



Recommendations for Huerfano County, CO



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About the Community Planning Assistance for Wildfire Program

The [Community Planning Assistance for Wildfire](#) (CPAW) program works with communities to reduce wildfire risks through improved land use planning. It is supported through grants from the U.S. Forest Service, the LOR Foundation, and other private foundations. It is a program of Headwaters Economics and Wildfire Planning International.

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Introduction

Each year wildfires affect communities across the United States. These wildfires – both human- and lightning-caused – can have a variety of impacts on communities’ built and natural environments. Some of these impacts bring positive ecological outcomes, such as improved forest health and habitats. Other wildfires, however, can have devastating social, economic, and environmental consequences to communities’ public and first responder safety, homes and businesses, parks, roads, watersheds, forests, hospitals, and more.

Communities have many options to address and reduce their wildfire risk. The Community Planning Assistance for Wildfire (CPAW) program offers a unique approach to help community stakeholders identify what’s at risk in the “wildland-urban interface” (WUI, pronounced “WOO-EE”) and determine ways to address this risk through improved land use planning strategies.

❖ Community Planning Assistance for Wildfire

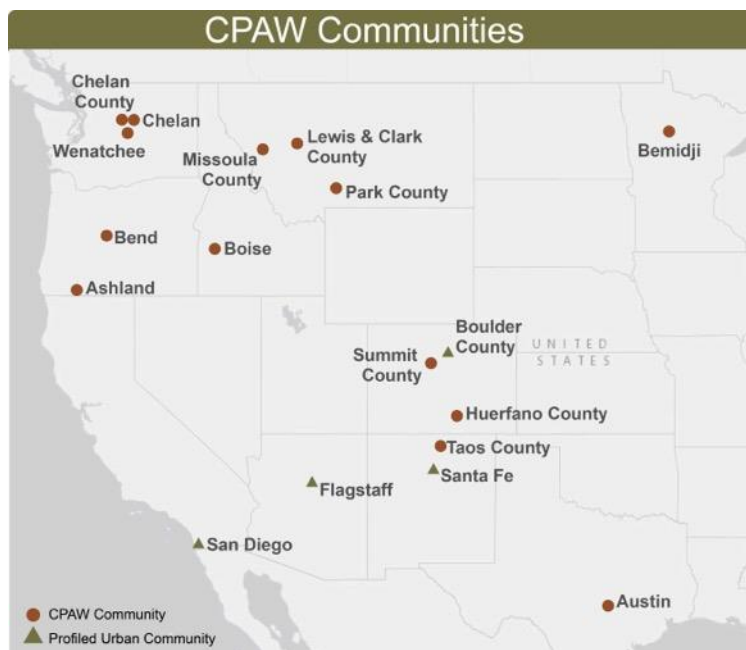


Figure 1: Communities who have been engaged in the Community Planning Assistance for Wildfire program (as of October 2017).

CPAW was established by Headwaters Economics and Wildfire Planning International in 2015 and is funded by the USDA Forest Service, the LOR Foundation, and other private foundations. Since its inception, CPAW has worked with communities of varying sizes and capacities across the United States.

Community Selection and Services

Communities voluntarily apply and are competitively selected to participate in the program on an annual basis. Communities must show commitment and engagement from both the planning and fire departments to reflect the collaboration required for CPAW success. If selected, communities receive customized technical

consulting services from CPAW's team of professional land use planners, foresters, risk modelers, and researchers. Specific services vary based on community needs and may include capacity-building trainings on WUI planning topics, risk modeling and spatial analysis, guidance on wildfire mitigation plans and policies, and other strategies to address local wildfire risk.

Stakeholder Engagement

Community members that are engaged in the process play a critical role in project success. While services are provided at no charge to the community, each community signs a Memorandum of Understanding with CPAW to outline its mutual understanding of roles, responsibilities, and project commitments. CPAW teams engage with a variety of local stakeholders who may serve as steering group members, local experts, or interested parties. These stakeholders provide valuable input and feedback, represent diverse wildfire and community development interests, and act as communication channels to other local groups.

CPAW Process

The CPAW community planning process typically occurs over the course of one year. During that time, CPAW team members meet with stakeholders to discuss local issues, conduct several field tours to learn about unique wildland-urban interface and wildfire mitigation challenges, and provide presentations to help the community understand CPAW's program goals. Team members also thoroughly review community planning documents to analyze gaps and opportunities for strengthening wildfire policies and regulations. At the end of the process, team members provide the community with a set of voluntary recommendations to more effectively address the WUI through appropriate land use planning strategies. Follow-up implementation assistance may also be available to communities depending on their unique needs and CPAW's program funding.

CPAW Recommendations

CPAW recommendations are customized to each local community based on a combination of important inputs: community observations and stakeholder feedback, science and best practices, and national expertise in planning, forestry, hazard mitigation and wildfire risk reduction. All



Figure 2: Community Planning Assistance for Wildfire typical planning process.

recommendations are voluntary. Local governments retain sole authority for the decision to implement any recommendations delivered by CPAW.

This report provides Huerfano County with six recommendations (summarized in Table 3). Each recommendation includes an overview of its importance and relevance. Implementation guidance for staff is also provided. Many aspects of the recommendations are related to one another; where applicable, recommendations are cross-referenced. As staff consider CPAW recommendations, they may further refine the concepts to ensure alignment with county goals and actions.

❖ Huerfano County Planning Context

Huerfano County was accepted into the CPAW program in November 2016 and received assistance over the course of the past year. As an initial step to understand local conditions, team members assembled community information and data including geographical information, key demographics, economic trends, fire environment, and wildfire history. This section provides a summary of that information.

Geographic Location and Significant Features

Located in southcentral Colorado, Huerfano County is the 30th largest county in Colorado in terms of land area. The county is shaped by plains to the east and the Sangre de Cristo Mountain Range to the west, including Blanca Peak standing at 14,345 feet. Huerfano County's geologic formations also consist of a number of dikes and rock formations created by volcanic activity. Originating in the Sangre de Cristo Mountains, the Huerfano and Cucharas rivers run through the county and supply most of the available drinking water.¹

Land Area and Ownership

Huerfano County has a total land area of 1,591 square miles.² The majority of the county's land (74.6%) is privately owned, including conservation easements (0.6%). Federal agencies, including the U.S. Forest Service and Bureau of Land Management, comprise 20.9% of land in the county. Remaining lands (4.5%) are owned by the state (Figure 3).³

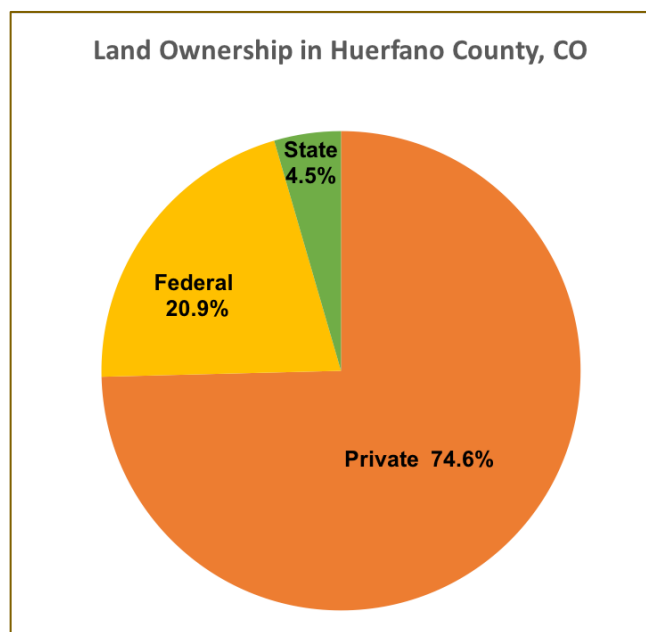


Figure 3: Land Ownership in Huerfano County, CO

¹ Huerfano County Pre-Disaster Mitigation Plan (2011).

² U.S. Census Bureau (2010).

³ Headwaters Economics Economic Profile System (Land Use): U.S. Geological Survey, Gap Analysis Program. 2016. Protected Areas Database of the United States (PADUS) version 1.4 (2016).

Key Demographics and Economic Trends

The city of Walsenburg (county seat) and town of La Veta are the only two incorporated communities in Huerfano County. The remainder of the county is rural, including the unincorporated communities of Badito, Cuchara, Farista, Gardner, Pictou, and Pryor.

Huerfano County has not experienced the same population and economic growth as other areas along the Colorado Front Range in recent decades. However, the combination of affordable land prices, the cultivation of retail cannabis as a recent commercial driver, and upcoming economic activities (for example, green recreation jobs and wind farms) may accelerate growth and population in the future.

Table 1: Overview of Demographics in Huerfano County, CO		
Topic	Key Statistic	Notes
Current population	6,502 residents	This is a 17% decrease in population since 2000. ^a
Population density	4.2 people/sq. mile	State average is 48.5 people per sq. mile. ^b
Median age	54 years	State average is 36.3 years. ^a
Total number of housing units	5,116	1% of total has been built since 2010. ^a
Housing units for seasonal, recreational or occasional use	1,215 homes	This accounts for 24% of all housing units. ^b
Median home price	\$147,600	State average is \$247,800. ^a
Median household income	\$31,715	State average of \$60,629. ^a
Workforce employment	2,600	Largest employments industries are education, healthcare and social assistance (32%). ^a
Poverty rate	13%	State average is 8.5%. ^a
a. U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates. b. U.S. Census Bureau, 2010.		

Fire Environment and Wildfire History

The Colorado State Forest Service (CSFS) places Huerfano County within the top 10 Colorado counties at potential risk of wildfire based on the number of square miles of undeveloped land in the wildland interface.

The vegetation present in Huerfano County is indicative of a largely fire-dependent ecosystem. According to the Colorado Wildfire Risk Assessment Portal (CO-WRAP)-generated report, surface fuels in the planning area mainly consist of low- to moderate-load dry-climate grasses and high-load conifer litter. (Note: Vegetation based on 2005 assessment.) Figures 4 and 5 illustrate the approximate land cover of each vegetation class within Huerfano County.















Vegetation Class		Acres	Percent
	Grassland	406,165	40.7 %
	Shrubland	64,512	6.5 %
	Aspen	81,947	8.2 %
	Lodgepole Pine	426	0.0 %
	Ponderosa Pine	88,577	8.9 %
	Spruce-Fir	31,822	3.2 %
	Mixed Conifer	80,202	8.0 %
	Oak Shrubland	81,318	8.1 %
	Pinyon-Juniper	135,266	13.6 %
	Riparian	11,785	1.2 %
	Introduced Riparian	1,742	0.2 %
	Agriculture	11,481	1.2 %
	Open Water	2,167	0.2 %
	Urban & Community	393	0.0 %
Total		997,803	100.0 %

Figure 4. Approximate land area (acres) and percentage of vegetation class present within Huerfano County. (CO-WRAP, 2013.)

