pine trees within the vicinity of town are dead, and will eventually blow down if not removed. The water system in town is old, and is sometimes unreliable at the hydrant. Side roads through town are narrow, and lack adequate turnaround for large apparatus. Smaller subdivisions of the town include Kings Ranch and the Maloit Park School area, both of which are accessed by one-way-in-and-out roads and are surrounded by flammable vegetation. Some homes on the edge of town have done limited defensible space work, but more needs to be done to be fully effective. Street signs throughout town are metal and reflective, though they are not present in all areas.

Fire Management Objectives: Minturn

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by six fuel models (Anderson FM): FM 1, 2, 4, 6, 8, 10; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Minturn fuels can be characterized by tall grass mixed with sage and mature tall shrubs, and landscaping around homes.
 - *Defensible Space: **Priority Level: High***

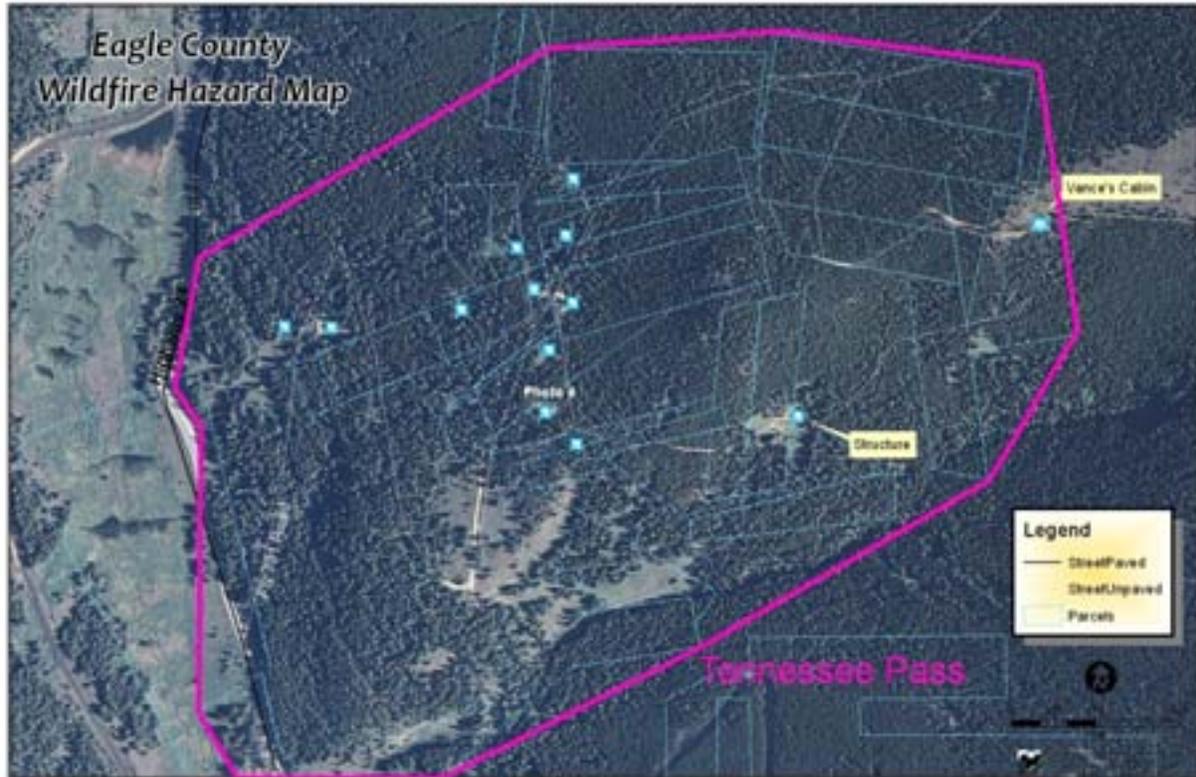
Most of the older homes in Minturn have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in the Minturn.
 - *Fuel Breaks: Pine Street - **Priority Level: High***

Remove all dead trees associated with MPB infestation and thin further to create a fuel break behind the community. This will limit fire-branding by embers into the community as well as the potential spread of fire into the forest surrounding the neighborhood as the result of structure fires.

*Fuel Breaks: Martin Creek - **Priority Level: High***

Remove all dead trees associated with MPB infestation and thin further to create a fuel break behind the community. This will limit fire-branding by embers into the community as well as the potential spread of fire into the forest surrounding the neighborhood as the result of structure fires.
- ❖ **Fire Resistant Construction:** Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



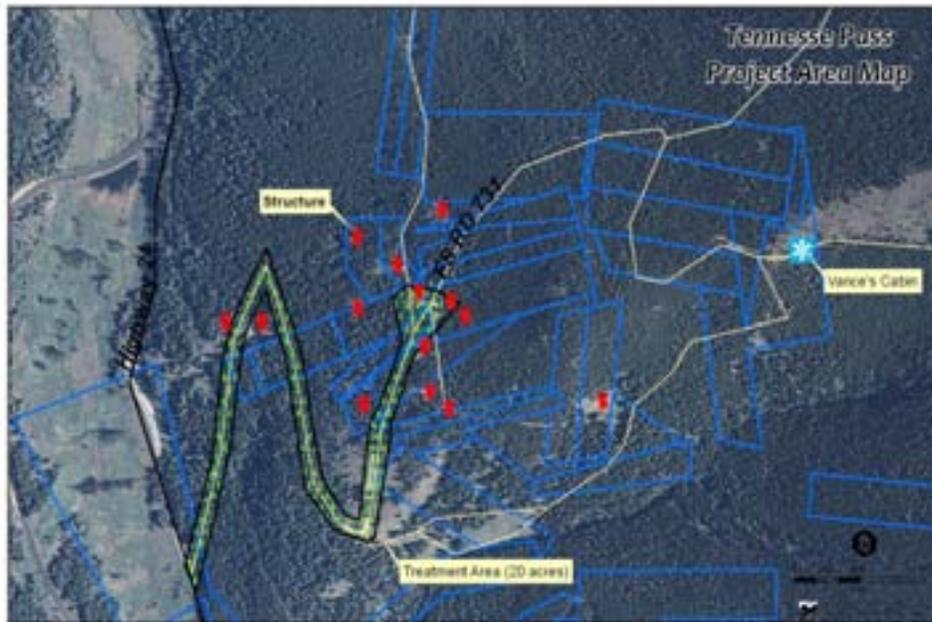
Tennessee Pass

The community of Tennessee Pass is located off of Highway 24, between the towns of Red Cliff and Leadville. Homes are built on old mining claims on the hillside east of the highway. At approximately 10,000 feet, the community's primary vegetation types are lodgepole pine and spruce-fir. Fire return intervals are in the hundreds of years and normally will occur only under extreme weather conditions. Many homes in the community have partial defensible space, though not all homes do, and more work could be done. Water is in short supply, and aside from a few cisterns, will need to be drafted and shuttled up to the community. The homes are located on a hillside above the highway, and there is a small drainage that runs through the center of town. If an ignition comes from the highway below, a fire could spread quickly uphill, and especially up-drainage. A major concern for any responding emergency personnel is leftover unexploded ordinance from nearby Camp Hale. Most have been removed during cleanup of the site; however, some may have been missed on surrounding Forest Service lands. Another concern for the community is making sure that visitors to Vance's Cabin above the main community area are able to evacuate safely, should a fire occur.

Eagle County CWPP

Fire Management Objectives: Tennessee Pass

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 8, 10; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Tennessee Pass fuels can be characterized by continuous, mature mixed conifer stands on steep slopes.
 - *Defensible Space: **Priority Level: High***
Implement effective defensible space around every home on Tennessee Pass.

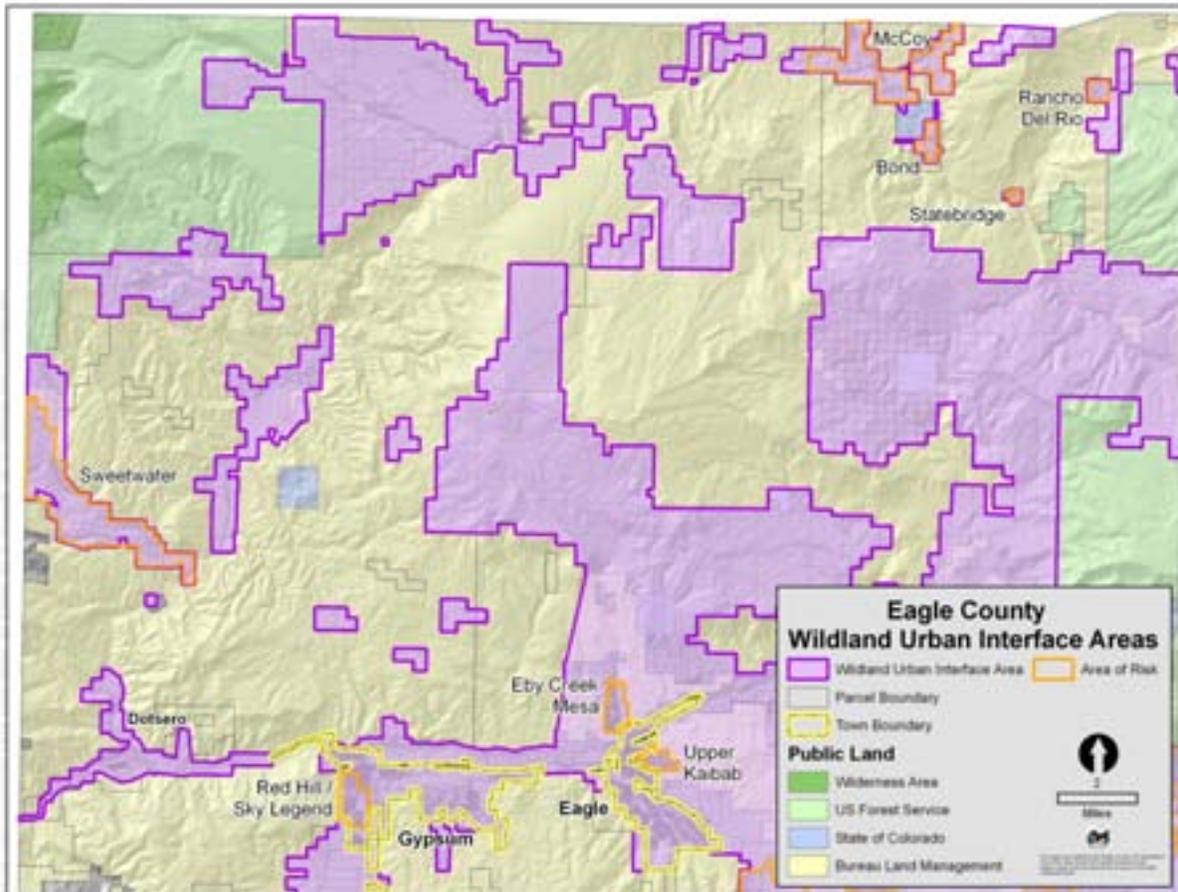


- *Fuel Breaks: FS Road 731 - **Priority Level: High***
Create a 200ft fuel-break along FS RD 731 by removing dead/infested lodgepole pine, and thinning remaining trees to a distance of 100ft on either side of the roadway. Thin trees so that there is a minimum of 10-20 feet between crowns. Crown separation is measured from the furthest branch of one tree to the nearest branch on the next tree. All ladder fuels from under these trees should be removed, with branches on remaining trees pruned up 10ft or 1/3 their overall height.
- ❖ **Fire Resistant Construction:** Homes built on Tennessee Pass after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built on Tennessee Pass prior to 2006 have wood siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

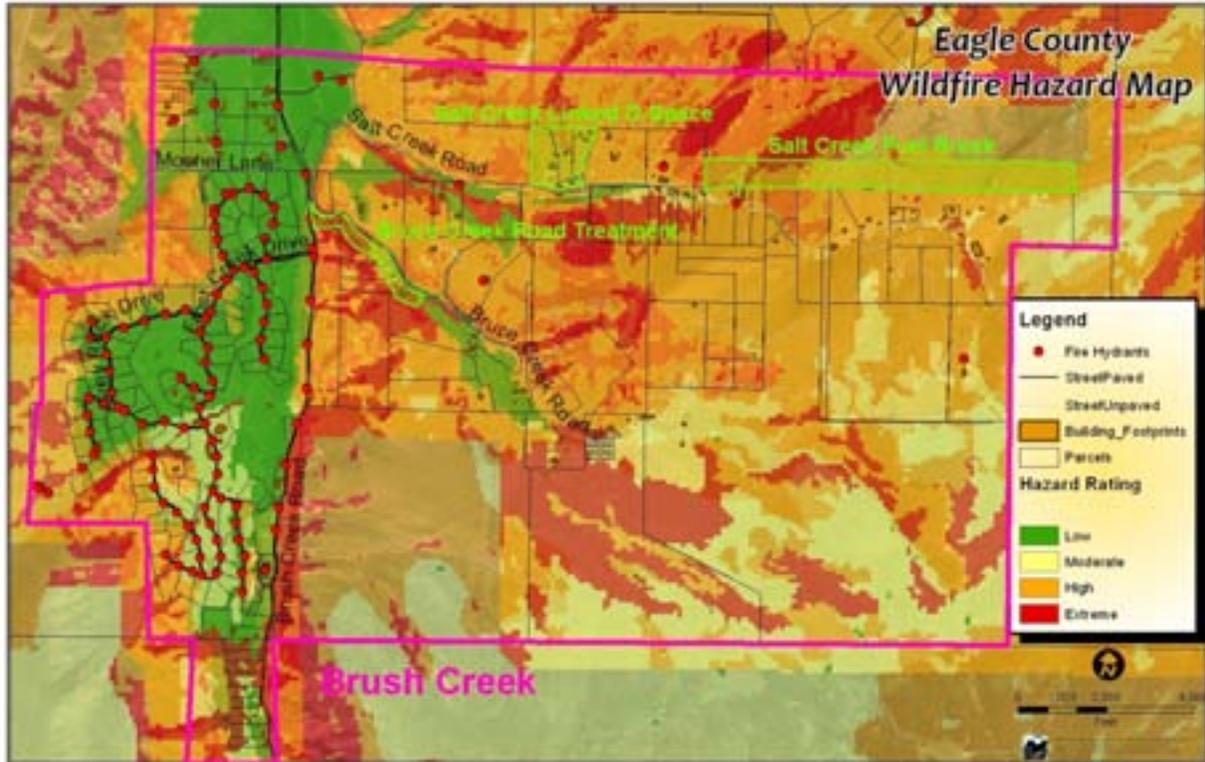
Eagle County CWPP



Greater Eagle Fire Protection District: The Greater Eagle FPD, located in central Eagle County, serves the town of Eagle, and the rural communities of Wolcott, Fulford, Bond, McCoy and State Bridge, providing fire, EMS, Haz-Mat and rescue services. Greater Eagle FPD provides wildland fire protection within its own district, as well as on assignment to other locations as needed. The department employs several paid and volunteer fire fighters.



Eagle County CWPP



Brush Creek

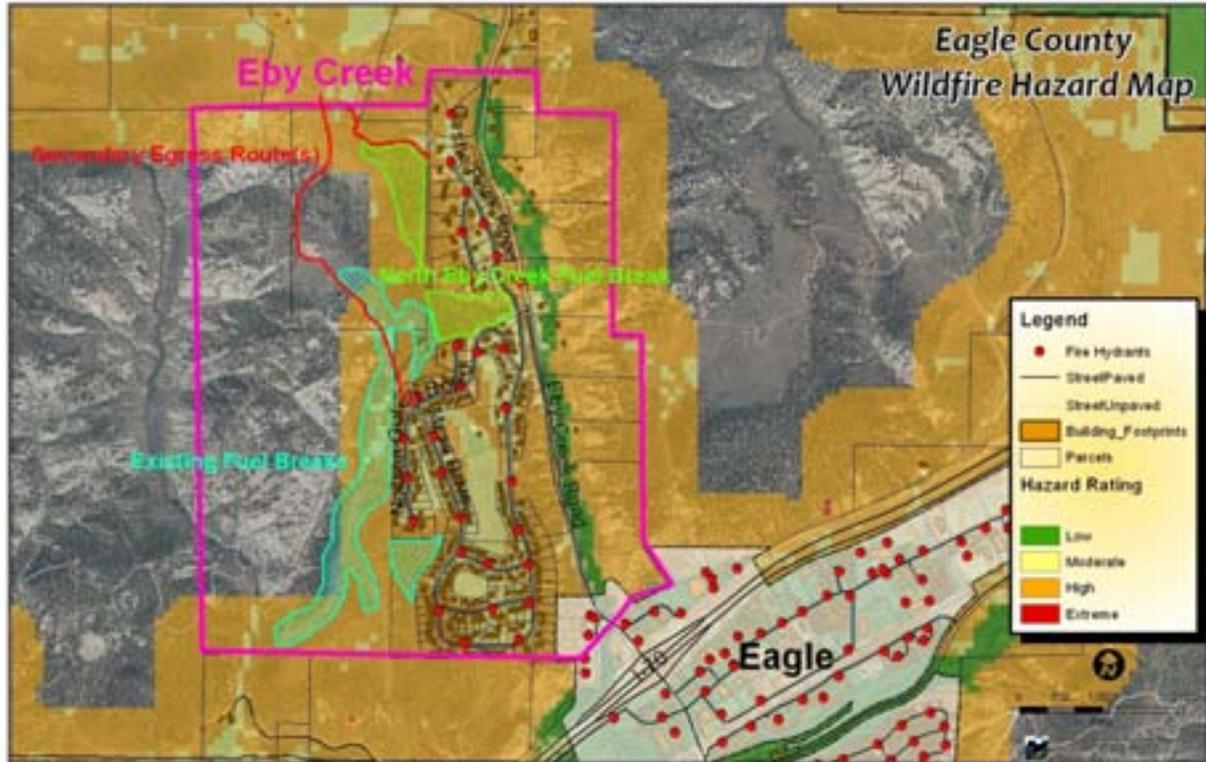
The Brush Creek community, located southwest of Eagle, consists of many homes on ranch lands along Brush Creek Road, with most tucked into the Salt Creek and Bruce Creek drainages. Access into the Bruce Creek and Salt Creek communities turns from a paved road to a dirt road, with many narrow side roads with poor turnaround areas. Several homes are located mid-slope, as well as atop steep hills and at the bases of hillside drainages. A wide variety of fuel types are found in the community, including grass, sage, juniper, gambel-oak, service berry, aspen, and spruce-fir. The rolling hills and drainages, along with light, flashy fuels such as grass and sage, will act to spread fire quickly throughout the area. Many homes in the community lack adequate defensible space and some areas have extremely poor access and significant fuel loading. Street signs throughout the community are not always present, and of those that are present, many are made of wood, meaning they are both combustible and non-reflective. Water sources in the Bruce and Salt Creek communities are at a premium, limited to a few small ponds and water from the creeks. There are no pressurized hydrants in either area, though dry-hydrants/cisterns can be found at some home-sites. The Frost Creek PUD is a golf-course development within the Brush Creek community. Homes surround a private 18-hole golf course, which will provide great safety zones in the event of a wildfire. The primary fuels in the community are grass, sage, and gambel-oak, all of which will actively spread fire, especially during a strong wind event. During such an event, rates of spread have the potential to be so fast that firefighters may not be able to respond in time. The Frost Creek PUD has pressurized fire hydrants near all homes.

