

Community Wildfire Protection Plan

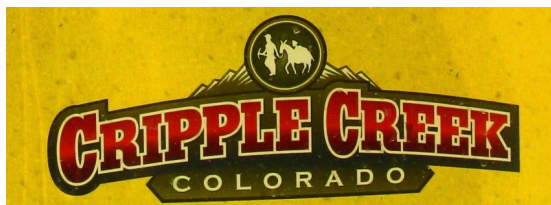
For

The City of Cripple Creek, Colorado

“Sharing the Responsibility”



City of Cripple Creek
Community Wildfire Protection Plan



"Sharing the Responsibility"

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Summary of Changes

Date	Item	Description of Change
11/15/18	CCFD CWPP	Revised Baseline Document



Executive Summary

The Cripple Creek Community Wildfire Protection Plan (CWPP) is developed in compliance with federal, state, and local laws and the helpful cooperation of their departments and representatives. This document was augmented by the selected citizens of Cripple Creek passionately interested in wildfire risk mitigation. The key points of the document are summarized below.

- The Cripple Creek CWPP expands upon the Teller County Wildfire Protection Plan updated in November 2011 for the unincorporated portions of the county. This CWPP is written for the incorporated City of Cripple Creek and related community interests.
- The CWPP purpose is to identify the values important to the City, define the key assets with vulnerabilities that need protection, outline the likely wildfire threats, and propose education, outreach, and fuels mitigation measures to reduce the resulting risks.
- The key infrastructure elements needing protection are located inside the Wildland-Urban Interface (WUI) boundary surrounding the city. The defined WUI includes the Cripple Creek watershed and pumps by Gillette Flats; the critical communication towers at Tenderfoot Hill, Mt. Pisgah cemetery, Mt. Pisgah, Squaw Mountain, and Little Grouse Mountain; the electrical and natural gas transmission lines; and, the transportation egress routes via Highway 67, Highway 81, and Teller County Road 1 and Four Mile Road.
- The greatest wildfire threat to the City of Cripple Creek is from a grass fire and flying firebrands (airborne burning embers) landing on unmaintained properties and dilapidated wooden structures inside the city limits. Forest fires are also a threat to the infrastructure including the watershed, communications towers, and electrical power lines.
- The City is well protected by the Cripple Creek Fire Department staff and equipment. However, vast areas outside the city limits and inside the WUI boundary which includes critical City infrastructure components under the jurisdiction of the Teller County Sheriff's Office are reliant upon volunteer fire resources being available and able to respond.
- An aggressive education and outreach program is needed to bring wildfire awareness to the community and to stress beneficial wildfire risk mitigation measures needing to be taken prior to an event. In addition, wildfire risk mitigation measures need to be taken to protect the watershed and the most critical communications assets on Tenderfoot Hill.
- The Cripple Creek CWPP is a living document designed to be used as a guide to reducing the community's wildfire risk. When approved, it becomes the foundation document supporting a grant-applications writing process to hopefully obtain funding to do fuels reduction and other work in vulnerable areas. The CWPP is to be periodically updated with a total review and republication every five years.



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1. Introduction

The Cripple Creek Community Wildfire Protection Plan (CWPP) is developed in compliance with federal, state, and local laws and the helpful cooperation of their departments and representatives. This document was augmented by the selected citizens of Cripple Creek passionately interested in wildfire risk mitigation.

Healthy Forest Act–Guidance and Requirements.

This document is written in response to the federal Healthy Forests Restoration Act of 2003 (HFRA). This legislation established unprecedented incentives for communities to develop comprehensive wildfire protection plans in a collaborative, inclusive process. Furthermore, this legislation directs the Departments of Interior and Agriculture to address local community priorities in fuels reduction treatments on both federal and non-federal lands.

The HFRA emphasizes the need for federal agencies to collaborate with communities in developing hazardous fuels reduction projects, and places priority on treatment areas identified by communities through development of a CWPP. Priority areas include the wildland-urban interface (WUI), municipal watersheds and other local values at risk, areas impacted by windthrow or insect or disease epidemics, and critical wildlife habitat that would be negatively impacted by a catastrophic wildfire. In compliance with Title 1 of the HFRA, the CWPP requires agreement among local government, local fire departments, and the state agency responsible for forest management (the Colorado State Forest Service). The CWPP also must be developed in consultation with interested parties and the applicable federal agency managing lands surrounding at-risk communities.

Colorado’s Minimum Standards for CWPPs

The HFRA also required the Colorado State Forest Service (CSFS) to establish minimum standards for development of CWPPs in Colorado, and the CSFS must approve any and all CWPPs to ensure that they meet these minimum standards.

This Cripple Creek Community Wildfire Protection Plan tiers on the Teller County CWPP approved in May 2005 and updated on November 22, 2011. This plan is consistent with the goals and strategies described in the Teller County CWPP, and provides further strategic and tactical direction specific to wildfire protection and mitigation for the Cripple Creek community.

2. The Planning Process

The Cripple Creek CWPP was developed using a collaborative process involving fire department, law enforcement, representatives from the federal, state, and local government, government support contractors, commercial company representatives, and citizen members of the community. The effort also involved consultation with the Wildfire Risk Mitigation Team of the Colorado Springs Fire Department who is a national leader in developing and implementing an effective CWPP. The initial CWPP meetings started in early 2015 and the final draft of the document was produced in November 2018.



3. Description of Partners and Committees

Collection of inputs from the interested parties has periodically occurred over the active development periods via personal meetings, telephone calls, e-mail exchanges, internet searches, and related research efforts. The coordinating and approving organizations and representatives are reflected on the signature page. The working group members have included: Sonny Brown, CCFD Firefighter; Dave Root, CSFS representative, and Citizens' Steering Committee members: Tom Litherland (former mayor, current citizen, City Councilman, and community activist), Carl and Nancy Poch (long-time Cripple Creek citizens, business owners, and community leaders); Nancy McDonald (citizen, recent Historic Preservation member, and business employee), Dr. Curt Sorenson (citizen, community volunteer, and Garden Park wildfire risk reduction expert), and Richard Ingold (CCFD Fire Corp volunteer and wildfire risk mitigation advocate).

4. Background and History

The historic town of Cripple Creek, Colorado rests on the southwest slopes of Pikes Peak in the Colorado Rockies, 50 driving miles west of Colorado Springs. It is the county seat for Teller County, sits at an elevation of 9,494 feet, and occupies 1.13 square miles as noted in Figures 1 and 2. The city has a full-time population of about 1,200 citizens with more summer residents and tens of thousands of guests during special events. Cripple Creek is part of the Historic Cripple Creek Mining District so designated in 1961.

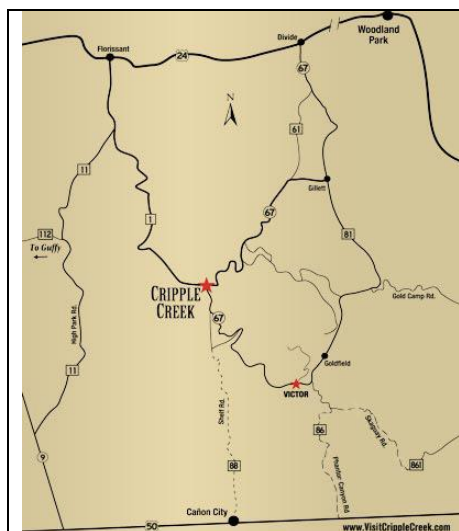


Figure 1. Location of Cripple Creek

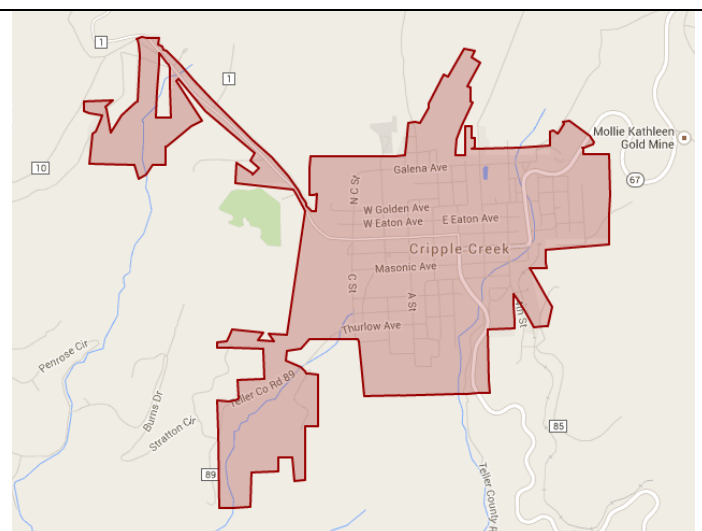


Figure 2. City of Cripple Creek Footprint Inside the Wildland Urban Interface

The Cripple Creek region has a long history of fires resulting in six fatalities and millions of dollars in suppression costs and property loss. The city continues to experience wildland-related service calls. During 2007 – 2016, there were 235 wildland-related calls with 30 in the city, 66



in the unincorporated jurisdiction, and the remainder as nearby mutual aid responses. These fires pose a risk not only to neighborhood residents, but to special populations (i.e. nursing home, schools, and facilities containing handicapped guests), fire fighters, city infrastructure, natural resources and the city's economy. Throughout the western United States, wildland fires continue to increase in size, intensity, suppression costs and recovery expenses. This is not a forest health issue alone, but an issue that must address the built environment as well. It is the relationship of the natural environment to the built environment that determines the risk of wildfire to life and property. Note an example of the relationship of the built environment to the natural fuels and landscape in Figure 3.



Figure 3. Cripple Creek in the Wildland Urban Interface

To date, some residents of Cripple Creek have an awareness of the wildfire risks and have taken measures to reduce their personal property risk. However, there has been no consistent wildfire risk and mitigation awareness program to address the vulnerabilities and threats as a community-wide effort. This CWPP is intended to commence that process with the following goals and objectives.

Goals and Objectives:

The goals of the Cripple Creek Community Wildfire Protection Plan are to reduce the risk of wildfire to:

- Residents of Cripple Creek and the surrounding Wildland Urban Interface
- Firefighters in a wildfire event
- Property and critical infrastructure (i.e., watershed, communications, and transportation routes)
- Natural resources, wildlife, and their habitat.

The objectives of the Cripple Creek Community Wildfire Protection Plan are to:

- Educate residents regarding ways to reduce their wildfire risk



- Reduce the amount of natural, hazardous fuels around and adjacent to homes, businesses, schools, infrastructure and critical facilities by 10-50% depending on fuel loading and stand health
- Improve the structural characteristics of new and existing construction in the wildland urban interface through ordinances, development review and individual consultation
- Manage common areas and open spaces with respect for the natural characteristics and protecting habitat features

5. Description of the Community

Cripple Creek's history extends back to when Native Americans lived off the land, mountain men explored the area, and later ranchers operated cattle ranches. That changed when Bob Womack discovered gold in Poverty Gulch on October 20, 1890. That and subsequent strikes created a gold rush to the area in the 1890s with Cripple Creek booming to more than 20,000 residents. Gold mining practices and technologies evolved during the past 120 years to become nearly an annual half billion-dollar open pit operation by the Newmont Mining Corporation's Cripple Creek & Victor Gold Mining Company (Figure 4). Gaming was introduced into Cripple Creek in 1991, and it is one of the major industries of the city which also includes tourism (Figure 5).



Figure 4. Cripple Creek & Victor Gold Mine



Figure 5. Visitors Lining Bennett Avenue Between Casinos, Restaurants, and Shops





Figure 6. Historic District Museum



Figure 7. Narrow Gauge Railroad

Today, visitors can choose from a variety of heritage-rich experiences such as visiting the nearby open pit gold mining operation, touring an historic underground gold mine, visiting one of Cripple Creek's many museums (Figure 6), taking a ride on the narrow-gauge railroad (Figure 7), or enjoying a selection of gaming casinos, restaurants, and shops.

The visitors to the various attractions provide an economic benefit and also an increased risk of a fire through either accidental or intentional human-caused events. The historic train is coal fired, belches smoke, and produces hot cinders or sparks inside the city and along its tour toward Victor. Even though the engine has a steamed cooled catch box for cinders and a spark arrestor on the smoke stack, it does occasionally cause a fire near the roadbed. The employees also do periodic fuels removal along the gravel road bed to reduce the risk. The city presents a beautifully dramatic Independence Day fireworks show for the community which also presents an increased wildfire risk.

As of the 2010 census, there were 1,189 people, 552 households, and 275 families residing in the city. There were 727 housing units with 279 owner-occupied, 273 rental units, and 175 vacant. The average household size was 2.15 persons with the average family size of 2.89. The median age was 44.2 years. In 2015, the American Community Survey projected the median household income to be \$34,107 with a mean household income of \$43,599.

Cripple Creek is surrounded by a combination of federal land (National Forest and Bureau of Land Management), Colorado land (Colorado State Board of Land Commissioners, Mueller State Park and Dome Rock State Wildlife Area), the CC&V Gold Mine, privately owned mining claims, and private land. The outskirts of town are open range with free ranging cattle and wildlife. The vegetation in the area is characterized by a mix of high mountain prairie, aspen groves, bristle cone pine, limber pine, Engelmann spruce, and other species. The topography ranges from rolling hills to nearby steep mountains and treacherous canyons. See Figure 1 for the high-level area map. The Cripple Creek footprint is outlined in Figure 2 and depicts the interior city surrounded by the exterior public and private land in the Wildland Urban Interface area. Since the city is only 1.3 square miles, every part of town is within one half mile from any exterior fire threat and vice versa.



Fuels surrounding the city tend to be prairie grasses. Although in the mind of many individuals grass fuels do not present as great a hazard as woody fuels; this is certainly not the case. Grass fuels are a severe hazard to the city. Grass fuels dry quickly, ignite faster than larger diameter woody fuels. Open grasslands are more exposed to high winds, and the flame front moves through open prairie with greater speed than in forest stands, and the grassy fuels usually extend uninterrupted into the city. When the hazard of dry grassy fuel is added to the age and wooden construction of many of the structures in Cripple Creek, it is obvious that the city is severely vulnerable to wildfires.

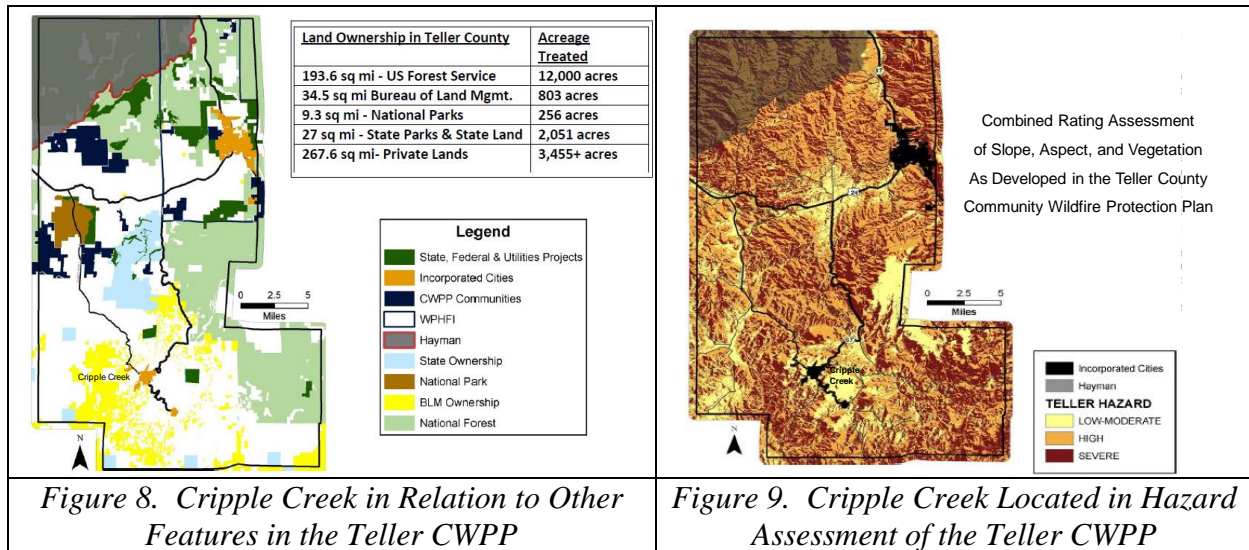
It is worth emphasizing at this point that the term “wildfire” means an uncontrolled fire burning in any wildland fuel type, trees, brush or grass. While many wildfires burn in forest fuel types, wildfire should not be interpreted as synonymous with the old, archaic term “forest fires.” Wildfire poses a serious and tangible threat to the city of Cripple Creek even though it is not in a forest.

There are two paved mountain roads connecting Cripple Creek to the outside world. State Highway 67 arrives from State Highway 24 at Divide, Colorado and exits to Victor, Colorado, and on toward Canon City via a narrow, winding gravel mountain road. Teller County Road 1 connects Cripple Creek to Florissant, Colorado, on Highway 24. There are many gravel roads in the area that form a network with exit routes familiar to local residents such as Shelf and Phantom Canyon Roads connecting to Canon City and Florence. However, these and other gravel roads in the area are not reliable evacuation routes since they are narrow, steep, and occasionally closed due to weather-related causes. Also, a vehicle wreck on either road would essentially trap those on the up-hill side of the accident.