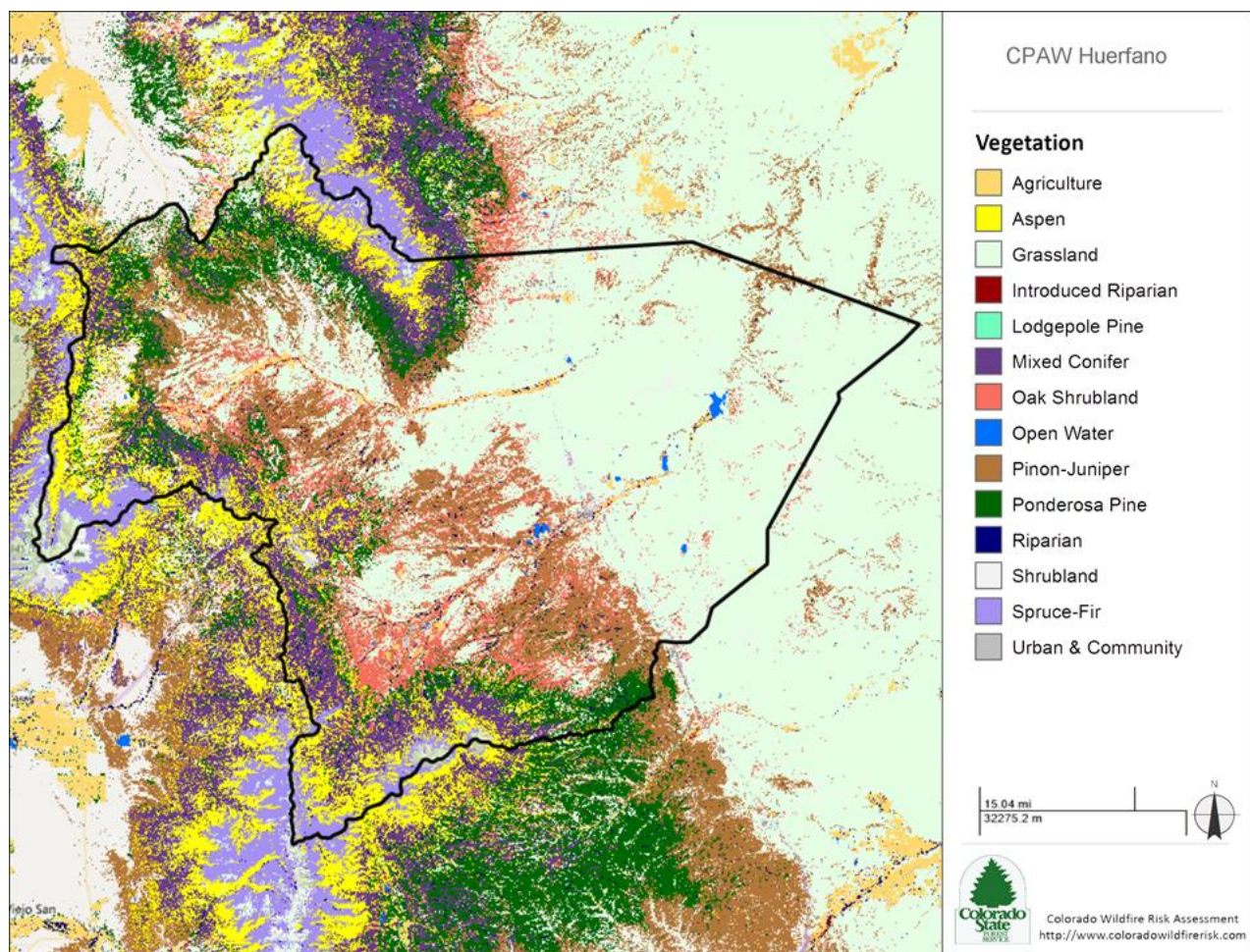


Figure 5. Huerfano, CO Vegetation Cover Map. (CO-WRAP, 2013.)

Fire intensity modeling undertaken by the CSFS reveals wildfire potential over 97.8 percent of the total county land base (see Figure 7 in Recommendation 2). Recent fire history confirms the potential for large fire development and threat or loss to communities, structures, and infrastructure (Table 2). In addition to these large fires, county Dispatch CAD and FPD records reveal numerous wildland fire starts that are suppressed at initial attack before becoming large fires.

Table 2: Overview of Huerfano County, CO Fire History (1978-2016)

Fire Name	Year	Size (acres)	Location	Evacuations	Significant effects
48 Fire	2016	2,615	Near Walsenburg	No	No
Grass fire (no official name)	2015	400	LVFPD	No	No
East Peak Fire	2013	9,000	Walsenburg	Yes	13 structures lost
Occidental Fire	2013	13	LVFPD	Yes	No
Klikus Fire	2013	68	LVFPD	Yes	No
Sand Dunes Fire	2010	8,500	Great Sand Dunes National Park	No	No
County Rds. 120 and 103	2008	80	Rock Spring Arroyo	No	No
Grass and brush fire	2008	300	North east of Stonewall	n/a	2 buildings destroyed
Sheep Fire	2006	56	Gardner	Yes	Several homes and a natural gas plant threatened
Mato Vega Fire	2006	13,937	Costilla and Huerfano County	Yes	No
Maricio Canyon Fire	2006	5,400	Black Hawk Ranch Area	n/a	15 structures destroyed, several hundred residents evacuated
Crazy French Fire	2002	300	Black Hawk Ranch Area	n/a	Part of presidential disaster declaration
Spring Fire	2002	33,000	Black Hawk Ranch Area	n/a	Part of presidential disaster declaration
James John Fire	2002	6,800	Black Hawk Ranch Area	n/a	Part of presidential disaster declaration
The Morley Fire	1978	300	Black Hawk Ranch area	n/a	n/a

Data Sources: Huerfano County Pre-Disaster Mitigation Plan (2011).

❖ Huerfano County Community Analysis

In addition to understanding the local planning context, CPAW gathers information through facilitated conversations and meetings with stakeholders, field tours, and internal research. CPAW also reviews and analyzes community plans, policies, and regulations to determine their level of effectiveness for community wildfire mitigation. This information is internally compiled into a WUI Planning Audit and reviewed with the local steering group. The following section highlights planning challenges and opportunities that emerged in Huerfano County during that process.

Local Planning Challenges

- **Existing 35-acre subdivisions limit regulation.** Many of Huerfano County's subdivisions have lot sizes equal to or greater than 35 acres. By Colorado state law, subdivisions approved at this lot size are exempt from subdivision regulation. As a result, many subdivisions in Huerfano County that have been built or platted have inconsistent and limited standards in place for adequate fire protection. This has resulted in difficult access and limited water supply for fire response and suppression.
- **Limited volunteer fire capacity.** The county relies on volunteer fire departments to serve many of its rural areas. Locally and nationally, however, trends show that recruitment is becoming increasingly difficult and the volunteer population of firefighters is aging. This puts added strain on existing capacity and raises concerns about future recruitment.
- **Limited county staffing capacity.** In addition to limited response capacity, the county Land Use Office & Regional Building Authority has limited resources and staffing. Any CPAW recommendations must acknowledge current staff capacity limitations. Similarly, there is not a full-time dedicated wildfire mitigation coordinator position or county fire marshal.
- **Barriers to community engagement.** Some local communities embrace a spirit of independence and may be averse to new regulations unless an effective education and outreach campaign is in place. Other local challenges include property owners who moved from less rural areas and don't fully perceive the wildfire threat, and seasonal or absentee homeowners who do not prioritize wildfire risk reduction during their limited time on their property.
- **Extended seasons and changing conditions.** Wildfire seasons are getting longer primarily due to increased human ignitions. In addition, the growing threat of spruce beetle is exacerbating local forest health conditions. The combination of increased environmental and anthropogenic causes will require more attention to addressing local wildfire threat in Huerfano County.

Local Planning Opportunities

- **East Peak Fire powerful outreach example.** The 2013 East Peak Fire continues to serve as a powerful reference for many county staff and residents who experienced the threat of that fire. The county can continue to use this example to support education, outreach, and mitigation activities.
- **Wildfires affecting local insurance coverage.** Underwriter requirements in the private insurance market are beginning to play an increasing role across Colorado in how buildings are constructed and properties maintained. Some residents of Huerfano County have indicated that wildfire concerns are being raised by their insurance providers, which prompts the need for the county to act ahead of future underwriting standards.
- **Complementary suite of codes.** Huerfano County has recently adopted 2015 updates to local codes. The International Wildland-Urban Interface Code (IWUIC) is well-aligned to complement the county's existing suite of codes. Taking a proactive approach to regulation also creates more certainty for development and mirrors other community regulatory approaches across the West.
- **Strong local partnerships.** Although capacity and resources are stretched thin, several local, state, and federal agencies participate in wildfire discussions and planning activities. These relationships reflect strong partnerships at the local level and have enhanced the CPAW process. Strong, long partnerships such as these could potentially be leveraged in the future to support the implementation of CPAW recommendations.
- **Proactive homeowner engagement.** Several of the property owner associations (POAs), such as Blackhawk Ranch, Tres Valles, Spanish Peaks, and Panadero, have been proactively engaged in wildfire awareness and mitigation. POAs could be further leveraged as communication channels and mitigation examples for other subdivisions in the county. Similarly, while some large-lot subdivisions may be exempt from regulation, future outreach programs could emphasize home ignition zone practices.



Summary of Recommendations for Huerfano County, CO

Table 3. Overview of Recommendations

Recommendation	Summary	Key Points
1. Define the Wildland-Urban Interface	<i>Clearly define Huerfano County's wildland-urban interface land cover classifications.</i>	<ul style="list-style-type: none"> An updated definition helps the county more accurately plan for local risk by accounting for the set of conditions that allows fire to ignite and spread through the WUI environment. Huerfano County should also stratify its WUI into the Interface and Intermix based on local conditions.
2. Implement a WUI Risk Assessment Program	<i>Integrate a risk assessment map as a component of the decision support tool for land use policies and regulations. Consider the implementation of a spatially delineated risk assessment program by incorporating property-specific assessment information.</i>	<ul style="list-style-type: none"> Spatial understanding of wildfire risk helps the county communicate, plan, and develop policies. Data available from the state require local calibration to more accurately reflect local wildfire risk concerns. Huerfano County can take interim steps to developing a useful wildfire exposure assessment prior to undertaking a complete assessment.
3. Adopt a Wildland-Urban Interface Code	<i>Adopt the International Code Council International Wildland-Urban Interface Code (IWUIC) to establish minimum wildfire safety standards for future development in designated wildland-urban interface areas of Huerfano County.</i>	<ul style="list-style-type: none"> Huerfano County currently has limited land use regulations to address its wildfire risk, and many references lack clear direction to allow for objective and consistent application. The IWUIC is a scientifically-based code that reduces wildfire risk and provides other potential benefits. The IWUIC would align well with other county codes.

Recommendation	Summary	Key Points
4. Update Comprehensive Plan to Elevate Wildfire as the Priority Natural Hazard	<i>Update the Huerfano County Comprehensive Plan (2010) to elevate wildfire as the priority natural hazard and include wildfire information, goals, and policies that acknowledge and plan for wildfire's potential impacts on the county's natural environment, built environment, social resilience, and economy.</i>	<ul style="list-style-type: none"> Huerfano County plans to update its Comprehensive Plan in the near future. There are currently very few references to natural hazards or wildfire. Adding wildfire policies to the Comprehensive Plan will elevate wildfire as one of the county's most significant natural hazards. Policies can support and reference other county planning documents.
5. Develop a Countywide Community Wildfire Protection Plan	<i>Collaborate with local, state and federal stakeholders to develop a countywide Community Wildfire Protection Plan (CWPP).</i>	<ul style="list-style-type: none"> There are many local concerns related to wildfire beyond those that can be addressed through policies and regulations. A countywide CWPP compels federal land agencies to collaborate with the county and offers local stakeholders the opportunity to coordinate and prioritize wildfire risk reduction activities. CWPPs have many other local benefits, including financial incentives. This recommendation reinforces a priority action listed in the county's Multi-Hazard Mitigation Plan.
6. Dedicate Staff and Convene a Task Force to Sustain Wildfire Activities	<i>Fund a full-time wildfire mitigation coordinator position and form a dedicated multi-county wildfire task force to facilitate ongoing stakeholder engagement, coordinate resources, and plan risk-reduction activities.</i>	<ul style="list-style-type: none"> Dedicated staff and stakeholder working groups are essential to implementing current and future wildfire mitigation activities. A multi-county working group can create efficiencies for many current state and federal agencies, and strengthen local approaches to wildfire projects.



