Colfax County

Community Wildfire Protection Plan

2022 Update

Colfax County
New Mexico

Cimarron Watershed Alliance

Forest Stewards Guild
putting the forest first

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Signatures

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Executive Summary

The 2022 Colfax County Community Wildfire Protection Plan (CWPP) documents, updates, and formalizes the past efforts and future ambitions of key partners in the area to make residents and forests better able to safely coexist with increasing wildfire frequency and severity. Since the previous CWPP in 2008 much has changed in Colfax County, and this updated CWPP captures those changes. The updates in the 2022 CWPP account for progress made among fire professionals in Colfax County, changed circumstances, new statewide and federal plans, and lessons learned from the Ute Park fire. The latter includes an accounting for water quality, water quantity, and erosion potential as considerations in our process of designation community risk ratings across the county.

This plan assesses the wildfire preparedness needs in Colfax County, including building capacity for implementing wildfire risk reduction projects in partnership with land management agencies, the use of prescribed fire, as well as education and outreach through both the Firewise and Fire Adapted Communities programs. This plan uses data from the 2020 NM Forest Action Plan and attempts to align with planning efforts related to Shared Stewardship, the Forest and Watershed Restoration Act, and many other efforts to address wildfire risk reduction and watershed health across boundaries.

In many ways, the process of developing this CWPP is as important as the document itself. With that in mind, we encourage Core Team members and Colfax County residents to think of this document as an actionable plan and work collaboratively to move from planning into implementation.

The most important elements of this CWPP are the priority actions and priority fuels projects that guide future actions in the county to prepare for wildfire (Tables 2-10). These were developed in consultation with the Core Team and community stakeholders and are the heart of the CWPP. By fulfilling these recommendations, Colfax County will have a chance to become better prepared for wildfire and grow the resilience to recover quickly.

This CWPP is intended to inform existing planning efforts across Colfax County and the State of New Mexico. To use this document most effectively, users are advised to find areas of overlap between priority areas in the 2020 NM Forest Action Plan, Shared Stewardship priorities between the US Forest Service and NM State Forestry Division, priority action items within this County CWPP, priority actions within community-level CWPPs, and priorities within Source Water Protection Plans. Planning projects in areas where priorities overlap in high-risk areas will improve the likelihood of receiving funding.

The following sections provide more detail on wildfire preparedness in general to clarify the recommendations in the priority action tables, recommendations for post fire recovery, the collaboration process used in this CWPP update, the WUI and Communities at Risk update process, and the fire threat analysis process.

Introduction

What is a Community Wildfire Protection Plan?

A Community Wildfire Protection Plan (CWPP) sets a community on the right path towards being prepared for wildfire. This takes many forms but what we have highlighted in this plan are the priority actions that residents and entities in Colfax County should take to prepare the county, its lands, and its residents for wildfire. These priority actions are formed through the recommendations of a diverse group of dedicated stakeholders called the Core Team. Just as important as the recommendations in this plan though is the process of forming the Core Team and keeping that team together to act on the recommendations of the plan.

The federal government has recognized that many communities in the United States live in or near fire prone ecosystems that often bring inherent risks of wildfire. The Healthy Forest Restoration Act (HFRA) (Public Law 108-148 2003) acknowledges this and the fact that the federal government cannot provide funds to reduce hazardous wildland fuels for all communities at risk. The HFRA therefore established a mechanism to prioritize communities at risk to ensure that federal funds to reduce hazardous fuels go to those communities at highest risk. This mechanism is the CWPP (Public Law 108-148 2003). With a completed CWPP a community or group of communities can apply for federal funds appropriate to reduce hazardous fuels or other prioritized actions that have been identified through the CWPP process. As a result of the implementation of a CWPP the ecosystem and the communities will be able to coexist with wildfire more safely.

The minimum requirements for a CWPP as described in the Healthy Forests Restoration Act are:

(1) Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.

(2) Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.

(3) Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

The HFRA requires that three entities mutually agree to the final contents of a CWPP:

- The applicable city or county government:
- The local fire department(s); and
- The state entity responsible for forest management.

Preparing a Community Wildfire Protection Plan: A Handbook for Wildland-Urban Interface Communities was released in 2004 and provided a basic outline for CWPP preparation. This was supplemented in 2008 by the more comprehensive *Community Guide to preparing and implementing a Community Wildfire Protection Plan.* Both guidance documents can be accessed at: https://www.forestsandrangelands.gov/resources/communities/index.shtml. These guidance documents are excellent and the links and resources section in the 2008 document is especially useful for CWPP implementation and tracking accomplishments and progress.