6. The CWPP Area

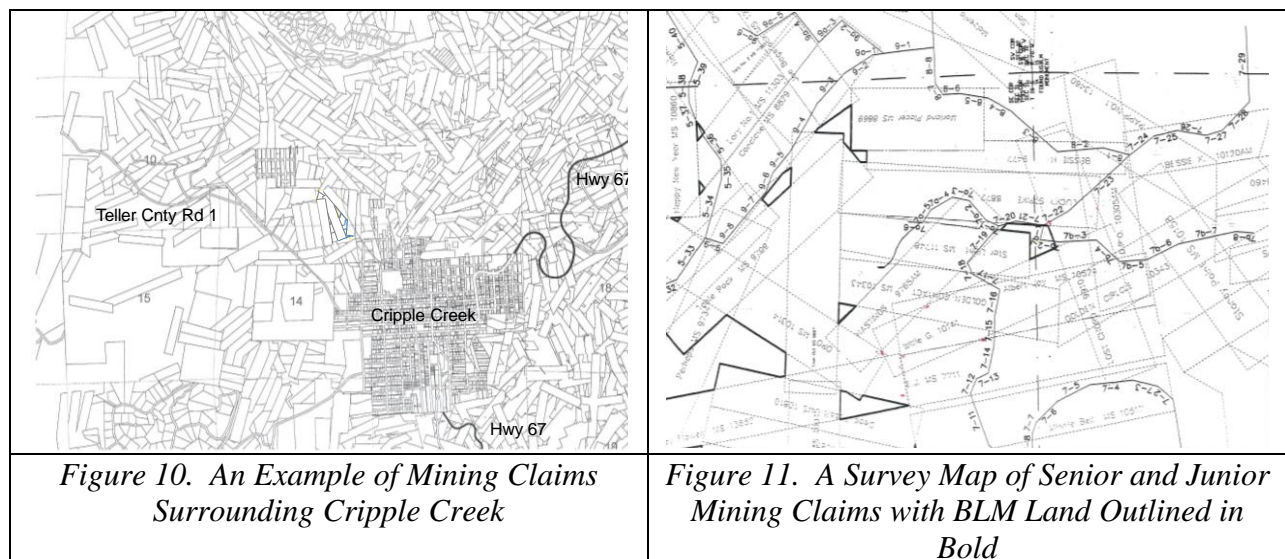
Cripple Creek is an incorporated city in Teller County and falls under the Teller County Wildfire Protection Plan, updated November 2011. The land use in Teller County is a mix of urban commercial and residential space, vacant lots, privately owned mining claims of 10 acres or less both with and without structures, privately owned parcels with and without structures, Bureau of Land Management fragments between mining claims, recreation land, state-owned land, active gold and gem mines, and related variations (Figure 8) with encompassing hazards shown in Figure 9.





Since the City of Cripple Creek sits at the foot of Pikes Peak, most of the wildland urban interface is in foothills and surrounding areas, with long narrow drainages and ridgelines. Throughout the interface, slopes range from flat to nearly vertical in spots.

Cripple Creek is located in the surrounding historic Cripple Creek Mining District composed of hundreds of mining claims. A small sample of the nearby mining claims is shown in Figure 10. A full claim is 300' x 1500' and about 10 acres. The most senior claim is the full dimension and often overlays several junior claims. Today, the mining claims are mostly inactive, and the property is privately owned. The use of the claims ranges from vacant land to camping sites to mountain homes.



A more-detailed look at a small survey map in Figure 11 shows the property lines of the various senior and junior claims, surveyed private roads, and bolded areas not covered by any mining claim. The bolded spaces are BLM land. These range from a few square feet to acres in size. Not all of the BLM “crumbs” are shown on the surveyed map. As one can see, the determination of property boundaries and parcel ownership quickly becomes very complicated.

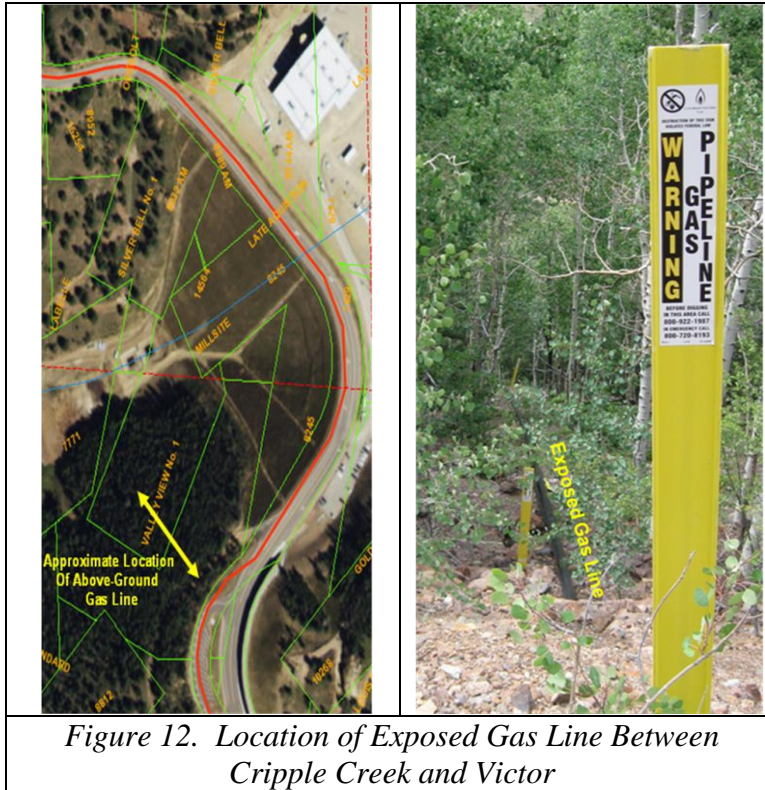
Most all of the utilities used by Cripple Creek and surrounding residents come from sources outside of the city limits as noted in Figure 14.

- The water is provided by two city-owned reservoirs and four wells in the Gillette Flats area. The city-owned reservoirs, the surrounding city-owned property, and water delivery infrastructure are included within this CWPP. The reservoirs feed a pipeline along Highway 67 at Gillette Flats. Three city wells and one well supplying the Cripple Creek Mountain Estates are connected to the pipeline. The pipeline follows Highway 67 toward Cripple Creek, diverts west before the crest of Tenderfoot Hill and connects to the water storage and treatment facility at the top of Third Street. The reservoirs (when clean and connected) create enough head pressure to gravity flow to the treatment plant. The wells and pumps to feed the system require electricity from a 14.4 kilo volt (KV) power line off the Victor Substation.
- The electricity is provided by Black Hills Energy via lines from Canon City and substations both outside and inside Cripple Creek. The primary 115 KV power line branches off the transmission substation about a mile east of the intersection of Highways 9 and 50 west of Canon City. This line travels between Phantom Canyon and Self Roads to the district substation south of the CC&V Gold Mine on Highway 67 between Cripple Creek and Victor. This line provides power to Cripple Creek, Victor, and the CC&V Gold Mine. The Cripple Creek Substation is located between the Century Casino and the District Supply building. A secondary 69 KV power line comes from a substation in Canon City and travels parallel (about 80 feet apart) to the 115 KV line and terminates at the Victor Substation. If the 115 KV line is down, the 69 KV line is activated but can only supply power to Cripple Creek and Victor (not the Gold Mine) via a loop connecting the Victor Substation to the District Substation. A 14.4 KV line supplies power off the Victor Substation to the Cripple Creek wells at Gillette Flats.

Intermountain Rural Electric Association provides power to residents south of Divide. Their service ranges south along Highway 67 to about 1.5 miles south of Pikes Peak Drive near the tunnel on Highway 67. They also serve Florissant and south to near Evergreen Station near the intersections of Teller County Roads 1 and 11 and to the west.

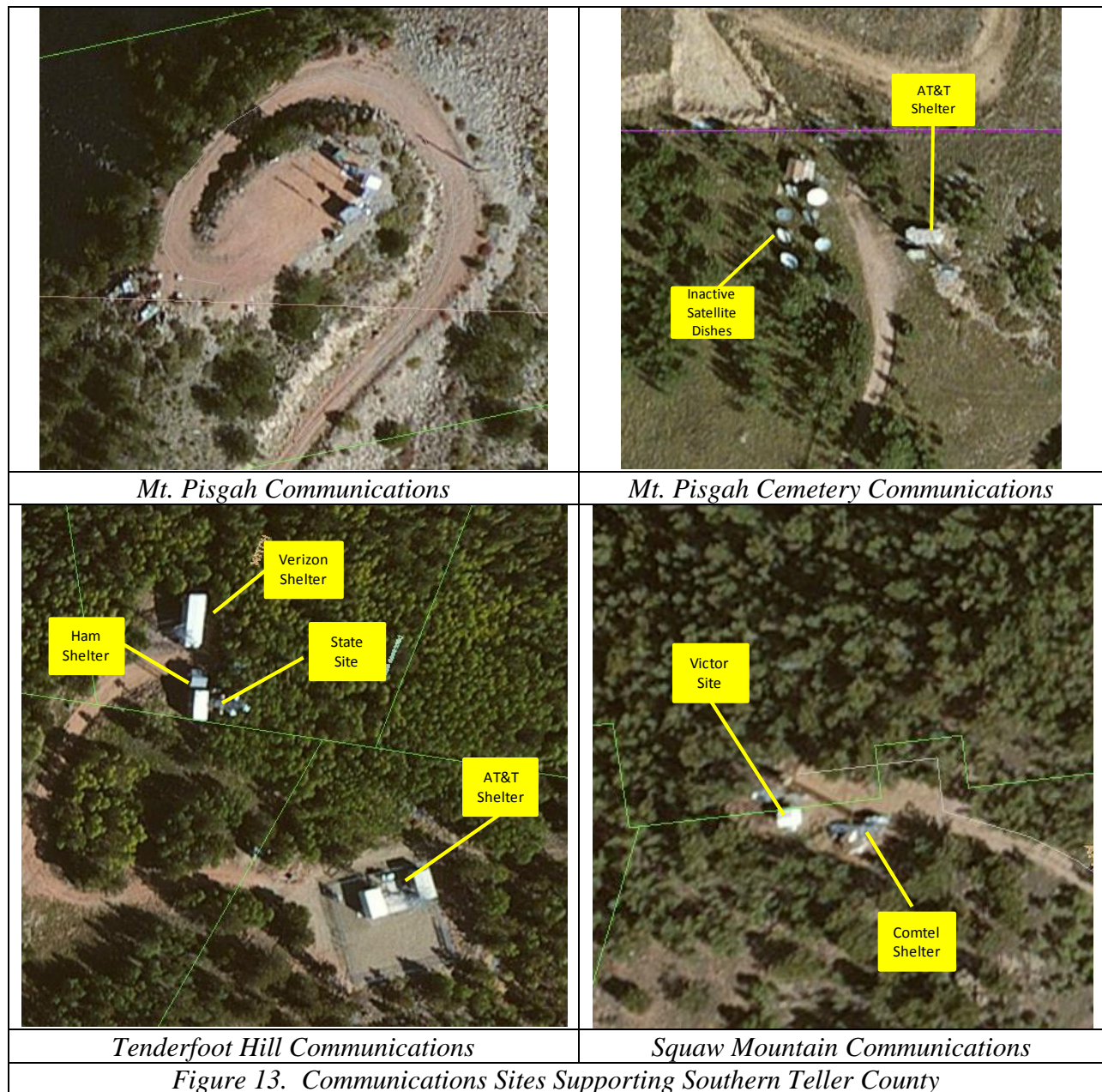
- The natural gas is provided by Colorado Natural Gas Company and arrives via a pipeline from Divide roughly following Highway 67 to Teller County Road 61 along Four-mile gravel road to the switchbacks and eventually across to Teller County Road 1 and into Cripple Creek. The line to Cripple Creek is not exposed above ground along its path.





The gas service line extends from Cripple Creek to Victor down Shelf Road and across to Highway 67 where a section of pipe is exposed above ground between the two cities. It is located below the observation parking lot across Highway 67 from the crib wall as noted in Figure 12. The pipeline is exposed on a steep hill in thick aspen timber.

- The waste treatment plant is at the lower end of the Cripple Creek city limits. It is a gravity flow system that only requires electricity to run aerators, pumps, and other equipment at the treatment facility. The plant has a back-up power generation capability.



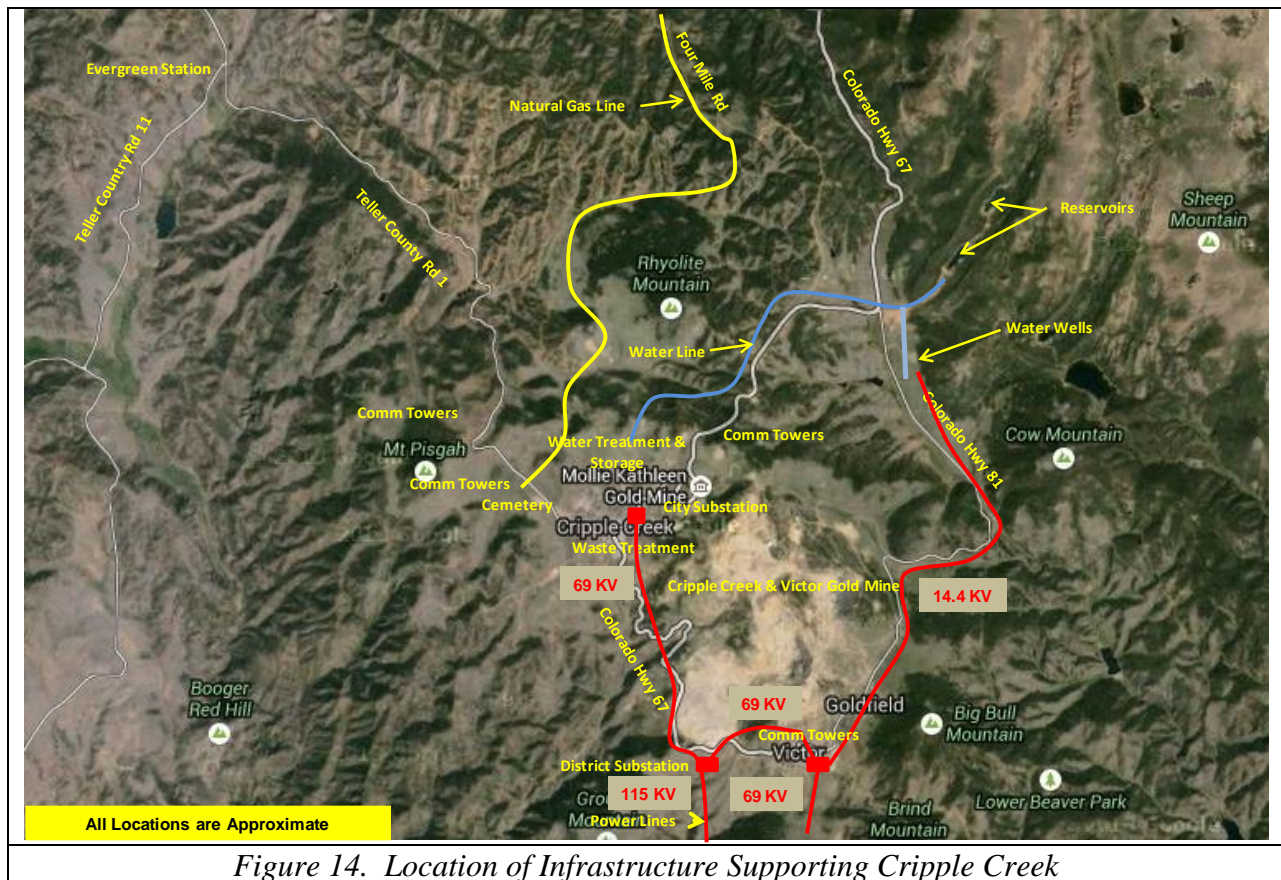
- Critical communications to the community are provided by several towers in the area. Government and commercial antennas, transmitters, relays, and related gear are located as noted in Figure 13.

The government communications capabilities are extremely vital for coordinating law enforcement, fire services, medical response, and related emergency management purposes. The civilian communications capabilities are equally as vital for reporting, monitoring, and providing evacuation notices and related emergency information to the public.



- The equipment at the top of **Mt. Pisgah** supports the Park County Sheriff's Department, a Christian Radio Station, Rise Broadband (internet provider), BLM frequency modulated radios and walkie-talkies, and the 4 Mile Fire Protection District. The property is owned by Spring Creek Realty.
- The active equipment located near **Mt. Pisgah Cemetery** is an AT&T cell phone tower. There are seven (inactive) satellite dishes and gear that may be used to feed television signals to Cripple Creek at some point. The property is owned by the City of Cripple Creek.
- There are three privately-owned radio towers located on **Tenderfoot Hill**. The towers support internet service from Rise Broadband, cell phone service from Verizon and AT&T, amateur repeater, and a state site. The secure state tower and equipment (owned by Teller County) supports the Digital Trunk Radio System (DTRS) providing service for the Colorado Park Service, State Patrol, Department of Transportation, and other state agencies. The site also provides communications for the Cripple Creek Fire, Emergency Medical Service, and Police Departments, Teller County Sheriff, and Teller Public Works. The microwave backbone link at Tenderfoot connects with sites at Badger Mountain (near Wilkerson Pass) and Almagre Mountain (on the south shoulder of Pikes Peak). A VHF patch connects Tenderfoot to the gold mine for emergency communications. The property is owned by Colorado Springs MSA LP and Providence Mining LLC.
- The equipment on top of **Squaw Mountain**, near Victor, supports FireNet with Channel 1 for Victor, Channel 2 for Tranquil Acres (near Woodland Park), and Channel 3 for Badger Mountain. It has communications supporting the mine, Victor-Law, and the Teller County sheriff, as well as internet and cell services. The property is owned by the Cripple Creek & Victor Gold Mining Company.
- A 49 foot tower on **Little Grouse Mountain** south of Highway 67 between Victor and Cripple Creek provides communications for Victor and CCFD when they are deployed in that area. This site is owned by the Cripple Creek & Victor Gold Mine and provides a communications path not obscured by the leach field. The mine also has multiple repeater sites on its property for internal communications.





Fire protection in the city is provided by the CCFD. Selected areas outside of the city limits fall under specific volunteer Fire Protection Districts. Much of the area adjacent to Cripple Creek is not covered by any fire resources except those that can voluntarily respond based on their local activities and priorities. See Figure 24 in Section 9 below for the CCFD jurisdiction map.