RECOMMENDATION 1: Define the Wildland-Urban Interface (WUI)

Clearly define Huerfano County's wildland-urban interface land cover classifications.

❖ Why This Recommendation Matters

The county has been attempting to classify WUI neighborhoods based on anecdotal spatial grouping of structures, combined with a Healthy Forests and Restoration Act (HFRA) definition of a WUI that defines the WUI as “the area of federal lands extending one-half mile from the boundary of an at-risk community”.⁴ An alternative HFRA definition also allows for this distance to be extended to one-and-one-half miles under specific conditions. The HFRA further defines an “at-risk community” as being an interface community at “high risk.” HFRA also offers an alternative definition to “at-risk communities” as: *a group of homes and other structures with basic infrastructure and services...within or adjacent to Federal land....in which conditions are conducive to a large-scale wildland fire disturbance event.*

There are several challenges with the use of this HFRA definition:

- It limits “at-risk” communities to those WUI communities at “high risk.”
- It still requires an appropriately scaled spatial risk assessment to determine either: 1) which communities are at “high risk”; or 2) which groups of homes or other structures are in areas “in which conditions are conducive to a large-scale wildland fire disturbance event.”
- It does not account for areas that are not federal land and are beyond the pre-determined distance (either one-half mile, or one-and-one-half miles), but still meet the “set of conditions” for fire ignition and spread through vegetation and structures.

❖ Implementation Guidance

1. Accurately Define the WUI in Huerfano County

To understand and clearly communicate where wildfire mitigation land use policies and regulations should apply within Huerfano County, the Land Use Department must first clearly define where the wildland-urban interface (WUI) is within the county.

⁴ Healthy Forests Initiative and Health Forests Restoration Act Interim Field Guide. Accessed August 24, 2017. <https://www.fs.fed.us/projects/hfi/field-guide/web/page22.php>

A general WUI definition used across all policies, plans and regulations should account for the “set of conditions” that allows fire to ignite and spread through the WUI environment. To provide the basis for a true understanding of the risk that Huerfano County faces, CPAW recommends that Huerfano County more accurately defines its WUI as:

Any developed area, or potential development, where conditions affecting the combustibility of both wildland and built fuels allow for the ignition and spread of fire through the combined fuel complex.

2. Stratify the WUI into Interface and Intermix

Huerfano County should also implement a standard approach that stratifies the WUI into the Wildland Urban Interface and the Wildland Urban Intermix. The updated (2010) SILVIS Lab⁵ methodology of spatially defining the WUI is a good model to use for stratifying the WUI within Huerfano County, as discussed below.

SILVIS Lab Approach

The SILVIS lab approach originated in the Federal Register⁶ report on WUI communities at risk from fire, and Teie and Weatherford’s 2000 report⁷ to the Council of Western State Foresters on WUI fire risk. This approach focuses on the following inputs:

1. Housing density
2. Land cover⁸
 - **WUI Intermix:** Areas with ≥ 16 houses per square mile and ≥ 50 percent cover of wildland vegetation.
 - **WUI Interface:** Areas with ≥ 16 houses per square mile and < 50 percent cover of vegetation located < 1.5 miles of an area ≥ 2 square miles in size that is ≥ 75 percent vegetated.
 - **Non-WUI Vegetated (no housing):** Areas with ≥ 50 percent cover of wildland vegetation and no houses (e.g., protected areas, steep slopes, mountain tops).
 - **Non-WUI (very low housing density):** Areas with ≥ 50 percent cover of wildland vegetation and < 16 houses per square mile (e.g., dispersed rural housing outside neighborhoods).
 - **Non-Vegetated or Agriculture (low and very low housing density):** Areas with < 50 percent cover of wildland vegetation and < 128 houses per square mile (e.g., agricultural lands and pasturelands).
 - **Non-Vegetated or Agriculture (medium and high housing density):** Areas with < 50 percent cover of wildland vegetation and ≥ 128 houses per square mile

⁵ Martinuzzi, S., S.I. Stewart, D.P. Helmers, M.H. Mockrin, R.B. Hammer, and V.C. Radeloff. 2015. The 2010 Wildland-Urban Interface of the Conterminous United States. Research Map NRS-8. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 124 p. (University of Wisconsin-Madison, Department of Forest and Wildlife Ecology, SILVIS Lab.)

⁶ USDA and USDI. 2001. Urban wildland interface communities within vicinity of Federal lands that are at high risk from wildfire. Federal Register 66 FR 751–777.

⁷ Teie, W.C., and B.F. Weatherford. 2000. Fire in the west: The wildland/urban interface fire problem. Rep. to the Council of Western State Foresters, Deer Valley Press, Rescue, CA. 15 p.

⁸ Schlosser, W.E. 2012. Defining the Wildland-Urban Interface: A Logic-Graphical Interpretation of Population Density. Pullman, WA: Kamiak Ridge, LLC.

(e.g., urban and suburban areas, which may have vegetation, but not dense vegetation).

Modified SILVIS Lab Approach for Huerfano County

Because the SILVIS Lab methodology was developed for national-scale analysis, the land cover classifications (above) may not align with the structure of the land use cover present in Huerfano County. Therefore, the following modified land cover classification based largely on the SILVIS Lab approach (described above) is recommended as more appropriate for Huerfano County⁹:

- **Wildland-Urban Interface:** Structures present ≥ 16 structures per square mile and less than 50 percent wildland vegetation.
- **Wildland-Urban Intermix:** Greater than 50 percent wildland vegetation and structures present from ≥ 16 structures per square mile to < 16 structures per square mile, and there is no clear line of demarcation, i.e., the wildland fuels are continuous outside of and within the developed area.
- **Occluded:** Where structures abut an island of wildland fuels (park or open space) and there is a clear line of demarcation between the structures and the wildland fuels along roads and fences.
- **Rural/Agricultural:** Where scattered small clusters of structures (ranches, farms, resorts, or summer cabins) with less than 50 percent wildland fuels < 16 structures per square mile.
- **Wildland:** Greater than 50 percent wildland vegetation and no structures present.

The following buffer distance for all land cover classifications should apply to account for ember transport: All areas within 1.5 miles of all wildland vegetation (> 75 percent vegetation).⁸

Based on the conditions in Huerfano County, all five of the above land cover categories apply; however, the Intermix and Rural/Agricultural land cover dominate the landscape.

CSFS Wildfire Risk Assessment Structure Density

Limitations to the SILVIS structure data are identified in the Colorado State Forest Service (CSFS) 2013 Wildfire Risk Assessment Final Report.¹⁰ Therefore, the CSFS Wildfire Risk Assessment model uses the structure density data collected through the LandScanTM methodology, developed by the Oak Ridge National Laboratory.¹¹ Using the structure density layer produced for the CSFS Wildfire Risk Assessment project will provide the most up-to-date and appropriate information. Alternatively, if the capacity exists within the county, local structure density layers may provide a greater accuracy; however, this will require additional spatial data processing.

⁹ Radeloff, V.C., R.B. Hammer, S.I. Stewart, J.S. Fried, S.S. Holcomb, and J.F. McKeefry. 2005. The Wildland Urban Interface in the United States. *Ecological Applications* 15: 799-805.

¹⁰ Visit <http://static.colostate.edu/client-files/csfs/pdfs/ColoradoWRA-FinalReport.pdf> to view the full report.

¹¹ Visit <http://web.ornl.gov/sci/landscan/> to access data.



RECOMMENDATION 2: Implement a WUI Risk Assessment Program

Integrate a risk assessment map as a component of the decision support tool for land use policies and regulations. Consider the implementation of a spatially delineated risk assessment program by incorporating property-specific assessment information.

❖ Why This Recommendation Matters

To implement land use policies and regulations that effectively mitigate wildfire impact within Huerfano County, the Land Use Department must understand wildfire risk across the county, based on the set of conditions that allow fire to ignite and spread through varying vegetation and human developments.

Once the risk is assessed and spatially delineated, the county can use this information to communicate level of risk to the public and to support land use policies, regulations, and decisions related to wildfire risk.

Ideally, a complete wildfire risk assessment should be developed, including a map of spatially delineated risk classes across the county (i.e., a wildfire risk map). This map should be created at an appropriate resolution and scale to be useful in the planning and regulatory process.

What is Wildfire Risk?

Wildfire risk can be visualized as a triangle consisting of three components:

1. Likelihood of a wildfire occurring based on topography, weather, and ignition patterns; this can also include ignition sources from hazardous land uses (e.g., sawmills or propane storage facilities);
2. Predicted intensity of a wildfire (usually measured in flame length) based on vegetation type and weather conditions; and
3. Susceptibility of values (for land use planning purposes, values consist of communities, structures, and infrastructure).

Together, these components complete the wildfire risk triangle (Figure 6).¹²

¹² Scott, J.H.; Thompson, M.P.; Calkin, D.E. 2013. A wildfire risk assessment framework for land and resource management. Gen. Tech. Rep. RMRS-GTR-315. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 83 p.

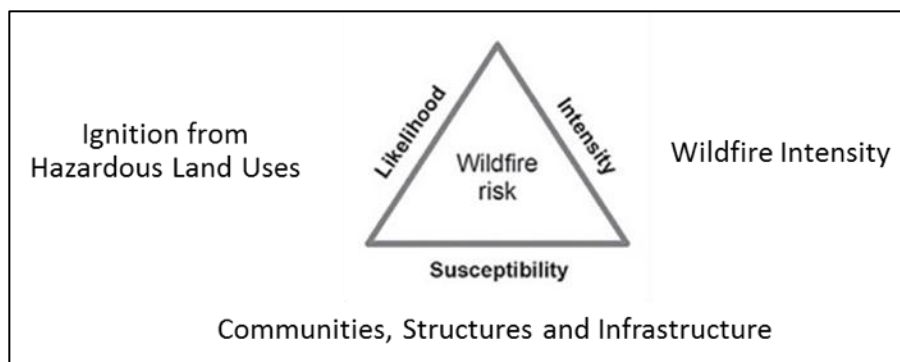


Figure 6. Components of wildfire risk

Land use planning largely focuses on mitigating the susceptibility portion of the wildfire risk triangle. There are two important susceptibility inputs that should be evaluated to appropriately determine wildfire risk in the context of land use planning:

- The location and density of structures and infrastructure;
- The ignition potential of individual structures and infrastructure.

