12/20/2022

Montezuma County Community Wildfire Protection Plan

CWPP 2022

James Dietrich
MONTEZUMA COUNTY

MONTEZUMA COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN
(CWPP)
July 2022

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ADOPTION and APPROVAL

This Montezuma County Wildfire Protection Plan is hereby approved and adopted this 20TH day of December, 2022 as a plan that meets all minimum Colorado State Forest Service Minimum Standards and presents a desired direction for wildfire protection and preparedness of Wildland Urban Interface residents, property, infrastructure, and valued resources.

Montezuma County;

Montezuma County Sheriff (Fire Warden) _____ *(Steve Nowlin, Sheriff)* Date 11/15/22

Board of County Commissioners

_____ *(Jim Candelaria, Chair)* Date 12/20/22

_____ *(Kent Lindsay, Vice Chair)* Date 12/20/22

_____ *(Gerald Kopenhafer, Commissioner of Deeds)* Date 12/20/22

Office of Emergency Management _____ *(Jim Spratlen, Emergency Manager)* Date 11/14/2022

Fire Protection Districts

Mancos (FPD) _____ *(Tony Aspromonte, Fire Chief)* Date 11/15/22

Dolores (FPD) _____ *(Mike Zion, Fire Chief)* Date 11-15-22

Cortez (FPD) _____ *(Charlie Borden, Fire Chief)* Date 11/15/22

Lewis/Arriola (FPD) _____ *(George Deavers, Fire Chief)* Date 11-14-2022

Pleasant View (FPD) _____ *(Angela Rohwer, Fire Chief)* Date 11-14-2022

Towaoc (FPD) _____ *(Tom Stevenson, Fire Chief)* Date 11/14/2022

Colorado State Forest Service _____ Date 11/21/22
(Ryan Cox, Acting Supervisory Forester)

Division of Fire Prevention and Control

_____ Date 11/16/22
(Logan Davis, WFMS UAS Coordinator, Battalion Chief)

Federal Agencies;

National Park Service _____ Date 11/18/22
(Kayci Cook Collins, Superintendent)

U.S. Forest Service _____ Date 11/30/22
(Patrick Seekins, Forest Service FMO)

Bureau of Land Management _____ Date 11/21/22
(JAMES MICHELS, ACTING FIELD MANAGER)

Bureau of Indian Affairs
Ute Mountain Ute BIA Agency _____ Date 11-14-22
(Irene Herder, Superintendent)

1.) PURPOSE

This Community Wildfire Protection Plan CWPP is an update of the 2011 CWPP. This document has been prepared to assist Montezuma County residents, local governments and land management agencies for the following three primary purposes;

- **PROTECT THE LIVES OF RESIDENTS AND EMERGENCY PERSONNEL.**
- **PROTECT PROPERTY AND CRITICAL INFRASTRUCTURE IN THE WILD LAND-URBAN INTERFACE.**
- **PROTECT KEY ENVIRONMENTAL VALUES AND QUALITY OF LIFE.**

In addition, the purpose of this 2022 update is to;

- Review the existing Montezuma County CWPP to ensure conformance with Colorado Senate Bill 09-001, the Healthy Forest Restoration Act (HFRA) of 2003, and to the 2009 Colorado State Forest Service Minimum Standards for Community Wildfire Protection Plans (CWPP).
- Provide a comprehensive review and update of the existing community risk analysis using the best available data, and an approved methodology (HRVA Mapping) to validate and or correct identified risk areas.
- To recognize the action items that have been accomplished through the 2011 CWPP and to clarify and refine the goals, strategies, and objectives of this 2021 plan.
- Ensure broad collaboration by bringing together diverse federal, state and local interests to; identify essential community values, discuss their mutual concerns for public safety, community resiliency, and natural resources.
- To share information from the updated community risk analysis with private and public - land managers, the Sheriff and Fire Protection Districts to and reduce damage to values identified through the collaborative planning process.
- To foster coordination amongst all stakeholders by creating an “umbrella plan” for managing wildfire risks within Montezuma County.
- To ensure County eligibility for National Fire Plan (NFP) or other funding assistance, provide information to assist communities in recommending fuel reduction projects on private /federal lands.

2.) PLANNING PROCESS/INTRODUCTION

This plan update is the result of an ongoing collaborative effort that was started in 2002. The 2022 update builds upon the continued collaboration between stakeholders that has been fostered over the last 20 years. This County level plan is intended to be used as an umbrella for community plans but should not be considered a substitute. A county plan will not provide the detail needed for project-level planning.
The specific collaborative steps taken to create the Montezuma County CWPP have included;

- Held numerous meetings among state and federal fire-fighting entities, Montezuma County Government and local fire protection districts.

- Conducted an evaluation of wildfire risk resulting in the newly created Montezuma County Fire Risk – Communities of Concern Map (attached).

- Conducted a series of community wide and fire district level meetings to inform residents of risks/risk reduction strategies and supporting public and private sector resources, including topics such as: pinion beetle epidemic and drought, the role of fire in the ecosystem, defensible space, evacuations, care of pets and livestock during evacuations.

- Aired the video “First Line of Defense” on the local TV channel.

- Published a news article series on wildfire hazard mitigation. Sent the CWPP draft to key stakeholders for review.

- Developed prototype subdivision-level Fuels Mitigation Plan.

- Continued to improve mapping and technological resources.

- Published a Xeriscape Landscaping Guide which included defensible space strategies and fire-resistant landscaping information and suggestions.

Broad collaborative input is critical for the success of a CWPP. This CWPP update includes new data and information from federal land management agencies, the Colorado State Forest Service as well as the implementation of mitigation measures, public education improvements, and efforts to secure identified equipment needs.

Collaboration during the 2011 CWPP update;

- Met with the Board of County Commissioners to secure authorization and support for the for the current (CWPP) update.

- Held meetings between agency stakeholders including the United States Forest Service, the Bureau of Land Management, The National Park Service, the Colorado State Forest Service, The Ute Mountain Ute Tribe Bureau of Indian Affairs, local Montezuma County Fire Protections Districts, the Montezuma County Office of Emergency Management, and other Non-Governmental Organizations such as Fire wise to review the CWPP.

- Posted notification in the Local Newspaper regarding the proposed CWPP update and allowed a 45 day public comment period.

Collaboration activities during the 2020-2021 update includes;

- Ongoing monthly participation in the Dolores Watershed Resilient Forest Collaborative (DWRF) which includes all of the stakeholders including the public. Montezuma County has participated in DWRF since 2015. DWRF serves as a collaborative hub for strategic fire planning and p[public outreach in Montezuma County.

- Met with the Board of County Commissioners to secure authorization and support for the 2021-22 (CWPP) update.

- Met with Federal and State agency stakeholders to collaborate on the latest GIS and modeling data currently available.

- Held over 25 virtual meetings with local agency stakeholders, under COVID restrictions, to review the existing CWPP and solicit input on updates.

- Posted notification in the Local Newspaper regarding the proposed CWPP update and allowed a 45 day public comment period.

THE CORE PLANNING TEAM

The Core Planning team for the 2021 CWPP update includes the following key participants;

- The Montezuma County Sheriff (Fire Warden)
- The Montezuma County Board of County Commissioners
- The Montezuma County Office of Emergency Management
- The Montezuma County Fire Protection Districts
- The Montezuma County GIS Department
- The Montezuma County Natural Resources Department
- The Colorado State Forest Service
- The Colorado Division of Fire Prevention and Control
- The USDA Forest Service Fire/Planning Team (USFS)

- The Bureau of Land Management Fire/ Planning Team (BLM)
- The National Park Service Fire/ Planning Team (NPS)
- Wildfire Adapted Partnership (Formerly Firewise of Southwest Colorado)

The core planning team provided the primary review and re-analysis of the 2011 plan.

Meetings Held

The Core Planning group participated in over 20 zoom meetings under the COVID protocol. Team members reviewed the existing CWPP document for accomplishments to identify gaps that may have emerged and to evaluate its continued relevancy to the current conditions on the ground. Comments gathered are incorporated into the updated CWPP text. Mapping and other data reflect the most recent information.

CWPP Compliance with Colorado State Minimum Standards

The 2011 CWPP was prepared according to the minimum standards set forth by the State of Colorado. For this 2022 update the minimum standards were also used. The primary difference is that the 2022 update follows the Colorado State CWPP Template format.
In the spring of 2022 the Colorado State Forest Service issued a new set of minimum standards for CWPPs. This Montezuma County 2022 update conforms to both.

CWPP Update Schedule

Montezuma County intends to complete a full assessment and update of the County CWPP every 5 years as per the Colorado State Forest Service Minimum Standards.

Electronic copies of the 2022 Montezuma County CWPP can be downloaded from the Montezuma County Office of Emergency Management;
https://montezumacounty.org/services/office-of-emergency-management/

3.) DESCRIPTION OF PARTNERS AND COMMITTEES

The Montezuma County 2022 CWPP Update continues the collaborative partnership between the Fire warden, fire protection districts, The Colorado Division of Fire Prevention and Control, the Colorado State Forest Service, Montezuma County, Wildfire Adapted Partnership, and federal land management agencies that have been in-place. Those agencies include;

The Montezuma County Sheriff's Department (Fire Warden)	Sheriff Steve Nowlin
The Montezuma County Board of County Commissioners	Jim Candelaria (Chair), Gerald Koppenhafer, Kent Lindsay
The Montezuma County Office of Emergency Management	Jim Spratlen
The Montezuma County Fire Protection Districts	Jay Balfour, Tony Aspromonte, Jeff Yoder, Mike Zion, George Deavers
The Montezuma County GIS Department	Doug Roth, Rachel Medina
The Montezuma County Natural Resources Department	James Dietrich
The Colorado State Forest Service	Mark Lovell
The Colorado Division of Fire Prevention and Control	Logan Sands
The USDA Forest Service Fire/Planning Team (FS)	Pat Seekins
The Bureau of Land Management Fire/ Planning Team (BLM)	
The National Park Service Fire/ Planning Team (NPS)	
Montezuma Firewise/ Fire Adapted Partnership	Samantha Torres, Becca Samulski

In addition, private timber industry representatives and the general public all also participate in the Dolores Watershed Resilient Forest Collaborative (DWRF) on a monthly basis. The DWRF Collaborative is one of the most important interfaces Montezuma County has to continue collaborative planning.

The DWRF collaborative; *"is an inclusive local group that shares knowledge and resources to enhance ecological and community resilience to wildfire and other disturbances. We recognize direct links between social, economic, and ecological conditions, and work to enhance our communities' ability to safely live with fire.*"

DWRF partners work to:

- Collaboratively implement forest management activities, including mapping and analyses, policy discussions, direct treatments, and adaptive management.
- Use the best available science to inform community preparedness and land management projects and decisions.
- Increase the capacity of the local forest products industry, and integrate them into forest treatment initiatives that reduce risk and enhance resilience.
- Better prepare for, respond to, and aid recovery from severe wildfire, post-fire effects, and other disturbances.

Wildfire Adapted Partnership (WAP)
The local chapter of Wildfire Adapted Partnership (WAP) is also an essential asset to the collaborative process in Montezuma County. WAP is the primary education and outreach organization for Montezuma County. Wildfire Adapted Partnership's core mission is to inspire, educate and enable individuals and communities to protect lives and property from wildfire. WAP assists residents in creating defensible space, planning wildfire evacuations, and preparing for wildfire on the neighborhood level through education and grant opportunities offered through Wildfire Adapted programs.

Wildfire Adapted Partnership offers a defensible space cost-share program, which is designed to partially reimburse qualifying homeowners for the cost of developing defensible space to increase their home's chance of survival and increase firefighter safety when wildfires occur.

https://www.wildfireadapted.org/defensible-space-cost-share

The WAP neighborhood ambassador program empowers Neighborhood Ambassadors to mobilize their community to engage in wildfire safety and wildfire preparedness activities. Ambassadors and their neighbors are connected with trusted wildfire education, partners, assistance with mitigation projects, and more. Neighborhood Ambassadors are the neighborhoods point of contact for local firefighting entities, and more.
https://www.wildfireadapted.org/become-a-neighborhood-ambassador

4.) BACKGROUND AND HISTORY

Montezuma County, Colorado
Montezuma County is located in the southwest corner of Colorado where it joins Utah, Arizona, and New Mexico at the Four Corners.

Figure 1.) Montezuma County in relation to the region. Montezuma County highlighted in color.

Montezuma County elevations range from less than 6,000 feet at the southwest corner of the County to over 13,200' in the northeast portion of the County. The County generally tilts to the southwest direction, evidenced by the prominent drainage patterns in the County. The

Montezuma County landmass is about 2039 square miles in total area. Approximately 11 square miles of the surface is water. In a good year, McPhee Reservoir, the third-largest in the state, accounts for much of the water surface.

Geologists believe the Dolores River once flowed southward to the San Juan River. Around 70 million years ago, the Sleeping Ute uplift occurred, diverting the Dolores River northward on its present course. Lands north of the Dolores River drain into the Colorado River, and south of the Dolores River drain into the San Juan River.

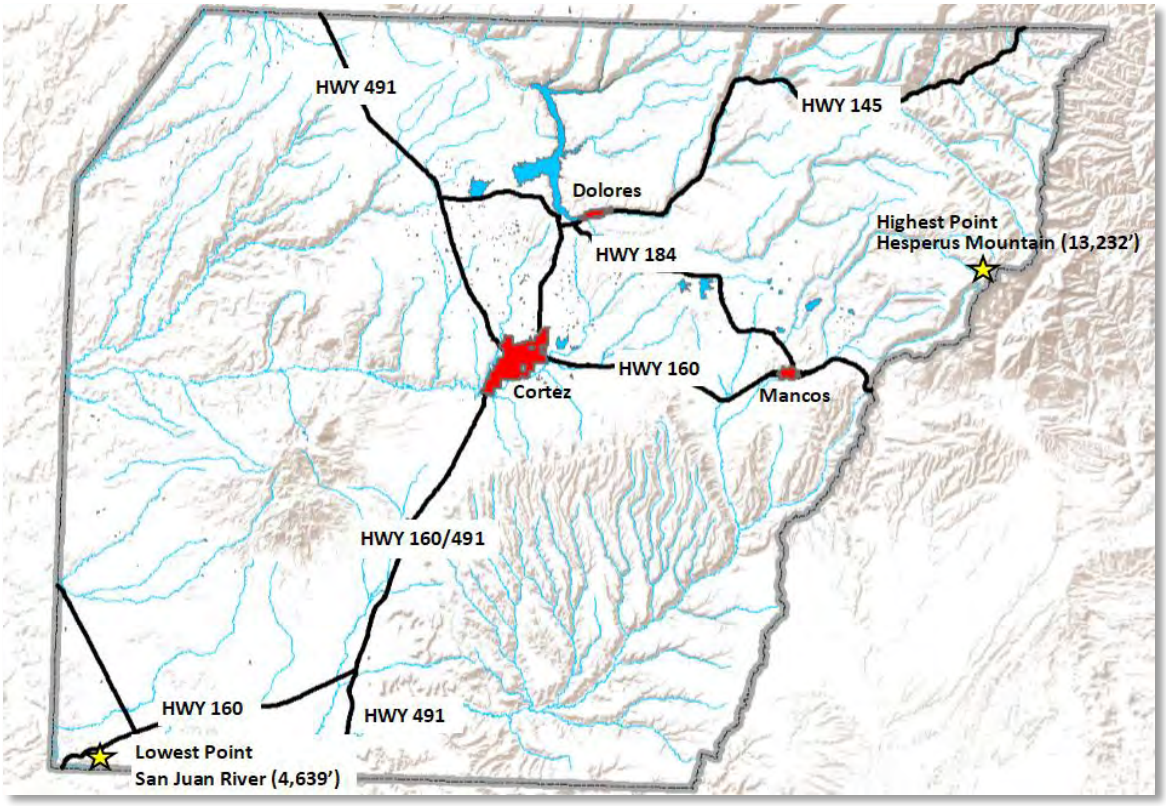

Figure 2.) Montezuma County significant geographic features.

HISTORY OF WILDFIRES IN MONTEZUMA COUNTY

Fire is nothing new to Montezuma County or the Southwest in general. For centuries it has been a natural, healthy part of the ecosystem. An essential distinction of wildland fires is that all forests do not burn the same way. Tree species vary, and each forest type has a historical fire regime or interval and intensity at which fires occurred. This cycle has been altered over the last 120 years by human uses such as logging, livestock grazing, and fire suppression.

Before Euro-Americans moved west and homesteaded, fire played a positive and natural role in the health of western forests. Research shows that fires recurred periodically for thousands of years. Whether ponderosa pine, pinion/ juniper, or mixed-conifer, each forest type had fire as a recurring disturbance to the ecosystem. The frequent fires typified some fire regimes at low intensity (fire stayed on the ground). In contrast, others experienced fewer fires but burned hotter and more intensely, often as crown fires traveling in treetops.

Native American alterations of the landscape and use of fire from Ancestral Pueblo and Nuuche (Ute) inhabitants of what is now Montezuma County have also played a role in pre-historic fire regimes, though very limited details are available through ethnographic research, tree ring data, or historic records.

Forest Change

Montezuma County's forests have seen continued and notable impacts from drought and insect and disease stressors in the years since the last CWPP was written. In the decade before the last update in 2011, Colorado saw one only period of significant, extended drought stress, during 2002, where Extreme and Exceptional levels of drought were seen in the state. During the duration of the last CWPP update, from 2011 through 2020, Colorado experienced 3 periods of significant, drought stress where Extreme and Exceptional drought conditions were seen for an extended period in the state, according to the U.S. Drought Monitor. Additionally, according to NASA's soil moisture condition maps, groundwater percentiles in Montezuma County were fairly consistent from 2011 through 2017, but from 2018 into the current year of 2022, groundwater percentiles have dropped significantly. These conditions combined with significant variability in winter snowpack, which also melts earlier in the spring, pose a significant stressor to Southwest Colorado forests and make it very difficult for trees to employ their natural defenses against insect and disease outbreaks.

Although the results of massive piñon pine mortality, that were so prevalent across the county in years past, has subsided and Sudden Aspen Decline has not been nearly as prevalent as it was, there are other insect issues that are having significant effects on Montezuma County forests now. For example, Western Spruce Budworm activity in high-country forests in the area has increased significantly. In 2018, 5,100 acres were impacted in Montezuma County, but in 2019, 9,100 acres were impacted in Montezuma County. An increase of 4,000 acres in just one year's time. While Spruce Beetle activity in Montezuma County has been relatively minimal up to this point, spruce trees significantly stressed by Western Spruce Budworm infestation become much more susceptible to future Spruce Beetle attack.

Another concerning agent of mortality in the area is the Roundheaded Bark Beetle. Roundhead Bark Beetle has traditionally been a relatively minor insect pest in h Colorado, generally following behind other bark beetles and having outbreaks of relatively short duration. On "The Glade" just north of Montezuma County, over 31,000 acres have been affected since 1996 with 22,000 acres affected in just 2019. There is also a smaller outbreak of Roundheaded Bark Beetle in Thompson Park in La Plata County just west of the Montezuma County line. So continued Roundheaded Bark Beetle activity in the area could pose a significant risk to Montezuma County's ponderosa pine forests in the future.

HISTORIC WILDLAND FIRES

Wildfire is a common occurrence in Montezuma County, however, over the past 30 years wildfires have become more intense and larger. They have also become more frequent, not only in Montezuma County but also in La Plata County to the east.

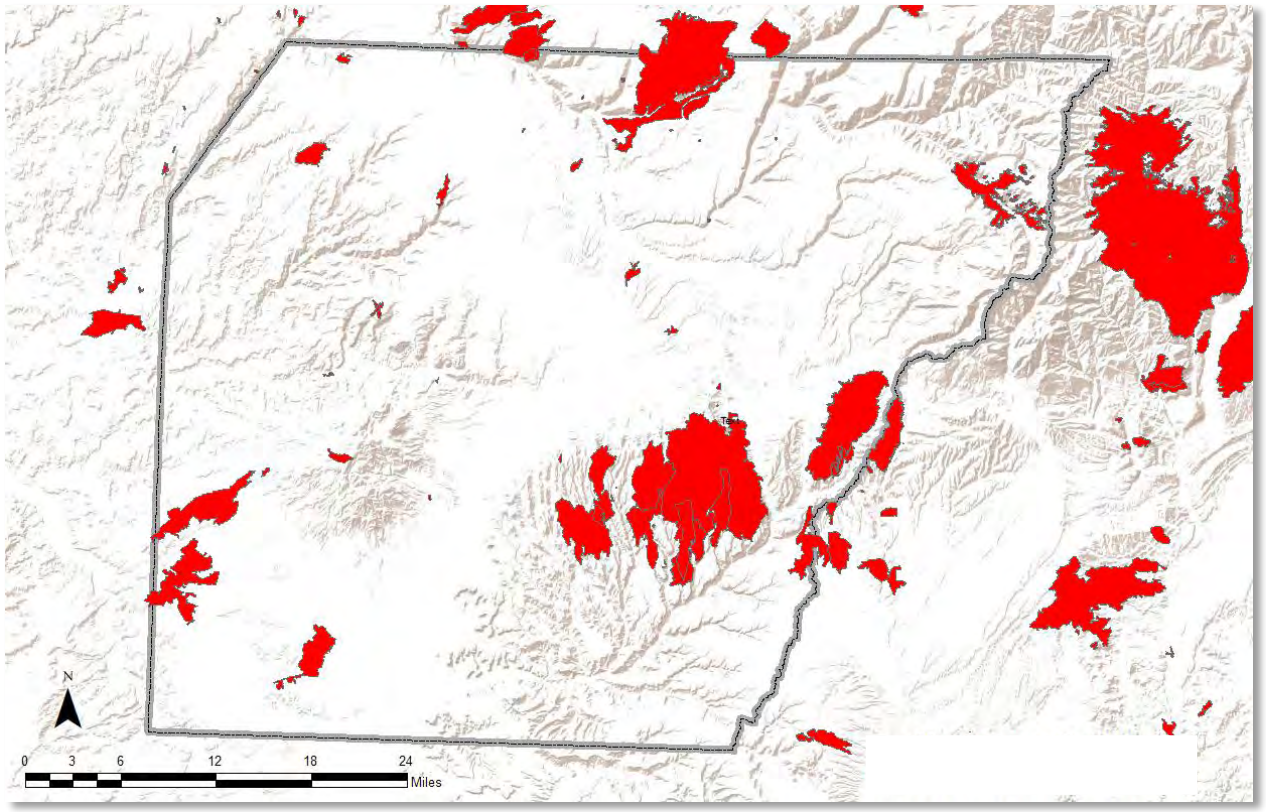

Figure 3) Historic Wildfire Perimeters

Montezuma County recorded fire history goes back as far as the early 1900's. There are 58 total records for fires in Montezuma County, 43 of the events have happened since 2000. The table below lists some of the most notable fires in Montezuma County History since 2000.

Table 1; Montezuma County Wildfires since 2000.

Incident	Date	Size	Cause
Bircher Fire (MVNP)	2000	22,395	Lightning
Hovenweep (BLM)	2000	1,007	Lightning
Pony (MVNP)	2000	4,737	Lightning
Long Mesa (MVNP)	2002	2,286	Lightning
Moccasin (MVNP)	2003	2,731	Lightning
Cash Canyon (BLM)	2005	118	Human Caused

Trail East (BLM)	2005	2,527	Lightning
Goodman (BLM)	2007	139	Lightning
Little Cahone (BLM)	2008	202	Lightning
Bradfield (USFS)	2009	2,220	Lightning
Rotacap (Private)	2012	320	Human Caused
Weber (BLM)	2012	10,142	Human Caused
Sage Hen (PVT, USFS)	2016	175	Human Caused
Knolls (USFS)	2016	364	Lightning
Draw Fire (USFS)	2017	1,420	Lightning
Burro (USFS)	2018	4593	Lightning
Plateau (USFS)	2018	19,677	Lightning
Yellow Jacket (BLM)	2020	395	Lightning
East Canyon (Private)	2020	2905	Lightning
Hawkins Preserve	2021	133	Human Caused

WILDFIRE CHARACTERISTICS AND IMPACTS

The three largest wildfires in County history have been over the last 20 years.
All three occurred primarily on public lands and were over 10,000 acres. Two, the Plateau Fire and the Bircher Fire, were around 20,000 acres. Two of the fires resulted from lightning, and one, the Weber Fire, was human-caused. Of the three, the Weber fire probably posed the most risk to human life and property. The Bircher Fire was unique because it was within Mesa Verde National Park, and it threatened priceless prehistoric architecture and historic National Park Service architecture. Major fires have occurred in Mesa Verde National Park in 1934, 1959, 1972, 1989, and 1996 — all started by lightning.

The vast majority of wildland fires historically occur on public lands, and indeed the largest fires in Montezuma County. Most of those fire starts are due to lightning. Human-caused fires have not traditionally been a common occurrence on public lands. With the increased population across the west based mainly on the interest in recreating public lands, this risk factor will likely increase.

Wildfires on private lands have historically been smaller in size primarily due to the rapid response by local fire protection districts and fuel breaks created by land-use patterns such as agriculture. Agricultural operations, irrigation systems, and the network of roads work together to break up continuous fuels making wildfire outbreaks easier to contain.

Wildfire starts on private lands that jump to public lands is a valid concern. BLM lands in the central portion of the County, and the BLM Canyons of the Ancients National Monument (CANM) interface on the west side of the County hold some risk, both from neighboring properties and recreational. The San Juan National Forest interface is also of particular concern, especially in the Summit Lake area north of Mancos. The Mesa Verde Escarpment is

also potentially at risk. However, the population density is very low along most of the interface, which helps moderate the potential human caused starts to some degree. Prevailing winds are also less likely to push fire starts on private lands towards the Mesa Verde escarpment. However, lightning starts remains a threat for the Escarpment. While lightning ignited fires are common and highly visible along the escarpment, the low population density, topography, and prevailing winds make these fires less likely to have a major impact on community residential values at risk. Fires spreading from the escarpment could spread to the Mesa top, threatening National Park structures and causing economic impacts from park closures.

Because fire is a natural part of the forest ecosystem in southwest Colorado, it will always threaten homes built in the wildland-urban interface where homes meet the forest. Understanding fire behavior will help owners determine the best course of action when creating defensible space and building and retrofitting homes and other structures to resist ember intrusion and ignition. Defensible space provides room for firefighters to do their job should wildfire threaten a home. It also improves the chances of a home surviving.

Heat, Oxygen, Fuel

Fire needs heat, oxygen, and fuel to burn. Take one of those elements away, and the fire can't burn. Firefighters remove fuels by creating fire lines and fuel breaks and removing oxygen and heat with water and fire retardant. Homeowners can help by eliminating fuel around their homes and creating defensible space long before a wildfire threatens.

These primary factors determine fire behavior;

1.) Weather (Temperature and wind)
2.) Topography/ Terrain features
3.) Available Fuels
4.) Low moisture content in fuels and low relative humidity
5.) Area of fire burning

Except for the higher mountain elevations, the Southwest Colorado climate is generally an arid climate characterized as a high desert. Wildfires within the County have also exhibited extreme fire behavior. Extreme fire behavior results when several of the components of the fire environment interact to cause the rate of fire spread to increase by 60 times or greater. Where abundant fuels with sufficiently low moisture values are located on a steep slope and combined with strong winds and unstable atmospheric conditions can lead to extreme fire behavior. Each of the conditions can potentially increase fire behavior, so the potential danger increases significantly when all of these conditions occur simultaneously.

Extreme fire behavior, defined as fire behavior that often precludes methods of direct fire suppression and usually involves one or more of the following characteristics:

- High rate of spread and frontal fire intensity
- Crown Fire
- Prolific spotting
- Presence of large fire whirls
- Well-established convective smoke column

Fires exhibiting such phenomena influence the surrounding environment and create dangerous conditions.

So far, Montezuma County has been fortunate regarding lives and property. So far, no lives have been lost directly related to any of the wildfires noted. Likewise, the structural losses across the County have been very low.

The Pony Fire of 2000 carried some of the heaviest impacts on structures within the County. All of the structures impacted were within Mesa Verde National Park. The fire devastated day-use facilities, including restrooms, a ranger station and a visitor shelter. Four shelters that protected ancient pit houses and early pueblos were destroyed, but the sites themselves suffered no damage. The fire threatened several other cliff dwellings but only charred a few ladders in Step House and spalled some rock in the alcove. The ancient building stones remained unharmed. A bridge on the entrance trail was destroyed.

A major update to this community wildfire protection plan including more advanced wildfire risk mapping and detailed mitigation strategies was accomplished in 2011. Then 2012 came as a very tough fire season in Montezuma County. A dry winter and late frost which freeze-dried new oak leaves on the stem, set the area up for a historic fire season.

The Weber Fire took off on June 22, 2012 during a red flag day, racing across Menefee Mountain and causing evacuations, burning a summer camp cabin, and putting the town of Mancos on pre-evacuation notice. Rain came within a few days of residents returning to their homes, causing post-fire debris and mudflow damage to homes, fields, and infrastructure.

Another human-caused fire took off when winds picked up on a pile burn in October. The Roatcap Fire was the second fire in 2012 requiring evacuations and represented extensive fire growth outside of what was normally considered the fire season in Montezuma County. It is now commonly acknowledged that wildfires can occur in Colorado any day of the year.

Notable fires in 2018 included two fires on the Dolores Ranger District of the San Juan National Forest. The high elevation forest was dry enough for fires on both sides of the La Plata's to climb to treeline, including the Burro Fire which started along a forest trail. These fires demonstrated a greater need to prepare for high-elevation fires. The Plateau Fire was started

by lightning northeast of McPhee Reservoir, at which time the fire risk was determined to be great enough that the national forest was closed to recreation for the first time in history.

The 2019 fire year did not see forced evacuations in Montezuma County, but the season began with a series of arson fires which were fortunately curbed before the worst fire weather conditions.

The 2020 fire year was another intense season. Three lightning caused fires required mutual aid and extended attack. Starting June 14, the East Canyon Fire burned on the ridgetop border between Montezuma and La Plata counties demanding extensive aviation resources and forcing residential evacuations in both counties. The Yellow Jacket and Spring Fires started by lightning on July 6, burned in the pinyon-juniper canyon rims where the BLM-CANM lands meets private lands. A resident north of the airport started a fire while mowing the dry cheatgrass behind his home on July 16 which was running quickly north toward the southwest edge of Cortez.

COMMUNITY MITIGATION EFFORTS

Over the past twenty years, Montezuma County stakeholders have all continued to be very proactive in working towards the goals identified in the collaborative process. Each respective stakeholder has had to overcome many challenges and obstacles blocking the path toward each goal. Yet steady, and often remarkable, progress has been made. Annually, 20-25 residents participate in WAP's Chipper Rebate Program and remove fuels form their properties. Wildfire Adapted Partnership has also accomplished dozens of individual defensible-space projects with homeowners in addition to a handful of community-scale mitigation projects. Increase in the WAP Neighborhood Ambassador Program continues to support community level mitigation efforts in subdivisions across the county. Additionally, for homeowners who are interested in mitigating without outside contractors, WAP has provided countless technical expert and advisement.

MITIGATION GOALS

1.) Implement Cross Boundary Landscape Level Fuels Treatment Projects on Public Land and Private Lands.

- Support the Rocky Mountain Restoration Initiative (RMRI), the Colorado Strategic Wildfire Action Program (COSWAP), and the Collaborative Forest Landscape Restoration Program (CFLRP) and other similar landscape level initiatives.
- Support forest health projects, such as the Dolores Prescribed Fire Eco-System Restoration Project, Lone Pine and Salter Vegetation Management on SJNF public lands adjacent to the WUI.
- Focus on personal responsibility, public health and safety, and first responder safety.
- Emphasize watershed protection.
- Consider critical infrastructure (Water, Power, Gas, Roads, Bridges).

- Consider ecological values.
- Consider socio-economic values.
- Encourage public and private cross boundary fuels treatment partnerships to create fuel breaks.
- Collaborate with private landowners and public lands agencies to identify emergency and develop emergency egress routes in areas of concern.
- Identify and create treatment plans for cross boundary landscape level mitigation projects so that there is a menu of shovel ready projects when funding or crews become available to do work.
- Wildfire mitigation of McElmo Creek Watershed. The High Desert Conservation District would work with private landowners to educate and find partners to support funding/grants to do wildfire mitigation within the canyon/watershed. This could include best practices to preserve the beauty of the canyon while thinning the fuels that currently exist.

2.) Enhance the use of mitigation and forestry contractors.

- Support sustainably scaled local timber industries.
- Have regular training opportunities for contractors, property owners, and firefighters to improve their knowledge and skills for fuels treatment.
- Keep an updated list of mitigation contractors and the services that they offer.
- Develop programs and secure grants for treatment of properties where the homeowners do not have the personal ability to do the work or resources to hire professional assistance.
- Provide incentives for chipping and slash removal to reduce accumulation of slash piles throughout County.
- Develop a program to connect those in need of firewood with excess wood where treatment has been done, or with properties where thinning is needed. Consider adopting and promoting Chip Drop: https://getchipdrop.com/

3.) Increase mitigation by rental and absentee home and property owners.

- Increase property owner awareness and impress upon property owners the consequences of doing nothing, for themselves, and for their or for neighbors.
- Promote the increased property value from mitigation, and other benefits, to targeted property owners on authority figure letterhead.

4.) Improve Access and Egress in High Risk areas.

- Improve Access and Egress in Areas of High Risk. Work with various stakeholders to identify communities that have a larger number of citizens in high risk areas with limited access and egress. Identify/create safer or secondary means of entry/exit.

5.) Increase Municipal Fuels Mitigation Projects.

- City of Cortez; The City of Cortez has over 358 acres of open space areas that are in need of fire mitigation. These areas include pinion, juniper and sage brush that would jeopardize many homes if these areas were to catch fire. The areas in questions are spread throughout the City and would be tackled one area at a time. The City would need to hire contactors to complete the work. Benefits include: Reduce potential damage to the community and ecosystems for the area that could be threaten by wildland fires due to dead trees, trash, etc.
- **Town of Dolores**; Bury Electric Supply Lines Feeding Dolores. Form partnerships with Empire Electric to bury existing power line system to prevent damage from natural disasters.
- **Town of Dolores;** Town Evacuation Plan. As part of the Town EOP develop a Town Evacuation Plan that could be implemented quickly and controls the flow of people out of town.
- **Town of Dolores;** Partner with Wildfire/Dolores Watershed Resilient Forest Collaborative. The Dolores Watershed Resilient Forest Collaborative (DWRF) is a not for profit organization whose mission is to Promote forest, community, and watershed resilience through collaboration. The DWRF has developed wildfire risk assessments of every property in Dolores. The project would help property owners implement the assessment recommendations. Funding is needed for the mitigation.
- **Town of Mancos;** Create defensible spaces around properties. Provide incentives for property owners to create defensible space around properties.
- Fuels Mitigation. Reduce the grass, brush, pinon, juniper and other natural fuels density in private property lands that directly pose a threat to public lands. Benefits include: Reducing the fuel load is the first step in wildfire mitigation. Reduced fuels will provide for a healthier woodland and forest.

6.) Increase Public Education;

- Provide education to our community on the best way to help your local fire district. Keep it clean, Keep it trim. Remove un-necessary combustibles from around your property. Keep all grass and brush fuels cut and cleared. Social media, flyers, handouts, banners, sign boards. Benefits include engaging the community with helping reduce the severity of fire. Less fires or fewer big fires means less risk to the community.

7.) Property Addressing.

- Provide address signs for every property in the fire district: private or public. Benefits include Reduce delays in response. Reduce Risk, as well as assisting in Recovery.

The 2005 CWPP identified five goals and each goal was accompanied by several strategies. Many of the strategies listed have been in play since the plan was written. For unincorporated private lands some of the significant community efforts include:

- **Accomplishment:** Recruitment of neighborhood ambassadors. In 2009, Wildfire Adapted Partnership WAP, established a Chapter in Montezuma County and hired a part-time coordinator to help organize educational efforts within the community.
- **Accomplishment:** Subdivision-level CWPPs have been created for four Montezuma County subdivisions, Elk Stream Ranch, Cedar Mesa Ranches, Cash Canyon / Stinking Springs, and East Canyon.
- **Accomplishments:** The Montezuma County Planning Department keeps a list of contractors and consultants who assist developers and private landowners in developing CWPPS, Fuels Mitigation Plans, and implementing fuels reduction projects on new and existing subdivisions. Many of these contractors and consultants have completed project work in Montezuma County.
- **Accomplishment:** Fire Protection Districts created a Wildfire Prevention and Education Specialist position to provide community out-reach and mitigation consulting. This position has been filled annually since 2002 and has provided extensive educational outreach to the community.
- **Accomplishment:** Mesa Verde has completed a Wildland Fire Situation Analysis was completed, and fuel break was created along the Mesa Verde/Ute Mountain Ute boundary.

Accomplishments since the 2011 update include;

Prevention	Accomplishments
	Calling Cortez dispatch for burning has been made mandatory with some tickets issued for failure to notify. Dispatch notifies callers of any restrictions or predicted fire weather condition concerns.
	Cortez Fire now provides regular planning and stand-by assistance for controlled burns in the district. Other departments continue to support controlled burning occasionally, when requested, as training opportunities.
	Fire Danger Rating signs have been replaced or updated, several signs added at public lands office, Boggy Draw Trail Head and generally more regularly maintained.
	Red Flag warnings are disseminated via Nixle Emergency Alert system to all registered users and on Sheriff's Office App to over 2,000 people as of January 2021.
	The county has additional variable message boards and has improved access to CDOT boards, which has established additional fixed message signs South and East of Cortez and for westbound traffic leaving Durango in addition to their mobile variable message warning signs.
	The Montezuma County Road Department conducts routine mowing operations in County ROW. Additional special emphasis is now being put on brush and tree removal in critical locations within County ROW.
	Defensible Space is continuing to be created and maintained by landowners

	The Montezuma County Fairgrounds (200 ac.) completed fuels reduction work in 2005.

Reduce Structure Ignitability	Accomplishments
	Presentation on fire resistant retrofitting for Four Corners Home Builders Association (2013) and ignition resistant building materials and landscaping displays at Home and Garden Show 2013, 2014, 2015
	Rapid Risk Assessment program developed and conducted on 1,000+ structure including all of Dolores (completed 2019)

Fire Departments neighborhood trainings and	Accomplishments
	Evacuation drill in Cash Canyon/ Stinking Springs and East Canyon. East Canyon evacuation readiness was tested again during East Canyon Fire, June 2020.
	Mancos Fire Driveway and Response Checks: Big Pine Lake subdivision at Joe Moore and drafting, North Mancos Property Owners Association, and Jackson Gulch.
	Cortez Fire has done walk-throughs and community meetings with The Ridge Subdivision.
	Incorporation of wildland component in Fire Science Class at Montezuma-Cortez High School

Community Education	Accomplishments
	The Division of Fire Prevention and Control (DFPC) provided a Certified Burner course hosted by Cortez Fire in 2017, training and certifying individuals to safely and legally conduct burn piles in Montezuma County.
	Wildfire Adapted Partnership continues Neighborhood Ambassador Program with 23 high-risk neighborhoods engaged within the county.
	The Montezuma County Fire Chiefs Association (MCFCA) maintained a prevention and mitigation specialist position through summer 2013 to support risk assessments and community education programs.
	Your home was threatened personalized letters left following a small fire were effective in engaging the Pine Ridge/ Wapiti Rim Neighborhood.

	Wildfire Adapted Partnership began offering Community Assessments (2014) as a simpler alternative to neighborhood scale CWPPs. There are Community Assessments for Kernan Creek Ranches, North Mancos POA, Pine Ridge-Wapiti Rim and Windspread.
	Wildfire risk brochures available at public lands office, **fire departments?**, libraries, welcome center, title companies, planning department, town halls, and other community gathering places.
	Youth educational programs have been developed and are integrated opportunities with the Montezuma Inspire Coalition. Sporadic classroom and field trips have been provided for pre-school through high school throughout the county upon request. Wildfire Adapted Partnership and San Juan Mountains Association have also offered some of these lessons through summer and after school programs and topics range from prevention to post – fire and are aligned with state educational standards.
	Wildfire messages are shared through social media by: Twitter & Facebook?
	A post-Weber Fire science fair project was supported for a Mancos High School student (2013-2014). A Dolores High School student participated in a nine week paid internship on wildfire and forestry working with the DWRF Collaborative, Wildfire Adapted Partnership, a private forestry contractor, and the US Forest Service.
	Southwest Conservation Corps. The Corps was used for low-income and hard to access mitigation projects.
	There is a designated County Public Information Officer and a Joint Information Center
	Cortez Fire's Wildland Coordinator position integrates wildland fire into education programs.

Mitigation	Accomplishments
	Wildfire Adapted Partnerships implemented a Defensible Space Cost-Share program in 2017 which includes most of the county. Residents getting fuel reduction assistance must meet state thinning guidelines and complete any key structure ignitability maintenance, such as moving firewood, enclosing decks, or cleaning out gutters.
	Chipper Rental Rebate program offered by Wildfire Adapted Partnership 2013-2020, generally offering $250 for individuals, or $750 for communities HOA's per day for chipper rental or contracted chipping work to support slash removal following hazardous fuel treatment.
	The Dolores District of the SJNF has completed a 200' fuel break along the southern edge of the forest boundary. They have also ramped up forest management completing treatments and pile burning around Chicken Creek

	and broadcast burn units in previously thinned areas of Haycamp Mesa and the Boggy Draw area. Larger thinning units are being treated on Haycamp Mesa and are being planned for the entire central ponderosa pine zone of the Dolores District. This has become a target landscape of the Rocky Mountain Restoration Initiative and a Collaborative Forest Landscape Restoration Project has been awarded for the San Juan National Forest with expected funding allocation in 2021 ($10 mil/ year x 10 years). Forest Industry is beginning to grow accordingly.
	Larger pile burning projects in the WUI have included completion of jackpot pile burns on the Ute Mountain Tribe's Adam's Ranch, Cooperative Pile Burning at Butler Corner, slash pile burns by BLM at Summit reservoir, by Cortez Fire at Denny lake and near the softball complex, contracted on private lands adjacent to Oakview Subdivision, and by USFS in Chicken Creek Ski Area.
	Montezuma County purchased a boom mounted hydro axe and has done some roadside clean-up using the tool. They plan to purchase a boom-mounted drum masticator to replace their hydro axe in 2021 to complete, safer, more aesthetically pleasing roadside maintenance.
	BLM Fuels Program purchased a high capacity chipper (2020) to begin supporting slash reduction in the wildland-urban interface.
	Roadside shaded fuel breaks have been developed along portions of Roads 26, 35, 38, 38.5, 38.7, 40.2, 40.4, 40.5, 41, 46, K.8, L.4, M.5, P, P2 loop, R.5, R.6, S, T.5, U.6, U.7
	Bulldozer fire lines on west edge and throughout Towaoc were re-dozed and accompanying fuel break thinning alongside (2016).
	Brush clearing for 150' adjacent to Vista Verde Village Mobile Home Park (2016)
	Defensible Space demonstration sites along Hwy 160 at west exit of Mancos and at community college campus.
	2 mile north-south fuel-break within and between Tri-State and WAPA power line corridors between roads M and R (2014)
	City of Cortez mowing and brush removal along irrigation corridor and at Denny Lake in partnership with Cortez Fire to Burn Piles and Wildfire Adapted Partnership to help map out areas at risk within the City.
	Mitigation contractor capacity has increased with at least 10 contractors who complete forest thinning projects on private lands who are base in Montezuma County as of 2020. Additional Contractors out of La Plata County have increasingly more frequently completed private lands projects in Montezuma County between 2010 and 2020.

RESPONSE	**Accomplishments**
Evacuation	Triage flagging system developed (2019)
	Nixle Emergency Notification System developed (# registered users) 4940 and land lines at 7,484.
	IPAWS cell network emergency notification system access granted

	Rapid Tag identification carding system adopted for incident responders and evacuees
	Agreements for sheltering locations including for pets and livestock with Cortez Recreation Center, Red Cross and The Montezuma County Fairgrounds.
Training	Most volunteer and all paid fire protection district firefighters have taken Basic Wildland Firefighting and an annual refresher. DFPC provides support for red-carding.
	Private lands wildfire reporting has been improved through NFIRS and WildCAD.
	USFS/BLM and DFPC regularly share their training opportunities with FPDs and support FPD training as needed.
	The Montezuma County Sheriff's officers, posse, and Search and Rescue (SAR) have had some fire, evacuation, and security training, and experience since the last update, but more is desired.
	The first Four Corners Wildland Fire Academy is happening (spring 2022)
Response Equipment	There are more multi-frequency radios available among local and federal resources to improve communications. Additional tactical frequencies have been assigned that are programmed on most response unit radios.
Response Capacity	The state has mutual aid agreements through an annual operating plan with all local jurisdictions to aid in initial attack during the first 12-24 hour operational period, including aviation resources aerial attack. This has enabled fire chiefs to call for available aerial resources and the Colorado Division of Fire Prevention and Control (DFPC) ground crews during initial attack without hesitation. The federal property equipment incorporated in local departments is now administered through DFPC.
	The Colorado Division of Fire Prevention and Control has a type 4 engine and a 10 person seasonal hand crew based near Dolores as a regional resource (added Spring 2020).
Water Supplies	New Water Tanks with increased capacity (24,000 gal.) installed at Granath Mesa (2020).
	New tenders and pumper/tenders are in operation: Dolores (3,000), Lewis (3,500), Mancos (3,000)
	Additional wildland engines: Mancos (two Type 6), Cortez (Type 3), DFPC (Type 4) and other departments have replaced with newer equipment. Connectors for Federal and local interoperability have also been added.

USDA FS Accomplishments; Southern Forest Boundary (Fuel Break) mastication Project Dolores Ranger District / San Juan N.F.

Project Description
This mechanical hand thin, mastication project will be focused along the southern forest boundary on the Dolores Ranger District. The primary purpose of this project is to reduce the understory and ladder fuels that will provide a 200 ft. fuel break adjacent to the Wildland Urban Interface, state and private land boundary. This will provide Firefighters Wildland Fire & Fuels Managers a mitigated area to engage a wildland fire and enable future prescribed fire implementation with a pre-established fuel break adjacent to private lands. This is a proactive approach to mitigate the ever-increasing wildfire threat to our communities at risk.

Desired Outcome;
Provide a 24-mile 200 ft. fuel break buffer along the Dolores RD southern forest boundary where terrain allows for the implementation treatment described below (See Project Map).

- 632 total acres treated

Predominant Fuels:
Ponderosa Pine with Gambel Oak Understory

Mechanical Equipment Utilized:
Type (1, 2 or 3 masticator) & chain saws (limbing ladder fuels & low stumping)

Project Specifications:

- Remove 80% of Gambel Oak within the entire project area
- Remove 100% of Gambel Oak from the bole of mature Ponderosa Pine leave trees beyond the drip line.
- Limb all mature leave trees >12 inch DBH up to 8 ft.
- Remove all smaller diameter trees (all species) < 9 inch DBH, option to pile smaller diameter trees near public access for firewood removal.
- Low-Stump all cut trees and brush stubs below 4 inches (if possible)
- Masticate all slash or standing Gambel oak
- Retain all Old Growth Ponderosa Pine > 20-inch DBH
- Coordinate with Recreation staff when adjacent to system trail systems (Ex. Boggy Draw and Chicken Creek ski area)
- Coordinate with Wildlife and Timber Staff for any concerns in the project area.
- Ensure not to remove vegetation (gambel Oak brush) that is used in combination with boulders for travel management closures. (Example: vegetation near a FS gate or boulders in place around a parking area to limit vehicle travel off approved roads).