A more detailed look at the Cripple Creek water shed is shown in Figure 15. This depicts reservoirs #2 and #3 on the flank of Pikes Peak surrounded by National Forest. The terrain in the area is rugged and covered with live forest, dead trees, and downfall. The steep terrain and surrounding vegetation make vehicle access to the area challenging. The reservoirs and adjacent saw-toothed property of about 230 acres is owned by the City of Cripple Creek. A fishing club has leased use of the reservoirs for that purpose.

The Friends of the Peak, a non-profit group of volunteers that sponsors trail building and environmental projects, are wanting to build a “Ring the Peak” trail that proposes to pass near the Cripple Creek watershed and reservoir area. This is a sensitive area where an unattended camp fire could ignite the live, dead, and downed fuels and significantly impact Cripple Creek’s water supply. The proposed trail alignment is being evaluated.



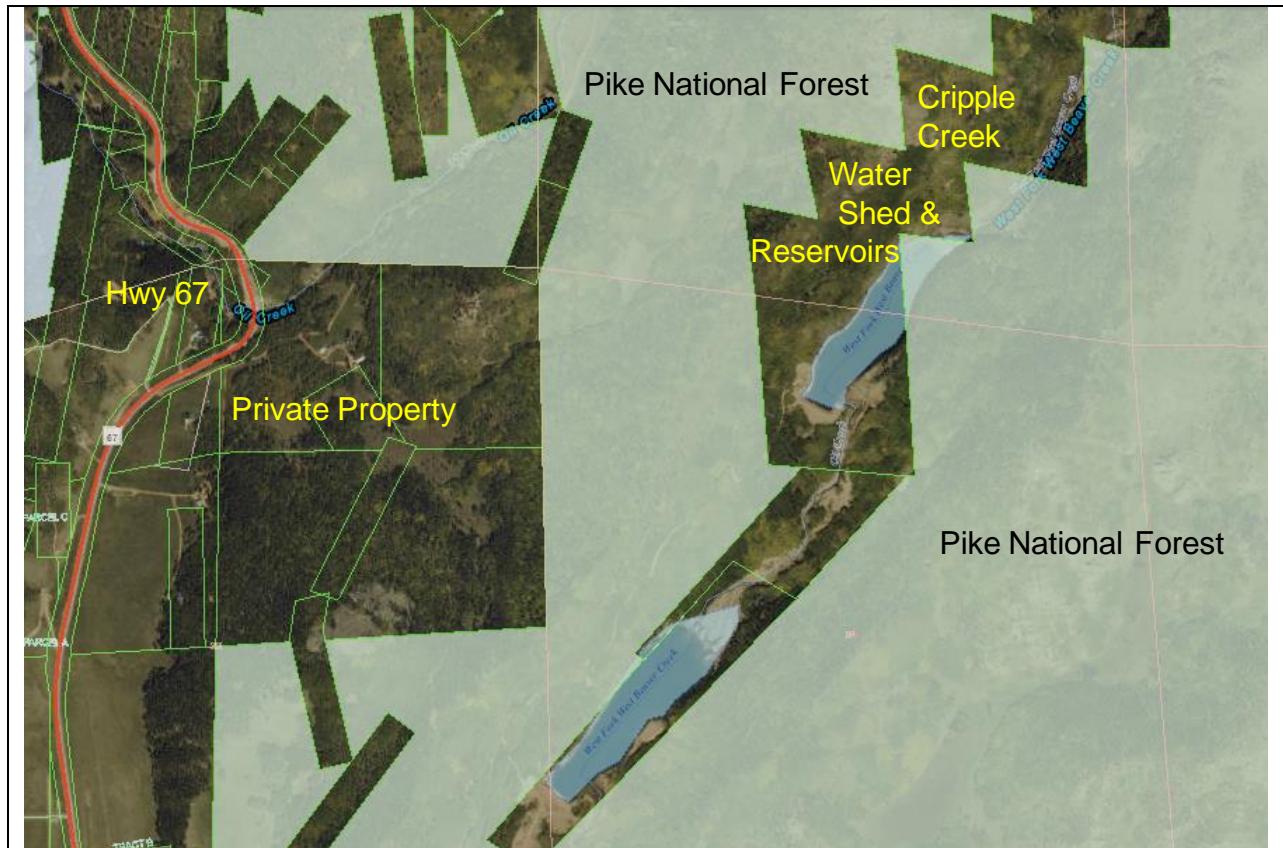


Figure 15. Cripple Creek Water Shed & Reservoirs Surrounded by National Forest

The key resources and infrastructure inside the city limits are depicted in Figure 16.



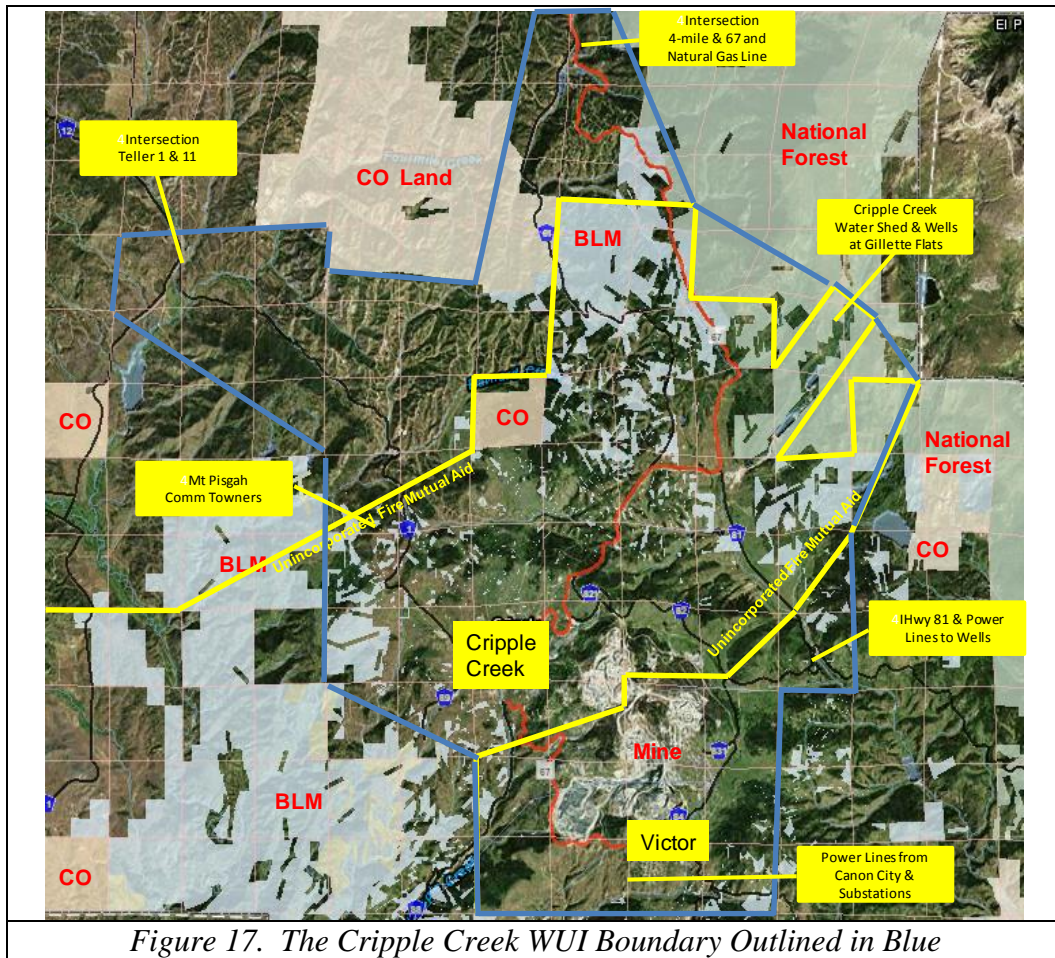


Figure 16. Location of Key Resources and Infrastructure Inside Cripple Creek

Wildland Urban Interface (WUI). The WUI is defined as that part of the city where people and development meet wildland fuels and topography. The Healthy Forests Restoration Act defines the WUI boundary as one mile outside the CWPP perimeter. However, the legislation permits communities to define a larger WUI boundary where fires beyond one mile potentially threaten the community, its infrastructure, or safety. The purpose of the WUI boundary is to indicate to Federal land managers the areas on Federal lands where mitigation should receive priority in order to protect the community.

Cripple Creek is dependent upon resources such as water supply, power, natural gas, communications towers, and paved access roads that extend well beyond the one mile boundary. The extent of the WUI boundary will not necessarily match the area of fire responsibility assigned to the fire department. Also, the WUI boundary is not just the uncovered area in the county outside the city limits where the fire department responds as resources and priorities permit. For Cripple Creek, the WUI boundary is defined as the perimeter boundary and interior area of wildfire risk mitigation and fire suppression interests encompassing the resources and infrastructure critical to the operation and survival of the city as shown in Figure 17.





7. Fire Policies and Programs

The CWPP is governed by a set of federal, state, and local plans and policies. These include:

- Healthy Forest and Restoration Act
- National Fire Protection Association Guidelines
- Center for Public Safety and Excellence Requirements
- Teller County Wildfire Protection Plan
- City of Cripple Creek Emergency Operations Plan
- Cripple Creek Fire Department's Strategic Plan

8. Wildfire Risk Assessment

Values at Risk

Cripple Creek is a treasure of history, government, economic activity, and critical resources for southern Teller County. The City's vision and mission statements provide insight into the community's values and desired direction.



Vision Statement

Establish Cripple Creek as the premier historic mining community in Colorado; with a multi-faceted economic base focused on a stable, active, and community-centered population.

Mission Statement

Diversify the Cripple Creek visitor experience to enhance the development of tourist related activities that exemplify the history of the region. This will be accomplished through careful planning, which will foster and enhance a positive community where our residents will have a greater quality of life.

Below are the key assets and values for Cripple Creek as defined by a committee of long-time city residents and other contributors.

- The town is the most visible symbol of historic mining in Colorado. It is the home of the Cripple Creek Historic Mining District and the namesake museum. The museum is considered one of the top ten most historical museums in the country with it housed in an original historic building which was formerly the Midland Railroad Depot. It contains the rare and valuable Penrose and Cross collection of mineral specimens from the original mines, records and artifacts from the early mining days, and displays of mining documents. It is a top tourist attraction in Teller County.
- The Homestead House, Outlaws and Lawman Museum (Jail), and Firehouse #3 are also historic structures built in the late 1800s and now function as museums. The Homestead House is a historic brothel opulently furnished as it was by the madams for their wealthy clients. The Jail is another historic museum which housed inmates until the 1990s. Firehouse #3 is an early day example of firefighting capabilities. The current City Hall is also a former firehouse. The Molly Kathleen Mine depicts the historic deep shaft mining equipment and underground tour for visitors. The Heritage Center provides modern display of historic artifacts along with tourist information.
- The town was essentially rebuilt after the fires of 1896. Many of the existing structures are of that era and reflect the architecture and building techniques of that time. The town is on the National Historic Registry.
- Cripple Creek is the county seat for Teller County, Colorado.
 - The County Court House is a beautiful living and working museum with irreplaceable historic documents, filings, and recordings dating back to the 1890s until today.
 - Cripple Creek is the home for the Teller County Fair and related grounds and buildings. It also hosts a multi-day professional rodeo which draws participants and crowds from around the region. It also serves as an emergency shelter for animals from the area in the event of a wildfire.
- There are three economic engines in southern Teller County. The City of Cripple Creek's assessed valuation for the 2017 budget year was \$55,714,380. This includes land, buildings, and other improvements.



- The Cripple Creek and Victor Gold Mine located on the city's outskirts which employs about 600 miners, engineers, managers, and support staff. It produces about \$400 million or more dollars a year in gold and silver.
- The dozen casinos operated by 6 companies employ about 1,000 locals, and generate about \$6 million dollars in device fees and gaming taxes each year, the City's two primary sources of revenue. Sales tax revenue is over \$500 thousand a year. These revenues support a 2017 annual budget of \$12.5 million.
- The tourists visit Cripple Creek around the clock and throughout the year. The high peak is during the summer vacation window and at special events such as the Ice Festival, Donkey Derby Days, the Salute to American Veterans Rally, and the Fall Festival which attract tens of thousands of visitors on those weekends. The estimate of unique visitors to Cripple Creek during the year regardless of their reason for the visit ranges between 500,000 and 650,000.
- Cripple Creek hosts multiple resources critical to the survival of residents not only in the city, but also to the southern Teller County residents populating the surrounding area.
 - Colorado Highway 67 and Teller County Road 1 are the only paved roads that connect Cripple Creek to the outside world as noted in Figure 1. These roads are critical to the operation of the mine, government, casinos, local businesses, fire response, medical transport, and other sustaining functions.
 - Cripple Creek has the only grocery store, hardware store, medical clinic, elementary school, junior high, high school, nursing home, trash receiving station, one of two post offices, and two of the three gas stations in southern Teller County. The Cripple Creek Fire Department provides emergency response in the area when priorities and resources permit.
 - The Community of Caring Foundation, a non-profit charitable organization, and the related Aspen Mine Center in Cripple Creek provide a one-stop facility with a variety of community services through about 20 programs and agencies for the disabled, unemployed, troubled youth, senior citizens, homeless, low income, and related needy citizens of southern Teller County. Their annual budget for community services is over a half million dollars.
 - The local historic Catholic, Baptist, and Episcopal churches serve the city and surrounding communities. The Elks Lodge #316 and American Legion Post #171 are charitable non-profit organizations supporting the community from their historic buildings.
 - The historic Mount Pisgah cemetery is one of only two cemeteries in southern Teller County.
 - Cripple Creek is the focus for recreation and entertainment in southern Teller County. The historic Butte Theater hosts several sold-out live plays during the tourist season. The Parks and Recreation facility provides affordable activities for both the youth and adults in the area.
 - Cripple Creek has over 25 snack/coffee bars, cafes and restaurants and more than 18 lodging facilities supporting the community and visitors with more planned.
 - The town hosts 14 free-range donkeys that serve as mascots and a reminder of the early mining days.



- Utility services are critical to the existence of the city and surrounding area. Water comes from reservoirs on the west shoulder of Pikes Peak above Gillette Flats. There are also water wells south of Gillette Flats along Teller County Road 81 near the intersection with State Highway 67. Natural gas is provided by Colorado Natural Gas Company via buried lines along Teller County Road 61 (also known as Four-mile Road) from Divide to Teller County Road 1. Black Hills Energy provides electrical service from Canon City via power lines with substations located between Cripple Creek and Victor, in Victor, and south of the Century Casino. City sewer lines connect to the treatment facility located at the south edge of town near Highway 67. Area communications (towers, power sources, and communications paths) are vital for notifying residents of a wildfire, providing evacuation instructions, and safely coordinating first responder actions. Critical communications towers are located atop Mt. Pisgah, near the Mt. Pisgah cemetery, on Tenderfoot Hill and Squaw Mountain, and at the CC&V Gold Mine.

Fire Hazard

The Cripple Creek wildland urban interface is a mix of short grass prairie with clumps of Aspen and conifers progressing to areas of heavy forest.