Fire Management Objectives: Brush Creek

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by six fuel models (Anderson FM): FM 1, 2, 4, 6, 8, 10; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Brush Creek fuels can be characterized by tall grass and brush in the valley bottom, with continuous sage and gambel-oak on the slopes above the community. The Salt Creek drainage can be characterized by mature pinon/juniper and continuous Douglas-fir stands transitioning to aspen at higher elevations.
 - *Defensible Space: **Priority Level: High***
Implement effective defensible space around every home in the Brush Creek area (*see page 26 for Defensible Space Guidelines*). Of particular concern are the homes located in the Salt and Bruce Creek drainages which are surrounded by heavy fuels.
 - *Linked Defensible Space: Salt Creek Road. - **Priority Level: High***
Linked defensible space around homes clustered at the beginning of Salt Creek Road would act as a larger fuel break protecting the neighborhood from ignitions caused by ember-showers generated by fires on the hillside above.
 - *Fuel Breaks: Bruce Creek Roadside Fuel Treatment - **Priority Level: High***
Create a 200ft fuel-break along Bruce Creek Road by thinning gambel-oak to a distance of 100ft on either side of the roadway. Thin brush to disrupt the continuity of fuels along roadway in order protect only ingress/egress route to the area.

*Fuel Breaks: Salt Creek Fuel Treatment - **Priority Level: High***
Homes on Salt Creek Road are located in dense pinon/juniper and gamble-oak woodlands. Webb Peak and the Cordillera Summit are directly above the Salt Creek community. Fuel reduction work on both the private lands in Salt Creek and Cordillera, as well as the BLM lands in between these communities should be implemented. Mechanical clearing of sage and gambel-oak in conjunction with prescribed fire should occur in this area to minimize the potential for ignitions in the Salt Creek drainage to spread unchecked into Cordillera.
- ❖ **Fire Resistant Construction:** Homes built in Brush Creek after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in Bruch Creek prior to 2006 have wood siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Eby Creek Mesa

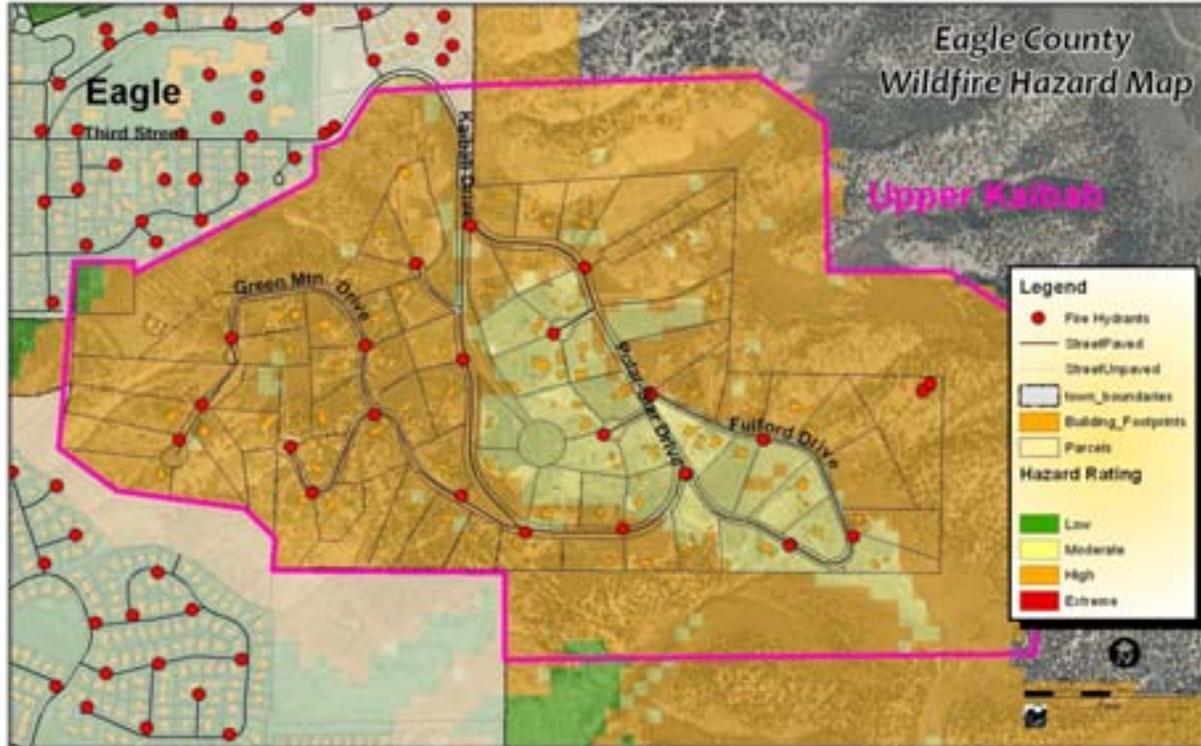
The Eby Creek Mesa community is located approximately one mile north of Eagle, Colorado. The neighborhood is accessed from Interstate 70 via Eby Creek Road. The dominant vegetation throughout the study area is pinon pine and juniper, with a short grass and sagebrush understory, varying in coverage from uniformly dispersed pinon/juniper stands to continuous stands with significant ladder fuels. Small sections of riparian vegetation are present near water sources and drainages. The fuels found within Eby Creek will actively spread fire, especially during a strong wind event. Should such a wind event occur, rapid rates of spread are likely, with torching and running crown fire a possibility in areas of dense pinon/juniper. The vast majority of homeowners have done little to no defensible space work, and many homes are surrounded on all sides by combustible fuels. Native and non-native ornamental grass, trees, and shrubs of various types can be found near homes as elements of residential landscaping. Invasion of the noxious weed Cheat grass is evident throughout the subdivision in areas of recent disturbance. Cheat grass is a concern to fire fighters as it matures in early summer and can significantly add to rates of fire spread. Address markers are present at most home-sites, and pressurized hydrants can be found throughout the neighborhood.

Eagle County CWPP

Fire Management Objectives: Eby Creek Mesa

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 4, 6. Other fuels exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Eby Creek fuels vary from light to moderate loads of grasses and shrubs, mixed with dense stands of pinon/juniper.
 - *Defensible Space: **Priority Level: High***
Some homes in the study area have adequate defensible space; however most homes on the neighborhood boundaries have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Eby Creek.
 - *Fuels Breaks: North Eby Creek Fuel Break: **Priority Level: High***
The mix of public and private lands above the Castle Peak Road area consists of continuous mature sage and old growth pinon/juniper. Mowing operations in the sage flat to the north of the water tank should be implemented to connect with the fuel break below the power line corridor. In this area, approximately 70-80% of mature sage should be removed to reduce fuel loading and improve wildlife habitat. Pinon/juniper stands should be thinned to achieve 10-20ft canopy separation with all ladder fuels removed (*ie. lower branches to 1/3 height of tree, and understory brush*).
 - *Maintain Existing Fuel Breaks: **Priority Level: Moderate***
In 2004, a 55 acre fuel break was created near the western edge of the neighborhood on adjacent BLM managed lands. In 2006 a 9 acre hand treatment of the area known as Neilson Gulch was completed on HOA open-space within the neighborhood. Long-term maintenance of these treatment areas will be needed in order to maintain effective fuel-breaks.
- ❖ **Improve Access:** There is currently only one access point to Eby Creek via Mesa Drive.
 - *Secondary Access (Egress): **Priority Level: Moderate***
A non-maintained, 4WD road connects Eby Creek to ranch-lands north of the subdivision. The road is less than 0.8 miles in length and can be accessed from Neilson Gulch Road at the intersection with Mesa Drive. This non-maintained road is in need of improvement in order to accommodate 4WD vehicles, and potentially Type VI engines. Road improvements and access easements should be investigated and implemented in order to create a viable secondary access point to the neighborhood.
- ❖ **Fire Resistant Construction:** Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Upper Kaibab

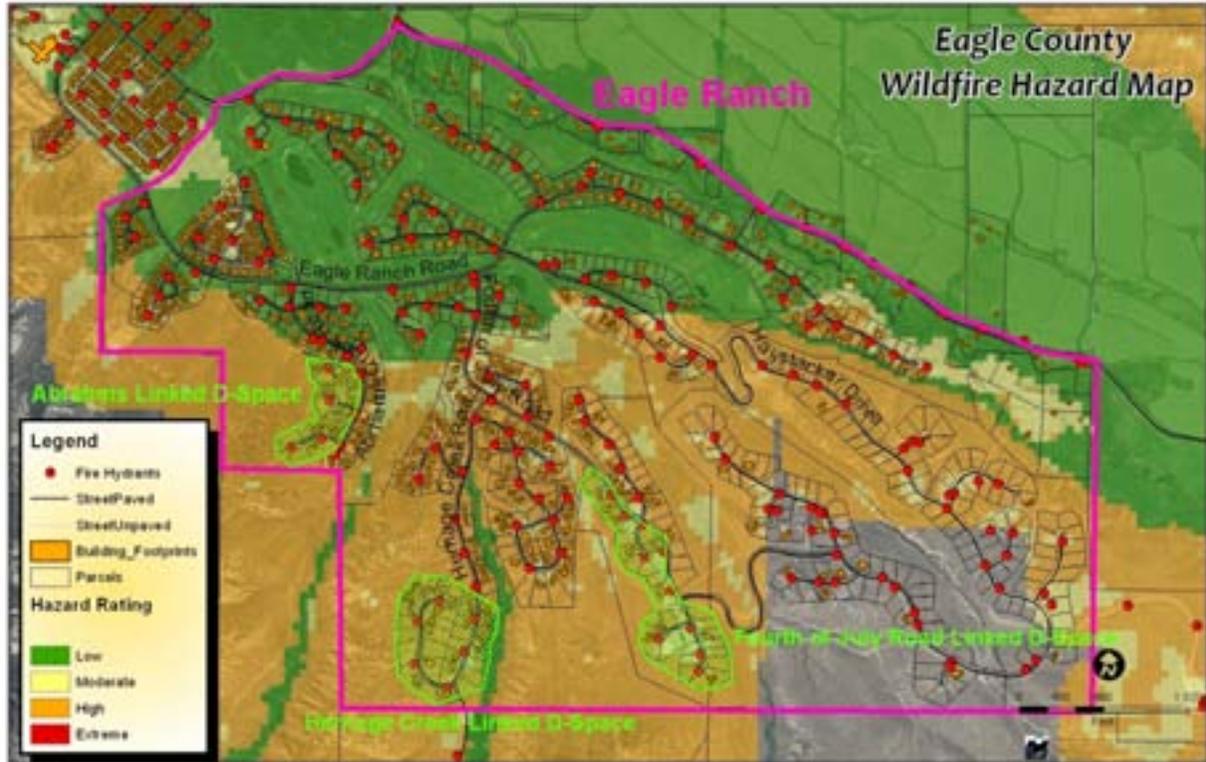
Upper Kaibab is an unincorporated neighborhood adjacent to the eastern boundaries of the town of Eagle. Many of the properties maintain their agricultural roots with horses and other livestock present. The primary vegetation types in the community consist of grass and sage, and discontinuous pinon/juniper stands, which grow against many homes on the perimeter of the community. These light, flashy fuels will act to spread fire quickly, especially when driven by high winds. The southeast section of the community borders BLM lands consisting of steep, narrow drainages. These drainages will act to further increase rates of spread by funneling winds and heat from a growing fire. While homes in the center area of the community have pasture land and decent defensible space, many homes on the perimeter do not. Clearing of sage brush and thinning trees behind homes in conjunction with mowing of grasses would help protect these areas. Street signs throughout the community are metal and reflective, while home addresses are not reflective.

Fire Management Objectives: Upper Kaibab

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Upper Kaibab fuels can be characterized by tall grass and brush, mixed with discontinuous pinon/juniper.
 - *Defensible Space: **Priority Level: High***
Implement effective defensible space around every home in Upper Kaibab (*see page 22 for Defensible Space Guidelines*). Of particular concern are the homes located around the neighborhood's perimeter.
 - *Linked Defensible Space: Green Mountain Drive. - **Priority Level: High***
Linked defensible space around homes on Green Mountain Drive would act as a larger fuel break protecting homes in the neighborhood from ignitions caused by human activity in the town below.

- ❖ **Fire Resistant Construction:** Homes built in Upper Kaibab after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in Upper Kaibab prior to 2006 have wood siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Eagle Ranch

Located on the southern edge of the Town of Eagle, Eagle Ranch surrounds an 18-hole golf course, which will provide great safety zones in the event of a wildfire. The primary fuels in the community are grass, sage, and juniper, all of which will actively spread fire, especially during a strong wind event. During such an event, rates of spread have the potential to be so fast that firefighters may not be able to respond in time. Most homes have some level of defensible space due to the presence of the golf course, and coupled with the fact that the development is relatively new and the type of landscaping that has been done around the homes. However, combustible fuels abut most homes on at least one side. A several drainages and open space parcels run through the middle of the community, which will further act to increase rates of spread and could potentially result in fire reaching the interior of the community. Most of the streets in Eagle Ranch end in cul-de-sacs creating one way in and out of some neighborhoods. Pressurized fire hydrants can be found throughout the area.

Fire Management Objectives: Eagle Ranch

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Eagle Ranch fuels can be characterized by tall grass and brush, mixed with discontinuous pinon/juniper.
 - *Defensible Space: **Priority Level: High***
Implement effective defensible space around every home in Eagle Ranch (*see page 22 for Defensible Space Guidelines*). Of particular concern are the homes located around the neighborhood's perimeter.
 - *Linked Defensible Space: **Abrahms Creek, Hernage Creek and Fourth of July Roads - Priority Level: High***
Linked defensible space around homes in these areas would act as a larger fuel break protecting homes in the neighborhood from ignitions caused ember showers from fires adjacent to the community.
- ❖ **Fire Resistant Construction:** Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Fulford

The old mining town of Fulford is located approximately 20 miles southeast of Eagle. Once known as Camp Nolan, this former mining camp has been turned into a summer refuge for many Eagle County residents. Though the town has only one year-round resident, there are dozens of small cabins that are inhabited from late-spring through the fall. The area is completely surrounded by White River National Forest, with one access route via Forest Service Road 418 (aka: Nolan Creek Road). At approximately 10,000 feet, the community's primary vegetation types are lodgepole pine and spruce-fir. Fire return intervals are in the hundreds of years for these forests and normally will occur only under extreme weather conditions. Homes in Fulford are built on parcels that were created when the area was a mining camp, requiring that each owner have at least two lots to build a small cabin. This makes defensible space work very difficult as property lines often do not extend beyond building footprints. Most of the homes in Fulford are located in a meadow surrounding Nolan Creek. Vegetation near homes is primarily tall-grass and willow, with a few homes on the edge of town tucked into the spruce-fir. Street signs and address markers are non-existent. Building design varies greatly throughout Fulford. A handful of homes have been built within the last 10 years, but the majority of the buildings are as old as the town itself having recently been remodeled to accommodate new owners. There is limited water in Fulford, consisting primarily of a gravity fed hydrant system with draft points at a few locations in the center of town.