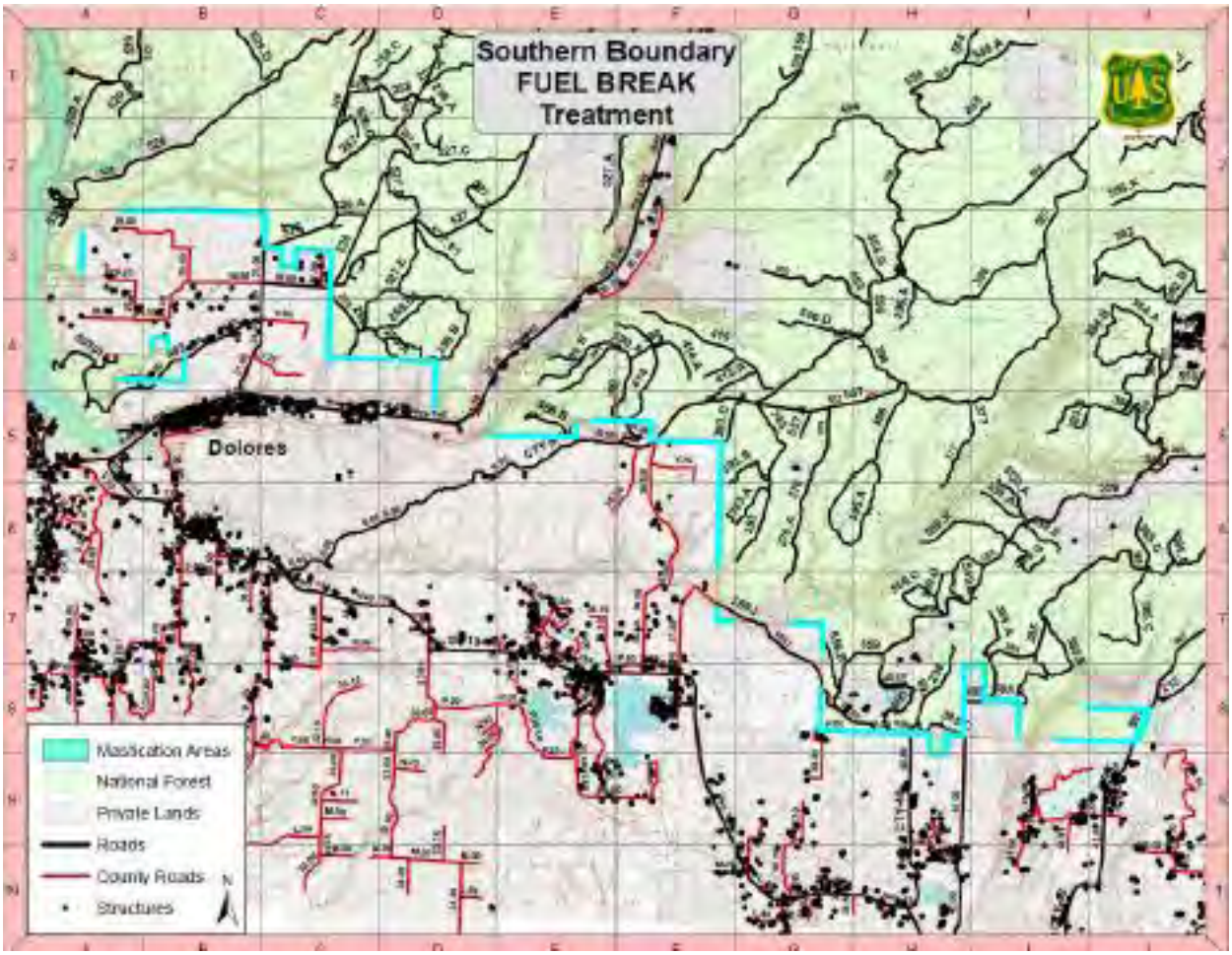

Figure 4.) USDAFS Fuel Break Project Map

5.) THE CWPP AREA

The Montezuma County CWPP area ranges from developed parcels in heavily vegetated fire-prone areas (Intermix Communities) and Federal or State lands (Interface Communities). Many other developed parcels are on dry-land farms or mixed croplands which may carry a lower flame length fast moving fires which may be adjacent to heavily forested federal lands or include heavily vegetated ravines or other isolated forest stands.

Montezuma County WUI;

WUI is an acronym for Wildland –Urban Interface, or WUI.

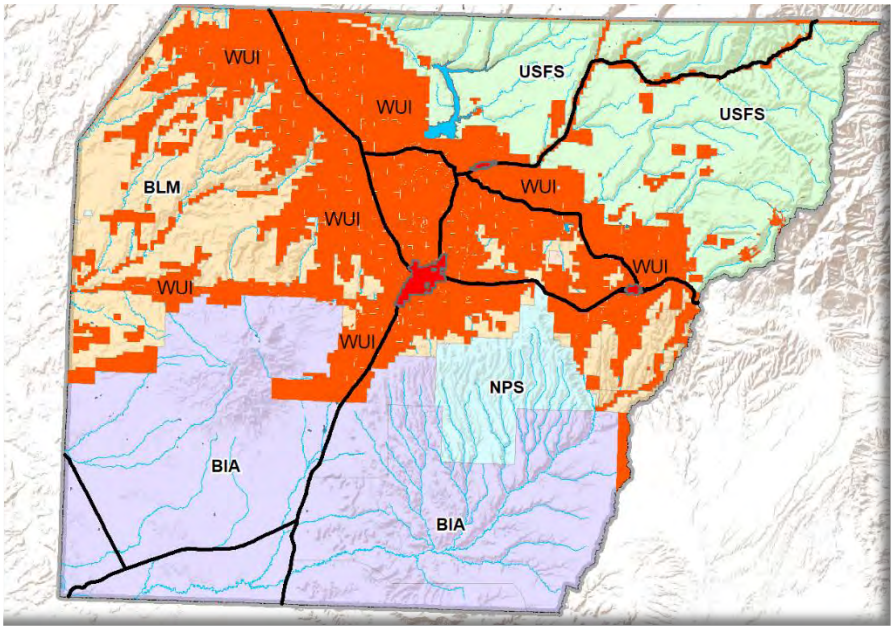

Figure 5; Montezuma County WUI

WUI is defined as; *"an area within or adjacent to an "at-risk community" that is identified in recommendations to the Secretary of Agriculture in a Community Wildfire Protection Plan, or A WUI is any area for which a Community Wildfire Protection Plan is not in effect, but is within ½ mile of the boundary of an "at risk community".*

A WUI is also any area that is within 1 ½ miles of an "at risk community" AND has sustained steep slopes that may affect wildfire behavior, or has a geographic feature that aids in creating an effective fuel break, or is in fuel condition class 3. (An area classified as fuel condition class 3 implies that the current condition of the vegetation within the area would not be sustainable due to the absence of two or more natural fire cycles. In other words, an excess of vegetation and fuels has occurred due to the exclusion of fire which naturally reduces the level of forest fuels.) An area adjacent to evacuation routes for an "at risk community" is another example of a WUI."

An “at risk community” is defined as a community within the wildland urban interface listed in the Federal Register notice, *“Wildland Urban Interface Communities within the Vicinity of Federal Lands that are at High Risk from Wildfire”.* OR A group of home and other structures with basic infrastructure and services within or adjacent to federal land is defined as an “at risk community”. “At risk communities” are areas where conditions are conducive to a large scale wildland fire disturbance event, thereby posing a significant threat to human life or property.

From Montezuma County's perspective, ***all*** areas of Montezuma County, both unincorporated and municipal, are adjacent to federal lands and are at some level of risk from wildfire. Therefore, the 2011 Montezuma County CWPP identified the WUI as; "*all unincorporated lands within the County."* This 2022 update goes further to include all Montezuma County municipalities, including Towaoc, within WUI.

The Marshall Fire in Boulder County and the Hawkins Preserve Fire in Montezuma County have illustrated that all our county municipalities are also at-risk communities. Therefore our CWPP area and WUI are the same, County-wide, and include all unincorporated and incorporated lands within the County boundary.

The adjacency to federally managed lands is a substantial factor in the identification of Montezuma County's WUI. While the definition of WUI varies somewhat agency by agency, Colorado Senate Bill 09-001 allows local County governments to define and identify their own WUI so that it fits each County's unique situation.

In 2004, the Colorado State Forest Service prepared an analysis of "Interface areas of High Wildfire Risk" (below) to assist communities in identifying wildland-urban interface (WUI) areas. This coarse-scale analysis identifies much of Montezuma County as a "High Risk "wildland-urban interface and sets the baseline for Montezuma County's hazard analysis. It very closely approximated the WUI as defined by this plan.

The Colorado State Forest Service describes the (WUI) as:

> *"any area where man-made improvements are built close to, or within, natural terrain and flammable vegetation, and where high potential for wildland fire exists."*

The 2005 Montezuma County CWPP identified the WUI as; *"all unincorporated lands within Montezuma County."* This definition was based partly on the default definition in HFRA, partly from the input from stakeholders, and partly due to the geographic positioning and vegetative cover-type of unincorporated lands in the County.

Stakeholder input during 2011 agreed with and validated the position that "all unincorporated lands within the County are WUI." Stakeholders from the Ute Mountain Ute Nation have also identified all Ute Mountain Nation lands (WUI). The Ute Nation definition correlates with the county definition, and this plan will recognize the most current definition of WUI on Ute Nation Lands available.

This 2022 update also concurs with previous CWPP's findings and recommends continuing the view "all lands within Montezuma County" to have a risk of wildfire. All private lands in Montezuma County are near or adjacent to large parcels of heavily vegetated public lands. This proximity increases the risk of wildfire spreading to public lands from private lands. It also increases the risk to the safety and welfare of rural residents from fire starts on public lands.

Like much of Colorado over the last two decades, Montezuma County has experienced rapid growth, especially in the County's unincorporated areas. Major and minor subdivisions created over 2,000 new lots from 1990 to 2005. As of 2022 Montezuma County has 95 major subdivisions. However many of these subdivisions are large lots subdivisions so overall residential density remains low.

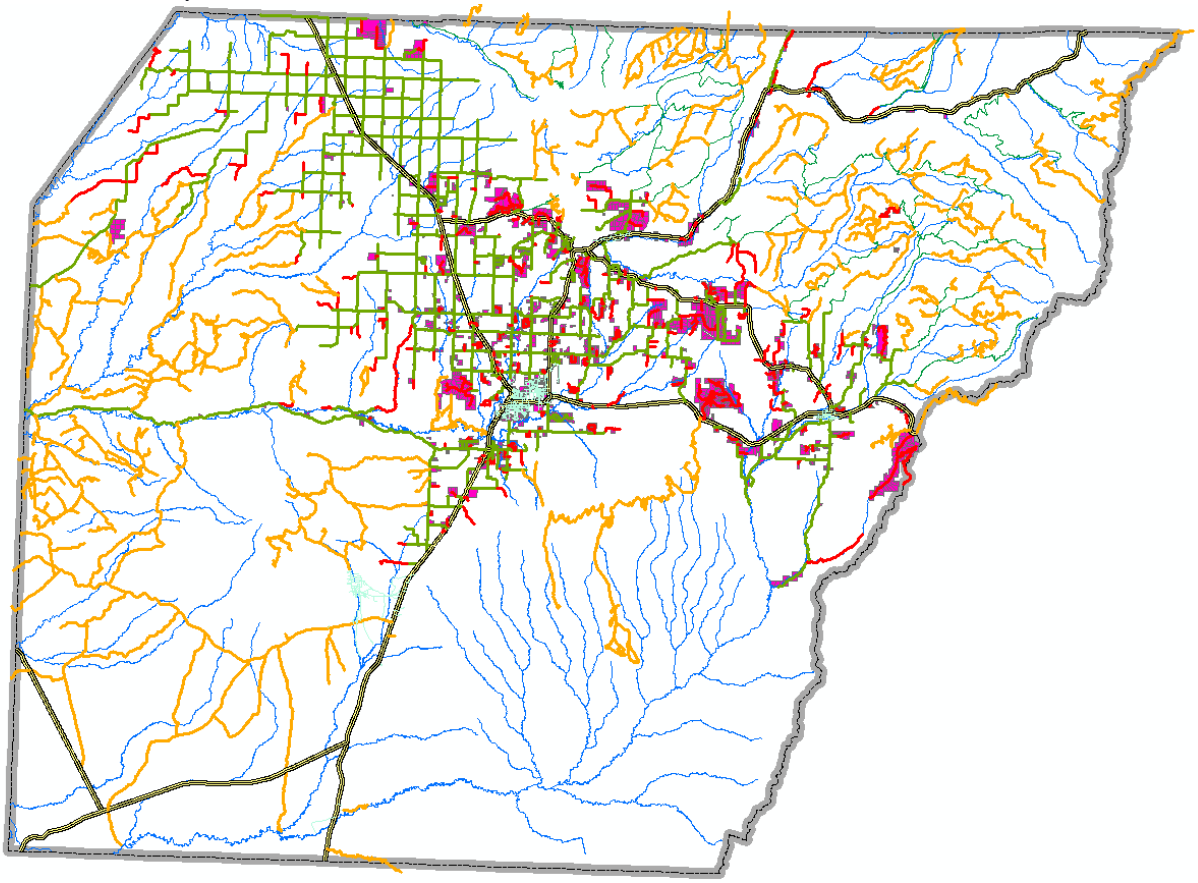

Figure 6; Major Subdivisions

From 1990 to 2004, the population of Montezuma County grew by 6,000 people (33%), averaging a growth rate of a little over 2% per year. Between 2005 and 2009, Montezuma County's growth rate slowed due to the housing market collapse and the ensuing national recession, yet the area is still experiencing growth. From 2005 to 2009, the county population expanded by 1,208 people (4.7%), averaging a growth rate of .94% per year.

According to the Colorado State Demography Office, the Montezuma County Population has increased by 2.4% annually, going from 25,532 in 2010 to 26,160 in 2019. This growth rate accelerated during the COVID 19 Epidemic of 2020-2021. Nation-wide the same trend has been uniform across rural areas. The long-term results of the urban flight from COVID 19 remain to be seen at the time of this update.

Despite the unknown effect of COVID 19 on long-range rural population trends, newcomers worldwide still find the environs of southwest Colorado highly desirable to homebuilding. The amenity-based migration patterns seen through the late '90s and early 2000s are likely to continue. Colorado Department of Local Affairs population projections indicate that the population of the County will increase by approximately 8,000 people by 2050.

Over the past twenty years, much of the home building activity has occurred in naturally vegetated regions that newcomers hold in high regard. The vegetation which newcomers find so attractive is, in many parts of this County, at increased risk for catastrophic wildfire.

CHARACTERISTICS OF PRIVATE LANDS IN MONTEZUMA COUNTY

Montezuma County lies within the greater Colorado Plateau. It generally lies within a gently sloping plain known as the Dolores Plateau. This plain slopes downward toward the southwest, where it drains into McElmo Creek.

Long deep canyons dissect the Dolores Plateau. Mesa tops are generally flat with prime agricultural soils. Agricultural irrigation water return flows contribute to wetlands and riparian environments in the canyons that drain into McElmo Creek. Canyons and other undeveloped lands that are not in crop production typically are grazed.

Altitudes on private lands within Montezuma County range from a low of about 4,840 feet, along the western end of McElmo Canyon, to over 13,000 near private mining claims near the La Plata border. However, most private lands lie within the Dolores Plateau, between 6,000 and 7,200 feet in altitude. The most prominent neighboring topographic features are the La Plata Mountains to the east, The Abajo Mountains to the west in Utah. The Mesa Verde Escarpment, Sleeping Ute Mountain, and Mancos River Canyon are the prominent features to the south.

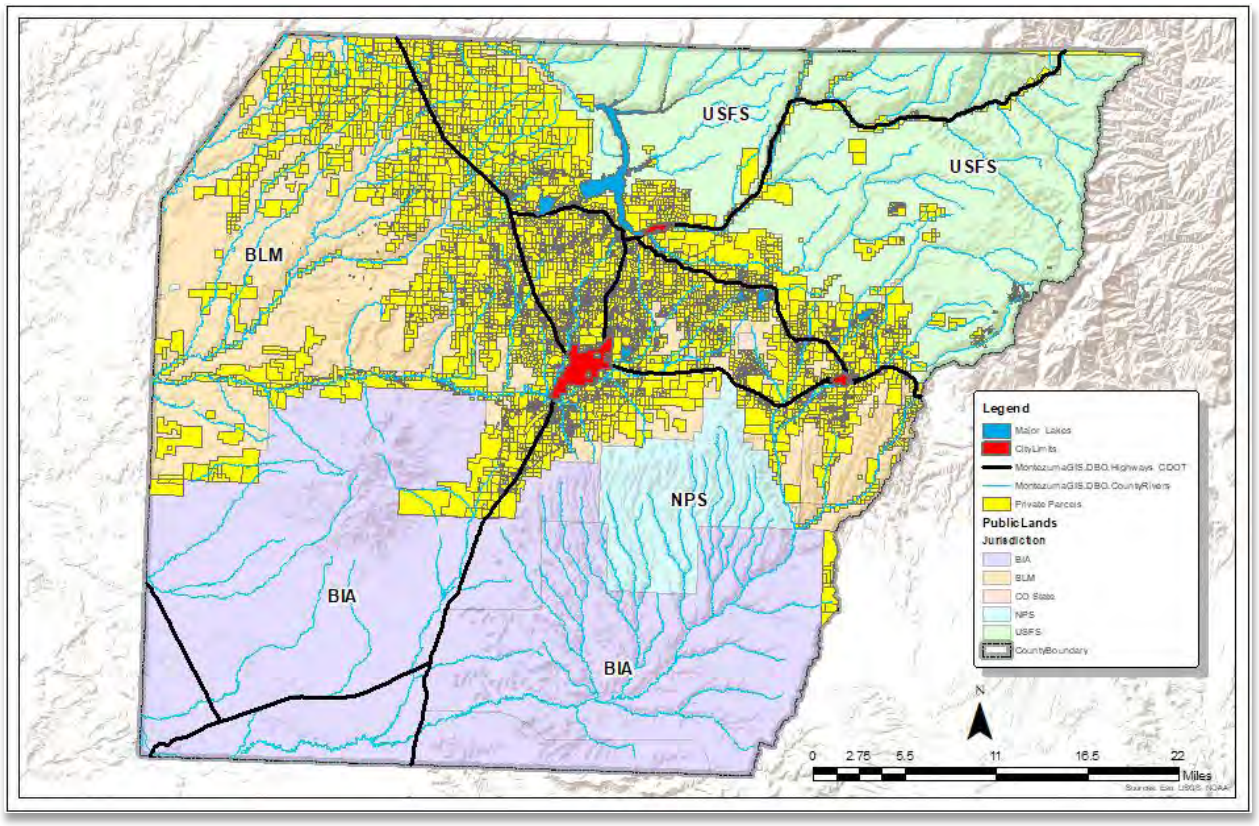

Figure 7.) Private and Public Lands in Montezuma County

Montezuma County has 346,346 acres of private lands, amounting to 27% of the county landmass. Private lands in Montezuma County are primarily a mix of agricultural lands, pasturelands, woodlands, urban and rural residential development. Overall density is low, averaging 12 people per square mile.

The primary irrigated crops are alfalfa and small grains. The main dryland crops are pinto beans and winter wheat. Lands that are not in crop production are often grazed. Ranching still plays a dominant role culturally and economically in Montezuma County as well as surrounding counties.

CHARACTERISTICS OF FEDERALLY MANAGED LANDS IN MONTEZUMA COUNTY

Approximately 73% of the total land mass of Montezuma County is under Federal Management. Management obligations are split between the National Park Service, The National Forest Service, The Bureau of Land Management, and the Bureau of Indian Affairs.

Table 2; Public and Private Lands

Public Land and Private Land Area Breakdown

Montezuma County, calculated May 2021

Jurisdiction	Sqaure Feet	Acres	Square Miles	Percentage
BIA	19,359,281,681	444,428	694	34%
BLM	8,444,415,270	193,857	303	15%
CO State	424,114,037	9,736	15	1%
NPS	2,379,341,775	54,622	85	4%
USFS	11,147,740,090	255,917	400	20%
Privately Owned Land	15,086,850,436	346,346	541	27%
TOTAL	**56,841,743,289**	**1,304,907**	**2,039**	**100%**

North of the Dolores River, the lands are managed primarily by the USFS. These USFS lands are locally known as the Boggy - Glade area, Stoner Mesa, and Taylor Mesa. Inholdings within public lands are not abundant but do exist. Those lands sometimes have been subdivided and have private residences. Other parcels are large and undeveloped, primarily used for grazing or timber production and sometimes conservation easements. On the east side of the County, a minor watershed drains the Mancos River. A similar mix of public lands and private inholdings exists in the Mancos drainage as well. The timber industry commonly harvests Aspen from large stands on public lands northeast of Mancos.

To the Southwest, most of the lands within the County are BLM or BIA managed. The BLM Canyons of the Ancients National Monument make up most of the west side of the County. Recreation, Oil and Gas Production (primarily CO2), and grazing are dominant natural resource uses across the monument.

The Ute Mountain Ute (UMU) Nation makes up the County's Southern half, and wildfire management is under the Bureau of India Affairs (BIA). The Ute Mountain Tribal Park makes up the eastern half of the UMU Nation, located on the Ute lands between Highway 491 and the La Plata County Line to the east, the New Mexico State Line to the south, and Mesa Verde National Park to the north. The western half of the UMU Nation is bordered by New Mexico and Arizona to the South and Utah to the West. Most of the population lives in Towaoc, located in the Central-west portion of the UMU Nation.

Mesa Verde National Park lies in the south-central portion of the County on another sloping plain dissected by long, deep canyons that drain into the Mancos River. The Ute Nation bounds the south and west sides of the park. The east side of the park and the north side of the park is

mainly managed by the BLM under Area of Critical Environmental Concern (ACEC) or BLM Wilderness Study Area (WSA).

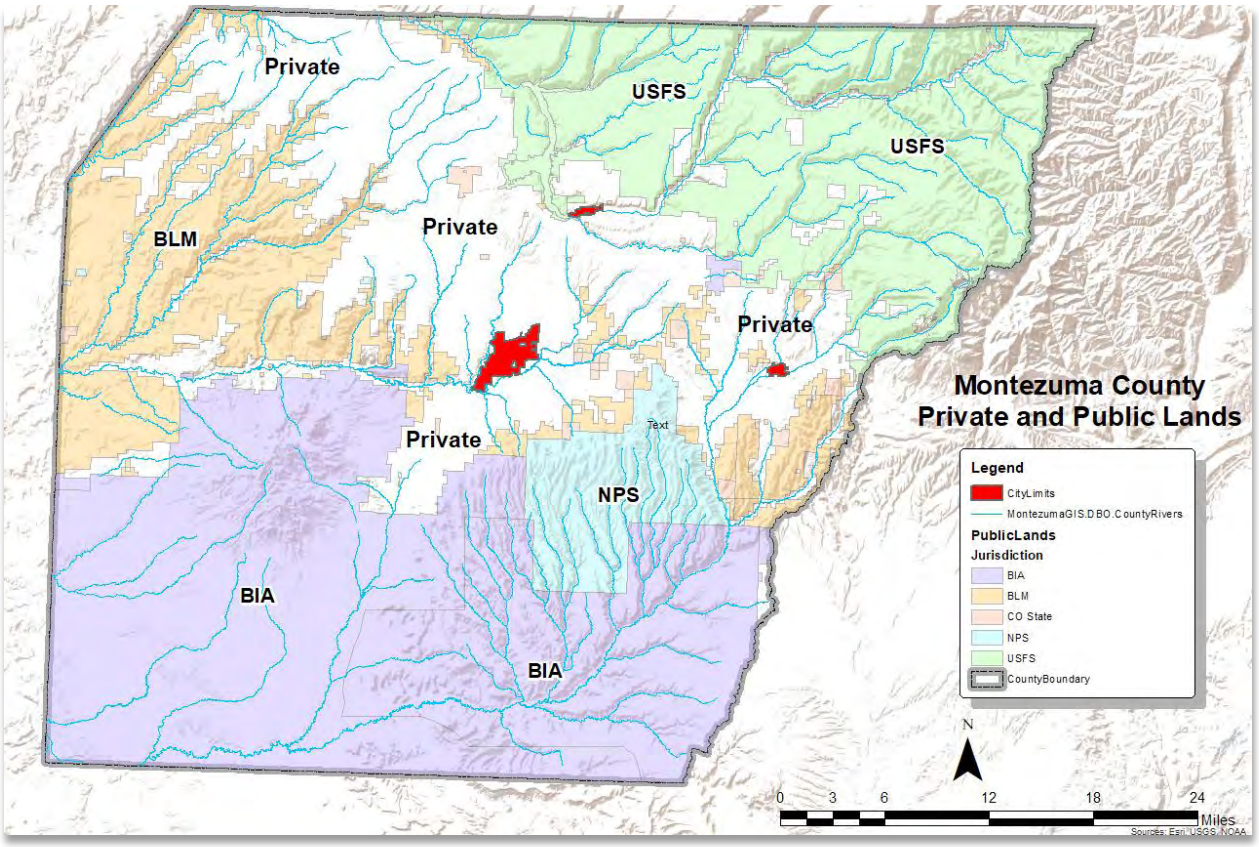

Figure 8) Public Land Management

Agricultural uses on public lands consist mainly of grazing. Grazing is typical on lower elevation BLM lands during the winter and USFS lands during the summer. Permittees typically introduce livestock to USFS lands in late spring and follow the retreating snow line as it recedes to higher elevations. Significant stock numbers may be present on USFS lands during the summer and BLM lands during the winter. Evacuation of livestock on public lands during a wildfire poses a significant logistical problem and may not be possible.

Other natural resources include timber resources, Oil and Gas, and locatable minerals. The Boggy-Glade area just north of the Town of Dolores has large stands of Ponderosa Pine harvested periodically. Historically timber harvest in the region focused mainly on the production of board feet of timber. In 2021 timber harvest is viewed differently. Today the local timber industry is recognized as a collaborative partner in forest health. The commercial timber industry has the capacity, knowledge, and infrastructure to conduct prescriptive forest health treatments at a profitable landscape scale but focused on forest health and resiliency to wildfire and insect infestations.

FIRE PROTECTION IN THE CWPP
The Sheriff is the Fire Warden in Montezuma County.

Colorado Revised Statutes Title 29. Government Local § 29-22.5-103. Wildland fires--general authority and responsibilities

(2)(a) The sheriff is the fire warden of the county and is responsible for the planning for, and the coordination of, efforts to suppress wildfires occurring in the unincorporated area of the county outside the boundaries of a fire protection district or that exceed the capabilities of the fire protection district to control or extinguish in accordance with the provisions of section 30-10-513, C.R.S .

(2016) Colorado Revised Statutes Title 30 - Government – County Officers Article 10 - County Officers Part 5 - Sheriff§ 30-10-512. Sheriff to act as fire warden

"Subject to the provisions of the community wildfire protection plan prepared by the county in accordance with section 30-15-401.7, the sheriff of every county, in addition to other duties, shall act as fire warden of his or her respective county and is responsible for the coordination of fire suppression efforts in case of prairie, forest, or wildland fires or wildfires occurring in the unincorporated area of the county outside the boundaries of a fire protection district or that exceed the capabilities of the fire protection district to control or extinguish."

The Montezuma County Sheriff Coordinates with Local Fire Protection Districts, the State of Colorado, and Federal Wildland Fire Personnel. In addition, the County Sheriff will coordinate cross boundaries with neighboring Colorado Counties and Counties within New Mexico, Utah, and Arizona whenever necessary.

Local Montezuma County Fire Protection Districts are generally well equipped to respond to wildland fires. Each District has at least one brush truck available for initial attack. Other assorted equipment such as protective clothing, hand tools, ATV's and water bladders are also available. In short, the equipment needs for all of Montezuma County's Fire Protection Districts meet the needs reasonably well for the time being.

Montezuma County's Fire Protection Districts are primarily volunteer departments, but there are currently 20 full-time and 8 Reserve/ part-time paid staff. The Towaoc Fire Protection District has 11 full-time and eight reserve/ part-time staff.

Montezuma County firefighters participate in routine training to ensure safety and maximize efficiency. The collaboration process revealed that volunteers commit a great deal of time to

train and respond to calls. Volunteers have full-time employment to balance their commitment to the Fire Protection Districts, creating a problematic situation for additional training, especially out of District or multi-day training. Budgetary limitations also impede additional training.

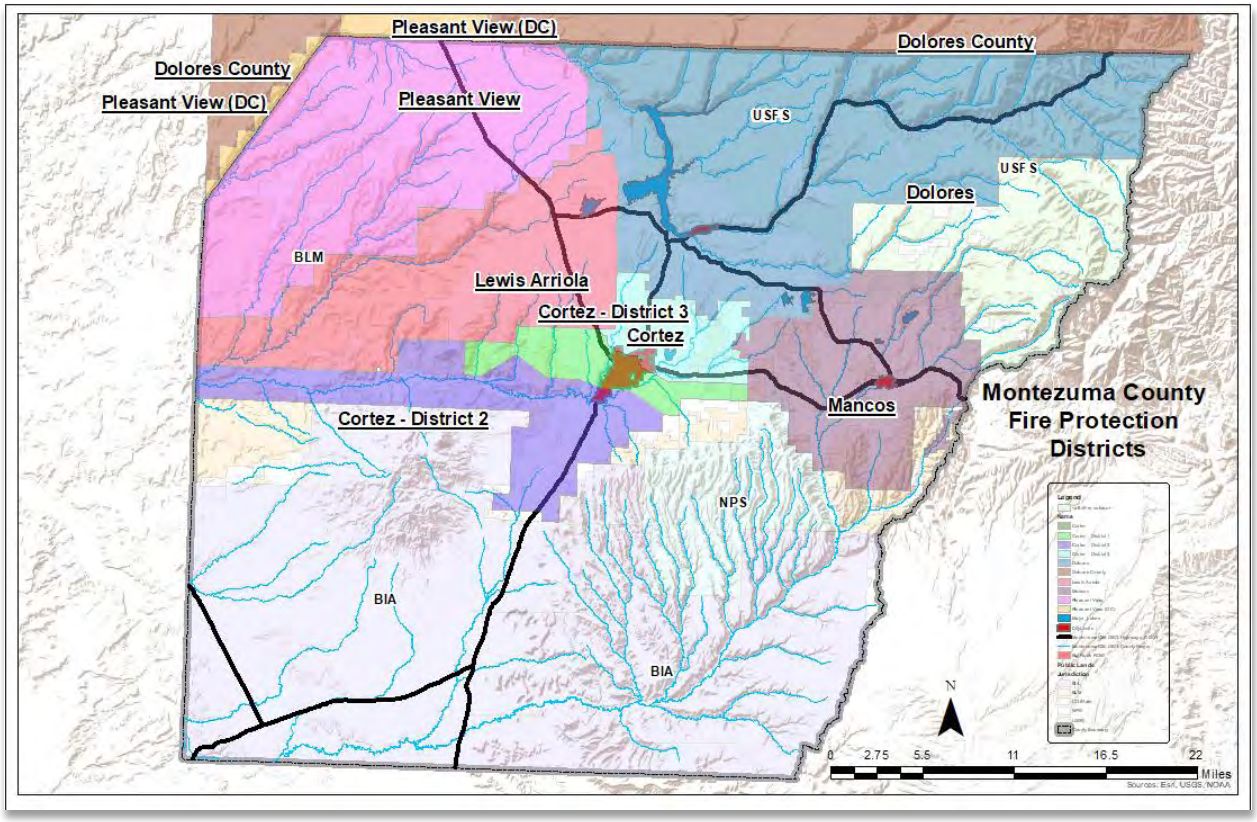

Figure 9). Montezuma County Fire Protection Districts

All fire protection personnel are functional for wildland fire initial attack but do not uniformly hold red-cards. Additional wildland fire training would be beneficial and would expand the preparedness capacity of all Fire Protection Districts. Volunteers are always willing to participate in additional training when it is available. At a minimum, NWCG basic wildland fire training is recommended.

FEDERAL AGENCIES

USFS/BLM/NPS

The Dolores District of the San Juan Forest and the Bureau of Land Management Tres Rios Field Office provides wildfire management on US Forest Service and BLM lands, including Canyons of the Ancients National Monument.

The National Park Service includes wildfire management at Mesa Verde National Park, Yucca House National Monument and the Colorado Units of Hovenweep National Monument.

Although there is some annual fluctuation in available resources within the federal agencies, they always have resources on hand to manage, monitor, or suppress wildfire starts within their locality. If local resources are not sufficient to manage wildfire starts, additional resources may be requested through the Durango Interagency Dispatch Center.

During the summer, "severity resources" are often brought in to supplement locally stationed resources. The San Juan Interagency Hotshot Crew is stationed in Durango but may work elsewhere across the nation. Hotshots are a national resource, and besides fires in the local area, they can be assigned to fires across the country. This is the same for the two type III initial attack helicopters located at Ute Mountain and at Mesa Verde and the type II helicopter pre-positioned at the La Plata County Airport.

There is good coordination between federal agencies and local resources. Mutual aid response is adequate and detailed out when conditions or available resources dictate.
The Dolores District conducts prescribed fire and other fuel treatments on approximately 2,500 to 3,000 acres of National Forest land and 500 acres of BLM land per year.

BIA
The Bureau of Indian Affairs (BIA) provides wildland fire protection on Ute Mountain Ute Nation lands and coordinates fire suppression in interface areas between Ute Mountain Ute lands and other jurisdictions.

The community of Towaoc also has a paid Fire Protection District (FPD). The Towaoc FPD provides suppression services to the community of Towaoc, mainly with structural fires, and assists BIA with wildland fire suppression wherever needed on Tribal lands. The Towaoc FPD also provides coordinated fire suppression and emergency response in interface areas between Ute Mountain Ute lands and other jurisdictions. The BIA conducts prescribed fire and other fuel treatments on the ground within its jurisdiction as needed and as funding allows.

WATER SUPPLIES
Water service providers cannot guarantee fire flows in unincorporated areas of Montezuma County. Many subdivisions throughout the County have municipal fire hydrants that are either not functional or do not provide enough flow to support fire suppression. There have been instances where water lines have collapsed when drafting fire flow out of them in the past. In other cases, drafting has caused severe interruptions to the downstream water supply, creating difficult situations for Montezuma Water Company to handle. Drafting can also potentially generate a backflow contamination situation for the entire water system, potentially creating a health threat for hundreds or even thousands of residents. Water supplies are often

augmented from the Dolores River, areas Lakes, ponds, or irrigation ditches to avoid potential problems.

To further compound the water supply problem, many county residents must haul water into cisterns for their domestic use. County subdivisions can still receive approval without access to municipal water systems or wells. This lack of dependable water supply sources is a significant factor in determining the level of risk for communities and identifying the WUI. Any opportunity to upgrade existing supply infrastructure to accommodate fire flows should be examined and capitalized on if possible.

Montezuma County is fortunate because it is still primarily a rural agricultural county with an extensive irrigation water delivery system, sometimes even on federal lands. Irrigation canals & stock ponds can often supplement water supply, and many such features exist throughout the County.

The County also has three main river systems, The Dolores River, The Mancos River, and McElmo Creek. Many other minor tributaries retain perennial water flow. Return flows from irrigation supplement water flow in some of these streams. Several lakes within the County can provide supplemental water to draft from as well.

Water tenders are critical equipment for all Fire Protection Districts and are essential for initial attack capacity. Fire Protection Districts monitor the age and efficiency of the water tenders and seek repairs, replacements, or additions as the need arises.

6.) FIRE POLICIES AND PROGRAMS

Colorado Revised Statutes **30-11-124. Fire Planning Authority;** Provide Colorado Counties with the legal authority to prepare, adopt and implement a county fire management plan. Plans detail individual county fire management policies for prescribed burns, fuels management, or natural ignition burns on lands the State or county owns.

In 2009 Colorado Legislature passed **Senate Bill 09-001 "CONCERNING THE ESTABLISHMENT OF COMMUNITY WILDFIRE PROTECTION PLANS BY COUNTY GOVERNMENTS."**
This act required counties within the State of Colorado to determine fire hazard areas within the unincorporated portion of the county and prepare Community Wildfire Protection Plans (CWPPs) that covered these areas. The act also provided counties in the State,

"the opportunity to establish a locally appropriate definition and boundary for the wildland urban interface area."

The Healthy Forest Restoration Act of 2003 required the Colorado State Forest Service to establish minimum standards for developing CWPPs in Colorado. Per **Colorado Senate Bill 09-001**, this plan conforms to the 2021 revised minimum standards and guidelines that counties should consider when developing Community Wildfire Protection Plans (CWPPs).
Fire planning has been an iterative process across the nation. In 2003 the Healthy Forest Restoration Act (HFRA) was signed into law. This act focused on restoring forests and rangeland into healthy fire-adapted ecosystems while reducing wildfire threats to communities.

HFRA established four key planning concepts including;

- Collaborative planning amongst stakeholders
- Identifying and prioritizing hazardous fuels reduction projects
- Assessment of community firefighting capacity
- Reducing structural ignitability.

In 2005, The Montezuma County CFP was modified to become a Community Wildfire Protection Plan (CWPP) to conform to the requirements set forth by the Healthy Forest Restoration Act of 2009 (HFRA).

Colorado revised Statutes **30-11-124. Fire planning authority,** provides Colorado Counties with the legal authority to prepare, adopt, and implement a county fire management plan that details individual county policies on fire management for prescribed burns, fuels management, or natural ignition burns on lands owned by the state or county.

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OTHER PLANS

Montezuma County Land Use Code

The Montezuma County Land Use Code addresses the risk of wildfire under Health, Safety and Welfare. The current Land Use Code applies only to new development and does not apply retroactively to subdivisions legally created before the adoption of the Land Use Code. Minimum lot sizes (excluding special PUDs) are 3 acres. Montezuma County does not require building permits for construction. Only commercial and industrial buildings are required to follow building codes. Montezuma County enforces setbacks for new construction and requires that all interior subdivision roads be built to County Road Standards which ensure fire access. Driveway construction and maintenance is up to the individual property owner but address sign can be picked up from the Fire Protection Districts

The Montezuma County Land Use Code currently requires;

Health, Safety and Welfare16 *Fire and Wildfire Protection ♦ Compliance with 5101.3(G); 5304(J); and 5304.3.W.*

5101.2 Subdivision Policies*. The following shall be the subdivision policies of Montezuma County:*

> *G. To avoid development in areas that are unsafe or unsuitable due to natural hazards such as flooding, wildfire, unstable slopes; or due to the unfeasibility of providing basic services such as adequate road access, electricity, potable water, sanitation, telephone and fire protection.*

And;

5101.3 General Design Guidelines*. Approval of any subdivision will require covenants that at a minimum contain the following design guidelines.*

G. Wildfire Mitigation. *All new subdivisions which are located completely or partially within areas identified as the A or B zone on the Community at Risk Map, or other areas that fall outside of the A or B zone of the Community at Risk Map that have native vegetative cover deemed to be a wildfire risk, will be reviewed for a recommendation of a Wildfire Mitigation Plan or a waiver. Wildfire Mitigation in the subdivision should take place upon development of each lot and overseen by the developer or established HOA, as recommended in Colorado State Forest Service, wildfire mitigation publications.*

2. Submittal Requirements. *The developer will be required to either complete fuels mitigation in the subdivision, as defined in the Wildfire Mitigation Plan, to the following standards:*

> *a. Fuels mitigation to Zone 3 standards on all land within the development boundary.*
>
> *b. Fuels mitigation to Zone 2 standards on all land within existing and proposed roadway and utility easements.*

Or, complete an affidavit along with minimum covenants that have to be signed and notarized as part of the subdivision to be recorded.

5304 Development Plan; *The Development Plan is intended to provide written narrative and supporting documentation addressing the issues outlined below. Where Development Plan information can best be presented on a map, it may be included in the map required in* ***5303.2*** *or attached to the narrative as a separate map.*

J. Wildfire Mitigation Plan; *As recommended in Colorado State Forest Service, wildfire mitigation publications as an addendum to this Code, a Wildfire Mitigation Plan shall be prepared defining fuels mitigation requirements to be met within the development boundary.*

5306.3 Required Accompanying Data. *All written submittals included with the Final Plat shall be approved according to the impact level submittal and review requirements of the development. These will include, as applicable:*

W. *If a Waiver is approved by the Planning Department, then a signature of a certified wildfire mitigation specialist verifying completion of fuels mitigation will not be required.*

7.) DESCRIPTION OF THE COMMUNITY

NATURAL ENVIRONMENTS

Montezuma County has a wide range of vegetation types, climates, and elevations. Generally the elevation and precipitation gradually increase from the southwest to the northeast of the County along a gently sloping plain.

The southwestern low elevation zone is dry and sparsely vegetated with desert shrubs and grasses. This zone ranges from about 5,000 feet to 5,700 feet in elevation and receives 8 to 10 inches of precipitation per year.

The middle elevation zone is dominated by sagebrush, pinyon pine, and Utah juniper. This zone ranges from about 5,700 feet to 7,400 feet and receives 10 to 15 inches of precipitation per year. The middle elevation zone is most suited to agricultural production and is also where most residential development activity has, and will continue to occur.

The highest zone, in the northeastern portion of the County, vegetation consists of Gambel's oak, grasses, areas of Ponderosa pine, large stands of aspen and high elevation spruce and fir forest. This zone ranges from about 7,400 feet to 13,000 feet in elevation and receives 15 to 20 inches of precipitation per year.

Prevailing winds are from the southwest in the summer to the northwest in the winter and are usually strongest in the spring. Overall humidity is low across the county and the desiccating effect of this dry wind has a major impact on fuels and their susceptibility to fire.

Wildlife

Montezuma County like much of Colorado is rich in wildlife resources. Many wildlife species including Mule Deer, Elk, Turkey, Grouse, and a variety of songbirds are common throughout Montezuma County. Native shrub lands within the WUI are one of the most important wildlife habitats in the County.

Wildlife is a critically important resource for the state of Colorado and for Montezuma County in cultural and economic terms.

Table 3; Total Economic Contributions of Big Game Hinting in Colorado (CPW2017)

	Output ($millions)	Labor Income ($millions)	GDP Contribution ($millions)	State/Local Taxes ($millions)	Federal Taxes ($millions)	Jobs
Resident	$374.3	$124.5	$197.4	$21.3	$29.1	2,999
Non-resident	$228.2	$95.1	$138.6	$13.0	$21.3	3,305
Total	$602.4	$219.6	$336.0	$34.4	$50.4	6,304

Hunting is culturally ingrained in the local community with a high level of participation amongst local community members. Participants are typically active over the course of many years and the participation is often successional, spanning many generations and increasingly, genders.

CPW has been able to characterize hunting effort by destination county within the state over a range of species pursued (CPW, 2013). The Southwest, which includes Montezuma County has the second highest hunter days in the state per year.

Table 4; Hunter Effort (CPW 2017)

	Northwest	North Central	Metro	Northeast	Southeast	South Central	Southwest	**State**
Hunter Days per Year								
Big Game	760,237	110,277	28,392	43,840	85,998	237,109	342,758	**1,608,611**
Small Game	113,185	69,838	4,500	123,235	39,273	47,007	40,378	**437,417**
Waterfowl	16,701	76,185	958	32,842	15,826	8,028	6,704	**157,244**

(CPW, 2012 Big Game, Small Game & Waterfowl Hunter Days by County, 2013)
(CPW, 2017 Big Game Hunter days by County, 2018)

The economic contributions of hunting are also important to the County, and to the whole southwest region. Hunting contributions to the Montezuma County economy are estimated to be about 2.8 Million.

Table 5; Regional Contributions of Hunting

County	Output ($thousands)	Salaries & Wages ($thousands)	GDP Contribution ($thousands)	State/Local Taxes ($thousands)	Federal Taxes ($thousands)	Jobs
Southwest Region						
Archuleta	$4,683	$1,723	$2,597	$471	$389	85
Delta	$6,225	$1,944	$3,085	$641	$455	129
Dolores	$2,328	$909	$1,306	$309	$150	71
Gunnison	$8,442	$3,096	$4,804	$825	$730	155
Hinsdale	$1,067	$221	$464	$161	$56	13
La Plata	$8,877	$3,332	$4,971	$627	$748	121
Montezuma	$2,855	$1,185	$1,600	$263	$253	70
Montrose	$8,299	$2,682	$4,288	$771	$646	175
Ouray	$1,686	$780	$979	$144	$151	27
San Juan	$713	$205	$341	$88	$50	8
San Miguel	$2,832	$1,170	$1,735	$273	$254	35

Private lands in Montezuma County are especially important to big game species such mule deer, as it makes up a large portion of the winter range. Private lands generally lie within the 5,700' to 7,400' elevations. Big game follow predictable migration routes to and from higher elevations on a seasonable basis. Snow-fall is not typically as deep at these elevations making food more accessible. Mid-elevations also correlates with the most productive native shrub communities which is one of the most valuable habitat types.

Quality wildlife habitat is essential to maintaining healthy wildlife populations. Maintaining large areas of quality big game habitat within the private land base is critical in ensuring the health of Montezuma County Big Game. Wildfire mitigation and fuels reduction treatments can often have a positive wildlife component. Private landowners are encouraged to consult with CPW on large scale fuels reduction projects to design projects with net benefits and minimal impacts to wildlife.

Culture

Montezuma County is a traditional western natural resource based community. Montezuma County as we know it has its roots in mining. In 1873 a small party of prospectors found what was to become the "Comstock Mine" in the La Plata Mountains of eastern Montezuma County. By 1874 the Town of Mancos was laid out to support the expanding mining operations in the Mountains.

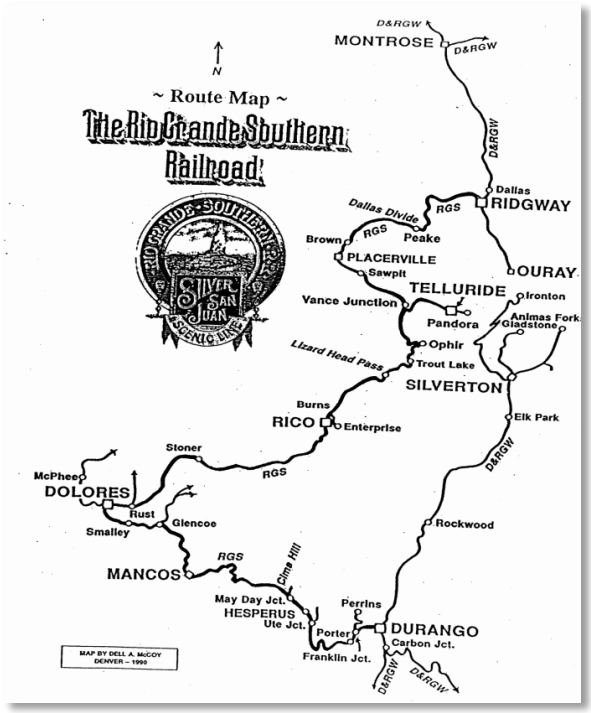


Figure 10.) Historic Rail Routes (Galloping Goose Historical Society)

Montezuma County was split form La Plata County in 1889 and by 1891 the Rio Grande & Southern Railroad connected Mancos and Dolores with the mining Districts in Rico and Telluride, but also with Durango and Silverton.

Agriculture has historically been the main economic driver of the County and it is still is to a large degree. Montezuma County's geographic position also made it the gateway to the Rico Mining District which was connected by rail at one time. This locational advantage allowed local agriculture in Montezuma County to flourish. Rico proved to be a prime market for produce and livestock to sustain the Rico mining operations. The railway made shipping goods to Rico easy and profitable.