CWPP Updates

Planning efforts periodically need updating. The New Mexico Fire Planning Task Force recommends that CWPPs be updated every five years to assess new hazards and monitor progress made since the last CWPP update. This evaluation can generate new ideas, recommendations, or changes. Building community resilience to wildfire requires an adaptive approach that uses the lessons of the past to inform future management. It is important to remember that this CWPP update is a living document. As new information becomes available and conditions on the ground change, priorities may need to be updated.

In 2021, the New Mexico Association of Counties (NMAC), in collaboration with New Mexico State Forestry (NMSF) and the Forest Stewards Guild (FSG), developed guidelines for updating CWPPs (EMNRD, 2021). The 2021 guidelines were designed to improve CWPP effectiveness based on actual experiences from the planning process. You can view these guidelines in full by visiting: https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/State-Forestry-CWPP-Requirements-2021.pdf.

How to Use this CWPP Document

CWPPs are the best process we have for organizing wildfire risk reduction projects across jurisdictional boundaries at the local level, in this case that is the county level. The community risk ratings in this plan (high, medium, and low), as well as the priority action items can be used to build rationale for a proposed treatment within funding proposals. For example, a wildfire risk reduction project that is documented as a priority action in the CWPP that is located within or adjacent to a high-risk community will receive stronger consideration for funding from New Mexico State Forestry Division, New Mexico Counties, the US Forest Service, and many other potential funders.

CWPPs are best used in tandem with other planning efforts across the County and the State of New Mexico. Finding areas where priority actions in high-risk communities identified in this CWPP align with NM State Forestry's priority areas in the 2020 NM Forest Action Plan or in the Shared Stewardship priorities between NM State Forestry and the US Forest Service, will fast track project proposals and will help State Forestry and the US Forest Service fund proposed actions. To work effectively with NM State Forestry and US Forest Service, use the Shared Stewardship portal to explore and propose actions within Shared Stewardship priority areas: https://nmssp.org/#/

Much of Colfax County has been identified within the 2020 NM FAP and within the Shared Stewardship priorities as high priority in the Enchanted Circle Priority Area (Figure 1).

