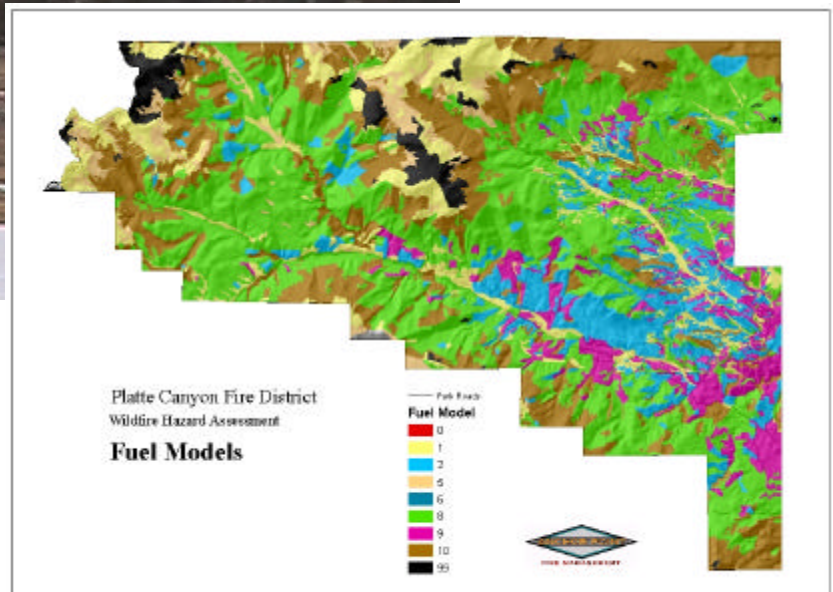
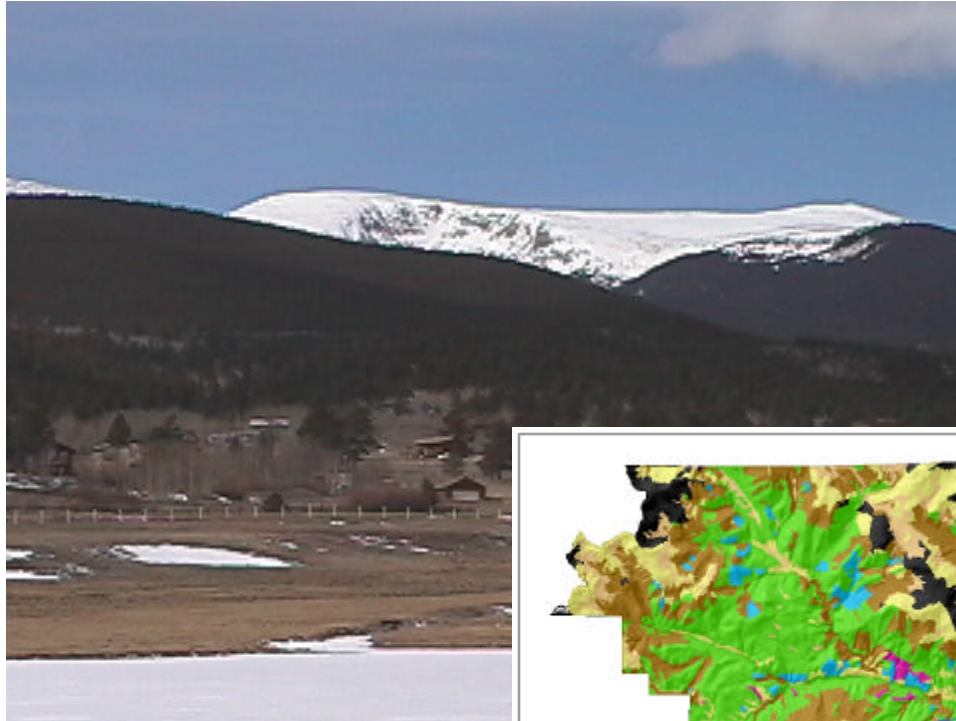