Montezuma County also had an abundance of timber resources including large stands of mature ponderosa on gently rolling, easy to log, terrain. Between the need for timbers to support mining operations, the need for rail road timbers to support expanding rail road lines, and an expanding urban demand, ponderosa pine timber stands had a ready market and lumber production became a dominant industry in the County.

Figure 11.) Ponderosa Logs 1930's -40's (Robert Orr Collection)

By 1924 the timber industry had consolidated and centralized its operation into one company mill and town site on the Dolores River known as McPhee.

Figure 12.) McPhee Town Site and Mill (Robert Orr Collection)

At its peak the Town had a population of approximately 1,400 individuals, and produced more than half of the State's annual timber production. The Town was destroyed by a fire in 1948, but by then most of the easily accessible timber had already been harvested. Ironically the town of McPhee had been built on "planned obsolesce" anyway.

When planning for McPhee those involved faced two choices. Either build a smaller plant scaled to the accessible resources designed to stay in business for the long term. Or, build a plant based on maximum production but designed to outstrip the supply in about 18 years. The New Mexico Lumber Company chose the latter and the Town of McPhee lasted a total of 24 years, six years longer than it was intended.

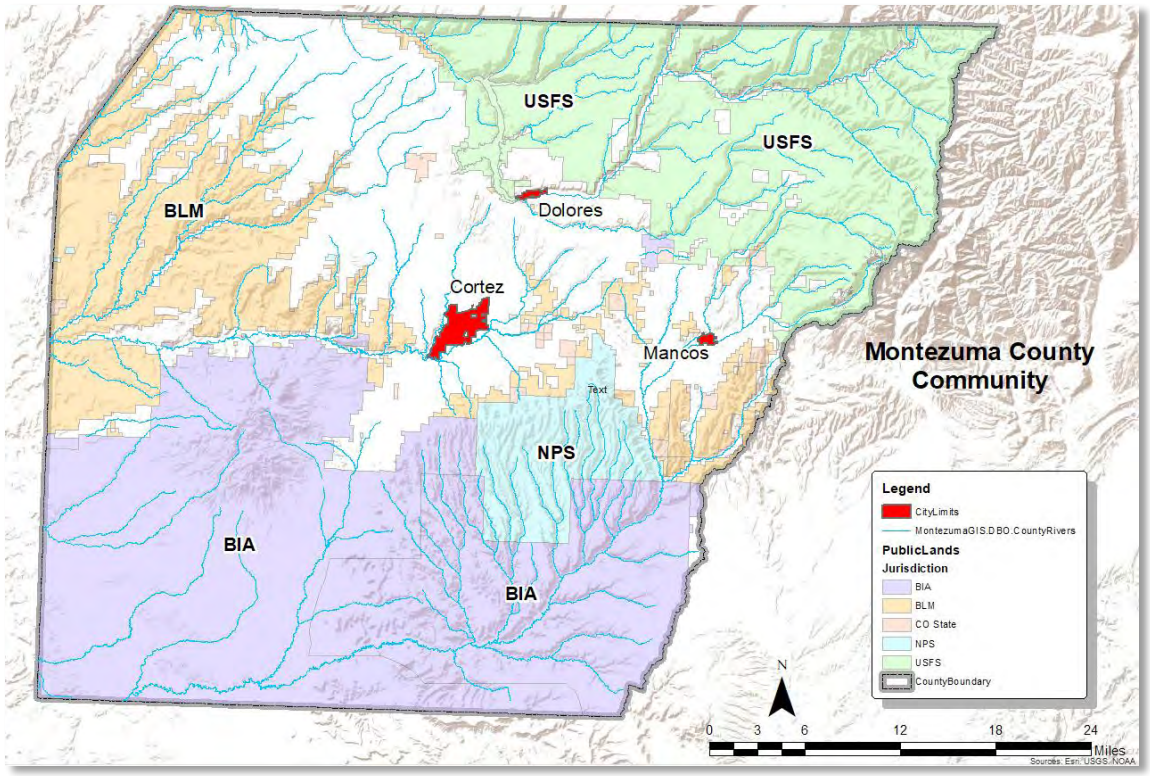


Figure 13.) Montezuma County Municiplaities.

Montezuma County has three main municipalities outside of the Ute Nation. Towaoc, population 1,153, is the only Ute Nation municipality within Montezuma County.

The Town of Dolores, population 825, is located in the north central Montezuma County, (Township 37 North, 15 West). Dolores is located on the Dolores River and adjacent to McPhee Reservoir, the third largest reservoir in the State. Dolores is also adjacent to the SJNF.

Mancos, population 1,627, is located in the east central portion of the County, (Township 36 North, 13 West). Mancos is located on the Mancos River and adjacent to the SJNF and BLM Weber and Menefee Mountains Wilderness Study Areas (BLM WSA's).

The City of Cortez, population 8,675, is the county seat of Montezuma County. Cortez is located near the geographic center of the county, (Township 34 North, 36 West). The City is adjacent to the BLM Cortez SRMA and the BLM Phi's World trail park.

The total population of the County was about 26,160 in 2019, according to the US Census Bureau. The population of the unincorporated portion of Montezuma County is about 14,904.

Growth within Montezuma County can be generalized as "moderately paced", and nearly evenly split between the municipalities and the unincorporated areas of the County.

Table 6; Montezuma County Population Statisitics (Colorado State Demography Office)

COLORADO POPULATION ESTIMATES BY COUNTY, 2010-2019										
Area	July 2010	July 2011	July 2012	July 2013	July 2014	July 2015	July 2016	July 2017	July 2018	July 2019
MONTEZUMA COUNTY	25,532	25,434	25,439	25,506	25,476	25,690	25,981	26,098	26,145	26,160
Cortez	8,484	8,468	8,477	8,508	8,496	8,543	8,652	8,715	8,743	8,723
Dolores	936	931	931	934	935	944	956	962	963	966
Mancos	1,337	1,331	1,335	1,339	1,346	1,357	1,398	1,411	1,418	1,419
Unincorporated Area	14,775	14,704	14,696	14,725	14,699	14,846	14,975	15,010	15,021	15,052

Figure 14.) Montezuma County Population Statistics. (Colorado State Demography Office)

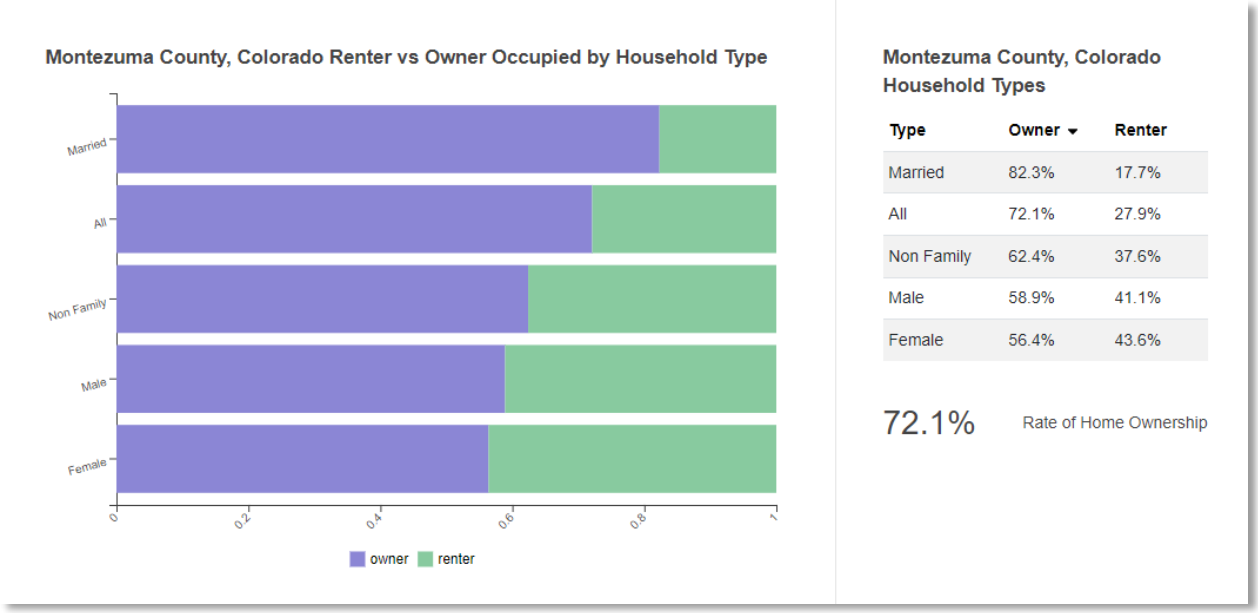
The most growth in Montezuma County has occurred in the unincorporated area of the county. Population in the incorporated areas grew by 277 individuals, or 1.8% annually between 2010 and 2019. Montezuma County population is 47% urban and 53% rural.

Municipalities in Montezuma County grew at much the same rate.

- The City of Cortez had the next greatest population increase, growing by 239 individuals or 2.8% annually.

- Mancos grew by 82 individuals resulting the greatest percentage annual growth of 6.1%.
- The Town of Dolores grew by 30 individuals and an annual percentage grow of 3.2%.

Table 7; Rental vs. Owner Occupied Units(US Census Bureau)



The rate of home ownership in Montezuma County is currently about 72 %.

Montezuma County is currently experiencing a real-estate rush largely driven by people who are fleeing the large urban areas. Partly fueled by the COVID 19 pandemic, and also the realization that remote working is more viable than ever, many urban refugees are opting to relocate to areas with greater access to public lands and recreational opportunities.

Furthermore many people are choosing to flee the violence and rioting that has dominated many of the large urban areas especially during the summer of 2020. Whether or not this trend continues remains to be seen but regardless Montezuma County is experiencing a housing crisis.

Table 8; Current Housing Market Data 2021

Montezuma County

Single Family	June			Year to Date		
Key Metrics	**2020**	**2021**	**% Change**	**Thru 6-2020**	**Thru 6-2021**	**% Change**
New Listings	53	**65**	+ 22.6%	284	**299**	+ 5.3%
Pending Sales	47	**51**	+ 8.5%	192	**234**	+ 21.9%
Closed Sales	31	**42**	+ 35.5%	160	**217**	+ 35.6%
Days on Market Until Sale	124	**82**	- 33.9%	114	**100**	- 12.3%
Median Sales Price*	$279,000	**$292,500**	+ 4.8%	$245,250	**$265,000**	+ 8.1%
Average Sales Price*	$309,055	**$405,069**	+ 31.1%	$281,027	**$322,715**	+ 14.8%
Percent of List Price Received*	95.8%	**99.2%**	+ 3.5%	96.2%	**97.9%**	+ 1.8%
Inventory of Homes for Sale	237	**106**	- 55.3%	—	—	—
Months Supply of Inventory	7.3	**2.6**	- 64.4%	—	—	—

Montezuma County has a relatively high percentage of residents that are considered to be especially vulnerable to wildfire. Many of these individual reside in rural residences.

Over 20% of the County population is over the age of 65 and that population appears to be increasing.

Table 9; Vulnerable Populations

Vulnerable Populations

The population of Montezuma County is 25,909. Potentially vulnerable populations may experience difficulty preparing for and responding to wildfire.

	Number		Percent	
Families in poverty	728	±152	10.6%	±2.2%
People with disabilities	4,446	±378	17.3%	±1.5%
People over 65 years	5,353	±353	20.7%	±1.4%
Difficulty with English	141	±121	0.6%	±0.5%
Households with no car	255	±80	2.4%	±0.8%
Mobile homes	2,066	±267	19.5%	±2.5%

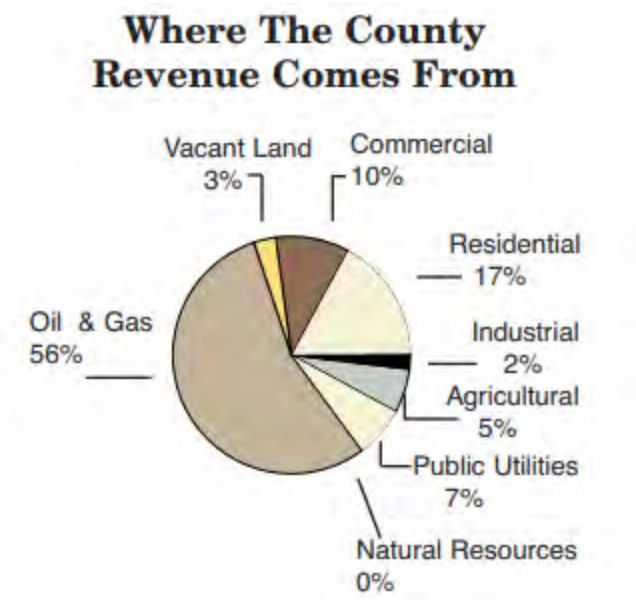
Socio-economics

Socio-economically, Montezuma County is strongly tied to the landscape and natural resources. Montezuma County's three main economic drivers are; Oil and Gas Production (mainly CO_2), Agriculture and Tourism. All of which are natural resource dependent. Oil and Gas production has been the financial back bone of Montezuma County for over 30 years now.

Montezuma County Assessor's 2020 data shows over 56% of the County revenue comes from CO_2 Production. CO_2 production declined by over 30% in 2021 and that trend is expected to continue over time with reserves expected to be depleted within 20 years.

Despite the decline in CO_2 natural resource production is expected to remain a strong part of the local economy. Landscape scale forest health projects are reviving the timber industry locally, and the conversion over to renewable energy will necessitate the use of critical minerals and metals. The northeast portion of the County has numerous mineral deposits that may one day become economically feasible to recover.

Table 10; Montezuma County Assessors Abstract



Agriculture remains one of the backbone industries for Montezuma County, though not as prominent as it once was, agriculture remains an important contributor the local economy. The primary irrigated crops include alfalfa and small grains. The main dryland crops are pinto beans and winter wheat, which can also pose a fire risk as the crop matures.
Tourism has been rooted in the Montezuma County economy at some level since the turn of the century when Mesa Verde was designated as a National Park in 1906 and welcomed 27 visitors. Visitation at Mesa Verde has steadily increased over the years and is presently hovering over 500,000 annually, with a high of 613,788 in 2017.

Increasingly tourism, and in particular "recreational tourism" is being promoted at the state and national levels as a replacement for "extractive" industries. Whether or not recreation is the economic power-house being promoted remains to be seen, however, the effects of recreational tourism are already evident on many of our public lands. Public lands managers across the region have noted a substantial uptick in visitor use from 2019 -2021. Economically this is good news for Montezuma County and County municipalities. Fortunately Montezuma County is in a good position to take advantage of many of the nationally known public recreational resources including Mesa Verde National Park, Hovenweep National Monument, and The Canyons of the Ancients National Monument, The San Juan National Forest and the Bureau of Land Management Tres Rios Field Office.

The BLM also manages the Cortez Special Recreation Management Area (SRMA) which is a conglomerate of several BLM SRMA's including the nationally renowned Phil's World Trail Park, the Summit Trail Park, the Chutes and Ladders Trail Park and dispersed camping area, The Mud Springs Trail Park, and the Aqueduct Trail Park.

The key to the continued economic success of recreational tourism is to maintain a high quality recreational setting. Resident and visitors alike want to recreate in clean and healthy forests. Therefore excessive fuels and unhealthy forest conditions threaten a growing recreational industry.

Montezuma County is within easy driving distance of several cities, including Denver (382 miles), Albuquerque (275 miles), Salt Lake City (350 miles), Santa Fe (286 miles), and Phoenix (410 miles). However the County is about 150 miles form an interstate highway in any direction. The easy access into the whole four corners region is expected to draw increasing numbers of urban residents seeking to escape city life and experience their public lands. With increasing numbers of those individual able to work remotely it is anticipate that the recreational quality of Montezuma County will be a significant factor in visitation as well as migration for the foreseeable future.

As the Oil and Gas sector declines in Montezuma County it is anticipated that reliance on other economic sectors will increase, and new economic opportunities will be sought. Currently remote working and tourism seem to be the economic sectors with the most growth potential. Both favor a natural resource conservation strategy over natural resource production. Never-the-less the global demand for natural resources is increasing rather than decreasing. It is expected that natural resource production of some sort will remain important to the Montezuma County economy in the future.

One of the main obstacles to diverse economic growth in Montezuma County is its access and geographic location. The County, while nearly equidistant from major western metropolitan hubs including Denver, Salt Lake City, Phoenix and Albuquerque, is relatively remote. Everything rolls in and out of the County on rubber and the nearest interstate highways, I-70 and I-40 are nearly 150 miles north and south of the County. This isolation, combined with abundant access to public lands and cultural resources make Montezuma County very desirable for tourism and remote working, but hinders other economic development including the expansion of the forest products sector.

MONTEZUMA COUNTY ROAD SYSTEM

Montezuma County has a well-developed and maintained road system throughout the private lands portion of the county. Along the private-public interface county roads often continue into USFS or BLM lands. These road connections with our public lands are important economically

and culturally, by providing access to natural resources as well as recreational opportunities. They are also critical for access to complete mitigation work and for fire suppression.

The Montezuma County Road system is generally laid out on a section line grid wherever the terrain is accommodating enough. Most of the private lands, and infrastructure, lie on the Dolores Plateau which is a gently sloping mesa top, incised by deep canyon drainages running south west. Access is good to most of the private lands due to the more gentle terrain.

Montezuma County roads are classified into three categories;

1. **Green Roads**; (Montezuma County) County Jurisdiction, County maintained 60' wide public ROW. These roads are typically maintained in good condition. Some unimproved or non-maintained roads are within the County roads system in the more remote locations.
2. **Red Roads**; (Not Montezuma County) Not-owned or maintained by Montezuma County Roads and Bridges. These roads are typically privately owned and privately maintained. If the road is within a subdivision the roads is required to be built to county road standards and may be dedicated public ROW in some cases. Outside of subdivisions, many red signed roads are private driveways.
3. **Orange Roads**; (Routes managed by another jurisdiction) Orange signed roads are typically public ROW's managed by federal agencies. Travel restrictions may be in place. Some roads may be suitable only for high clearance vehicles.

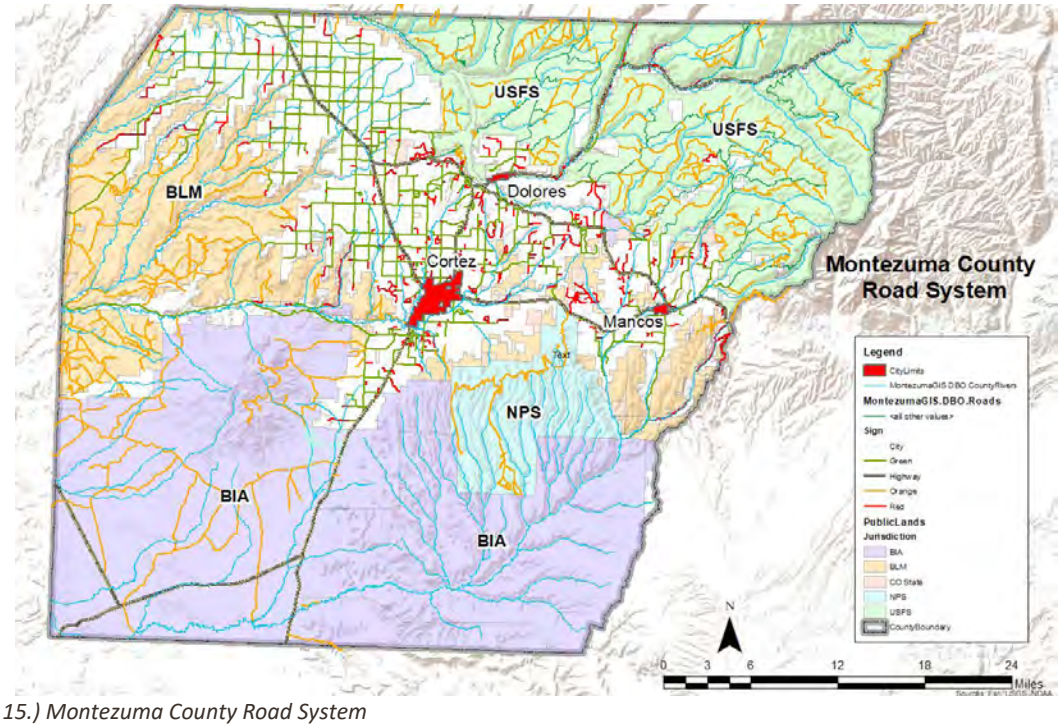


Figure 15.) Montezuma County Road System

Generally speaking, “Green signed” County Roads are graveled or chip sealed, and regularly maintained. In some cases however roads may be “unmaintained” County Roads, not maintained in the winter, or maintained to a minimal level, for example being bladed once per year. Typically level of maintenance correlates to the level of use. The higher the level of public use, the higher the level of maintenance. Montezuma County also applies mag chloride on some select graveled County Roads to reduce the level of dust and as a binder to prevent erosion of gravel surfacing.

Montezuma County Roads are in overall excellent shape. However, few County Roads have a base that is engineered for heavy loads. In particular for large trucks. Montezuma County typically works with industries that require the regular use of heavy trucks to develop long range maintenance plans. This includes industries such as the oil and gas industry, mining industries, or timber industries.

Heavy truck traffic is the leading cause of road deterioration in the county. To offset the damage heavy loads cause, and to help alleviate associated social problems, the County typically designates truck routes and establishes a maximum speed limit on a “per project” basis. The County also may charge road impact fees, negotiate a lump sum amount to offset possible road damage, or require bonding with specific businesses.

In 2018 Montezuma County also passed a resolution in support of the timber industry which would provide a weight exception for logging truck up to 97,000 Lbs. which is commensurate with the State of Colorado CDOT weigh limits on specific roads. The Timber Industry Resolution was passed to help support the proposed San Juan National Forest Dolores District timber sales, and supports a strong and sustainable timber industry within Montezuma County and the region for the health safety and welfare of the citizens and the proper stewardship of its natural resources.

Many County roads traverse heavily vegetated landscape. Montezuma County conducts mowing operations and vegetation removal on an as-needed basis for the purpose of ensuring visibility and road safety. Mowing and vegetation removal for purposes of fuels reduction is not a typical Road Department activity. Vegetation removal along roadsides could be beneficial in certain circumstances. Removing vegetation from County ROW may require cooperation from private landowners since property lines are often the center line of the road, or across.

Maps of the Montezuma County Road system can be found on the County website at Montezuma County .org;
https://montezumacounty.maps.arcgis.com/apps/webappviewer/index.html?id=c150a0ba951a4df68a31ffacde80045e

MONTEZUMA COUNTY LAND USES

The NRCS Land Use Land Cover Type (LULC) mapping provides an excellent overview of the character of Montezuma County. Land cover refers to the surface cover on the ground like vegetation, urban infrastructure, water, bare soil etc. Land use refers to the purpose the land serves, for example, recreation, wildlife habitat, or agriculture. NRS periodically updates the LULC maps making it possible to track landscape scale trends and changes over time. For example the LULC Map for Montezuma County done in 2007 clearly shows the effects of the Mesa Verde Fires at the landscape scale.

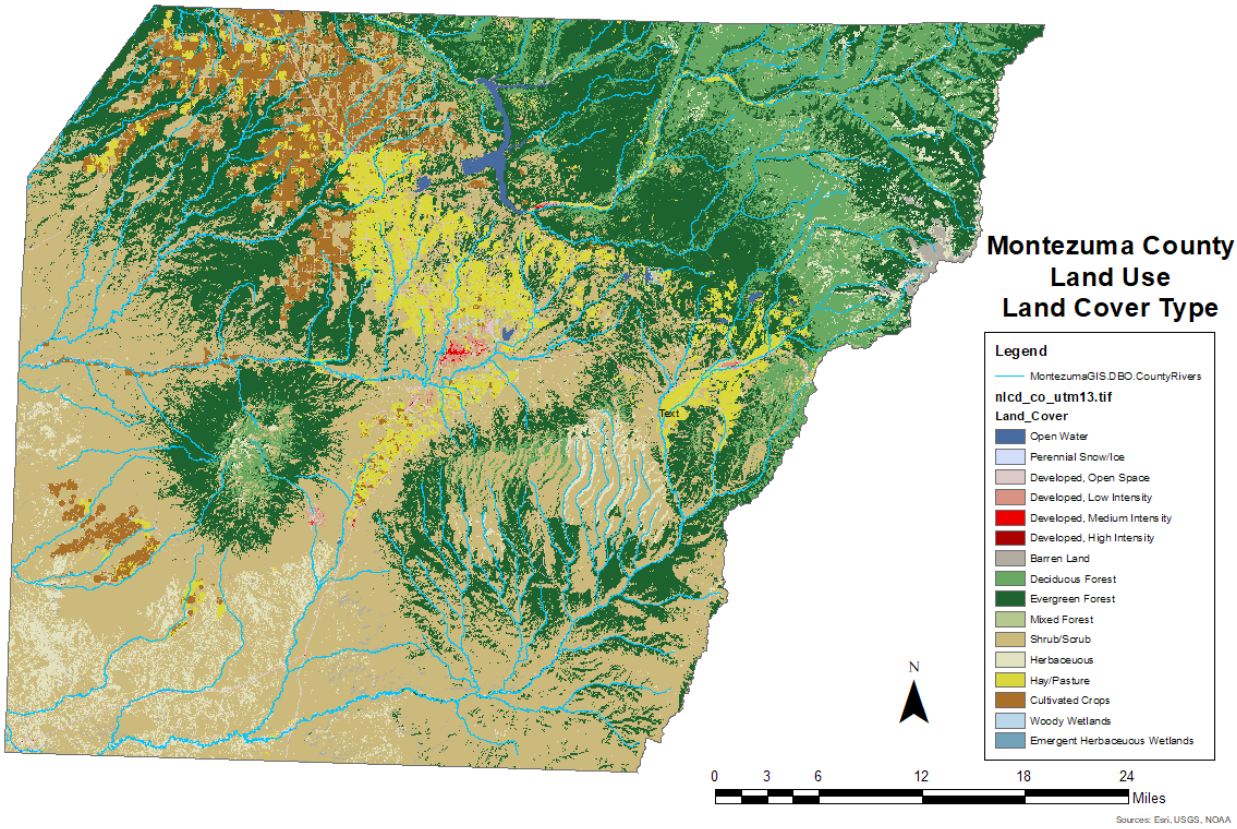


Figure 16.) Land Use Land Cover type (NRCS)

The Montezuma County LULC map provides a good picture of the predominantly agricultural nature of the County. Agricultural lands uses clearly dominate the private lands within Montezuma County and illustrates the relationship between terrain and settlement patterns. Intermingled, and often intertwined with agricultural uses, is the counties rural residential base.

Many of the residential homes in the community are associated with larger agricultural tracts. Others are simply places of residence, and many are located on land not suited for agriculture, such as lands with poor soils, excessive slopes, or lack of access to irrigation water.

Residential land use is increasing across the unincorporated regions of the County. The COVID 19 Pandemic has accelerated the growth to some extent in the unincorporated area, largely due to the remote working trend. Remote working is likely to remain a lingering effect of the COVID 19 Pandemic, and could lead to increased rural development.

MONTEZUMA COUNTY SUBDIVISIONS AND DEVELOPMENT PATTERNS

Subdivisions can give some indication of where County growth is occurring. Subdivisions occur any time a legally created parcel of land is split, or divided, into one or more additional parcels. Subdivision of land in Colorado is governed by Colorado Revised Statutes Title 30. Government County § 30-28-133. Subdivision regulations.

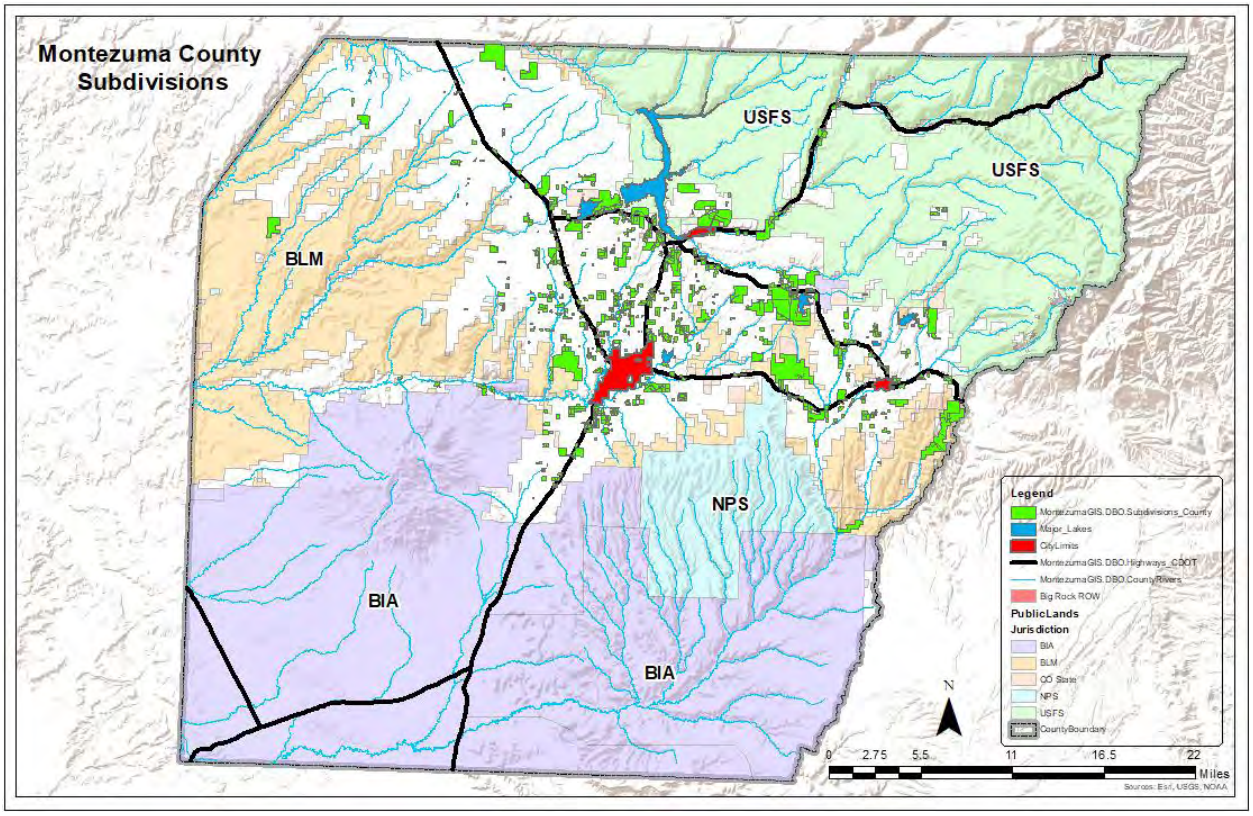


Figure 17.) Montezuma County Major Subdivisions

Colorado Revised Statues Title 30 was enacted to provide some regulation over the subdivision of land in Colorado, and it required counties to pass regulations to regulate parcels of land smaller than 35 acres, and preclude property owners in most circumstances from unilaterally subdividing their property without complying with Title 30.

Montezuma County currently has over 600 subdivisions total; 95 are considered major subdivisions with three or more lots. Subdivisions in Montezuma County can range from 1 lot

to over 100 lots. The number of lots however does not necessarily correlate with actual residential density. Many of the subdivisions in Montezuma County are large lot subdivisions, 35 acres or larger, and could be subdivided further. However many parcels remain undeveloped, and many may never be developed to the full density allowed by the Montezuma County Land Use Code. Under County regulations each lot can potentially have two home sites made up of 1.) a primary residence and 2.) a "mother-in-law quarters". Many of the larger subdivisions in the County already voluntarily place deed restrictions to prevent additional development.

Subdivisions in Montezuma County are largely clustered within the central portion of the County. This is in part due to the accessibility of utilities, and proximity to urban services. Many of the more remote areas of the county lack access to water, gas, and electric. While this does not completely preclude development as Montezuma County has a growing off-the grid-culture, it does keep density low since larger off-the-grid parcels are financially unattainable for many local residents.

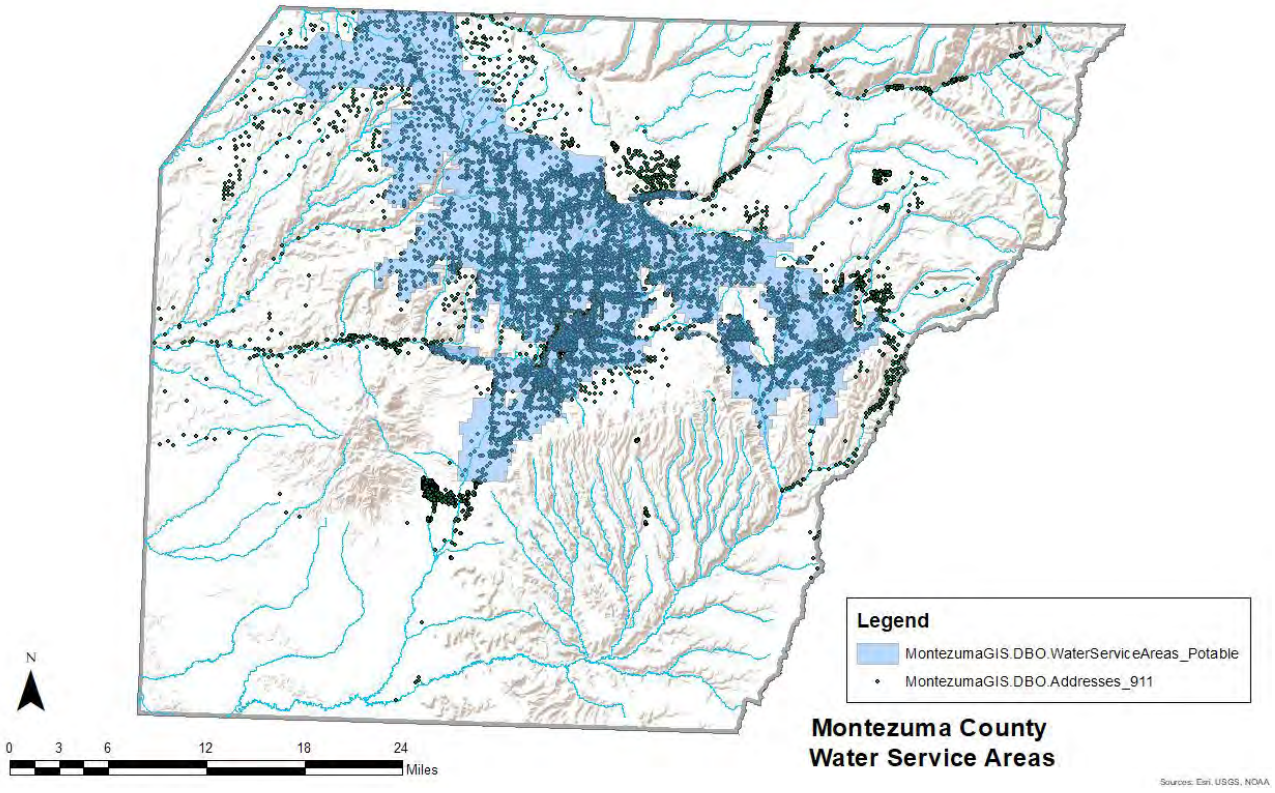


Figure 18.) Water Service Areas

New growth is expected to largely follow the water supply. Development within the Dolores River Valley, McElmo Canyon and the Mancos Water shed is largely dependent on well water.

Other areas outside of the water service district require cisterns for domestic use thereby limiting development density.

Private parcels adjoining public lands, both BLM and USFS are often favored for development because public lands area strong selling point. So far realty speculation for the purpose of development has not has not been a strong factor. While it may be preferable to sell parcels adjacent to public lands Montezuma County has not yet experienced a strong speculative realty market for land development.

Never-the-less, adjacency to public lands remains a strong selling point. Public lands provides a buffer against future neighboring development, and often provides access to large acreages of undeveloped land for recreational purposes thereby extending the back yard substantially. Many of the County's "high end" developments tend to be located near public land for that reason.

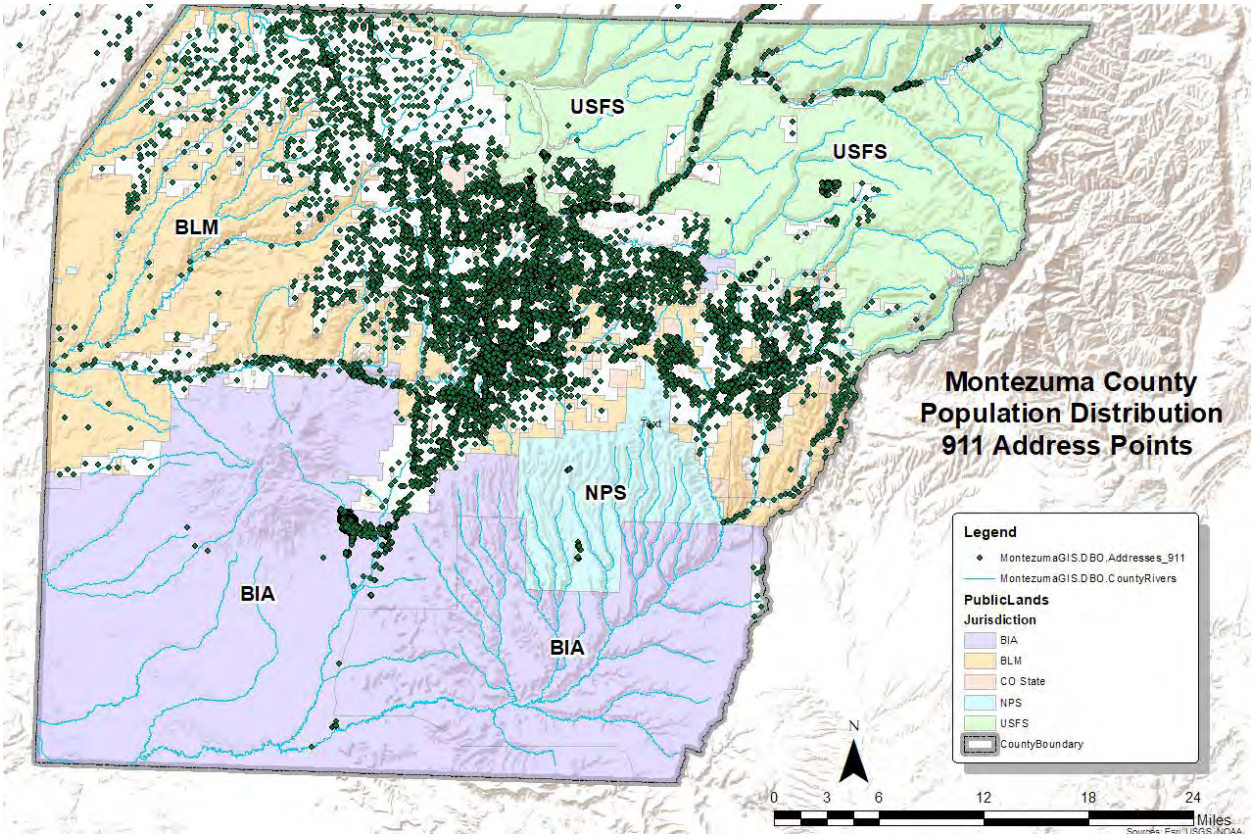


Figure 19.) Montezuma County Population Distribution

8.) WILDFIRE RISK ASSESSMENT

Wildfire Risk assessments have been ongoing throughout Montezuma County since the early 2000's. To begin the process Montezuma County met with stakeholders, and held open houses in all of the local Fire Protection Districts, which included a BBQ and presentation's by Montezuma County on defensible space and reducing wildfire risk in residential areas. During this outreach effort Montezuma County and local Fire Protection Districts also heard from the public about regions in the County where there was a perception of high wildfire risk.

Discussion topics within the outreach effort included; Fuel Type, residential density, land use, development pressure, access, scenic and wildlife values, economic values at risk (eg. oil and gas, recreation, tourism).

Combining public input with local professional knowledge 15 areas in the County emerged as focal areas for project development.

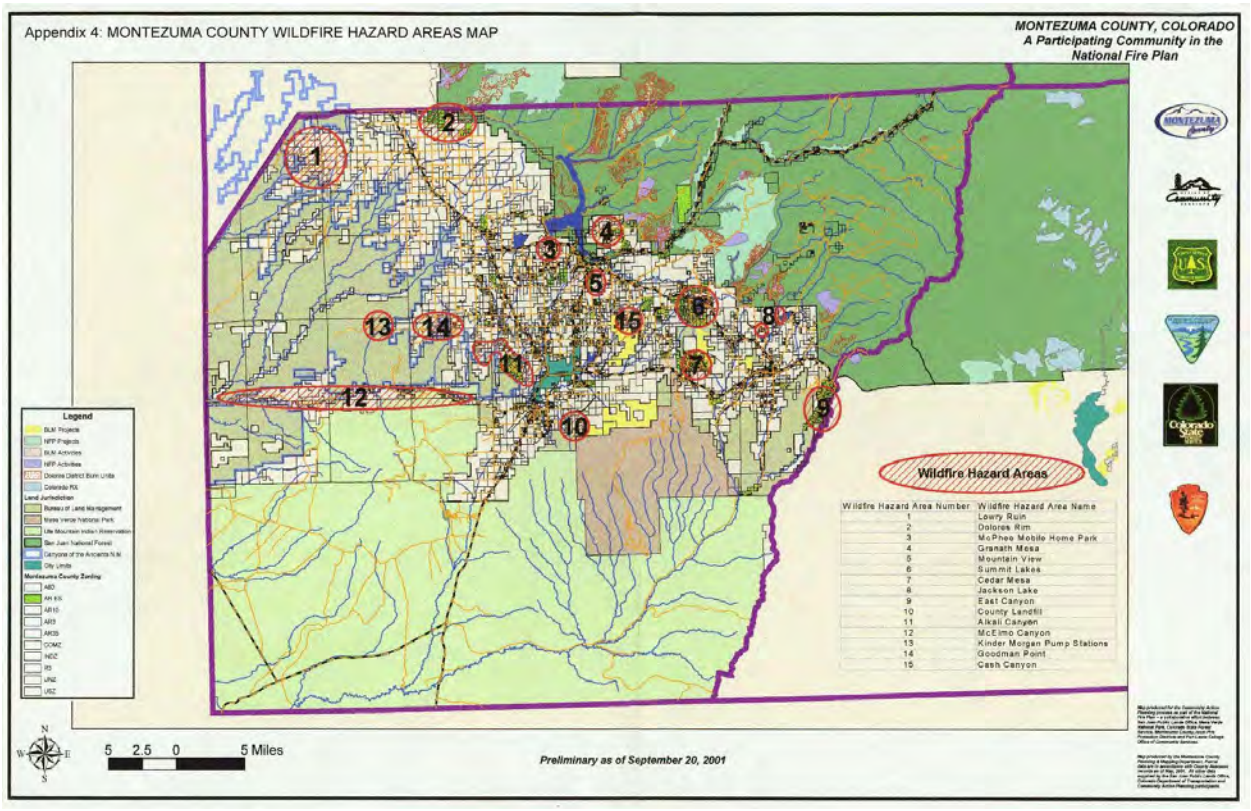


Figure 20.) Montezuma County Areas of Concern (Montezuma County Stakeholders 2001)

The original 15 “focal areas” can generally be characterized as region within the County where the surrounding landscape is either a moderate or high risk. Those 15 areas are described in the following table.

Neighborhood/ Community	Overall Neighborhood Risk	Work Accomplished & Additional Needs
1. Lowry Ruin Area Neighborhood	Low population densities yield a ***Moderate*** *overall Risk.* Mesa tops with Ag & CO_2 Production. Low Density but with steep heavily forested canyons & dispersed forest on mesa tops. Roads and access generally good but many roads dead end on mesa tops. Canyon edges are attractive building locations but growth potential is only moderate due to lack of electric and water. Some County roads are not improved and some are not maintained. Borders CANM.	**Accomplishments;** Limited Defensible space. **Needs;** Continued Education, Defensible Space, Fuels Reduction/ Forest Health & Cross Boundary Treatments
2. Dolores Rim Neighborhoods	Low population densities yield a ***Moderate*** *overall Risk*. Terrain is rolling with forested headwater canyons. Ag is a mix of dryland and irrigated. Large acreages of mixed shrub communities with PJ dominate natural areas. The Lower Dolores River is a popular recreation draw. Growth potential is moderate due to lack of water and electric. Some County roads are not improved and some are not maintained. Off grid development is common.	**Accomplishments;** Cross boundary Fuel Breaks **Needs;** Continued Education, Defensible Space, Fuels Reduction/ Forest Health & Cross Boundary Treatments. Prescribed Fire

	Borders State CPW, BLM & USFS.	
3. McPhee Mobile Home Park Neighborhoods	Population density is medium and slowly growing in this neighborhood. *Overall Risk is* ***High.*** Terrain consists of mesa tops and steep heavily forested canyons. PJ & shrub communities dominate natural areas. Ag is present and consists mainly of irrigated crops and livestock. Development potential is high. Highway 184 bisects the area and county roads are well developed.	**Accomplishments;** Defensible Space **Needs;** Education, Defensible Space, Evacuation Routes, Forest Health and Fuels Reduction Treatments.
4. Granath Mesa Neighborhoods	***High*** *overall Risk.* Low overall density. Terrain consists of mesa tops and steep heavily forested canyons, PJ & shrub communities dominate natural areas transitioning into Gamble Oak and Ponderosa pine. County Roads are well developed but most dead end. County Road 31 (Dolores Norwood Road) is the only road the accesses the area and evacuation can only go north or south.	**Accomplishment;** Defensible Space, Cross Boundary Fuel Treatments. **Needs;** Education, Defensible Space, Forest Health/ Fuels Reduction, Emergency Evacuation Routes.
5. Mountain View/ Black Rino Neighborhoods	***High*** *overall Risk.* Overall population density is medium low. Terrain consists of rolling mesa tops and steep heavily forested canyons, PJ & shrub communities dominate natural areas. Much development is located within mature stands of PJ & shrubs. County Roads are well developed in the area	**Accomplishments;** Defensible Space, fuels reduction. **Needs;** Education, Forest Health/ Fuels Reduction, Defensible space, Emergency Evacuation Routes

	but some subdivisions area accessible by only one road.	**Special Note;** Ironwood Group Chip Pile needs to be reduced.
6. Summit Lakes Neighborhoods	***High*** *overall Risk.* Overall population density is medium low. Terrain consists of rolling hills punctuated by steep canyons. Ponderosa Pine and Gamble Oak dominate the natural landscape and PJ & shrub are present especially on south facing slopes. Much development is located within stands of PJ & shrubs. County Roads are well developed in the area but some subdivisions area accessible by only one road.	**Accomplishments;** Defensible Space, Fuels Reduction / Forest Health Projects, Emergency Evacuation Routes **Needs**; Education, Defensible Space, Reduction / Forest Health Projects
7. Cedar Mesa Neighborhoods	***High*** *overall Risk.* Overall population density is medium low primarily because of large lot sizes. Terrain consists of steep hills punctuated by grassy valleys. PJ & shrub lands dominate the natural landscape. Much development is located within stands of PJ & shrubs. County Roads are well developed in the area but some subdivisions area accessible by only one road. BLM Lands are adjacent to these neighborhoods and recreational use is increasing.	**Accomplishments;** Subdivision level CWPPs Defensible Space, Fuels Reduction / Forest Health Projects, Identified safe-zones. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects, Perfect Emergency Evacuation Routes through ROW or easements and safe-zone identification. Harden Chutes and Ladders BLM campsites and install campfire rings. Increase monitoring and enforcement of camping rules.
8. Jackson Lake Neighborhoods	***High*** *overall Risk.* Overall population density is medium	**Accomplishments;** Defensible Space, Fuels

	low primarily because of large lot sizes. Terrain consists of rolling hills punctuated by steep canyons. Ponderosa Pine and Gamble Oak dominate the natural landscape and PJ & shrub are present especially on south facing slopes. Much development is located within stands of PJ & shrubs. County Roads are well developed in the area but some subdivisions area accessible by only one road.	Reduction / Forest Health Projects. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects, Perfect Emergency Evacuation Routes through ROW or easements and safe-zone identification.
9. East Canyon Neighborhoods	***High*** *overall risk.* Terrain consists of mesa tops and steep heavily forested canyons. PJ, Ponderosa & Oak shrub communities dominate natural areas. Access is limited to one road down East Canyon. Road conditions are marginal at times on the lower end of the road.	**Accomplishments;** Subdivision level CWPP, Defensible Space. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects, Perfect the Emergency Evacuation Routes through ROW or easements and safe-zone identification. Noxious weed management.
10. County Landfill Neighborhoods	***High*** *overall risk.* Terrain slopes upwards to the south rising to the Mesa Verde Escarpment. PJ & shrub communities dominate natural areas. Access is limited in many areas beyond the landfill to the east but little development exists. Most residential development in the area lies west of the landfill. Residential density is medium in this area. Landfill	**Accomplishments;** Limited Defensible space by landowners. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects,

	Fires are uncommon but do occur and can potentially spread to areas outside of the landfill boundaries. Especially in extreme wind events.	
11. Indian Camp Ranch Neighborhoods	**Medium** *overall risk.* Terrain consists of rolling hills punctuated by deep heavily forested canyons. PJ & shrub communities dominate natural areas. Lands on the east side of the neighborhood transition into ag dominated landscape.	**Accomplishments;** Significant fuels reductions and defensible space has been done in the Indian Camp Ranch subdivision. Defensible space by landowners. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects. Identify specific sub-area projects.
12. McElmo Canyon Neighborhoods	***High*** *overall risk.* Terrain consists of deep canyons on the east end transitioning into wide open rolling terrain and with mesa tops at the west end. Natural vegetation is dominated by PJ & Shrub communities at the east end transitioning into open grass dominated vegetation at the west end. McElmo Communities are served by one main access road approximately 30 miles long continuing across the Utah border.	**Accomplishments;** Limited Defensible space by landowners. Pheratophyte removal by landowners and BLM. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects. Identify multiple "safe zones" in the event that access becomes restricted or impossible.
13. Kinder-Morgan Pump Stations	***Medium*** *overall risk.* Terrain consists of heavily forested mesa tops and deep heavily forested canyons of Canyons of the Ancient National Monument.	**Accomplishments;** Limited Defensible space by landowners & Kinder Morgan. Kinder Morgan has Hazard Mitigation Plans in Place and has completed

		defensible space on their properties. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects. Identify multiple "safe zones" in the event that access becomes restricted or impossible.
14. Goodman Point Neighborhood	***Medium*** *overall risk****.*** Terrain consists of heavily forested mesa tops and deep heavily forested canyons of Canyons of the Ancient National Monument. Agriculture Present on Mesa Tops is primarily dryland wheat or beans and livestock grazing. Pinyon Juniper is the dominate forest type.	**Accomplishments;** Limited Defensible space by landowners. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects. Identify multiple "safe zones" in the event that access becomes restricted or impossible.
15. Cash Canyon Neighborhood	***High*** *overall risk****.*** Terrain consists of heavily forested mesa tops and deep heavily forested canyons. Some agriculture is present consisting mainly of livestock production and dryland wheat.	**Accomplishments;** Limited Defensible space by landowners. Cross boundary fuels mitigation by BLM. **Needs;** Defensible Space, Fuels Reduction / Forest Health Projects. Identify multiple "safe zones" in the event that access becomes restricted or impossible.