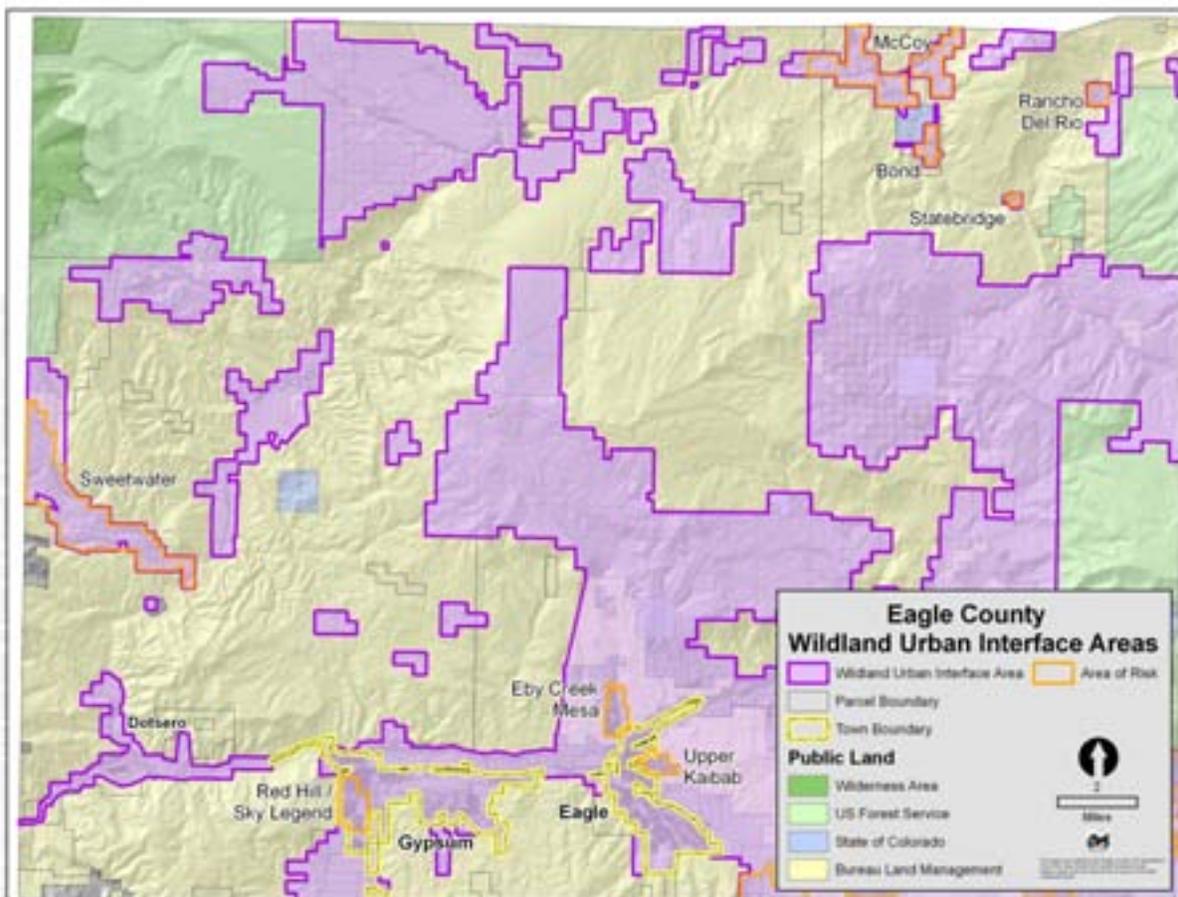
Fire Management Objectives: Fulford

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 8, 10. Other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Fulford fuels are characterized by mature lodgepole pine and spruce-fir forests. Tall grass and riparian vegetation can be found near Nolan Creek.
 - *Defensible Space: **Priority Level: High***
Several homes in the study area have adequate defensible space; however most homes on the neighborhood boundaries have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Fulford.
 - *Fuels Breaks -Town Boundaries: **Priority Level: Moderate***
Build off existing fuel break along Fulford’s boundary with National Forest. In this area, approximately 70-80% of regenerating spruce-fir and all dead and down trees should be removed to reduce surface fuel loading. Spruce-fir stands should be thinned to achieve 10-20ft canopy separation with all ladder fuels removed (*ie. lower branches to 10ft or 1/3 height of tree, and understory brush*). Explore “Good Neighbor” policy with WRNF to extend treatment on the National Forest.
- ❖ **Improve Access:** There is currently only one access point to Fulford via FS RD 418.
 - *Secondary Access (Egress): **Priority Level: High***
A non-maintained, 4WD road connects Fulford to the Sylvan Lake State Park Yurts. This non-maintained road is in need of improvement in order to accommodate 4WD vehicles, and potentially Type VI engines. Road improvements and access easements should be investigated and implemented in order to create a viable secondary access point to the neighborhood.
- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Water: **Priority Level: High***
There is very little available water in Fulford. A large community cistern and hydrant system to provide additional water for fire suppression within Fulford will improve firefighting capabilities and minimize water shuttling along the one point of access to the neighborhood. On-site water storage is vital to protecting homes during a wildfire. Fulford has junior water rights to Nolan Creek, and should work to improve water availability for fire suppression.

Eagle County CWPP



Gypsum Fire Protection District: Located in Central Eagle County, Gypsum FPD is a combination department of paid and volunteer fire-fighters, able to respond to all alarms within their district. The District includes the town of Gypsum, and the rural communities of Dotsero, Sweetwater and the Colorado River Road below Burns. The department has a prevention program that provides fire code inspections, training opportunities, burn permits and controlled burn assistance.



Eagle County CWPP



Red Hill

Red Hill is a residential neighborhood in the town of Gypsum, Colorado. The community is made up of approximately 100 home sites within the Wildland Urban Interface, and borders public lands on its western and southern boundaries. The dominant vegetation throughout the study area is pinon pine and juniper with short grass and mature sagebrush understory varying in coverage from uniformly dispersed pinon-juniper stands to continuous stands with significant ladder fuels. Small sections of riparian vegetation are present near water sources and drainages. Native and non-native ornamental grass, trees, and shrubs of various types can be found near home-sites as elements of residential landscaping.

This neighborhood has seen ongoing residential development for several decades. As a result, many lots have very mature landscaping and natural vegetation within the home ignition zone. In general, the upper portions of the neighborhood can be characterized by steep slopes, and high fuel densities. Most of the streets on Red Hill end in cul-de-sacs creating one way in and out of some neighborhoods. Pressurized fire hydrants can be found throughout the area. The neighborhood has above-ground power lines following streets with delivery lines leading to most houses.

Fire Management Objectives: Red Hill

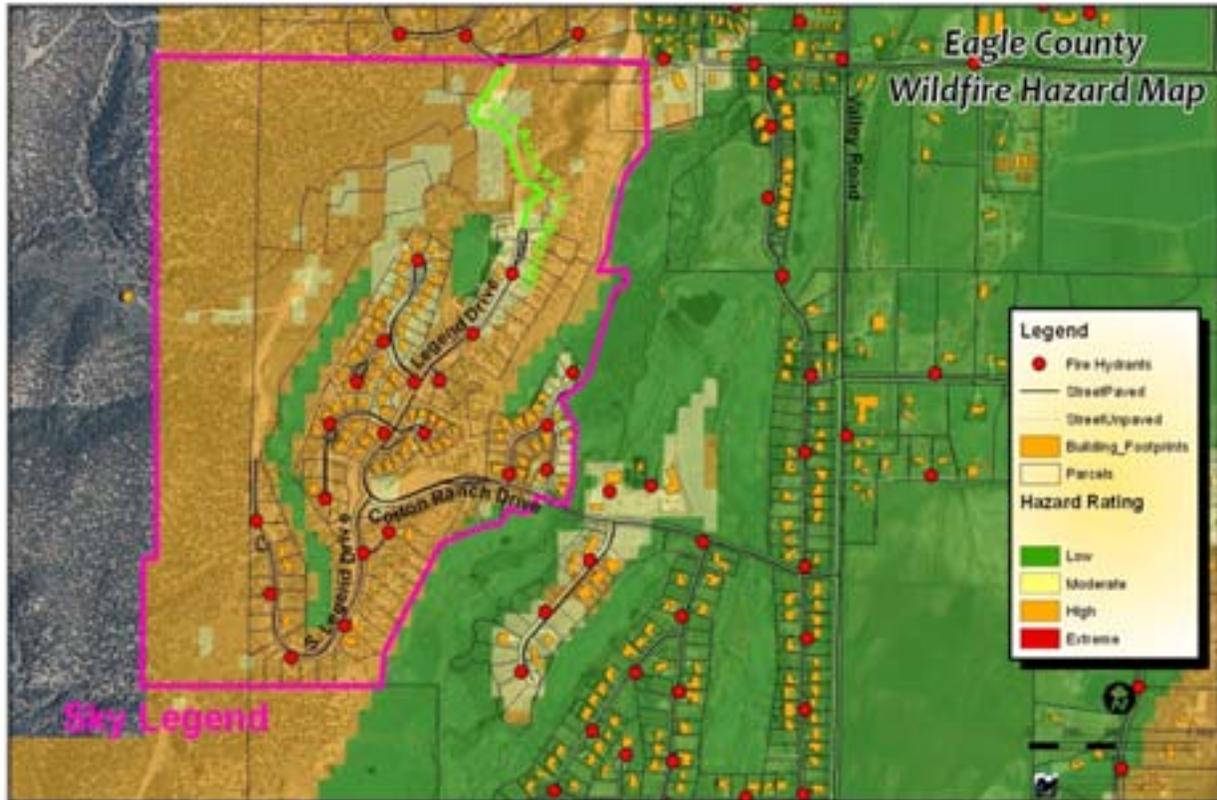
- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Red Hill fuels are characterized by a grass and sagebrush understory as well as dense pinon-juniper woodlands. In general, the area is comprised of significant surface fuels with continuous, closed canopy stands of pinon-juniper near homes.
 - *Defensible Space: **Priority Level: High***

Most homes on Red Hill have little to no defensible space. Many homes have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). Some homes have irrigated lawns, but they account for small portion the overall landscape. At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site on Red Hill.
 - *Linked Defensible Space: Cedar Drive / Strohm Circle- **Priority Level: High***

Linked defensible space around homes in these areas would act as a larger fuel break protecting homes in the neighborhood from ignitions caused ember showers from fires on the hillside above the community.
- ❖ **Improve Access:** The only access point to the southern portion of Red Hill is Strohm Circle, with several homes on Knob Lane and Sunset Lane at the end of long dead-end streets (*or cul-de-sacs*).
 - *Maintain Secondary Access (Egress): **Priority Level: High***

A recently constructed dirt road connects Red Hill to the Sky Legend subdivision. The road is less than 0.5 miles in length and can be accessed from Sunset Lane on the Red Hill side, or from the end of Legend Drive in Sky Legend. Road improvements and access easements should be investigated and implemented in order to create a viable secondary access point to the neighborhood.
- ❖ **Fire Resistant Construction:** There is widespread use of fire-resistant siding (*stucco and stone*) and composite roofing associated with recently constructed homes on Red Hill. Some wood siding exists throughout the study area. Most houses have conventional wood decks, and many of the neighborhood's older homes have wood shake roofs. Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Requirements for Wildfire Areas.

Eagle County CWPP



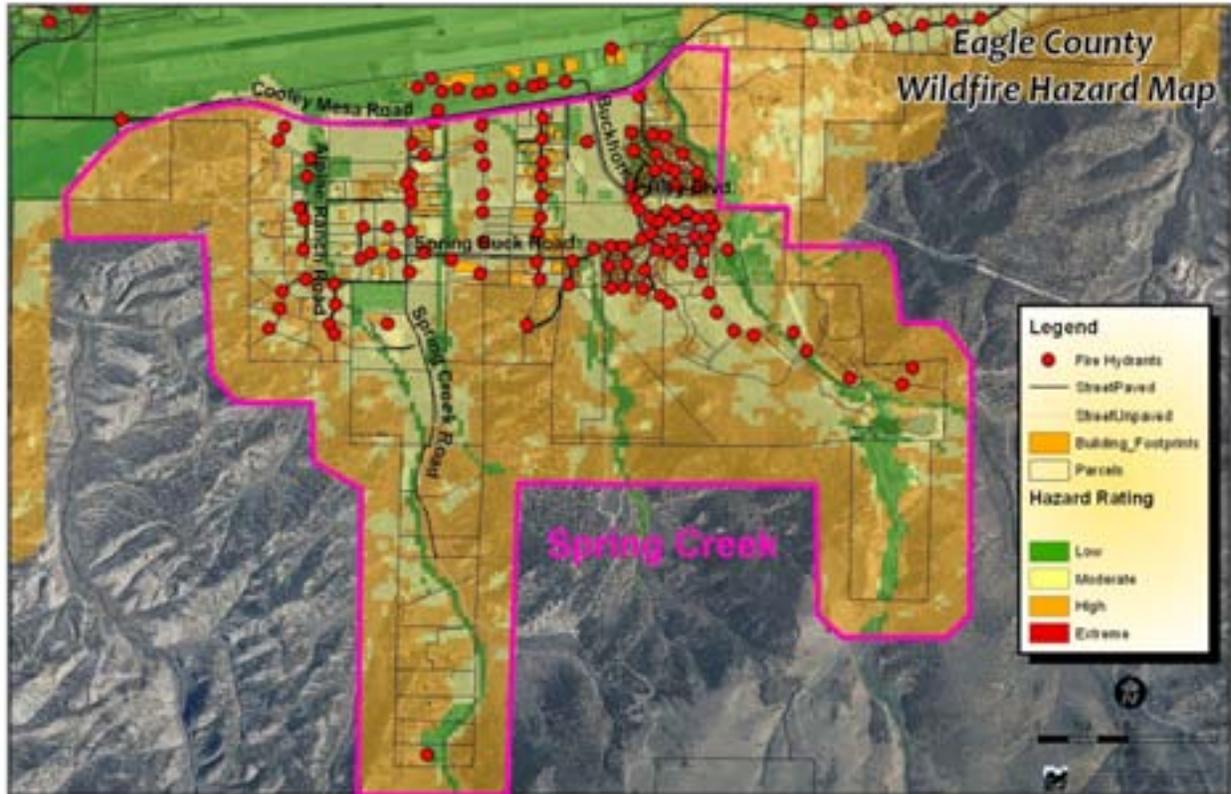
Sky Legend

Sky Legend is a residential community within the town of Gypsum that is surrounded by an 18-hole public golf course. The community is made up of approximately 80 homes within the Wildland Urban Interface, and borders public lands on its western boundary. The primary fuels in the community are grass, sage, and juniper, all of which will actively spread fire, especially during a strong wind event. During such an event, rates of spread have the potential to be so fast that firefighters may not be able to respond in time. Most homes have some level of defensible space protection due to the presence of the golf course, and the fact that the development is relatively new. However, combustible fuels abut most homes on at least one side. Many of the streets in Sky Legend end in cul-de-sacs creating one way in and out of some neighborhoods. Pressurized fire hydrants can be found throughout the area.

Fire Management Objectives: Sky Legend

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Sky Legend fuels can be characterized by discontinuous sage and pinon-juniper broken up by golf-course fairways within the neighborhood, and continuous pinon-juniper woodlands on the community's western boundary.
 - *Defensible Space: **Priority Level: High***
Several homes in the study area have adequate defensible space; however most homes on the neighborhood's boundaries have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Sky Legend.
 - *Maintain Existing Fuel Breaks: **Priority Level: Moderate***
In 2010, fuel reduction work was conducted on 40 acres of BLM managed lands to the west of Sky Legend. Long-term maintenance of these treatment areas will be needed in order to maintain effective fuel-breaks. Future landscape fuel reduction projects should seek to expand on these existing treatment areas.
- ❖ **Improve Access:** The only access point to the northern portion of Sky Legend is via Legend Drive.
 - *Maintain Secondary Access (Egress): **Priority Level: High***
A recently constructed dirt road connects Red Hill to the Sky Legend subdivision. The road is less than 0.5 miles in length and can be accessed from Sunset Lane on the Red Hill side, or from the end of Legend Drive in Sky Legend. There is a hydrant on the Sunset Lane side, and most vehicles should be able to drive it with relative ease. Road improvements and access easements should be investigated and implemented in order to create a viable secondary access point to the neighborhood.

Eagle County CWPP



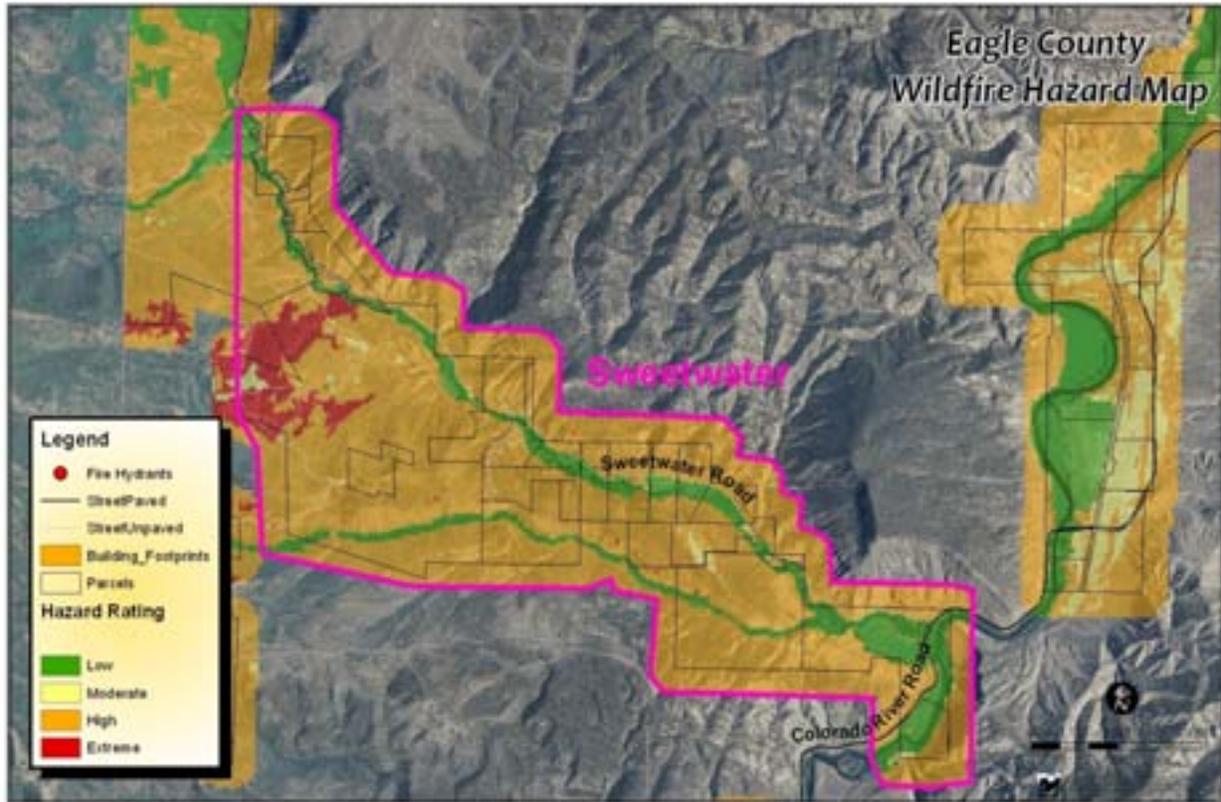
Spring Creek

Spring Creek is a mixed-use community partially within the Town of Gypsum and unincorporated Eagle County. The study area encompasses the Airport Industrial Park directly across the street from the Eagle County Airport; the Buckhorn Valley residential development; and the residential and agricultural lands within the Spring Creek Drainage. The primary fuels in this community are grass, sage, and juniper, all of which will actively spread fire, especially during a strong wind event. During such an event, rates of spread have the potential to be so fast that firefighters may not be able to respond in time. Pasture land along Spring Creek Road, and site-disturbance associated with construction of a new golf course near Buckhorn Valley may aid in slowing rates of spread through some parts of the study area; however large expanses of tall grass and mature sagebrush remain within these areas potentially allowing fire to reach the door of several residences. Many homes are located on the edge of the steep hillsides, and will be more susceptible to fire spread uphill. Rapid rates of spread can be expected in these steep areas, especially those containing grass and sage. There are pressurized hydrants throughout the Airport Industrial Park and Buckhorn Valley (but not along Spring Creek Road).