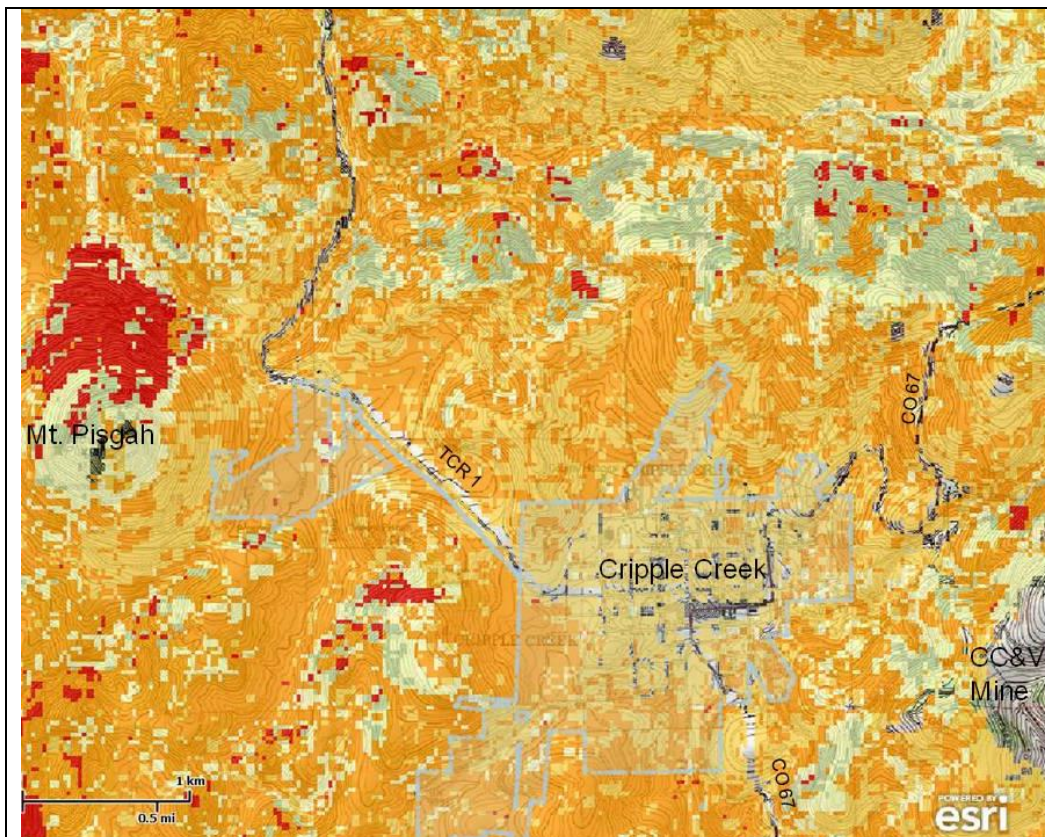
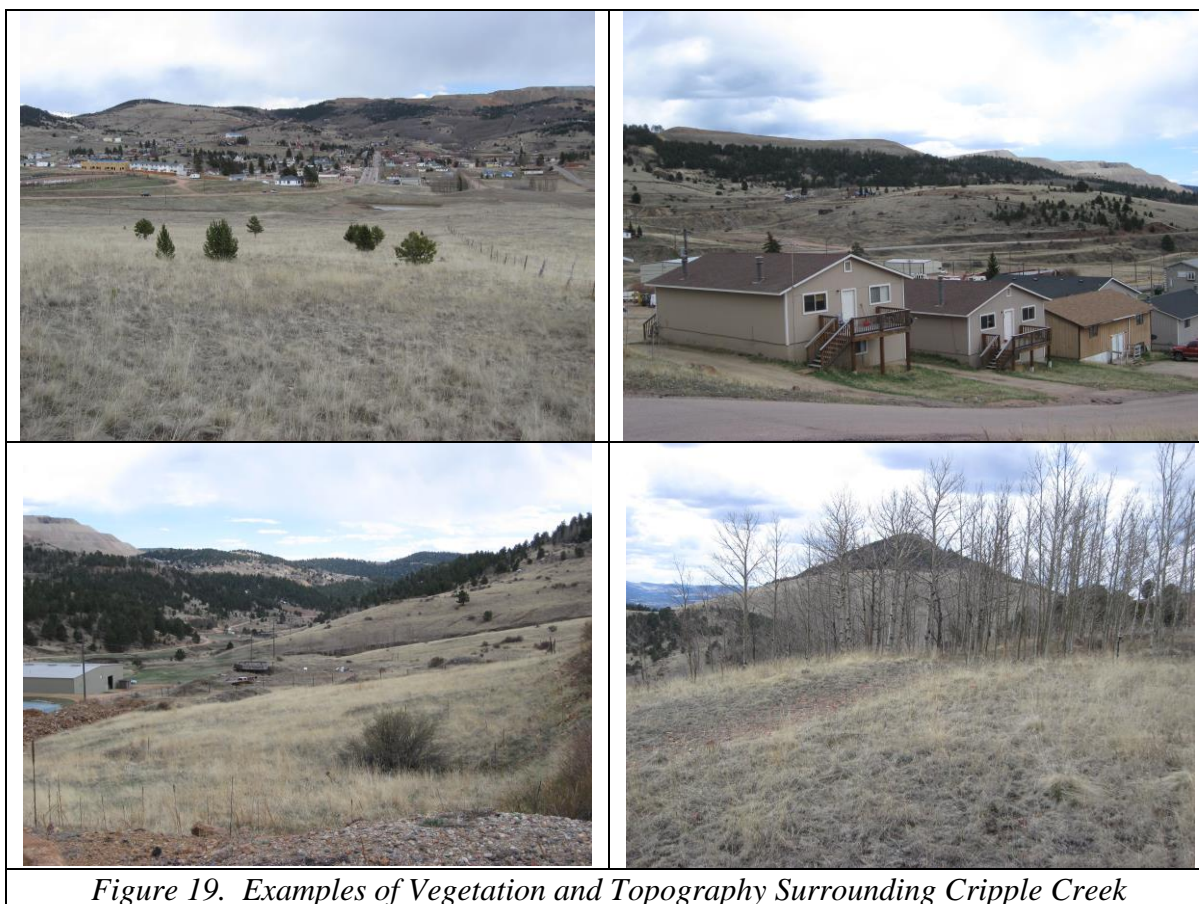


Figure 18. Cripple Creek Surrounded by Medium & Medium High Risk Land with High Risk Conifer Stands (Colorado Wildfire Risk Assessment Program)



This is depicted by the Colorado Wildfire Risk Assessment Program graphic in Figure 18. The tan reflects Medium Risk, dark tan represents Medium-High Risk, and red shows High Risk. Lighter colors represent less risk than Medium. Much of the fire risk is from the ubiquitous mature grasses around the City of Cripple Creek. Historically, cattle grazing kept the grasses in check, but the reduction in area ranching has allowed this hazard to increase.

Examples of vegetation and topography surrounding the City perimeter are depicted in Figure 19.



Cripple Creek has a mixed severity regime of frequent, low intensity fires with infrequent high intensity fires. Historical fire occurrence includes large fires every 50 - 75 years, with smaller, more frequent fires every 2-4 years. Tree ring data collected in the region shows a more frequent fire regime prior to settlement; on average fires occurring every 17 - 35 years. Although large fires are less frequent, the city has had several fire fatalities and millions of dollars in property loss. The CCFD responded to wildland-related service calls as noted in the table below.



Year	Wildland-Related Service Calls
2009	8 Incidents
2010	18 Incidents
2011	30 Incidents
2012	58 Incidents
2013	27 Incidents
2014	27 Incidents
2015	17 Incidents
2016	36 Incidents
2017	1 Incident
2018	5 Incidents

In 1896 Cripple Creek suffered two disastrous fires. The first occurred on April 25 destroying half of the city including much of the business district. Four days later, another fire destroyed much of the remaining half. In this second fire, eight blocks of buildings were consumed, six lives were lost and nearly four thousand residents were left homeless. When it was all said and done, less than ten buildings were left to mark the site of the city. Within just a few months, modern businesses built of brick or stone rose on the foundations of the former camp. The Cripple Creek Fire Department was also determined to be a worthwhile investment in the wake of this devastating conflagration. The city was rebuilt in a period of a few months, and most historic buildings today date back to 1896.

The deep-shaft gold mining began to play out, and by 1920 there were only about 40 mines operating (from a high of over 500 mines) and production had been reduced to four million dollars. The 1930s saw a brief revival of mining, but this, too, waned and by 1945 there were less than 20 mines operating with only about one million dollars in gold produced each year. Determined not to become a ghost town, the citizens of Cripple Creek began to promote its rich history to potential tourists. The Imperial Hotel began showing melodramas in the Gold Bar Room Theatre in the 1940s. In 1953, the Cripple Creek District Museum opened in the old Midland Terminal depot. In 1967, the Cripple Creek Narrow Gauge railroad began operation. However by the 1980s, tourism began to drop in Cripple Creek and other historic towns of Colorado. As a result, in 1991, Colorado passed a law to authorize limited stakes gambling in Cripple Creek, Central City and Blackhawk, saving these old towns from total extinction.

The fire department transitioned to a career fire department out of a necessity for first responders to help with the numerous visitors of the City of Cripple Creek. The department added their first paid firefighters in 1993 at two persons per shift. At this time the department provided service with one Type 1 pumper, one tender, one brush truck, one rescue, and added its first aerial apparatus. During this time, the department operated under a combination staffing model with career personnel and volunteers. Cripple Creek Fire provided services with the sacrifice of volunteer members until early 2010. A fourth person was added per shift in 2004. With the



addition of the fourth person, the department was now able to guarantee a two-in two-out offensive attack without relying on the sacrifice of volunteers that may not be available.

The Hayman fire is largest area fire to occur in Teller County in recorded history. It started on June 8, 2002, in Park County north of Lake George, CO, and burned east through northwest Teller County, north of Florissant, Divide, and Woodland Park, and about 20 miles north of Cripple Creek. Hundreds of firefighters fought the fast-moving fire, which caused nearly \$40 million in firefighting costs, burned 133 homes, 138,114 acres, and forced the evacuation of 5,340 people across the multi-county area. Smoke could be seen and smelled across the state from Vail, 108 miles northwest, to Burlington, 188 miles east, and from Broomfield, 50 miles north, to Walsenburg, 130 miles south. The fire wasn't contained until July 2, 2002, and was finally brought under control on July 18, 2002. The cause of the wildfire was found to be arson. The Cripple Creek Fire Department responded, supported the firefighting effort, and back-filled other departments that were heavily involved.

During the Waldo Canyon Fire of 2012, Teller County was plagued with 28 wildland fire starts in about a month. The starts were suspicious in nature and were attributed to arson.

On June 29, 2018, the Chateau fire started in the Chateau West Subdivision, northwest of Evergreen Station. The CCFD was one of the first mutual aid responders. The fire spread north and west into housing subdivisions causing extensive evacuations, road closures, the establishment of family and animal emergency shelters, and activation of water, food, and related emergency services. The extremely dry grass and timber fuels, single-digit humidity, and southerly winds quickly spread the uncontrolled fire with firefighting responsibility swiftly being elevated to the state and federal levels. The fire burned over 1,400 acres including 11 homes. The cost of the 12-day fire was more than \$1 million dollars. The cause was attributed to an unattended illegal camp fire during a Stage II fire ban.

Topography.

The topography in the WUI is variable from relatively flat to very steep. The steep terrain, particularly along valleys and canyons with heavy fuels, provide a dangerous, accelerating wildfire risk through the chimney effect. Fortunately, most of that type of terrain is outside the city limits. The greatest risk to the city from fires in the surrounding areas is from firebrands carried by wind to the city, surrounding areas, or directly to structures within the city. The top concerns come from firebrands carried by winds from fires on Mt. Pisgah, Tenderfoot Hill, and the Helena Canyon/Shelf Road area.



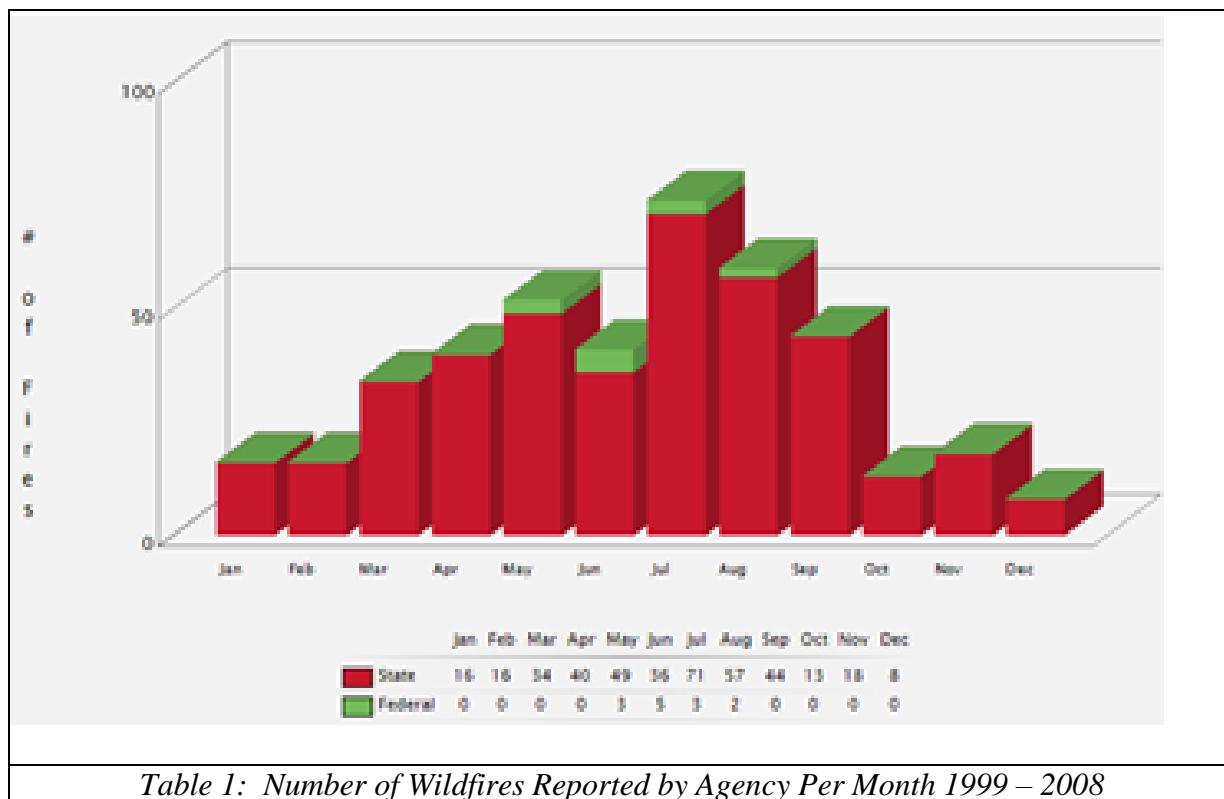


Table 1: Number of Wildfires Reported by Agency Per Month 1999 – 2008

Seasonal Weather.

The seasonal weather dramatically influences the wildfire risk. During the snow-covered winter months, the wildfire risk is moderate to low. However, the snow is often melted during the winter which exposes the vegetation to a fire danger. A compounding effect is high speed Chinook winds, primarily during the winter and spring months, that can be 50 miles per hour and significantly higher, which can both dry vegetation and push a wildfire. The low, single-digit humidity levels at times in the summer months also have a drying effect and dramatically increases the risk of a wildfire. This risk is compounded by frequent summer thunderstorms featuring dramatic lightning strikes.

The climate is markedly semi-arid with four distinct seasons (Figure 20). Within this climate, Colorado is known for wild weather swings including rain, snow, hail, grapple, thunderstorms, and even tornados, often all on the same day. In addition, recent drought patterns in the region have significantly increased fire risks in and around our community. During 2007 - 2016, the Cripple Creek Fire Department responded to approximately 235 wildland fire-related calls and participated in some of the largest wildland fire suppression efforts (i.e., Hayman, Waldo Canyon, Black Forest, and most recently Chateau) ever coordinated in the State of Colorado. Wildland fire continues to be a significant risk to our community as much of our tourism industry relies heavily on the natural beauty surrounding our city.



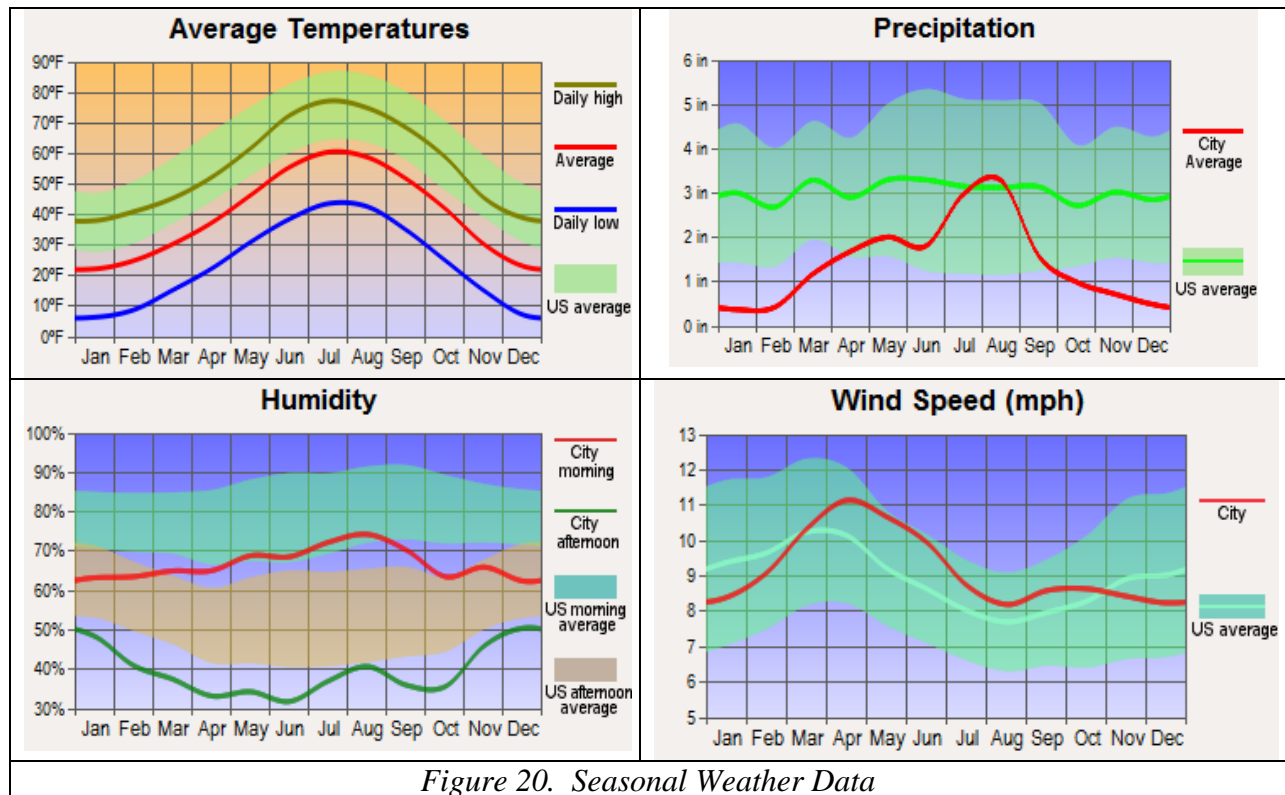


Figure 20. Seasonal Weather Data



Structural Vulnerability

The City is a mix of structure types. Most of the historic businesses are brick with flat asphalt roofs. The occupied residences appear to have mostly asphalt composite roofs although neither the County nor City building codes require Class A roofs on new or replacement roofs nor prohibit cedar shake roofs. The homes generally have wood siding with a few built with stucco siding. The landscaping is mostly natural with native grasses, aspen, and conifer predominating in the home ignition zone. Fire Department access to structures within the city is considered good with paved streets and natural alleys. Wildfire mitigation is voluntary by each property owner with limited enforcement of city codes related to wildfire risk reduction due to scarce City resources. This is depicted in the following pictures showing unmaintained historic structures, grasses, and dead/volunteer trees referred to as Figure 21.