Of the 15 areas originally identified as being "high risk" all 15 continue to be relevant. While a great deal of work has been accomplished by individuals in these risk areas, the broader landscape characteristics remain relatively unchanged and therefore the overall risk remains relatively unchanged in these areas.

Long range presence of high risk areas is not necessarily a detriment to our community, nor can it be reasonably expected that high risk areas can be mitigated to the point of moving into a moderate or low risk classification. Once a high risk, likely always a high risk, simply because

vegetation will grow back and maintenance will be an ongoing challenge, or because other factors such as remote access is still in play. Because fuels mitigation and risk reduction is not and one-and-done proposition the 15 areas originally identified will remain as priorities areas for monitoring, maintenance and future work even if all properties present have completed mitigation for the time being.

The first Community Wildfire Protection Plan completed in 2002 was the product of a wildfire risk effort started in 1999 called the "Red-zone Project." This project was one of the first to utilize GIS as the primary analysis tool. As an outcome of this project Montezuma County created a series of district polygons using mappable landscape features. Polygons were analyzed for fire susceptibility, likelihood, intensity, fuel type, accessibility, and proximity to residential or other structures. Other values were also considered, including scenic value, and cultural considerations. Polygons were ranked into High, Medium, and Low Risk categories.

One of the unique aspects of the early Wildfire risk assessments is that the polygon features were largely digitized over imagery and GIS layers to smooth and edit data that was at a coarse resolution by today's standards. The hand generated polygons were correlated with maps and hand drawn notes captured during public outreach meetings. The early wildfire risk assessments represent a more simplified, yet hands on, analysis that was community based and collaborative in nature.

The USDA Forest Service maintains a website in which wildfire risk has been analyzed across the nation. This website is intended to help communities understand, explore and reduce wildfire risk. A nationwide data set is available and was used in this 2021 CWPP update.

The Wildfire Risk to Communities Website can be found here; https://wildfirerisk.org/

Upon review by County staff and other collaborative stakeholders, the current wildfire risk model, developed by the USFS, appears to be accurate. The model represents an outcome that local knowledge and experience validates. The following analysis contains a map series that illustrates the County-wide wildfire risk, and the wildfire risk to the three main County municipalities.

ANALYSIS

Overall Fire hazard

Vegetation across Montezuma County ranges from arid desert scrublands to annual grasslands in the Southwest and transitioning to sagebrush and pinon-juniper, then Ponderosa Pine and Gamble Oak and finally Spruce-Fir forests as elevation increases into alpine tundra towards the Northeast.

The County-wide risk assessment illustrates a high level of risk in Montezuma County. Not surprisingly the highest risk areas correlate with public/federal lands. Ute Mountain, Canyons of

the Ancients, and the San Juan National Forest in the Hay camp area and Granath Mesa have consistently remained in the high risk category in all wildfire risk models developed over the last 20 years.

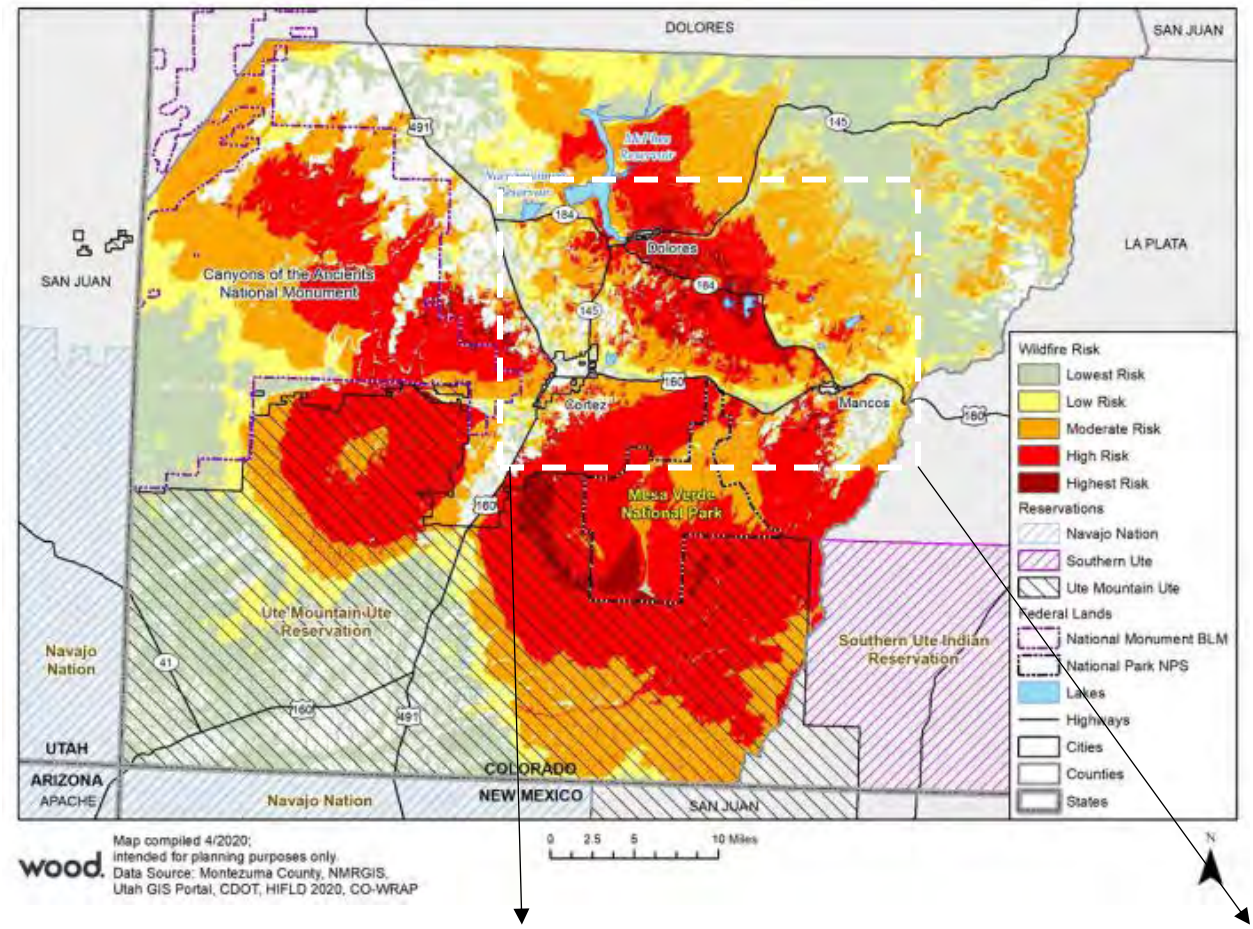
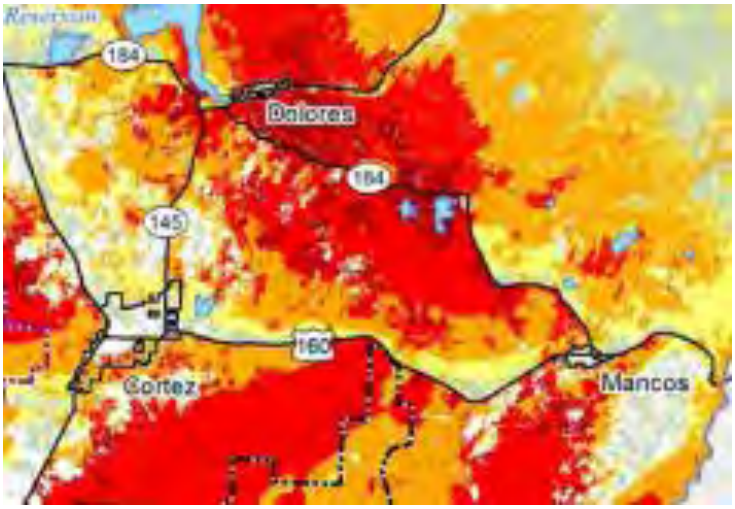


Figure 21.) Montezuma County Wild Fire Risk

The triangular area between Highway 145, Highway 184 and Highway 160, in the central portion of the County appears to hold the highest risk to private and public lands alike.



Taking a closer look at the residential densities in this region, we are able to more closely pinpoint the areas

where additional planning and outreach would be most beneficial.

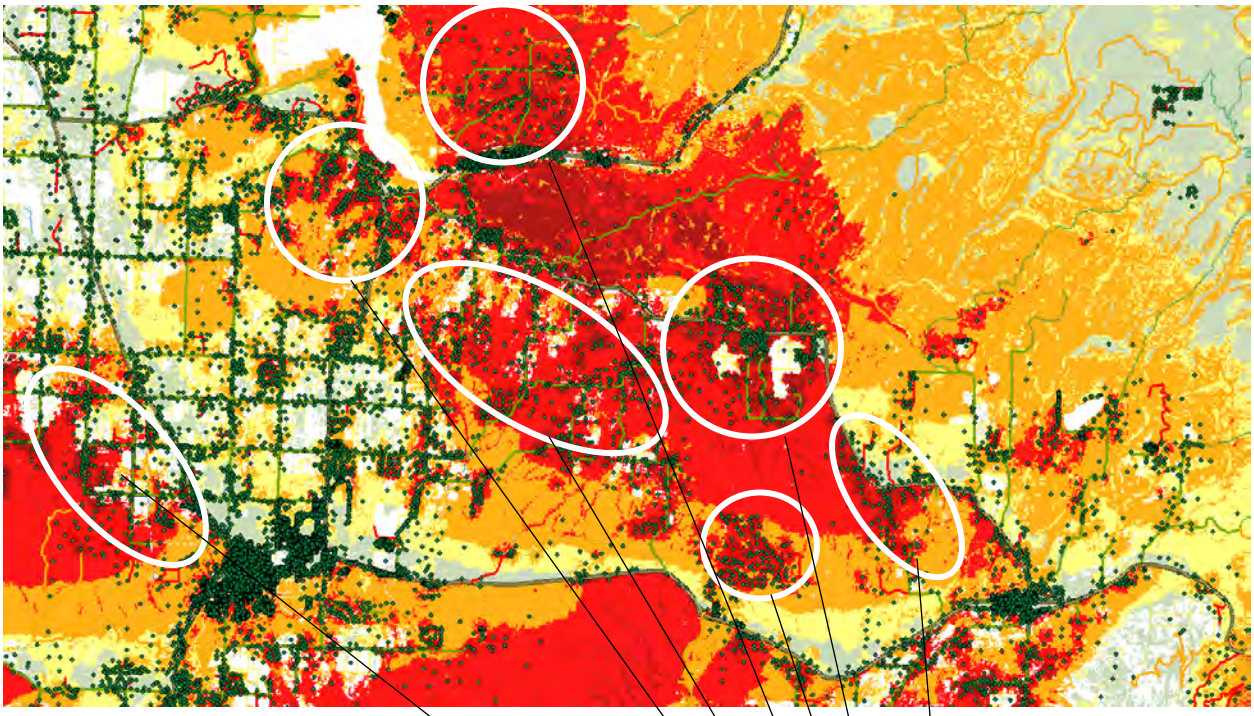
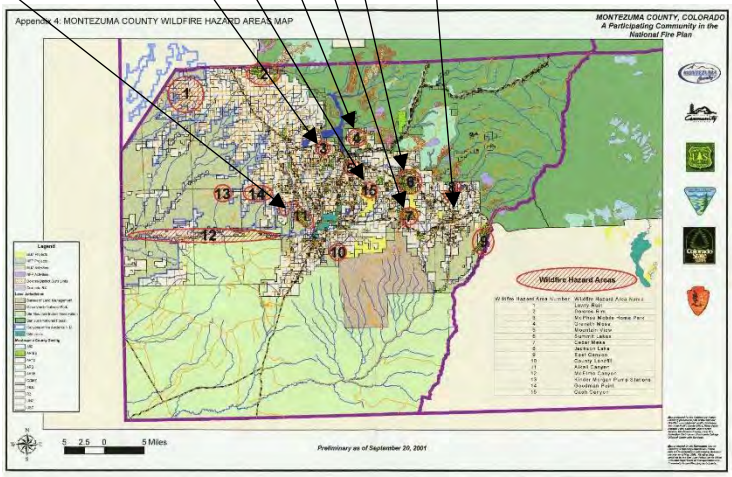


Figure 22.) Focal Areas for targeted Fuels Reduction & Defensible Space



Comparing the new hazard model with the original areas of concern we find an exact alignment validating both the original map and the new data.

Overall density with the central portion of the County changes slowly over time and remains relatively low. Large scale residential subdivisions 5 to 20 lots for example, are rare. Most development occurs through single lot splits, or two lot minors. Active HOA's are uncommon, and generally frowned upon by a broad swath of community residents. Montezuma County currently only has 14 HOA's registered with the State (See Appendix A). Subdivision covenants are not generally very effective when they only apply to one lot, yet every lot counts and strong covenants regrading defensible space and ongoing maintenance can be helpful.

Advocating for defensible space, fire resistant construction, and visible addressing are all actionable strategies that have been successful, and will continue to be pursued in these areas of the County. New development proposals that come through the County Planning Office are required to consider wildfire hazard in the development proposal. Ongoing outreach and education to existing residents has been focused in these areas by the Wildfire Adapted Partnership (WAP).

The City of Cortez; The City of Cortez is bordered by moderate risk landscapes on the south and west sides. Hartman Draw on the west side is a deep canyon with moderate density vegetation consistingof pinyon and juniper forest, shrubs and mixed grasses. Steep slopes and generally oriented to the northeast, the canyon is posed to carry fire very quickly in the directin of the City of Cortez if an igintion were to happen. Improving widfire readiness on the West and south sides of town appear to be prioritites. All residences within the Cortez City Limits should attempt to be as widlfire resistant as possible. Defensible space even within municipalities is encouraged. Many municipal residencies

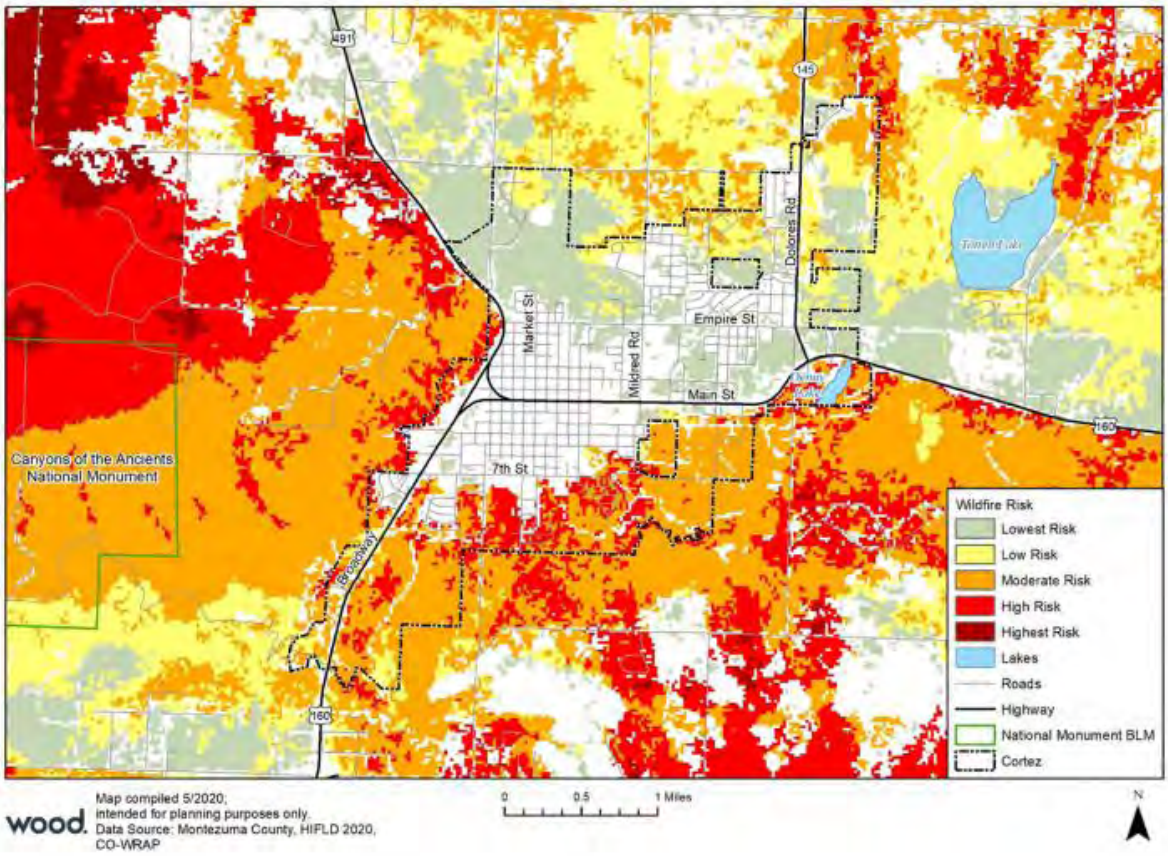


Figure 23.) City of Cortez Wildfire Risk

have accumulated materials which create ideal places for wind driven embers to embed. Fireresistant construction methods should be encouraged.

The Town of Dolores; The Town of Dolores lies at the bottom of the Dolores Canyon which is oriented generally east and west at this point in the canyon. Both sides of the canyon are steep and forested. Pinyon and Juniper forest dominate the south aspects and Ponderosa, spruce and fir dominate the north aspects. Heavy shrub cover exists on all aspects. Development is limited to just the bottom of the canyon due to steep slopes and geologic hazards. Wide scale fuels reduction on the canyon walls is not practical nor advisable. Some targeted fuels modification on the lower slopes adjacent to homes may be acceptable. Overall risk is unlikely to be moderated significantly within the canyon itself without causing even more ecological harm. Fuels modification can be completed on the canyon rims to reduce fuel loading, but overall it is a difficult terrain to do large scale treatment in without unintended consequences. Local projects include ongoing educational out-reach, defensible space and wild fire resistant construction on Granath Mesa. No significant development occurs on the south rim. Hay camp Gravel is at the top of the mesa on the south rim. Otherwise little to no development exists in that area. All residences within the Dolores Town Limits should attempt to be as widlfire resistant as possible. Defensible space even within municipalities is encouraged. Many municipal residencies have accumulated materials which create ideal places for wind driven embers to embed. Fireresistant construction methods should be encouraged. Fuels mitigation is planned for the Merrit Way Drive area.

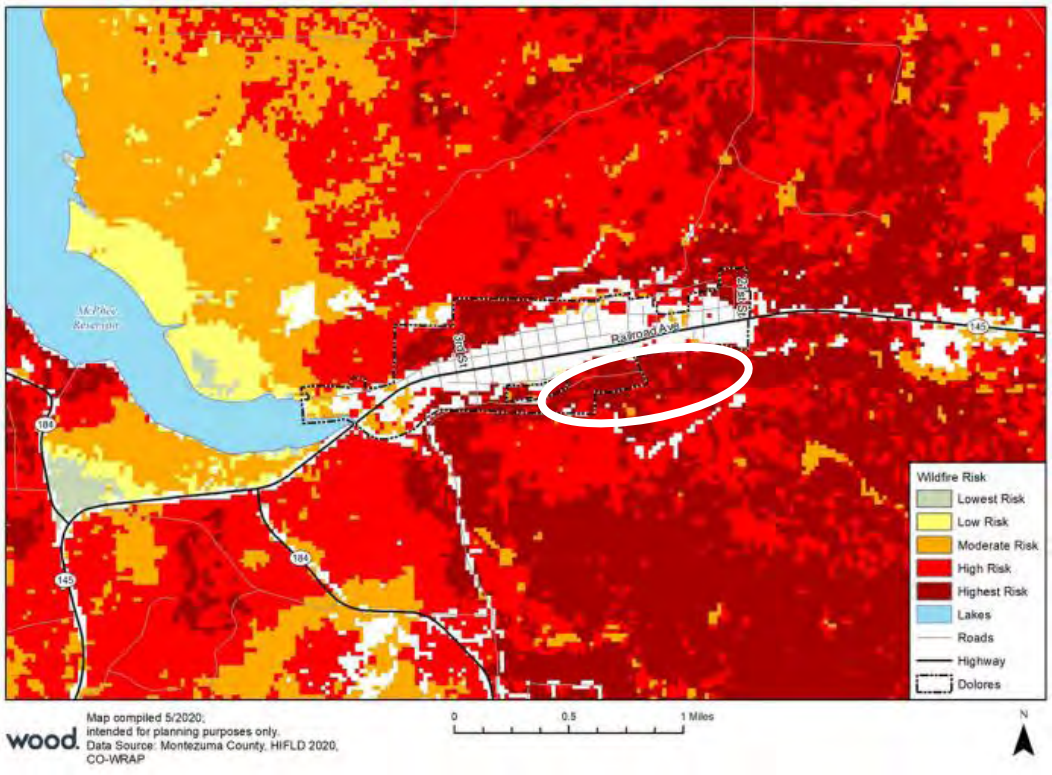


Figure 24.) Town of Dolores Wildfire Risk

The Town of Mancos; The Town of Mancos is surrounded by landscape that is moderate to lower risk, according to the models. Never-the-less all residential areas are susceptible to wind driven fire events. Defensible space even within municipalities is encouraged. Many municipal residencies have accumulated materials which create ideal places for wind driven embers to embed. Improving wildfire readiness on the west side of town especially near the Aspen Wood Products facility, and on the north and south side of town would help slow any advancing wildfire. All residences within the Mancos Town Limits should attempt to be as widlfire resistant as possible. Defensible space is advised. Fire resistant construction methods should be encouraged.

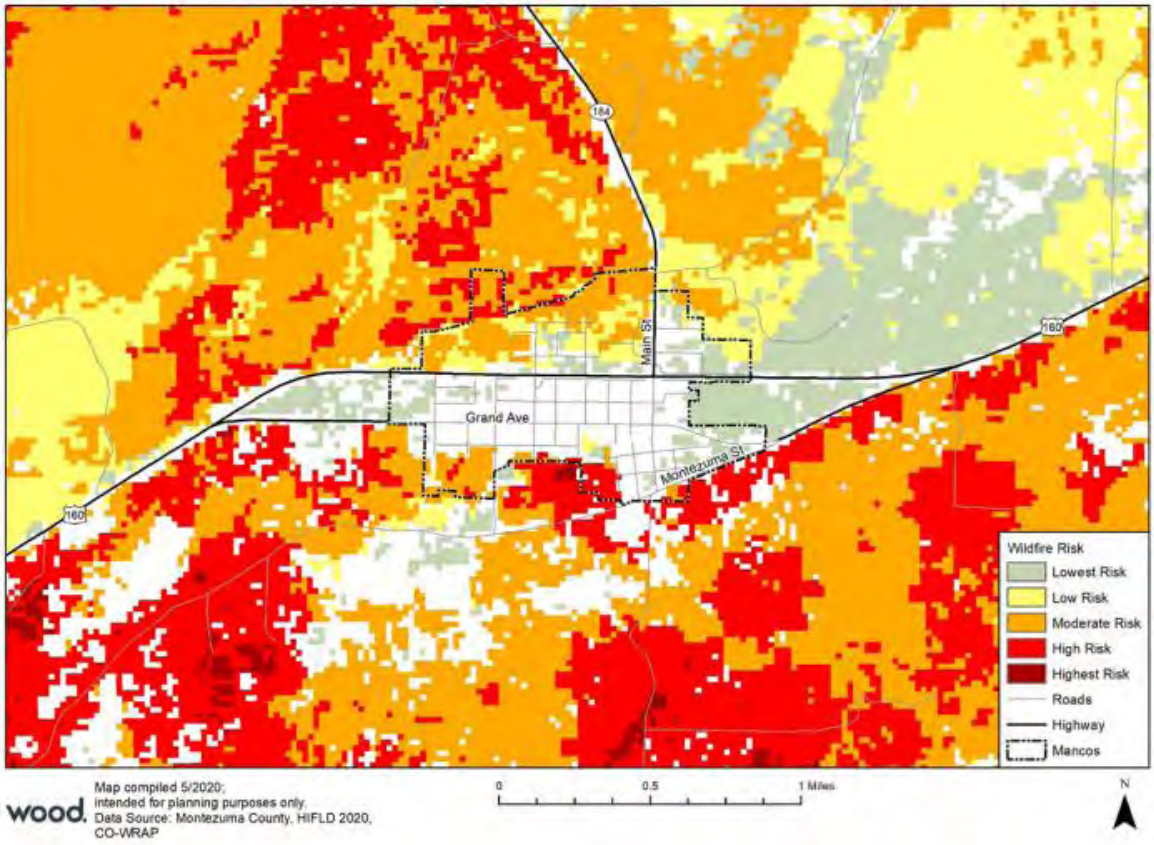


Figure 25.) Town of Mancos Wildfire Risk

Montezuma County Cover-Types and Fire Regimes

Fire ecologists know that the fire regimes in Southwest Colorado have changed and are different today than they were 100 years ago due to various human impacts. Not all forest types were affected the same; the forests with historically frequent low intensity fires were impacted most severely. The following are common Montezuma County forest types.

Pinion– Juniper Forests: Historically fires would burn every 25 to 100 years on average. Some pinion/ juniper forests would burn less frequently because they did not have the grassy

understory to help carry the fire. Fires created openings with patches of grass, shrubs and small bunches of pinion and juniper trees. Today, because of human impacts, dense stands of pinion and junipers are encroaching on meadows and burn much more intensely.

Ponderosa Pine Forests: Research indicates that low-intensity fires once a decade. These fires usually burned on the ground and did not kill the ponderosa pines. This high frequency, low intensity fire regime has been documented for ponderosa pines throughout the southwestern United States. Crown fires (up in the treetops) were extremely rare since ground fuels were light and the crowns of the trees were generally spaced widely apart. Today these ponderosa pine forests are more crowded and tree crowns are much closer together or even touching, increasing the probability of more lethal crown fires. Grasses and shrubs are prevalent and create ladder fuels for fire to climb up and from one type of vegetation to another, and then into the crown of Ponderosa Pine trees.

Mixed-Conifer: This is a complex forest with a complex fire regime. It has dry and wet extremes. The cool moist mixed-conifer forest historically burned every 35 to 100+ years. Research suggests that suppression of fire has resulted in an increase of white fir in the understory, increasing the ability of fires to spread and intensify.

Spruce-Fir: This forest zone is located at higher elevations. Because of the cool, moist conditions, large fires do not occur frequently (every 200+ years). Fires that start generally remain small due to cooler temperatures, moist soil and greener vegetation. However, intense fires in the tree crowns may result. This fire regime has been impacted the least by human influences, but it is not completely unaffected.

Sagebrush and Grasslands: Sagebrush and grasslands are located primarily in the lower elevations of the County and often grow in association with pinion/ juniper stands. These plant communities often include saltbush and creosote bush in addition to a wide range of native grasses. In most of these sage communities fire occurrence has been altered by fire suppression and livestock grazing. Historically fires within these communities may have been infrequent due to the limited fuels. However the introduction of cheat grass has effectively increased fuel loads and the susceptibility of these communities. Furthermore fires in sage communities allow cheat grass to invade more readily.

Agricultural: Agricultural cover can vary greatly year to year depending on the farming practices being used. The northern and western regions of Montezuma County rely heavily on “dry-land” farming practices. The risk of wildland fire on these crop lands is more pronounced. Winter wheat, beans and sunflowers make up the majority of the dry land crops. Wheat in particular will readily carry fire when it is dry and ready for harvest. Wheat harvest typically occurs in July during the height of the summer fire season. Most other dry-land crops also dry in the field before harvest which elevates the wildfire risk.

History of wildfire occurrences

Fire is nothing new to Montezuma County or to the Southwest in general. For centuries it has been a natural, healthy part of the ecosystem. However, an important distinction of wildland fires is that all forests do not burn the same way. Tree species vary and each forest type has a historical fire regime, or interval and intensity at which fires occurred. This cycle has been altered over the last 120 years by human uses such as logging, livestock grazing and fire suppression.

Before Euro-Americans moved west and homesteaded, fire played a positive and natural role in the health of western forests. Research shows that fires recurred periodically for thousands of years. Each different forest type, whether ponderosa pine, pinion/ juniper, or mixed-conifer had fire as a recurring disturbance to the ecosystem. Some fire regimes were typified by the frequent fires at low intensity (fire stayed on the ground), while other fire regimes had less fires but burned hotter and more intensely, often as crown fires traveling in tree tops.

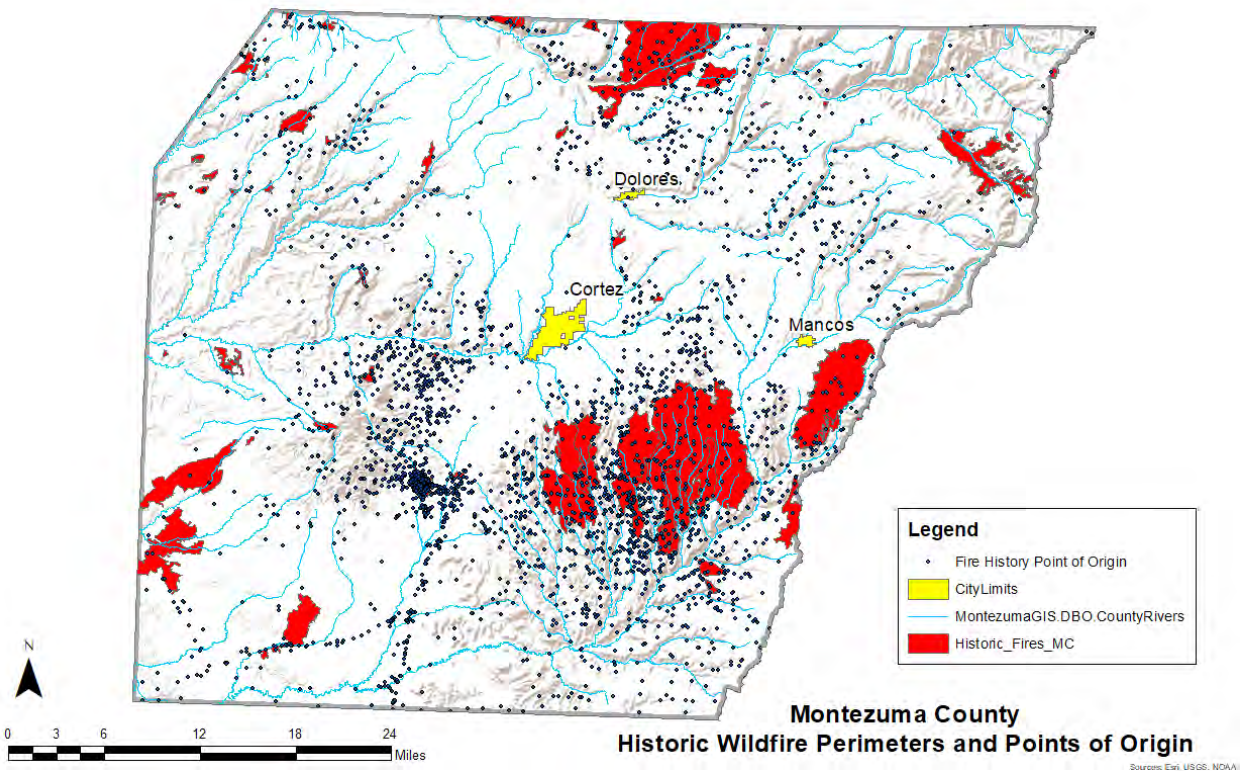


Figure 26.) Historic Fires and Pints of Origin (Montezuma County GIS)

Montezuma County Topography

Topography, or the lay of the land, plays an important role in fire behavior. Homes situated on hillsides, in canyons, and on ridge tops are particularly vulnerable. Fire travels faster uphill and afternoon winds travel upslope as hot air rises, pushing fire even faster. Homes built in steep terrain need larger areas of defensible space, particularly on the down-hill side. Aspect, or the direction the slope faces is also a factor. South-facing slopes tend to be hotter and drier, north-facing slopes cooler and wetter. The overall aspect of Montezuma County is sloping to the Southwest, and the terrain is dissected by deep heavily vegetated canyons that can allow fire to run in a Northwest direction pushed by prevailing winds.

Seasonal weather patterns affecting wildfire behavior

There are three peaks to fire season in Montezuma County, a spring pre-green peak in early April, then the highest fire danger of the year occurs in late June, and finally can be followed by a post-curing fall season that peaks in early November. Fires are possible any time of the year, especially if limited snow cover exists. Fire season is typically greatly moderated by the Southwest Monsoon, but before the atmosphere saturates significant lightning activity can occur, often leading to multiple ignitions during the peak of the season.

Other weather elements that determine fire behavior are relative humidity (RH), temperature, and wind. Low (RH) and high temperatures decrease the amount of moisture in the vegetation and increase the chances of a fire starting. Once a fire is started, wind can push it making it grow quickly out of control before firefighters can arrive on the scene.

Structural vulnerability

Many structures in Montezuma County exhibit a high degree of structural vulnerability. Newer construction, especially the higher end construction may include fire resistant siding, roofing and screens over vents. However, many of the residences in Montezuma County are older and pre-date any fire resistant construction methods.

Montezuma County does not have building codes in place for unincorporated residential and agricultural structures, therefore no mechanism is in place to mandate fire resistant building. Implementing building codes is beyond the County's capacity for the time being. Building Codes would require a new County Department and permanent funding stream which is unlikely given falling property and production tax revenues for the County.

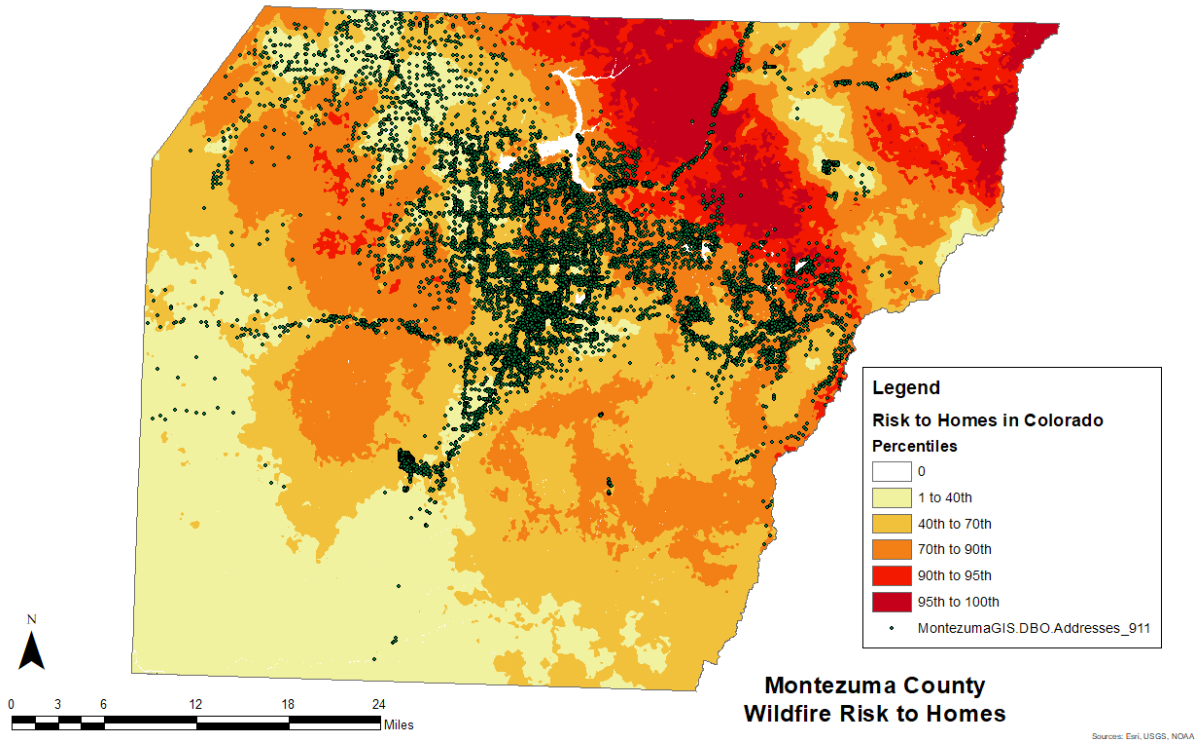


Figure 27.) Montezuma County Risk to Homes (USDAFS)

Access to structures

Access to structures is highly variable within the County. New subdivisions are required to construct roads to Montezuma County Road and Bridge Specifications which include minimums for ROW width, road bed construction, culverts and turning radius. New construction on private lots require a driveway permit to ensure proper sightlines and culvert sizing for drainage. Older residences however may have substantially less improved access. Montezuma County has no formal mechanism in place to evaluate or correct deficiencies in access within existing subdivisions. Existing driveways that meet county maintained roads (green signed roads) are maintained to County Road and Bridge Specifications within the Pubic ROW. Evacuation routes should be evaluated and incorporated into subdivision level CWPP's and community assessments.

Catastrophic wildfire was generally recognized as a real and likely threat to many values within the wildland-urban interface in Montezuma County early on. In 2011 citizens and professionals were asked again to help discuss their concerns for public safety, and to help generate a list of values that they felt were potentially at risk within the Wildland–urban interface.

Much like the original Red-zone collaboration, discussions in 2011 were also designed to be very broad so that less obvious values could be identified, such as values relating to impacts on

natural resources, or impacts to the local economy. Also what burdens can be projected to the local tax base and basic services.

While stakeholders expressed many concerns regarding the risk of wild-land fire, participants also recognized beneficial role fire plays in the ecosystem including benefits to wildlife, forest and range land health. Participants were also notably knowledgeable and concerned about the threats to local watersheds.

Approximate percentage of structures with wildfire mitigation treatments.
The Colorado State Forest Service's Colorado Wildfire Risk Assessment Portal (CO-WRAP) 2017 report for Montezuma County maps the WUI Risk Index, which is a rating of the potential impact of a wildfire on people and their homes. The key input reflects housing density (Figure 26). The CO-WRAP report states that the location of people living in the WUI and rural areas is essential for defining potential wildfire impacts to people and homes. Figure 28 shows the WUI Risk Index for Montezuma County.

Data on individual properties that have that have done fire mitigation treatments is unavailable. However, the County has two Community level CWPP plans in place that generally correlate with the high risk areas identified.

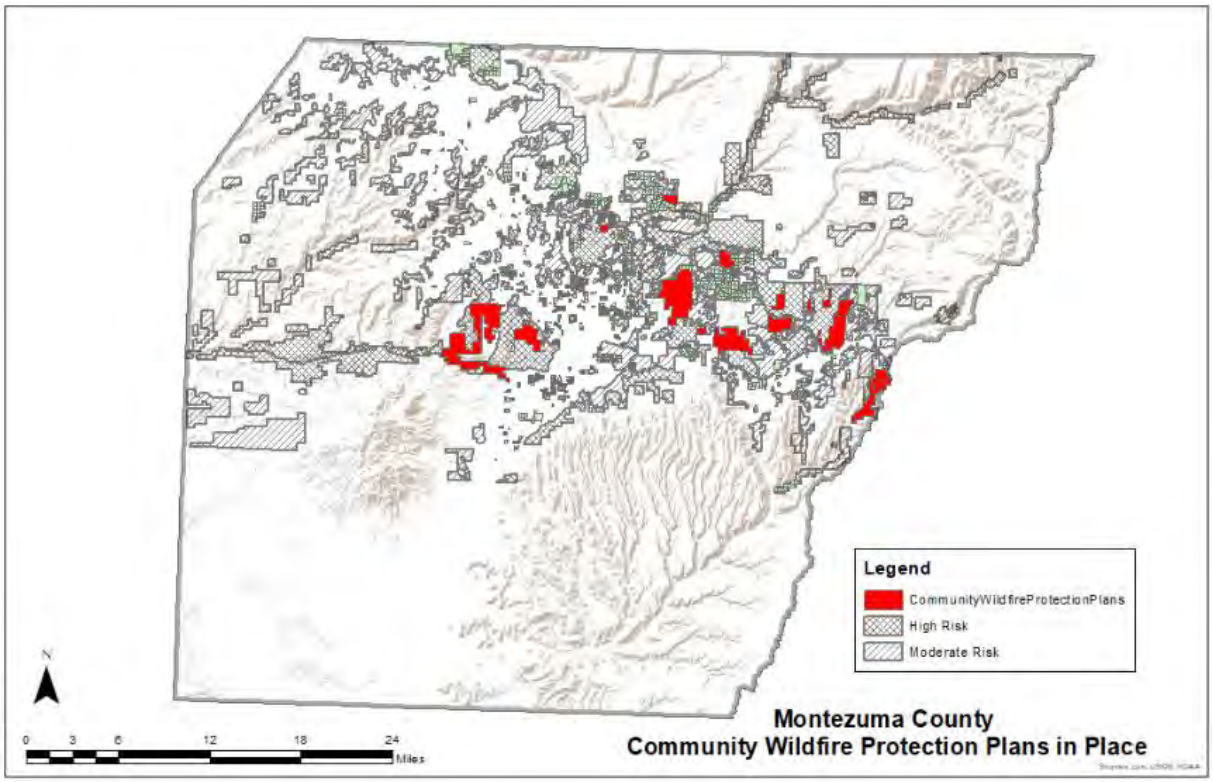


Figure 28.) Communities with Wildfire Ambassadors or CWPP's (Montezuma County GIS)

The Following communities have a WAP Ambassador in place and two communities have CPP's in place;

- Cash Canyon
- Pine Ridge Wapiti Rim
- Kernan Creek Ranch
- Cedar Mesa Ranches (Also has CWPP)
- N. Mancos POA/ Tierra Alta
- Sundance & Cassidy Canyon
- Jackson Gulch Road 41.9
- Road 42 W. of Mancos River
- Cedar Crest Ranches
- Road 41.2 Properties
- Indian Camp Ranch
- Sun West Estates
- Oakview Subdivision
- Green Gates Tracts
- East Canyon / Elk Spring Ranch (Also has CWPP)
- McElmo/ Trail Canyon Interest
- Road 42 community

New subdivision within the High or Moderate risk areas identified must either submit an affidavit certifying that they are at low risk, or complete a wildfire mitigation plan and complete the prescribed mitigation work before the subdivision is approved by the board of County Commissioners.

Protection Capabilities

In May of 2002, Montezuma County in cooperation with the four surrounding counties, developed Community Fire Plans, which at the time were considered to be national models for collaborating and intergovernmental planning and action around wildlife hazards in rural communities. In 2005, this plan was updated to the Montezuma County Community Wildfire Protection Plan (CWPP), which was again updated in 2011.

Fire protection in Montezuma County is divided between fire protection districts, volunteer fire departments, Wildfire Adapted Partnership of Southwestern Colorado, Bureau of Land Management (BLM), and the U.S. Forest Service. Multiple community wildfire protection plans are in place, as discussed in Section 3.9.7. Protection capabilities in Montezuma County are robust. Multiple agencies are available and able to respond quickly to fire starts. Interagency agreements are in place to provide mutual assistance between federal and non-federal fire protection resources.

Montezuma County residents are also integral to protection capacity. Most fire starts are reported by private citizens. In some limited cases, civilian suppression efforts can be effective until the event can be delegated to proper authorities.

Wildfires are often caused by humans, intentionally or accidentally. There is no way to predict when one might break out. Because fireworks often cause brush fires, extra diligence is warranted around the Fourth of July when the use of fireworks is highest. Dry seasons and droughts are factors that greatly increase fire likelihood. Dry lightning may trigger wildfires. Severe weather can be predicted, so special attention can be paid during weather events that may include lightning.

Reliable NWS lightning warnings are available on average 24 to 48 hours before a significant electrical storm. If a fire does break out and spreads rapidly, residents may need to evacuate within days or hours. A fire's peak burning period generally is between 1 p.m. and 6 p.m. Once a fire has started, fire alerting is reasonably rapid in most cases. The rapid expansion of cellular and two-way radio communications in recent years has further contributed to a significant improvement in warning time.

Road system accessibility
Most roads under Montezuma County's jurisdiction are adequate for emergency response and are accessible by most residents. New subdivisions are required to build road systems to County Road and Bridge standards.

Availability of fire hydrants/ water storage
Water supplies for fire flow in unincorporated areas of Montezuma County cannot be guaranteed. Many subdivision throughout the county have municipal fire hydrants that are either not functional or do not provide enough flow to support fire suppression.