CSFS Wildfire Risk Assessment Background

The Colorado State Forest Service (CSFS) Wildfire Risk Assessment risk index layer was derived using a WUI response function that ranks the negative effects of the expected flame length exposure on structures compared relatively across the state. This was achieved by using a numerical scale response function that evaluates the location and density of structures in comparison with the expected exposure to a given flame length. State officials and other wildfire experts applied subjective numerical values to represent this response function. The greatest negative response function occurs where both the longest flame length and the highest density of structures intersect. The least negative response function occurs where the shortest flame length and the lowest structure density occurs.

The primary challenge to this approach in determining susceptibility is that these response function values were applied on the assumption that the greatest negative impacts are where the longest flame lengths intersect with the highest structure densities. Huerfano County is largely wildland-urban intermix with low structure density throughout the landscape, very few high-density locations, and extensive areas of vegetation between structures. In comparison to other areas of the state where higher structure densities exist, Huerfano County ranks lower; however, in a local context, structure susceptibility to fire represents a significant potential impact to the county.

Huerfano County Wildfire Risk Assessment Challenges

Due to current resource limitations, Huerfano County cannot facilitate a locally developed and complete wildfire risk assessment and map that reflects the local conditions appropriate for planning and regulatory decisions. This is largely due to the lack of structure/infrastructure ignition potential data and an appropriate spatial assessment of the impact of structure or infrastructure loss to fire (the susceptibility component of wildfire risk). In addition, an updated vegetation layer that accurately represents local conditions is not currently available to support

the intensity component of a risk assessment. Recent drought, forest pathogen, and insect impacts have significantly altered the fire behavior potential (typically resulting in increased fire intensity) of large areas within the county.

Currently, the Risk Index layer of CSFS Wildfire Risk Assessment is the most readily available resource for modeling susceptibility within Huerfano County; however, county staff and local wildfire experts agree that it does not provide an appropriate spatial representation of local wildfire risk concerns with regards to community, structure, or infrastructure susceptibility. This is primarily due to the methodology and context from which this layer was derived.

A secondary challenge is that the CSFS Wildfire Risk Assessment does not account for the ignition potential of individual structures – no wildfire risk model currently does; this can only be assessed through conducting individual, “boots on the ground” parcel-level assessments.

In addition to these two challenges, the CSFS Wildfire Risk Assessment vegetation layer (on which the intensity layer is based) does not reflect conditions present in local vegetation variants, recent disturbances such as wildfire or wind events, or recent forest health impacts in the timber fuel types.

❖ Implementation Guidance

An Interim Wildfire Exposure Assessment Solution for Huerfano County

Despite the noted anomalies in the risk index and vegetation layers, the CSFS Wildfire Risk Assessment provides a very good option to develop an interim wildfire exposure assessment for Huerfano County prior to a complete risk assessment. Specifically, the intensity layer and the structure density layer can be used together to produce this interim spatial exposure assessment.

The CSFS Wildfire Risk Assessment intensity layer (based on the vegetation layer) provides a reasonable representation of flame length exposure across the land base of the county (Figure 7). This spatial representation of flame length shows the potential exposure of new or existing structures to flame lengths of 1 foot to greater than 25 feet across 97.8% of the total land base within the county, which will require some minimum level of mitigation to reduce structure damage or loss from wildfire. Of this, 95.7% of the land base has the potential to result in new or existing structure exposure to four feet or longer flame lengths (moderate to extreme), which will require a minimum implementation of ignition resistant building standards

	Flame Length	Acres	Percent
	Non-Burnable	21,503	2.1 %
	Very Low (0 - 1 ft)	346	0.0 %
	Low (1 - 4 ft)	21,575	2.1 %
	Moderate (4 - 8 ft)	620,813	60.9 %
	High (8 - 12 ft)	81,846	8.0 %
	Very High (12 - 25 ft)	121,453	11.9 %
	Extreme (25+ ft)	151,484	14.9 %
Total		1,019,020	100.0 %

Figure 7. Intensity classes (flame length) and proportion of land base within Huerfano County (CSFS Wildfire Risk Assessment)

as well as a 30 foot or greater defensible space standards to reduce the risk of structure damage or loss from wildfire in these areas.

The use of the CSFS Wildfire Risk Assessment structure density layer overlaid on the CSFS Wildfire Risk Assessment intensity layer, subsequently producing a spatial display of the relative potential wildfire intensity exposure to structures is recommended. To further refine the intensity layer, the county and local fire experts can work with the CSFS to improve local vegetation information. In the interim, local forest health and disturbance polygons can be used to further enhance the exposure layer as an overlay of “special concern areas”. These areas should automatically trigger site visits by a qualified professional.

Recognizing that Huerfano County has very limited capacity and resources to commit to defining the wildland-urban interface and developing a spatial wildfire exposure map, the following implementation guidance is provided:

1. Adopt CSFS Wildfire Risk Assessment Structure Density Layer to Identify the Wildland-Urban Interface

Use internal GIS staff to obtain the structure density layers and delineation of the four land cover classes (Wildland-Urban Interface, Wildland-Urban Intermix, Occluded, and Rural) through the CO-WRAP web portal.

2. Use the CSFS Wildfire Risk Assessment Intensity Classifications to Determine Relative Exposure to Structures

1. Obtain the CSFS Wildfire Risk Assessment intensity layer to provide a spatial display of the relative potential wildfire intensity exposure to structures. From this, a relative relationship can be established between the intensity classifications and structure locations.
2. Modify this layer by overlaying known forest health or disturbance polygons that will increase the wildfire exposure.
3. Engage with the CSFS through local CSFS partners and provide local vegetation knowledge to modify the next iteration of both the vegetation layer and the Risk Index Layer response function inputs.

3. Conduct Parcel-Level Assessments

The county should also consider undertaking parcel-level assessments to complete the susceptibility component of the risk triangle, by providing ignition potential data for individual structures and infrastructure. This would require an “on the ground” site visit by a qualified professional. Specific steps include:

1. Adopt a standardized parcel-level wildfire risk assessment process.
2. As part of the WUI Code adoption (see Recommendation 3) for new developments (building permits and subdivision applications), require applicants to submit a parcel-level wildfire risk assessment using a qualified professional.
3. Implement a voluntary program to conduct parcel-level assessments on existing structures using qualified professionals.

❖ Tips and Additional Resources

Potential Funding - Energy And Mineral Impact Assistance Fund Grant

The Energy and Mineral Impact Assistance Fund (EIAF) Grant Program may be a potential source of funding to implement this recommendation through enhanced GIS capacity.

Administered by the Colorado Department of Local Affairs (DOLA), the EIAF program was created “to assist political subdivisions that are socially and/or economically impacted by the development, processing, or energy conversion of minerals and mineral fuels,” as well as to support Regional Councils of Government.

Eligible activities include technical assistance projects or programs such as GIS services, organizational facilitation, retreat facilitation, support for planning efforts (such as Broadband Local Technology Planning Groups), and project-specific support (for example, grant writing, project development, and documentation). Funding is not available for general administration (defined as the costs associated with the overhead operations and personnel costs of a Council of Government). However, a Council of Government applicant may propose to use existing personnel to work on a grant-funded project.

A 50/50 match is required for all funding unless extreme financial hardship is demonstrated. Matching funds are considered to be any cash, in-kind contribution, or additional grant dollars brought to the project. Communities should contact the DOLA [Regional Manager](#) before applying for funding.

Examples of recent financial assistance granted to Huerfano County through the EIAF program include:¹³

- \$25,000 on June 5, 2017 for the Huerfano County Cuchara Mountain Park Strategic Master Plan
- \$325,000 on May 4, 2017 for the Huerfano Judicial Center Engineering and Site Development
- \$25,000 on May 5, 2015 for the Huerfano County Multi-Phase Court Facilities Master Plan (with implementation funding in years following)
- \$15,000 on December 9, 2015 for the Huerfano County Economic Development Strategy Update
- \$459,315 on December 8, 2015 for the Huerfano County and La Veta Roads Renovation project

Colorado Wildfire Risk Assessment Portal

The Colorado Wildfire Risk Assessment Portal can be [accessed here](#). The Colorado Wildfire Risk Assessment Portal full report, which includes a full description of methodology and assumptions, is [available here](#).

Individual Parcel-Level Assessment Programs

The [REALFire® program](#) (Eagle County), managed by the Vail Board of REALTORS®, and the [Wildfire Partners program](#) (Boulder County) provide two examples of comprehensive parcel-level wildfire assessment programs in Colorado.

¹³ Source: [Colorado Department of Local Affairs Website](#). Accessed August 28, 2017.



RECOMMENDATION 3: Adopt a Wildland-Urban Interface Code

Adopt the International Code Council International Wildland-Urban Interface Code (IWUIC) to establish minimum wildfire safety standards for future development in designated wildland-urban interface areas of Huerfano County.

❖ Why This Recommendation Matters

Life safety, building, land use, and other development codes and standards are based on proven methodologies to increase public and first responder safety and welfare. This includes regulations focused on the wildland-urban interface, which reduce risk and loss from wildland fires that transition into the wildland-urban interface. This recommendation addresses existing gaps within Huerfano County's approach to regulating the wildland-urban interface by recommending the adoption of a wildland-urban interface code.

Current Regulations and Codes

Land use regulations in Huerfano County were first adopted in 1984. They were originally presented in one document with the Comprehensive Plan as the Huerfano County Land Development Guide. The Guide's regulations were updated in 1999 following a Comprehensive Plan update in 1998. Since that time, the two documents were separated to reflect their different purposes: The Huerfano County Comprehensive Plan is an advisory planning document that guides land use and development decisions; the Huerfano County Land Use Regulations is a unified document that administers zoning, parking, temporary buildings and uses, subdivision of land, and other land-related development activities. Although portions of the Huerfano County Land Use Regulations may be revised and adopted at different times by the Board of County Commissioners, the last comprehensive re-organization of the entire set of regulations was approved by Resolution No: 13-035 in November 2013.

The county administers other codes to ensure safety standards for life and property, including¹⁴:

- International Building Code (IBC)
- International Residential Code (IRC)
- International Mechanical Code (IMC)
- International Energy Conservation Code (IECC)
- International Fuel Gas Code (IFGC)

¹⁴ 2015 editions, with amendments as listed in the Huerfano County Resolution No: 17-13. Adoptions listed in this resolution also included the American National Standard on the Design and Construction of Log Structures (ICC 400-2012).

Regulatory References to Wildfire

Huerfano County Land Use Regulations provide a legal framework for the type, location, and amount of development activities allowed in the county. Regulations are organized into 19 sections. Sections that have potential influence on shaping the wildland-urban interface include: Zoning Regulations, Subdivision Regulations, Planned Unit Development Regulations, Oil and Gas Regulations, Areas and Activities of State Interest Regulations, and Building Permit Regulations. Other sections, such as Common Procedures and Enforcement, Violation, Penalties, and Non-Liability Regulations, guide the administration of the regulations.

The county's Land Use Regulations contain several direct or indirect references to wildfire hazard and the potential requirement for mitigation or fire protection as part of the development process. Table 4 summarizes these references.

It is important to note that none of these references provide clear direction on how to identify the presence of wildfire risk, determine the degree to which the risk may require mitigation, or determine which types of mitigation standards would be sufficient. This can result in a subjective and incomplete review or place extra work on staff to individually review applications rather than have a consistent review process. In addition, while some of these measures are intended to improve wildfire response and suppression tactics, they do not address building construction, materials, or other property-specific measures that have been scientifically shown to reduce wildfire ignitions.