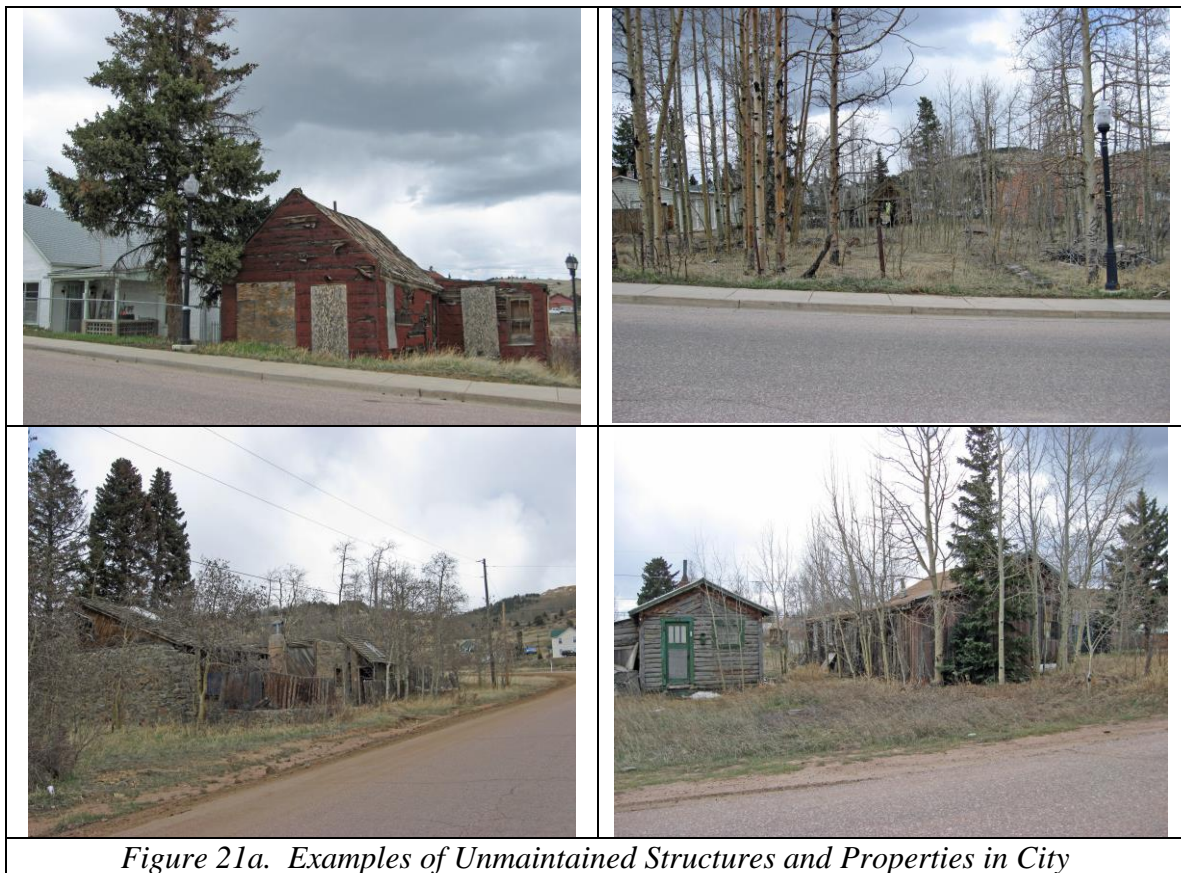


Figure 21a. Examples of Unmaintained Structures and Properties in City



Figure 21b. Examples of Unmaintained Structures and Properties in the City

City lots are typically 25 feet wide and consequently, there are multiple residences built with little or no separation from neighboring houses. Some actually have eaves overlapping above property lines as shown in Figure 22. Should firebrands ignite one home or abandoned structure, the risk of home-to-home ignition is extreme in these closely spaced neighborhoods.



Figure 22. Examples of Homes with No Space Between Properties

Protection Capabilities

The City of Cripple Creek is fortunate to have a full-time staffed Fire Department and Medical Response capability. The fire house is located at 147 East Bennett Avenue and houses the equipment and personnel. The city streets are paved and provide easy access to structures inside the city limits.



The CCFD's first priority is to respond to fires within the city limits. However, they do respond under a cooperative mutual aid agreement to fires outside the city limits as priorities and resources permit. Access to properties and structures in the WUI outside the city limit is more difficult. This mostly involves the use of county-maintained county roads and mostly unmaintained narrow private roads and driveways. Some of the private roads are steep and closely bordered by overhanging trees with little room to maneuver large fire trucks. Areas outside the city limits may not be serviced by a water district and thus have little available water for fire fighting.

CCFD Mission Statement: To protect the world's greatest gold camp by continually pursuing excellence in preparedness, prevention, education, and response.

Fire Equipment: CCFD has multiple fire apparatus in its arsenal. The two-wildland specific apparatus are Type 6 engines. Both are four-wheel drive engines that carry roughly 300 gallons of water and have a minimum pump capacity of 30 gallons per minute (GPM). In addition to wildland firefighting apparatus CCFD also has one utility pickup, one rescue vehicle, one quint ladder truck with 300 gallons of water and a 750 GPM pump, one Type 1 engine with 500 gallons of water and a 750 GPM pump, and a four-wheel drive Type 1 engine with 1000 gallons of water and a 750 GPM pump. The city's available equipment is noted below:



Call Sign	Resource Description	Kind
Engine 111	2013 Pierce Saber, 1000 gallons	Engine 4x4
Engine 112	1998 HME/Smeal, 750 gallons	Engine
Engine 126	2003 Ford F-550 200 gallon	Engine 4x4
Engine 128	2014 Dodge 5500, 313 gallons	Engine 4x4
Utility 122	2007 Dodge Ram 1500	½ Ton Pickup 4x4
Command 121	2003 Ford Expedition	Full Size SUV 4x4
Quint 131	2000 Pierce Quint, 300 gallons	Fire Ladder 75'
Rescue 120	1999 Ford F-550	1 Ton Rescue 4x4

CCFD Staffing: The Cripple Creek Fire Department staffs 13 full time employees and operates out of one station located at 147 E. Bennett Ave. in the city of Cripple Creek. CCFD operates with three 48-hour shifts. The fire house is staffed by a fire chief and three shift captains. Each shift consists of four personnel, one Captain, one Engineer, and two firefighters. CCFD also employees a reserve firefighter program with up to 10 authorized reservists. There are seven Fire Corp volunteers who can provide some support services during emergencies.

All CCFD personnel maintain at least a minimum qualification of Firefighter Type 2 and annually renew an Incident Qualification Card. This card, commonly referred to as a red card, qualifies CCFD personnel to participate in fires that are coordinated by state and federal management teams.

Medical Response Equipment: The Southwest Teller County Emergency Medical Services (SWTCEMS) is collocated with the CCFD in Cripple Creek but is organizationally separate. SWTCEMS is part of the Southern Teller County Health Services District and serves all of southern Teller County including Cripple Creek, Victor, and the unincorporated area that is roughly included in the RE1 School District.

Their equipment includes four ambulances that are identically equipped with Advance Life Support (ALS) gear, communications, and related items. Two ambulances are operational and staffed 24 hours a day, seven days a week. The other two ambulances are activated on weekends and during special events, as needed. If needed, a flight-for-life helicopter is ordered for time-sensitive treatment.

SWTCEMS primarily uses two different helicopter services for time sensitive transports or transports from backcountry calls that are difficult to access by ground. Flight for Life is from Centura Health Systems and has helicopters based in Colorado Springs, Pueblo, as well as Salida and the Denver area. Life Flight is operated by the University of Colorado Health (UCH), also located in Colorado Springs and Denver. Transport destinations are determined by type and severity of patient needs. Level 4 Trauma Hospitals, Pikes Peak Regional Hospital in Woodland Park, and St. Thomas Moore in Canon City receive minor trauma and medical patients. Patients with more severe trauma or illness are transported to UCH-Memorial or Penrose Main Hospital which are the closest Level 1 and 2 Centers. Patients under 14 are usually transported to a



Children's Trauma Center. UCH-Memorial, St. Francis Hospital (both in Colorado Springs) or Children's Hospital of Denver is the destination for children based on protocol.

Medical Response Staffing: Each ambulance is staffed with a paid paramedic and an Emergency Medical Technician (EMT). Volunteers are not used for ALS services. When needed, the resident staff is augmented with additional, qualified personnel to meet the need.

Medical Response Qualifications: The full-time staff is required to be at least 26 years old with three years of ALS experience. The experience level of resident Paramedics ranges from 15 to 36 years. In 2018, the average response time from dispatch to arrival for patients was 2.7 minutes in Cripple Creek, 14.5 minutes to the Victor area, and 9.19 minutes on all calls in the District. SWTCEMS staff operates under "standing orders" and have guidelines for care that are updated as needed by the Medical Director.

Fire Risk

The fire risk generally ranges from low to moderate during periods of adequate moisture. The winter snow cover keeps the grasses, shrubs, and trees with adequate moisture content. However, the fire risk ramps up during dry and windy periods to the high to extreme risk levels. Chinook winds during the winter and spring months dry out the fuels and can dramatically push firebrands far ahead of the wildfire area. Lightning during the spring, summer, and fall months can cause both structure and wildland fires. Lightning caused a structure fire in historic Victor in 2014 which destroyed the building. Fortunately that fire didn't move outside the urban area.

Cripple Creek and the surrounding area have a mix of local residents, campers, and thousands of tourists that can start human-caused fires. Most of the local residents are sensitive to wildfire risks based on the recent wildfire history in the local area such as the Hayman, Waldo Canyon, Royal Gorge, Black Forest, and High Chateau fires. Others may not be as careful with their smoking materials and work habits. The most likely human cause would be an accidental start from malfunctioning equipment, unattended camp fires, open burning, and related careless activities. Intentional human-caused fires are more troubling. These can be started by disgruntled citizens, thrill seekers, and other types of twisted minds. In 2012 and during the Waldo Canyon fire, an arsonist was busy in Teller County setting 28 fires that fortunately were quickly discovered and extinguished. The person(s) were never apprehended.

As can be seen from the preceding pictures, graphs, and descriptions, the grasses in and surrounding the city present a likely opportunity for a wildland grassfire. Nationally, 37% of all wildland fires are grassfires. The leading causes are: intentional starts, hot embers or ashes, debris burning, high winds causing downed power lines, and careless smoking. Lightning accounts for only 4% of grassfire ignitions, although that risk may be higher in the Cripple Creek area. Grassfires characteristically move fast (upwards of 20 miles per hour), often as a wind-driven event. The flame lengths can range between 1 ½ to 3 times the height of the vegetation. As grassfires burn, they dry out the green vegetation in front of the flame front. The "flashy" fuels can quickly burn, become air borne embers, and cause spot fires beyond the front.



Consequently, strong vegetation management/maintenance practices are required to keep the grasses from becoming unintended fuel for a grassfire.

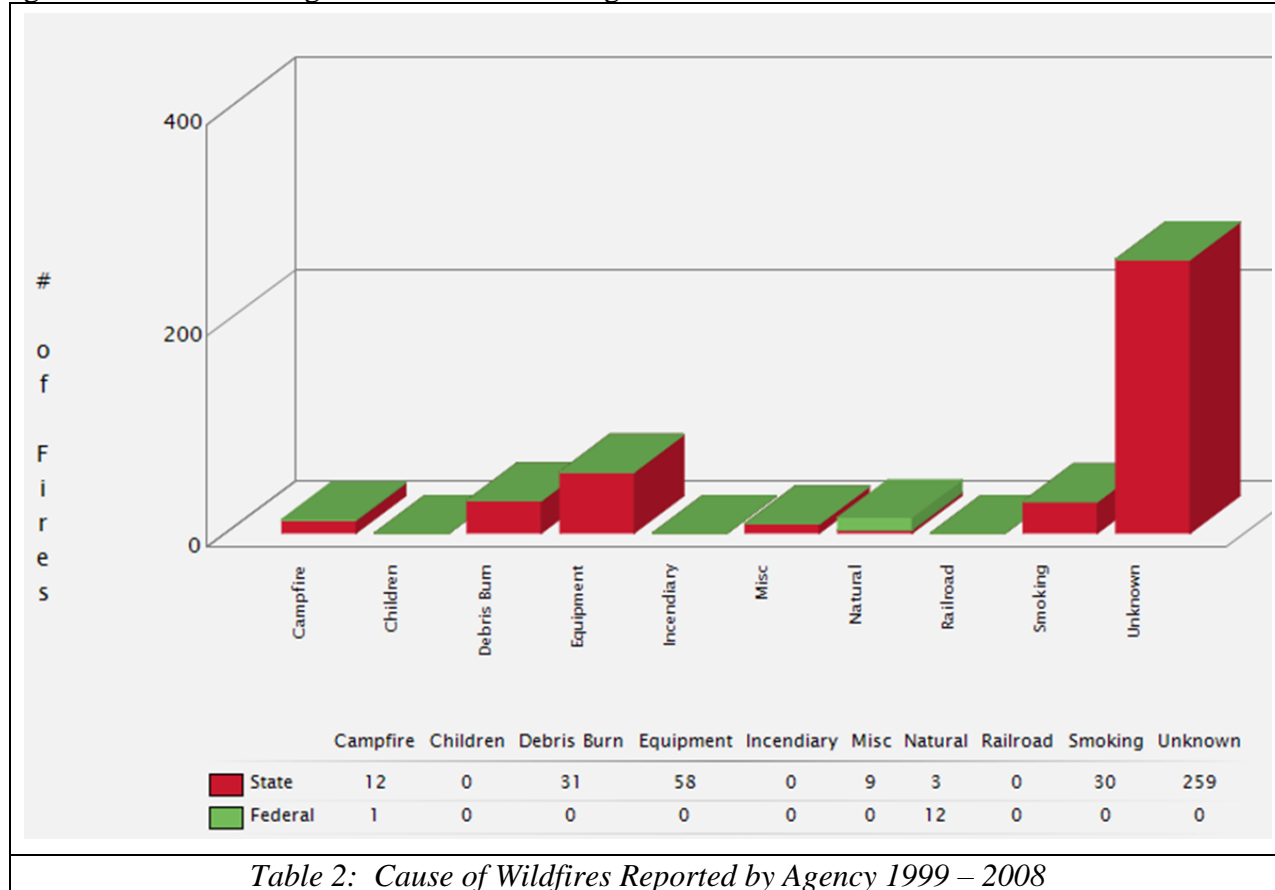


Table 2: Cause of Wildfires Reported by Agency 1999 – 2008

9. Emergency Management

Protection Capabilities & Infrastructure Protection.

Emergency management roles, responsibilities, and responses are defined in the Cripple Creek Basic Emergency Operations Plan, the Teller County Emergency Operations Plan, Teller County Multi-Hazard Plan, the Teller County Office of Emergency Management procedures, and related agency materials. The plans are executed via city and county first responders using mutual aid agreements,

CCFD Jurisdiction:

The Cripple Creek Fire Department's official jurisdiction is defined by the Cripple Creek city limits. The last annex or growth of jurisdiction occurred in 2013. There are currently no planned large annexes for the next five years. Additionally, the city is surrounded by approximately 55 square miles of unincorporated county that has no fire protection. Technically



CCFD also contributes in mutual aid with surrounding fire agencies. The department responding to a wildland fire in unincorporated areas normally activates the Teller County Wildland Task Force, if needed. The Task Force can also be a collaborative response by all Teller County fire agencies to incidents that have potential to overwhelm the resources of a single agency.

Surrounding Jurisdictions.

The Cripple Creek Fire Department is surrounded by several volunteer agencies, but there also exists significant gaps in service between departments and districts. This rural area falls under the protection of the Teller County Sheriff's Office, who provides no fire protection. As a result, the Cripple Creek Fire Department often collaborates with its neighboring jurisdictions to provide these unprotected areas with a response when possible. Additionally, as all departments or districts in the county operate either by volunteer response or by a small number of career members, all agencies cooperate to support one another for all major incidents.

Victor Volunteer Fire Department. The Victor Volunteer Fire Department, our nearest mutual aid partner, provides fire and rescue services to the nearby City of Victor, Colorado, and surrounding areas. The department operates under the direction of a paid, part-time Fire Chief and is staffed by a volunteer base of about 8-10 members.

4 Mile Fire Protection District. The 4 Mile Fire Protection District is located on the west side of the Cripple Creek Fire Department's jurisdiction and protects approximately 68 square miles out of two stations. The district is led by a paid, part-time Fire Chief and staffed with 10-15 volunteers.

Divide Volunteer Fire Protection District. The Divide Volunteer Fire Protection District was founded in 1999 and protects approximately 100 square miles of Teller County directly north of Cripple Creek. The department operates out of two stations and is fully staffed by approximately 40-50 volunteers.

Cripple Creek & Victor (CC&V) Gold Mine Technical Mine Rescue Team. The CC&V Gold Mine Technical Mine Rescue Team is a special operations division of the CC&V Gold Mining Company and is made up of approximately 15 members from various areas of mine operations. These 15 members are trained in multiple rescue disciplines which include high angle rescue, low angle rescue, hazmat response/rescue, as well as underground mine rescue. The mine is making an effort to equip their water tenders with the fittings compatible with CCFD apparatus. CC&V is also installing a new communications tower and is providing a channel for use by emergency responders.

Teller County Sheriff's Office. The Teller County Sheriff's Office provides law enforcement, traffic control, and incident management services to all of Teller County. Cripple Creek Fire Department works closely with the Sheriff's Office on many incidents every year. CCFD also provides wildland fire suppression to many areas in southern Teller County, in conjunction with other fire agencies, in the Sheriff's Office's stead.



Southwest Teller County Emergency Medical Services (SWTCEMS). The Southwest Teller County EMS, a health services district EMS agency, provides Advanced Life Support and medical transport services to all areas within the southern Teller County response area. SWTCEMS provides transport to the Pikes Peak Regional Hospital in Woodland Park, all four major hospitals in Colorado Springs, as well as St. Thomas More in Canon City.

10. Mitigation and Implementation Plan

The CCFD provides many services to the community. These program features align with the Department's mission statement noted earlier.