In the past there have been instances where water lines have been collapsed when fire flow is drafted out of them. In other instances drafting has caused serious interruptions to downstream water supply to water supply creating difficult situations for Montezuma Water Company to handle. Drafting can also potentially create a backflow contamination situation for the entire water system which could potentially create a health threat for hundreds or even thousands of residents.

To avoid these potential problems water supplies are often augmented from the Dolores River, areas Lakes, pond or irrigation ditches. All Fire Protection Districts need water tenders to provide additional initial attack capacity. Needs for this apparatus should be monitored and replacements or additions should be sought when need arises.

To further compound the water supply problem is the fact that many county residents live off grid and must haul water into cisterns for their domestic use. County subdivisions can still be approved without access to municipal water systems or to wells. This lack of dependable water supply sources is a significant factor in determining the level of risk for communities as well as for identifying the WUI. Any opportunity to upgrade existing supply infrastructure to accommodate fire flows should be examined and capitalized on if possible.

Montezuma County is fortunate in the sense that it is still primarily a low density, rural agricultural county, with an extensive irrigation water delivery system in place, sometimes even on federal lands. Irrigation canals & stock ponds can often be used to supplement water supply and many such features are found throughout the county.

Never-the -less there is a need for fire flows throughout the County. Supplemental water storage in key locations could also benefit suppression activities in dry locations. Special effort should be made to identify key water storage locations and infrastructure needed such as large storage tanks, pumps and pipeline systems. Montezuma County has authority to require additional fire protection mitigation measures, including supplemental water storage for new subdivisions which lack sufficient fire flow. However the County has no authority over the proliferation of off the grid or remote housing that occurs on existing legally created lots, or on lots which are over 35 acres. Private Homeowners Associations (HOA's) should work together to purchase and install water storage systems, especially on remote properties.

Community Based Fire Suppression Capabilities

Few communities (subdivisions) have formal resources or expertise to actively suppress fires on their own, however at least two subdivisions have limited suppression capacity.

Cedar Mesa Ranches, Montezuma County's, largest subdivision (139 lots), and the subdivision that is considered to be the highest risk in the county, has a Fire Substation located near the subdivision entrance, though it is not staffed full time, two of the Mancos Volunteer Firefighters live within the subdivision. The substation houses a brush truck and a water tender.

Indian Camp Ranches also has limited fire suppression capacity. The subdivision has a water truck and hand tools available on site so that it can respond to fires starts. The Homeowners Association conducts limited training with the equipment to ensure residents know how to operate the water truck, however professional training in fire suppression is not available through HOA.

Montezuma County respects the rights of individual land owners to protect their lives and property. However the right to protect lives and property are often at the mercy of the insurance industry which may prohibit locally organized fire brigades. In light of insurance restrictions the most effective roles individual homeowners can play is one of prevention,

mitigation, vigilance, and notification. While homeowner's ability to immediately respond to fire starts is commendable, it also carries some risk if the fire authorities are not notified. In numerous cases homeowners have extinguished small fires only to have them reignite later on. Qualified fire suppression training is invaluable in making sure that fires are completely extinguished.

The community could benefit from expanded water storage at key location throughout the County as discussed previously.

Fire Risk

The United Sates Department of Agriculture (USDA)/ USFS has completed a nationwide GIS analysis of fire risk to communities which was used extensively for this 2021 update. According to the USFS GIS analysis which evaluates wildfire risk to communities, populated areas of Montezuma County have, on average, greater wildfire risk than most of the rest of the State of Colorado. The USDA/USFS analysis can be found here; https://wildfirerisk.org/

General Risk Level

The general risk level for Montezuma County is, on average, is at the higher end of the scale. Private lands in Montezuma County are surrounded by heavily vegetated public lands. Extended periods of drought conditions, like the one we have been in since 2000, exacerbate the overall risk levels across the county.

A community's wildfire risk is a combination of likelihood and intensity, which together is referred to a hazard. And the combination of exposure and susceptibility, referred to as vulnerability.

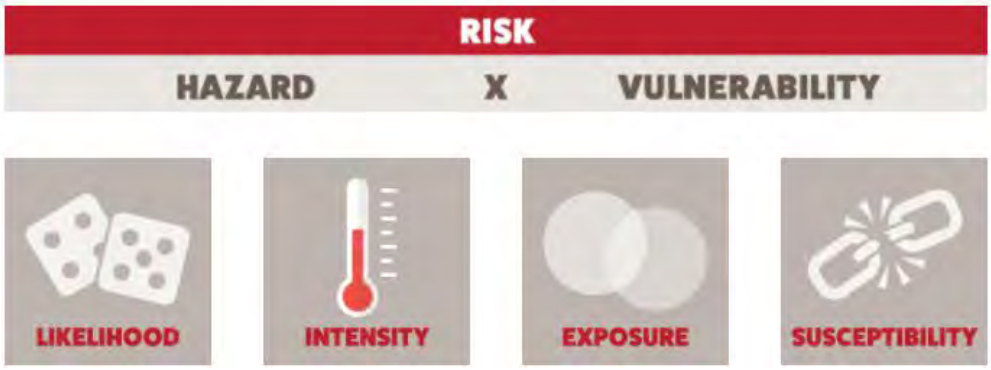


Figure 29; Risk Components Chart (CSFS)

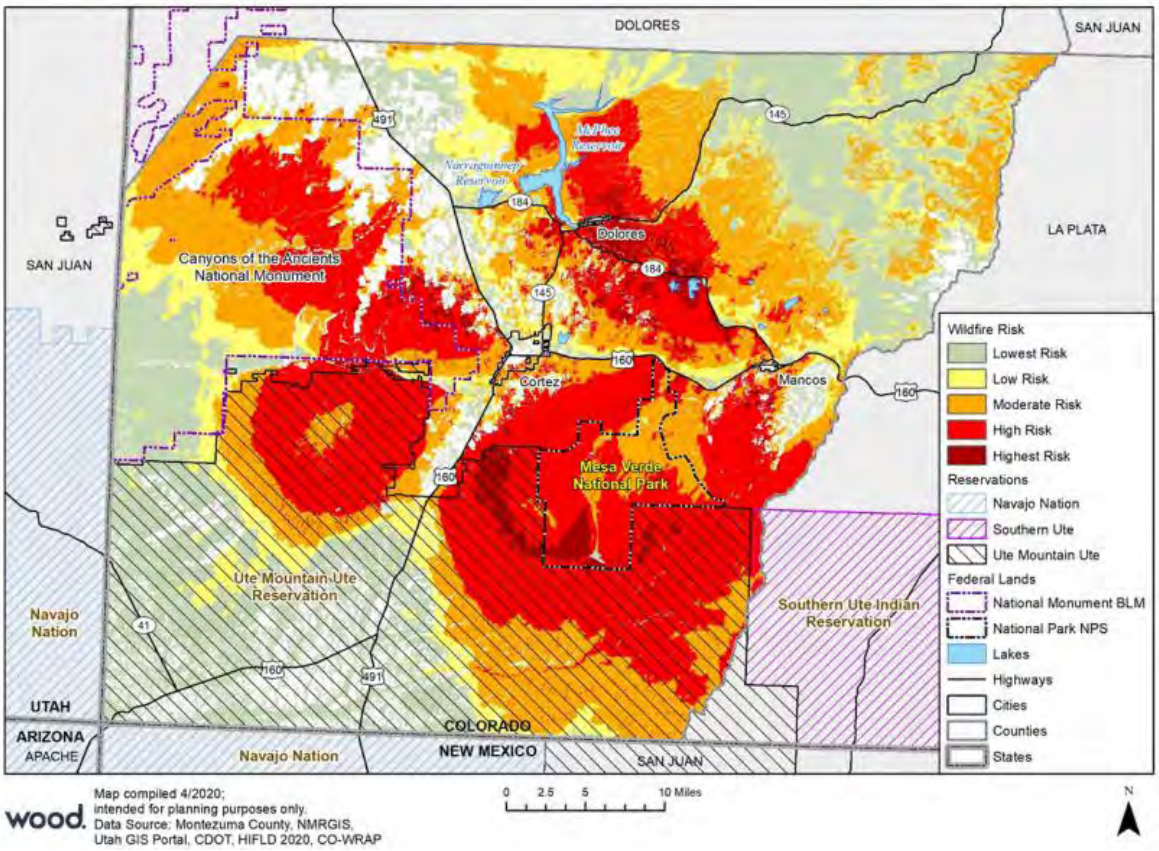


Figure 30.) Montezuma County Composite Risk Map (Overall Risk)(USDAFS)

Wildfire Intensity

Wildfire intensity is a measure of the energy expected from a wildfire.

Intensity is largely a condition of the physical landscape (topography) and vegetative fuel available to burn. For example, a crown fire on a forested hillside can produce a greater wildfire intensity than grasses on flat ground. While wildfire intensity is technically measured in units of heat transfer per length of fire perimeter, it is more easily observed and expressed in terms of flame length. Wildfire Risk to Communities uses wildfire intensities calculated in fire behavior modeling simulations. (USFS)

Exposure

Exposure is the spatial coincidence of wildfire likelihood and intensity with communities.

Any community that is located where wildfire likelihood is greater than zero is exposed to wildfire. For example, a home in a flammable forest is exposed to wildfire.

Communities can be directly exposed to wildfire from adjacent wildland vegetation, or indirectly exposed to wildfire from embers and home-to-home ignition. Communities that are not exposed are not likely to be subjected to wildfire from either direct or indirect sources.

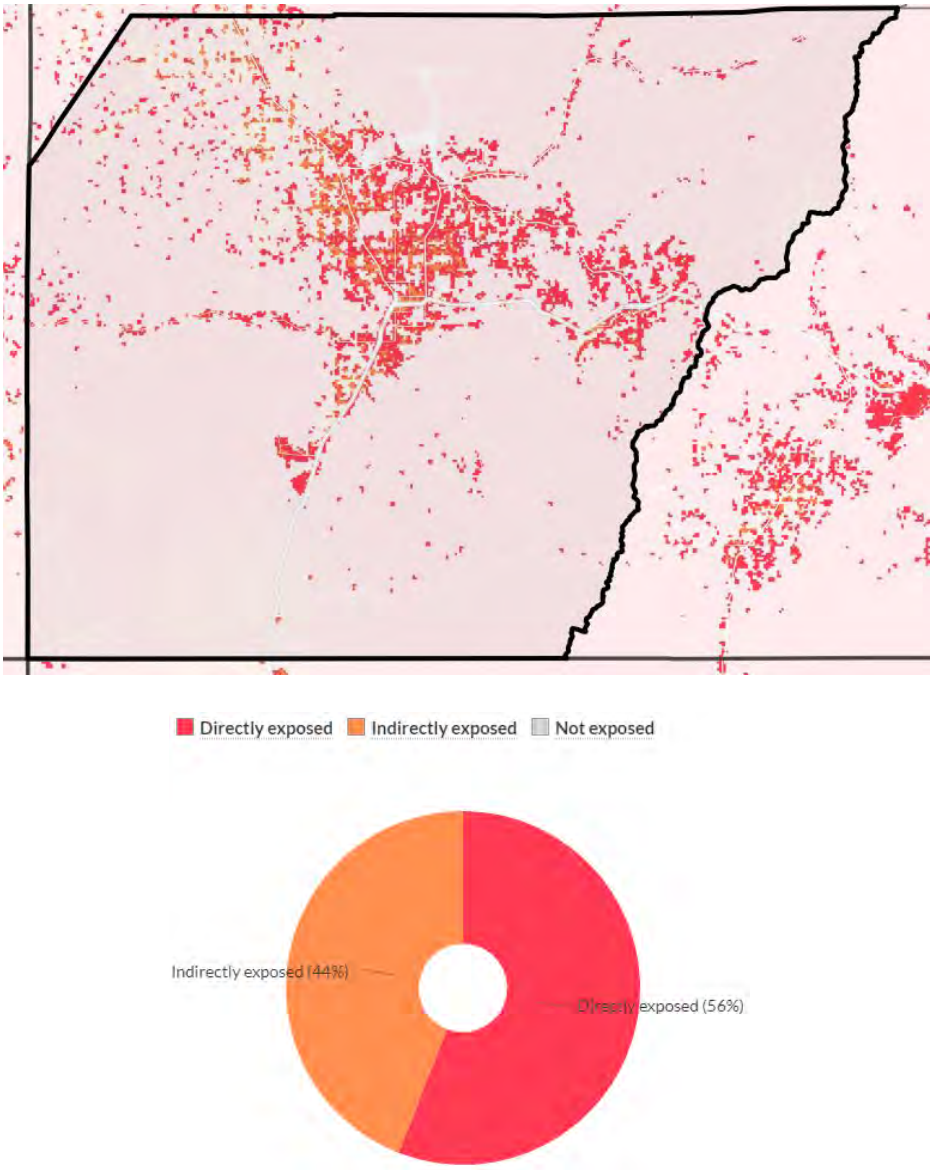


Figure 31.) Residential Exposure to Wildfire

USDA data indicates that populated areas in Montezuma County are predominately exposed to wildfire from direct sources such as adjacent flammable vegetation.
Exposure is the spatial coincidence of wildfire likelihood and intensity with communities

Any community that is located where wildfire likelihood is greater than zero (in other words, where there is a chance wildfire could occur) is exposed to wildfire. For example, a home in a flammable forest is exposed to wildfire.

Communities can be directly exposed to wildfire from adjacent wildland vegetation, or indirectly exposed to wildfire from embers and home-to-home ignition.

Susceptibility
Susceptibility is the propensity of a home or community to be damaged if a wildfire occurs. Wildfire Risk to Communities uses a generalized concept of susceptibility for all homes. In other words, Wildfire Risk to Communities assumes all homes that encounter wildfire will be damaged, and the degree of damage is directly related to wildfire intensity. The greater the wildfire intensity (flame length), the greater the percent damage to homes.

Wildfire Risk to Communities does not account for homes that may have been mitigated, and does not measure other important resources that may be damaged by a wildfire (such as infrastructure, watersheds, or forest health).

In reality, an individual home's ability to survive wildfire is driven primarily by local conditions (known as the "Home Ignition Zone"), including the construction materials and the vegetation in the immediate area. The only way to truly assess home susceptibility is through individual home assessments, which are well beyond the scope of Wildfire Risk to Communities. (USFS)

Wildfire Risk to Homes
The USDA/ USFS has analyzed the potential wildfire risk to homes by integrating wildfire likelihood and intensity with a generalized set of consequences to homes on the subject landscape.

The Risk to Homes data integrate wildfire likelihood and wildfire intensity from simulation modeling. These two risk components represent wildfire hazard. To translate this into terms specific to the effect of fire on homes, Wildfire Risk to Communities uses a generalized concept of susceptibility for all homes. In other words, Wildfire Risk to Communities assumes all homes that encounter wildfire will be damaged, and the degree of damage is directly related to wildfire intensity. Wildfire Risk to Communities does not account for homes that may have been mitigated.

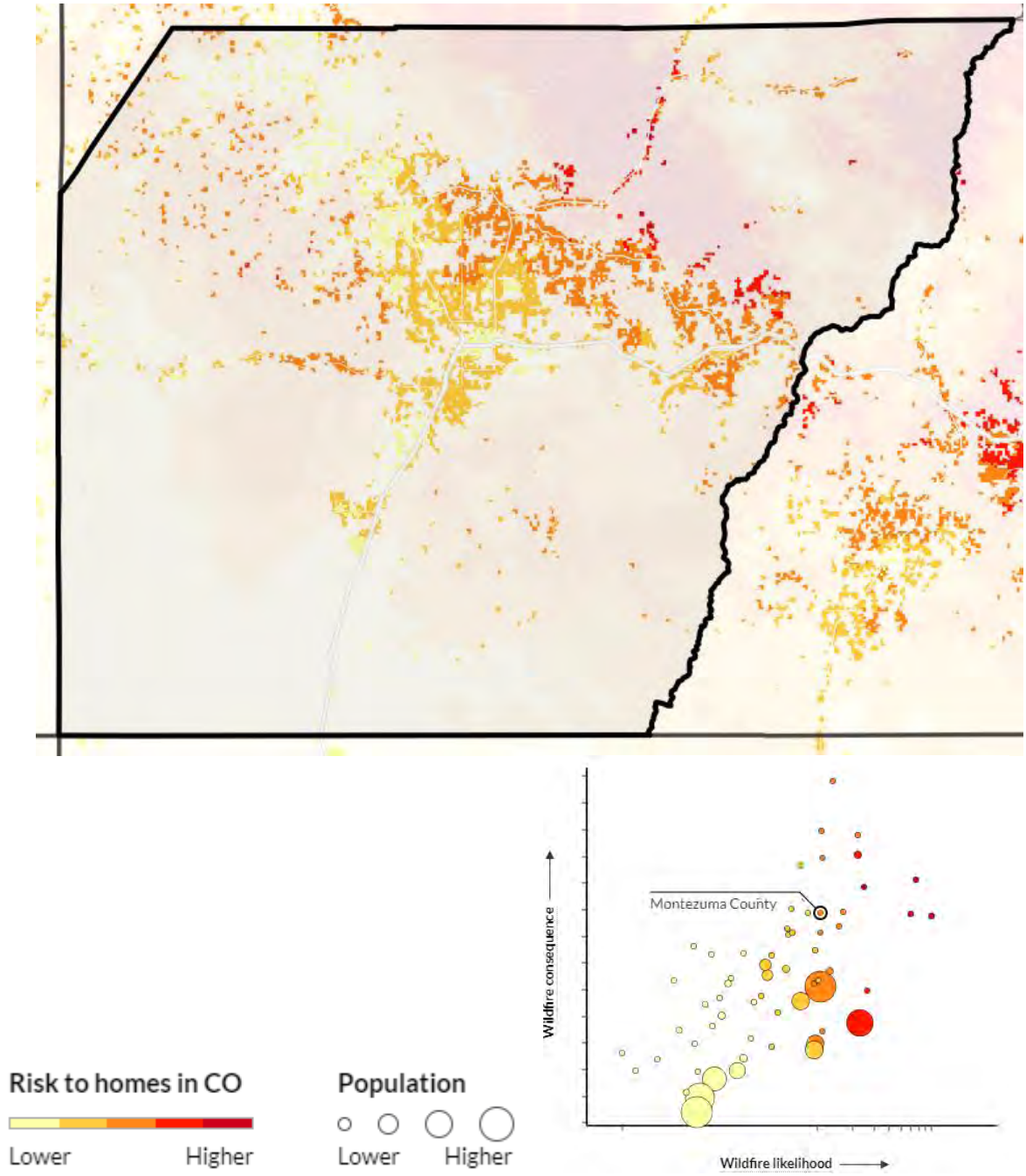


Figure 32.) General Wildfire Risk to Homes (USDAFS)

According to the modeling populated areas in Montezuma County, on average have a greater risk than 78% of the Counties in the State.

Wildfire Likelihood

Wildfire Likelihood is the annual probability of wildfire burning in a specific location. At the community level, wildfire likelihood is averaged where housing units occur. Evaluating populated areas only modeling suggest that populated areas in Montezuma County have on average a greater wildfire likelihood than 76% of the Counties in the State.

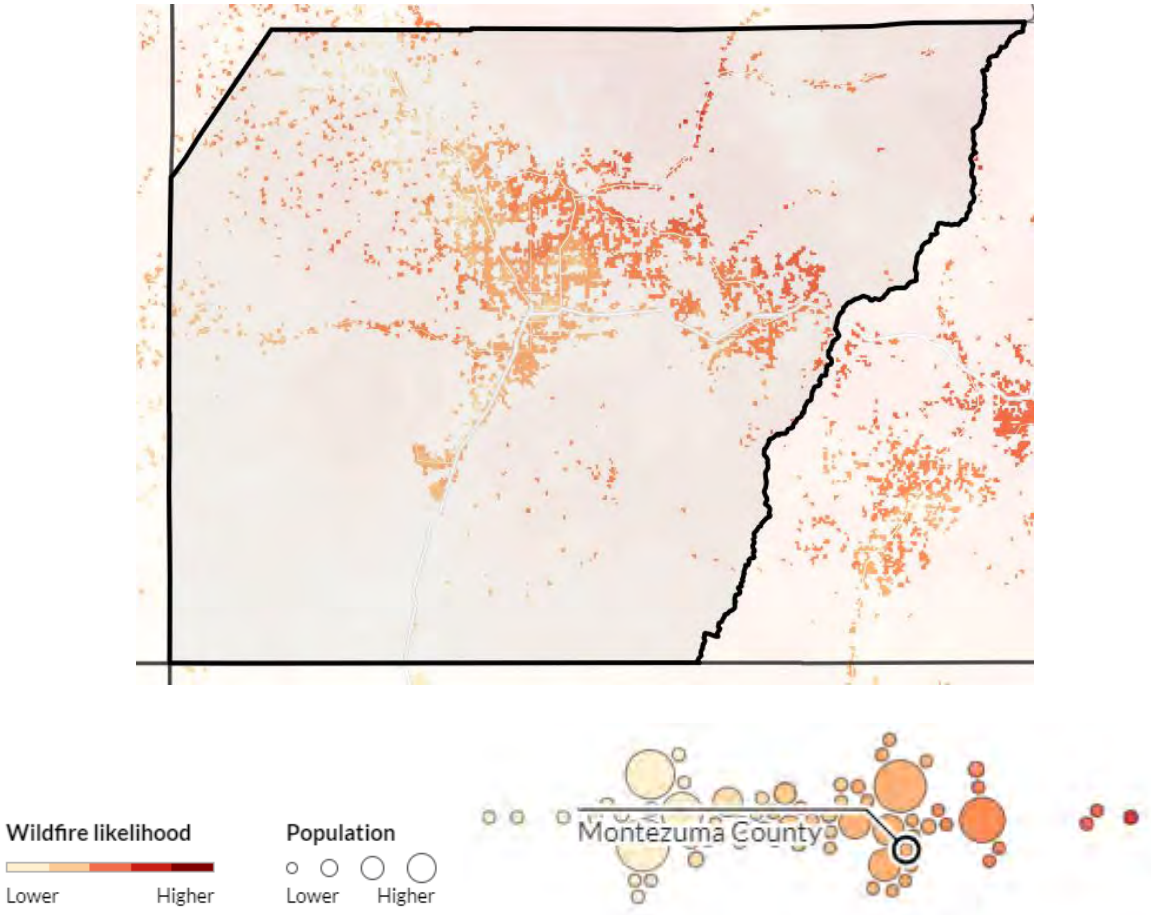


Figure 33.) Wildfire Likelihood

POTENTIAL FOR LIGHTNING-CAUSED FIRES

Lightning is statistically the number one cause of wildfire in Montezuma County. Based on the best available information there have been over 2,740 since 1970 which are recorded to have led to an ignition. Most have been small fires, but some the largest fires have also been due to lightning. The County's varied geography and high elevation make it prone to dry lightning strikes throughout the County. Ridgelines and high points across the County are especially at high risk throughout the warmer seasons, especially during the Monsoon season. Seasonal Monsoonal activity occurs annually, characterized by gusty winds and lightning preceding

localized thunderstorms. However monsoonal *precipitation* has decreased significantly over the last 20 years which has resulted in higher risk for lightning strikes to cause ignitions.

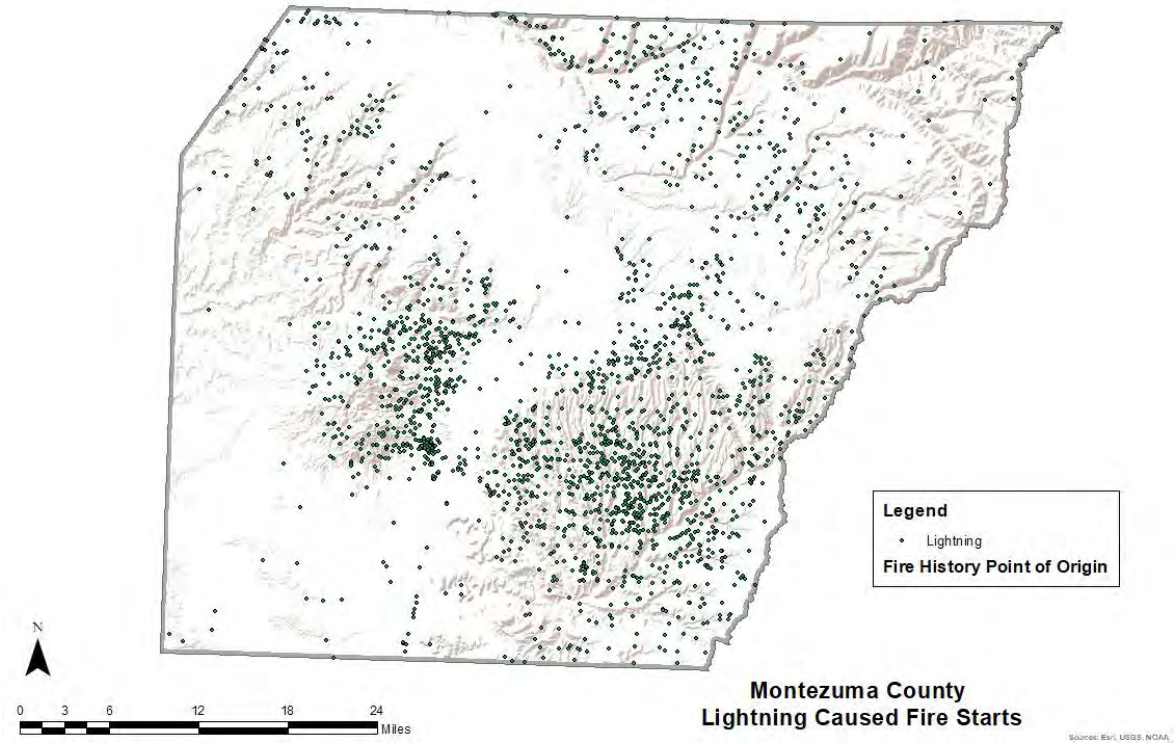


Figure 34.) Recorded Lightning Caused Wildfires of any size (Montezuma County GIS)

POTENTIAL FOR HUMAN CAUSED FIRES

Potential for human caused fire remains high. Again drought conditions exacerbate the potential for "accidental" human caused fire starts. Human caused fires can come from many different sources.

Agricultural burns such as ditches or fields are a common practice in Montezuma County especially in the early spring before irrigation season starts. Protocols are in place to coordinate with local authorities before agricultural burns are ignited and compliance is growing in correlation with a rising awareness of potential risk, and potential liability.

Fire starts from illegal fireworks are also a very high concern. The Weber Fire of 2012 for example was started by fireworks and quickly spread to the steep, heavily vegetated BLM lands adjacent to County Road 41. The resulting wildfire was one of Montezuma County's largest at just over 10,000 acres. Fireworks are banned in Montezuma County but compliance remains a significant challenge.

Highways and roads are vulnerable to wildfires. According to the Arizona Department of Forestry and Fire Management, dragging chains is one of the main causes of fires along highways. Dragging chains create sparks on the road surface, and one spark is all that's needed to start a fire that can potentially burn thousands of acres. Besides dragging chains, underinflated tires can also lead to rims hitting the road surface and creating sparks.
Also heat from the parts under a vehicle, particularly the catalytic converter, can catch the grass on fire if a vehicle pulls off of the road.

Other "accidental" human caused ignition sources that are common in Montezuma County include welding equipment, chains saws, and atv/ motorcycles without spark arresting mufflers.

Finally arson is another potential vector. While uncommon, arson events do happen and can have catastrophic consequences.

VALUES AT RISK
Through stakeholder input, the following values were identified as being at risk in Montezuma County;

- **Lives:** firefighters and the public but also livestock and pets
- **Private & Public Property:** homes, businesses, public buildings
- **Public Health:** air quality, water quality
- **Critical Infrastructure:** emergency services, hospitals, electric transmission, pipelines, irrigation ditches, compressor stations, well pads, roads etc.
- **Ecosystem:** McPhee Reservoir and watershed protection, wildlife, stable plant communities
- **Local and Regional Economies:** tourism, timber, and grazing, mineral production, hunting and fishing
- **Natural and Cultural Amenities:** views, historic structures, pre-historic structures and artifacts
- **Local Tax Base & Basic Services:** risk to property values, prohibitive costs associated with fighting wildfires, drain on community resource

Montezuma County has identified wildfire risk areas, based upon a variety of risk factors and has maintained a wildfire risk map since 2002. The wildfire risk map is reviewed for every subdivision proposal that comes through the County planning process.

The 2002 Wildfire Risk Map was digitized as a GIS layer using aerial photography and topographic maps. The resulting map included polygons drawn around areas thought to be at high or moderate wildfire risk.

Montezuma County staff digitized aerial data to complete the first risk assessment in the county because the background data layers, especially the vegetation data, were too coarse to provide enough accuracy to identify the highest risk areas.

The first risk assessment in the county (2002) was manually digitized because the background data layers, especially the vegetation data, were too coarse to provide enough accuracy to identify the highest risk areas for planning purposes.

The staff analysis also considered environmental factors, including slope, aspect, and prevailing wind. But even the 2002 risk analysis also looked at other values such as population density, scenic quality, water quality, accessibility, cultural and historic resources, and proximity to fire stations.

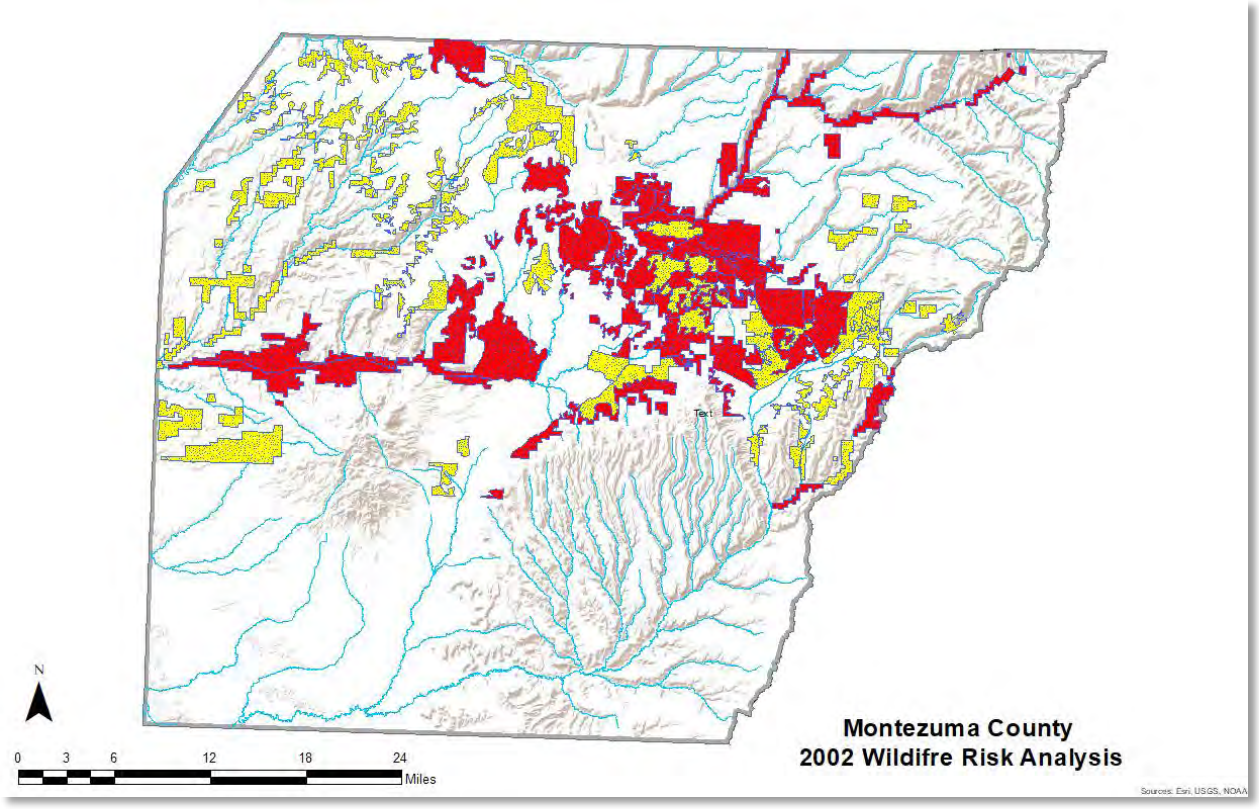


Figure 35.) 2002 High and moderate Risk Polygons (Montezuma County GIS)

GIS data is constantly evolving into better and more specific products. By 2011 more refined vegetative and terrain mapping was becoming available. Thus the 2011 wildfire risk analysis included more advanced data and a more robust GIS-based analysis than the 2005 plan or the original 2002 risk analysis.

The 2011 Community Risk Analysis utilized the most up-to-date data and methodology available for the time. GIS-based analysis and modeling ensured scientific structure to the process. The 2011 CWPP represents Montezuma County's first GIS-based fire modeling done countywide. Compared to the original 2002 mapping effort, this mapping served to validate the areas of concern already identified.

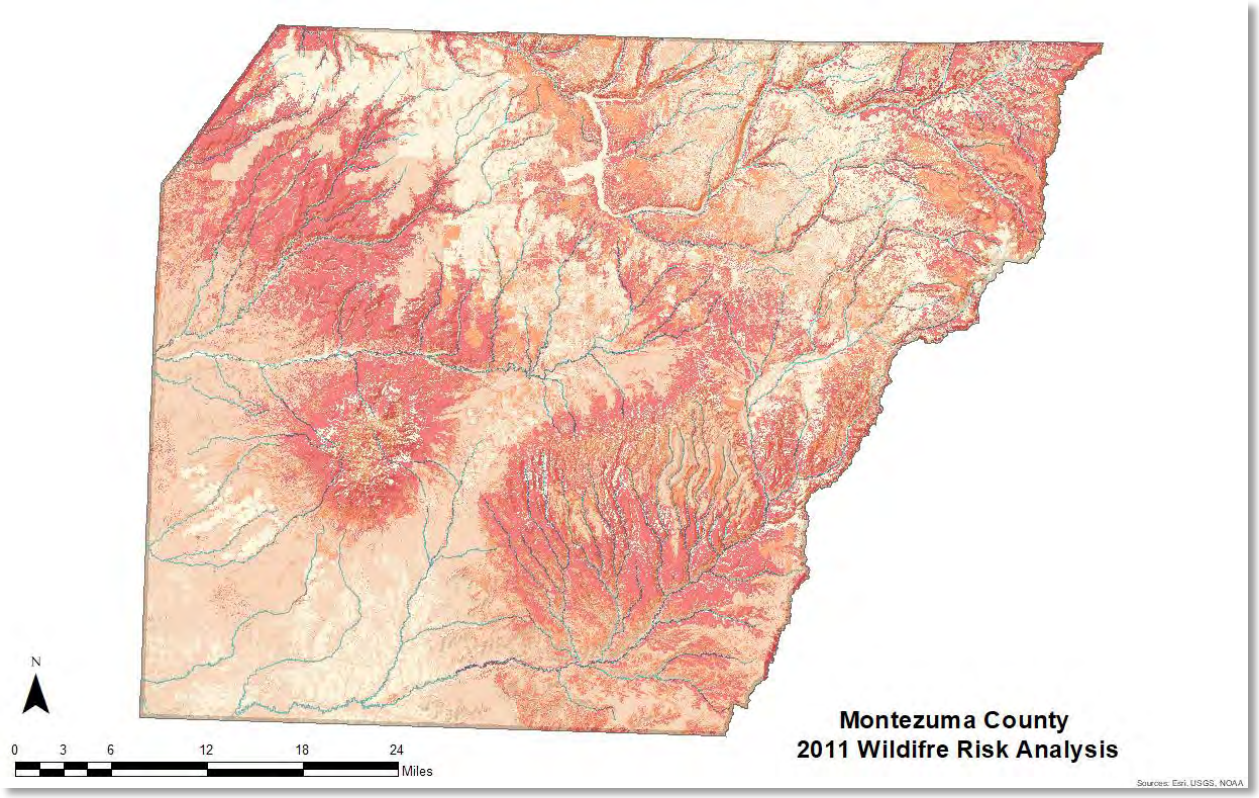


Figure 36.) 2011 Wildfire Risk Analysis (Office of Community Services Fort Lewis College)

LIVES AT RISK

The population of Montezuma County was 26,160 in 2019, which is the total number of lives at risk; however, not everyone shares the same risk. For example, the wildfire risk for residents in Cedar Mesa Ranches is considerably higher than the risk for residents living in the City of Cortez.

Generally speaking, rural residents are probably at a higher risk than those living in municipalities. However, the actual risk is site-specific. For example, a residence in the middle of an irrigated alfalfa field is probably lower than a home in a neighborhood in Cortez simply due to the exposure to adjacent flammable materials.

Vulnerable Populations

Another factor to consider is vulnerable populations. The USDA /USFS Wildfire Risk to Communities analysis also includes an analysis of vulnerable populations.

Vulnerable populations are more likely to be affected by wildfire because they lack resources. In addition, they experience cultural and institutional barriers, have limited mobility, and may have compromised physical health.

People's vulnerability to wildfires correlates with their ability to affect their exposure and susceptibility to wildfires. Individuals with limited mobility, for example, cannot easily mitigate their exposure by fleeing from an oncoming wildfire. Likewise, individuals with cultural, physical, or financial barriers to performing necessary home mitigation measures cannot easily reduce their susceptibility to property damage from a wildfire.

Table 11; Percent of people with high vulnerability to wildfires

	Number		Percent	
Families in poverty	728	±152	10.6%	±2.2%
People with disabilities	4,446	±378	17.3%	±1.5%
People over 65 years	5,353	±353	20.7%	±1.4%
Difficulty with English	141	±121	0.6%	±0.5%
Households with no car	255	±80	2.4%	±0.8%
Mobile homes	2,066	±267	19.5%	±2.5%

NUMBERS AND DENSITY OF RESIDENCES

Montezuma County has approximately 12,473 residences, and the overall density is low, averaging 12 people per square mile. The county has about 3110 homes classified as mobile or modular homes, roughly 25%. There is a differentiation between modular and mobile dwellings which account for statistical differences in the data presented in this plan.

OTHER ECONOMIC VALUES

In addition to the residential values, Montezuma County also has other economic values susceptible to wildfire risks. The Montezuma County economy has three primary drivers. Agriculture, Tourism, and Oil and Gas.

Agriculture;

Dryland farming, orchards, and livestock production dominated the agricultural landscape until 1889, when the Montezuma Tunnel diverted water from the Dolores River flowed into the valley. Later, the Dolores Project, located in the Dolores and San Juan River Basins in

southwestern Colorado, diverts water from the Dolores River for irrigation, municipal and industrial use, recreation, fish, and fish wildlife, and production of hydroelectric power. It also provides flood control and aids in economic redevelopment. Service is provided to the northwest Dove Creek area, central Montezuma Valley area, and south to the Towaoc area on the Ute Mountain Ute Indian Reservation. A full and supplemental supply of irrigation water is available for 61,660 acres. (Bureau of Reclamation)

Water; The greatest threat to agriculture, and life in general for Montezuma County is the threat to its water resources. Montezuma County has three main river drainages which supply water for municipal, industrial and agricultural uses. The Dolores River is the primary water source for Montezuma County and is located in the Upper Colorado–Dolores Watershed. The Dolores River feeds into McPhee Reservoir, the third-largest reservoir in the state and most of Montezuma County's agricultural and municipal water source. The Mancos River, located in the Upper San Juan Watershed, fills Jackson Reservoir, is the primary municipal and agricultural water source for the Mancos region. McElmo Creek is situated in the Lower San Juan Watershed. McElmo Creek is not a significant source of water for municipal use. Still, it does supply agricultural water to many farms located along the McElmo drainage.

Montezuma County is concerned about all three watersheds. The DWARF Collaborative is focused on the Dolores River and its tributaries with a mission to improve forest health and resiliency to wildfire risk but significant planning work is being done in the Mancos watershed as well. All three of Montezuma County's municipalities are developing Source water Protection Plans in partnership with the State of Colorado.

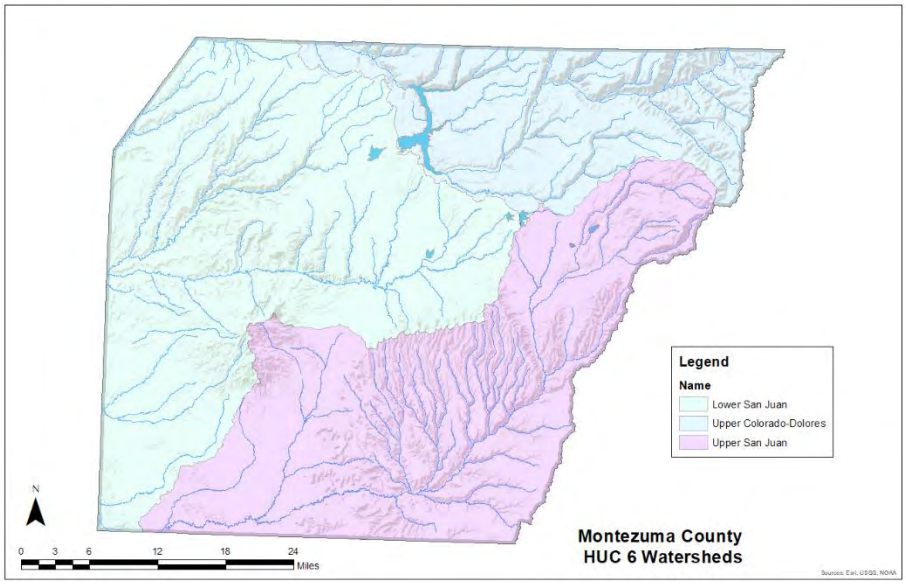


Figure 37.) Montezuma County's Three HUC 6 Watersheds

Many crops can also be at risk of wildfire, especially dryland crops. The risks increase as the crop matures for harvest during mid-summer. Winter wheat, for example, matures in July and can be at significant risk when wheat stalks are dry and ready to be harvested.

Three of Montezuma County's municipalities have Source Watershed Protection Plans SWPP's which provides more specific detail on the source watersheds, values at risk, potential contaminants, buffer areas and recommended BMP's for managing specific drainages. SWPP's may be found in Appendix B. SWPP's are also discussed later in this plan.

Oil and Gas Facilities

Oil and gas operations can be considered a vital economic component of the Montezuma County economy. Oil and gas production makes up over half the Montezuma County tax revenues. Most of the output is related to the McElmo Dome CO_2 field located in the County's western portion, mainly within the Canyons of the Ancients National Monument.

The Colorado Oil and Gas Conservation Commission maintains an oil and gas infrastructure database available to the public. Montezuma County has access to this data and has inventoried assets within the County.

Oil and Gas Producers maintain Fire Protection plans specific to their particular facilities. Fire mitigation plans are a part of the High Impact Permit applicant review process and a requirement for final permitting. In addition, Wildfire Adapter Partnership also reviews each proposed Fire Mitigation Plan and provides feedback. Plans are on file in the Planning Department at Montezuma County.

Forest Products Industry (Mills)

Montezuma County is fortunate to have a viable forest products industry. Forest products are an essential part of the Montezuma County economic diversification strategy. The sector also plays a critical role in forest management on public and private lands.

Montezuma County has eight commercial wood product businesses County.

- Aspen Wall Wood
- Aspen Wood Products
- Muscanell Mill Works
- Stoner Top Lumber
- West Fork Lumber
- 49 Squares Ventures
- Otts Sawmill
- Val Truelson Logging

There are also a number of small-scale firewood business throughout the County, which are not at a scale that needs to document Fire Mitigation Plans through this CWPP. Minor firewood operations should follow fire restrictions and other best management practices, including defensible space, to ensure safe operations for business locations. A new business that comes through the Planning Department for High Impact Permits requires a Fire Mitigation Plan filed in the Montezuma County Planning Department. Older companies also typically have fire mitigation plans in place. Local Fire Protection Districts generally are the repository for these plans.

For wood product business that pre-date the Land Use Code, the Montezuma County Emergency Manager assists with developing Fire Mitigation Plans. Other small firewood or specialty wood product businesses also exist. However, the scale of these operations is typically small and does not require a fire mitigation plan. Mitigation is primarily accomplished by creating defensible space around the area of operation.

Power Transmission

Power transmission lines are vulnerable to wildfires in their vicinity, mainly due to increased conductor temperatures resulting from heat released by the fire. This may damage the conductor and lead to violation of safety clearances between conductor and ground.
Large fires burning adjacent to or under high voltage transmission lines have the potential to:

- Create electrical arcs (known as 'flashovers') that can endanger people, animals and objects.
- Damage or destroy the transmission line's wires, insulators, and supports.
- Interrupt electricity supply to households and industry.

Power Transmission infrastructure is at risk from wildfire, but the infrastructure can also be an ignition source. Ignitions can occur from various failure modes in the vast array of components making up distribution and transmission networks and their neighboring environment.

These failures fall into two general categories: elastic extension of either the conductors or surrounding objects (such as tree limbs) causing electrical contact and arcing, and fatigue failures under high strain conditions affecting system components (conductors, poles, cross arms) or surrounding objects (trees). Both failure classes show a strong dependence on increasing wind speed. (Joseph W. Mitchell; *Engineering Failure Analysis* 35:726-735 Dec. 2013)

The primary power distribution system is mapped and inventoried. Montezuma County maintains a database of power infrastructure and can readily produce maps illustrating location and type.

Ecological Values
Montezuma County is home to a wide variety of plants and wildlife and a correspondingly high level of biodiversity. Wildlands and agricultural lands both support a diverse habitat for the large game and small mammals, reptiles, amphibians, and birds.

Biodiversity
Biodiversity is defined as the variety of life. Montezuma County is home to all five of the vegetative zones found in Colorado. Each zone contributes specialized habitat for a variety of plants and wildlife. Many rural properties, including agricultural properties, include high quality wildlife habitat. Even urban environments represent a wide range of plants and animals, increasing overall biodiversity.

Habitat
Virtually all of the lands in Montezuma County provide habitat for mule deer.
The lower elevations, including most the County's private lands are identified as resident range for Mule Deer. The areas with highest wildfire risk also correlate with the areas mapped by CPW as winter range. A wildfire within these areas could significantly impact mule deer in the short term by displacing animals.