Fire Management Objectives: Spring Creek

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Spring Creek fuels can be characterized by mature sage and pinon/juniper broken up by golf-course fairways, pasture lands within portions of the neighborhood, and continuous sage and pinon/juniper woodlands on the community's boundaries.
 - *Defensible Space: **Priority Level: High***
Several homes in the study area have adequate defensible space; however most homes on the neighborhood boundaries have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Spring Creek.
 - *Spring Creek Drainage Fuel Reduction: **Priority Level: High***
The mix of public and private lands above Spring Creek Road consists of continuous mature sage and old growth pinon/juniper. Mowing operations in the sage flats along the road should be implemented to connect with residential defensible space and existing pasture land. Pinon/juniper stands should be thinned to achieve 10-20ft canopy separation with all ladder fuels removed (*ie. lower branches to 1/3 height of tree, and understory brush*).
- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Water: **Priority Level: High***
There is very little available water Spring Creek Road; limited to one cistern at the end of the road (capacity unknown). A large community cistern (minimum 10,000gal) to provide additional water for fire suppression centrally located on Spring Creek Road will improve firefighting capabilities and minimize water shuttling along the one point of access to the neighborhood. On-site water storage is vital to protecting homes during a wildfire. Additional water storage should be installed at every home in the area.
- ❖ **Fire Resistant Construction:** Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Guidelines for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Sweetwater

The Sweetwater community is located approximately 7 miles north of the I-70 corridor, accessed from Dotsero via the Colorado River Road. Most of the homes in the area are located immediately along Sweetwater Road. Access into the community turns from pavement to dirt as soon as you leave the Colorado River Road, and there are many narrow side roads with poor turnaround areas. Some homes are located mid-slope, as well as atop steep hills and at the bases of hillside drainages. A wide variety of fuel types are in the community, including grass, sage, juniper, aspen, and spruce-fir. The rolling hills and drainages in the community, along with light, flashy fuels such as grass and sage, will act to spread fire quickly throughout the area. Many homes in the community lack adequate defensible space, and fire resistive construction. There are no fire hydrants along Sweetwater Road, the only water available for firefighting is limited to Sweetwater Creek and the Colorado River. Some homes have address markers, but most do not. There is no cell phone coverage in the area potentially creating problems for evacuating residents.

Eagle County CWPP

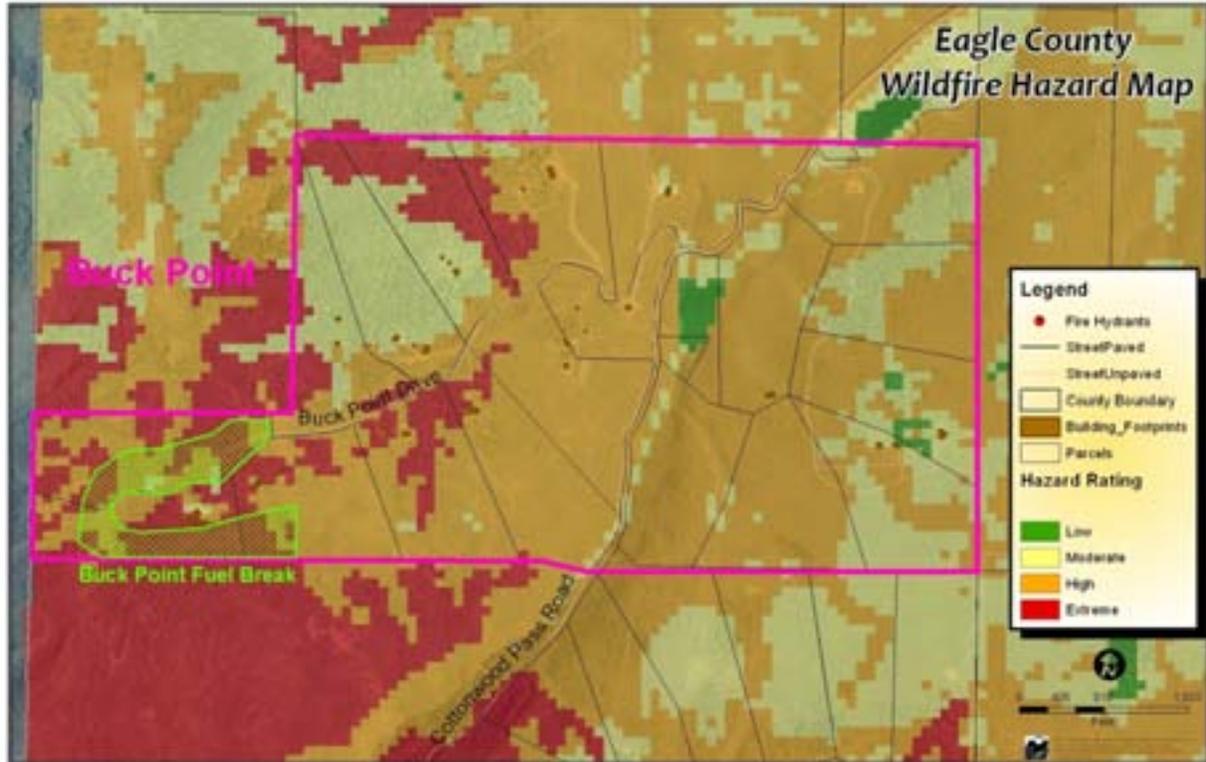
Fire Management Objectives: Sweetwater

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by six fuel models (FM): FM 1, 2, 4, 6, 8, 10; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Sweetwater fuels can be characterized by mature sage and pinon-juniper on the hillsides above the riparian vegetation located in along the river valley.
 - *Defensible Space: **Priority Level: High***
Very few homes in the study area have adequate defensible space; most have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Sweetwater.

- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Water: **Priority Level: High***
There is very little available water along Sweetwater Road; a large community cistern (minimum 10,000gal) to provide additional water for fire suppression centrally located within the community will improve firefighting capabilities and minimize water shuttling along the one point of access to the neighborhood. On-site water storage is vital to protecting homes during a wildfire. Additional water storage should be installed at every home in the area.

- ❖ **Fire Resistant Construction:** Homes built in Sweetwater after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in Sweetwater prior to 2006 have wood siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Buck Point

Buck Point (or Coulter Creek Ranch) is a small enclave of 15 homes located approximately 11 miles north of El Jebel on Cottonwood Pass Road. The neighborhood lies in between the Gypsum FPD and Basalt & Rural FPD boundaries, with both likely to respond to fires in the area. The primary vegetation in the community is tall grass and sage, with continuous stands of dense gamble-oak transitioning to aspen at higher elevations. The vegetation and topography in the vicinity of Buck Point Drive can potentially lead to fast spreading, high intensity wildfires. During the summer of 2002, the Panorama Fire burned several thousand acres within 5 miles of Coulter Creek Ranch. Under extreme weather and fuel moisture conditions, fire intensity throughout this area could become a serious issue making containment and control difficult to establish and maintain. Fire behavior in the fuel types near this property will likely be characterized by large flame lengths and increased rates of spread. A fire's rate of spread is influenced primarily by wind, slope and fuel type/continuity.

Fire Management Objectives: Buck Point

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by five fuel models (FM): FM 1, 2, 4, 6, 8; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Buck Point fuels can be characterized by tall grass and mature sage on the northern end of the study area, with dense stands of gambel-oak abutting the neighborhood to the southwest. The hillside above the neighborhood is comprised of continuous aspen stands.
 - *Defensible Space: **Priority Level: High***
Very few homes in the study area have adequate defensible space; most have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Buck Point.
 - *Fuel Breaks: **Priority Level: High***
Significant fuel reduction work should occur in the gambel-oak below the community. Fire behavior in the fuel types near this property will likely be characterized by large flame lengths and increased rates of spread. Mechanical clearing of sage and gambel-oak in conjunction with prescribed fire should occur in this area to minimize the potential for ignitions in the Coulter and Cattle Creek drainages to spread unchecked into Buck Point.

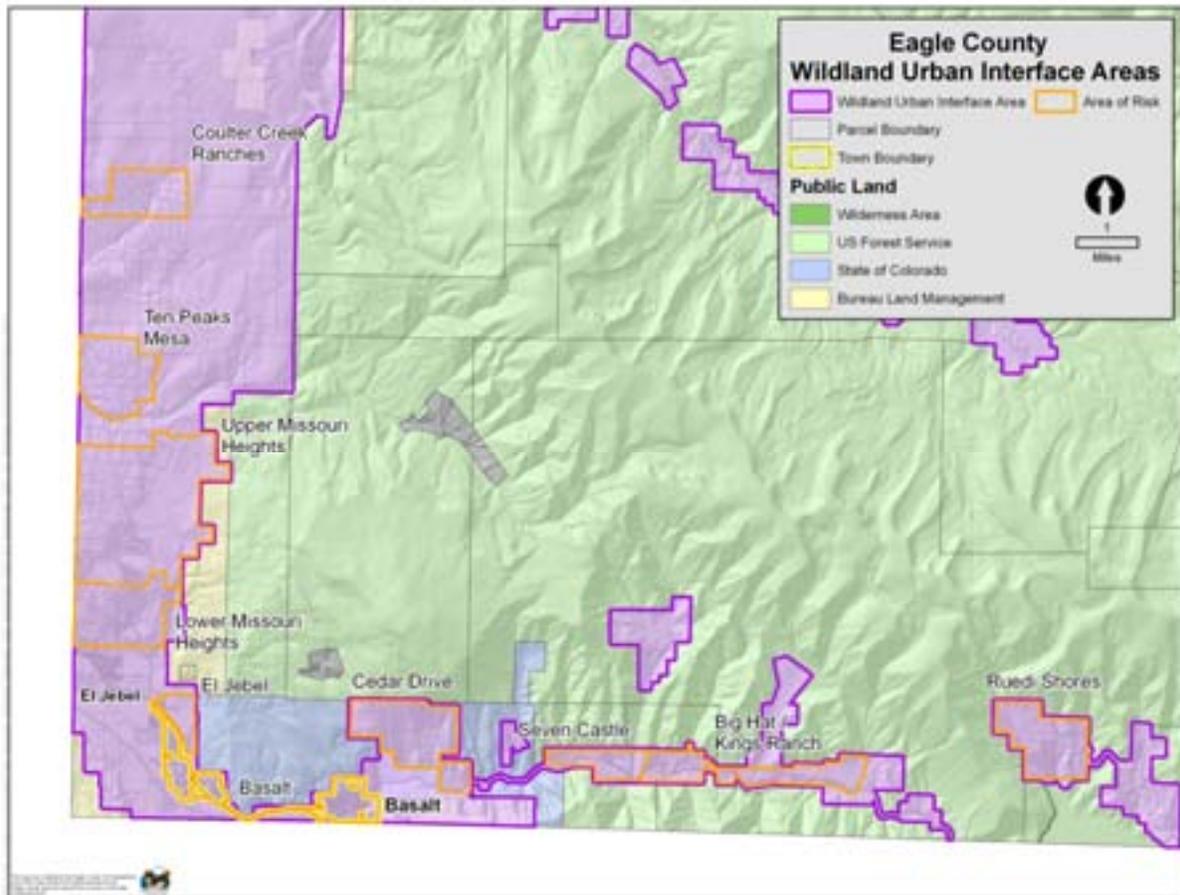
- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Water: **Priority Level: High***
There primary water sources for Buck Point are the two small reservoirs and Coulter Creek below the neighborhood; A large community cistern (minimum 10,000gal) to provide additional water for fire suppression centrally located within the community will improve firefighting capabilities and minimize water shuttling along the one point of access to the neighborhood. On-site water storage is vital to protecting homes during a wildfire. Additional water storage should be installed at every home in the area.

- ❖ **Fire Resistant Construction:** Homes built in Buck Point after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

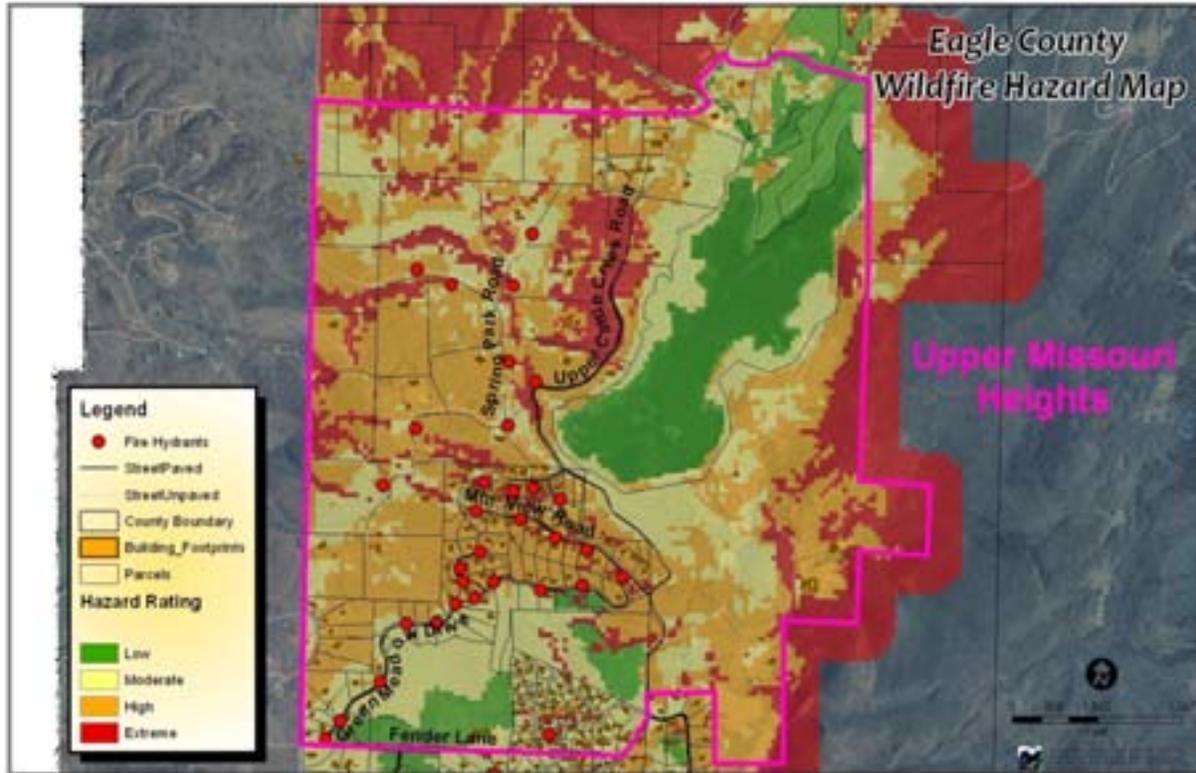
Eagle County CWPP



Basalt and Rural Fire Protection District: Encompassing an area of 492 square miles from Highway 82 near Carbondale, the district follows the Frying Pan River east to the Continental Divide. The Basalt and Rural FPD provides emergency and non-emergency services throughout Basalt, Colorado and the surrounding areas. This includes 24-hour emergency response to a wide variety of critical situations, including structural, wildland, and urban interface fires. The department also operates active fire prevention and emergency preparedness programs which provides for fire inspections, burn permits, fire code enforcement, community education, and business emergency planning in accordance with Colorado laws. The department maintains four fire stations in Snowmass, Basalt, Thomasville and El Jebel.