Reducing wildfire risk depends on commitment from every level of the community: federal, state and local government agencies to residents and non-profit agencies. The tagline ***"Sharing the Responsibility"*** emphasizes the need for collaboration between agencies and the public. The programs below define a vision of the future with the actual implementation depending upon the resources (personnel, funding, and equipment) being made available.

Education and Community Outreach

As part of the tagline ***"Sharing the Responsibility,"*** the CCFD must work closely with the city residents, organizations, and the nearby communities. The intent of educating and involving residents at the homeowner and business level is to engage them so they understand their risk and how it impacts their neighborhood. Because a wildland fire is a landscape scale event, their risk also influences their neighbors. The following are recommended education and outreach programs.

- Host periodic educational programs that demonstrate the risks and behaviors of wildfires through guest speakers, video presentations, and other means. During these meetings citizens learn about fire behavior, property protection guidelines, and resident evacuation tips in the event of a wildfire. Residents receive specific guidelines as to how they can mitigate wildfire risk through vegetation management and structure protection on their property.
- Provide educational materials describing the simple wildfire risk mitigation techniques, structural retrofits, and new construction tips that can be employed by the property owners to reduce their risk.
- Establish a wildfire risk mitigation link using social media on the city's web site and Facebook site. Populate them with educational materials, fire ban information, and the current wildfire risk level. These include project information, wildland fire updates, and program features. Program features added to the website include a community wood chipping and community meeting calendar, photo gallery of projects, and maps of project areas.
- When resources permit, establish a free wildfire risk assessment to property owners in exchange for their commitment to "share the responsibility."



- Educate the city property owners on the city codes which outline several wildfire risk mitigation requirements regarding weed and grass maintenance, trash removal, dead/dying/volunteer tree management, property maintenance and related topics. Refer those who remain non-compliant to code enforcement.
- Fire danger signs are also a good tool for increasing wildfire awareness and notifying residents about fire danger, burn restrictions, and burn bans. Fire danger signs are recommended at the city fire station and paved road locations at the wildland urban interface boundary as funding allows. Considerations for sign locations include:
 - Visibility
 - Target audience
 - Traffic and traffic safety
 - Fire history and wildfire risk
 - Fuel conditions and natural resource value
 - Historic value

Sign maintenance will be the responsibility of the CCFD or Fire Corp volunteers.

Stewardship Program

The CCFD is not a land management agency and therefore has no authority or responsibility for property management outside the city limits. However, the CCFD is responsible for improving public safety and mitigating risk to life and property. Work is completed through stewardship with property owners on private and public property, common areas and open spaces. Signed stewardship agreements must be in place before any CCFD work can begin including project planning, obtaining funding, structural upgrades, neighborhood chipping or vegetation removal. Stewardship agreements outline the responsibility of the Cripple Creek Fire Department and funding availability, as well as property owner liability and participation requirements (see Appendix II, Stewardship Agreement [Example]). The stewardship agreement is intended as a handshake between the fire department and the property owner. The CCFD will not incur costs on behalf of the owner without notification or prior consent. Likewise, project implementation is based on funding availability and related staffing.

Grant Administration.

The CCFD is expected to rely heavily on state and federal grants for project funding. Grant sources include FEMA Pre-Disaster Mitigation grants, Western States Wildland Urban Interface grants, Healthy Forest Restoration Act stimulus grants and Assistance to Firefighter grants. Grant administration involves project planning, application process, scoping, monitoring, reporting, project oversight, evaluation and closeout. Matching commitment is funded through the soft matching using volunteer labor and property owner matching. Examples of property owner matching include community volunteer projects, structural retrofits, contracted labor, and hard cash donations.

Volunteer Program Coordination.



Volunteer labor is not free labor; it requires an investment of time and resources. However, volunteers are important for community buy-in, involvement and educational outreach. Volunteer projects bring people together and help create a strong sense of community. Volunteer labor can be a beneficial source of soft match for grants; volunteers and grant projects can be coordinated to meet required matching. The CCFD Fire Corps is one example of a volunteer labor. Volunteer projects include fuels management projects in parks, open spaces, common-owned areas and on private property. Projects on private property will be coordinated with the volunteers for those owners who cannot do the work themselves, including those with physical limitations or impairments.

Property Owners Assistance

The CCFD is expected to work with property owners and provide assistance on private property as funding is available. Emphasis and priority will be given to seniors or homeowners with special needs. An individual stewardship agreement is required before work can be done on private property. Mitigation work may involve a wildfire mitigation fuels crew, contracting or coordinating volunteer projects.

Fuels Reduction

The CCFD has the responsibility and authority to assist with mitigation efforts as resources are available. This coincides with the Cripple Creek Fire Department's responsibility to respond operationally. If property is within city boundaries or threatens any city asset other than federal land, CCFD has the responsibility to work with the owner or agency responsible for maintaining that property to mitigate wildfire risk. City assets can include utilities, watershed, communication sites, or other critical infrastructure. Implementation is based on several factors including: wildfire risk rating, willingness to participate in the program, environmental assessment, cultural and historical assessment, slope, access, fuel loading, forest health and mortality, values at risk, ownership, funding, and resource availability.

Fuels management (Figure 25) has a very high benefit to cost ratio. Nationally, these types of projects have a 4:1 benefit cost ratio, meaning that for every \$1 spent on mitigation, there is a savings of \$4 for operational response and recovery. Analysis of other departments' projects for grant funding has shown that every dollar spent on fuels mitigation projects results in a savings of \$12 - 24 in a wildfire event.





Figure 25. Example of a Fuels Mitigation Project (Untreated / Treated.)

Desired conditions around structures include 10 foot clearance with mitigation (limbing, thinning and removal) out at least 30 feet or to the property line, whichever comes first. Homeowners can extend beyond 30 feet as long as it is still on their property; 30 feet is the minimum recommendation. In adjacent open spaces and parks, stand management is intended to reduce the number of stems per acre as well as removing dead and diseased individuals, not clear cutting or putting in fire breaks.

In adjacent areas and open spaces, specifications for desired conditions include:

- Manage for less than 20% mortality in the timber and brush
- Reduce stand density to 50 – 150 stems per acre
- Remove ladder fuels by limbing and thinning
- Retain a minimum of 2 snags per acre for wildlife, as available (minimum of 10-inch diameter at breast height)
- Thin out understory regeneration in mixed conifer and manage for mature pine overstory

Tax Incentives for Wildfire Mitigation Work. Colorado landowners with property located in an approved CWPP-defined wildland-urban interface area may qualify to receive a tax subtraction for some costs of wildfire mitigation work. Individuals, estates and trusts may subtract from federal taxable income certain costs incurred in performing wildfire mitigation measures. Check with your income tax professional for current applicability and qualification details.

Lessons Learned. Here is a summary of lessons learned and other good practices that everyone can immediately apply to defend their property.

- Keep your house address clearly marked and visible from both directions of traffic so firefighters can find your property.
- Keep leaf and pine needles off the roof, out of the rain gutters, away from the foundation, and from under trees/shrubs to a distance of 30 feet from any structure.
- Keep grasses mowed to a maximum of four inches and watered (as possible).
- Remove all dead/dying shrubs and trees around the house.



- Participate in the annual neighborhood chipper truck program (if one is available).
- Move firewood piles away from the house.
- Remove litter and other combustibles from under the deck.
- Put a chimney cap or spark arrestor on all flues used for burning wood, solid, or liquid fuel.
- Use a non-combustible mulch (such as rocks) around the foundation plantings to form a five-foot non-flammable perimeter around the structures.
- Seal any cracks or openings around the foundation, pillars, columns, and other places where embers might enter and collect. Use an 1/8" or smaller wire mesh to keep embers out and to allow water weeping.
- Replace oily vegetation plants (i.e., junipers) around the foundation/deck with more fire-resistant deciduous plantings.
- Ensure gable and other vents have at least a 1/8" screen or smaller to keep the larger embers out of the attic space.
- Remove ladder fuels that provide fire a path from the ground to the structure or other flammable materials. Prune the lower branches so fire can't burn from the grass to shrubs to trees to the structure.
- Create a defensible space of at least 30 feet around the house to the property line by thinning vegetation, installing fire breaks, and creating barriers for the fire's progression. Barriers can be walkways, rock walls, rock mulch, and similar non-combustible materials for disrupting the fire's path.
- Install a Class A roof as approved by and installed in accordance with the City and County Codes.
- When you do an exterior home improvement (such as replace the deck, reside the house, or redesign the landscaping), use ignition resistant products as approved by local authorities.
- Maintenance! Continue to protect your investment through regular maintenance.
- If there is the imminent threat of a wildfire:
 - Remove chair cushions, brooms, propane tanks, welcome mats, combustible furniture, and other ignitable items away from the house and deck.
 - Close/block all attic vents if you can.
 - Tie open the gates of wooden fences leading to the house (or remove a fence section). The wood fences act as a continuous fuel source leading fire to the house. A break in the fence may stop this fuse from burning your house.
 - Tightly close all windows and doors. Keep the garage and house doors unlocked for access by fire personnel.
 - Leave water hoses outside the house and connected.
 - Evacuate family, pets, medications, and valuables as soon as possible.

Community Chipping. Community chipping is a future part of ***"Sharing the Responsibility."*** The Cripple Creek wildland urban interface is truly an urban/rural/wildland setting; many households do not own a truck for hauling debris to a collection site. A community chipping service would offer homeowners free curbside chipping and hauling when the owners do



mitigation work on their own property. The curbside chipping prevents the need for a dedicated collection site—another fire risk. The CCFD will work closely with city Code Enforcement to ensure that the slash does not block sidewalks or roadways. Chipping crews will follow a safety plan that includes traffic cones and signs for working in high traffic areas.

Neighborhood chipping participation criteria includes a minimum of 12 neighbors participating on a scheduled basis, initially once a year based on CCFD funding availability. This is done to engage neighborhoods and educate them on wildfire mitigation concepts. The intent of neighborhood chipping is not debris removal, landscaping or cleanup. Rather, the intent is to reduce the risk of wildfire, modify fuels adjacent to structures and reduce fire behavior in the event of a wildfire. The chipping program is expected to involve a contracted tree service. Contracting standards include using licensed and insured contractors only. Adding contracting of crew projects allows execution of simultaneous projects without additional salary or capital investment of fleet and equipment. Property owners must agree to be in compliance with city code or other wildfire risk mitigation standards, attend a wildfire mitigation meeting or host an on-site consultation to participate.

Development Review. As part of the effort to address wildfire risk on the front end of new construction, the CCFD provides Hazard Risk Assessments for development plans in the city. This type of service needs to be included in the Teller County Building Department's review of properties in the WUI outside the city limits. When development plans are routed through the Department for design review and the site is identified as located in the wildland urban interface, a risk assessment with recommendations should be attached to the plans and put into comments. As an added value, this service would save money and turnaround time. Recommendations include vegetation and landscape designs as well as structural components.

Hazardous and Non-Hazardous Materials Permitting. For any activities that increase wildfire potential, the CCFD should review and issue Hazardous and Non-Hazardous Materials activity permits. These permits are required for activities that include public fireworks displays, pyrotechnics, blasting, prescribed burning, bonfires and rockets. The permit fee is based on inspection and processing.

Monitoring and Fire Danger. Wildfire detection is not an issue in a city with full-time residents and thousands of visitors. Fire detection in the WUI outside the city is more difficult due to the remote and often rugged terrain in many locations. The city does not post lookouts. However, during VERY HIGH and EXTREME days, CCFD may send out a patrol. The patrol serves not only for detection but allows for pre-positioning in order to improve response time. The patrol also serves to make public contact and provide visibility to remind residents of the heightened wildfire danger.

The CCFD monitors fire weather and fuel moistures year-round using the National Fire Danger Rating System. The thresholds are in place based on predicted fire behavior. The fire danger adjective rating for CCFD should be posted daily on the city website and signs.



Fuels are monitored throughout the growing season on a bi-weekly basis. During burn restrictions or burn bans, wildland fuels are monitored every week. Fuel moisture sampling includes representative species indicative of the area. Wildland fuels monitored for fire danger include conifers, herbaceous plants, grasses, dead and downed woody debris, litter and duff. Fire weather is also monitored year-round. Outside of the growing season, relative humidity is used as an indicator for fine fuel moistures and fire danger. This information should be posted on the city web site, signs and other media.

Grass Fire Educational Program

The threat of wildfire in grasslands exists throughout the city and WUI year-round. Much of the wildland fuel surrounding the city is grass. While many individuals do not think of grasslands as potential wildfire risks, grass and shrub fuels are responsible for many home losses every year. Grass fuels tend to dry quickly after precipitation and fire on open prairies are usually wind driven and move faster than fires in timber. Homeowners in grass fuels need to be as knowledgeable of wildfire hazards, and as proactive in mitigation, as their neighbors in forested areas.

The CCFD works with community groups and homeowners identified inside the wildland urban-interface to teach grass fire safety. The educational message includes ways to mitigate the risk of grass fires and provide evacuation guidelines.

Fuels Reduction Project Planning

Selection criteria of potential project areas are identified based on local knowledge by the CCFD and steering committee members. Selection criteria for the project areas are listed and discussed for each project. The following selection criteria are proposed to identify project areas:

- Neighborhoods or areas with HIGH – EXTREME wildfire risk ratings
- Location and adjacency to population density or critical infrastructure
- Cooperation and “buy-in” from the surrounding neighborhood or property owners
- Involvement in “Sharing the Responsibility,” a demonstrated commitment to reducing wildfire risk on private property
- Vegetation density, fuel type and fuel loading
- Stand health and amount of mortality in the timber and brush
- Age of homes (existing shake shingle roofs, wood siding, mature vegetation)
- Topography
- Adjacency to critical infrastructure (schools, nursing home, fire station, communication sites, transportation routes)
- Critical habitat (threatened and endangered species)
- Cultural and historical resources
- Fire history and frequency
- Project size (larger projects receive the highest priority as they can drive down the cost per acre)



Fuel Reduction Project Areas

Proposed project areas are identified as city assets at risk. Project scheduling and completion will depend on funding availability, staffing resources and weather conditions. General project specifications include:

- Removal of dead, down, and diseased trees, brush, and woody fuels
- Thinning of small diameter understory trees, brush, and grasses
- Limbing overstory trees
- Removal of ladder fuels within the drip line of trees
- Thinning of stands to reduce risk of crown fires

Volunteer projects and neighborhood contributions will be utilized in grant-funded projects toward the matching grant requirement.

Rehabilitation Planning

Rehabilitation planning includes wildfire mitigation projects and wildland fires. In the event of any adverse effects of the mitigation work, prescribed burn, or wildland fire, the CCFD will, as resources permit, mitigate the damages using erosion control methods, spraying of noxious weeds, or other called-for rehabilitation. All attempts to minimize impact to the site will be made with respect to time of year, weather conditions, soil conditions, existing vegetation and amount of disturbance.

Maintenance Planning

Initial costs of fuel treatment can range between \$900 - \$2500 / acre depending on fuel loading, access and slope. It is important that these projects are maintained, as resources are available, as there is so much invested on the initial treatment. Maintenance costs range from \$200 – \$500 / acre. Project maintenance is expected to be funded from grants as part of the grant application cycle. Responsibility for project maintenance is shared between the CCFD and the property owner. Maintenance includes cutting understory using brush cutters, mower attachment and ATV. Scheduled maintenance is every 5-8 years post project depending on timing of treatment, seasonal precipitation, regeneration rates and stand composition.

Prescribed Burning

Prescribed burning is another tool in fuels reduction and wildfire mitigation. Although it is not practical in many parts of the city due to its small footprint and historic density, there may be more remote areas where it is feasible. Considerations that limit the use of fire include:

- Smoke impact on residents, hospitals, schools and nursing homes
- Risk of escape
- Existing fuel loading
- Critical habitat
- Risk of invasive plants or noxious weeds
- Erosion or slope movement
- Impact on water quality
- Impact on roadways and visibility



Prescribed burning may be beneficial in areas that are remote and where the prescription calls for reintroducing fire. These areas may include steep areas that are not accessible to mechanized equipment. Other prescribed fire opportunities would include areas with specific resource objectives and training fires. The CCFD works with other jurisdictions to administer prescribed burns. Support includes public process and outreach, prepping units (layout, line, mapping, GPS and flagging units) and line assignments (lighters, holders and field observers).

Burn Ban and Restrictions. The CCFD monitors fire weather and fuels in support of the authorities having jurisdiction for enacting burn restrictions or burn bans. Pre-established thresholds and criteria are in place for determining when to enact burn restrictions or burn bans. The burn ban information must be quickly delivered to the residents. These include:

- Fire weather conditions (i.e. winds, relative humidity and temperature)
- Fuel moisture conditions (i.e. live and dead fuels)
- Regional fire activity
- Aircraft availability
- Resource availability
- Cooperator status
- National Preparedness Level
- Holidays

11. Policies or Covenants

The Cripple Creek City Code contains several definitions and requirements that help mitigate the risk of fire from accumulated fuels. An effective code enforcement capability needs to be implemented in Cripple Creek. The key requirements are extracted below:

- a. Sec. 7-4-20. - Declaration of nuisance. Any weeds or brush found growing in any lot or tract of land in the City is hereby declared to be a nuisance, and it is unlawful to permit any such weeds or brush to grow or remain in any such place. (Ord. 2007-04 §1)
- b. Sec. 7-4-30. - Duty of property owner to cut. It shall be the duty of each and every person owning, occupying or possessing any lots, tracts or parcels of land within the City to cut to the ground all weeds and brush when said weeds and brush grow to a height of twelve (12) inches or more. (Ord. 2007-04 §1)

Brush means voluntary growth of bushes and such as are growing out of place at the location where growing, and shall include all cuttings from trees and bushes; and also high and rank shrubbery growth which may conceal filthy deposits.

Weed means an unsightly, useless, troublesome or injurious growing herbaceous plant, and shall include all rank vegetable growth which exhales unpleasant and noxious odors and also high and rank vegetable growth that may conceal filthy deposits.