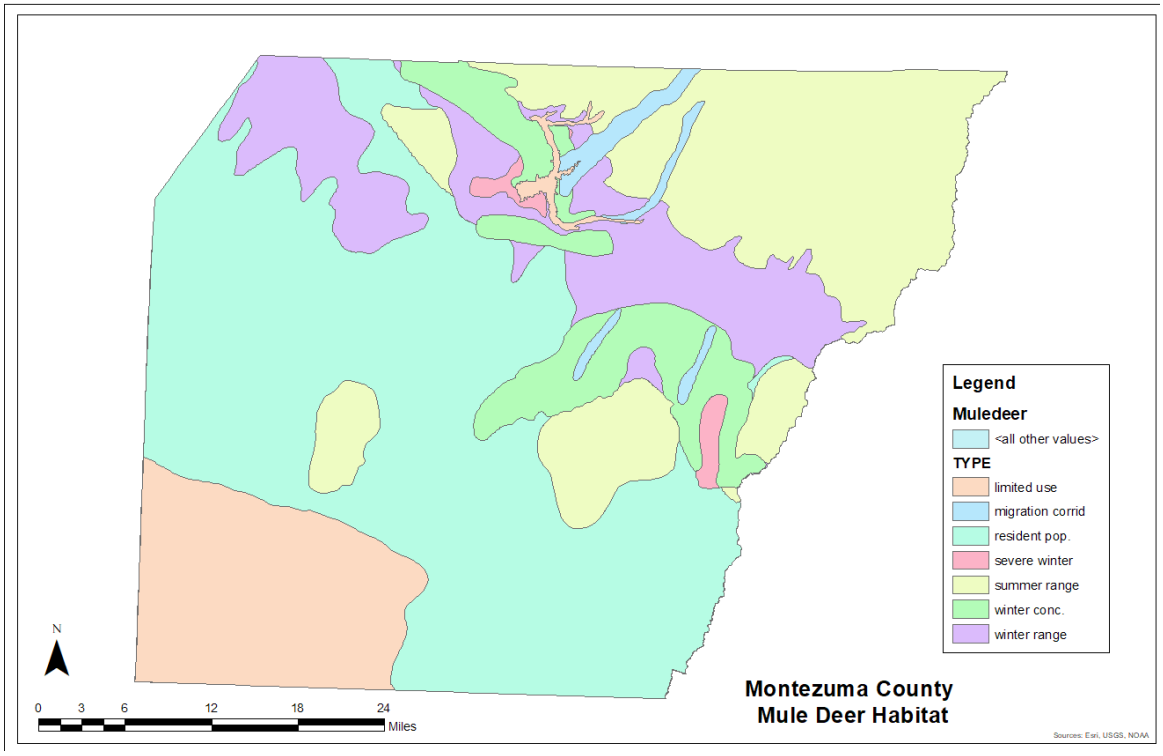


Figure 38.) Mule Deer Habitat (CPW)

https://cpw.maps.arcgis.com/apps/instant/interactivelegend/index.html?appid=b3e1f4c17e98481c85f9683b02e91250

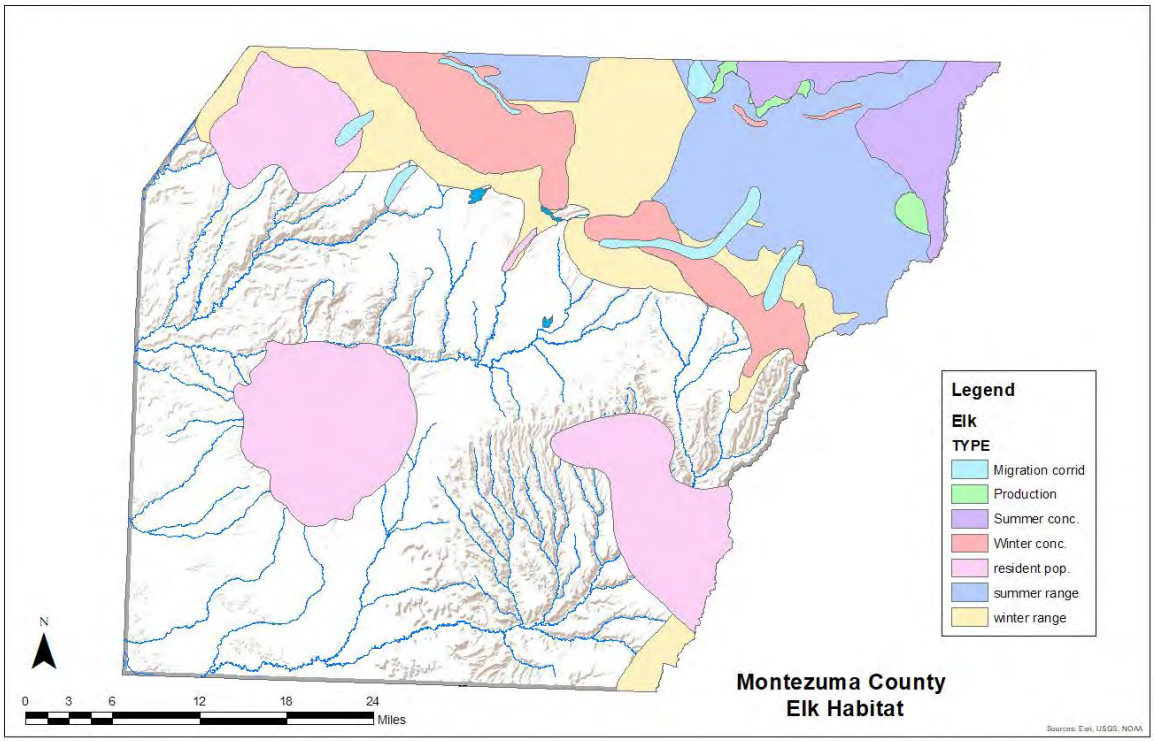


Figure 39.) Montezuma County Elk Habitat (CPW)

https://cpw.maps.arcgis.com/apps/instant/interactivelegend/index.html?appid=b3e1f4c17e98481c85f9683b02e91250

Elk in Montezuma County share a similar wintertime range which correlates to the area at higher risk from wildfire. Elk winter range and severe winter range could potentially be affected by wildfire in the short term by displacing animals. Wildfire causes animals to move. When they do, they risk moving into agricultural areas or even urban areas with more contact with people they would usually avoid. Long-term, the effects of fires probably carry a benefit for Elk habitat since they are grazers vs. browsers and are more dependent on grasses that emerge after a wildfire.

According to the *Montana Natural History Center,* winter ranges where fires have not burned for more than 20 years will typically yield from 30 to 120 pounds of forage per acre. On winter ranges that burned in the last year or two, the production typically jumps to 20 pounds of forage per acre—over a 20-fold increase in forage production. Increases in forage production on burned landscapes are not news to wildlife researchers. It means that fire is not only beneficial to deer and elk, but essential if our goal is to have large numbers of deer and elk in our forests."

Most wild animals have a sharp sense of danger. Most can outrun even fast-moving extreme wildfires. Others have adapted means of riding a fire out by burying themselves in dirt or

retreating into rock piles. Some predators even capitalize on the avoidance instinct to zero in on animals fleeing the flames. Overall, wildfires are a part of a healthy ecosystem. Western wildlife has evolved with the ever-present threat of wildfire.

Threatened and Endangered Species

According to the State of Colorado, the following plants and animals are considered Threatened or Endangered in Montezuma County.

Table 12; Threatened and Endangered Species

SPECIES	SCIENTIFIC NAME	STATUS
Bonytail chub	Gila elegans	Endangered
Canada lynx	Lynx canadensis	Threatened
Chapin Mesa milkvetch	Astragalus schmolliae	Endangered
Colorado pikeminnow	Ptychocheilus lucius	Endangered
Greenback cutthroat trout	Oncorhynchus clarki stomias	Threatened
Gunnison Sage Grouse	Centrocercus minimus	Threatened
Humpback chub	Gila cypha	Endangered
Mancos milkvetch	Astragalus humillimus	Endangered
Mesa Verde cactus	Sclerocactus mesae-verdae	Threatened
Mexican Spotted Owl	Strix occidentalis lucida	Threatened
New Mexico meadow jumping mouse	Zapus hudsonius luteus	Endangered
Razorback sucker	Xyrauchen texanus	Endangered
Southwestern Willow Flycatcher	Empidonax traillii extimus	Endangered
Wolverine	Gulo gulo luscus	Proposed
Yellow-billed Cuckoo	Coccyzus americanus	Threatened

For additional information contact: U.S. Fish and Wildlife Service, Colorado Field Office, PO Box 25486 DFC (MS 65412), Denver, Colorado 80225-0486, telephone 303-236-4773 U.S. Fish and Wildlife Service, Western Colorado Field Office, 764 Horizon Drive, Building B, Grand Junction, Colorado 81506, telephone 970-243-2778

Soils

The soils of our area are as varied as the landscape and vegetation. Some of the best soils in the area are wind deposited. These soils blew in from Arizona and New Mexico and are reddish clay loam. They are usually not rocky and can be very deep. They occur mainly northwest of Cortez and are typically very fertile and already in agricultural production. Most of these soils are on private lands and have moderate wildfire risk related to cover type.

Another soil type found in the area comes from an ancient ocean deposit known as the Mancos Shale. The Mancos Shale is prominently visible in the steep, grey slopes at the base of the Mesa

Verde escarpment, south of Mancos and Cortez. Mancos shale contains abundant fossils of marine animals. The grey mud soil derived from this marine shale is ancient marine mud. It has high salt content and has a high shrink-swell character. The soil erodes easily and turns sticky and slimy when wet. Such soil needs significant amendments to make good garden soil and can cause extensive damage to homes and structures. Mancos shales are not typically associated with agricultural production.

Juniper and Pinion trees and a range of shrubs are adaptable to shale soils but are not as productive as in other soil types. Wildfire risk can be high in areas of Manco's shale soil type. However, poor soil conditions may also reduce wildfire risk in some instances. Groundcover, including the grasses, which can carry flames up into taller vegetation, is often absent or very sparse, reducing wildfire risk.
(Rural Living in Southwest Colorado 2013; The Dolores and Mancos Conservation Districts)

The last type of soil comes from materials deposited by rivers and streams. This soil occurs throughout the area in all river valleys and smaller valleys. Still, these soils can also be found on mountain slopes or plateaus. It may be sandy or heavy in clay and often has a marginal amount of stone, cobble, and gravel. Areas with this soil may have a high water table and pose a high potential post-fire flood hazard.
(Rural Living in Southwest Colorado 2013; The Dolores and Mancos Conservation Districts)

Air;
Air quality in Montezuma County is generally good; however, the air quality is also subject to short term events such as wildfires, prescribed burns and agricultural burns. Long-term air quality in Montezuma County is largely determined by cross-boundary sources.

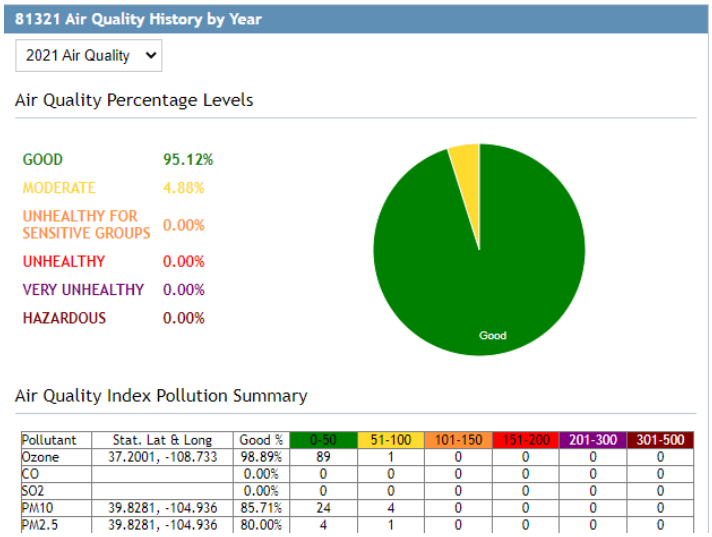
Air quality in Montezuma County is also important from an economic and quality of life point of view. Air quality obviously carries human health implications, but it also affects the view-sheds in a five-county area where attracting businesses and tourists is contingent on maintaining high quality views. Active wildfires clearly have a negative effect on tourism and local quality of life. However air quality impacts and influences from wildfire, prescribed burns, or agricultural burns are generally temporary in nature and outside of the scope of this CWPP. CDPHE regulates air quality and all permitted prescribed fires must follow specific smoke dispersion weather parameters and community notifications prior to conducting prescribed burns.

Pollution sources within the Four Corners include coal-fired power plants, motorized vehicles, oil and gas operations, wildfires and intentional burning, road dust, and other sources. There are at least 4 existing power plants in the vicinity of the Four Corners (within a 100-mile radius). All four generation stations are scheduled for total or partial retirement by 2031.
https://www.epa.gov/airmarkets/power-plants-and-neighboring-communities#mapping
https://experience.arcgis.com/experience/2e3610d731cb4cfcbcec9e2dcb83fc94

In addition, there are currently 3,575 active oil and gas wells in southwest Colorado with an additional 13,281 active oil and gas wells in northwest New Mexico (La Plata County Energy Council – personal communication). Under the Clean Air Act, the US Environmental Protection Agency (EPA) limits certain air pollutants, using science-based standards to protect human health and the environment. A geographic area that does not meet a primary standard is a non-attainment area. States and tribes develop State Implementation Plans that outline how they control air pollution. Some of the air pollutants presenting challenges in the Four Corners area are ozone, mercury, nitrogen and sulfur oxides, and particulate matter. Ozone is normally considered a big city issue, but it is a growing concern in the Four Corners area. In this region, ozone is mainly caused by power plants and oil and gas development (CIRA). Ground-level ozone can cause chest pain, coughing, throat irritation, and congestion and worsen bronchitis, emphysema, and asthma. Many plant species, including crops, Ponderosa pines, and Aspen trees, are extremely sensitive to ozone exposure.

Mercury is a naturally-occurring element found in air, water, and soil. It can also be a toxic air pollutant. Coal-fired power plants are the largest man-made source of mercury to the air in the United States. Mercury in the air eventually settles to the ground. Precipitation can then wash it into aquatic ecosystems, such as lakes, streams, and wetlands. Bacteria in wetlands and lake bottoms can change mercury into a highly-toxic form, called methyl mercury, which affects the functioning of nerve cells. The methyl mercury bio-accumulates, increasing in concentrations up the food chain. Fish consumption advisories for mercury contamination for five lakes and reservoirs within Region 9 in Archuleta, La Plata, and Montezuma counties are in effect. Mesa Verde National Park has recorded some of the highest mercury concentrations in the nation. (Region 9 CEDS Update 2011)

The retirement of coal burning power generation stations and the transition to clean energy will improve air quality in Montezuma County over time.



Pollutant	Stat. Lat & Long	Good %	0-50	51-100	101-150	151-200	201-300	301-500
Ozone	37.2001, -108.733	98.89%	89	1	0	0	0	0
CO		0.00%	0	0	0	0	0	0
SO2		0.00%	0	0	0	0	0	0
PM10	39.8281, -104.936	85.71%	24	4	0	0	0	0
PM2.5	39.8281, -104.936	80.00%	4	1	0	0	0	0

Figure 40. Montezuma County Air Quality Index 2021 (CDPHE

https://www.colorado.gov/airquality/colorado_summary.aspx

Water Quality

Water quality in Montezuma County is generally good. About half of the water supply in the southwestern United States comes from snowfall in our high mountain forests, typically yielding higher quality water than any other source.

Yet many of Montezuma County's Lakes report elevated levels of mercury generally attributed to regional power generation. Many of the regional coal powered plants are being retired which should improve local conditions. Cross- boundary contamination remains a consistent threat however many power generating facilities are also adapting cleaner fuel sources over time which will also help to alleviate mercury loading.

Most of the watersheds in the County are more at risk from wildland fire, and water quality could potentially be degraded rapidly post-fire. Wildfires can compromise water quality during active burning and months and years after the fire. During active burning, ash can settle on lakes and reservoirs used for drinking water supplies.

Storms following wildfires are known to impair drinking water supplies in the southwestern U.S. Burn areas are prone to higher erosion rates, increasing the downstream accumulation of sediment in streams, rivers, and reservoirs. Thus, the potential impacts from past, current, and future wildfires on the quantity and quality of runoff are considerable and may significantly impact water used for domestic, agricultural, and ecological water supplies.

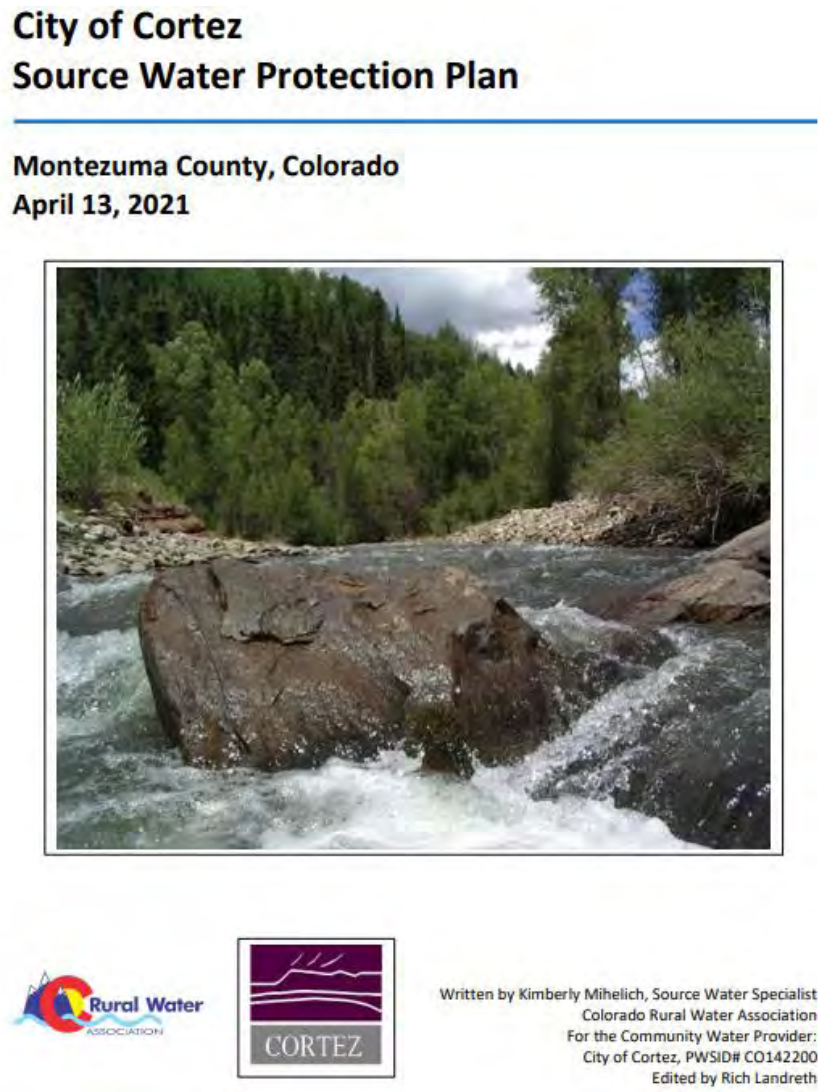
The potential effects on drinking water supplies are of great concern to Montezuma County residents. Possible impacts of wildfire on municipal water supplies and downstream aquatic ecosystems include the following:

- Changes in the magnitude and timing of snowmelt runoff, which influence the filling of water-supply reservoirs
- Increased sediment loading of water-supply reservoirs, shortened reservoir lifetime, and increased maintenance costs
- Increased loading of streams with nutrients, dissolved organic carbon, major ions, and metals
- Post-fire erosion and transport of sediment and debris to downstream water-treatment plants, water-supply reservoirs, and aquatic ecosystems
- Increased turbidity (cloudiness caused by suspended material), or heightened iron and manganese concentrations, which may increase chemical treatment requirements and produce larger volumes of sludge, both of which would raise operating costs
- Changes in source-water chemistry that can alter drinking-water treatment

Post-fire runoff can also harm ecosystems and aquatic life, such as fish and frogs that live in affected watersheds, some of which are critically endangered. Understanding the effects of wildfires on local water quality helps resource managers plan for and manage contaminants,

conservation, and treatment processes. U.S. Department of the Interior | U.S. Geological SurveyURL: https://ca.water.usgs.gov/wildfires/wildfires-water-quality.html

Montezuma County has two Source Water Shed Plans in place and the town of Dolores is working to complete theirs. Each plan identifies potential contaminants, including wildfire. The plans identify critical water infrastructure at risk and provide strategies to reduce wildfire risk within their watersheds.



https://co-cortez.civicplus.com/DocumentCenter/View/284/Source-Water-Protection-Plan-4-13-2021

Mancos Source Water Protection Plan

Montezuma County, Colorado

March 2009

Written by Colleen Williams
Source Water Specialist
Colorado Rural Water Association

For the community water providers:
Town of Mancos: ID # CO0142700
Mancos Rural Water Company: ID # CO0142600
Mesa Verde National Park: ID # CO 0142750

https://montezumacountyconservationdistricts.org/mancoswatershedstreammanagementplan

Ecosystem Health
Almost all of Montezuma County's ecosystems are fire-dependent or fire-adapted. Fire-dependent ecosystems like Ponderosa Pine need wildfire to maintain appropriate function and health. In contrast, like the pinyon/ juniper forests, fire-adapted ecosystems have evolved to survive a wildfire.

Fire can positively affect an ecosystem by acting as a catalyst for increasing biodiversity, reducing accumulated organ debris, recycling nutrients into the soil, and initiating changes to the vegetative composition of the ecosystem.

Overall, low-intensity wildfires are a natural part of the ecosystem and yield lasting fire resilience over the long term. The increase in high intensity, severe wildland fires are the main concern for Montezuma County's ecosystems. Expanded areas of high-severity fire can impact tree regeneration, soil erosion, and water quality in a negative way.

Montezuma County places a high value on healthy, fire resilient forests and support science based forest health projects on private and public lands. Maintaining ecologically healthy, fire resistant forests, ensures forest products a place in the local economy in the future.

Social Values
Wildfire can be very disruptive to the whole social fabric of Montezuma County. Recreation in particular is a significate social activity in Montezuma County that could easily be disrupted by wildfire. Wildfire impacts to the social values in the short term are obvious and include loss of significant structures or iconic vegetation, area closures, air quality and water quality issues. Long-term social impacts include degraded visual aesthetics, lingering scents, and potentially the loss of access to key areas or features due to erosion or unsafe timber stands. Impacts on popular recreation infrastructure such as the Boggy Draw Trail System or the BLM Phil's World Trail system would be very disruptive for local user groups and clubs, and informal social groups that coalesce around popular recreational opportunities.

Views
Montezuma County has highly valued "iconic" visual topography, including expansive view-sheds and notable topographic features, including mountains, mesas, canyons, and plains. One of the most noticeable topographic features is the Mesa Verde escarpment. Located on the south side of the County, it is one of the "iconic" views people take in as they enter or leave the County. Equally important is the view from the top of the escarpment over Montezuma Valley.

Sleeping Ute Mountain is arguably the most prominent topographic feature in the County. Located in the southwestern region of the County, entirely within the Ute Mountain Ute Nation, the mountain is evident from all angles, and it is heavily vegetated.

The County's eastern boundary follows a high ridgeline on the La Plata Mountains. Elevations on the east portion of the County exceed 13,000' in some places. The La Plata Mountains are highly visible from nearly every part of the County. As with the Mesa Verde escarpment, the La Plata Mountains' views over the rest of Montezuma County are stunning.

Though wildfire scars are temporary, they are also long-term and harmful to the visual landscape. Fortunately, most of the prominent views discussed are about a "middle-ground" viewing distance for most viewers. The closer the viewer is to the resource, the more impact the viewer perceives. Being at least a middle–ground distance absorbs much of the visual disruption.

The importance of a view relates in part to the viewer's position to the resource; therefore, visibility and visual dominance of landscape elements depend on their placement within the view-shed. A view-shed is defined as all of the surface area visible from a particular location

(e.g., an overlook) or sequence of sites (e.g., a roadway or trail) (Federal Highway Administration 1988). A view-shed is assigned to three distance zones to identify the importance of views of a resource: foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Distance zones in a view-shed may vary between different geographic regions or types of terrain; the standard foreground zone is 0.25–0.5 mile from the viewer. The middle ground zone is from the foreground to 3–5 miles from the viewer. The background zone is from the middle ground to infinity (USDA Forest Service 1995).

It is hard to find a bad view in Montezuma County; nearly every direction has a high-quality view. Maintaining the integrity of view-shed resources is vitally important to the Montezuma County economy. Maintaining high-quality views is critical for tourism, especially since tourism is one of the three economic legs upon which the County relies. No visitors want to visit public lands to find nothing but burn scars. The impact of the view on tourism is substantial.

Likewise, the impact of mitigation work can also be associated with aesthetic preferences concerning land cover and use. There are tradeoffs that residents are willing to tolerate between residential lifestyle choices and risk exposure.

Pets & Livestock

Pets and livestock are both abundant in Montezuma County. During a wildland fire, local animal rescue volunteer organizations coordinate with emergency personnel to save as many animals as they can. Firefighters will do all they can to protect animals, but owners are responsible for evacuating pets and livestock.

An emergency operations center (EOC) will be set up if a situation merits it. The EOC will coordinate with Emergency Support Function assignees, coordinating with the local government and other resources to evacuate as many animals as possible. The EOC will establish an orderly process for animal rescues. Evacuated animals will be housed in facilities like the Montezuma County Fairgrounds until the owners can be reunified with pets.

Owners can generally evacuate small domestic pets. Larger pets and livestock are more challenging to evacuate. Montezuma County has a significant number of larger pets and livestock.

Table 13; Estimates of Livestock numbers in the County (USDA)

Livestock Inventory (Dec 31, 2017)

Broilers and other meat-type chickens	410
Cattle and calves	26,889
Goats	735
Hogs and pigs	981
Horses and ponies	2,568
Layers	5,092
Pullets	205
Sheep and lambs	2,468
Turkeys	237

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https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/Colorado/cp08083.pdf

Livestock

- Clear defensible space around your barns, pastures and property just as you do your home.
- Plan ahead, know where you would evacuate the animals Contact your local fairgrounds, equestrian centers, friends etc. about their ability to take livestock temporarily in an emergency. Have several evacuation routes in mind. If you don't have your own truck and trailer, make arrangements with local companies or neighbors before disaster strikes. Make sure your neighbors have your contact numbers (Cell phone, work, home, etc.)
- Have vaccination/ medical records, registration papers and photographs of your animals (proof of ownership) and your Disaster Preparedness Kit.
- If you must leave your animals, leave them in a preselected, cleared area. Leave enough hay for 48 to 72 hours. Do not rely on automatic watering systems. Power may be lost.
- **Do not wait until the last minute to start evacuating!**

Pets

Data on the overall number of pets residing in Montezuma County is limited. It can be reasonably assumed however that nearly every household in the county has at least one pet.

To help ensure the safety of pets and livestock owners can steps that will increase the likelihood of pets and livestock surviving a wildland fire.

- Plan ahead. Know where you will take or leave your pets. In case you are not home when disaster strikes, arrange in advance for a neighbor to check on or transport your pets. Make sure your neighbors have your contact numbers (cell phone, work, home, etc.). In the event of evacuation pets may not be allowed inside human emergency shelters – have an alternate prearranged location to take your animals.
- Make sure your pets are always wearing properly fitted collars with personal identification, rabies and license tags.
- Each animal should have it's own pet carrier. Birds, rodents and reptiles should be transported in cages. Cover cages with a light sheet or cloth to minimize their fear.
- Store vaccination/medical records, veterinary contact information, proof of owner- ship, a current photo, and a Disaster Preparedness Kit in one location. (Cal Fire)

Livelihood

Wildland Fires can disrupt the livelihood of many Montezuma County Residents significantly. A wildfire that shuts down CO_2 production, for example, would have wide-ranging impacts on the County. Most of the CO_2 infrastructure in the County is protected from wildfire, vulnerabilities remain. The loss of production has far-reaching consequences for the entire County since most of the county's tax revenue is based on production value.

Wildland fires also have the potential to disrupt or threaten agricultural operations. Wildfires can potentially harm grazing, albeit temporarily. Overall, wildfire is probably more of a long-term benefit to grazing than a detriment; however, during a wildfire event, livestock may be directly threatened by a wildfire. Lingering effects may include losing access to grazing allotments on public or private lands. Loss of grazing acres could necessitate suitable replacement pasture, or feeding hay, either of which may be in short supply or more costly. In some cases, crops themselves may be at risk of wildfire. Winter wheat, for example, is highly combustible weeks before midsummer harvest.

Tourism is also highly susceptible to wildland fires.

Mesa Verde National Park is Montezuma County's most prominent tourism draw and has extensive experience with wildfires. During wildfire events, Mesa Verde typically closes the park to visitor access. With one access road into and out of the park, the risk of having a wildfire overrun the road and trap visitors is significant. Furthermore, the presence of visitors can be an impediment to fire suppression efforts by clogging the transportation system and preventing access by emergency personnel. In addition, visitors in the backcountry need to be alerted and accounted for during an event.

Public lands are a significant tourism draw for Montezuma County. Wildland fires can necessitate access restriction or the closure of public lands to ensure public safety, prevent interference with emergency responders, and protect resources. Restricted access to public

lands can significantly impact businesses such as guides and outfitters who rely on public lands for their business.

Wildfire could also negatively impact the timber industry. Valuable timber resources can be damaged or destroyed by wildfire. The loss of access to suitable timber resources may negatively impact businesses that rely on forest products in short and long terms.

Recreational Resources

The adverse effects of wildfire or wildfire mitigation are a top community concern. Generally speaking, the adverse effects of a wildfire on recreational resources would devastate the local culture, traditions, and economy more than the inconveniences posed by vegetation management projects.

The proposed USFS vegetation management project is designed, in part, to reduce the overall risk to the recreational resource on public lands.

Part of the recreational experience is rooted in healthy forest vegetation. When vegetation becomes overgrown in even-aged stands, choked with underbrush, forest health and biodiversity decline, and the overall wildlife habitat quality declines. Correspondingly the potential for insect infestations or catastrophic wildfire increases. Furthermore

USFS and BLM vegetation management projects are designed to improve overall forest health, including wildlife habitat, and build and resiliency to wildfire. Improved forest health brings a direct benefit to recreation on public lands. The intention of vegetation management projects proposed by both agencies is to reduce the overall impact on recreational resources while the project is executed. Both agencies follow the NEPA process, including a robust public outreach and feedback loop. Propose projects are adjusted based upon public input to eliminate or reduce as many conflicts identified as possible.

All recreational resources on public lands are highly valued resources to the local community and national level. BLM resources are of particular concern. Including the BLM Cortez SRMA, made up of the BLM Phil's World Trail Park, the BLM Chutes and Ladders Trail Park, and dispersed camping, the BLM Summit Trail Park, the BLM Aqueduct Trail Park, and the BLM Mud Springs Trail Park.

The USFS Boggy Draw Trail System and McPhee Reservoir are two significant recreational resources located on USFS lands that are most at risk. The USFS has many other campgrounds and trails that could also risk wildfire.

Cultural Resources
The direct effects of fire on archaeological materials result from either energy transported from the burning fuel to the material artifact or structure or from the deposition of combustion byproducts on the Cultural Resource (CR).

Direct, first-order fire effects result from elevated temperature's physical or chemical effects on artifacts or structures or the degradation of surface characteristics by deposition of combustion-based residues (e.g., tars and soot). Thermal results vary depending on the type of material. For example, (e.g., lithics, ceramics, organic remains, metals, etc.); the physical chemistry of the material (e.g., sandstone vs. obsidian lithics or terracotta pottery vs. porcelain ceramics). The artifact's location (provenience) to the fuels burned, fire behavior, and heat transfer. Heating can also affect other dating techinques, such as archaeomagnetic (AM), thermoluminescence (TL), and obsidian hydration (OH). Direct thermal effects include combustion of organics, including organic objects (pollen, seeds, wood, baskets, hides, etc.), organic paints and dyes used to manufacture objects, organic food residues (blood, proteins), or residues and organic substances embedded in composite materials. Fire also consumes and redistributes organic materials with potential impacts on radiocarbon dating and the ability to identify micro-and macro-fossils, proteins, and other organic diagnostics. Thermal stress associated with rapid temperature increase can physically damage artifacts, resulting in shattering fracturing, spalling, crazing, cracking, etc. Depending on the material type, e.g., glass, lithic, ceramic, et cetera.

Second-order or indirect effects include post-fire damage caused by increased weathering, erosion, and redistribution. Accelerated post-fire erosion can either wash away, bury or redistribute archaeological materials. The physical scattering of CR through erosion, combined with thermal impacts on dating techniques, may skew an archaeological interpretation, confounding the ability to assess the potential for second-order effects, which requires multidisciplinary integration of the archaeology, geology, climatology, and fire severity.

Third-order effects include the human response to fire. Fire suppression activities, particularly scouting and line construction, can cause mechanical damage to artifacts and structures. Fire retardants, foam, and water can cause chemical damage to surfaces. Rapid quenching of heated materials can lead to fractures. In the case of wildland fire, it often occurs that unknown sites and artifacts are discovered due to vegetation removal. In the absence of protection, this *can lead to increased vandalism.*
(2010 Kevin C. Ryan Missoula fire Sciences Laboratory, U.S. Forest Service, Rocky Mountain Research Station, 5775 US Highway 10 W., Missoula, MT, USA 59808, kryan@fs.fed.us)

Historic Resources
Wildfires can also harm historic properties in a very similar manner to the effects on cultural resources. Wildfire often has an even more significant impact on historic properties because

many historic resources are also constructed of wood or other combustible materials and are present on the surface,

Montezuma County has numerous historic resources at risk from wildfire. These properties include old homesteads, mining structures, mill sites, bridges, and water conveyance systems such as the McElmo Flume.

2021 Highly Valued Resources and Assets (HVRA) Analysis
In this 2021 update, ongoing collaboration with the Dolores Watershed Resilient Forest (DWRF) Collaborative has participated in a community-based wildfire risk analysis with input from both local and regional partners.

Montezuma County actively participants in the DWRF Collaborative. One of the benefits of working with the DWRF Collaborative is the increased access to specialized technical assistance through federal agencies.

The BLM/ USFS has provided technical assistance to the collaborative by committing a GIS/ Fire Sciences Specialist to develop Wildfire risk models. The DWRF Collaborative, in partnership with the USFS GIS Fire specialist, has been working on improved wildfire risk analysis since 2016.

What is an HRVA Analysis?
Wildfires can result in significant, long-lasting impacts on ecological, social, and economic systems. Therefore, it is necessary to identify and quantify the risks posed by wildfires and subsequently develop cost-effective mitigation strategies. To do so, fire and fuel managers require information on where fires are likely to occur, the intensity at which they might occur.

Furthermore, fire managers consider what impacts wildfires have on highly valued resources and assets (HVRAs; that is, the things we care about). *(A Wildfire Risk Assessment Framework for Land and Resource Management, Joe H. Scott Matthew P. Thompson David E. Calkin, 2013)*

Wildfire risk is the product of the likelihood of a fire occurring (likelihood), the associated fire behavior when a fire occurs (intensity), and the effects of the fire (susceptibility) on highly valued resources and assets *(Calkin et al. 2010, Finney 2005, Scott 2006, Scott et al. 2013)*.

Wildfire risk mitigation happens when any of these three aspects are reduced. The wildfire risk assessment framework includes four primary components: 1) wildfire simulation, 2) highly valued resource and asset (HVRA) characterization, 3) exposure analysis, and 4) effects analysis

HRVA Characterization

Highly valued resources and assets (HVRAs) are simply the things we care about. HVRA's can be qualitative (e.g., visual quality) or quantitative (e.g., tons of carbon). There are many HVRAs for national forests, and the choice of a single or multiple HVRAs depends on the project objectives and needs. Some resources have only modest value and may not be analyzed to focus on the more highly valued resources and assets.

Broadly HVRAs can be categorized into a critical habitat, recreation infrastructure, energy infrastructure, air quality, and municipal watersheds. However, analysts may customize HVRA's to reflect what a particular community cares about. For example; In an assessment of the Lewis and Clark National Forest, HVRAs were categorized into: green trees, wildlife habitat, infrastructure, watersheds, and urban-wildland interface. The precise HVRAs used in a fuels project depend on the issues at hand as identified in the purpose and need.

HVRA characterization involves 1) mapping the spatial extent, 2) determining the effects of fire of different intensities on each HVRA, and 3) when multiple HVRAs are assessed, the relative importance between them.

Overall Risk Summary;

• Overall significance of the hazard is considered high for all jurisdictions except Cortez which considers it to be medium.

• A total of 5,870 parcels and 6,463 buildings are located in areas exposed to risk wildfire, with a total value of over $2 billion. The greatest exposure is located in the unincorporated parts of the County.

• Wildfires within and in adjacent counties can deter tourism and affect the local economy and air quality.

• Wildfires could cause floods and debris flows as secondary natural hazards.

• Climate change could affect the frequency and intensity of the wildfire hazard.

• Both the natural and human-caused conditions that contribute to the wildland fire hazard are tending to exacerbate through time.

9.) EMERGENCY MANAGEMENT

PROTECTION CAPABILITIES AND INFRASTRUCTURE PROTECTION

Response Times

Montezuma County has excellent Fire Protection Coverage, however, depending on the neighborhood area, the response could be shorter for those closer to the fire station than further from the fire station. Montezuma County fire fighter ranks are made up mostly of volunteers and response times depend largely on how quickly volunteers can report to their duty station.

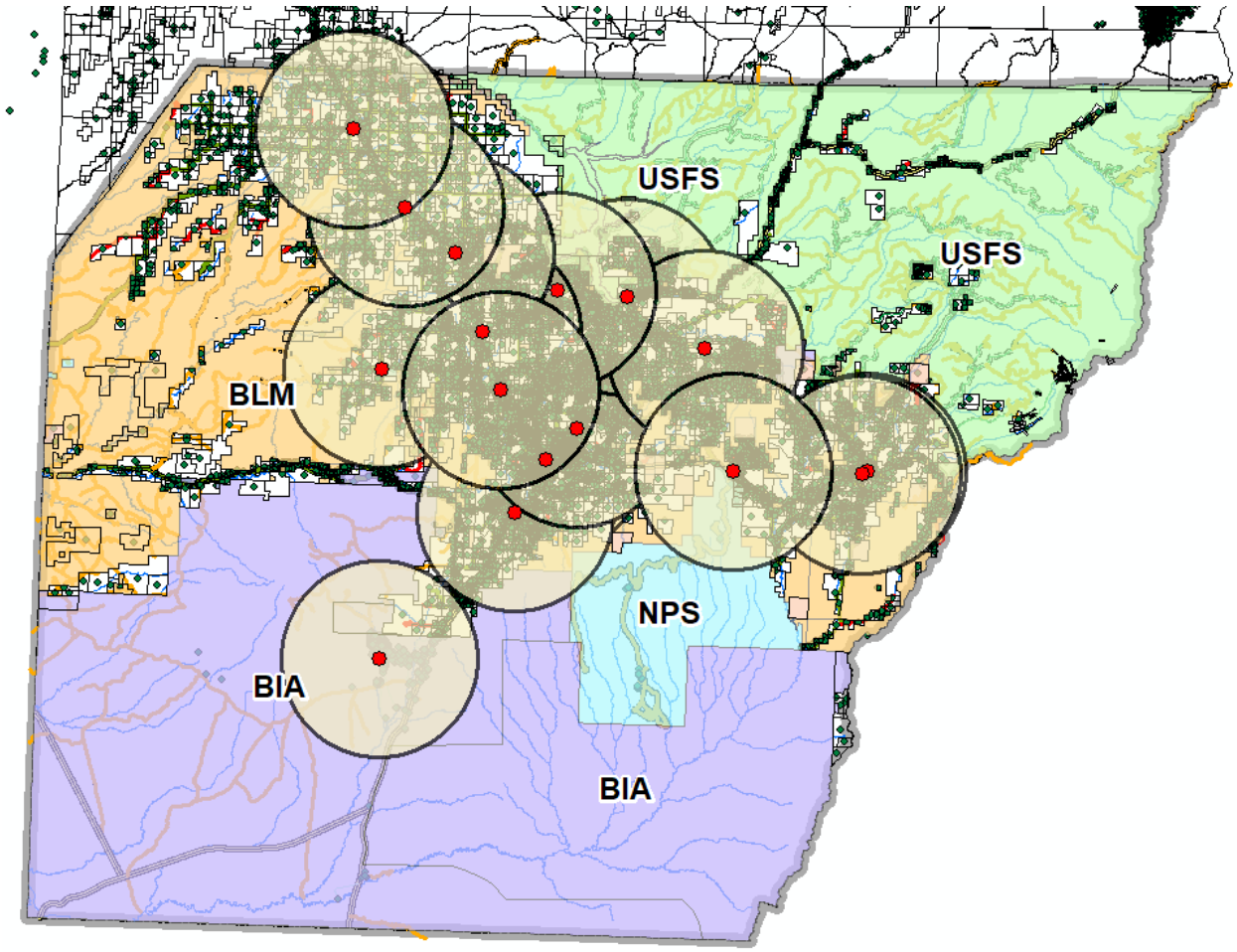


Figure 41.) Fire Stations and 5 mile radius around each. (Montezuma County GIS)

We did not attempt to actual estimate response times for the 95 major subdivisions in the County. However we can say with confidence that nearly all of the citizens in Montezuma County live within 5 miles of a Fire Station and response times are acceptable for the setting. Notable exceptions include Lower McElmo Canyon, The Lowry Ruin area, the Dolores River

Canyon and lower Weber Canyon. Emergency Responses in the Dolores River Valley may have response teams from Rico or Dolores depending on the location and availability of first responders.

Each neighborhood should contact its local fire authority to determine the response time to your community and each residence and plan accordingly.

INVENTORY OF FIRE PROTECTION RESOURCES

Montezuma County has five special fire districts; The Pleasant View Fire Protection District, The Lewis- Arriola Fire Protection District, The Dolores Fire Protection District, The Cortez Fire Protection District, and the Mancos Fire Protection District are within the Montezuma County boundaries.

Also, within Montezuma County boundaries, there are several resources and entities who are also available to respond to wildland fires, including:

- United State Forest Service (USFS) – San Juan National Forest
- Bureau of Land Management (BLM) Tres Rios Field Office
- Bureau of Indian Affairs (BIA) – Ute Mountain Ute Agency
- National Park Service (NPS) - Mesa Verde National Park
- Colorado State Forest Service (CSFS)
- Ute Mountain Ute Fire Protection District and the Department of Fire Prevention and Control (DFPC)

These organizations work with each other and community partners to share resources and information. Over the years, strong partnerships have developed related to fire prevention and demonstration projects, fire suppression, public education, and access resources such as equipment, grants, and training.

These 11 agencies work together to suppress any wildland fire our County may have. Each entity brings numerous resources to the table for the initial attack and long-term suppression efforts. The inventory of all resources is constantly changing. It would not be a reliable and consistent inventory to list all the equipment in this Plan.

LOCAL WILDLAND FIRE MANAGEMENT POLICIES

Montezuma County enters into an Operating Plan (OP) with the fire entities listed above, including the County Sheriff and the Commissioners, every 5 years.

The last Plan entered into was for 2021 to 2026. The OP gives the guidance, spending authority and responsibilities for response, initial attack, and long-tern suppression efforts. The Plan gives clear direction on all firefighting response efforts across all the different jurisdictions. The OP is a Mutual Aid Agreement.

TRAINING RESOURCES AND NEEDS

The training resources throughout the County are numerous. We have several certified instructors who can deliver specific wildland fire operations classes. Instruction includes 130/190 courses for the firefighters on the ground, engine boss, division supervisors, etc. to an overhead position in the Incident Command System, Logistics Section Chief, Incident Commander, etc. Certified trainers can deliver these training sessions through formal settings like the Fire Academy held each year or by specific classes needed outside of an academy. The Law Enforcement Academy in Mancos also has instructors that deliver the ICS training at a street level for officers. Emergency Operations Center (EOC) staff and the Emergency Support Functions (ESF) personnel training is ongoing, including elective officials each year.

Regarding the need for training resources on wildland fire operations, disciplines need to train together on table-top exercises and functional exercises more often each year. More training in all areas is always better than less.

MUTUAL AID AGREEMENTS

The Operating Plan described above and the Montezuma County's Fire Chief's Association also have a Mutual Aid Agreement (MAA) between the 6 fire districts; Pleasant View Fire Protection District, the Lewis Arriola Fire Protection District, the Dolores Fire Protection District, the Cortez Fire Protection District, the Mancos Fire Protection District, and the Ute Mountain Ute Fire Protection District.

EVACUATION INFORMATION

It would not be feasible to enter all the 95 subdivisions contact information into this Plan. Individuals may elect to share personal emergency contacts with the local fire protection districts. Fire protection districts maintain these inventories.

The Montezuma County Sheriff's Office is responsible for issuing evacuation notices and maintaining controlled access into evacuation zones. Nixel notifications on evacuations will sent by the County Emergency Manager and information will be made public through the County Public Information Officer (PIO) as it becomes available.

Livestock can be released from public lands and fences taken down in an emergency on public lands. Owners will haul some animals to locations agreed upon by the emergency team. CSU Extension will assist in this operation and care of the animals.

Alternative evacuation routes are being evaluated on a subdivision level. However, not every home will be able to have a secondary vehicular access route. Therefore residents are encouraged to develop alternative plans for evacuation in case their primary route becomes impassable. It is not feasible to all subdivision to develop secondary access routes, however emergency access is a part of the development review process.

COMMUNITY PREPAREDNESS TO RESPOND TO WILDFIRE
There are a number of resources and entities involved in fire suppression in Montezuma County.

- The Montezuma County Sheriff's Department
- Local Fire Protection Districts (Lewis Arriola, Pleasant View, Cortez, Dolores, Mancos, Towaoc)
- The United States Forest Service (USFS) – San Juan National Forest
- The Bureau of Land Management (BLM) – Tres Rios Field Office
- The National Park Service (NPS) – Mesa Verde National Park
- The Bureau of Indian Affairs (BIA) –Ute Mountain Ute Agency
- The Colorado Sate Forest Service (CSFS)
- Colorado Division of Fire Prevention and Control (CDFPC)

All of the agencies collaborate together to share resources and information. Over the years, a strong partnership have formed related to fire prevention and demonstration projects, fire suppression, public education and access for resources such as equipment and training.

THE MONTEZUMA COUNTY SHERIFF'S OFFICE
The Sheriff is the Fire Warden for Montezuma County. The Sheriff will initiate emergency evacuation orders, and maintain security for wildfire events. The Sheriff also coordinates information form the Fire Projection Districts and recommends fire bans to the Board of County Commissioners when it is appropriate.

LOCAL FIRE PROTECTION DISTRICTS - Fire protection on private lands is provided by the five Montezuma County fire districts, including Lewis Arriola, Pleasant View, Cortez, Dolores, and Mancos.

The Pleasant View Fire Protection District extends northward into a relatively small rural area of neighboring Dolores County. Likewise, the Dolores Fire Protection District provides service to the "Ground Hog" area of Dolores County, which a Fire Protection District does not cover. Each Fire Protection District has at least one brush truck and a variety of other equipment that enable them to suppress wildland fires within their district.

Mutual-aid between Fire Protections Districts and federally managed lands are well-coordinated and used effectively when the situation dictates.

THE UNITED STATES FOREST SERVICE (USFS) - The Dolores District of the San Juan Forest /Bureau of Land Management provides wildfire management on US Forest Service and BLM lands, including Canyons of the Ancients National Monument. (The National Park Service includes wildfire management at Mesa Verde National Park.
The Bureau of Indian Affairs (BIA) provides wildfire management on the Ute Mountain Ute Indian Reservation.)

Although there is some annual fluctuation in funding, federal agencies typically have the resources needed to help manage, monitor, or suppress wildfire starts within their locality. Suppose local resources are not sufficient to manage wildfire starts. In that case, Fire authorities may request additional resources through the Durango Interagency Dispatch Center.

During the summer, "severity resources" are often brought in to supplement locally stationed resources. The San Juan Interagency Hotshot Crew is stationed in Durango but usually works elsewhere across the nation. The crew is considered a national resource. In addition to fires in the local area, teams may be assigned to fires across the country.
This is the same for the two type III initial attack helicopters located at Ute Mountain and at Mesa Verde and the type II helicopter pre-positioned at Ft. Lewis.

There is good coordination between federal agencies and local resources. Mutual aid response is adequate and detailed when conditions or available resources dictate.

The Dolores District conducts prescribed fire and other fuel treatments on approximately 2,500 to 3,000 acres of National Forest land and 500 acres of BLM land per year.

THE NATIONAL PARK SERVICE (NPS) - The National Park Service provides wildfire management at Mesa Verde National Park. The National Park Service conducts prescribed fire and other fuel treatments on land within its jurisdiction.

THE BUREAU OF INDIAN AFFAIRS (BIA) - The Bureau of Indian Affairs (BIA) provides wildland fire protection on Ute Mountain Ute Nation lands and coordinated fire suppression in interface areas between interface areas Ute Mountain Ute lands and other jurisdictions.