In summary, although references to wildfire exist in the county's Land Use Regulations that may require hazard mitigation, there is no standard process to identify wildfire hazard and determine an acceptable and objective means for reducing risks to buildings, infrastructure, and other values.

Table 4: Summary of Regulatory References to Wildfire in Huerfano County	
Section	Reference
Zoning Regulations 1.18.03 Rezoning	Submittal requirements include a description of any natural or man-made hazard within or in the vicinity of the land proposed for rezoning and a statement describing how the anticipated impact of such hazards will be mitigated.
Subdivision Regulations 2.02.10 Zoning Compliance and Subdivision Location	Lands subject to natural hazards such as flooding, rock falls, snow slides, wildfire, extreme erosion of other natural or man-made hazards shall not be platted for any use which might endanger the health, safety or welfare of the residents or users in the event that the hazards present in the area cannot be adequately or properly mitigated with acceptable control measures.
Subdivision Regulations 2.07.09 Water Service	Fire hydrants shall be required, at the discretion of the Board of County Commissioners, in all subdivisions serviced by a centralized water treatment and distribution system.
Subdivision Regulations 2.07.10 Fire Safety and Protection	At the discretion of the Board of County Commissioners, and upon a recommendation from the Planning Commission, proposed subdivisions may be required to include fire lanes where the forested portion of a subdivision joins or parallels national forest boundaries. Where fire hydrants are not required or available in a proposed subdivision, the Board of County Commissioners may, at its discretion and upon recommendation by the Planning Commission, require that an application install cisterns.
Oil and Gas Regulations 6.34 Board of County Commissioners' Review Criteria	Suitability factors to be considered include noise levels, impacts upon air and water quality, vibration and odor levels, fire protection and access requirements, visual impacts, wildlife impacts and public safety. These factors will be evaluated in accordance with state, county and federal standards and criteria. Site characteristic factors to be considered are topography, natural hazards (landslides, flooding, wildfire), cultural and historical uses on the proposed site and in the notice area and current resource values (open space corridor, prime farmland as designated by Natural Resource Conservation Service and wildlife habitat).
Areas and Activities of State Interest Regulations 7.04.11 B. 9. Standards for approval of all permit applications	Applicable standards for approval of all permit applications may be waived if the proposal will not be subject to significant risk from floods, fire, earthquakes or other disasters or natural hazards.

Opportunity to Adopt a Wildland-Urban Interface Code

To adequately plan for and address wildfire in its built environment, CPAW recommends Huerfano County adopt the 2015 edition of the International Code Council's International Wildland-Urban Interface Code (IWUIC). The IWUIC is a model code that is intended to supplement other building and fire codes adopted by a jurisdiction.

This IWUIC is organized into seven chapters and eight appendices:

- Chapter 1: Scope and Administration
- Chapter 2: Definitions
- Chapter 3: Wildland-Urban Interface Areas
- Chapter 4: Wildland-Urban Interface Area Requirements
- Chapter 5: Special Building Construction Regulations
- Chapter 6: Fire Protection Requirements
- Chapter 7: Referenced Standards
- Appendix A General Requirements
- Appendix B Vegetation Management Plan
- Appendix C Fire Hazard Severity Form
- Appendix D Fire Danger Rating System
- Appendix E Findings of Fact
- Appendix F Characteristics of Fire-Resistive Vegetation
- Appendix G Self-Defense Mechanism
- Appendix H International Wildland-Urban Interface Code Flowchart

When adopted in full, the IWUIC provides jurisdictions with a *minimum* set of special regulations for the “safeguarding of life and property from the intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to prevent structure fires from spreading to wildland fuels, even in the absence of fire department intervention.” In other words, the IWUIC serves as a tool to strengthen the likelihood of a structure's survival and reduce reliance on suppression and response resources.

❖ Implementation Guidance

During the CPAW process, team members met with local stakeholders to discuss the potential adoption of the IWUIC. Stakeholders cited several **potential challenges** associated with the adoption of the IWUIC, including:

- Limited staff capacity to administer and enforce another code;
- Uncertainty about any additional costs to the home-building market;
- Potential public resistance to regulation, particularly by more independent communities.

Discussions also revealed **many important benefits** to adopting the IWUIC, such as:

- Requiring construction standards increases the resilience of structures to withstand wildfire. This also alleviates the county's challenges associated with long response time in some areas due to remote access and limited response capacity.

- Ensuring future development is built to a consistent mitigation standard provides a measurable way to address one of the county's highest prioritized hazards (as per the Huerfano County Multi-Hazard Mitigation Plan).
- Adopting a code to specifically address wildfire aligns with other communities across Colorado and the western U.S. that face similar wildfire hazard, such as Pueblo County.¹⁵ This also provides developers with predictability when working across local county boundaries.
- Adopting a code establishes a long-term strategy to address challenges associated with rising insurance premiums and reduced coverage. As more states across the West experience property losses from wildfire, some insurance companies have already begun adjusting their rates or dropping customers.
- Adopting codes that improve response and suppression capabilities, such as increased access and water supplies in a subdivision, could also improve Insurance Services Offices (ISO) ratings for participating fire districts. Improved ratings can result in lower premiums for residents.
- The IWUIC would complement the county's other suite of ICC codes, making for a smooth adoption process.

To fully realize the potential benefits of the IWUIC through a successful adoption process, the CPAW team provides the following implementation guidance:

1. Determine the Applicability of the IWUIC

Chapter 1 of the IWUIC, Scope and Administration, states that the provisions of the Code shall apply to the construction, alteration, movement, repair, maintenance and use of any building, structure or premises within the defined WUI. (Chapter 4 of the IWUIC, Wildland-Urban Interface Area Requirements, provides requirements specific to subdivisions and structures.)

CPAW recommends that the county amend Chapter 1 to apply to all new construction on existing or recently platted lots, with caveats. Following are the basics of this approach:

- Although this will not address existing construction, it will reduce the required staff capacity to initially administer and enforce the code. It may also make it easier to adopt the WUI Code because it does not penalize existing building owners and residents, and will be perceived as a fairer standard.
- The focus is on new construction, which is defined as construction that requires a building permit. It is intended to include residential and commercial buildings, accessory structures, and site improvements.
- All new construction on an undeveloped lot would be required to meet the IWUIC. This will cover new construction on infill lots as well as new subdivisions.
- New freestanding buildings, accessory structures, and site improvements over 120 square feet on existing developed lots would be required to meet the IWUIC. This would cover barns, freestanding garages, and site improvements separate from the existing building.

¹⁵ Pueblo County adopted the IWUIC in 2009 and recently adopted the 2015 version.

- If the project is totally within the existing building envelope of an existing structure, it is exempted from IWUIC requirements. This is intended to exclude interior remodels, water heater replacement, fireplaces, furnace replacement, etc.
- Any addition to an existing building that enlarges or changes the exterior building envelope would be required to meet the IWUIC for the new construction portion only. This includes new roofs, siding, decks, windows, vents, and other exterior fenestration that are critical to improving wildfire resilience.
- Substantial upgrades to an existing building can trigger application of the IWUIC to the site as a whole. The intent is to identify an objective threshold for a “substantial” upgrade. The IWUIC currently requires when roof covering replacement or repair is 25 percent or more on buildings or structures in existence prior to the IWUIC adoption, the entire roof covering must meet the ignition-resistant construction requirement. Communities may also select an alternative threshold, such as project size, which can also be easily measured. When refining this IWUIC amendment, staff can choose a threshold that works for the community and can be easily administered by staff.

2. Define the Wildland-Urban Interface

Chapter 3 of the IWUIC, Wildland-Urban Interface Areas, provides a methodology to establish and record wildland-urban interface areas based on the findings of fact. Some jurisdictions choose to use this standard language, while others amend this section with their own WUI definition. The county is already in the process of assessing and mapping its wildfire exposure (see Recommendations 1 and 2).

CPAW recommends that the county amend Chapter 3 to adopt their own WUI map based on the available wildfire exposure information. This will provide for a more local reflection of the WUI.

3. Designate Administration and Enforcement through the Land Use Department

The IWUIC requires the designation of a code official (Section 104), which may be the same or separate from the designated enforcement agency (Section 103). Administration and enforcement of Huerfano County’s IBC, IRC, IMC, and IECC and all related and secondary codes are currently delegated to the county’s Land Use Department. References to “building official” within these codes refer to the Huerfano County Code Enforcement Officer.

CPAW recommends that the administration and enforcement of the IWUIC should also be under the purview of the county’s Land Use Department. This would provide consistency with the administration and enforcement of other county codes. If the county hires a fire marshal in the future, the administration and authority of the IWUIC could be re-evaluated to be directed under his/her purview.

4. Align Land Use Regulations With IWUIC

Upon adoption of the IWUIC, the county should consider the best approach to linking the IWUIC with its Land Use Regulations to reconcile any potential conflicts and add appropriate references. Conflict resolution language could be similar to what is currently stated in the Land

Use Regulations. For example, under Building Permit Regulations, Section 10.02.03 – Relationship of these Regulations to Adopted Codes, states: “In the event of conflicts and inconsistencies between the provisions, requirements and specifications within these Regulations and with the provisions, requirements and specifications contained within any building and other codes, code amendments and code supplements adopted by Huerfano County, the more restrictive provision, requirement or provisions shall apply. In the event of dispute or question concerning which are the more restrictive provisions, requirements or specifications, any discrepancies shall be resolved by the Planning Commission.”

CPAW recommends adopting similar language for the adoption of the IWUIC to ensure there is a clear process for resolving conflicts.

5. Supplement Administration Capacity with Approved Qualified Professionals

On-site assessments are not currently required as part of the county’s application and development process. Implementation of the IWUIC, however, may require an on-site assessment to verify local hazard conditions. Due to current staff capacity limitations, these on-site assessments could be performed by qualified professionals on an as-needed basis.

❖ Tips and Additional Resources

Pueblo County IWUIC Information

Pueblo County, CO adopted the IWUIC in 2009 and recently updated to the 2015 edition. The IWUIC is part of the county’s Uniform Fire Code (Title 8 – Healthy & Safety, Chapter 8.16). More information about the county’s Uniform Fire Code is available [on their website](#).

Education and Outreach Materials

With the exception of retrofits, the IWUIC does not address existing development or subdivisions that have already been platted and approved. Therefore, the extent of development mitigated by the IWUIC is limited. It will be necessary to consider the adoption of the IWUIC as part of a larger wildfire-mitigation risk-reduction strategy that includes education, outreach, and other means to incentivize voluntary mitigation efforts.

Providing information on fire-resistant construction materials, techniques, and landscaping can help educate the development community and homeowners on IWUIC requirements. Huerfano County currently has the FEMA Home Builder’s Guide to Construction in Wildfire Zones (2008) posted as a resource on its “Building in Unincorporated Areas of Huerfano County” webpage. Additional wildfire mitigation literature, videos, and research to consider sharing is available for free from the [Colorado State Forest Service](#), [Insurance Institute for Business & Home Safety](#), and the National Fire Protection Association’s [Firewise USA™ program](#).

Insurance Services Offices

The Fire Suppression Rating Schedule (FSRS) is a manual containing the criteria that Insurance Services Offices (ISO) uses in reviewing the fire prevention and fire suppression capabilities of individual communities or fire protection areas. The schedule measures the major elements of a community’s fire protection system and develops a numerical grading called a Public Protection

Classification (PPC™). It's worth noting that the FSRS also includes a Community Risk Reduction section, which offers a maximum of 5.5 “extra points” for communities that employ effective fire prevention practices such as fire prevention code adoption and enforcement, public fire safety education, and fire investigation. More information is available under the [ISO Community Hazard Mitigation website](#).