# Wildland Urban Interface

## Wildfire Hazard - Risk Assessment

Prepared for:

**Platte Canyon Fire Protection District**  
Bailey, Colorado



Submitted By:

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## Objectives

The objective of this analysis is to provide a comprehensive, scientifically based, assessment of the wildfire hazards and risks within the Platte Canyon Fire Protection District. The assessment will aid stakeholders in developing short-term and long term fuel and fire management plans. This initial level of pre-planning will assist land managers in making valid, timely decisions for planned and unplanned ignitions. The assessment estimates the hazards associated with wildland fire in proximity to communities. The hazard information, in conjunction with values at risk information, defines "areas of concern" for the community and allows prioritization of mitigation efforts. In addition to the general objective, several task-specific goals are addressed within this study.

### Task Specific Goals

**1. Promote community awareness:**

- Quantification of the community's risk from wildfire will facilitate public awareness and assist in creating public action to mitigate defined hazards.

**2. Improve wildfire prevention through education:**

- Awareness, combined with education, will help to reduce the risk of unplanned human ignitions.

**3. Facilitate appropriate hazardous fuel reduction:**

- The prioritization of hazardous Fire Management Units (FMU) can assist land managers in focusing future efforts towards the areas of highest concern from both an ecological and fire management perspective

**4. Promote improved levels of response.**

- The identification of areas of concern will improve the accuracy of pre-planning, and facilitates the implementation of cross-boundary, multi-jurisdictional, projects.

## Study Area Profile

The Platte Canyon Fire District is located in Park County, forty miles west of Denver, Colorado. The district is bordered to the East by the Elk Creek Fire District, to the South by the Jefferson Como Fire District, to the West by Summit County and to the North by Clear Creek County. Platte Canyon covers an area of 275 square miles, and accounts for approximately 65% of Park County's estimated 13,400 residents. The primary access to the district is via



**Figure 1: Typical Area**

US Hwy 285. For the purposes of this report, areas of the greatest population density and development have been identified as the study area of Wildland/Urban Interface (WUI). The rural and predominantly wildland areas of the district are not focused in this analysis.