The community of Towaoc also has a paid Fire Protection District (FPD). The Towaoc FPD provides suppression services to the community of Towaoc mainly with structural fires, it but also assists BIA with wildland fire suppression wherever needed on Tribal lands. The Towaoc FPD also provides coordinated fire suppression and emergency response in interface areas between Ute Mountain Ute lands and other jurisdictions.

The BIA conducts prescribed fire and other fuel treatments on land within its jurisdiction.

THE COLORADO STATE FOREST SERVICE (CSFS) - The CSFS's role has changed since the last rendition of the Montezuma County CWPP. CSFS still supports educational and training programs that promote forest health and wildfire risk reduction and most of its foresters are still certified Wildland Firefighters that take fire assignments as time allows, however it no

longer has responsibility for response and suppression of wildfire. In 2012 the Division of Fire Prevention & Control, under Colorado's Department of Public Safety, was assigned responsibility as Colorado's wildland fire suppression agency.

The agency's primary emphasis is on forest health, prevention and mitigation to reduce the chances of catastrophic wildfire on state and private lands in Colorado. The CSFS also administers several grant programs that are designed to assist private landowners or local governments with fuels reduction projects.

The CSFS activities include:

- developing education materials and programs to assist homeowners, landowners and communities in taking action to reduce their wildfire risk
- encouraging the creation of fire-adapted communities through the implementation of forest management to increase forest resilience
- supporting local nonprofits like the Wildfire Adapted Partnership in their mission of educating, training and equipping communities in the Wildland Urban Interface to understand and reduce their wildfire risk

COLORADO DIVISION OF PREVENTION AND CONTROL (CDPC)- The Colorado Division of Fire Prevention and Control is a Department of Public Safety division with a 10-person module and Battalion Chief located in Dolores, Colorado as of January 2019. The Division resources are available to assist the local Fire Protection Districts in Montezuma County, Federal lands and the County Sheriffs upon request. The Division will work with stakeholders and cooperators to develop an ANNUAL OPERATING PLAN for the county and to assist with planned and unplanned ignitions.

The Division of Fire Prevention and Control has no identified fire protection district or jurisdictional boundaries and can be utilized for suppression on lands unidentified or unincorporated or in any specific Fire Protection District. Division resources may be ordered for pre- positioning, during mutual aid periods and may be requested for extended attack.

The Division of Fire Prevention and Control may assume responsibility of any wildland fire that exceeds the capabilities of the Local Fire Protection district and the Sheriff with a Delegation of Authority. An Agency Administrator will be available on emerging incidents to help evaluate, advise, order necessary management personnel, to explore funding mechanisms, to act as a liaison between the County Sheriff, other jurisdictional Agency Administrators and incident management teams if present.

THE DURANGO INTERAGENCY FIRE DISPATCH CENTER

The USFS, BLM, Bureau of Indian Affairs, Mesa Verde National Park, and CSFS contribute resources to operate a full-time interagency fire dispatch center. The facility is located in the

San Juan Public Lands Center, at 15 Burnett Court, Durango. This is a sub-geographical coordination center with direct links to the Rocky Mountain Geographic Coordination Center (Denver) and the National Inter-agency Coordination Center (Boise, Idaho)**.** The Center helps make fire response quick and effective.

AIR SUPPORT

An air tanker base is located in La Plata County at the airport, and the Mesa Verde Heli-tack base has been located at the Old Fort Lewis in Hesperus. Both have greatly improved local firefighting capabilities. Additional air support can be tapped into from other areas if it is available.

OTHER RELEVANT PLANS;

This County-Wide CWPP incorporates any subdivision level CWPPs in the County, the County Wide Hazard Mitigation Plan, and Community Source Water Protection Plans.

10.) MITIGATION AND IMPLEMENTATION PLAN

The original 2005 version of this Plan identified five goals. In 2011, based on a fire protection agency review and stakeholders' feedback, the fire planning collaborative narrowed the five goals to three. The 2022 Plan review found all three goals remain priorities.
The following three goals summarize the overall intent of the recommendations of the 2021 plan update.

1.) PROTECTION OF THE LIVES OF RESIDENTS AND EMERGENCY PERSONNEL.

2.) PROTECTION OF PROPERTY AND CRITICAL INFRASTRUCTURE IN THE WILDLAND-URBAN INTERFACE.

3.) PROTECT KEY ENVIRONMENTAL VALUES AND QUALITY OF LIFE.

The 2021 collaborative update process also reviewed six focused program areas that the fire planning collaborative initially identified as necessary to support the three overarching goals of the 2021 CWPP. Those program areas are;

Education	**Prevention**	**Mitigation**
Cooperation	**Suppression**	**Appropriation**

Realizing the goals of this CWPP will require an extensive effort that will continue to evolve as new ideas emerge and existing ideas hit obstacles or delays. This Plan intends to support and pursue as many actions as possible in an ongoing effort to achieve the Plan's three overall goals.

The Fire Planning Collaborative initially developed strategies and action items from the five community input meetings held in 2005. In 2021 the Fire Planning Collaborative analyzed the strategy and action items and found them to remain priorities.

Many of the actions identified on this Plan will require an ongoing sustained effort to implement. This Plan does not necessarily expect that all of these actions will occur at once. The Plan intends the following tables to function as a menu of opportunities for creating a more prepared WUI community over time. Steps should follow as opportunities arise. The action language also indicates existing efforts that should be continued and strengthened.

EDUCATION AND COMMUNITY OUTREACH

Audience

The Community Education and Outreach provides information to County citizens, especially newcomers who may not have experience lining in a rural western setting. Outreach is also educating the local builders and lands developers to help new residents create safe and desirable living spaces.

Current outreach program

The Montezuma County Wildfire Adapted Partnership (WAP) currently takes the lead education and outreach role in Montezuma County.

The WAP Mission Statement reads, *"Wildfire Adapted Partnership (WAP) inspires, educates and enables individuals and communities to protect lives and property from wildfire".*

WAP provides the following outreach and education services;

- **Educates** and actively engages over 20 Volunteer Neighborhood Ambassadors.

- **Makes annual presentations** to local HOAs. Local workshops and education events. Bi-monthly Ambassador meetings (open to the community.)

- **Home Wildfire Risk Visits;** A Wildfire Adapted Partnership coordinator will visit properties and do a wildfire risk assessment of the home site. WAP coordinators will walk around the property and discuss what steps can be taken to be better prepared for wildfire. WAP Provides a written analysis and affirmative steps that properties can take to reduce wildfire risk. Site visits generally take 60-90 minutes.

- **Defensible Space Cost Share;** Properties may be eligible for cost-share assistance to reduce the cost of modifying vegetation that makes your home vulnerable to wildfires. WAP will send a Home Ignition Zone specialist to provide a free home wildfire risk assessment and mark trees for removal if residents choose to pursue the defensible space cost-share program.

- **Chipper Rental Rebate;** WAP administers a program that encourages private landowners to chip slash created from fuels mitigation projects on site. On any privately-owned property in La Plata, San Juan, Montezuma, Archuleta, or Dolores counties in Colorado, Wildfire Adapted will reimburse the homeowner 50% of the cost of a chipper up to $250. After meeting all requirements, residents may choose to rent a chipper or hire a mitigation company to provide chipping services.

- **Community Assessments;** Wildfire Adapted, and 1-2 of their partners (BLM, CSFS, or local fire department) will do a drive-through or walkthrough of the neighborhood with the Wildfire Adapted Ambassador and one or two more residents. The community will receive a written report, complete with pictures and 4-6 recommendations to start their wildfire preparedness efforts—no cost to homeowner other than coordinating with HOA and neighbors.

- **Wildfire Adapted Community Kickstart Grant;** The WAP program offers neighborhoods new to our Wildfire Adapted Partnerships program a chance to receive up to $7,500 for a community project. Which partners are available to help develop the Plan if requested; however, the Neighborhood Ambassador is responsible for writing the scope of work and getting contractor bids. Most neighborhoods use the funding to mitigate common space or create shaded fuel breaks along their road rights-of-way. Wildfire Adapted Partnership and CSFS inspect projects upon completion and certify quality. Residents must provide at least a 25% cash match.

- **Mini-Grants;** Mini Grants may be available for HOAs, POAs, or self-defined communities that do not have a form of governance. Mini-Grants target specific education or outreach activity or specific wildfire mitigation project. Proposals must address a community education or mitigation need. Examples of approved projects include: installing reflective signage, mailing informational handouts to community members, hosting a Wildfire Adapted outreach event for the community, etc.

The Colorado State Forest Service (CSFS) is also proactive in Montezuma County. The CSFS mainly supports educational and training programs that promote forest health, practical readiness, response, and suppression of wildfires. CFS's most significant emphasis is on forest health, prevention, and mitigation to lessen the chances of catastrophic wildfires on state and private lands in Colorado.

The CSFS's role has changed since the last rendition of the Montezuma County CWPP. CSFS still supports educational and training programs that promote forest health and wildfire risk reduction and most of its foresters are still certified Wildland Firefighters that take fire assignments as time allows, however it no longer has responsibility for response and suppression of wildfire. In 2012 the Division of Fire Prevention & Control, under Colorado's Department of Public Safety, was assigned responsibility as Colorado's wildland fire suppression agency.

The agency's primary emphasis is on forest health, prevention and mitigation to reduce the chances of catastrophic wildfire on state and private lands in Colorado. The CSFS also

administers several grant programs that are designed to assist private landowners or local governments with fuels reduction projects.

The CSFS activities include:

- developing education materials and programs to assist homeowners, landowners and communities in taking action to reduce their wildfire risk
- encouraging the creation of fire-adapted communities through the implementation of forest management to increase forest resilience
- supporting local nonprofits like the Wildfire Adapted Partnership in their mission of educating, training and equipping communities in the Wildland Urban Interface to understand and reduce their wildfire risk

STRATEGY AND OUTREACH ACTIONS

A focus on understanding the Home Ignition Zone is the most critical public messaging within the 2021 CWPP update.

Public messaging in Montezuma County has focused on five main strategies to reduce wildfire risk these points are still relevant to the core message and should continue to be promoted;

1.) Master Planning

Pre-construction planning and design can often play a significant role in increasing a home or subdivision's resistance to wildfire. Understanding and accepting that fire is a natural occurrence in the landscape can help from the beginning design stages through the final build-out. Careful design will result in communities that are attractive, livable and ultimately more valuable because they are more compatible with their natural environment which includes wildfire.

Appropriate planning includes community infrastructure considerations, site preparation, home design and layout, fire resistant building materials, landscaping layout and materials, and long-range maintenance activities. All of these planning elements are applied with the risk of wildfire in mind.

Land use planning tools such as zoning, plans, regulations, and building codes can influence the design, layout, and placement of homes built in wildfire-prone areas. However not all counties are in favor of heavy handed approaches such as these, nor do all counties have the means to fully administer regulate all of the aforementioned approaches.

The Montezuma County Land Use Code considers adequate water supply, road widths and access during the subdivision process but only on parcels less than 35 acres in size as per state

law. Montezuma County generally supports personal responsibility over governmental mandates.

2.) Reducing Structural Ignitability Using Fire Safe Construction Materials and Techniques
Montezuma County does not currently have a building department or building codes. Therefore it is up to the individual to educate themselves about Firewise construction.

After carefully designing a development, it is important to follow through with the appropriate building materials and techniques. Proper selection and assembly of materials for roofing, siding, and windows can significantly improve a structures resistance to fire. In addition attention must be paid to areas that can catch firebrands such as eaves, vents, and wooden decks.

Exterior Walls - Wood and Vinyl wall coverings are not appropriate for home construction in wildland fire environments. Vinyl melts at relatively low temperatures. Most wood, wood composite, and wood shingle exterior wall coverings are also risky for use in fire-prone environments. These coverings are better used where wildland fire is not an issue. This is especially true for hardboard and cedar shingle wall coverings, both of which quickly failed in flame exposure tests. An exception is wood treated with fire retardant, especially if tongue and groove or other 'tight' building techniques are employed, but the retardant chemicals also have a limited lifespan and may need to be reapplied. The sheathing that underlies wall coverings is also a factor. In laboratory fire tests, Oriented Strand Board (OSB) failed in about 80% of the time that plywood failed.

Fiber-cement - This includes cement and wood fiber mixes such as "Hardie Plank," usually applied as horizontal lap siding. The type of lap is important, with joints that interlock or tongue-and-groove performing better than plain bevel lap. Plain bevel lap is not as good since tests showed that flames penetrated walls within one minute, while shiplap resisted flames over 20 minutes. Several things can be done to assure that these cement/ fiber siding boards don't separate with age or various kinds of trauma. One manufacturer recommends leaving an eighth of an inch gap between planks and adjoining wooden members. This avoids warping when the wood members swell up during wet weather. Some plank manufacturers advise homebuilders to seal between the planks with caulk. This also makes sense for reducing the likelihood of fire entry into the house. These planks are roughly 80 percent cement. They will not burn at forest fire temperatures.

Stucco- Stucco is probably the best material for WUI wall construction. Stucco is simply a fine grade of cement, a sort of artificial stone that does not burn and is not a good heat conductor. An added plus for homeowners is that it is low maintenance in most western climates. One concern, though, is that protruding wooden beams can wick fire through stucco walls and ignite the interior of homes.

Concrete wall systems- At first glance concrete wall panels would seem to be fireproof systems, but these systems are relatively new on the market; consequently, research on their efficacy in resisting wildfire damage is not yet available. One system uses large amounts of plastic foam that may actually present some problems in a wildfire situation. In summary, covering walls with stucco or cement/fiber appears to be an economical way of reducing the flammability of exterior walls. Underlying sheathing should be made of plywood if possible.

Roofs

There are numerous roofing materials that will look good and keep the weather out, but only a few materials will resist ignition from wildfires. Underlayment and sheathing are important. No matter which type of roofing is chosen, use one of several nonflammable underlayments that are on the market. Also, there is considerable evidence that if fire does penetrate the roof surface, plywood sheathing will not fail as quickly as oriented strand board and other composite products. So consider plywood for roof sheathing.

Slate - This is very expensive, and the product is heavy enough that roofs must often be specially designed to bear the weight. For those who can use it, slate offers excellent fire protection.

Tile- Concrete tile passed a flaming brand test. Polymer modified fiber-cement also passed.

Metal - Metal roofs have an excellent record in forest fire situations. Not only are they composed of a material that will not burn, they are fairly 'slippery' and tend to shed flammable debris before it can build up. Metal roofs are moderately priced.

Composition - This is the classic three-tab asphalt roofing. One popularly used brand passed a 20-minute firebrand test without fire penetration.

Fiberglass - This is similar to three-tab, but the material is fiberglass. It has a Class A rating: flames from a firebrand did not penetrate a fiberglass shingle roof.

Cedar Shake Roofs - These are absolutely the worst choice for roofing in the wildland/urban interface. They are easily ignitable, highly flammable, and catch needles too well. According to research on home ignitability by Jack Cohen of the U.S. Forest Service's Fire Sciences Lab, if all a homeowner can do is to replace a wooden shake roof with a roof made of nonflammable materials, they raise the probability of their home surviving by 90 to 95 percent.

In summary, for most price ranges, metal, various tile products, fiberglass, or composition will work for roofs. The ability of metal to shed needles and leaves makes it an excellent choice for WUI roofs. Again, a non-flammable underlayment and plywood sheathing may also increase home fire resistance.

Windows
Windows are defined here as both the frame material and the glass. Tests at the University of California Forest Products Laboratory show that the glass is the most important factor when considering fire penetration.

Glass- Glass Double pane (thermopane, etc) performed far better than single pane. It is not too expensive, and saves on heating and cooling bills. It works because most windows fail when a sudden spike in the temperature of the exposed glass pane cannot equalize with the glazed portion (the part of the glass covered by the wood or metal glazing). The double panes slow down this sudden heating. Often the outer pane fails, but the inner pane does not shatter and thus embers cannot blow into and ignite the house. Tempered glass is quite expensive but performs better than regular annealed glass.

Window frames
Whether vertical or horizontal, frames tend to fail at the interlock between windows. Some homeowners have constructed metal shutters to place over windows in the event of a fire. This is expensive, and is very effective, but only if people are present and forewarned in time to install the shutters. Double pane windows with wood, wood clad with aluminum, or fiberglass frames did well in flame tests. Anecdotal evidence from the 1988 Florida wildfires showed that vinyl frames can melt, causing the glass to fall out and allowing flames to enter the interior of houses.

Vents
Vents help control of moisture coming up from the ground during winter precipitation and accumulating inside the house structure. Most codes are standardized, so vents are frequently sized to eliminate moisture problems in climates ranging from warm and wet Florida to cold and snowy Minnesota, as well as the high desert area of Montezuma County, Colorado.

In many cases these codes provide much more venting than is needed in the arid west. Montezuma County does not require residential stricture to follow a specific building code. Homes located in the dry, arid west may consider using the minimum acceptable square footage of venting recommended by standard building codes.

Minimum venting is recommended because vents are vulnerable to ember wash. Ember wash is what often happens when the flaming front of a wildfire is pushed by strong winds. Thousands of glowing embers are carried through the air by the force of the wind and by the convective air rising off the flaming front. Most of these embers are so small that they have little fuel, release very little heat, and tend to go out almost immediately. The larger the size of the ember, however, the longer it can sustain glowing combustion. If a larger ember gets pushed into a soffit vent and lands on some drill shavings or a similar material inside an attic, the house can

ignite and burn. Sometimes the advent of flaming combustion inside a house can occur hours after the flaming front has passed.

Perhaps the best mitigation for these vents is screening. The larger the ember, the more heat it can generate—and it only takes one ember landing in the wrong place to ignite a house. Soffitt vents and crawlspace vents should be screened with 1/8” steel mesh.

Some county code enforcers will frown on this, as they worry that dust, subsequent paint jobs, and other factors will tend to clog 1/8” mesh. 1/8” screens must be cleaned occasionally, and should not be painted. All forms of vents on the underside of eaves (strip, freeze block, etc) in both boxed and open eave designs will admit flames and superheated air. That is why it is so important to keep the flammable vegetation, decks and woodpiles away from the house. (Rich Fairbanks and Timothy Ingalsbee, Firefighters United for Safety, Ethics, and Ecology July 2006)

3.) Reducing Structural Ignitability using Fire safe Landscaping

Proper landscaping helps to improve the enjoyment and value of a home. Landscaping offers the opportunity to manipulate micro-climates to manage storm water, take advantage of cooling shade or manage solar heat. Landscaping make homes more livable and connects people with the outdoors.

Landscaping is an essential element of home ownership and special attention to proper planning will ensure a successful landscape while managing risks associated with wildfires. Homeowners typically landscape their properties with a variety of plants to provide variation in color, texture and foliage. Homeowners in fire-prone areas should make sure that the plants and landscaping materials they use are fire resistant. A fire-safe landscape shows off plants and other garden elements by leaving space between plants and groups of plants.

Reduction of Plant Fuels- The excess and/or dead plants surrounding your home act as fuels when fire strikes. Remove them from your defensible space, replacing more flammable varieties with fire-resistant ones recommended by your local nursery.

Plant Selection- Use native plants in your defensible space. "Native species—(a good southwestern Colorado example is buffalo grass)—are fire-adapted, which means that their tops may burn off in a fire, but the roots develop to such an extent that they are the first to regenerate after a fire," says Jeff Burns, a forester with the Colorado State Forest Service's Alamosa District. These plants offer the fire-wise trait of being easy to maintain, and strong root systems will reduce property damage from erosion. The fire-adaptive traits of native plants ensure the preservation of native species and allow for a landscape that is more likely to survive exposure to extreme heat.

Trees and shrubs can be used in all defensible space zones, including Zone 1, provided they are a safe distance from other plants and any structures (more on that below). The trees you select for your landscape should be low in resin and sap content, with no rough bark. Consider replacing shrubs with a less flammable groundcover.

Consider the litter that plants create in the off-season. Try to select plants that shed minimal amounts of needles, leaves, and other waste. Any area where the ground is thickly covered with pine needles is at high risk, since the presence of very aromatic, dry litter increases flammability in fire-prone locations.

Visit a local nursery and talk to a grower about which plants will work for your defensible space. You can also call your local fire authority or contact a *Firewise Community/USA representative.* https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA

Create Fuels Breaks with Hardscaping- Incorporate fuel breaks like gravel and stone into your landscape. In the first 3 to 5 feet of Zone 1, replace all of the plants closest to the perimeter of your home with a bed of gravel. Replace mulch with flame-resistant landscaping materials by weaving gravel and stone pathways into your design. The use of these accents will provide visitors with safe passage to view your living collection and impede approaching flame in the event of a wildfire. For more information visit;
https://www.thisoldhouse.com/landscaping/21015539/firesafe-landscaping-defensible-space

Install an Automated Irrigation System- An automated irrigation system can be a great benefit to a fire resilient landscape. Regular water application through an automated system keeps plants healthy and hydrated making them more resilient wildfire. Grasses in particular can be an excellent fuel break if they are healthy and properly maintained. Regular watering can also increase moisture content in organic mulches and plant litter which reduces the ignitability of those materials. Finally an automated irrigation system can be set up to run ahead of an advancing wildfire. Even as homes are evacuated an irrigation system can still be left running to wet the landscape as fires approach providing some level of fire resistance even if the home is not occupied.

4.) Creating Defensible Space

Montezuma County recommends following the Colorado State Forest Service guidelines on creating Defensible Space. The full set of guidelines can be found on the Colorado Sate Forest Services website;
https://csfs.colostate.edu/wildfire-mitigation/protect-your-home-property-from-wildfire/

The majority of homes lost to wildfire are first ignited by embers and small flames. By reducing the susceptibility of the area immediately around the home and the home itself, the chances of a home surviving an ember storm or small spot fire are greatly increased. Work in the Home

Ignition Zone is also called creating defensible space and it is not a “once-and-done” undertaking. Defensible space requires ongoing commitment and maintenance.

The Home Ignition Zone is an area approximately 0’ – 100’ feet or more from the foundation and includes vegetation, the home itself, and other structures or attachments like decks, furniture, fences, and outbuildings.

The Home Ignition Zone

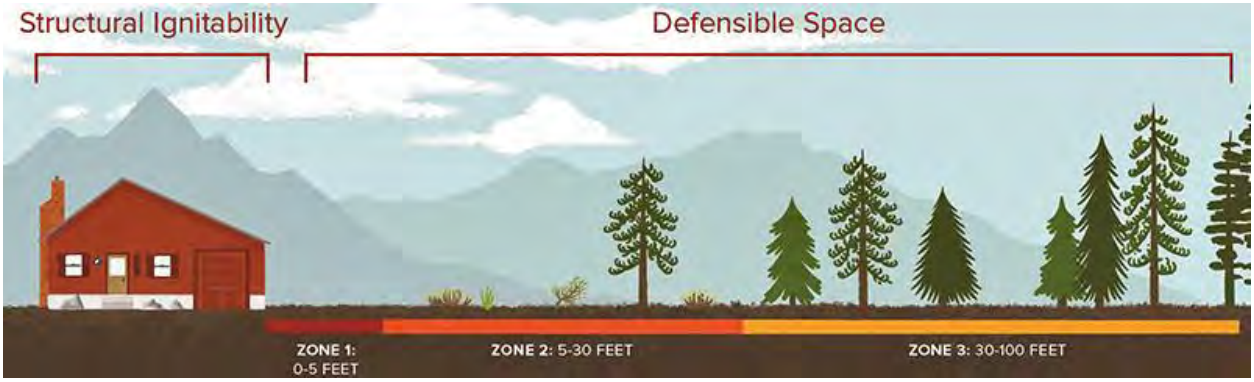


Figure 42.) The Home Ignition Zone (CSFS)

Defensible Space;
Defensible Space is where the rubber hits the road in Montezuma County. Defensible Space is the probably the best preventive measure a homeowner can take. Defensible space is not just for new construction though. Defensible space means an ongoing commitment to maintaining a fire safer space around values at risk throughout the county.

Thinning out vegetation and removing combustible materials around homes is the most important step in creating defensible space. Not only does this improve the chances of a home surviving a wildfire, but it is also the best thing that can be done to help keep firefighters safe and give them a ***chance*** to protect your property.

The Colorado State Forest Service offers the following advice on creating defensible space;

“Defensible space is the area around a home or other structure that has been modified to reduce fire hazards. In this area, natural and manmade fuels are treated, cleared or reduced to slow the spread of wildfire.

Establishing defensible space reduces the likelihood of a home igniting by direct contact with flame or by exposure to the radiant heat of the fire. It also helps limit local production of embers

and reduces the chance a structure fire will spread to neighboring homes or surrounding vegetation." CSFS.

Developing a defensible space plan requires an inventory of the existing site features and their hazards. Man-made elements include landscaping features, such as masonry walls, patios, footpaths and driveways. These features create fire barriers and buffer zones.

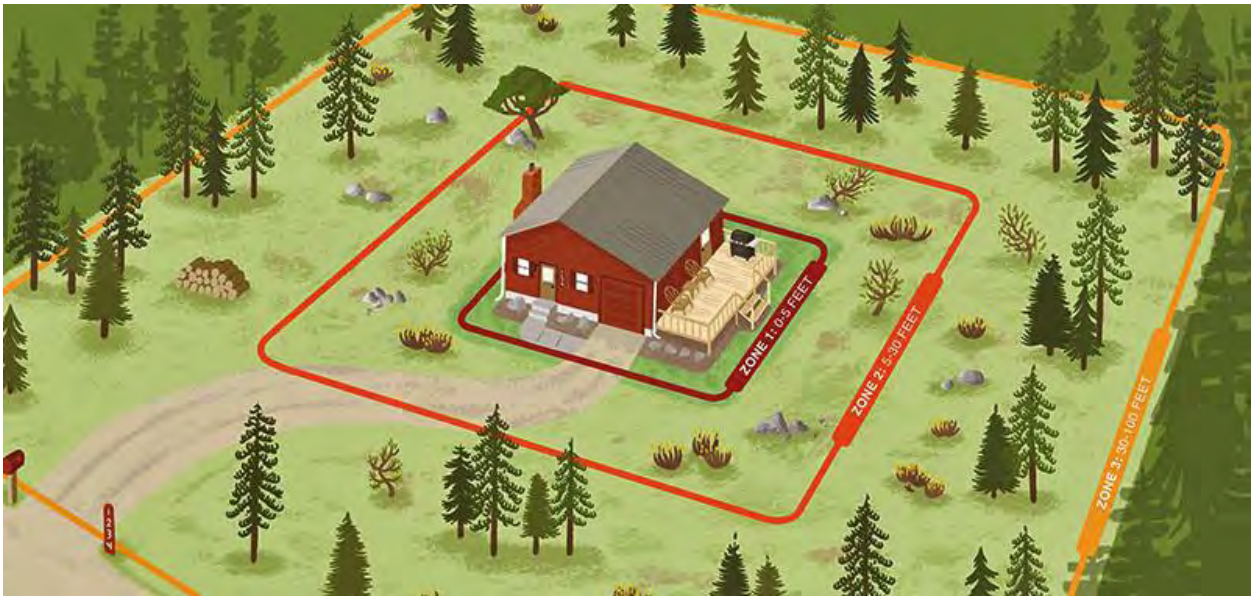


Figure 43.) Defensible Space Zones (CSFS)

Defensible Space Zones

Creating an effective defensible space involves establishing a series of management zones. Develop these zones around each building on your property, including detached garages, storage buildings, barns and other structures.

- **Zone 1** (0-5 feet from the home) is the area nearest the home and other structures. It requires the most vigilant work to reduce wildfire hazards.
- **Zone 2** (5-30 feet from the home) is the area transitioning away from the home where fuels should be reduced.
- **Zone 3** (30-100 feet from the home) is the area farthest from the home. It extends 100 feet from the home on relatively flat ground.

Top Priorities for Defensible Space

- Mow grass and weeds to a height of 4 inches or less.*

- Rake and remove all pine needles and other flammable debris from a 5-foot radius around the foundation of your home and deck.*
- Treat or mow shrubs that re-sprout aggressively (such as Gambel oak) every 3-5 years or more depending on growth rates.
- Remove branches that hang over the roof and chimney.
- Dispose of slash from thinning trees and shrubs by chipping, hauling to a disposal site or piling in open areas for burning later. Any accumulation of slash that's chipped or otherwise should be isolated 30 feet or more from the home.*
- Avoid creating continuous areas of wood chips on the ground when chipping logs and/or slash. Break up the layer of wood chips by adding nonflammable material, or allow for wide gaps of at least 3 feet between chip accumulations.

*Address as needed, more than once a year.

Firewood

- Keep firewood stacked uphill from (or at the same elevation as) any structures, and keep the woodpile at least 30 feet away from the home.
- Do not stack firewood between remaining trees, underneath the deck, or on the deck.
- Remove flammable vegetation within 10 feet of woodpiles.

Propane Tanks

- Keep aboveground tanks at least 30 feet from the home, preferably on the same elevation as the house.
- Remove flammable vegetation within 10 feet of all propane tanks and gas meters.

Driveways

- Maintain at least 10 feet between tree crowns and keep trees a minimum of 30 feet back from each side of the driveway along the entire distance from the house to the main access road.
- Remove any remaining ladder fuels beneath trees after thinning.
- Remove any shrubs that are within 10 feet of the outer edge of tree crowns.
- Space shrubs apart at least two-and-a-half times their mature height, as measured from the edge of the shrubs.
- Post signs at the end of the driveway with your house number that are noncombustible, reflective and easily visible to emergency responders.

Solutions for Managing Slash

Properly thin and prune trees and shrubs as you address the home ignition zone. The sticks and other debris left from cutting trees and shrubs is called slash. Slash is a fuel for wildfire, so ensure this debris is properly managed on your property. It is critical that any slash is located as far from your house as possible:

1. Spread slash and wood chips over a large area of ground to avoid heavy accumulations and large piles. Being close to the ground will help speed decomposition.
2. Burn slash piles, but before doing so, always contact your county sheriff's office or local fire department for current information or possible restrictions.
3. Lop and scatter slash by cutting it into small pieces (generally less than 24 inches long) and distributing it over a wide patch of ground, to a depth not exceeding 18 inches. Material over 4 inches in diameter should not be scattered.

Additional Resources

For further guidance on how to prepare your home for wildfire:

- Home Ignition Zone guide
- Protect Your Home and Property from Wildfire

Montezuma County supports the local Wildfire Adapted Partnership (WAP). WAP strives to inspire, educate and enable individuals and communities to protect lives and property from wildfire. WAP provides onsite evaluation and consultation in the development of defensible space, and also administers a Defensible Space Cost Share Program.

In Southwest Colorado, you may be eligible for cost-share assistance to reduce vegetation that makes your home vulnerable to wildfires. To find out how to make your home more fire safe and what resources are available to support forest thinning work on your property, contact your Wildfire Adapted County Coordinator. A Home Ignition Zone specialist will provide a free home wildfire risk assessment and will mark trees for removal if you choose to pursue the defensible space cost-share program at that time.

WAP's defensible space cost-share will partially reimburse qualifying homeowners for the cost of developing defensible space to increase your home's chance of survival and increase firefighter safety when wildfires occur. Available funding varies per project based on your home site size, vegetation, and terrain. Funded projects will receive an award letter detailing the award amount, which the applicant must sign and return acknowledging the award agreement before work begins with the selected contractor. For more information about WAP and the services they provide, visit; https://www.wildfireadapted.org/

Find out more about home hardening and defensible space here;
https://csfs.colostate.edu/media/sites/22/2021/04/2021_CSFS_HIZGuide_Web.pdf

Colorado State Forest Service Pinon/ Juniper Management;
https://static1.squarespace.com/static/5b28059d266c074ffe39b9b9/t/5ba8d9d7ec212d69b8593031/1537792473086/CSFS_PinonJuniperGuide.pdf

5.) Public Awareness

Both public and private lands are at increased risk of wildfire partly due to changing climatic conditions, and partly due to increased visitation. It is important to maintain a campaign of public awareness surrounding the risk of wildfire on both private and public lands.

Public lands agencies should continue to promote fire safe visitor information through visitors centers, campsite and other strategic points of contact.

The Mesa Verde Country Tourism Office also distributes fire safe visitor information and coordinates informational programming for hotels and other visitor accommodations. The Tourism office also coordinates infomercial television messaging for hotel TV channels.

One of the greatest public awareness challenges surrounds forest health projects. Forest health projects carry numerous benefits to the public but one of the greatest benefits is the increased fire resiliency. As climatic conditions change more rapidly it is becoming increasingly apparent that a more "hands-on" approach to forest management is required.

Forest health projects that are needed where people like to recreate, and feel they have some ownership of are particularly difficult areas to conduct forest health treatments. Short term impacts are most noticeable within high use areas and there is lingering public resentment over the timber industry participating in forest health projects. A large percentage of the public still view the timber industry as irresponsible stewards, putting profit ahead of all else.

Our challenge is to raise public awareness of the science based forest management decisions being made, the role of the timber industry in forest management projects, and the potential consequences of doing nothing.

LANDSCAPE SCALE MITIGATION AND FOREST HEALTH PROJECTS

Montezuma County supports vegetation management projects on public and private lands alike, however landscape level fuels treatments are most significant on public lands. Public lands consist of vast tracts of unbroken fuels, and more importantly are typically managed by one land owner. While there are a few tracts of private land potentially large enough to qualify as "landscape level", most private parcels, even the largest ones, would require the

cooperation of multiple land owners. While securing cooperation from multiple landowners to achieve a common goal is not impossible, it clearly presents a greater challenge.

Montezuma County supports landscape level projects on both private and public lands and encourages cross boundary treatments at a landscape level whenever possible. Landscape level treatments will typically involve a commercial component which the county also strongly supports from an economic perspective as well as overall community capacity building.

USFS Projects

Montezuma County supports landscape level forest health projects on public lands within the County. The United States Forest Service is actively implementing two landscape scale forest health projects including;

Dolores Aspen Landscape Vegetation Management - Treatment of 4,000 ac - 6,000 ac of mature aspen-dominated forest using even-aged treatments. Connected actions include slash treatment; temporary road construction & obliteration; and reconstruction of existing system roads. Details on this project can be found here.

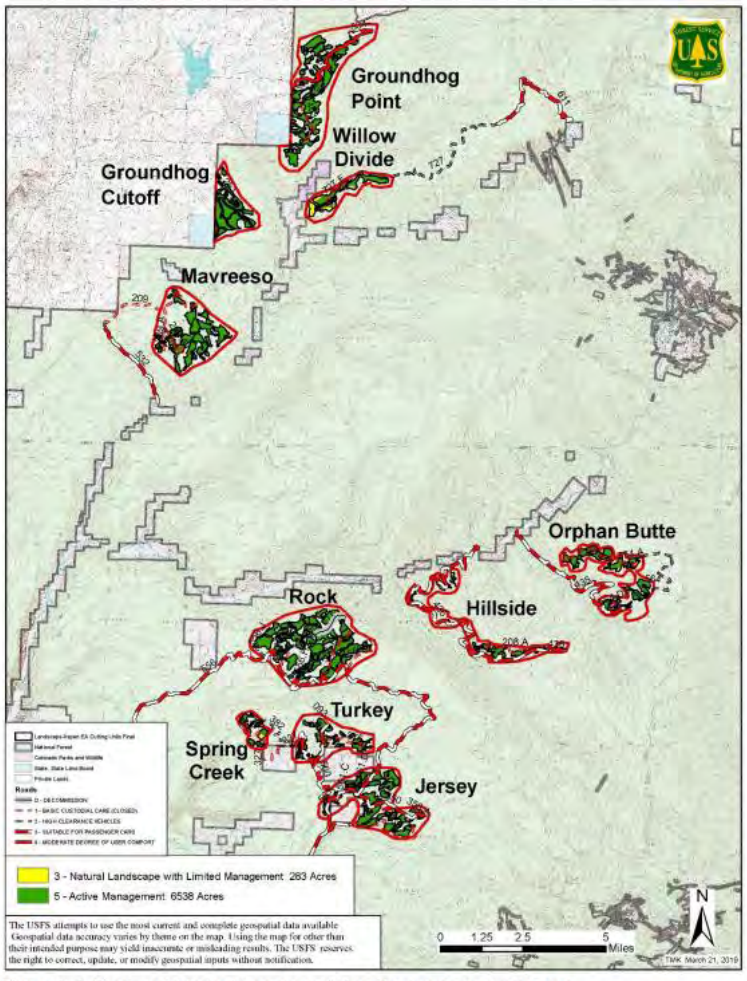


Figure A- 1. Treatment blocks by geographic location by management area

Figure 44.) Aspen Vegetation Managment Project Map

Web Link: http://www.fs.usda.gov/project/?project=54880

The Salter Vegetation Management Project- This proposed vegetation management project will focus on ponderosa pine and includes tree cutting, tree planting, and active fuel-burning covering approximately 35,000 acres. The public can find details on this project here. Web Link: http://www.fs.usda.gov/project/?project=57671

Project Map

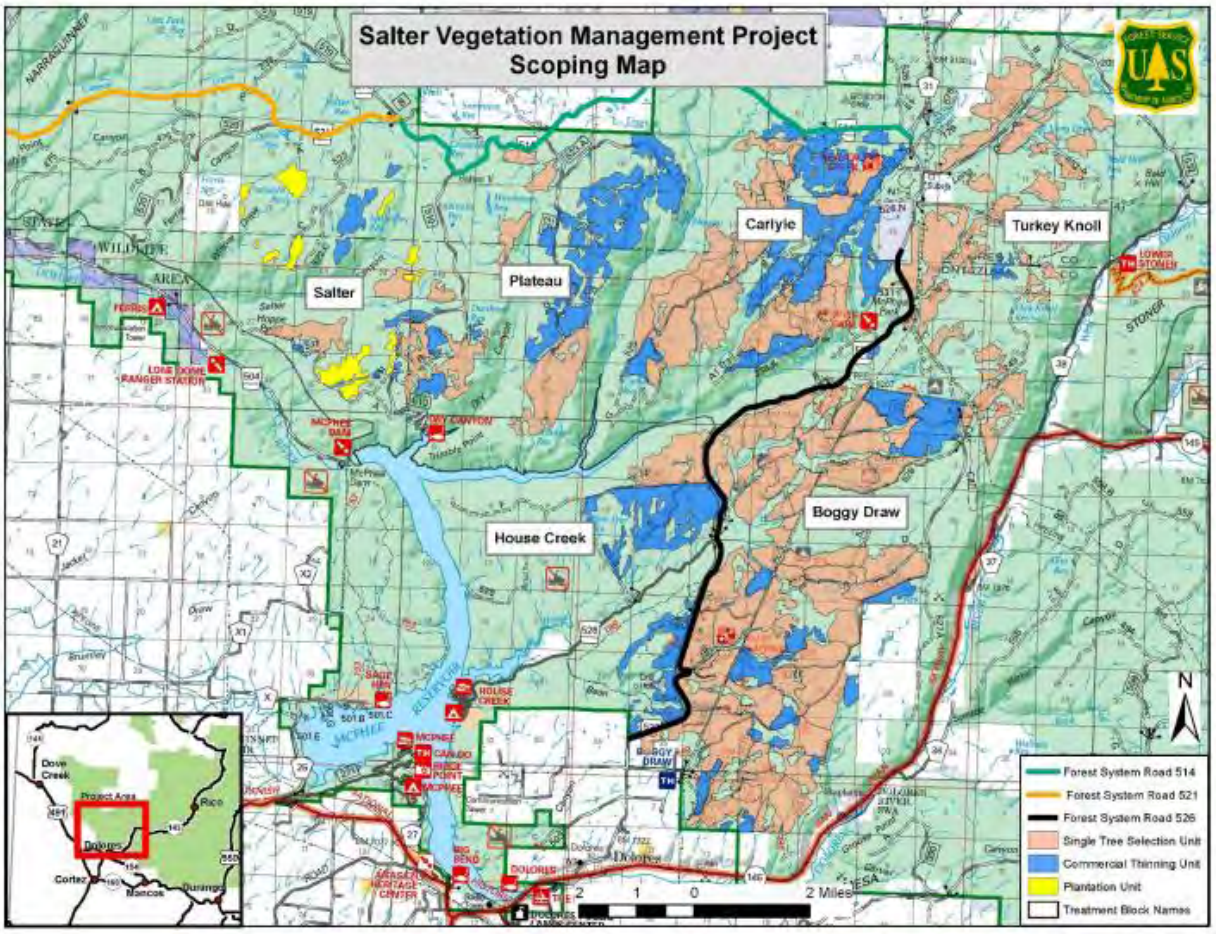


Figure 45.) Salter Vegetation Management Project Map

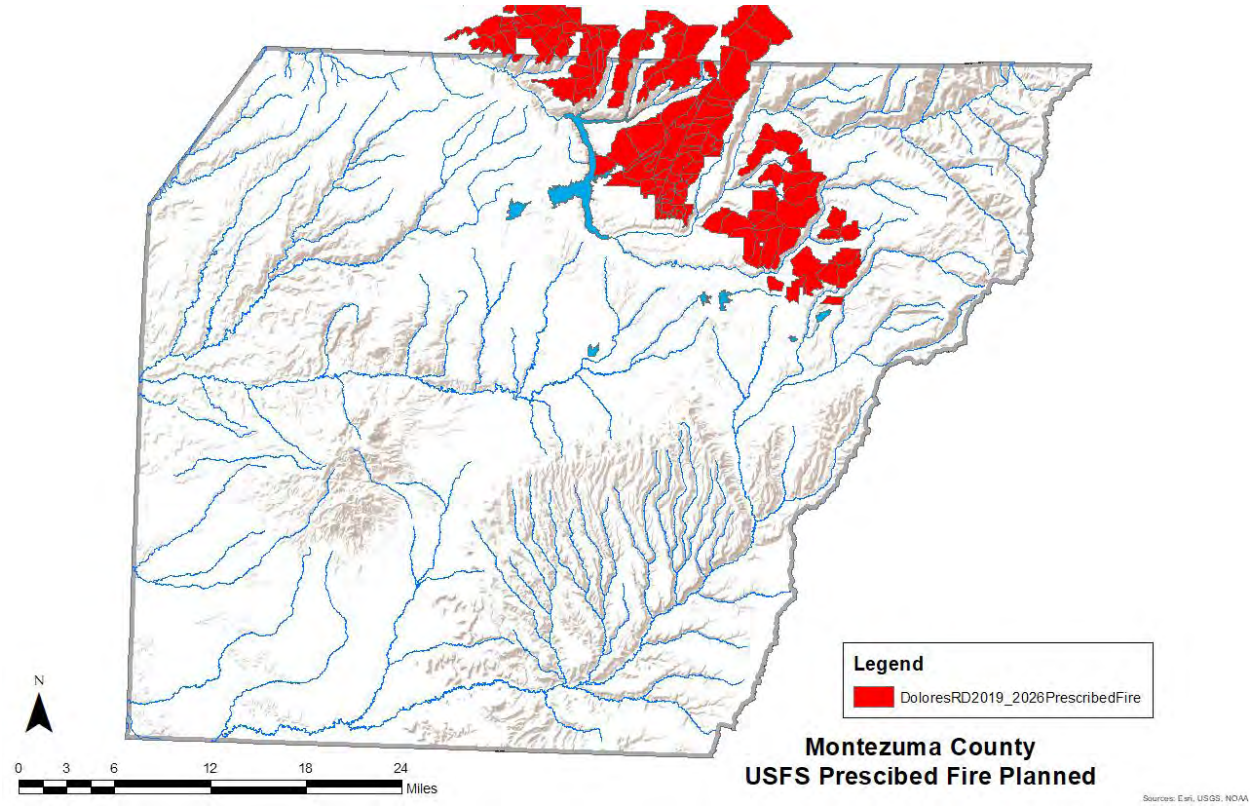


Figure 46.) USDA FS Planned Prescribed Fire Units

Bureau of Land Management (BLM) Projects

The BLM focuses on fuels treatments around the Cortez Special Resource Management Areas SRMA, including the Phil's World, Chutes and Ladders, Summit, and Aqueduct areas. All of the aforementioned are areas identified by the County to be at high risk of wildfire.

BLM and SLB land in the Summit and Aqueduct areas intermingle with some of the largest subdivisions in the County. The Cedar Mesa Ranches subdivision is surrounded by BLM or SLB Lands in the area known as Summit and Chutes and Ladders. The BLM is focusing treatments along the public-private boundaries. The County identifies public-private boundaries as being high-risk areas.

CROSS-BOUNDARY LANDSCAPE-LEVEL FOREST HEALTH PROJECTS

Montezuma County supports cross-boundary treatments whenever possible. Montezuma County has already identified high-priority areas where cross-boundary treatments would result in a healthy, fire resilient forest, benefiting public health safety and welfare.

OTHER POTENTIAL LANDSCAPE-LEVEL FUELS TREATMENT PROJECTS

Collaborative Forest Landscape Restoration Program (CFLRP) - The purpose of the Collaborative Forest Landscape Restoration Program (CFLRP) is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes.

Congress established the Collaborative Forest Landscape Restoration Program (CFLRP) with Title IV of the Omnibus Public Land Management Act of 2009 and reauthorized it in the Agriculture Improvement Act of 2018 Section 8629 (the Farm Bill).
The purpose of the Collaborative Forest Landscape Restoration Program is to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes and:

- encourage ecological, economic, and social sustainability;
- leverage local resources with national and private resources;
- facilitate the reduction of wildfire management costs, including through re-establishing natural fire regimes and reducing the risk of uncharacteristic wildfire;
- demonstrate the degree to which various ecological restoration techniques achieve ecological and watershed health objectives; and,
- Encourage the utilization of forest restoration by-products to offset treatment costs, benefit local rural economies, and improve forest health.

The reauthorization establishes the Collaborative Forest Landscape Restoration Fund providing funding authority for:

- requests by the Secretary of up to $80,000,000 annually for fiscal years 2019 through 2023;
- up to 50 percent of the cost of carrying out and monitoring ecological restoration treatments on National Forest System (NFS) land for each Proposal selected;
- up to $4 million annually for any one project;
- up to two projects per year in any one FS region; and,
- up to 10 projects per year nationally

Uses and Limitations:

- The Collaborative Forest Landscape Restoration Fund may only be used on National Forest System lands and may not be used to cover planning costs.
- The Collaborative Forest Landscape Restoration Fund may be used to pay for up to 50 percent of the cost of carrying out and monitoring ecological restoration treatments on National Forest System (NFS) lands.
- The Collaborative Forest Landscape Restoration Fund can be used for any one proposal for no more than ten fiscal years. However, the reauthorization allows for one-time extensions on a case-by-case basis for no more than ten years.

The DWRF Collaborative has been actively pursuing funding through this program to address forest health needs in the Dolores watershed. In 2019 a proposal was submitted entitled *Southwest Colorado Collaborative Forest Landscape Restoration Initiative*.

The Following USDA Press release acknowledges funding for the CFLRP Project;

"The USDA Forest Service announced Monday the San Juan National Forest will receive over $3 million for restoration work through the Collaborative Forest Landscape Restoration Program (CFLRP). This investment will expand the impact of existing projects in Southwest Colorado over the next 10 years.