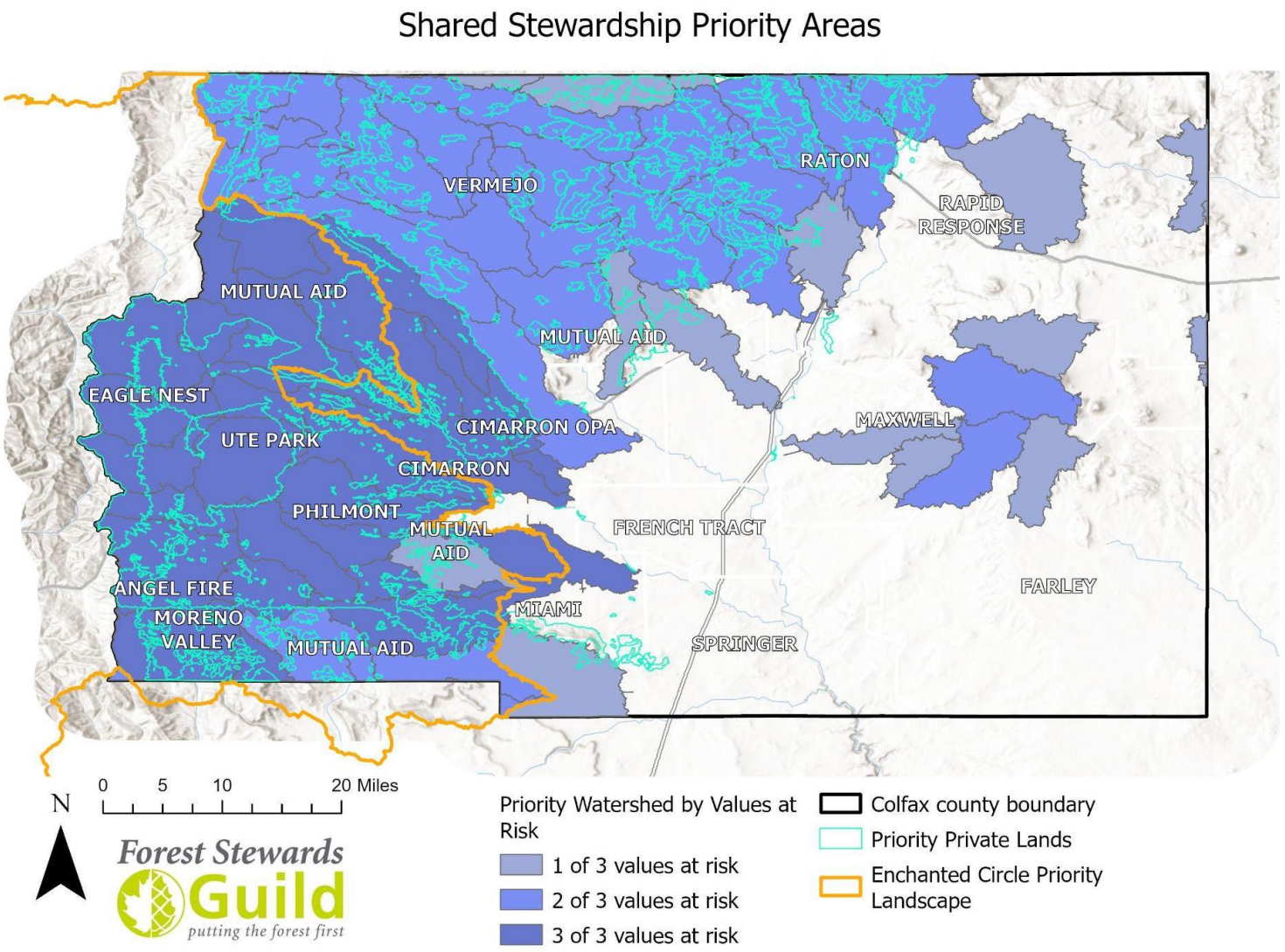

Figure 1. Enchanted Circle Priority landscape and Shared Stewardship Priority Watershed Areas between NM State Forestry Division and US Forest Service from the 2020 NM FAP.

During the time of writing this CWPP, the human-caused Cooks Peak wildfire ignited and burned approximately 59,359 acres (97% contained on 5/16/2022) in Colfax and Mora Counties North of Ocate Mesa. This fire is a stark reminder of the importance of wildfire preparedness planning in all forms and especially through community wildfire protection plans (CWPPs).