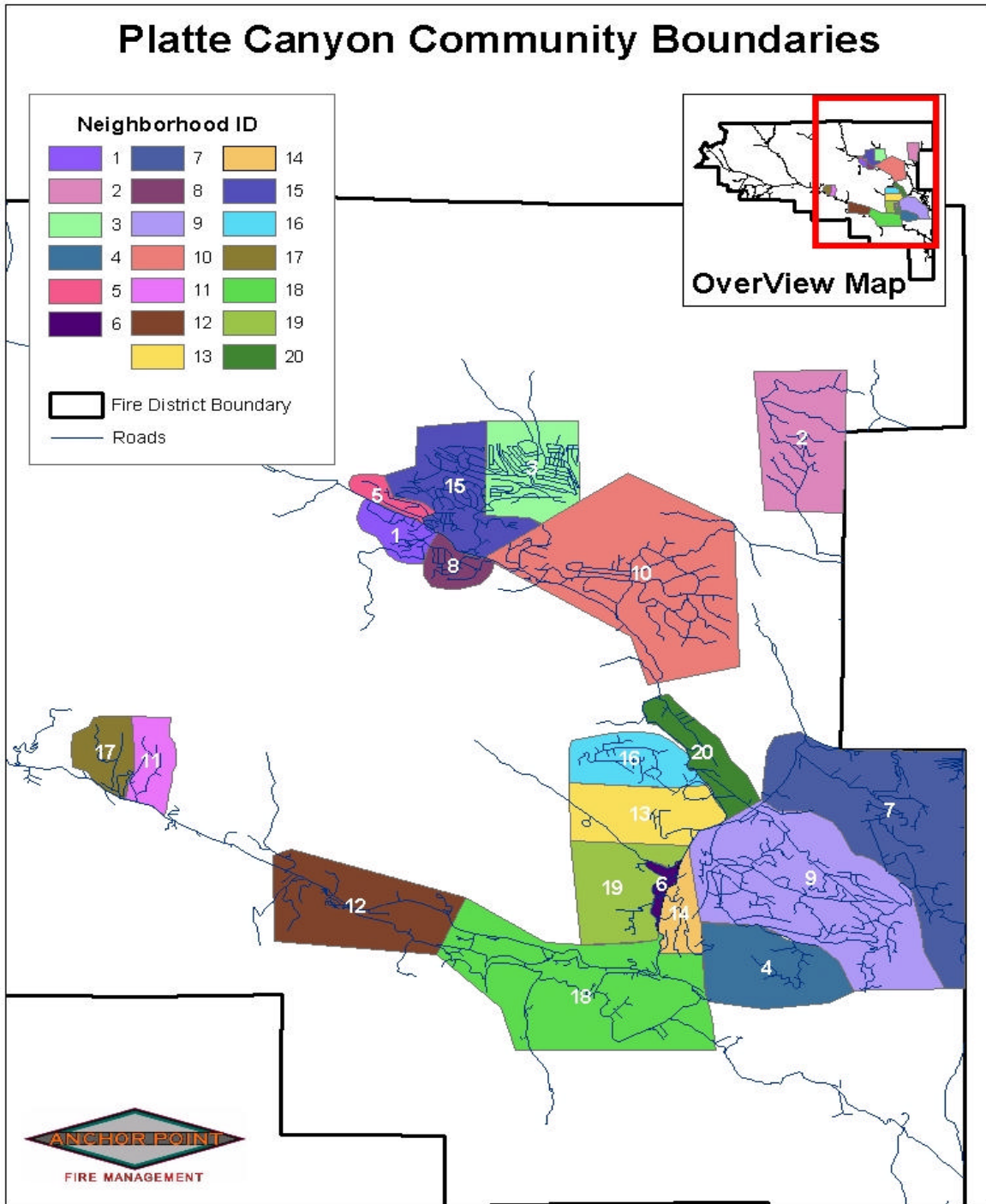
The area is considered to be in the Montane zone (6000-10,000 ft) of the eastern slope of the Northern Colorado Front Range. The predominant vegetation is ponderosa pine (*Pinus ponderosa*) and lodgepole pine (*Pinus contorta*).

Vegetation density ranges from savannah to woodland to closed canopy forest (see Figure 1). The area also contains dense stands of mixed conifers primarily on north facing slopes. The forest cover is broken up by large grass

meadows. A unique character of this landscape is the presence of open grass meadows with standing dead trees from recent fires (see figure 10 in appendix B).

## Current Hazard-Risk Situation

The majority of the district is at a high risk for WUI fires. The town of Bailey is listed in the Federal Register as a community at high risk from wildfire. [www.fireplan.gov/communities-at-risk.pdf](http://www.fireplan.gov/communities-at-risk.pdf). This area has a significant fire history. Major fires in or near the district in the last five years include the Buffalo Creek, Hi Meadow, Schoonover, Snaking, and Hayman fires. Figure 2 and Table 1 show the communities that comprise the Wildland/Urban Interface study area, and Figures 3 and 4 show the general topography of the area.