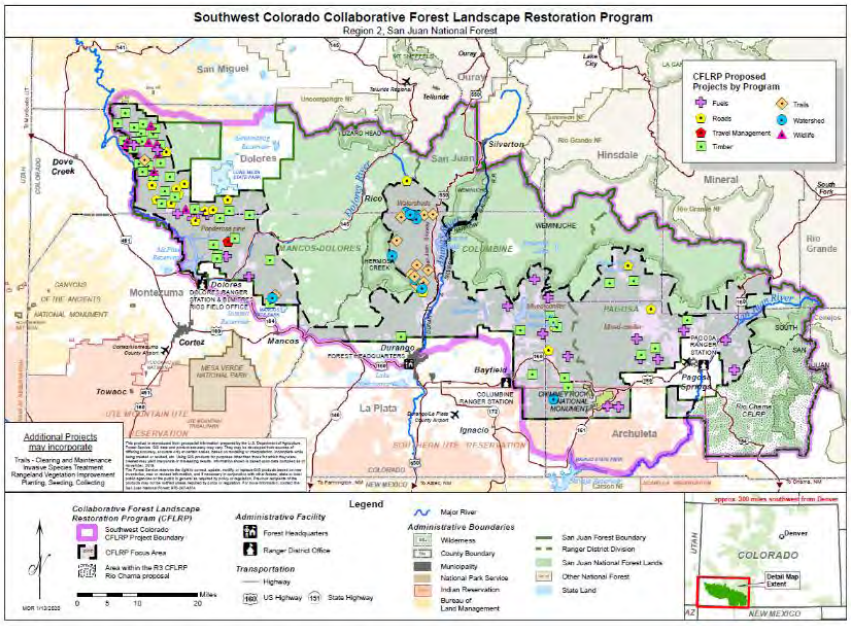


Figure 47.) CFLRP Project Area Map (See Appendix D)

The CFLRP award will complete restoration and resiliency work throughout the San Juan National Forest's 1.9 million acres. The program will enable the area to adapt to future disturbance while retaining ecosystem function, productivity and ecosystem services. The CFLRP strategy is to enhance the resilience of critical watersheds, wildlife and aquatic habitats, community infrastructure, economic drivers and forest conditions.

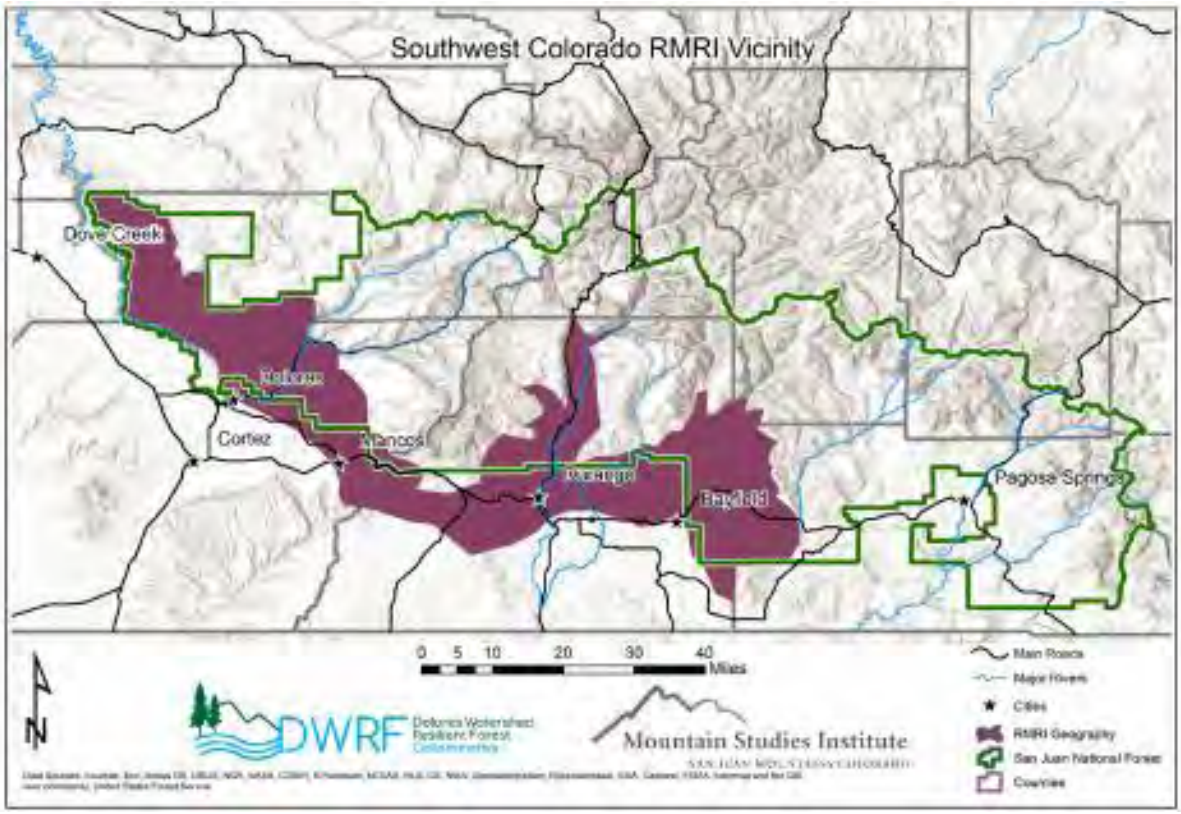
This also marks the beginning of the third year of the Rocky Mountain Restoration Initiative (RMRI). RMRI has three focal landscapes across the state including the marquee landscape in Southwest Colorado.

CFLRP and RMRI are distinct initiatives but complement each other to improve conditions for people, animals and vegetation across all lands in Southwest Colorado. There is significant geographic overlap in the focus areas of CFLRP and RMRI, and, working together, these initiatives will be critical to accomplish our shared goals. One of the most important outcomes is to mitigate the impacts of large-scale wildfire at a landscape scale throughout Southwestern Colorado.

For more information about CFLRP and RMRI projects on the San Juan National Forest, please contact the Shared Stewardship Coordinator at Jason.Lawhon@usda.gov" (USDA FS)

Montezuma County will participate in the CFLRP Collaborative and advocate for work in Montezuma County.

Rocky Mountain Forest Restoration Initiative (RMRI) – Is a joint venture between USFS and National Turkey Foundation. On Dec. 9, 2019, the Rocky Mountain Restoration Initiative unanimously selected Southwest Colorado as the first place where it wants to focus its collective efforts. The project area encompasses nearly 750,000 acres of Ponderosa Pine Zone in Dolores, Montezuma and La Plata Counties. The project stretches 120 miles along Colo. Highway 160 and includes the Towns of Dolores, Mancos, Durango and the San Juan National Forest.



Known locally as the "Southwest Colorado Restoration Initiative" this project has two overarching objectives:

- To provide ecosystem services, economic benefit, and safe recreational experiences to local and surrounding communities while creating ecologically resilient landscapes that protect critical waters and promote wildlife connectivity and habitat improvement.
- To create physical and social resilience to wildfire by increasing ecological restoration and fire risk reduction activities around communities and other infrastructure, and by increasing education and outreach efforts.

The Collaborative groups will work jointly with the San Juan National Forest, other partners, and the Science community to increase the pace and scale of this work across the RMRI landscape.

By implementing cross-boundary treatments, the following outcomes are expected:

- Mitigate 20,000 acres (30% within RMRI boundary) of private lands and associated infrastructure with high fire risk.
- Create a resilient landscape of 290,000 acres (39% of landscape and 61% of National Forest System [NFS] land within RMRI boundary) of NFS lands adjacent to communities.
- Protect water infrastructure:
- Maintain the quality and quantity of water in McPhee reservoir, which irrigates 75,000 acres and supplies multiple towns, including irrigation and domestic water to the Ute Mountain Tribe.
- Safeguard the Dolores River, which supports sensitive native fish and a premier 200-mile boating opportunity, and which delivers water to the Colorado River and Lake Powell to help meet obligations to the Lower Basin under the Colorado River Compact.

Colorado Strategic Wildfire Action Program (COSWAP)

The Mancos Conservation District (MCD) has recently applied for $1M in COSWAP funding. Montezuma County strongly supports the MCD Grant request and approves of the full scope of work.

The Southwest Colorado RMRI COSWAP project area spans a cross-boundary landscape that encompasses two communities between the Town of Mancos and the Town of Dolores. This project boundary includes San Juan National Forest, Bureau of Land Management, private, municipal, state, and Ute Mountain Ute lands and focuses on key areas identified through the RMRI PODs prioritization process to protect local communities and infrastructure. Within the project boundary, partners identified two focal areas for COSWAP planning and treatments - around the Summit Lake Community and Jackson Gulch Community. These focal areas emerged as priority treatment areas based on community wildfire risk and the opportunity to complete projects within the COSWAP timeframe.

This COSWAP proposal strategically focuses mitigation, thinning, and pile burning activities to reduce cross-boundary wildfire risk at a landscape scale. The two focal areas are dominated by private lands and a Ute Mountain Ute tribal ranch, but directly connected to federal and state lands that have recent, current, and planned treatments. The planned projects strategically address high risk community areas in order to stitch together a multi-jurisdictional approach. A secondary but important benefit of treatments will reduce postfire risk to critical water resources for the Town of Mancos, Ute Mountain Ute Tribe, and rural users and irrigators.

Ponderosa pine and pinyon-juniper forest types dominate the focal areas, with a substantial gambel oak understory. Research shows that these dry forests in SW CO, and in particular ponderosa pine, have the greatest departure from historical structure and fire regimes as a result of legacies from fire suppression, grazing, and timber harvesting. These legacies have resulted in forests with more and generally smaller trees - conditions that put forests and communities at risk to more intense and severe wildfires. DWRF has collaboratively articulated robust desired conditions for ponderosa pine forests in the local area, emphasizing, among other conditions, reducing basal area and stand density alongside retaining rare components of landscapes. Treatments in pinyon-juniper stands also emphasize reducing fuel loads and will be focused in areas that best protect lives and homes.

This proposal focuses on landscape resilience activities at multiple scales. The focal areas are anchored on higher density and higher wildfire risk community centers and emphasize defensible space, ingress/egress clearing, and small scale fuel break projects. Expanding out, treatments on midsize parcels involve both stand-level thinning and defensible space around homes. At the largest scale, we propose strategically placed thinning projects and fuel breaks to alter fire behavior and transmission onto and from federal and state lands. Community pile burning will work at multiple scales and directly support landowners that want to complete projects on their own.

All of these projects require substantial planning and coordination. Defensible space, ingress/egress projects, and mid-size thinning projects require active community outreach and engagement programs. Planning and personnel support contractor communication and forest plan development on UMU lands. Planning will support GIS analyses and systems, ongoing prioritization activities, and future project development within and adjacent to the project boundary on all land ownerships.

Program challenges include landowner participation, local contractor capacity for plan development and implementation, and meeting timelines and coordination with matching funds for thinning projects. Activities within the project area require funding beyond COSWAP and advancing work in tandem with other funding sources will be critical.

This project works in partnership with the Ute Mountain Ute Tribe. Work with the Ute Mtn Ute Tribe will occur on a Tribal ranch that is directly adjacent to the Summit Lake community. Support will include direct implementation work based on the Tribe’s priorities and an update to the ranch’s forest plan.

This landscape scale collaborative project is made up of 6 individual projects all of which reduce wildfire risk to lives and property while improving the ecological resiliency and health of the forest.

Total treatment area for the project is estimated at 1,020 plus pile burning.

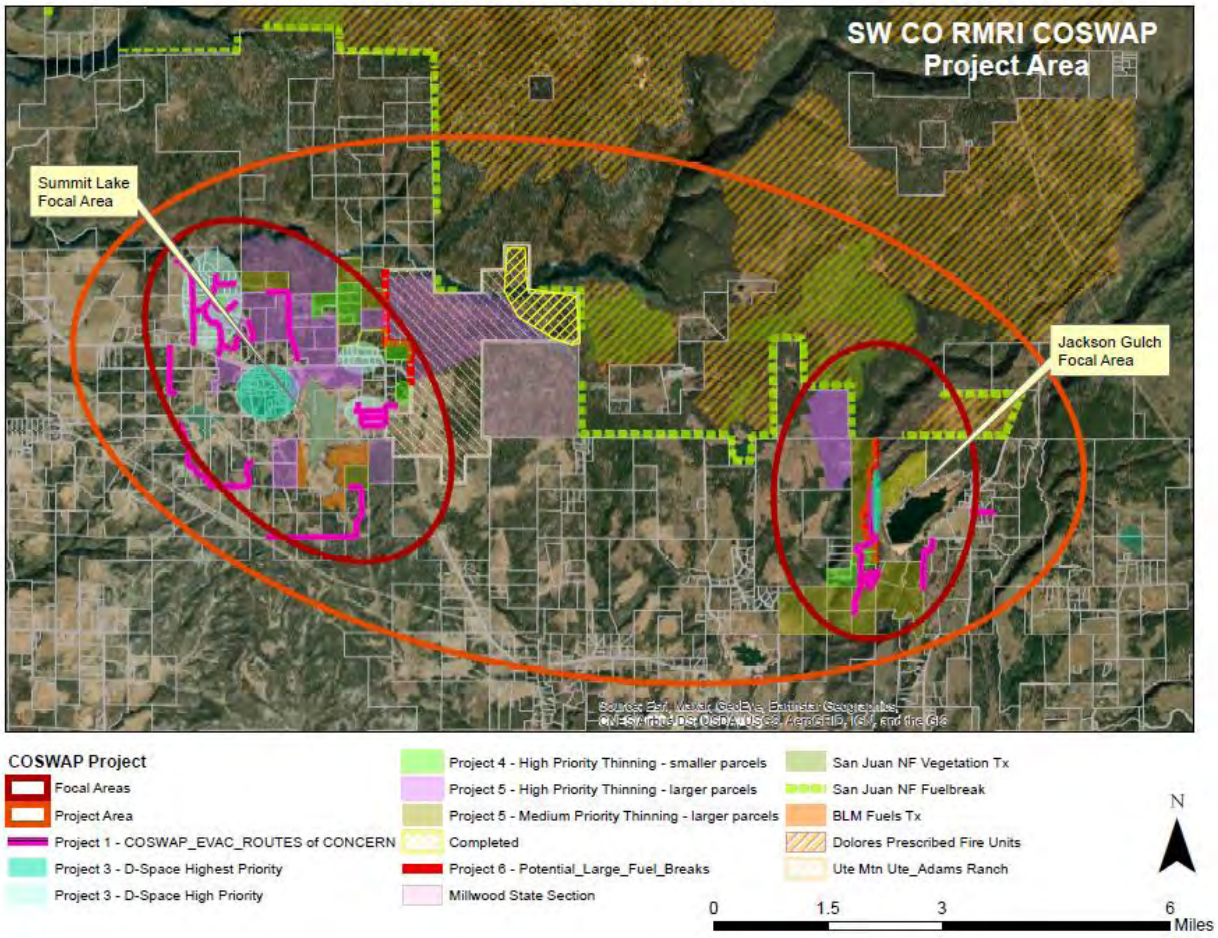


Figure 48.) COSWAP Project Area Map

Project 1: Community-scale Fuel Breaks and Private Road Ingress/Egress

Treatment snapshot

Acres: 45

Land Ownership(s):

Private land

Coordinates (decimal degrees): Roughly 2-mile radius around: 37.42253430547361, -108.386616398488 37.40402370748678, -108.27849071548532

Property/Location Name:

Jackson Gulch + Summit Lake

Brief description of project (forest thinning, prescribed burning, fuel break, etc.):

This project will focus on reducing community-level wildfire risk mitigation treatments. Work includes: treating common areas, creating shaded fuel breaks across multiple properties, fuels reduction along important access/egress routes in a residential area of extremely high wildfire risk.

Project 2: Community Pile Burning

PROJECT SNAPSHOT

Acres: 250

Land Ownership(s):

Private land

Coordinates: Roughly 2-mile radius around: 37.42253430547361, -108.386616398488 37.40402370748678, -108.27849071548532

Property/Location Name:

Entire project area

Brief description of project (forest thinning, prescribed burning, fuel break, etc.):

This project will hire a burn boss to burn slash piles resulting from wildfire mitigation work on private lands. There are minimal avenues for residents to remove slash from their thinning projects, and targeted pile burning is the cheapest option for local residents.

Project 3: Community-wide defensible space

PROJECT SNAPSHOT

Acres: 85

Land Ownership(s):

Private

Coordinates: Community-wide

Property/Location Name:

Jackson Gulch + Summit Lake Focal Areas

Brief description of project (forest thinning, prescribed burning, fuel break, etc.):

Defensible space projects will occur within 100 feet of structures and along driveways. By addressing the home ignition zone on a larger, community scale it will better prepare a community for a wildfire event by making it safer for firefighters to enter the community and getting the fire to the ground for easier attack. Targeting defensible space efforts towards neighboring high risk communities helps ensure treatments are on a landscape scale, rather than just a patchwork throughout a larger community.

Project 4: Mid-scale thinning projects

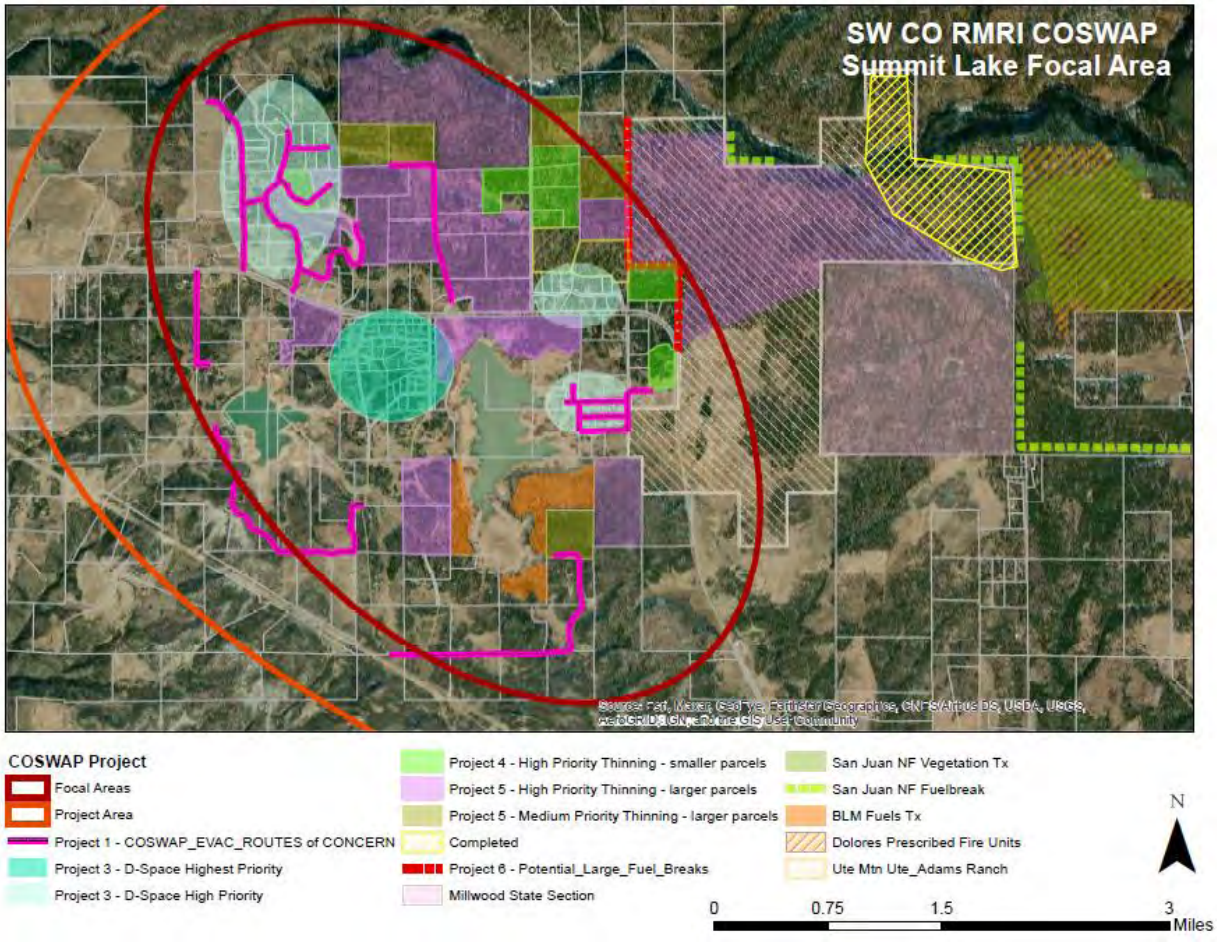


Figure 49.) Summit Lake Focal Area

PROJECT SNAPSHOT

Acres: 100

Land Ownership(s):

Private

Coordinates: Roughly 2-mile radius around: 37.42253430547361, -108.386616398488 37.40402370748678, -108.27849071548532

Property/Location Name:

Jackson Gulch + Summit Lake Focal Areas

Brief description of project (forest thinning, prescribed burning, fuel break, etc.):

Thinning projects will reduce basal area and tree density on private properties and Ute Mountain Ute Adams Ranch. Properties with higher density ponderosa pine over-story will be principally targeted. Treatments in pinyon-juniper stands emphasize reducing fuel loads and will be focused on lands adjacent to communities to best protect lives and homes. Areas with high density Gambel oak understories will also be treated to reduce ladder fuels while also retaining heterogeneity in oak structure that is important for wildlife habitat.

Treatments here focus on properties over 15 acres in size. A variety of funding mechanisms will be used to match COSWAP funds depending on property size. Matching funds include NRCS EQIP, CSFS Forest Ag Program, FRWRM, and others in order to broadly implement treatments. A professional forester will write management plans for these projects in order to ensure treatments meet collaborative resilience and wildfire risk reduction standards as well as facilitate acquisition of outside funding sources.

Project 5: Large-scale thinning projects

PROJECT SNAPSHOT

Acres: 700

Land Ownership(s):

Private and Ute Mountain Ute Adams Ranch

Coordinates: Roughly 2-mile radius around: 37.42253430547361, -108.386616398488 37.40402370748678, -108.27849071548532

Property/Location Name:

Emphasizing Jackson Gulch + Summit Lake Focal Areas

Brief description of project (forest thinning, prescribed burning, fuel break, etc.):

Thinning projects will reduce basal area and tree density on private properties and Ute Mountain Ute Adams Ranch. Properties with higher density ponderosa pine overstory will be principally targeted. Treatments in pinyon-juniper stands emphasize reducing fuel loads and will be focused on lands adjacent to communities to best protect lives and homes. Areas with high density gambel oak understories will also be treated to reduce ladder fuels while also retaining heterogeneity in oak structure that is important for wildlife habitat. Treatments here focus on properties over 15 acres in size. A variety of funding mechanisms will be used to match COSWAP funds depending on property size. Matching funds include NRCS EQIP, CSFS Forest Ag Program, FRWRM, and others in order to broadly implement treatments. A professional forester will write management plans for these projects in order to ensure treatments meet collaborative resilience and wildfire risk reduction standards as well as facilitate acquisition of outside funding sources.

Project 6: Large fuel breaks

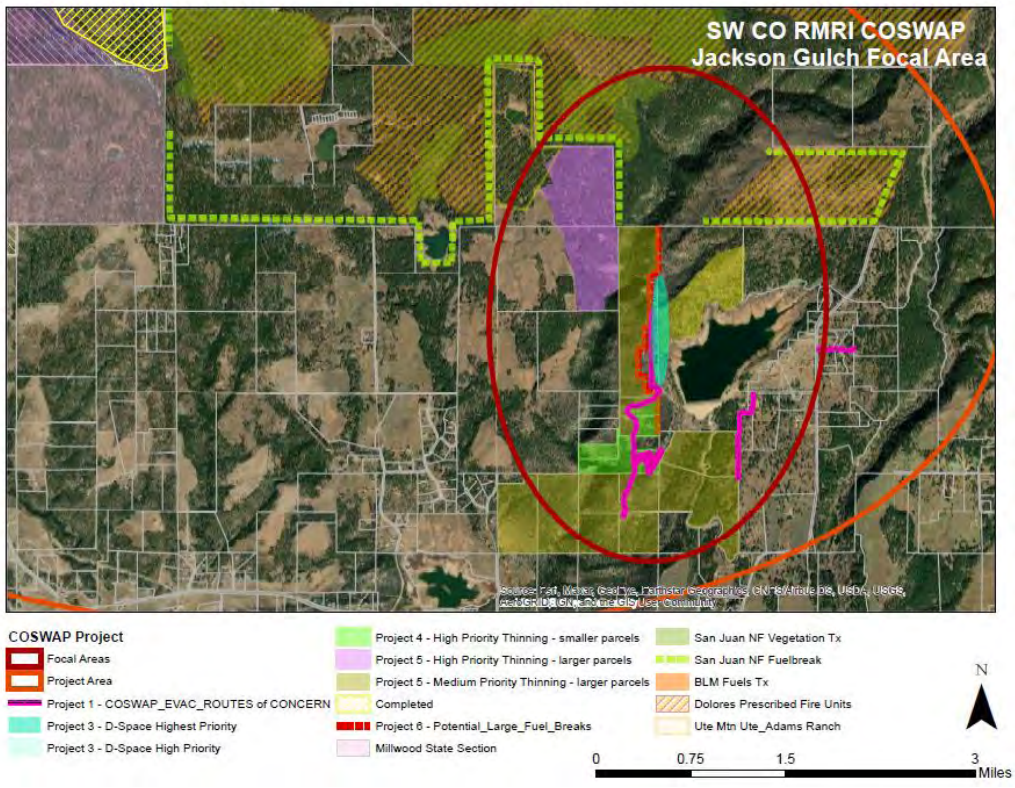


Figure 50.) Jackson Gulch Focal Area

PROJECT SNAPSHOT

Acres: 40

Land Ownership(s):

Private and/or Ute Mountain Ute

Coordinates: 37.403999976475234, -108.28099789552965

Property/Location Name:

: Jackson Gulch Focal Area

Brief description of project (forest thinning, prescribed burning, fuel break, etc.):

Thinning and/or mastication to alter fire behavior. Approach will be based on Dennis (1999), Fuelbreak Guidelines for Forest Subdivisions and Communities. Basic goal is increased crown spacing and higher crown basal heights rather than a specific basal area, although basal area goals will be relatively low. Approach involves creating 10 feet spacing between crowns, removing ladder fuels within the fuelbreak, and pruning up remaining. Fuel break with will be ~200 feet. Pinyon and juniper will be pruned up about 5 feet and small trees and shrubs under the residual tree crowns will be removed to keep flame lengths low. There can be clumps of trees and shrubs (including oak) left in P-J fuel breaks but the 10 foot crown spacing between clumps and individual trees remains key.

GETTING THE WORK DONE AT HOME!

None of the four recommendations to reduce home ignitions will do any good if not practiced. Montezuma County is a personal responsibility County and nearly everyone can, and must, take action on their own initiative.

*"Choosing to live in the unincorporated region of the County, the WUI, comes with extra challenges. Ultimately it is **your** responsibility to make your home site as fire resilient as possible and reduce potential risks to your neighbors."* (CSFS)

Take Action to Prepare Your Home & Property for Wildfire !

Wildfires are a natural part of Colorado's forests. If you live in the wildland-urban interface in Colorado, where homes and other structures intermingle with wildland vegetation, you are at risk of being affected by wildfire. Planning ahead and taking action can increase the likelihood your home survives when a wildfire occurs.

Firefighters always do their best to reduce fire damage, but ultimately, it is ***your*** responsibility to protect ***your*** property from wildfire. Taking practical steps to prepare your home does not guarantee it will survive a wildfire, but it does improve the odds. Any work completed may also allow firefighters who *might* be present to safely engage the fire and attempt to protect your property. If fire and site conditions are unsafe, firefighters will not be there.

As you address the home ignition zone on your property, always start with the home or structure and work outwards. Remember, taking action to prepare for wildfire is not a one-time effort — it requires ongoing maintenance to give your home the best chance of surviving a wildfire.

Master Planning and community design, fire-safe construction, fire-safe landscaping, and defensible space all can involve a lot of work. Many homeowners may have the knowledge, time, energy, and tools to do the job themselves and others may need to enlist the help of professionals to help get the job done.

CONTINUING WORKPLAN;

The following tables begin with a heading, and general explanation of the intent of the actions, followed by a sequence of objectives (in red bold), and specific actions to help meet each objective. High priority actions have been listed first under each objective (in bold italics). Some objectives are already being implemented in full, others can be expanded or simply continued. The tables are divided into six general strategy categories as follows:

PREVENTION
Montezuma County takes a proactive approach to prevent human-caused ignitions, which pose a significant risk in Montezuma County. Many different activities can cause these ignitions, including controlled burns of all types, operation of welders or other power equipment, fireworks, smoking, and even arson. The Montezuma County Fire Protection Districts, Sheriff's Department (Fire Warden), Federal Land Agencies, and the Board of County Commissioners coordinate very effectively to implement fire bans when conditions merit the extra precaution. Burn bans restrict or modify many activities that could pose a fire risk. Another way to prevent wildfire destruction in the WUI is to pay special attention to reducing the potential for home ignitions.
Reduce the number and scope of wildfires ignited as controlled burns by residents.
1. ***Develop and implement a burn permitting system for the purpose of safely disposing of slash in accordance with Colorado Senate Bill 11-110, beginning in January 2012. (This has been implemented)***
2. ***Consider providing assistance from Fire Protection Districts or qualified professionals to provide oversight and stand-by on controlled burns (when requested).***
3. Widely advertise proper prescribed burning techniques.

4. Develop refrigerator magnets and other advertising with telephone numbers and policy on reporting controlled burns.

Strengthen County Burn Bans.

1. Collaboratively develop protocol for instituting uniform countywide fire restrictions between all fire management entities & federal agencies. Continued coordination with BLM on dual implementation of fire bans on low elevation properties is an ongoing priority.
2. Utilize a range of media to advertise fire restrictions and discourage cigarette ignitions.
3. Enforce littering laws for cigarettes butts. Consider a (cigarette) butt busters campaign at the beginning of the wildfire season.

Reduce the number of arson incidents.

1. Work with law enforcement to catch "firebugs."
2. Develop culturally appropriate messages about the use of fire, and a specific education program to implement in coordination with the Ute Mountain Ute Tribe.
3. Promote alternative activities for youth when opportunities arise.

Reduce Structural Ignitability.

1. Encourage appropriate building techniques through incentives and working w/ builders, hardware stores, and plant nurseries to utilize and sell appropriate materials and distribute educational materials.
2. Include detailed analysis of the Home Ignition Zone and structural ignitability in all site assessments.
3. Promote the use of fire-resistant building materials and landscaping in new construction and landscaping projects.

EDUCATION

The coordinated wildfire education program that has been developed in Montezuma County between the Land Managers, Fire Districts, and the Wildfire Adapted Partnership needs to be continued and strengthened. Continue to place emphasis on the education component by all parties involved. Studies indicate that adequate education and outreach provide the foundation for accomplishing all other aspects of wildfire preparedness. Education on wildland fire prevention, mitigation, and suppression should have a broad reach in the community. Education should provide consistent and appropriate messages for WUI residents and firefighters, youth, businesses (mitigation, insurance, real estate, chainsaw, rental), governmental and non-government non-profits (Planning and Zoning, Land Conservancy, Water Conservation Districts). The public outreach at various venues and an active media campaign since 2011 have been a step in the right direction. Still, future outreach should target high-risk areas and the specific

extreme risk communities identified by the Fire Protection Districts with community-specific messages.
Increase public awareness of the size and scope of wildfire hazards in the Wildland Urban Interface.
1. Increase community awareness with educational programs and materials on the fire ecology of the County.
2. Utilize all media outlets to disseminate the Wildfire Risk - Communities of Concern Map and the Wildfire Risk to Communities Website https://wildfirerisk.org/
3. Develop a message that appeals to the sense of community responsibility and independent actions. Include the null alternative.
4. Continue to work with existing community groups to provide information and brief wildfire awareness programs as opportunities arise.
5. Include updated wildfire information on the County Website.
6. Provide wildfire information, including the benefits of mitigation, and refer residents to Wildfire Adapted Communities in the County Planning Department.
7. Utilize social media outlets to share wildfire messages.
Involve youth in wildfire awareness activities to develop the next generation of wildfire conscious adults.
1. Provide wildfire education opportunities in the primary and secondary schools.(C.E.R.T., Service Learning, clubs)
2. Continue to encourage the school districts and teachers to include fire ecology in the science curriculum.
3. Engage existing youth organizations in fuels mitigation training and projects. (ie. Boy Scouts, SW CO Conservation Corps, Career Pathways)
4. Encourage High School aged students to become Firewise Neighborhood Ambassadors as part of their service learning curriculum.
Improve community readiness for wildfires through education on what to do when a fire is here.
1. Get youth to develop their own emergency checklists, plans, and meeting spots for their families.
2. Utilize all available media outlets to promote evacuation kits and disseminate a checklist of what to do before you leave if time allows.

3. Encourage county residents to have a personal evacuation plan in place. Identify the preferred evacuation route to a safe area and develop an alternative evacuation plan. Identify the safest place within your community to shelter in place in case all other routes are blocked and all other options exhausted.
4. Encourage County Residents to have a personal evacuation plan in place for pets and livestock. Identify the preferred evacuation route to a safe area and develop an alternative evacuation plan. Identify the safest place within your community to shelter in place in case all other routes are blocked and all other options exhausted.

Raise awareness of high and extreme risk areas of the WUI.

1. Display the Wildfire Risk – Communities of Concern Map and WUI wildfire images in public places, on local TV stations, at fairs and expos, in Fire Protection District Stations, and as a layer of the Montezuma County GIS viewer.
2. Encourage door-to-door education campaigns in the most extreme risk communities.

Enhance opportunities for adult wildfire education.

1. Work with the Colorado Community College and public land agencies to offer courses to train firefighters and mitigation contractors.

MITIGATION

"Homes ignite and burn during wildfires when the requirements for combustion, a sufficiency of fuel, heat, and oxygen are sustained at one or more places on a home. If homes do not ignite, homes do not burn, and if homes do not burn during a wildfire, then the WUI fire disaster does not occur." (p. 73, Fourmile Canyon Fire Preliminary Findings, 2011). Land managers can modify fuel sources to maintain a healthy forest that is more resistant to fire, insects, and diseases. The WUI is predominantly privately owned. Therefore, engaging private property and homeowners in mitigation activities, including defensible space development and reducing structural ignitability, are paramount to reducing the risk of catastrophic wildfire losses in the WUI. Professional experience in wildfire behavior and mitigation actions are required to capitalize on fuel reduction efforts.

Implement Landscape Level Fuels Treatment Projects on Public Land Adjacent to Private Land.

1. ***Continue fuels treatment & maintenance on Federal and Private lands in Mesa Verde Entrance Area***
2. ***Fuels Treatment to develop anchor point and defensible space at the head of Alkali Canyon.***
3. ***Implement SW CO RMRI COSWAP Community Scale Fuels Breaks and private roads ingress and egress, community pile burning, community wide defensible space, mid-scale thinning projects, large scale thinning projects, and Large fuel breaks.***

4. ***Implement USFS Aspen and Salter Vegetation Management Plans. Continue maintenance of fuel mitigation around Aqueduct, Chutes and Ladders, and Phil's World.***
5. Continue to identify and create treatment plans for landscape level mitigation projects on public and private lands so that there is a menu of shovel ready projects when funding or crews become available to do work.
6. Continue to encourage development and implementation of subdivision Level Fuels Treatment Plans
7. Continue to encourage public and private treatments to create fuel breaks, safe areas, & improve or create emergency access.
Enhance the use of mitigation contractors.
1. Encourage fast expansion of Wildfire Professionals Mitigation Association into Montezuma County and advertise these reputable businesses.
2. Have regular training opportunities for contractors, property owners, and firefighters to improve their knowledge and skills for fuels treatment.
3. Keep an updated list of mitigation contractors and the services that they offer.
4. Develop programs and secure grants for treatment of properties where the homeowners does not have the personal ability to do the work or resources to hire professional assistance.
5. Encourage chipping and slash removal to reduce accumulation of slash piles throughout County.
6. Continue to develop programs to connect those in need of firewood with excess wood where treatment has been done, or with properties where thinning is needed.
7. Utilize inmate work crews to the extent practicable to haul slash and for other public fuels treatment projects.
8. Evaluate burn permit fees as funding source for education and mitigation projects, when burn permitting system is developed in accordance with Colorado Senate Bill 11-110.
Increase mitigation by rental and absentee home and property owners.
1. Disseminate message of null alternative, increased property value from mitigation, and other benefits, to targeted property owners on authority figure letterhead.
2. Continually seek programs that provide low cost fuels mitigation opportunities.
3. **Support County subdivision fire mitigation regulations.**
4. Provide resources for developers to perform appropriate mitigation, focusing financial resources on assistance for minor developments.
5. Explore additional regulatory options to address existing development that can be supported by existing or new programs to assist homeowners in completing required preparedness activities.

6. Enhance enforcement of subdivision mitigation. Consider tools such as bonding mitigation work or creating special improvements districts for wildfire mitigation.
Reduce Structural Ignitability.
1. Encourage appropriate building techniques through incentives and working w/ builders, hardware stores, and plant nurseries to utilize and sell appropriate materials and distribute educational materials.
2. Include detailed analysis of the Home Ignition Zone and structural ignitability in all site assessments.
3. Consider requirements for the use of fire resistant building materials and landscaping in new construction and landscaping projects.
Encourage residents on Summit Ridge to develop an active mitigation and preparedness program (cont'd).
1. Develop rapid notification system for emergency evacuation of Summit Ridge region.
2. Assist with development of a Summit Ridge CWPP.
3. Evaluate and identify evacuation routes.
Encourage residents in Cedar Mesa Ranches to increase active mitigation and develop an evacuation plan.
1. Identify and prepare a "safe zone" meeting area that can accommodate all of the subdivision residents.
2. Identify and prepare an alternative exit route on the southeast side of the subdivision.
3. Evaluate possible exit road on the north side of subdivision across BLM lands to make a looing road system.
4. Coordinate with BLM and SLB to enhance cross boundary treatments.
Encourage subdivisions within the County to identify alternative evacuation routes.
1. Encourage subdivisions in the 145 corridor south of Dolores to develop a primary and alterative evacuation plan.
2. Encourage subdivisions on the 184 corridor east of Dolores to develop a primary and alterative evacuation plans.
3. Encourage residents county-wide to evaluate their evacuation alternatives, and form a personal plan.
Maintenance / Re-Entry on completed Fuels Reduction Projects

1. Regularly scheduled maintenance is essential in maintaining fuel breaks, fuels reductions and defensible space.
2. Increase public lands re-entry/ maintenance on boundary line fuel breaks.
3. Increase re-entry and maintenance on private land cross boundary treatments.
4. Increase the re-entry and maintenance on private land defensible space treatments.
COORDINATION
Continue close coordination of activities between the Fire Protection Districts and the Wildfire Adapted Partnership needs to continue. Close coordination will reduce the duplication of efforts and provide more wildfire professional expertise to the mitigation efforts. The Montezuma County Fire Chief's Association Wildfire Education and Prevention Specialist position or a Fireman assigned by the Fire Protection Districts could help provide this coordination effort and site-specific mitigation prescription recommendations. Closer coordination between the Fire Protection Districts, the Colorado State Forest Service, and the Public Lands Wildland Fire Managers may improve training opportunities, increase consistent messaging, well-coordinated response, and comradery for fires WUI. Outreach between these fire management entities, the Firewise Council, and the community should develop more community-level CWPPs. Recognizing that it takes community-wide engagement to prepare for wildfires, Firewise and the Fire Chief's educator should continue to serve as community liaisons.
Enhance Coordination throughout the community for shared responsibility for wildfire preparedness.
1. Continue to work with real estate, property management, and insurance companies to develop a shared understanding of effective risk management and the market benefits of appropriate wildfire mitigation.
2. Look to service organizations, Sheriff's office, etc. to find volunteers who can assist with educational outreach and mitigation work.
3. Continue coordinated mitigation on public and tribal lands adjacent to high risk areas of the WUI.
Strengthen Relationships between Fire Protection Districts, Fire Management entities, and the Public.
1. Explore developing an interagency prescribed fire and hazardous fuels council.
2. The County Emergency Manager should continue to coordinate with the County Public Information Fire Information Officer, FPD Education Specialists, and the Wildfire Adapted

Partnerships messages to the community.
3. Put on a Fire Fair in which all Fire Management entities, appropriate businesses and non-profits, Firewise, and the community participate.
Improve emergency response through information accuracy.
1. Update wildfire risk – communities of concern maps regularly to reflect mitigation work, development patterns and access to new data.
2. Participate in land database system tracking various levels of mitigation work.
3. Support County addressing program.
4. Fire Protection Districts should utilize wildfire risk map analysis components and community polygons to better understand conditions in specific areas of the WUI.
Suppression
The wildfire suppression efforts in Montezuma County are excellent. The initial interagency attack and mutual aid provided are well-coordinated and supported by all agencies. The land management agencies and fire districts are well equipped with just a few additional equipment needs. The Fire Protection Districts rely dominantly on an aging base of volunteers, which challenges additional training and engagement in wildland fire planning and preparedness activities. Wildland fire training and assignment needs for the Fire Protection Districts to maintain and enhance the National Wildfire Coordination Group (NWCG) standards. The annual wildland fire refresher review requirements should be a high priority for every firefighter. Fire Protection Districts should explore additional high-level training and assignment opportunities. The NWCG level of Strike Team Leader, Task Force Leader, and Type III IC should be a long-term goal for every department.
Improve wildfire training for all firefighters.
1. ***Continue to provide advanced Wildfire training in Wildland Interface s-205, Intermediate Wildland Fire behavior s-290 and Strike Team Leaders-336.***
2. **Consider requiring basic wildfire training for all paid and volunteer firefighters. Coordinate with public lands agencies for joint training opportunities.**
3. **Open up training opportunities between all fire management entities as often as possible.**
4. **Explore additional incentives for additional training for volunteer firefighters.**
5. **Include ICS training for all fire personnel and the designated fire warden.**
Establish and Emergency Operations Center (EOC)
1. Include EOC Training for all support personnel.

Ensure adequate water availability for structure protection.
1. Continually evaluate equipment needs for all Fire Protection Districts.
2. ***Maintain tender draft sites identified by Dolores Fire Protection District; a pond on Summit Ridge and a gravel pit pond on the Dolores River.***
3. If the water district cannot supply adequate flow, cisterns, tanks, or pump points should be developed before final subdivision approval.
4. Inventory water pump points and incorporate in County GIS for use by all fire management entities.
Encourage the development of community scale CWPPs.
1. Provide support in the CWPP process.
2. Promote the benefits of prior planning on funding and response.
3. Ensure FPDs are familiar with CWPPs and their role in general and for the specific adopted plans as mutual aid agreements may have firefighters in a jurisdiction where they did not participate in a CWPP process.
APPROPRIATION
An ounce of prevention is worth its weight in gold for managing the output costs of suppressing fires in the WUI. Emphasis on prevention, education, and outreach within the community should be a priority. The cheapest fire is the one you do not have to fight. We must acknowledge that we need to improve education and legislative efforts. Defensible space and structural ignitability reduction in the WUI need to be financially viable for residents to take action. Montezuma County has requirements for defensible space development in new subdivisions. Wildfire Adapted Partners or Local Fire Protections Districts should work with landowners in older subdivisions in the WUI to explore means of reducing structural ignitability. All fire management entities and the FireWise Council should be active in identifying, pursuing, and managing grants that contribute toward the goals of this CWPP. Fire management entities should promote a mitigated property's increased property values and marketability in all education and outreach efforts.
Increase grants obtained for wildfire preparedness activities.
1. Utilize the Wildfire Adapted Partnership, All Fire Management Entities, and volunteers to help write and manage grants.
2. Seek continued funding for the Montezuma County Wildfire Adapted Partnership and the Fire Chief's Association Wildfire Education and Prevention Specialist.
3. Explore foundation grants as a means of funding identified activities.

4. Leverage the cost savings of preventing wildfire threats to homes to obtain mitigation funds.
5. Leverage location within Region 9 economic development district and an enterprise zone to find new funding sources.
6. Utilize special improvements districts as a means of funding mitigation in some higher scale communities to stretch other dollars further in lower income
7. Encourage the development of small diameter commercial wood processing businesses or use of central heating systems that utilizing local small diameter fuels from mitigation projects as a heat source.
8. ***Maintain Defensible Space 200 ft. to hydro-axe project on SW edge of Towaoc.***
9. ***Restart Brush Hog Maintenance Crew in Towaoc to do fuels maintenance around homes and structures as identified by Towaoc Fire and Rescue and the Elders Council.***
Provide more property owners with the tools they need to create and maintain appropriate fuels mitigation and structure protection.
1. Continue to support WAP site assessments and keep accessible to all community residents Widely advertise and promote this service.
2. Promote programs that help people take preparedness one step at a time.
3. Utilize the Neighborhood Ambassador Program, incentive programs, and public firefighting agency resources to connect do-it-yourself homeowners with the tools they need for fuels treatment and home ignition zone improvements.(i.e. Neighbor may have appropriate tool; rebates may offset rental or purchase price; hydro mower on neighboring federal lands may complete projects on adjacent private lands at greatly reduced rates by eliminating transportation costs; sales on 1/8” screen and other fire resistant materials may be organized.)
4. Provide Home Ignition Zone workshops to the public.
5. Develop and advertise demonstration sites for appropriate access, defensible space development, and home ignition zone improvements.
6. Work with the Landfill and develop additional free or low cost slash disposal sites and services.
Encourage residents in the Summit Ridge region to develop their own active mitigation and preparedness program.
1. Encourage HOAs to do WUI checkpoints in their communities to raise awareness of the extreme risk in that area.

2. Place high priority on recruiting Firewise Neighborhood Ambassadors throughout the Summit Ridge area.
3. Utilize Summit Lake State Park as a demonstration site for quality fuels treatment in the Ponderosa Pine ecosystem.
4. Designate a private slash site in the area and arrange slash removal days.
5. Seek timber harvest opportunities for landscape scale thinning throughout private property on Summit Ridge.

FUELS REDUCTIONS

Public Lands

Annual fuels reductions treatments on public lands are completed either by the USFS, the BLM, or the NPS. Fuels treatments are typically targeted along public lands boundaries and in areas where vegetation treatments are desirable for forest health. The public lands agencies place a high priority on cross boundary treatments and all public lands treatments are designed to be complimented by fuels treatments on the private lands side. Many fuel reductions have already been completed along the SJNF boundary and on BLM lands adjacent to private lands.

Private Lands

Substantial fuels reduction treatments on private lands are not commonplace. Fuel reduction that does occur on private lands mostly occurs in conjunction with commercial timber sales.

POLICIES OR COVENANTS

Montezuma County maintains a policy of ***personal responsibility*** for people who choose to live in the county's unincorporated areas. Rural living comes with various benefits and risks, but it is up to the landowner to advocate for their own safety, the safety of their neighbors, and the safety of first responders.

"***As more people choose to live in wildfire-prone areas, additional homes and lives are potentially threatened every year. Firefighters always do their best to protect residents, but ultimately, it is your responsibility to protect your property and investments from wildfire."***
Colorado State Forest Service

As previously described, the Montezuma County Land Use Code requires an evaluation of wildfire risk when subdivisions are proposed. Subdivisions within areas determined to be at high risk receive extra scrutiny. Those subdivisions deemed to be at an increased risk of wildfire are required to prepare a wildfire mitigation plan. However, even if wildfire mitigation plans are implemented when a subdivision is created, ongoing maintenance must continue to follow the mitigation plan regularly or the value of the mitigation degrades over time. Montezuma County

strongly recommends that subdivision covenants provide for regular maintenance of mitigated landscapes.

Montezuma County lack sufficient resources to staff a building department and therefore cannot implement code enforcement effectively. Montezuma County strongly recommends using materials and techniques to reduce structural ignitability for new construction. For older existing homes Montezuma County recommends consulting the Colorado State Forest Services Home Ignition Zone Guide; https://csfs.colostate.edu/wpcontent/uploads/2021/04/2021_CSFS_HIZGuide_Web.pdf and working with reputable contractors.