RECOMMENDATION 4: Update Comprehensive Plan to Elevate Wildfire as the Priority Natural Hazard

Update the Huerfano County Comprehensive Plan (2010) to elevate wildfire as the priority natural hazard and include wildfire information, goals, and policies that acknowledge and plan for wildfire's potential impacts on the county's natural environment, built environment, social resilience, and economy.

❖ Why This Recommendation Matters

A comprehensive and focused approach to addressing wildfire's role in Huerfano County is critical for the Land Use Department and Board of County Commissioners (BOCC) to make planning decisions that are in the best interest of the county, residents, and businesses. Appropriate Huerfano County Comprehensive Plan wildfire policies will communicate community values, priorities, and risk tolerance to all stakeholders in the planning process. These include county residents, businesses, property owners, government, and other stakeholders involved with or impacted by land development.

The 2010 Huerfano County Comprehensive Plan includes the following elements, or chapters:

1. Land Use and Growth
2. Residential Uses
3. Economic Development
4. Public Facilities, Services and Amenities
5. Resources and Hazards

The Comprehensive Plan mentions natural hazards, which include wildfire, but it does not include goals or policies focused specifically on wildfire. The County Trails Plan (which supports the Comprehensive Plan) does not define natural hazards consistently or make specific reference to wildfire. The update of the Huerfano County Multi-Jurisdictional All-Hazards Multi-Hazard Mitigation Plan (Multi-Hazard Mitigation Plan or MHMP), currently underway, should provide information on wildfire that can supplement the Comprehensive Plan.

The CPAW team understands that the county intends to update the 2010 Comprehensive Plan in the near future. This update offers an opportunity to take a proactive planning approach to wildfire safety, mitigation, recovery, and resilience in Huerfano County.

❖ Implementation Guidance

It is not known at this time how the county will approach and organize the Comprehensive Plan update. The update may retain the current organization of its chapters or undergo a new organization. For example, the new Comprehensive Plan could be expanded to include separate chapters for land use, transportation, housing, natural hazards, cultural and historical resources, open space and trails, and other topics. Therefore, the organization of the update will have a strong influence on how wildfire is addressed in the document.

Incorporating appropriate language about wildfire, including background information, goals, and policies, will improve land use guidance and decision-making in the county. These changes will also strengthen linkages between the Comprehensive Plan's goals and policies and the Land Use Regulations, Building Code, and a future Wildland-Urban Interface Code (subject to adoption, see Recommendation 3). For example, the Land Use Regulations require a demonstration of compliance with the Comprehensive Plan as part of the submittal requirements for development applications including re-zonings, conditional use permits, subdivision applications, and planned unit developments.

CPAW provides two tiers of recommendations below. The first tier of recommendations will help guide the process of updating the Comprehensive Plan. The second tier comprises specific recommendations for wildfire-related policies to consider during the Comprehensive Plan update.

Comprehensive Plan Update – Principles

Principles to help guide the process of updating the Comprehensive Plan include the following:

- 1. Develop definitions for key wildfire terms in Huerfano County planning and regulatory documents.** The current Huerfano County Comprehensive Plan and Land Use Regulations do not explicitly define wildfire or other key terms related to wildfire mitigation. As discussed in other recommendations in this report, CPAW recommends that the county adopt a single set of definitions for terms including wildfire, wildland-urban interface, and wildfire mitigation that can be used consistently across all planning, regulatory, and policy documents. Given the timing of the upcoming Multi-Hazard Mitigation Plan update, this may present the best opportunity to address and agree upon new definitions. For reference, CPAW provides a list of relevant definitions in this report.
- 2. Promote consistency among the Comprehensive Plan and other plans and regulations that include wildfire.** The Comprehensive Plan, Development Code, and Building Code are intended to work together at different scales. If the county adopts a Wildland-Urban Interface Code, as is recommended by CPAW, then it will add another reference point to this system. Wildfire-related updates to goals and policies within the Comprehensive Plan should be consistent with other desired regulatory changes, such as the adoption of the IWUIC (see Recommendation 3). This will promote a consistent approach to wildfire, including appropriate cross references, and eliminate conflicting recommendations.

- In addition, the Comprehensive Plan should offer guidance on the direction of, and coordination with, other special plans that require the inclusion of wildfire such as the Multi-Hazard Mitigation Plan, neighborhood/sub-area plans, and existing and future Community Wildfire Protection Plans (CWPPs).
- 3. Integrate a wildfire exposure map into the Comprehensive Plan.** CPAW recommends that Huerfano County and other stakeholders develop a local wildfire exposure map, as discussed in Recommendation 2. When complete, this map can be referenced in the Comprehensive Plan as a tool to guide land use planning and mitigation decisions.
 - 4. Encourage coordinated input on wildfire policy development.** The Comprehensive Plan update process should encourage input and coordination among different stakeholders with diverse interests in wildfire, such as Fire Protection Districts, property owner associations, community representatives, Huerfano County, and state and federal agencies. Stakeholder coordination is further discussed in Recommendation 5.
 - 5. Include “The Code of the West” as a supplement to the Comprehensive Plan.** The current Comprehensive Plan includes The Code of the West as part of the main document, which can confuse the reader on how the Comprehensive Plan is to be interpreted. While The Code of the West is an important statement of principles for residents living in the county, it would be better as a document adopted separately by the county. Additional information presented in conjunction with The Code of the West could include wildfire mitigation techniques for property owners to reinforce their personal role and responsibility in living in wildfire-prone lands.

Comprehensive Plan Update – Wildfire Policies

The following recommendations are suggested wildfire policies for consideration during the Comprehensive Plan update. These policies are stated in somewhat generic terms, and county staff will need to tailor them to reflect the preferences and requirements of the county and other participants based on the update process.

Staff must also determine the most appropriate location of these policies in the Comprehensive Plan based on the document’s updated organization. CPAW suggests that these policies be grouped under one element that addresses natural hazards, including wildfire.

- 1. Encourage wildfire-conscious community planning and design.** Some architectural and planning elements that may be aesthetically desirable actually increase wildfire risk by increasing the likelihood of structural ignitability. The county should ensure that architectural and place-making features (e.g., combustible wooden attachments, landscaping and signage, street furniture) are not required or encouraged in areas identified with wildland-urban interface development restrictions. Combustible design features can be addressed through the IWUIC (if adopted) for applicable developments, and the county should ensure that existing and future design guidelines do not conflict with them.

2. **Adopt a Wildland-Urban Interface Code to ensure fire-resistant building materials, landscaping, access, and other mitigation standards for new structures.** Wildland-urban interface mitigation standards applied to structures have been shown to be very effective in mitigating wildfire risk. The county should adopt the IWUIC to address building construction, access, landscaping, and water supply to make structures in the wildland-urban interface more fire-resistant. (See Recommendation 3.)
3. **Promote wildfire mitigation to existing development through education and outreach programs.** Existing development is also at risk to wildfires. Education and outreach efforts should target current community members to ensure that residents with existing homes and businesses also understand structural vulnerabilities and mitigation practices. This outreach effort should also consider seasonal and absentee homeowners, tourists, and businesses. (See Recommendation 5.)
4. **Coordinate with other land management agencies.** Multiple land management agencies and stakeholders have an interest in reducing wildfire risk on public and private lands. Include the U.S. Forest Service, Colorado State Forest Service, fire districts, and other organizations in discussions to better understand wildfire risk and mitigation options and provide input on key wildfire planning policies and regulations. These stakeholders can also help communicate wildfire information to the public. Many of these stakeholders will be identified through the MHMP update. (See Recommendation 5.)
5. **Promote the alignment of ecosystem-based fire management with wildfire mitigation strategies to manage parks, open spaces and the natural ecosystem while reducing wildfire risk.** Because much of Huerfano County's developed and undeveloped areas consist of fire-adapted or fire-dependent ecosystems, the county should encourage ecosystem-based fire management strategies to manage natural ecosystems and processes while reducing risk to public safety and the built environment. This should acknowledge fire's role as a natural disturbance process, as well as its range of positive and negative effects on public safety and the natural and the built environments. It should also reference other plans such as the Multi-Hazard Mitigation Plan and applicable Community Wildfire Protection Plans.

Furthermore, policies should encourage an appropriate fire management balance between planned prescribed fire and wildfire suppression.

Finally, supporting wildfire mitigation strategies can raise awareness of both wildland fire's natural role and the risk of wildfire. This should be pursued with the agencies involved and also communicated to the public.

6. **Ensure that new and existing subdivisions have adequate on-site water storage and other facilities.** Because most rural subdivisions in Huerfano County lack central water systems, fire suppression water supply is largely dependent upon ponds, water tenders, private cisterns, and sometimes wells. The Comprehensive Plan should encourage these areas to develop adequate on-site storage to support minimum fire flow requirements for fire protection.

- For the few subdivisions with community water systems, the Comprehensive Plan should encourage adequate water mains, hydrants, and water storage to support minimum fire flow requirements for fire protection.
- 7. Assess the impact of wildfire on cultural and historic resources.** Special cultural and historic areas (such as La Veta, Gardner, Walsenburg, and Cuchara Village) are very important to the economy and residents of Huerfano County. These areas should be identified and evaluated for wildfire risk, and strategies should be developed to mitigate risk and promote resilience to wildfire.
 - 8. Incorporate wildfire mitigation measures in public facilities and services.** Public facilities and services, particularly critical facilities and infrastructure, pose a unique wildfire risk for a community. The county should require new developments in high-risk wildfire areas to incorporate multiple ingress and egress routes. Where the public's ability to safely utilize ingress and egress routes is limited, or there is concern of these routes being compromised, additional refuge areas within these communities should be required. The county should also look to evaluate and mitigate wildfire risk in future public capital facility investments. This should be coordinated with identified actions in the Multi-Hazard Mitigation Plan.
 - 9. Educate the public about the links between wildfire and other natural hazards and economic development.** A major wildfire could dramatically affect the county's economy, such as lost business revenues, declining property values, infrastructure repair and replacement needs, and long-term mental and physical health impacts. This needs to be communicated to the public and policymakers by promoting engagement of local businesses in public education and outreach, pre-disaster planning, and post-disaster recovery activities. This policy should also link to the Multi-Hazard Mitigation Plan and Community Wildfire Protection Plans.
 - 10. Strengthen social resilience relative to wildfire and other natural hazards.** Significant, negative social impacts could result from a major wildfire in the county, including post-traumatic stress disorders, acute and chronic health issues, and community fragmentation through the negative impacts on key individuals (such as community leaders, police, doctors, teachers, etc.). The county should promote engagement with local and state agencies to support public education and outreach, pre-disaster planning, and post-disaster recovery activities.
 - 11. Identify mechanisms to fund and maintain wildfire and other natural hazard mitigation efforts.** Mitigation can be costly and often requires long-term recovery work, particularly when constructing and maintaining access routes or managing vegetation in open space and near utilities. The county should identify potential mechanisms to fund and maintain mitigation efforts. This may include impact fees on new development or special assessments for new and existing development.