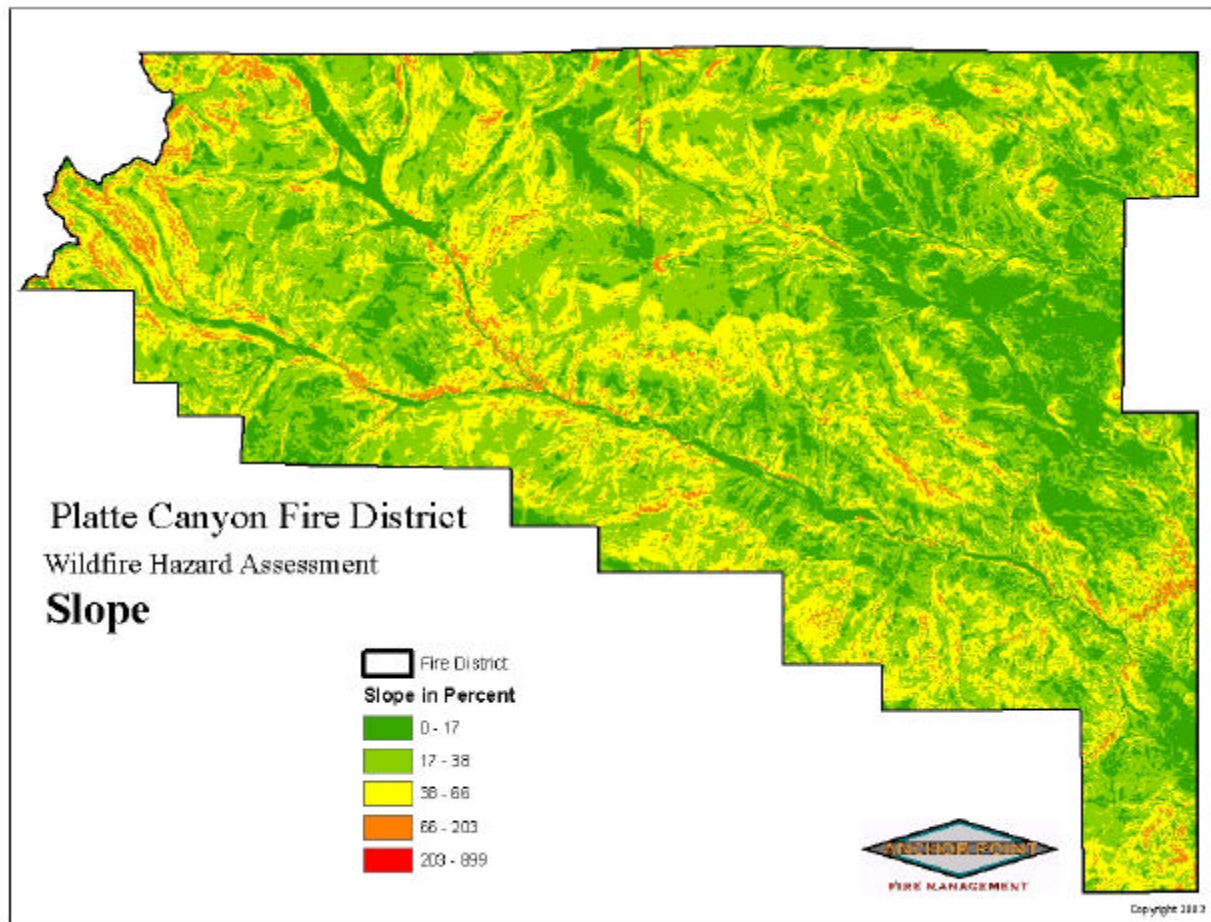


**Figure 2: Study Area Communities**

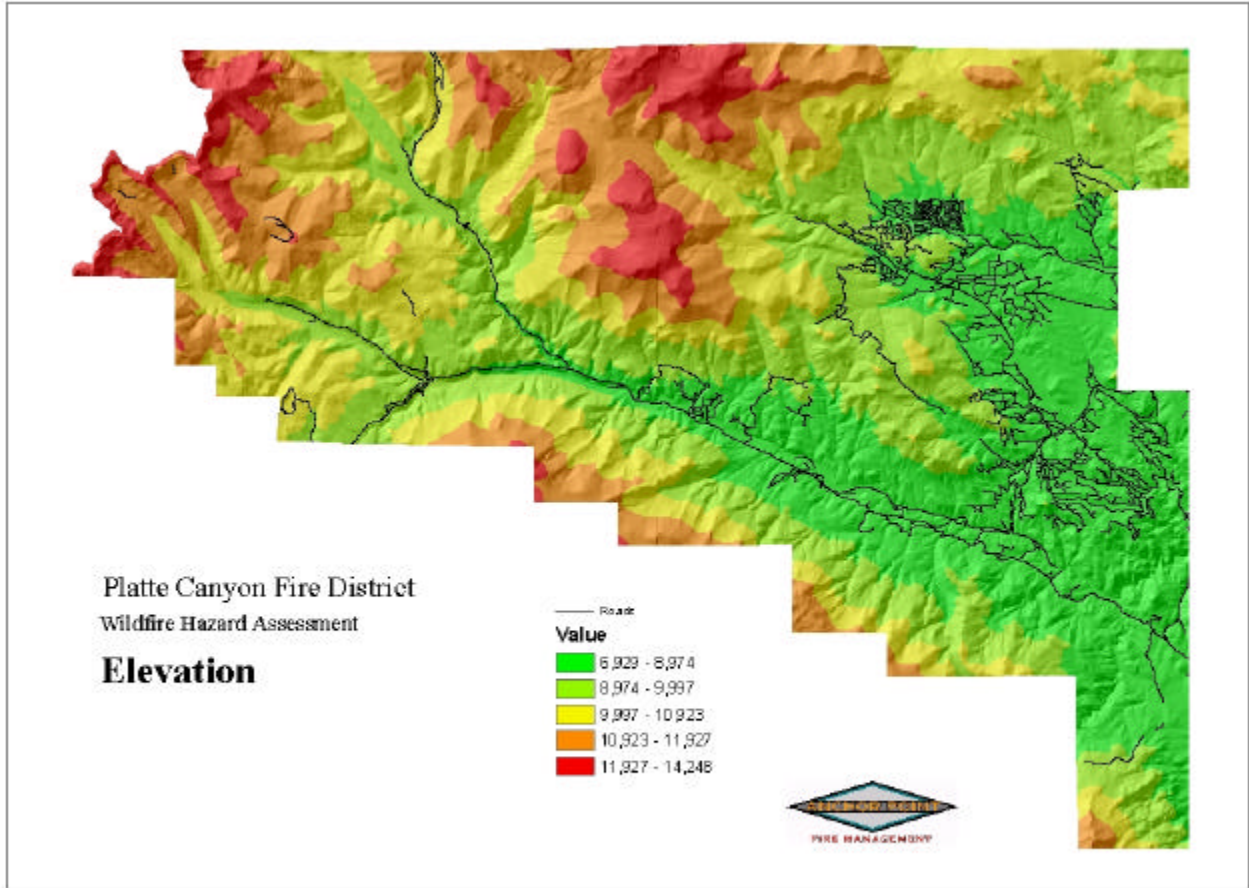


**Table 1: Communities in the Study Area**

1. Upper Deer Creek	2. Hidden Valley	3. Harris Park Estates	4. Bailey Mountain
5. Royal	6. Horseshoe	7. Roland Valley	8. KZ Ranch
9. Burland	10. Ranchos	11. Singleton	12. Shawnee
13. Ravenswood	14. Park	15. Elk Creek	16. Friendship Ranch
17. Belford	18. Bailey	19. Bailey Estates	20. Mill Iron D Estates