Eagle County CWPP



Upper Missouri Heights

Missouri Heights is a large residential area located on the mesa above El Jebel and the Highway 82 corridor. For the purpose of this study, Missouri Heights was divided into two communities (Upper and Lower). Each community represents certain typical hazards from a wildfire perspective. The area can be accessed from Highway 82 via El Jebel Road which becomes Upper Cattle Creek Road as it travels through Missouri Heights, or from Garfield County via County Road 102 which becomes Fender Lane. The primary vegetation in Upper Missouri Heights is gambel-oak with a short grass and sagebrush understory, varying in coverage from uniformly dispersed sage to continuous stands of dense oak. Small sections of riparian vegetation are present near water sources and drainages, and a large tall grass meadow runs through the center of the community. Native and non-native ornamental grass, trees, and shrubs of various types can be found near home-sites as elements of residential landscaping. The Panorama Fire in 2002 burned through the upper reaches of the community. This fast-moving wildfire, which spread to 1,500 acres in less than five hours, destroyed three residences and damaged two others. The rolling hills and drainages in this community, along with light, flashy fuels such as grass, sage and oak, will act to spread fire quickly throughout the area. Under extreme weather and fuel moisture conditions, fire intensity throughout Upper Missouri Heights could become a serious issue making containment and control difficult to establish and maintain. Many homes in the community lack adequate defensible space, and some neighborhoods have high housing densities. Pressurized fire hydrants can be found throughout the area. The neighborhood has above-ground power lines following streets with delivery lines leading to most houses.

Fire Management Objectives: Upper Missouri Heights

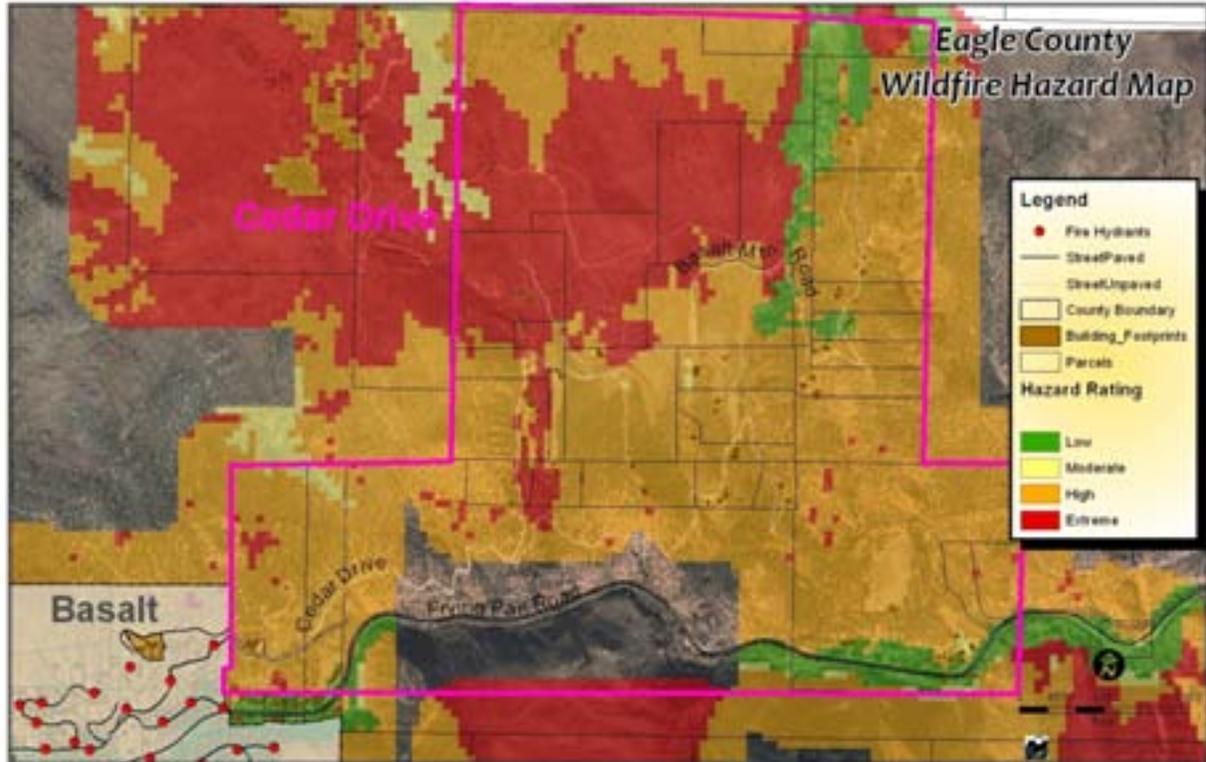
- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Upper Missouri Heights fuels can be characterized by tall grass meadows intermixed with sage on the interior of the study area, with dense stands of gambel-oak abutting the neighborhood to the northwest boundaries.
 - *Defensible Space: **Priority Level: High***
Very few homes in the study area have adequate defensible space; most have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Missouri Heights.
 - *Linked Defensible Space: **Priority Level: High***
Linked defensible space in areas of higher housing densities would act as a larger fuel break protecting homes in the neighborhood from fast moving wildfires in the huge expanses of sage and oak surrounding the community.
- ❖ **Fire Resistant Construction:** Homes built in Missouri Heights after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood siding and conventional (non-fire rated) decks, and several have wood shake roofing. Homes that survived the Panorama Fire in 2002 had some elements of ignition resistant construction present in the building's design. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP

Fire Management Objectives: Lower Missouri Heights

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (FM): FM 1, 2, 4, 6; other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Lower Missouri Heights fuels can be characterized by tall grass meadows intermixed with sage on the interior of the study area, with continuous stands of mature pinon-juniper abutting the neighborhood on the southern boundaries.
 - *Defensible Space: **Priority Level: High***
Very few homes in the study area have adequate defensible space; most have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Missouri Heights.
 - *Linked Defensible Space: Cabello – **Priority Level: High***
Linked defensible space around homes in this area would act as a larger fuel break protecting the neighborhood from ember showers generated by wildfires in the huge expanses of pinon-juniper surrounding the community.
 - *Fuel Breaks: Upper Cattle Creek Rd. - **Priority Level: Moderate***
Fuel reduction work along the utility access below the community would minimize the potential for ignitions in the El Jebel Valley to spread unchecked into Lower Missouri Heights.
- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Water: **Priority Level: High***
There are no pressurized hydrants on Sunset Lane or Vista Hi Drive, A large community cistern (10,000 gal) was installed by Basalt Fire at the end of Sunrise Lane to provide additional water for fire suppression. More centrally located water cisterns within the community will improve firefighting capabilities and minimize water shuttling along the one point of access to these areas. On-site water storage is vital to protecting homes during a wildfire. Additional water storage should be installed at every home in the area.
- ❖ **Fire Resistant Construction:** Homes built in Missouri Heights after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations Many, if not all, of the homes built in the area prior to 2006 have wood siding and conventional (non-fire rated) decks, and several have wood shake roofing. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP

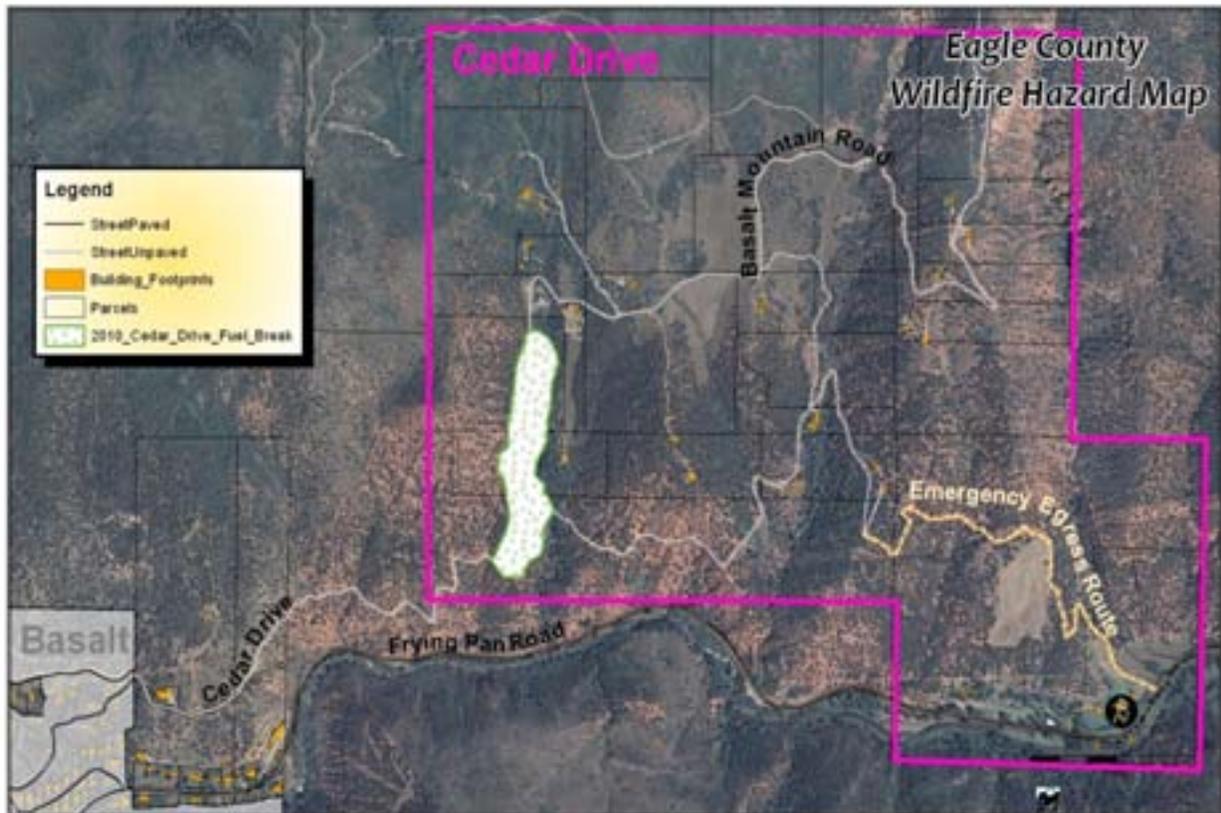


Cedar Drive - Basalt

The area commonly referred to as Cedar Drive is a neighborhood comprised of 29 homes located approximately 2 miles East of Basalt, Colorado. The subdivision has one primary access point via Cedar/Basalt Mountain Drive; both are very narrow roadways with sharp switch backs and steep slopes below and above. It will be extremely difficult and potentially dangerous for firefighting personnel to access the area in the event of a fire. The dominant vegetation throughout the study area is pinon pine and juniper, with short grass and sage/oak-brush understory, varying in coverage from uniformly dispersed pinon-juniper stands to continuous stands with significant ladder fuels. Topography in the area can be characterized by steep slopes, with homes located on ridgelines and near natural chimney features. The neighborhood has above-ground power lines with delivery lines leading to most houses. Large transmission lines run below the community on its southern borders. Many homes in the area that have wood roofing and wood siding, and most houses have conventional non-enclosed wood decks. The only water available for fire suppression on Cedar Drive is limited to a small creek running through the center of the neighborhood, and a few small ponds near homes on Basalt Mtn. Drive.

Fire Management Objectives: Cedar Drive

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by 4 fuel models (Anderson FM): FM 1, 2, 4, 6. Other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Cedar Drive fuels can be characterized by old growth trees mixed with mature tall shrubs. In general, the area is comprised of closed canopy pinon/juniper stands, with little to no surface fuels at lower elevations; and mature tall shrubs (primarily sage and gambel oak) at the upper reaches of the neighborhood.
 - *Defensible Space:* **Priority Level: High**
Many homes have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site on Cedar Drive.
 - *Fuels Breaks:* **Priority Level: High**
Landscape fuel reduction projects should seek to protect the only ingress/egress point to the area via Cedar Drive. A 15 acre fuel break was created at the entrance to the neighborhood in 2010. This treatment area should be expanded and maintained overtime.



Eagle County CWPP

❖ **Improve Fire Fighting Infrastructure/Response:**

- *Water: **Priority Level: High***

There is very little available water On Cedar Drive; limited to a few small ponds and draught points along the creek running through the neighborhood. A large community cistern (minimum 10,000gal) to provide additional water for fire suppression within Cedar Drive will improve firefighting capabilities and minimize water shuttling along the one point of access to the neighborhood. On-site water storage is vital to protecting homes during a wildfire. Additional water storage should be installed at every home on Cedar Drive.

- *Safety Zones: **Priority Level: High***

Reliable safety zones are at a premium within the Cedar Drive neighborhood, but some do exist. There is a large meadow of the area at the entrance to Basalt Mountain Ranch. This would be a good location for a large tank or cistern. Given the poor access and fuels below this part of the neighborhood, it is of paramount importance to maintain this area as a viable safety zone. The tall-grass in the meadow should be cut, or have animals graze on it, during fire season to keep it low to the ground.

❖ **Improve Access:** Access to the neighborhood is extremely poor. Property owners and emergency responders are forced to enter/exit the neighborhood via a single-lane dirt road, with several switchbacks and severe drop-offs from the roadway. In 2008, a wildland fire trapped residents when the only route in and out of the neighborhood was compromised.

- *Secondary Access (Emergency Egress): **Priority Level: High***

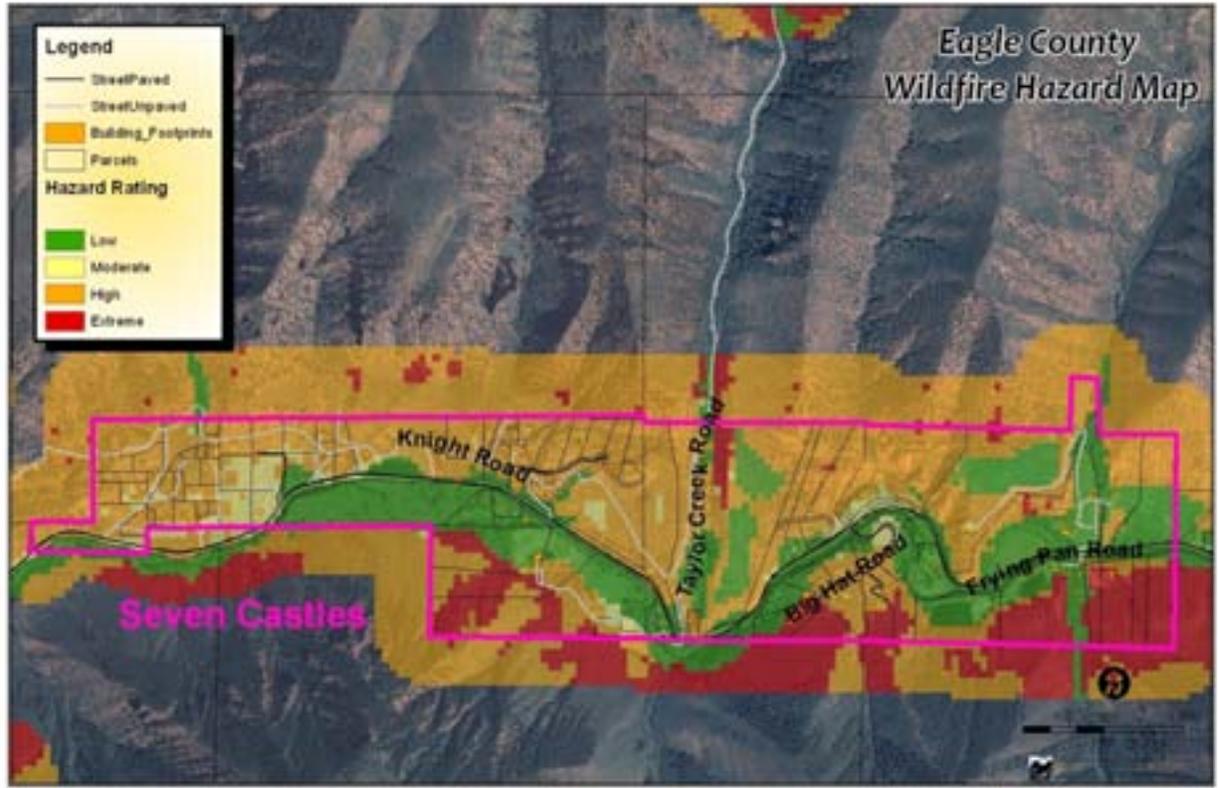
A non-maintained 4WD road connects Cedar Drive to the Frying Pan Road via an adjacent property. The road is less than 0.8 miles in length and can be accessed from the end of Basalt Mountain Drive. This non-maintained road is in need of improvement in order to accommodate 4WD vehicles, and potentially Type VI engines. Road improvements and access easements should be investigated and implemented in order to create a viable secondary access point to the neighborhood.

- *Primary Access (Ingress): **Priority Level: High***

Road improvements to the lower section of Cedar Drive are vital to protect the life safety of homeowners and emergency responders entering the area. Where ever possible, road widths should be increased and emergency turn-outs should be created to facilitate traffic flow both in and out of the area during a fire. Guardrails should be installed at several points along the road to protect large fire-fighting apparatus from slipping off the driving surface.

❖ **Fire Resistant Construction:** Many, if not all, of the homes built in the area prior to 2006 have wood siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Seven Castles

The Seven Castles community is located approximately 4 miles east of Basalt on the Frying Pan Road. The study area is comprised of both the Knight Road and Big Hat neighborhoods, as well as several individual home-sites along the Frying Pan River. Emergency responders will have to cross rated bridges in order to access most homes in the community. Bridge ratings are clearly marked, but most homes do not have address markers. The primary vegetation through the area is tall grass and sage, mixed with gambel-oak and isolated juniper. North facing aspects in the Frying Pan River valley, like those in the Big Hat area, have considerably higher fuel densities. The hillside above the community is comprised of continuous stands of Douglas-fir. The rolling hills and drainages in the community, along with light, flashy fuels such as grass and sage, will act to spread fire quickly throughout the area. Many homes in the community lack adequate defensible space, and some neighborhoods have only one way in and out. Available water in the Seven Castles community is limited to the Frying Pan River and one cistern (5,000 gals) along Knight Road, and a dry hydrant in the Big Hat neighborhood.