❖ Tips and Additional Resources

- The State of Colorado recently released a new guide, “Planning for Hazards – Land Use Solutions for Colorado.” This [online resource](#) provides land use planners with hazard planning community examples, draft policy language, and appropriate planning tools to address different hazards, many of which are focused on wildfire.
- Headwaters Economics profiled [five urban areas](#) across the western U.S. to illustrate how planning tools can be used to address the WUI.
- The Fire Adapted Communities (FAC) Learning Network offers a series of [FAC Quick Guides](#) on Using Plans and Regulations to Increase Community Fire Adaptation.



RECOMMENDATION 5: Develop a Countywide Community Wildfire Protection Plan

Collaborate with local, state and federal stakeholders to develop a countywide Community Wildfire Protection Plan (CWPP).

❖ Why This Recommendation Matters

Addressing local wildfire risk through prevention, mitigation and response is complex and multi-faceted. This complexity was reflected during the CPAW process when stakeholders frequently brought up a range of wildfire-related topics, including:

- Ongoing need to identify and pursue grant funding opportunities to support mitigation and response activities;
- Official engagement with federal land managers (USFS, BLM);
- Fire district coordination and support;
- Identification of existing wildland-urban interface areas;
- Ingress and egress issues, such as inadequate road crossings;
- Extended response times;
- Lack of water available for suppression;
- Shrinking volunteer firefighter work force;
- Lack of accurate fire reporting;
- Property owner association policies that conflict with mitigation best practices;
- Use of prescribed fires on ranches and private property;
- Biomass utilization;
- Varying levels of community engagement;
- Obtaining or maintaining home insurance in wildland-urban interface areas;
- Seasonal and absentee landowners;
- Temporary events, festivals, and parades during dry summer months.

A few of these topics have been directly addressed in this report's recommendations, such as the identification of wildland-urban interface areas and improving access through future planning and regulations. Many topics, however, fall outside of CPAW's land use planning program scope but still require future planning. This recommendation acknowledges that there is a need and opportunity for the county to more comprehensively coordinate its wildfire risk-reduction activities. CPAW recommends coordinating these activities through the development of a countywide Community Wildfire Protection Plan (CWPP).

Benefits of a Community Wildfire Protection Plan

A Community Wildfire Protection Plan is a community-based plan focused on identifying and addressing the local threat of wildfire. The Community Wildfire Protection Plan determines what is at risk and provides a roadmap of clear actions for the community to effectively reduce its risk.

Community Wildfire Protection Plans have been a national standard of practice since 2003 when the Healthy Forests Restoration Act (HFRA) was signed into law. CWPPs must meet three minimum

requirements: 1) demonstrate collaboration between local and state agencies, in consultation with federal agencies and other interested parties; 2) identify and prioritize fuel treatments to reduce hazardous fuel areas; and 3) recommend strategies to reduce the ignitability of structures.

Colorado encourages all counties to determine whether there are fire hazard areas within the unincorporated portion of their counties. Counties with fire hazards should collaborate with local, state, and federal partners to develop a Community Wildfire Protection Plan to provide mitigation guidelines for identified fire hazard areas.¹⁶

The benefits of developing a Community Wildfire Protection Plan are captured in the Colorado Revised Statutes, which include:¹⁷

- Establish a locally appropriate definition and boundary for the wildland-urban interface area;
- Establish relations with other state and local government officials, local fire chiefs, state and national fire organizations, federal land management agencies, private homeowners, electric, gas, and water utility providers in the subject area, and community groups, thereby ensuring collaboration among these groups in planning and facilitating the implementation of priority actions across ownership boundaries;
- Incorporate specialized natural resource knowledge and technical expertise relative to the planning process, particularly in the areas of global positioning systems and mapping, vegetation management, assessment of values and risks, and funding strategies;



Countywide CWPPs can effectively coordinate local and federal risk reduction activities. The Black Mountain Prescribed Fire Management Area, above, is maintained by the San Isabel National Forest. (Photo by CPAW)

¹⁶ Colorado Revised Statutes 30-15-401.7 (2016)

¹⁷ Colorado Revised Statutes 23-31-312 (2016)

- Prioritize projects that protect at-risk communities or watersheds or that implement recommendations in the Community Wildfire Protection Plan;
- Assist local communities in influencing where and how federal agencies implement fuel reduction projects on federal lands, how additional federal funds may be distributed for projects on nonfederal lands, and in determining the types and methods of treatment that, if completed, would reduce the risk to the community;
- Promote economic opportunities in rural communities.

❖ Implementation Guidance

To help facilitate the development of a countywide Community Wildfire Protection Plan in Huerfano County, CPAW offers the following guidance:

1. Align with Multi-Hazard Mitigation Plan

Development of a countywide Community Wildfire Protection Plan should be coordinated with the efforts of the Multi-Hazard Mitigation Plan. At the time of this CPAW report, the county's Multi-Hazard Mitigation Plan is undergoing a comprehensive update. The draft version of the Multi-Hazard Mitigation Plan identifies the development of a countywide Community Wildfire Protection Plan as a *high priority* proposed mitigation action. Lead and partner agencies include county government and a Community Wildfire Protection Plan Interagency Core Team.¹⁸ Tying efforts with the Multi-Hazard Mitigation Plan will strengthen the opportunity to advance a countywide Community Wildfire Protection Plan.

2. Address Colorado State Plan Requirements

The Colorado State Forest Service provides an overview of plan components required for a Community Wildfire Protection Plan to be approved by the state. Plan components include:¹⁹

- A description of the community's wildland-urban interface problem areas, preferably with a map and narrative;
- Information on the community's preparedness to respond to a wildland fire;
- A community risk analysis that considers, at a minimum, fuel hazards, risk of wildfire occurrence, and community values to be protected both in the immediate vicinity and the surrounding zone where fire spread poses a realistic threat;
- Identification of fuels treatment priorities and methods of treatment;
- Ways to reduce structural ignitability;
- An implementation plan.

To support the development of a Community Wildfire Protection Plan, the Colorado State Forest Service offers an electronic plan [template](#). After review, the CPAW team believes that the county already has much of the required content. Using the template is not required but could save time and reduce development costs. Additional examples of [countywide Community Wildfire Protection Plans in Colorado](#) can be downloaded from the Colorado State Forest Service website.

¹⁸ The contents of the Draft Multi-Hazard Mitigation Plan are subject to change prior to final adoption.

¹⁹ Colorado State Forest Service [Key Components of a CWPP in Colorado](#). Accessed October 3, 2017.

3. Link with Other CWPPs and Community Plans

CWPPs can be implemented at multiple scales and may even overlap with jurisdictional boundaries. Within Huerfano County, there are currently two CWPPs: Blackhawk Ranch and the La Veta Fire Protection District. These CWPPs provide appropriate detail and mitigation strategies applicable to their identified areas. A countywide CWPP should acknowledge and encourage existing CWPPs at neighborhood, subdivision, or fire district scales to promote unique local concerns. These can also be included as addendums to a countywide CWPP if appropriate.

The countywide CWPP should also link to other countywide activities that influence wildfire, such as future planning activities for development, transportation, resource extraction, and trails and recreation. This can be done by referencing the Comprehensive Plan and other specialized plans in the CWPP. See Recommendation 4 for more details.

4. Identify Future Maintenance Cycle

While there is not a timeframe requirement for CWPP updates, it's helpful to establish a maintenance cycle. This ensures key information is regularly updated, such as the county risk assessment and risk reduction priorities. It can also be useful to county leadership and other stakeholders seeking information on wildfire planning activities. CPAW recommends aligning the CWPP update with the Multi-Hazard Mitigation Plan update cycle that occurs every five years to regularly track mitigation needs and successes.

❖ Tips and Additional Resources

Funding for Development and Mitigation Activities

Huerfano County's draft Multi-Hazard Mitigation Plan lists potential funding sources to develop a countywide CWPP. CPAW recommends consulting the final, adopted Multi-Hazard Mitigation Plan for further details. The CWPP can also be included as an appendix to the Multi-Hazard Mitigation Plan to further support funding opportunities.

Guides and Handbooks

Several guides and handbooks provide best practices and advice on the development of CWPPs, including tips on forming a steering committee, collaborating with stakeholders, engaging the public, meeting CWPP minimum requirements, and evaluating future progress:

- [Colorado State Forest Service: Community Wildfire Protection Plan website](#) provides state information on the creation of CWPPs and related resources.
- [The Planning for Hazards website](#) provides helpful information on many wildfire planning tools including Community Wildfire Protection Plans.
- [Fire Adapted Colorado](#) may connect Huerfano County with other communities regarding CWPP development and implementation of similar efforts.
- [Community Guide to Preparing and Implementing a Community Wildfire Protection Plan \(2008\)](#)
- [Best Management Practices for Creating a Community Wildfire Protection Plan \(2012\)](#)



RECOMMENDATION 6: Dedicate Staff and Convene a Task Force to Sustain Wildfire Activities

Fund a full-time wildfire mitigation coordinator position and form a dedicated multi-county wildfire task force to facilitate ongoing stakeholder engagement, coordinate resources, and plan risk-reduction activities.

❖ Why This Recommendation Matters

Thoughtful execution of a wildland-urban interface program takes time. While this set of recommendations is purposefully ambitious in nature, it must also be acknowledged that change does not occur overnight. To support the long-term implementation of the county's wildfire activities, including those identified in this report, CPAW recommends creating a full-time county staff position and convening a multi-county task force.

❖ Implementation Guidance

1. Create a Dedicated Wildfire Mitigation Coordinator Position

Although the county has recently had a grant-funded wildfire mitigation coordinator, there is not a fully-funded, full-time position to sustain long-term risk reduction. A dedicated wildfire mitigation position plays a critical role in administering and leading wildfire mitigation activities, which typically include:

- Pursuing funding for local mitigation and education programs;
- Improving local knowledge through trainings and capacity-building;
- Coordinating with stakeholders on risk reduction planning, such as the development of local and county Community Wildfire Protection Plans;
- Engaging with the public on outreach and education, including Firewise neighborhood meetings and interactions with residents;
- Working with local developers and contractors on the implementation of wildfire mitigation requirements;
- Supporting local land use and building departments by providing input on county plans and applications;
- Conducting parcel-level assessments.

During the CPAW project, local stakeholders frequently emphasized the effectiveness and need for a long-term coordinator position. CPAW recommends that county decision-makers consider this feedback when planning for future county staffing needs. The county may wish to explore funding this position through a joint partnership with other local or state agencies.

2. Develop a Multi-County Wildfire Task Force

While having a staff-funded position is a critical component of long-term wildfire risk reduction, so too is collaboration among multiple stakeholders. Currently, a multi-disciplinary, multi-stakeholder committee meets on a monthly basis to discuss the county's Multi-Hazard Mitigation Plan update and related emergency management activities. This



The CPAW team met with Huerfano County stakeholders for two site visits to discuss wildfire issues throughout the County. (Photo by CPAW)

committee covers many topics, including public health and safety, emergency services, evacuation planning, and more. Although some discussions include wildfire, the multi-hazard agenda limits the amount of detailed discussion necessary to tackle complex wildfire mitigation topics.

When discussing the potential to form a new county wildfire committee to service this need, several stakeholders expressed hesitation in forming “one more committee” at the county scale – primarily because many local, state, and federal stakeholders who work regionally are already overextended. Any new wildfire committee must provide value by creating efficiencies in stakeholders’ limited capacity to participate.

Opportunities to create these efficiencies can occur by forming a new multi-county wildfire task force to streamline stakeholder conversations and meetings. This would also draw on the idea that adjacent counties share similar wildfire-risk concerns and can exchange information on problem-solving methods.