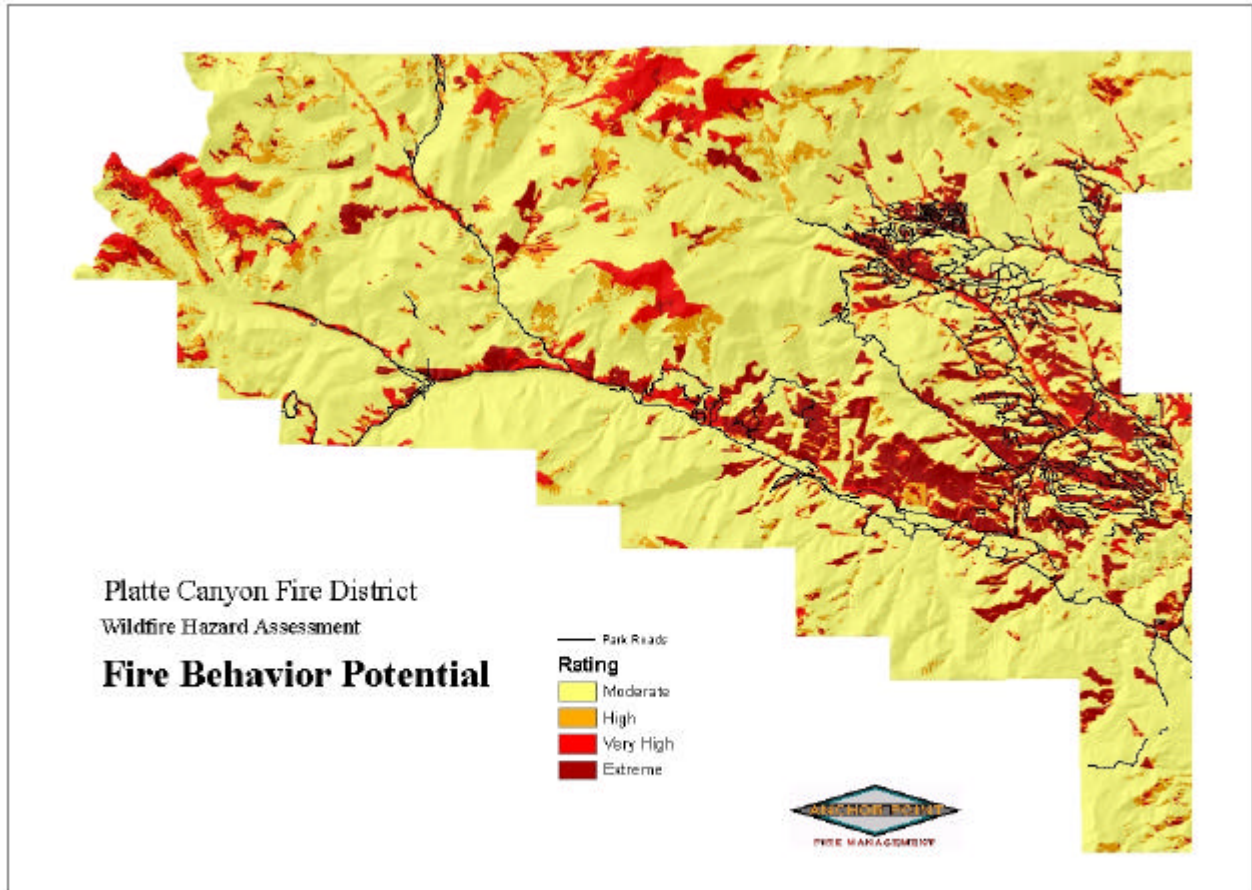
**Figure 3: Percent Slope**



**Figure 4: Elevation**

## Fire Behavior Potential

From the Wildfire Hazard-Risk analysis carried out as a part of this study (see Appendix A and B), the fire behavior potential of Platte Canyon was modeled. This model could be combined with structure density and values at risk information to generate “areas of concern”. Figure 5 shows the fire behavior potential map for the analysis area.



**Figure 5: Fire Behavior Potential**

## Public Education Efforts

The area around Bailey is experiencing continuing development. In many areas recently constructed primary year-round residences are mixed in with older seasonal and weekend properties. There is likely to be a varied understanding among property owners of the intrinsic hazards associated with building in these areas. An approach to wildfire education that emphasizes safety and hazard mitigation on an individual property level should be undertaken, in addition to community and emergency services efforts at risk reduction.

Combining the values of the community including - quality of life, property values, the ecosystem, and wildlife will increase the receptiveness of the message.

### RECOMMENDATIONS

- Utilize these web sites for a list of public education materials, and for general homeowner education:
  - <http://www.nwcg.gov/pms/pubs/pubs.htm>
  - <http://www.firewise.org>
  - <http://www.colostate.edu/Depts/CSFS/fire/CSFSfire.html>
- Provide citizens with the findings of this study including:
  - Levels of risk and hazard.
  - Values of fuels reduction programs.
  - Consequences and results of inaction for planned and unplanned ignitions within the community.