- c. Sec. 7-5-10. - Prohibited trees.
- (a) It is unlawful and deemed a nuisance to sell or import into the City or plant or cause to be planted within the City limits any female box elder tree (*Acer negundo*), female cottonwood trees (*Populus spices*), Siberian elm (*Ulmus pumila*) or other undesirable plants as designated by ordinance upon any property within the City, and the planting or setting out of these certain plants is declared to be a menace to public health, safety and welfare and a public nuisance.
- (b) The owner of any property within the City, upon which any tree listed in Subsection (a) above has been planted after the effective date of the ordinance codified herein, shall cut and remove such tree from his or her property after being given two (2) days' written notice to do so by the City.
- (c) In case of the failure of any owner of such property to cut and remove such tree as required in Subsection (b) above, the City shall cut and remove such tree. (Ord. 2007-04 §1)
- d. Sec. 7-5-20. - Trees and limbs in public right-of-way. It shall be the duty of the owner of any property adjacent to the public right-of-way to remove any trees or limbs located in or above the public right-of-way when such trees or limbs constitute a danger to public safety. Such trees and limbs shall constitute a nuisance. For the purposes of this Section, a danger to public safety shall include all trees and limbs which hinder visibility or which may otherwise affect public health, safety and welfare, and trees and limbs which present a structural defect which may cause the tree or limb to fall on a person or on property of value. (Ord. 2007-04 §1)
- e. Sec. 7-5-30. - Control of trees and shrubs.
- (a) Trees, shrubs and other vegetation which are dead, broken, diseased or infested by insects so as to endanger the well-being of other trees, shrubs or vegetation or constitute a potential threat or hazard to people or property within the City are hereby declared a nuisance.
- (b) The City shall give written notice to the owner or occupant of any property abutting City rights-of-way or other public property of any condition deemed unsafe caused by trees and other vegetation overhanging or projecting from such abutting property and onto or over such right-of-way or other public property with such unsafe condition. The City shall correct any such unsafe condition immediately upon the expiration of the notice period specified in the notice of abatement.
- (c) It is unlawful and deemed a nuisance for any person to cut, trim, spray, remove, treat or plant any tree, vine, shrub, hedge or other woody plant upon access-controlled arterials or other public parks and greenbelts within the City, unless authorized or directed by the City.
- (d) It is unlawful and deemed a nuisance for any person to injure, damage or destroy any tree, shrub, vine, hedge or other vegetation in or upon public rights-of-way or other public property within the City, except any person who notifies the City of such injury,



damage or destruction and makes arrangements to repair or replace such vegetation or pay for the cost of such repair or replacement. (Ord. 2007-04 §1)



Project Definition and Implementation Priorities

Tables identify the proposed action and Office of Primary Responsibility (OPR) along with estimated cost and start/completion dates for the education/community outreach and mitigation efforts.

1. Education and Community Outreach

Actions	OPR	Cost	Start Date	Completion Date
a. Establish an active CCFD page on Cripple Creek's website				
b. Post wildfire risk and burn ban information on the website				
c. Populate the page with wildfire risk mitigation materials, video links, structure construction/maintenance tips, and related information.				
d. Host educational programs for the WUI community				
e. Educate property owners on city codes and mitigation techniques.				
f. Post fire danger and burn ban signs at CCFD station and WUI access points.				
g. Promote the El Paso/Teller County Emergency Notification System (Reverse 911), CodeRed for City residents, as well as Nixle.com for emergency notifications.				
h. Propose changes to city code to reduce wildfire risks (i.e., require new/replacement Class A roofs)				
i. Propose changes to Teller County Building Code to reduce wildfire risks in the WUI.				
j. Work on applications for grant funding				
k. Develop a Stewardship Program with the community				
l. Establish metrics for defining baseline state and measuring progress toward objectives.				

2. Mitigation

Actions	OPR	Cost	Start Date	Completion Date
a. Implement a Stewardship Program				
b. Work with a property owner to demonstrate the "before" and "after" fuels reduction program.				
c. Work with City, County, and property owners to abide by city code requirements				
d. Establish a list of project areas requiring fuel reduction - Cripple Creek Watershed Area (Appendix IV) - Tenderfoot Hill Communication Site (Appendix V)				



e. Obtain grant funding for a fuels mitigation effort				
f. Contract for a city “Chipper Truck” day				
g. Contract for approved/funded fuel reduction project(s)				
h. Review construction projects and hazardous activity permits for wildfire risks and offer mitigation techniques				
i. Establish metrics for defining baseline state and measuring progress toward objectives.				

12. Monitoring and Evaluation

The CWPP development involved multiple organizations and stakeholders with diverse levels of expertise and interests. Representatives from the coordinating and approving organizations were participants in the process as well as a citizens’ steering committee used to involve local business, property owners, and residents.

Monitoring

In 2015, the Citizens’ Steering Committee met to identify community values. They continued to be involved during project planning including priority criteria and identifying project areas. Committee members were asked to serve because of their interest, involvement and expertise in the community. The CCFD also works with numerous agencies and non-profit organizations; these include:

- Colorado Division of Emergency Management
- Colorado Division of Wildlife
- Colorado Historical Society
- Cripple Creek Police Department
- Colorado State Forest Service, Woodland Park District
- Colorado State Parks, Mueller State Park
- Teller County Agencies
- Federal Emergency Management Agency
- Pikes Peak Wildfire Prevention Partners
- Cripple Creek - Victor School District Re-1
- US Forest Service, Pikes Peak Ranger District
- Cripple Creek Citizens’ Steering Committee previously listed

In 2019, interested parties will meet to identify project planning including priority criteria and identifying project areas. The CCFD, stakeholders, and Citizens’ Steering Committee will develop benchmarks and objectives needed to measure implementation progress on the CWPP. These metrics will be measured each year and reported to interested parties to judge satisfactory progress toward the objectives. The results will be posted for public review on the CCFD link on the city’s website and Facebook site. Revisions will be recommended to adjust priorities and related implementation projects for the next year.



Evaluation

As part of the monitoring process, there will be a collection of lessons learned during the preceding year. These lessons learned, combined with the evaluation metrics, will help adjust the priorities and direction of the upcoming projects. The CWPP will be informally updated, as needed, based on the annual monitoring and evaluation review. A formal update of the CWPP will occur every five years. As the CWPP is successfully implemented, the CCFD will consider applying to the National Fire Protection Association for a *Firewise Communities/USA Recognition Program* designation.



Glossary of Terms

Arbor care: the care of individual trees including planting, pruning and removal

Burn ban: a temporary prohibition on open burning as a result of very high or extreme fire danger

Burn restrictions: a temporary limitation on open burning as a result of high fire danger

Chipping: the mechanical process of turning larger woody materials into small pieces of mulch

Clear cut: to cut down every tree in a designated area

Conifer: a cone bearing tree with evergreen needles

Deciduous: refers to trees or shrubs that lose their leaves seasonally

Fire break: an area where all the vegetation has been removed in order to stop a wildfire

Fire danger adjective: standard rating of the fire danger that includes Low, Moderate, High, Very High and Extreme

Fire regime: the pattern and frequency of wildfire occurrence in an area

Forest health: condition of a forest stand based on resiliency, productivity and sustainability

Fuel: material that can be ignited

Fuel model: a standard description of available natural vegetation, including dead and down woody material that is available to burn, distinguished by amount and arrangement.

Fuel moisture: the amount of moisture in the plant relative to the oven dry weight of the plant material

Geographic Information System (GIS): a system of hardware and software for storing and displaying geographical information

Hazard: a source of harm

Invasive plants: non-native species that can have an adverse effect on the ecology of the area

Ladder fuels: intermediate sized vegetation that provides continuity allowing fire to spread from the surface into the crowns of trees



Mastication: the process of crushing or breaking down woody vegetation into slash mulch

Mitigation: the act of reducing or alleviating the severity of the hazard

Mulch: shredded or chipped woody material

Noxious weeds: plants that are considered harmful

Overstory: the above ground collection of individual plant crowns that form a canopy

Prescribed burning: an intentionally set controlled fire intended to reduce wildfire hazard

Pyrotechnics: the use of fireworks, explosives or smoke for special effect

Regeneration: new plant growth after the act of cutting or destroying plant material

Risk: the probability of harm if exposed to a hazard

Slash: the woody debris resulting from cutting or removing trees or bushes

Snag: a dead, standing tree

Social trails: trails established from constant use, not established through trail construction

Stem: the main stalk of a tree or bush

Structural retrofit: adding to or updating building features or material in order to reduce the wildfire risk

Understory: the smaller trees and bushes growing under the canopy of trees

Wildfire Mitigation: to reduce the wildfire risk to life and property through education, outreach, fuels management and structural characteristics

Wildland Urban Interface: An area where communities and homes are adjacent to or intermix with natural vegetation. The combination of fuels, topography, property and people constitutes a risk of wildfire.



Appendix I. Homeowner Brochure (Example)



Appendix II. Stewardship Agreement (Example)

Wildfire Mitigation Stewardship Agreement

This Agreement is entered into this _____ day of _____, _____ between the City of Cripple Creek, a Colorado municipal corporation and statutory rule city by and through its Cripple Creek Fire Department (hereinafter, the “City”) and _____ (hereinafter, the “Owner(s)”).

The Parties agree as follows:

The Owner(s) wish to reduce natural fuel accumulation (including brush, grass, duff and litter) in the neighborhood in order to reduce the fire danger posed to the area and the owner’s property. The City has codes and requirements that regulate the accomplishment of this clearing and removal.

City's Responsibilities

1. To assess current conditions and provide guidelines for property owners.
2. To identify and assist in pursuing grant opportunities for vegetation management on behalf of the Owner(s), whenever possible. The City is not responsible for any funding for the project.
3. To conduct a reassessment upon completion of the work to evaluate and update the wildfire hazard rating.
4. To inspect the project area in order to monitor progress and check for compliance with Cripple Creek City Code and provided Wildfire Mitigation guidelines.

Owner’s Responsibilities

1. To implement a comprehensive vegetation management prescription for mechanical thinning and removal of fuels.
2. To approve treatment methods which can include, but are not limited to, the following: cutting, limbing, pruning, felling, bucking, grinding, chipping and hauling of slash or other debris.
3. The work under this Agreement should be limited to the hours of 8 a.m. to 6 p.m. daily.
4. Owner(s) further agree to provide measures recommended by the City on any newly exposed hillsides for protection from erosion. These measures can include, but are not limited to, the following: terracing, retaining walls, plantings, waterbars, slope blankets or mesh.
5. Owner(s) agree to use those standards of good practice as directed by the Cripple Creek wildfire mitigation concepts.
6. Upon the completion of the work, Owner(s) will contact the Wildfire Mitigation Program Coordinator for a final site visit. This site visit is for the purpose of reassessing the wildfire risk values for the treated parcel.
7. Owner(s) agree and understand that this agreement may be withdrawn without the consent or acquiescence of the City.



8. Owner(s) agree and understand that in case the agreement is withdrawn, there shall be no liability or responsibility on the part of the City for termination of the agreement. Owner(s) shall hold the City harmless for any such withdrawal or termination.
9. Owner(s) understand that in case the agreement is withdrawn, there shall be no liability or responsibility on the part of the Owner(s) for termination of the agreement. City shall hold the Owner(s) harmless for any such withdrawal or termination.
10. Owner(s) agree that they are responsible for the actions of any work performed by volunteers, contractors, or other persons working on their property.
11. If the Owner(s) employs contractor(s) or personnel, then the Owner(s) will provide a general description of personnel, qualifications, professional certifications and licenses.
12. Owner(s) agree and understand that there is no representation or warranty by any person that this vegetation management project or creation of defensible space will or could prevent the ignition or spread of any fire.

The City and the Owners have executed this agreement on the date above written.

City of Cripple Creek Fire Department

Owner(s)

By _____ By _____

Printed _____

Disclaimer: Wildfire mitigation is intended to reduce wildfire risk; not eliminate the risk of wildfire. It is important to note that wildfires are a dynamic event influenced by several factors including weather (winds, relative humidity, temperature, atmospheric pressure, lightning, etc.) topography, fuels, human activity, response times and seasonal trends (i.e. drought.) There will always be some risk of wildfire regardless of mitigation efforts and structural characteristics.



“Sharing the Responsibility”

You Cut and Stack; We’ll Chip and Haul

Getting Started:

- Your neighborhood must be within the City of Cripple Creek's Wildland Urban Interface (WUI) and identified as being at risk of wildfire. Call the CCFD at 719-689-0240 for assistance.
- Select a neighborhood representative to sign a Stewardship Agreement.
- Participants *MUST* attend a neighborhood meeting or onsite consultation before the chipping date.
- There must be at least 12 homes participating, no maximum.
- Select a chipper date and submit a list of participating addresses at least one week prior to the selected date.



What's Acceptable:

- Woody limbs and branches only, up to 9" diameter.
- No construction or building materials. Must be clear of nails or wire.
- Piles only; no bags.
- No trash, weeds or yuccas.
- No root wads, dirt or rocks.
- No grass clippings or bags of leaves.

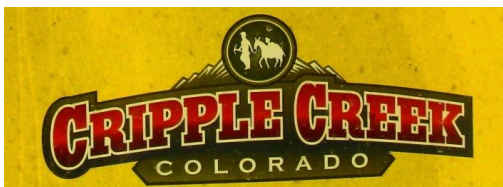
Pile Guidelines

- Piles must be within 5' of the roadway, stacked neatly with ends facing the road.
- Please limit pile size to 5'x5'x5'. No limit as to the number of piles along the curb.
- Piles must be out by the first day; crew will NOT double back to get additional piles during the week (for scheduling reasons.)
- Please do not combine piles with neighbors or haul in from other neighborhoods.

“Good” Pile Example



“Bad” Pile Example



CCFD Wildfire
Risk Mitigation

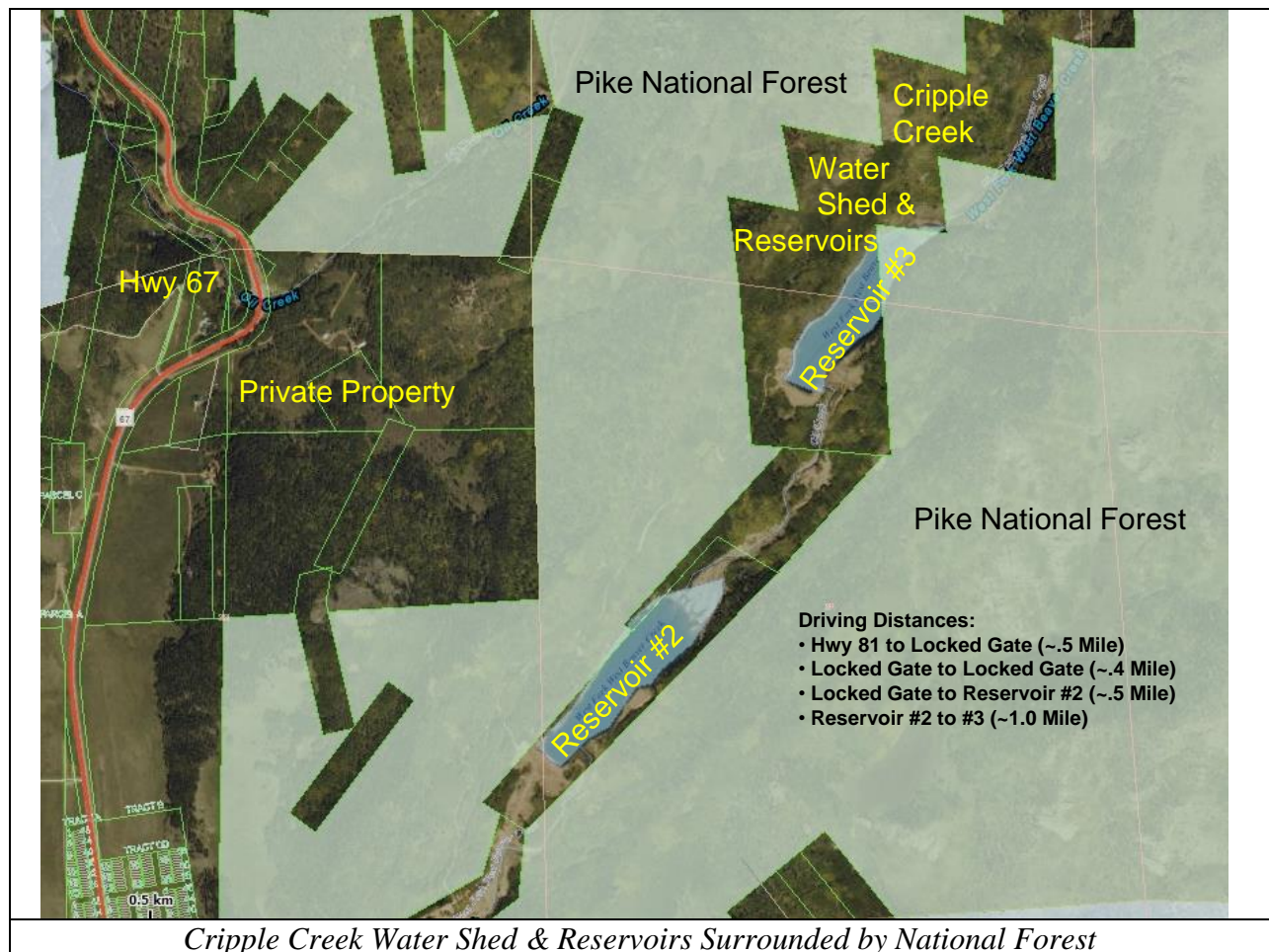
* This service is provided free of charge to residents as funding is available. Donations accepted.