Fire Management Objectives: Seven Castles

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by 5 fuel models (Anderson FM): FM 1, 2, 4, 6, 10. Other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Seven Castles fuels can be characterized by tall grass and sage/oak at lower elevations, old growth trees mixed with mature tall shrubs high on the valley walls.
 - *Defensible Space: **Priority Level: High***

Most homes in the study area have little to no defensible space; there is a lack of available water and poor access to the home-sites. Many homes have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site on Cedar Drive.
 - *Fuels Reduction – Big Hat : **Priority Level: High***

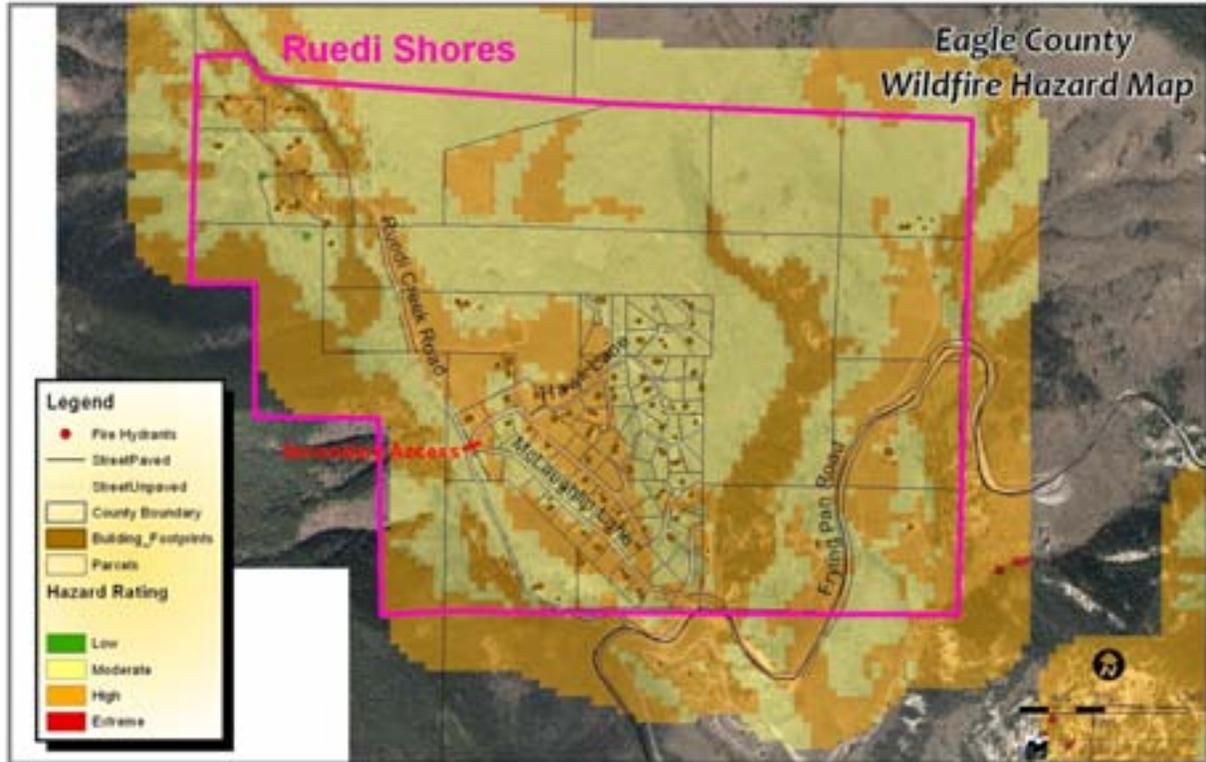
Many homes are built on the edge ridgelines or ravines. Landscape fuel reduction projects should seek to protect the only ingress/egress point to the area via Big Hat Road and to minimize fuel densities along the community’s boundaries.

- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Water: **Priority Level: High***

There is very little available water in Seven Castles; limited to a few cisterns and draught points along the Frying Pan River. A large community cistern (minimum 10,000gal) to provide additional water for fire suppression along Knight Road will improve firefighting capabilities and minimize water shuttling along the one point of access to the neighborhood. On-site water storage is vital to protecting homes during a wildfire. Additional water storage should be installed at every home in Seven Castles.

- ❖ **Fire Resistant Construction:** Homes built in Seven Castles after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County’s Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Ruedi Shores

Ruedi Shores is located approximately 20 miles east of Basalt above the Ruedi Reservoir. The area is accessed from the Frying Pan Road via Ruedi Creek Road or McLaughlin Lane. A wide variety of fuel types are in the community, including grass, sage, juniper, gambel-oak, service berry, aspen, and spruce-fir. The rolling hills and drainages in the community, along with light, flashy fuels such as grass and sage, will act to spread fire quickly throughout the area. Most homes in the community are located in a tall grass meadow along McLaughlin Lane, or tucked into the aspens at the far reaches of the neighborhood. Access to homes is generally good, though there is only one way in and out of the community. A pressurized fire hydrant system was recently installed in the neighborhood, providing much needed water for fire suppression in the isolated community. There is a volunteer fire dept. just up the road in Meredith; but with the nearest staffed fire station in Basalt, response times to the area will likely be in excess of 45 minutes.

Fire Management Objectives: Ruedi Shores

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by 6 fuel models (Anderson FM): FM 1, 2, 4, 6, 9, 10. Other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Ruedi Shores fuels can be characterized by tall grass and mtn. shrub at the neighborhood's interior, with spruce-fir mixed with mature tall shrubs and aspen in drainages and along the neighborhood's boundaries.
 - *Defensible Space: **Priority Level: High***
Most homes in the study area have little to no defensible space; there is a lack of available water and poor access to the home-sites. Many homes have a combination of native and ornamental conifers and other flammable vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in Ruedi Shores.

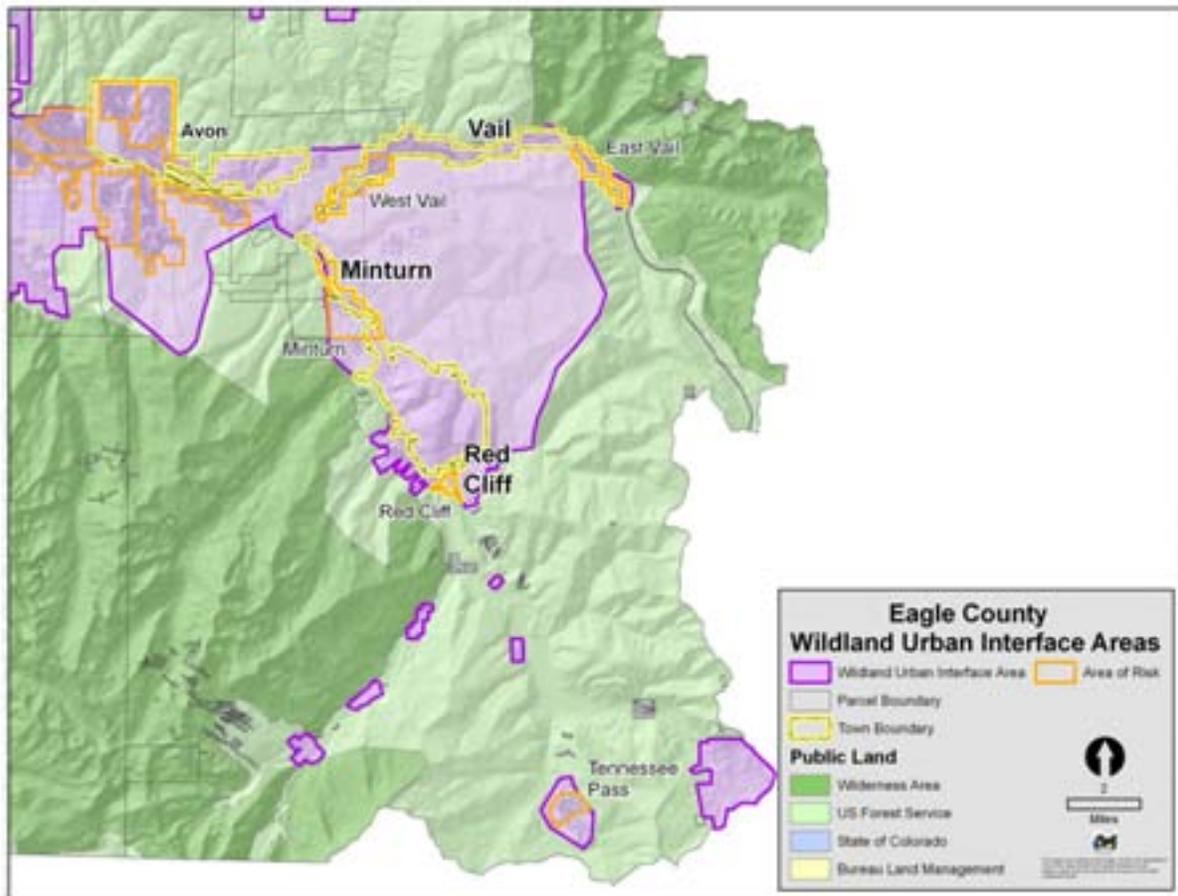
- ❖ **Improve Access:**
 - *Secondary Access – McLaughlin Lane and Ruedi Creek Road: **Priority Level: High***
McLaughlin Lane and Ruedi Creek Road come within 100ft of each other towards the center of the community. Large boulders have been placed in between the two roads taking away secondary access to and from each area. Road improvements and access easements should be investigated and implemented in order to create a viable secondary access point to the neighborhood.

- ❖ **Fire Resistant Construction:** Homes built in Ruedi Shores after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



Vail Fire and Emergency Services: Vail Fire and Emergency Services operate within the town of Vail and surrounding area. The department has an agreement with Vail Resorts Inc., operator of Vail Mountain, to provide fire suppression services on Vail Mountain and agreements with districts outside of the Town of Vail's city limits. Since 2007, Vail Fire has employed a 6 person wildland fire crew available to complete mitigation work in and around Vail, as well as to respond to fires locally and nationally.



Eagle County CWPP



West Vail

The West Vail community is located in the I-70 corridor 4 miles west of Vail. The community is a mix of residential and commercial areas within the Town of Vail and unincorporated Eagle County. The primary vegetation throughout the study area consists of continuous stands of lodgepole pine and aspen on north facing slopes; with grass, sage, and mtn. shrubs prevailing on south facing slopes. There is a significant amount of beetle-killed lodgepole pine surrounding West Vail. This neighborhood has seen ongoing residential development for several decades. As a result, many lots have very mature landscaping and natural vegetation within the home ignition zone. The entirety of the community is located within the Gore Creek Valley, and there are steep slopes and drainages that lead into residential areas. Many homes are located on steep hillsides, and will be more susceptible to fire spread uphill. Rapid rates of spread can be expected in these steep areas, especially those containing significant surface fuels. Flame lengths could easily exceed 11 feet in areas of dead and down lodgepole pine. Pressurized fire hydrants can be found throughout the area, and a new fire station on Chamonix Lane allows Vail Fire & Emergency Services to respond quickly to fires in the area. Most roads in the community end in cul-de-sacs, creating one way in and out of several neighborhoods. Reflective street signs can be found throughout the area, and addressing is generally good. Building construction varies a great deal throughout the community. In general, there is wide use of heavy timber and stone/stucco siding but many homes have wood shake roofing.

Fire Management Objectives: West Vail

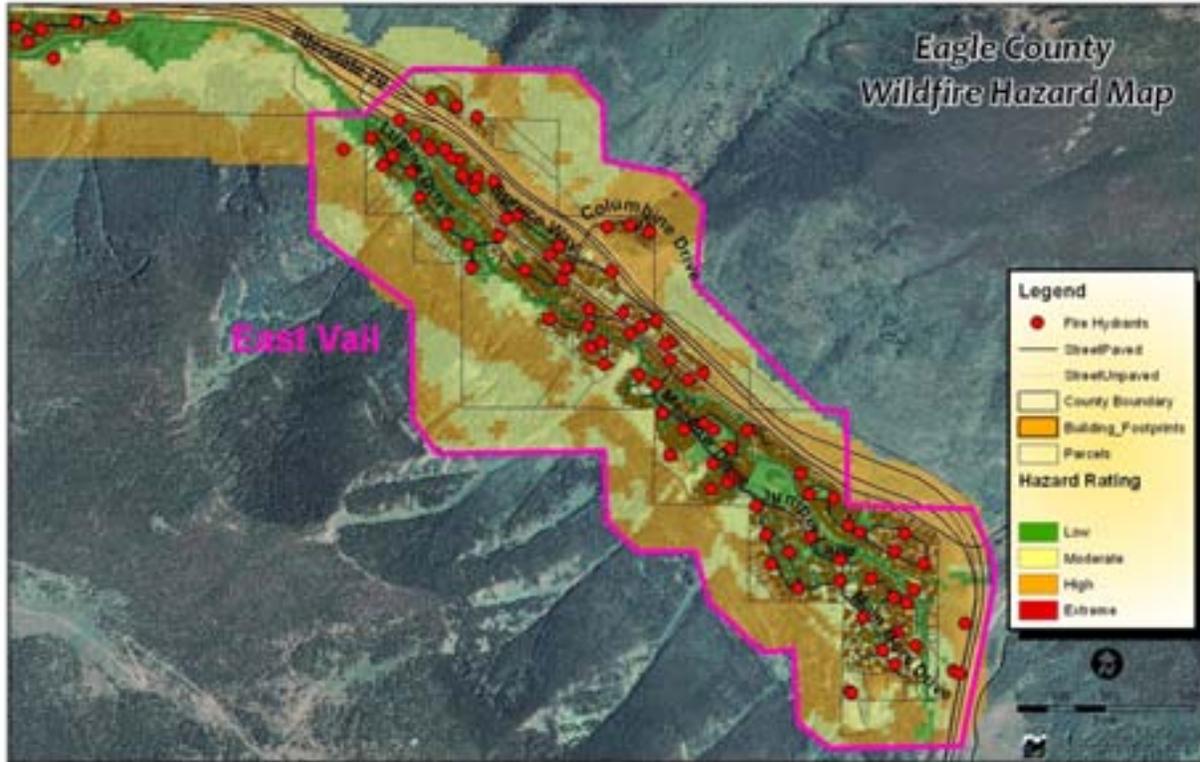
- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by five fuel models (Anderson FM): FM 1, 2, 4, 8, 10. Other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. West Vail fuels vary from light to moderate loads of grasses and shrubs on south facing slopes, to dense stands of beetle-killed lodgepole pine with significant ladder fuels.
 - *Defensible Space: **Priority Level: High***

Very few homes in the study area have adequate defensible space; most homes have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in West Vail.
 - *Maintain Existing Fuel Breaks: **Priority Level: Moderate***

In 2007 and 2008, Eagle County, The USFS, The CSFS, Town of Vail, and Eagle River Water & Sanitation District partnered to accomplish objectives set forth by the Vail Valley Forest Health Project. Long-term maintenance of these treatment areas will be needed in order to maintain their effectiveness over time. Future landscape fuel reduction projects should seek to expand on these existing treatment areas.

- ❖ **Fire Resistant Construction:** Homes built in unincorporated West Vail after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood siding or roofing, and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP



East Vail

The East Vail community lies in the I-70 corridor at the foot of Vail Pass approximately 5 miles from Vail. The community is made up of a mix of residential and commercial areas within the Town of Vail. The Primary vegetation throughout the study area consists of lodgepole pine, aspen, and spruce fir. Fire return intervals are in the hundreds of years for these forests, and normally will occur only under extreme weather conditions. The entire East Vail community lies in the Gore Creek drainage. Homes for the most part are located on the valley floor, with mixed conifer forests climbing the steep valley walls around them. Many homes in the community have partial defensible space, though not all homes do, and more work could be done. Primary access to the area is via Big Horn Drive, but several neighborhood roads loop back on themselves creating dual access within the community. Pressurized fire hydrants can be found throughout East Vail, and Vail Fire & Emergency Services has a fire station on Columbine Drive.