- Create a Wildland Urban Interface (WUI) citizen advisory council to provide peer level communications for the community. Too often, government agency advice can be construed as self-serving, and consequently, there is poor internalization of information by the citizens. The council should be used to:
  - Bring the concerns of the residents to the prioritization of mitigation actions.
  - Select demonstration sites.
  - Assist with grant applications and awards.

### ***Fire Department Involvement***

Platte Canyon Fire Protection District (hereafter referred to as PCFD) provides suppression services for the study area. The district has four fire stations, Bailey, Harris Park, Grant, and Crow Hill. Mutual aid is available from the Elk Creek Fire District.

PCFD adheres to the National Wildfire Coordinating Group (NWCG) curriculum for training. Of PCFD's 65 members 52 are firefighters with NWCG S-130/190 training (basic wildland fire fighting and weather). A number of fire personnel are qualified at the Crew Boss/Engine Boss level or higher.

### **RECOMMENDATIONS**

- Provide continuing education for all firefighters including:
  - NWCG S-130/190 for all department members.
  - Annual wildland fire refresher and "pack testing" (physical standards test).
  - S-215 Fire in the Interface
  - S-290 Intermediate Fire Behavior
  - I-200 and I-300 – Basic and Intermediate ICS
  - RX-234 Ignition Specialist
- Equipment:
  - Provide minimum wildland Personal Protective Equipment (PPE) for all firefighters.
    - (See NFPA Standard 1977 for requirements).
  - Provide gear bags for both wildland and bunker gear to be placed on engines responding to fire calls. This will help ensure that firefighters have both bunker gear and wildland PPE available when the fire situation changes.
  - Provide and maintain a ten-person wildland fire cache in addition to the tools on the apparatus.

## **Solutions and Mitigation**

### ***Establishing and Prioritizing Fire Management Units (FMUs)***

An efficient method of prioritizing work efforts is to create Fire Management Units. FMU's should be created prior to planning or initiating fuels management projects and other mitigation to open space or around structures. There are unique vegetation and/or mitigation management activities recommended for each priority zone. The local land management and fire management agencies, ideally with the input of the citizen's advisory council, must determine priority actions. Recommendations are presented for the following items. Recommendations are not ordered in priority ranking.