Appendix IV. Cripple Creek Watershed Mitigation Plan

The Cripple Creek watershed sits on the southwestern flank of Pikes Peak above the Gillette Flats area east of Highways 67 and 81. Reservoirs #2 and #3 are surrounded by National Forest. The terrain in the area is rugged and covered with live forest, dead trees, and downfall. The steep terrain and surrounding vegetation make vehicle access to the area challenging. The reservoirs and adjacent saw-toothed property of about 230 acres is owned by the City of Cripple Creek. A fishing club has leased use of the reservoirs for that purpose.

The Trails and Open Space Coalition and the Friends of the Peak, non-profit groups of volunteers that sponsor trail building and environmental projects, are wanting a “Ring the Peak” trail that proposes to pass near the Cripple Creek watershed and reservoir area. This is a sensitive area where an unattended camp fire could ignite the live, dead, and downed fuels and significantly impact Cripple Creek’s water supply.



A more detailed look at the watershed area shows a mix of aspen and conifer forest, much of which is an unwalkable tangle of trees, undergrowth, and downfall. There are no natural or man-made firebreaks, firefighting equipment access paths, or other means to deter a wildfire from spreading across the watershed.



Evidence of Washout Below Reservoir #2



Example of Dense Vegetation in the Watershed Area

On June 16, 1965, a flash flood that delivered 14 inches of rain to the area flooded a small abandoned community dam above the valley where Gillette stood. The resulting flood washed away most of the town's ruins. Only remnants of the city remain along with some structures built since the flood.



Reservoir #2 South Shore Area

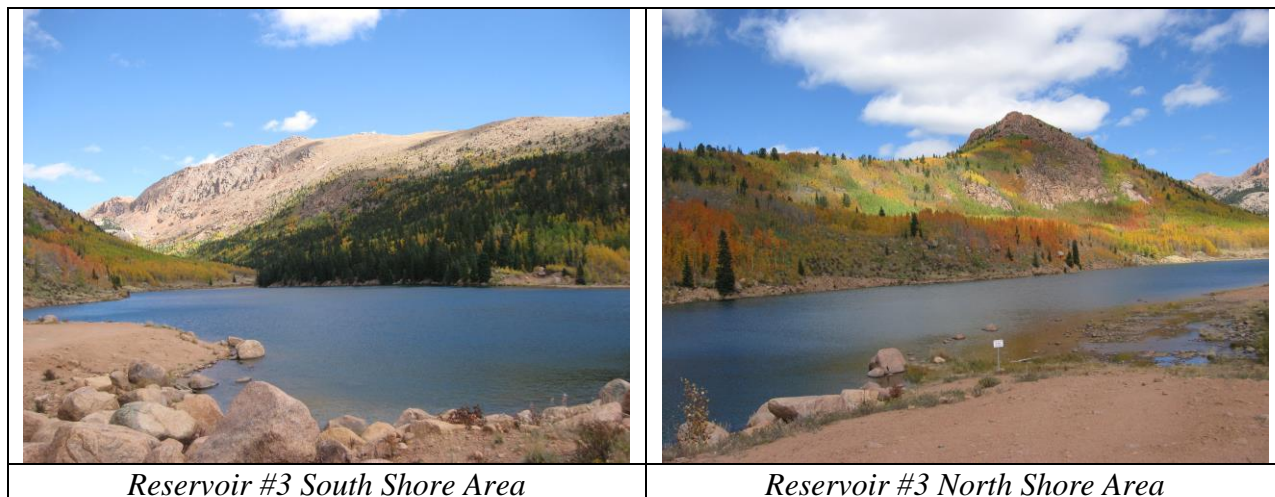


Reservoir #2 North Shore Area

The pictures taken in late September show the fuel loading surrounding the reservoirs. As can be seen, the golden aspens are the predominate species interspersed with occasional conifers and conifer stands. As general rule, standing aspens are not great promoters of forest fires, particularly crown fires, and in fact tend to slow/stop the spread of wildfires. Downfall aspens

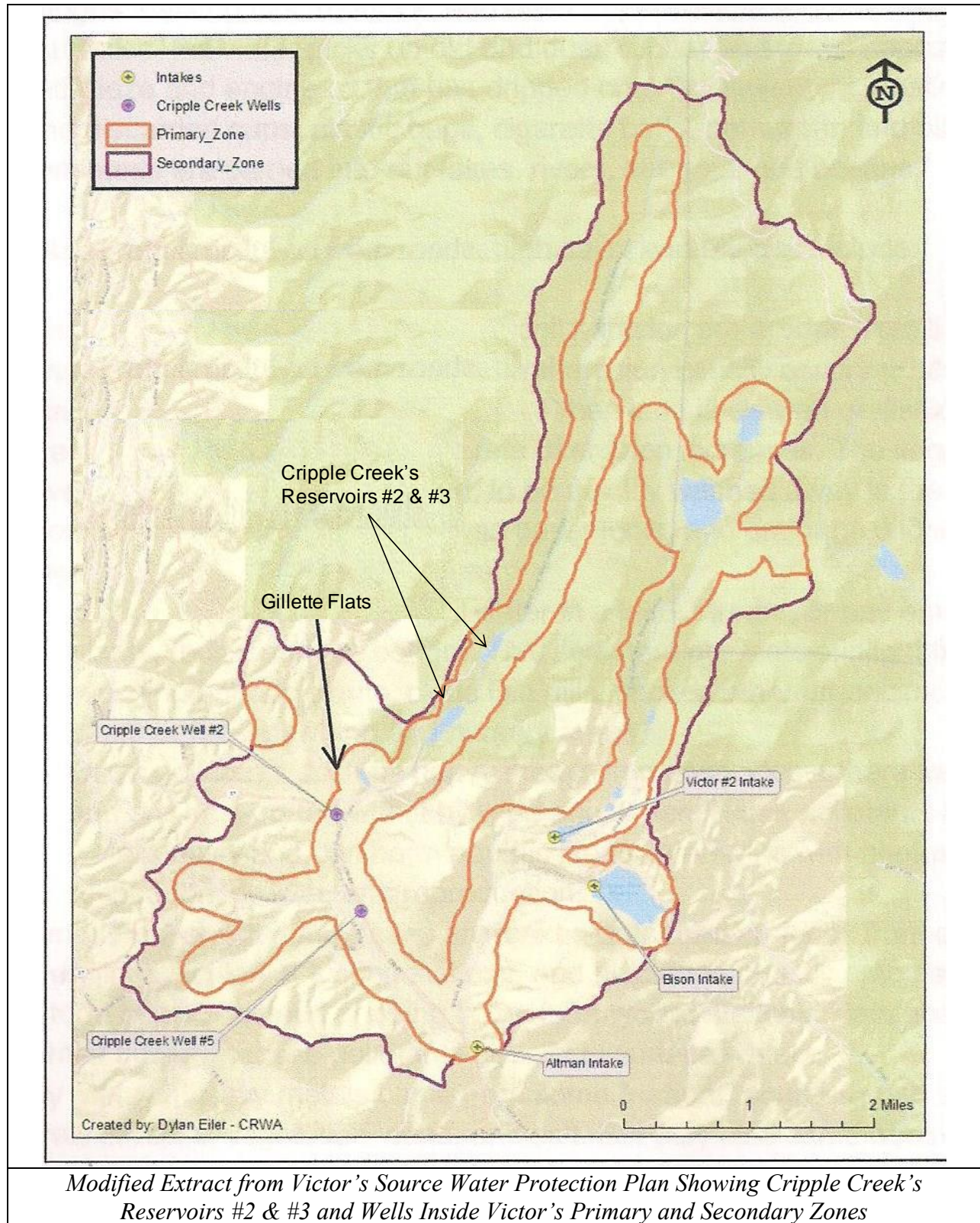


would provide the most likely fuel for ground fires. However, the moist aspen leaves on the ground which tend to compact and the rocky terrain provide ground fire breaks in the aspen stands. Conversely, denser conifer stands can create localized crown fires should they ignite. From a fire resistance perspective, aspen growth in the watershed should be promoted while conifers should be reduced.



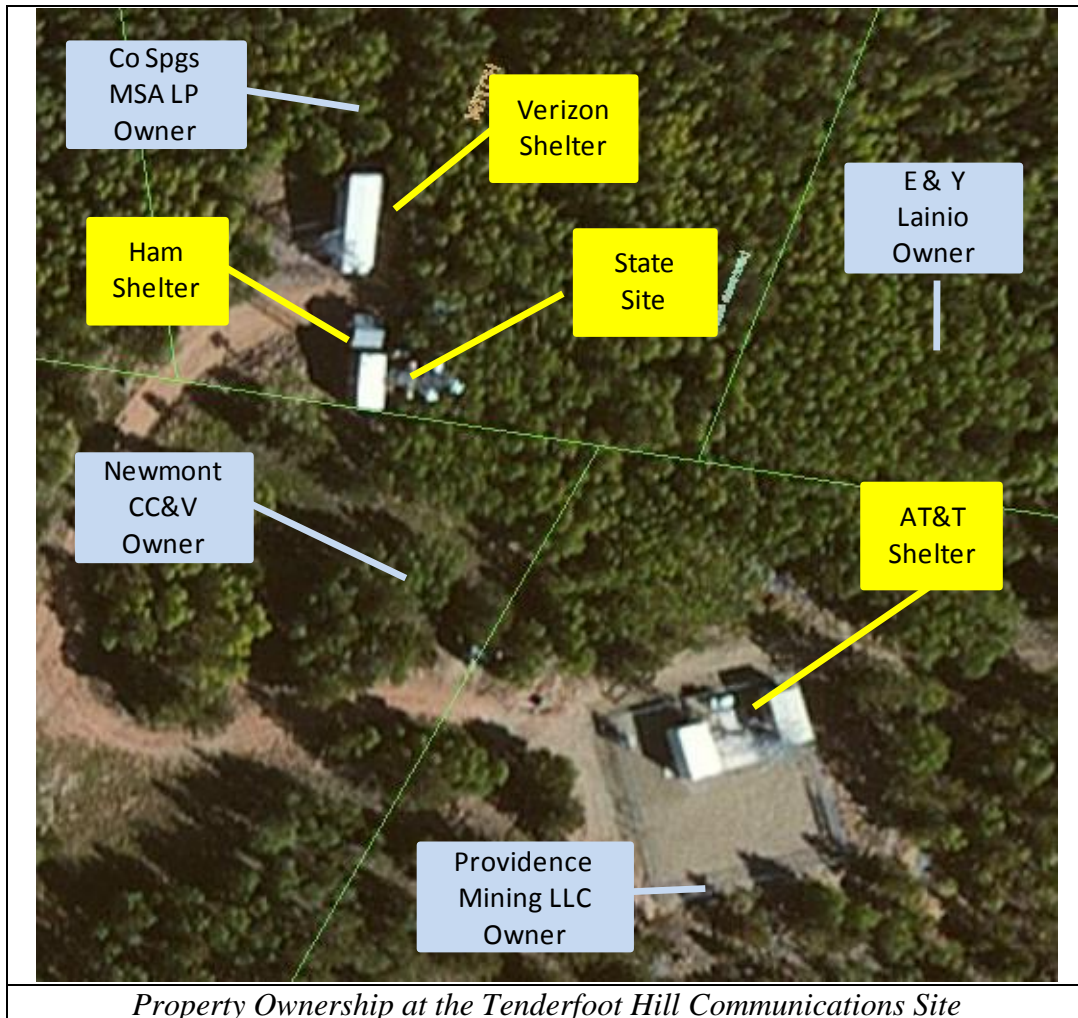
In March 2014, Victor, Colorado completed their Source Water Protection Plan that also includes Cripple Creek's West Beaver Creek watershed area (Reservoirs 2 & 3) and wells. Since Victor also buys water from Cripple Creek's well #5 at Gillette Flats, their plan covers a large area of interest to Cripple Creek. The Victor plan evaluates several threats to the source water including forest fires which ranks a top "concerns" score of "35" out of 100 in Table 6 on page 31 of their plan. Since Cripple Creek and Victor both are concerned about their adjoining and overlapping watersheds, recommend the two cities work together on any watershed fuels mitigation planning efforts, as appropriate.





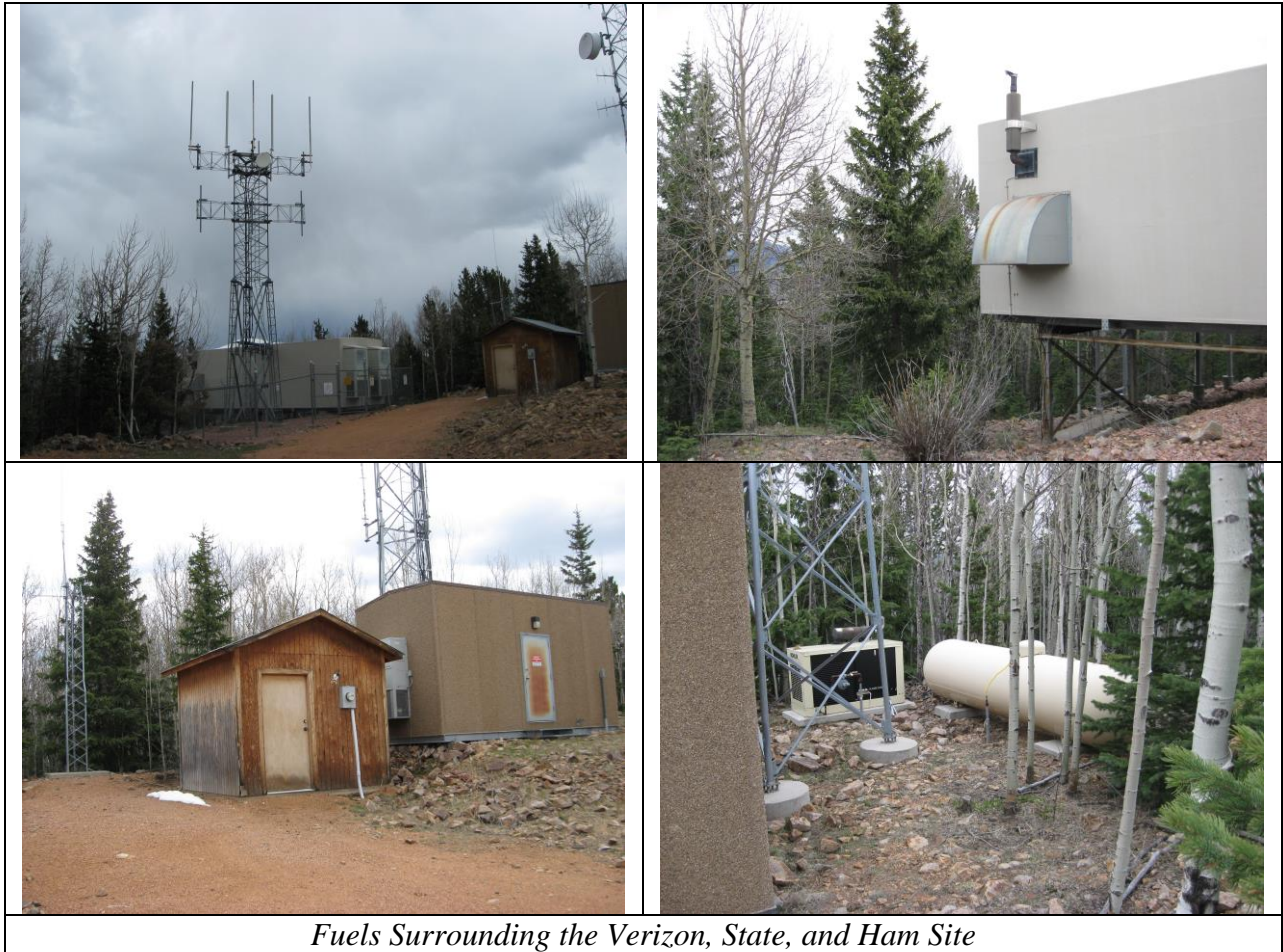
Appendix V. Tenderfoot Hill Communication Site Mitigation Plan

The communications site on Tenderfoot Hill contains critical government and civilian commercial communications equipment vital to the safety and operation of the City of Cripple Creek, Teller County, and the State of Colorado. Specifically, the site hosts equipment supporting internet service from Rise Broadband, cell phone service from Verizon and AT&T, amateur repeater, and a state site. The secure state tower and equipment (owned by Teller County) supports the Digital Trunk Radio System (DTRS) providing service for the Colorado Park Service, State Patrol, Department of Transportation, and other state agencies. The site also provides communications for the Cripple Creek Fire, Emergency Medical Service, and Police Departments, Teller County Sheriff, and Teller Public Works. The microwave backbone link at Tenderfoot connects with sites at Badger Mountain (near Wilkerson Pass) and Almagre Mountain (on the south shoulder of Pikes Peak). A VHF patch connects Tenderfoot to the CC&V Gold Mine for emergency communications.



The owners of the communications sites and nearby properties are:

- Colorado Springs MSA LP, 3.21 acres.
- Providence Mining LLC, 3.0 acres.
- Edward and Yvonne Lainio. 3.41 acres, adjacent property owner
- Newmont CC&V Mining, surrounding area including the access road from County Road 821 to the site.





Fuels Surrounding the AT&T Site

As can be seen in the photographs above, the fuel loading in the area of the communications towers is varied. The timber is a mix of conifer and aspen. There is virtually no defensible space surrounding the tower footprint. Also, there is no water source on the hilltop. A propane tank and generator sit next to the state site with grove of aspen and conifers on three sides. The wooden Ham building backs up to stand of conifers and aspen. If the Ham building were to ignite, it would threaten the critical state site located within inches. The AT&T site is slightly better with a larger fenced footprint. However, there is little defensible space beyond the fence on three sides.

The mitigation approach is to contact the owners of the communications sites (Colorado Springs MSA LP and Providence Mining LLC), the adjacent property owners (Edward and Yvonne Lainio and Newmont CC&V Mining), and enter in a stewardship agreement with them for a mitigation effort. Additionally, permission must be obtain from Newmont CC&V Mining to access the sites via a road on their property. After permission and funding are obtained, the mitigation project can commence.