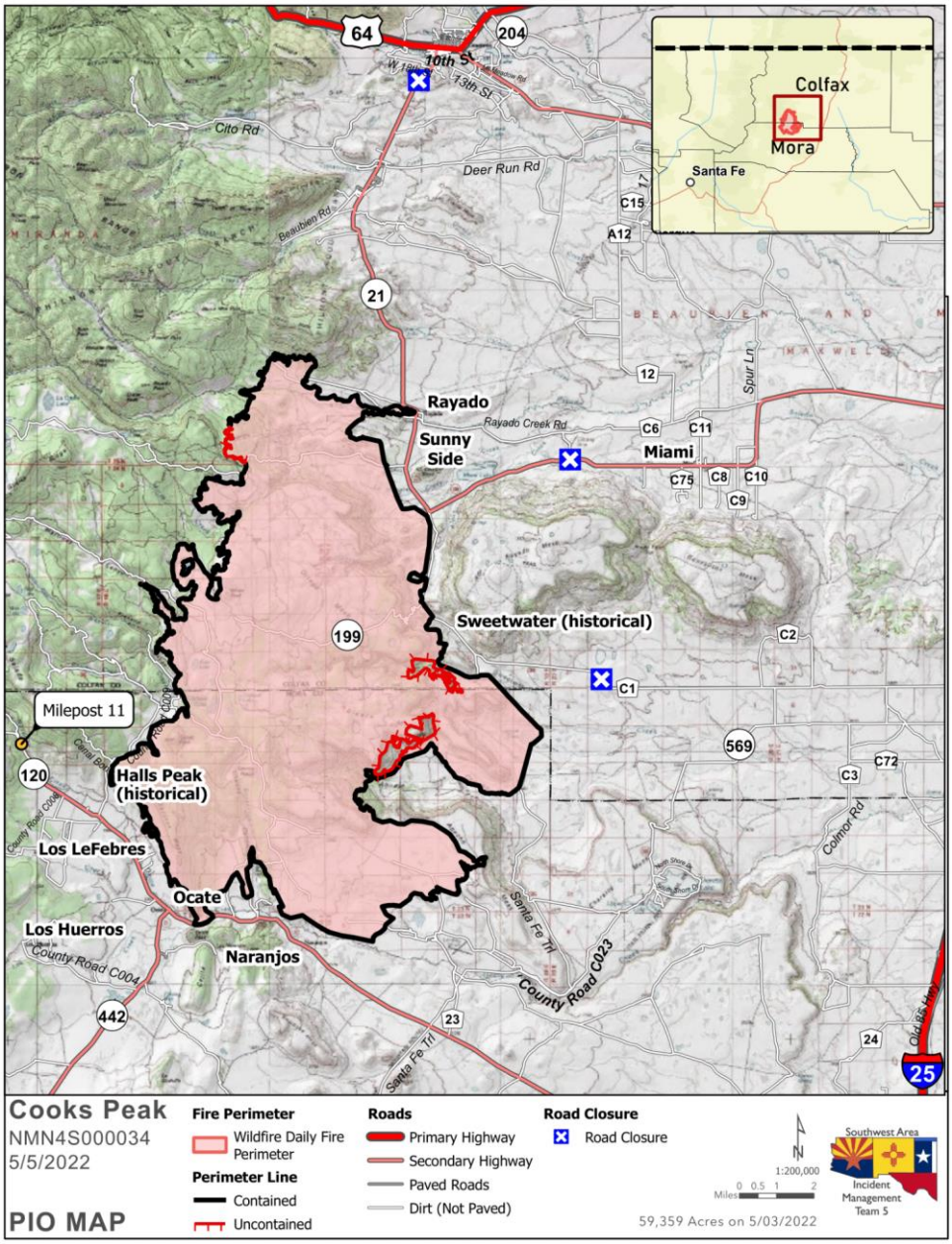

Figure 2. Inciweb New Mexico map of the Cooks Peak Fire [05/05/2022].

Previous and Ongoing Wildfire Planning in Colfax County

2008 County Wildfire Protection Plan

In accordance with the HFRA of 2003, the County completed a CWPP in 2008. The previous Colfax County CWPP was written in 2008 by SEC. Inc. It is available at New Mexico State Forestry (NMSF) website:

https://foreststewardsguild.org/wp-content/uploads/2022/05/Colfax-County-CWPP_2008.pdf

The previous plan covers in great detail the background information for the CWPP, including the geographical make-up of the county, its fire history, as well as the variety of wildfire science topics including fuel treatments and their effectiveness. Although at the time of the 2022 CWPP Update for Colfax County this information is at least 14 years old, much of it is still valid. Therefore, the 2022 CWPP Update only includes information from the 2008 CWPP where applicable. We encourage readers to refer to the 2008 plan for any background information on this 2022 Update.

The 2022 CWPP Update greatly expands on concrete recommendations to advance wildfire preparedness and features upgraded mapping of values and wildfire risk.

Community Level Wildfire Protection Plans

Within Colfax County several community level CWPPs have been completed or are in the process of being completed or updated. These plans are also available at the NMSFD website, and include CWPPs for the following communities:

Cimarron Watershed CWPP (2008): https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/CWPPCimarronWatershed2008.pdf

Elk Ridge (2018): https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/ElkRidgeCWPP2018.pdf

Enchanted Circle (2006; includes parts of Taos County): https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/EnchantedCircleCWPPPlanAnnexes2006.pdf

Hidden Lake (2016): https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/CWPPWildfirePlanforHiddenLakeFinal2016.pdf

Taos Pines (2006): https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/TaosPinesCWPP.pdf

The Village of Angel Fire and the community of Vermejo Park are in the process of updating their previous CWPPs. Upon approval, these plans will also be made available through the NMSF website.

Accomplishments since 2008 CWPP

There have been many accomplishments that have advanced Colfax County's wildfire preparedness since 2008. One goal of a CWPP update is to catalog these accomplishments and determine how wildfire risk has been reduced. However, with a 14-year span since the original plan documenting all accomplishments could become impractically burdensome. The following listing is therefore a synopsis of accomplishments identified during the compilation of the 2022 CWPP Update. Presumably many other important accomplishments occurred that are not listed here. Refer to Figure 7 for a summary of all fire and fuel treatment areas in the county.

County

- Worked with State to put together a Burned Area Emergency Response (BAER) team for the 2018 Ute Park Fire.
- Obtained USDA funding for silt catchment basins, thinning, mastication, and other post-fire plans after the Ute Park Fire, primarily working on private land.
- Partnering with City of Raton to get NRCS and FEMA funds to do work on the reservoir on Lake Maloya

Private Land

- Philmont Ranch:
    - Purchased a skidder, and acquired a masticator and a portable sawmill
    - Defensible space and fuel reductions in backcountry
    - FHI thinning at Cimarroncito Reservoir
- Vermejo Park Ranch
    - Treated over 20,000 acres to include logging and prescribed burns, slash disposal, and hosting Prescribed Fire Training Events (TREX)
    - Multiple project areas continue to be treated annually.
    - Established pile burn plan with most project areas containing 100 to 1200 machine piles.
- UU Bar Ranch
    - Had three controlled burns in high country (1191 acres) and near Miami (297 acres); more planned.
    - Some mastication is done annually; salvage cut across 1800 ac on the Morris Creek.
- American Creek Properties
    - Fuel reduction through logging in lower elevation/WUI ponderosa
    - Higher altitude spruce-fir stands marked for timber harvest
    - Plans developed for watershed quality improvement along American Creek