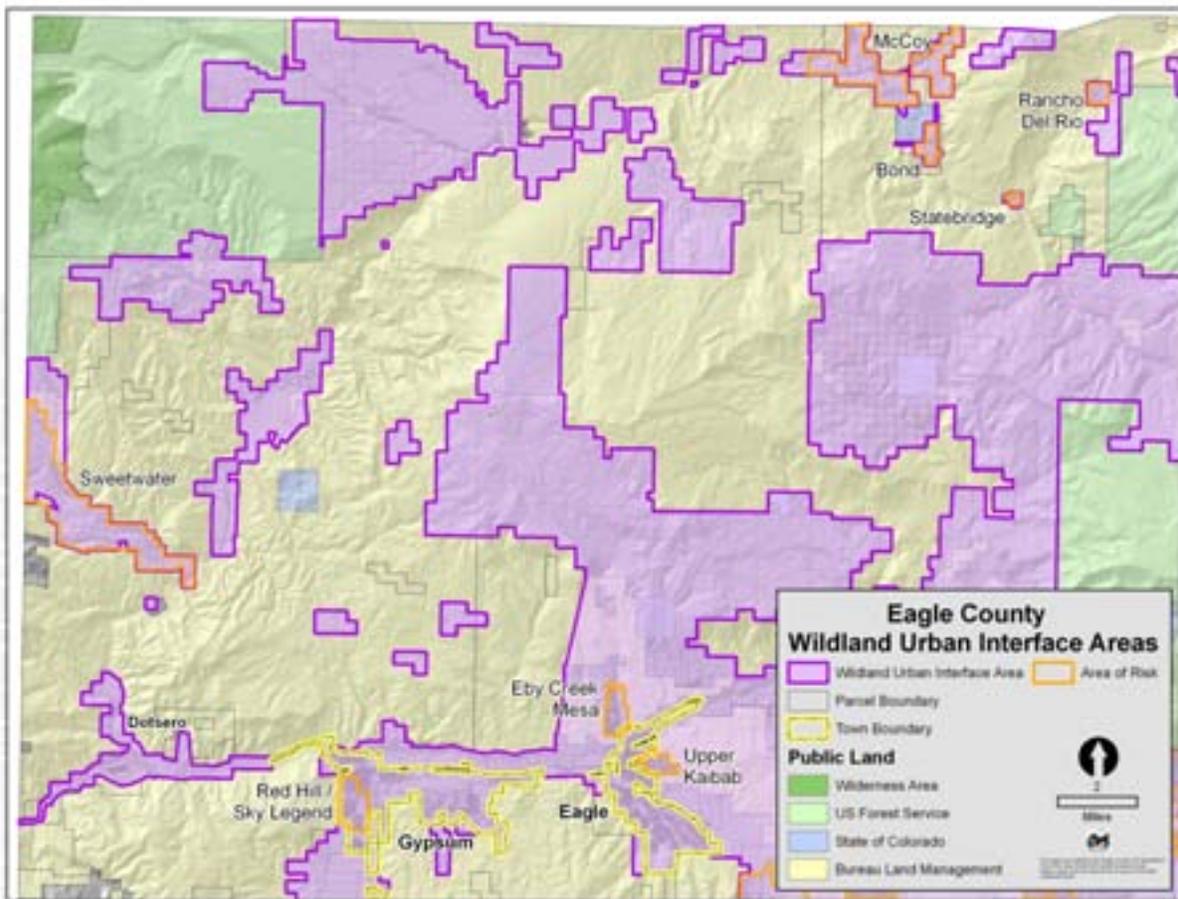
Fire Management Objectives: East Vail

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by four fuel models (Anderson FM): FM 1, 2, 8, 10. Other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. East Vail fuels vary from light to moderate loads of grasses and shrubs to dense stands of beetle-killed lodgepole pine and spruce-fir.
 - *Defensible Space: **Priority Level: High***
Several homes in the study area have adequate defensible space; but many more have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in East Vail.
 - *Linked Defensible Space: Fall Line and Columbine Dr. - **Priority Level: High***
Linked defensible space around homes on outer edges of the community would act as a larger fuel break protecting homes in the neighborhood from ignitions caused by ember-showers generated by fires on the hillside above. Linked defensible space around homes in this area should also be created given the dense fuel loading surrounding homes in the area.
- ❖ **Fire Resistant Construction:** There is widespread use of fire-resistant siding and composite roofing associated with recently constructed homes in East Vail .Some wood siding exists throughout the study area. Most houses have conventional wood decks, and many of the neighborhood's older homes have wood shake roofs. Remodels and new construction in the study area should adhere to Firewise building design and/or Eagle County's Building Requirements for Wildfire Areas.

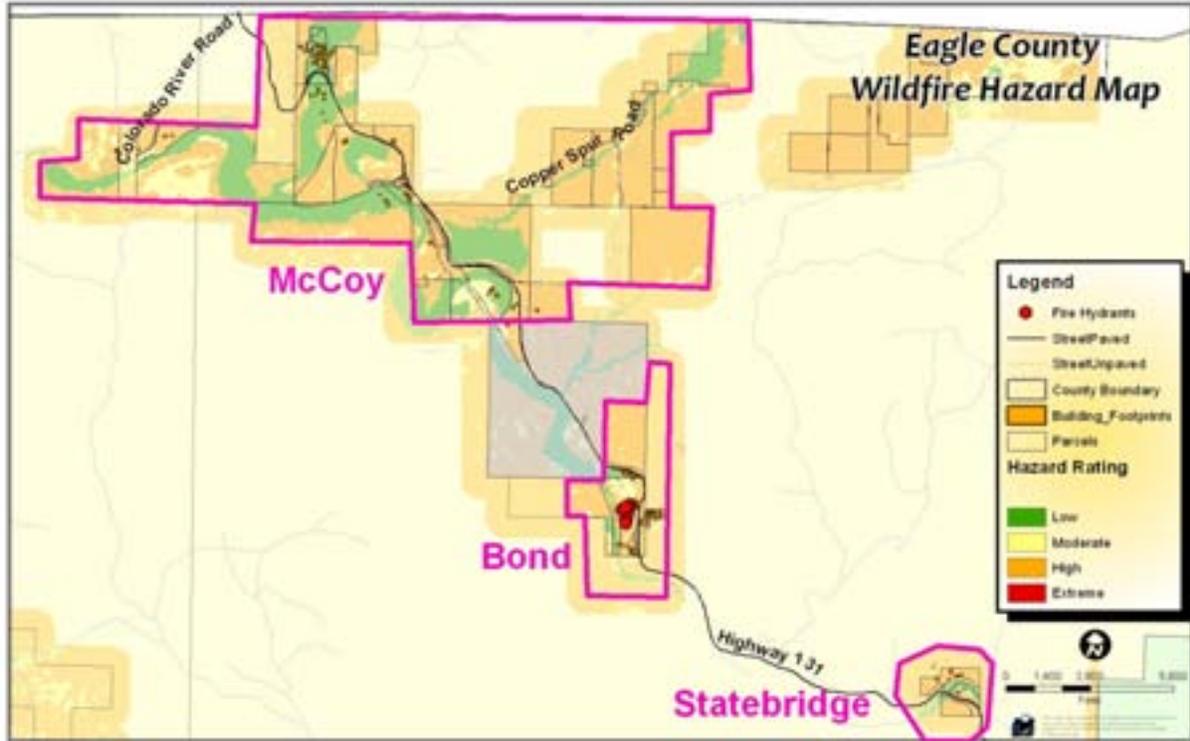
Eagle County CWPP



Rock Creek Volunteer Fire Department: the Rock Creek Volunteer Fire Department (RCVFD) borders the northern reaches of Greater Eagle FPD, and the eastern boundaries of Gypsum FPD, providing emergency response to 244 square miles rural land in northern Eagle County including the communities of Bond, Burns, and McCoy. The RCVFD was formed to train, equip, facilitate and ready the dispatch of strictly volunteer emergency personnel in coordinated response with established emergency service agencies in Eagle County, Routt County, and Grand County.



Eagle County CWPP



McCoy / Bond / Statebridge

For the purpose of this document, the communities of McCoy and Bond, and the State Bridge Resort will be considered one study area. A wide variety of fuel types are present in the community; including grass, sage, pinon pine, juniper, gambel-oak, service berry, aspen, and spruce-fir. The rolling hills and drainages in the area, along with light, flashy fuels such as grass and sage, will act to spread fire quickly throughout most parts of the community. Homes are widely spread across the study area. Most can be found in the Colorado River Valley within the communities of Bond and McCoy, or on large working ranches. The State Bridge area sees a great deal of summer visitors, most staying in the Resort's cabins or at nearby BLM camp grounds. The town of Bond is mostly comprised of Union Pacific employee housing, as the railway line running through the community is very active.

Eagle County CWPP

Fire Management Objectives: McCoy/Bond/State Bridge

- ❖ **Hazardous Fuel Reduction:** The study area is represented primarily by six fuel models (Anderson FM): FM 1, 2, 4, 6, 8, 10. Other fuel models exist, but not in quantities sufficient to significantly influence fire behavior in the Wildland Urban Interface. Study area fuels vary from light to moderate loads of grasses and shrubs, to continuous expanses of sage and oak, with dense stands of beetle-killed lodgepole pine and spruce-fir.
 - *Defensible Space: **Priority Level: High***
Several homes in the study area have adequate defensible space; but many more have mature vegetation too close to the house (*ie. within the home ignition zone of 30ft*). At a minimum, fuel reduction within the home ignition zone should be implemented at every home-site in McCoy and isolated home-sites throughout the study area.

- ❖ **Improve Fire Fighting Infrastructure/Response:**
 - *Water: **Priority Level: High***
There is very little available water near homes in the study area; On-site water storage is vital to protecting homes during a wildfire. Additional water storage should be installed at every home are resort area.

- ❖ **Fire Resistant Construction:** Homes built in study area after 2006 have fire resistant decking, roofing and siding per the Eagle County Wildfire Regulations. Many, if not all, of the homes built in the area prior to 2006 have wood shake siding and conventional (non-fire rated) decks. Remodels and new construction in the study area will have to adhere to Eagle County's Building Requirements for Wildfire Areas requiring the use of fire resistant building materials.

Eagle County CWPP

Appendix E: Eagle County Wildfire Regulations

WILDFIRE REGULATIONS

APPROVED 12/20/02

ADOPTED 1/21/03

EFFECTIVE 4/21/03

SECTION 2-110. DEFINITIONS

The following words shall have the following meanings when used in these Regulations.

LOCAL FIRE AUTHORITY HAVING JURISDICTION means the agency, special district or municipality responsible for responding to fire related emergencies. For land located outside of the boundaries of a municipality or special district established for fire protection, the County Sheriff or his assigns is responsible for responding to fire related emergencies. (*org. 12/17/02*)

WILDFIRE HAZARD MAP means a current, scaled, graphic compilation of predetermined wildfire hazard ratings for each and all privately owned lands and adjacent public lands located within unincorporated Eagle County. The resulting map reflects the most accurate, currently available site specific data. Wildfire hazard ratings will change over time due to site-specific modifications of fuels and water supply. As such, the Wildfire Hazard Map will be continually modified in order to accurately reflect current conditions. (*org. 12/17/02*)

WILDFIRE HAZARD RATING means the relative degree of site-specific hazard associated with wildfire potential. All privately owned land and adjacent public lands, having wildfire influence on the subject property, located within unincorporated Eagle County will be assigned a hazard rating. The hazard rating will be determined based upon three criteria: 1) Topography; 2) Fuel, and; 3) Water availability. Each of these three criteria is assigned a numerical value reflective of actual site conditions. The three resulting numerical values, when tallied, represent the hazard rating of low, moderate, high or extreme. The hazard rating will be incorporated into the Wildfire Hazard Map. (*org. 12/17/02*)

WILDLAND/URBAN INTERFACE means any area where man-made structures are built close to, or within, terrain and fuel or other conditions where the potential for wildfires exist. (*org. 12/17/02*)

SECTION 4-430. DEVELOPMENT IN AREAS SUBJECT TO WILDFIRE HAZARDS

- A. Purpose.** There are certain regions of Eagle County that have the potential to pose hazards to human life and safety and to property because they can be threatened by wildfire. These regulations are intended to provide standards to reduce or minimize the potential impacts of wildfire hazards on properties, the occupants of properties and the occupants of adjacent properties, as well as to facilitate access to manmade structures by firefighters in the event of a wildfire. Development should attempt to avoid high and extreme wildfire hazard areas whenever possible. (*am 12/17/02*)

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- B. Applicability.** The provisions of this Section shall apply to any application for a Special Use Permit, Subdivision or Planned Unit Development (PUD). (*am 12/17/02*)
- C. Vegetation Management Plan.** All applications identified in Section 4-430.B, Applicability, shall include a Vegetation Management Plan. The Vegetation Management Plan shall be prepared by a natural resource professional with expertise in the field of vegetation management and wildfire mitigation. (*orig. 12/17/02*)
- 1. Special Use Applications.** For development requiring a Special Use Permit, the application shall include those materials described under Subsection 4-430.C.2.b, Preliminary Plan. (*orig. 12/17/02*)
 - 2. Development Involving Subdivision or PUD Review.** (*orig. 12/17/02*)
 - a. Sketch Plan.** The Vegetation Management Plan submitted with the sketch plan shall provide an initial site-specific evaluation. Following is the minimum information to be included in the plan:
 - (1) A statement of objectives for the Vegetation Management Plan;
 - (2) A site-specific wildfire analysis addressing topographic and vegetation features;
 - (3) A vegetation inventory, analysis and map which identifies and assesses the major timber stands and vegetation according to National Fire Protection Association (NFPA) Bulletin Number 299, *Standard for Protection of Life and Property from Wildfire, 1997 Edition* or, the version of the referenced publication currently in effect.
 - b. Preliminary Plan.** The Vegetation Management Plan submitted with the preliminary plan shall provide a detailed site specific analysis which includes the following minimum information;
 - (1) A schedule delineating how the wildfire mitigation actions identified in the plan will be implemented including, but not limited to, overlot vegetation thinning, creation of fuelbreaks and the installation of working fire hydrants, fire cisterns and or/dry hydrants prior to the introduction of combustible construction materials on the site;
 - (2) Communication capabilities during construction with the Local Fire Authority Having Jurisdiction and the type of communication system. A physical address is required for E-911 purposes;
 - (2) Detailed specification of fire protection equipment and emergency preparedness actions to be installed or implemented and maintained within the subdivision during construction;
 - (3) Detailed mitigation actions including, but not limited to, thinning and removal of trees and vegetation designed to mitigate wildfire hazard areas. The use of building envelopes may be required to locate structures outside of severe hazard areas, off of steep slopes and outside of draws and canyons;

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- (4) Identification of the entities responsible for implementing the plan, constructing required improvements, and maintenance in perpetuity of the improvements and appropriate easements, if any;
- (5) A map identifying major timber stands and vegetation, locations of fire hydrants, water tanks, cisterns and/or dry hydrants, as well as locations and flows or capacity of fire hydrants, water tanks, cisterns and/or dry hydrants.

D. Procedure.

1. **Referral to Colorado State Forest Service.** As part of the review of the application, the Community Development Director shall refer to the Colorado State Forest Service (CSFS) all applications as identified in Section 4-430.B., Applicability. Referral of Final Plat applications will be at the discretion of the Community Development Director.
2. **Review and Classification of Degree of Hazard By CSFS.** CSFS reviews the application and determines whether there is a low, moderate, high, or extreme degree of severity of wildfire hazard posed to persons and property pursuant to the National Fire Protection Association (NFPA) Bulletin Number 299, *Standard for Protection of Life and Property from Wildfire, 1997 Edition* or, the version of the referenced publication currently in effect. CSFS considers the Vegetation Management Plan, **Defensible Space** and proposed design of the subdivision or PUD (including the planned roads and water supply facilities and the configuration and location of lots), the topography of the site, the types and density of vegetation present, the fire protection measures proposed by the applicant and other related factors in making its determination. (*am 12/17/02*)
3. **CSFS Response.** Considering the degree of severity of wildfire hazard that is posed to persons and property, the CSFS shall also comment on the potential effectiveness of the Vegetation Management Plan and the mitigation techniques proposed. These recommendations shall be based on guidelines promulgated by CSFS (see, for example, "Creating Wildfire-Defensible Zones, No. 6.302 or currently accepted standards.) and may include, but are not limited to the following wildfire hazard mitigation techniques: (*am 12/17/02*)
 - a. **Locations.** Recommendations to locate structures outside of severe hazard areas, off of steep slopes and outside of draws and canyons.
 - b. **Manipulate Vegetation.** Recommendations to manipulate the density and form of vegetation, so as to create defensible space buffers around locations where structures are proposed including: Removal of tree limbs hanging near chimneys, establishing fuelbreaks, reduction of on-site vegetative fuel hazards through strategic thinning and clearing to promote overall health of on-site vegetation by reducing the severity of the hazard. The form and the extent of the recommendations to manipulate vegetation shall relate directly to the severity of the hazard that is present. (*am 12/17/02*)
 - c. **Building Design.** Recommendations to use fire rated or non-combustible roof

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materials, to require pitched roofs, and to sheath, enclose or screen projections and openings above and below the roofline, as applicable. Compliance with these recommendations shall occur prior to building permit issuance pursuant to Chapter 3.10, Building Resolution of the Eagle County Land Use Regulation. (am 12/17/02)

- d. **Water Supply.** Where access to a pressurized water system with fire hydrants is not provided, recommendations may be made to ensure the availability of a water supply for individual structures, in the form of access to a pond, installation of an underground water storage tank, provision for dry hydrants, or similar methods.
 - e. **Access.** Recommendations to provide separate routes of entrance and exit into the subdivision or PUD, to lay out roads so as to create fuel breaks and to ensure the adequacy of access by emergency vehicles, including the provision of regularly spaced turnouts along roadways, the establishment of adequate grades and sight distances and the prohibition of dead end streets (but not cul de sacs) in the development. Depending upon the length of the road, fire hazard rating, number of units proposed, topography and the recommendation of the Local Fire Authority Having Jurisdiction, the Board of County Commissioners may, at their discretion, grant a variance from the required improvement standard. (am 12/17/02)
 - f. **Maintenance.** Recommendations to keep roofs cleared of debris and to store flammable materials and firewood away from structures. Firebreaks, turnaround areas and emergency access routes shall be maintained. (am 12/17/02)
4. **Compliance** The County shall consider the recommendations of the CSFS and apply the appropriate recommendations as conditions of approval of the sketch and preliminary plan. The applicant shall demonstrate how the development complies with all of the CSFS recommendations made conditions of approval by the County. (am 12/17/02)

E. Standards. (orig. 12/17/02)

- 1. **Water Supply and Access.** The following standards for water supply and access shall apply to all applications as identified in Section 4-430.B., Applicability.
 - a. **Water Supply.**
 - (1) **Fire Hydrants.**
 - (a) Fire hydrants shall be provided when a water distribution system will serve the proposed development and shall meet the required fire flow as defined in the fire code in effect at the time of application or as otherwise determined by the Local Fire Authority Having Jurisdiction.
 - (b) The water distribution system shall be capable of delivering the

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required fire flow for each hydrant connected to the distribution system within the proposed subdivision as delineated in the fire code in effect at the time of application, or as otherwise required by the Local Fire Authority Having Jurisdiction.