- Escape Routes and Addressing FMU
- Home Mitigation FMU
- Water Supply FMU

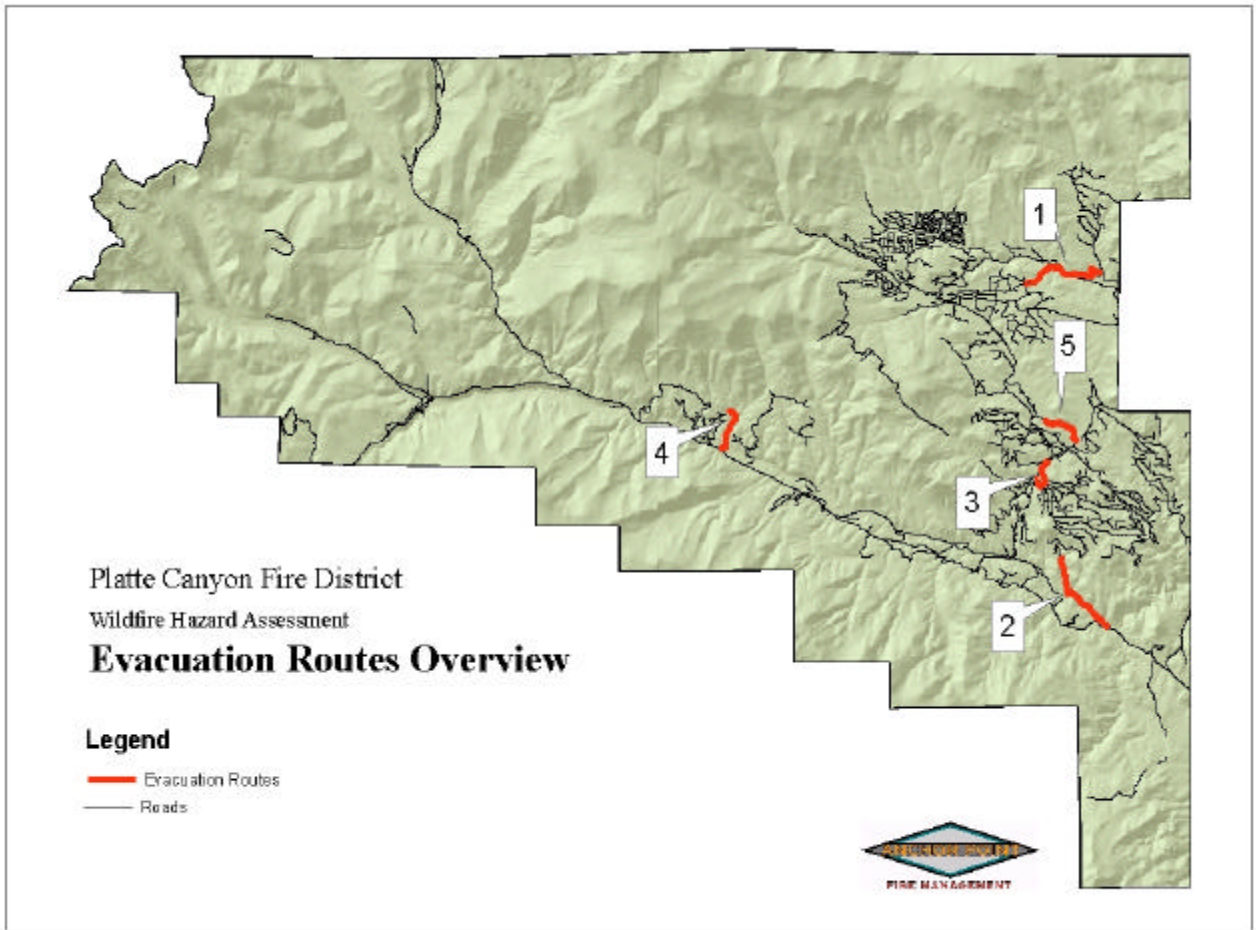
## ***Escape Routes and Addressing FMU***

One of the principle problems with rapid response in this area has been dispatching confusion arising from inconsistent addressing of properties. It is our understanding that PCFD has been in the process of cataloging all of the existing addresses in the district in order to provide a consistent database for dispatching. We consider this effort to be of the highest priority. Recommendations for address markers can be found in Appendix D. In addition to the GIS mapping provided with this report, we strongly recommend that parcel level assessments be conducted in Platte Canyon, beginning with the areas identified at greatest risk. This would aid in accurately addressing structures throughout the district. The GIS and existing fire department maps could be verified at the time of this assessment. In addition to improved access PCFD, is working on “Safety in Place” areas that are designed as alternatives to evacuation through hazardous areas. This work should continue, and the completed document should be published as part of citizen education and fire resource pre-attack planning.

Several of the communities in the study would benefit from improved access. The following are represented graphically by figures 6-11.

## **RECOMMENDATIONS**

1. **Hidden Valley:** It may be possible to create a secondary access to this area by improving the jeep trail between Tincup and Hidden Valley Road.
2. **Bailey Mountain:** A possible secondary access could be established to Forest Service Road 543.
3. **Burland:** Old US Hwy 285, that is now closed, may make a good alternate access if it is graded and maintained.
4. **Singleton:** There is a possible access to the North end of this community from Gildry Road via a jeep road running through Long Meadow Ranch. The permission of the ranch would need to be secured, and some improvements would need to be done to make this an effective route for emergency vehicles.
5. **Mill Iron D Estates:** There is a secondary egress via a bulldozer road to US Hwy 285 that is currently locked. PCFD should request permission from the landowner to use this as an emergency route. Some improvements may be necessary for emergency vehicle access.



**Figure 6 Evacuation Routes Overview**