This is similar in concept to existing multi-county collaborative groups such as the [Front Range Roundtable](#) – a coalition of state, county, local and private stakeholders interested in forest health and wildfire risk mitigation in Boulder, Clear Creek, Douglas, El Paso, Gilpin, Grand, Jefferson, Larimer, Park and Teller counties – or the [West Region Wildfire Council](#) that works to reduce wildfire risk in Delta, Gunnison, Hinsdale, Montrose, Ouray, and San Miguel counties.

A multi-county wildfire task force would need to meet on a regular basis to be effective. The task force should include a core team of dedicated personnel who have direct responsibility or interest

in wildfire mitigation. The assembled group should also represent diverse stakeholder interests to effectively collaborate and prioritize mitigation actions, conduct education and outreach programs, and coordinate with other stakeholder groups. Additional stakeholders can be invited on an as-needed basis. While immediate start-up time would be required, the long-term result would align regional risk reduction efforts and produce a streamlined regional effort with political influence while alleviating stakeholder participation fatigue.

❖ Tips and Additional Resources

To support these capacity-building efforts, Huerfano County can tap into several existing regional organizations. The [South-Central Council of Governments](#) (SCCOG) and the [Colorado Department of Local Affairs](#) (DOLA) both offer capacity-building and coordination support to local governments. Specific strategies for leveraging existing organizations' resources are outlined below.

South Central Council of Governments

SCCOG is a community organization that provides services to the Huerfano Las Animas bi-county region, including regional community development, non-medical in-home care, regional public transportation, housing rehabilitation, and more. SCCOG resources include grant-writing assistance and community facilitation designed to help the bi-county region identify issues, create strategic plans, and address regional problems and/or issues that exist or could arise.

Huerfano County and its communities are already engaged in SCCOG programs. Pursuing additional resources through SCCOG, such as meeting facilitation and coordination, could also be leveraged to support wildfire activities, such as creating a new multi-county wildfire task force. Looking at pre-established partnerships between counties, Las Animas County would be a likely partner because of the many services already coordinated between counties through SCCOG.

Colorado Department of Local Affairs

DOLA's Division of Local Government has multiple programs designed to assist local governments in the creation and implementation of local initiatives aligned with available federal and state programs, including resilience and hazard mitigation planning. The Community Development Office offers additional assistance through workshops and training, and provides technical assistance and resources to help local governments and their partners tackle complex problems. DOLA's [Regional Office](#) can also provide technical assistance throughout the organizational process and assist in aligning funding opportunities such as the EIAF grant program discussed below.

Middle Arkansas Wildfire Prevention Partnership

Finally, Huerfano County recently joined the [Middle Arkansas Wildfire Prevention Partnership](#). Founded in 2003, this multi-agency, non-profit organization provides wildfire prevention support to Fremont, Custer, and the Pueblo County area. Due to its geographic proximity, Huerfano County could seek additional support from this group through resource-sharing and learning exchanges.

Potential Funding - Energy And Mineral Impact Assistance Fund Grant

As suggested in Recommendation 2, the Energy And Mineral Impact Assistance Fund (EIAF) Grant Program may be a potential source of funding for implementation activities. Administered by the Colorado Department of Local Affairs (DOLA), the EIAF fund was created “to assist political subdivisions that are socially and/or economically impacted by the development, processing, or energy conversion of minerals and mineral fuels,” as well as to support Regional Councils of Government.

Eligible applications include technical assistance projects or programs such as GIS services, organizational facilitation, retreat facilitation, support for planning efforts (such as Broadband Local Technology Planning Groups) and project-specific support (such as grant writing, project development, and documentation). Funding is not available for general administration (defined as the costs associated with the overhead operations and personnel costs of a Council of Government). However, a Council of Government applicant may propose to use existing personnel to work on a grant-funded project.

A 50/50 match is required for all funding unless extreme financial hardship is demonstrated. Matching funds are considered to be any cash, in-kind contribution, or additional grant dollars brought to the project. Communities should contact the DOLA [Regional Manager](#) before applying for funding.

Examples of recent financial assistance granted to Huerfano County through the EIAF program include:²⁰

- \$25,000 on June 5, 2017, for the Huerfano County Cuchara Mountain Park Strategic Master Plan;
- \$325,000 on May 4, 2017, for the Huerfano Judicial Center Engineering and Site Development;
- \$25,000 on May 5, 2015, for the Huerfano County Multi-Phase Court Facilities Master Plan (with implementation funding in years following);
- \$15,000 on December 9, 2015, for the Huerfano County Economic Development Strategy Update;
- \$459,315 on December 8, 2015, for the Huerfano County and La Veta Roads Renovation project.

²⁰ Source: [Colorado Department of Local Affairs Website](#). Accessed August 28, 2017.



Conclusion

Huerfano County has six key opportunities to strengthen its approach to wildfire risk reduction through improved policy and regulation, as outlined by the recommendations in this report. Many of these recommendations support one another. The county should determine which recommendations it chooses to prioritize based on timing, capacity, resources, and other local factors.

Although the county faces several local planning challenges, it is important to keep in mind both the opportunities and benefits associated with implementing CPAW recommendations. Huerfano County has examples of proactive homeowner engagement, strong local partnerships, a recent history of local wildfires, and a foundation of other regulations and plans to support next steps in addressing its wildland-urban interface. The social, environmental, and economic benefits of taking a proactive approach to keeping the community safe through better land use planning activities are many.

As wildfires continue to affect communities across Colorado and the United States, CPAW encourages the county to pursue implementation of these recommendations. Tips and resources have been offered throughout this report as a helpful starting point. Follow-up implementation assistance may also be available to communities depending on their unique needs and CPAW's program funding.



Although long-term implementation takes time, there are many interim steps that Huerfano County can take to address its wildfire risk, as identified throughout this report. (Photo by CPAW)



CPAW Definitions

Built Fuels – Manmade structures (buildings and infrastructure).

Burn Probability – The probability or effect of a wildland fire event or incident, usually evaluated with respect to objectives.

Burn Severity – A qualitative assessment of the heat pulse directed toward the ground during a fire. Burn severity relates to soil heating, large fuel and duff consumption, consumption of the litter and organic layer beneath trees and isolated shrubs, and mortality of buried plant parts.

Community Based Ecosystem Management – With an emphasis on local stakeholder participation, allowing the local community to manage their ecosystem based on the unique characteristics of an area.

Community Wildfire Protection Plan (CWPP) – Established by the 2002 Healthy Forest and Restoration Act, a CWPP is a plan that identifies and prioritizes areas for hazardous fuel reduction treatments on federal and non-federal land that will protect one or more at-risk communities and essential infrastructure and recommends measures to reduce structural ignitability throughout the at-risk community. A CWPP may address issues such as wildfire response, hazard mitigation, community preparedness, and structure protection.

Convection Heat – The movement caused through the rising of a heated gas or liquid.

Conduction Heat – Transfer of heat through direct contact of material.

Critical Facilities – FEMA defines critical facilities as “facilities/infrastructure that are critical to the health and welfare of the population and that are especially important following hazard events. Critical facilities include, but are not limited to, shelters, police, fire stations, and hospitals.” In addition, CPAW recognizes emergency water-pumping stations, egress routes, communication facilities, and backup power supplies as critical facilities.

Ecosystem Based Fire Management – The incorporation of the natural or desired ecological role of fire into the management and regulation of a community’s natural areas.

Effects – The anticipated benefits and losses associated with exposure to a hazard or event – in this case, fire.

Embers – A small piece of burning material that can be thrown into the air due to the convective heating forces of a wildfire. Larger embers and flammable materials have the ability to sustain ignition throughout aerial transport.

Exposure – The contact of an entity, asset, resource, system, or geographic area with a potential hazard. Note: In incident response, fire responder exposure can be characterized by the type of activity.

Fire Adapted Communities – A group of partners committed to helping people and communities in the wildland urban interface adapt to living with wildfire and reduce their risk for damage, without compromising firefighter or civilian safety.

Fire Effects – The physical, biological, and ecological impacts of fire on the environment.

Fire Intensity – Commonly referred to as fire line intensity, this is the amount of heat energy that is generated by burning materials.

Firewise – Program that teaches people how to adapt to living with wildfire and encourages neighbors to work together and take action to prevent losses. The program encourages local solutions for wildfire safety by involving homeowners and others in reducing wildfire risks by fostering defensible space and resilient structures for homes and communities.

Frequency – The number of occurrences of an event per a specified period of time.

Hazard – Any real or potential condition that can cause damage, loss, or harm to people, infrastructure, equipment, natural resources, or property.

Hazard Reduction – Coordinated activities and methods directed to reduce or eliminate conditions that can cause damage, loss, or harm from real or potential hazards.

Home Ignition Zone – The characteristics of a home and immediate surrounding area when referring to ignition potential during a fire event.

Infrastructure – The basic physical structures and facilities (e.g., buildings, roads, and power supplies) needed for the operation of a community.

Prescribed Fire – A planned, controlled wildland fire that is used to meet a variety of objectives for landowners or land managers.

Radiation Heat – Transmission of heat through waves or particles.

Residual Risk – Risk that remains after risk control measures have been implemented.

Resilience – The ability to recover from undesirable outcomes, both individually and organizationally.

Risk – A measure of the probability and consequence of uncertain future events.

Risk Acceptance – A strategy that involves an explicit or implicit decision not to take an action that would affect all or part of a particular risk.

Risk Assessment – A product or process that collects information and assigns values (relative, qualitative, quantitative) to risks for the purpose of informing priorities, developing or comparing courses of action, and informing decision-making.

Risk Avoidance – A strategy that uses actions or measures to effectively remove exposure to a risk.

Risk Based Decision Making – A decision-making process that relies on the identification, analysis, assessment, and communication of wildland fire risk as the principal factors in determining a course of action to improve the likelihood of achieving objectives.

Risk Communication – An exchange of information with the goal of improving the understanding of risk, affecting risk perception, or equipping people or groups to act appropriately in response to an identified risk.

Risk Management – A comprehensive set of coordinated processes and activities that identify, monitor, assess, prioritize, and control risks that an organization faces.

Risk Mitigation – The application of measures to alter the likelihood of an event or its consequences.

Risk Perception – Subjective judgment about the characteristics and magnitude of consequences associated with a risk.

Risk Reduction – A decrease in risk through risk avoidance, risk control, or risk transfer.

Risk Transfer – A strategy that uses actions to manage risk by shifting some or all of the risk to another entity, asset, resources, system, or geographic area.

Values-At-Risk – Those ecological, social, and economic assets and resources that could be impacted by fire or fire management actions.

Vulnerability – The physical feature or attribute that renders values susceptible to a given hazard.

Wildfires – Unplanned wildland fires resulting in a negative impact.

Wildland Fire – Any non-structure fire that occurs in vegetation or natural fuels. Wildland fire includes both prescribed fire and wildfire.

Wildland Fuels – All vegetation (natural and cultivated).

Wildland Urban Interface (WUI) – Any developed area where conditions affecting the combustibility of both wildland and built fuels allow for the ignition and spread of fire through the combined fuel complex.

Wildland Urban Interface Hazard – Combustibility of the wildland or built fuels, fuel type or fuel complex.

Wildland Urban Interface Risk – The WUI hazard, accounting for factors that contribute to the probability and consequences of a WUI fire.