- (c) Fire hydrants shall be located at the intervals defined in the fire code in effect at the time of application, and shall be located so that all structures are within a maximum five hundred (500) feet as defined in the fire code in effect at the time of application or as otherwise determined by the Local Fire Authority Having Jurisdiction.
 - (d) Fire hydrants shall be located in the public right-of-way or at other locations as required and approved by the Local Fire Authority Having Jurisdiction.
 - (e) Fire hydrants shall be accessible to fire fighting apparatus from County maintained roads, privately maintained roads or unobstructed emergency vehicle lanes as determined by the Local Fire Authority Having Jurisdiction.
- (2) **Water tanks, cisterns and/or dry hydrants.** Water tanks, cisterns and/or dry hydrants shall be provided in developments that are not served by hydrants unless the Local Fire Authority Having Jurisdiction has approved an alternative fire protection water supply system.
- (a) Water tanks and cisterns shall meet the requirements of the *1997 Uniform Fire Code* as adopted by Eagle County, or as defined in the fire code in effect at the time of application. Depending upon the recommendation of the Local Fire Authority Having Jurisdiction, the Board of County Commissioners may, at their discretion, grant a variance from the required improvement standard.
 - (b) A dedicated turn-around shall be placed no more than fifty (50) feet from a water tank or dry hydrant cistern and the discharge from the water tank or dry hydrant cistern shall be within eight (8) feet of the nearest usable portion of the dedicated right-of-way, unless otherwise approved by the Local Fire Authority Having Jurisdiction.
 - (c) Dry hydrants may be provided in combination with or in lieu of cisterns, water tanks or other approved fire protection water supply systems. Dry hydrants shall be installed in accordance with the standards of *NFPA Bulletin Number 1142, Suburban and Rural Fire Fighting 2001 Edition* or, the version of the referenced publication currently in effect. The Local Fire

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Authority Having Jurisdiction may approve an alternative standard. An average home size of 5000 square feet shall be assumed unless further modified within the development.

- a. Access.** Separate routes of entrance and exit into the development shall be provided. Roads shall be laid out with consideration for creating fuel breaks and to ensure the adequacy of access by emergency vehicles, including the provision of regularly spaced turnouts along roadways, the establishment of adequate grades and sight distances and the prohibition of dead end streets (but not cul de sacs) in the development. Reference ROADWAY STANDARDS Section 4-620.D.9.a and Section 4-620.J.1.h. Depending upon the length of the road, fire hazard rating, number of units proposed, topography and the recommendation of the Local Fire Authority Having Jurisdiction, the Board of County Commissioners may, at their discretion, grant a variance from the required improvement standard.

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3.13.1 GENERAL

3.13.1.1 **Purpose.** The purpose of this regulation is to establish minimum design and construction standards for the protection of life and property from fire within the Wildland/Urban Interface. These provisions are meant to aid in the prevention and suppression of fires, lessen the hazards to structures from wildland fires and lessen the hazards to wildlands from structure fires.

3.13.1.2 **Applicability.** These wildfire regulations are applicable to all new construction in the unincorporated territories of Eagle County and shall supercede the provisions of any previously approved Planned Unit Development, which may contain language contradictory in nature to the intent of these regulations. In the event that a previously approved Planned Unit Development contains language, which is more restrictive than the language found in these regulations then, the more restrictive language shall apply.

A. All new building construction, exterior modification to existing buildings, and/or additions that increase an existing building's footprint or number of stories in moderate, high and extreme hazard zones shall cause the entire building to comply with the provisions of this regulation with regard to the creation of **Defensible Space**. Pursuant to Section 3.13.4.5 Roofing or Siding of Existing Buildings of this Resolution, re-roofing permits will not require **Defensible Space**. Only exterior modifications to existing buildings shall comply with the provisions of this regulation with regard to fire resistive construction. Buildings or structures that do not require a building permit are exempt from this regulation, although their proximity to a permitted structure may modify the requirement for defensible space on the property.

B. All Communities and/or Subdivisions in existence prior to the effective date of these wildfire regulations may opt to prepare a Comprehensive Wildfire Mitigation Plan, which includes all lands and buildings within a definitive boundary delineated by said Plan. The Comprehensive Wildfire Mitigation Plan will be evaluated and may be approved at the sole discretion of the Board of County Commissioners through application for a Special Use Permit pursuant to Chapter 2, Article 5 of the Eagle County Land Use Regulations. The Board will render their decision based upon recommendations from the Planning Commission, the Colorado State Forest Service, the Local Fire Authority Having Jurisdiction and any other applicable federal, state or local authority or agency.

If the Special Use Permit for the Comprehensive Wildfire Mitigation Plan is approved and adopted by the Board of County Commissioners, then the land area defined within the Plan will not be required to conform to this Chapter III with regard to wildfire mitigation. Rather, the land area defined within the Plan will be bound via Board of County Commissioner Resolution for the Special Use Permit to fully implement the elements of the Comprehensive Wildfire Mitigation Plan within a time frame established by the Board of County Commissioners through the Special Use Permit. The Comprehensive Wildfire Mitigation Plan shall remain in full force and effect and all wildfire mitigation measures established within the Plan shall be maintained in perpetuity, unless otherwise amended by the Board of County Commissioners.

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The County shall be authorized to set limits on the length of any Special Use Permit that it issues and to obtain assurances that the ongoing operation of the use will comply with all of the applicant=s representations and all conditions of approval, including, but not limited to, requiring an annual compliance review. All conditions imposed in any Special Use Permit shall be expressly set forth in the resolution approving the Special Use Permit.

Revocation or suspension of a Special Use Permit issued pursuant to these Land Use Regulations shall be made under the procedures and standards of Article 7 of these Land Use Regulations, upon a finding that the Special Use Permit was issued on the basis of erroneous or misleading information or representation, the development violates the terms or conditions of any permit issued pursuant to these Land Use Regulations, the terms or conditions of the Special Use Permit or these Land Use Regulations.

- C. All Communities and/or Subdivisions in existence prior to the effective date of these wildfire regulations opting to submit a **Comprehensive Wildfire Mitigation Plan** must have the plan prepared by a natural resource professional with expertise in the field of vegetation management and wildfire mitigation. Variable topography, diverse natural vegetative cover, as well as, unique access and water supply characteristics typify each existing development in Eagle County. It is therefore imperative that a plan be designed specifically for the community or subdivision seeking special consideration. The plan shall contain strategies to implement wildfire mitigation measures that will provide equal, if not superior, protection from the hazards inherent to wildfire. The plan may include but not be limited to: Strategic vegetation management incorporating the creation of strategic fire breaks in common areas, along access routes and subdivision perimeter and on each privately owned property; Creation of Defensible Space around all existing structures within the boundaries of the Comprehensive Wildfire Mitigation Plan; Removal of dead and diseased trees, clean-up and maintenance of under- story growth and ground debris within common areas and on each privately owned property; Provision of or improvement of an existing fire fighting water supply; Community/subdivision ingress/egress and individual driveway improvements designed to accommodate adequate emergency vehicle access and turnaround areas; Create at least two usable points of ingress/egress to the community/subdivision; Provision of adequate road and address signage; Inclusion of new technology designed to mitigate wildfire hazards such as fire retardant foam or gel applications, and; Retrofit existing structures with fire resistive construction materials, particularly, fire resistive deck and roofing materials. The Board may also consider pre-existing wildfire mitigation measures.

3.13.2 DEFINITIONS For the purpose of this regulation, certain terms are defined as follows:

COMPREHENSIVE WILDFIRE MITIGATION PLAN means an exhaustive, substantive compilation of commonly accepted practices designed to substantially decrease the hazards to life, property and the natural environment caused by wildfire.

DEFENSIBLE SPACE is a designated area surrounding a building or buildings that

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will be subject to fuel modification measures intended to reduce fire-spread potential between the structure and adjacent vegetation.

FIRE HYDRANT means a valved connection on a piped water supply system having one or more outlets that is used to supply hose and fire pumpers with water as approved by the Local Fire Authority Having Jurisdiction.

FIRE-RESISTIVE CONSTRUCTION means a fire-resistive shell- exterior walls shall be a listed, one-hour fire-resistive assembly or log (6" min. dia.), and the roof shall be protected by a layer of 5/8" type X gypsum board interior ceiling or nominal 2"x T&G wood interior ceiling. A non-combustible exterior wall surface (cement stucco, brick, stone, cement fiber siding) may be used in lieu of the exterior membrane of a listed wall assembly. Decks shall be one-hour fire resistive construction as defined in the building code in effect at the time of building permit application.

TREE CROWN is the needle or leaf bearing part of a tree. The crown edge is the tree's drip edge.

3.13.3 PROCEDURE

3.13.3.1 **Hazard Rating Assignment** Prior to the approval of a building permit applicable to these regulations, a Wildfire Hazard Rating must be determined for the subject property. The rating will determine the level of mitigation required for construction.

- A. **Wildfire Hazard Rating, CSFS.** Pursuant to Section 4-430.D.1 of the Eagle County Land Use Regulations, plans for subdivisions, Planned Unit Developments or Special Use Permits in Eagle County are referred to the Colorado State Forest Service. The CSFS reviews the application and determines a wildfire hazard rating of low, moderate, high or extreme for the project.
- B. **Wildfire Hazard Rating, Not Assigned.** A wildfire hazard rating must be obtained on properties for which the Colorado State Forest Service has not assigned a wildfire hazard rating. Eagle County Community Development Staff, the Local Fire Authority Having Jurisdiction or the Colorado State Forest Service, using identical criteria, will determine site- specific wildfire hazard ratings.

3.13.3.2 **Inspection** The level and type of Wildfire Hazard mitigation shall be determined by Eagle County Community Development Staff at the time of building permit plan check. During construction, the following site inspections shall be required.

- A. **Initial site inspections.** Two (2) inspections shall be required prior to the issuance of a building permit. A wildfire hazard rating for the property must be available. Prior to the initial inspection being scheduled, the footprint of the proposed structure must be staked out on the ground. The first inspection shall establish the defensible space, identify trees and shrubs to be removed or pruned and list other mitigation measures to be performed within the defensible space. The second inspection shall be made to verify that defensible space mitigations identified during the first inspection have been completed.

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- B. **Final Site Inspection.** A final inspection to verify that all required mitigations have been completed or properly utilized shall be conducted prior to the issuance of a Temporary Certificate of Occupancy (TCO) for the structure.

3.13.4 REQUIRED MITIGATION

3.13.4.1 **Defensible Space Vegetation Management Zones.** Defensible Space shall extend the distances specified in Table A (a minimum 70 feet for flat lots), or to the property lines, whichever is less. Defensible space measurements shall commence from the building plane, and follow all projections and recessions on each side of the building. A defensible space required under these provisions shall also encompass, and extend from, all buildings on the property located within a 50-foot radius of the affected building. Within the **Defensible Space** identified through application of Table A, the following mitigation shall be provided (Reference Figure 1):

- A. **Zone 1:** Is the area of maximum modification and treatment. The intent of Zone 1 is to reduce fuels that are immediately adjacent to flammable elements of the structure and to provide a clear access area for fire fighting operations. Zone 1 is an area measured 15 feet from the edges of the structure. Ideally, all trees within Zone 1 should be removed to reduce the fire hazard. If a tree or cluster of trees must remain, it will be considered as an integral part of the structure and **Defensible Space** pursuant to Table A will be measured from the drip line of the tree or tree cluster. This is particularly important if the building is sided with wood or other flammable materials. Decorative rock or irrigated, mowed grass creates an attractive, easily maintained nonflammable ground cover. If the house has noncombustible siding, widely spaced foundation plantings of low growing shrubs or other fire resistant plants are acceptable (**Reference CSFS Publication 6.305, *Firewise Plant Materials or, the version of this publication currently in effect.***). Frequent pruning and maintenance of plants in this zone is necessary. All dead branches, stems and leaves must be regularly removed. All trees within Zone 1 must be pruned to at least 10 feet above the ground, but no more than 1/3 the overall height of the tree (Aspen trees, individual spruce, fir and pine specimens are exempt). All branches that interfere with the structure's roof or chimney must be removed. All ladder fuels (small shrubs, trees, tree limbs and other materials that allow fire to climb into the tree crown) must be removed from beneath the tree or tree cluster.
- B. **Zone 2:** Is an area of fuel reduction. It is a transitional area between Zones 1 and 3. The size of Zone 2 depends on the slope of the ground where the structure is built (Reference Table A). Within this zone, the continuity and arrangement of vegetation is modified to reduce the intensity of any fire approaching the structure. Trees and shrubs must be thinned so that there is a minimum of 10 feet between crowns. Crown separation is measured from the furthest branch of one tree to the nearest branch on the next tree. All ladder fuels from under these trees must be removed. All trees must be pruned to at least 10 feet above the ground, but no more than 1/3 the overall height of the tree (Aspen trees, individual spruce, fir and pine specimens are exempt).

Zone 2 forms an aesthetic buffer and provides a transition between zones; therefore, it is necessary to blend the requirements for Zones 1 and 3. The inner portions of Zone 2 must be more heavily thinned than the outer portions. Tree density may

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increase as Zone 2 approaches Zone 3. Isolated shrubs may remain provided they are not under tree crowns. These shrubs must be pruned and maintained for vigorous growth. Dead stems and shrubs must be removed. No more than 2 dead trees per acre should remain for wildlife habitat. Dead trees, which can fall onto a structure or block an access, must be removed.

- C. **Zone 3:** Is an area of traditional forest management and is of no particular size. Zone 3 extends from the edge of Zone 2 to the property boundaries. Typical management objectives for Zone 3 are: To provide optimum recreational opportunities; enhance aesthetics; maintain tree health and vigor; provide barriers for wind, noise, dust and visual intrusions. Specific thinning requirements are dictated by the property owner's objectives, however, most thinning will be done leaving the biggest and best trees and on an individual tree basis. Thinning sanitizes and improves the forest stand by removing trees that are damaged, attacked by insects, infected by disease or are of poor form or low vigor.

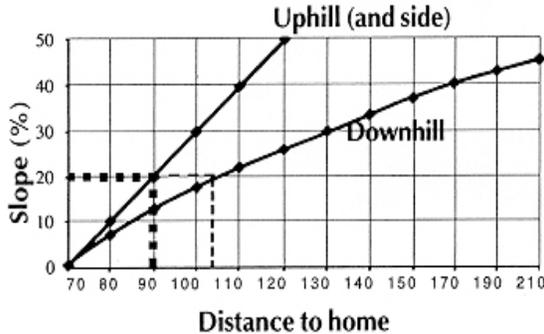


Table A: This chart indicates the minimum dimensions for defensible space from the home to the outer edge of Zone 2.

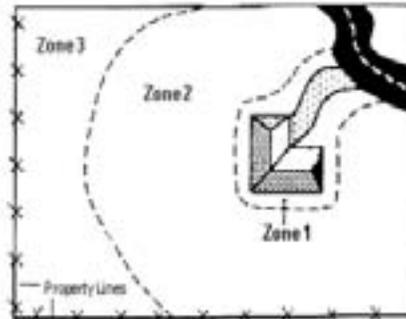


Figure 1: Property showing the three fire defensible zones around a home or other structure.

3.13.4.2 **Construction.** The following construction specific requirements shall be enforced based on a site's assigned Hazard Rating. The establishment of a **Defensible Space** shall be required in moderate, high and extreme hazard areas in accordance with the requirements of this regulation and Table A.

- A. **Low Hazard Construction.** No additional construction mitigation measures required.
- B. **Moderate Hazard Construction.** Structures located within a Moderate Wildfire Hazard area shall be required to implement **Defensible Space** pursuant to Table A. All roofs shall be class A or class B as defined in the building code in effect at the time of building permit application. Decks shall be of fire resistive construction. Vents for roof ventilation shall not be in the horizontal soffit.

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- C. **High Hazard Construction.** Structures located within High Wildfire Hazard areas shall be required to implement **Defensible Space** pursuant to Table A and shall incorporate fire-resistive construction as defined in this regulation. All roofs shall be class A as defined in the building code in effect at the time of building permit application. Decks, eaves and soffits shall be of fire resistive construction. Vents for roof ventilation shall not be in the horizontal soffit.
- D. **Extreme Hazard Construction.** Site and construction-specific requirements for structures proposed in areas that have been assigned an Extreme Wildfire Hazard rating shall be determined by the department of Community Development and the Local Fire Authority Having Jurisdiction on a case by case basis. The extreme rating may be downgraded through implementation of various vegetation management techniques designed to mitigate the overall wildfire hazard present on the site and/or by providing a reliable year-round source of water for firefighting purposes. Fire hydrant(s) must conform with the requirements of the fire code in effect at the time of application or, as otherwise determined by the Local Fire Authority Having Jurisdiction. Water tanks, cisterns and/or dry hydrants shall meet the requirements of the *National Fire Protection Association (NFPA) Bulletin Number 1142, Suburban and Rural Fire Fighting, 2001 Edition* or, the edition of the referenced publication currently in effect. The Local Fire Authority Having Jurisdiction may approve an alternative standard.
- 3.13.4.3 **Additions.** Additions requiring a building permit in moderate, high or extreme hazard areas will require that **Defensible Space** be developed around the addition as well as the existing structure in accordance with the requirements of this regulation and Table A. Construction of the addition shall be in accordance with the requirements of Section 3.13.4.2 of this regulation.
- 3.13.4.4 **Exterior Decks.** Exterior decks requiring a building permit will require that **Defensible Space** be developed around the deck as well as the existing structure in accordance with the requirements of this regulation and Table A and shall also be constructed in a manner consistent with this regulation per the fire hazard rating assigned to the property.
- 3.13.4.5 **Roofing or Siding of Existing Buildings.** When re-siding or re-roofing an existing building requires a building permit, materials and construction shall comply with this regulation based on the fire hazard rating assigned to the property. **Defensible Space will not** be required for re-siding or re-roofing an existing building