US Forest Service-Carson National Forest

- Prescribed fire in Angel Fire and Valle Vidal

Fire District Improvements

- Moreno Valley & Eagle Nest VFD:
    - Cooperation and joint training in Enchanted Circle; applying for grants getting equipment
    - Offered annual training for ranchers; S121 and 130-190 wildfire fighting credentials; collaboration with Enchanted Circle folks; also showed Ready-Set-Go videos; shared info in monthly newsletters
    - Offered support with safe burning of piles; issued permits; ensured safety protocols (water); informed dispatch of each permitted burn

    - Supported landowner defensible space creation (at least 30-ft perimeters)
- Idlewild also has an evacuation plan, maps, and trails, improved roads
- Miami FD purchased a Type 6 engine, UTV, and 120,000-gallon water tank
- Philmont Scout Ranch FD has reduced fuels on the Beaubien Road for approximately 10 miles, 100 yards off either side through thinning and pile burning.
- Automatic aid agreement between City of Raton and Rapid Response district

NM State Trust Lands

- Planning effort for White Peak area (In-Progress)
    - Developing inventory of roads in White Peak area that will be used in decision making process to determine whether to close, open, or maintain them (In-Progress)
- Public support during meetings has grown for RX fire since the first meeting in 2013.
- Opened roads, thinning work, created mosaic patchworks to help with staging & access.

Tribal Lands

- Sandia Pueblo's Bobcat Ranch: Strategically located thinning projects across 200+ acres

Wildfire and Prescribed fire

- 2011 Track Fire (27,792 acres) accidental ignition
- 2013 White Peak Fire (~1275 acres) lighting caused ignition
- 2018 Morris Creek Fire (~1670 acres) lightning caused ignition
- 2018 Ute Park Fire (36,740 acres) unknown ignition
- 2022 Cooks Peak Fire (Ongoing; 59,359 acres as of 5/11/2022) human ignition, under investigation

Community Organizations

- Idlewild developed Firewise community group; have done thinning, road work, and have a budget for annual activities
- Firewise committee in Angel Fire (AF) helped AF-City Council pass a defensible space ordinance; provision in which AF bills homeowners $10-$12 monthly for wood waste
- AF Firewise group has hosted annual days with landowners organized by FD
- Firewise Community groups were established in the following communities:
    - Hidden Lake, Elk Ridge, Taos Pines, Green Valley, Ute Park, Vermejo

Companion Plans

This CWPP is intended to be used in tandem with existing planning efforts across Colfax County and the State of New Mexico. To use this document most effectively, we recommend finding areas of overlap between priority areas in the 2020 NM Forest Action Plan, Shared Stewardship priorities between the US Forest Service and NM State Forestry Division, and priority action items within this CWPP. Planning projects in areas where priorities overlap will improve the likelihood of receiving funding.

FAP 2020

The 2020 New Mexico Forest Action Plan (EMNRD 2020) (FAP) identifies many forestlands and WUI areas in Colfax County as high to very high priority areas for intervention. The FAP provides detailed information about the state's natural resources, including threats to resources, resource assets, risks to resources, and data gaps, as well as a series of strategies to manage forest and watershed resources at risk.

The forestlands in the southwestern and western part of Colfax County are identified as among those with the highest wildfire risk to biodiversity, human communities, and water supplies in the state. The watersheds of the Moreno Valley and the Cimarron Range and the Cimarron River are among the top-ranking watersheds at risk of wildfire in the state according to the plan's assessment maps. As a result, the private forestlands in the county rank high in the state priority ranking for shared stewardship funding and technical support. Additionally, the FAP ranked the estimated attainment percentage of any projects around the Moreno Valley and in the Cimarron Range regarding risks to biodiversity, communities, and water resources among the highest in the state.

Effective implementation of the CWPP will, therefore, greatly contribute to the goals of the FAP and to the reduction of risks to biodiversity, communities, and water resources in the county. The following sections describe several other plans and planned initiatives that support the CWPP through specific and local actions.

Cimarron Watershed Alliance Plans

The Cimarron Watershed Alliance has several planning documents that have been developed which pertain to watershed health with a special emphasis on surface water resources, including the 2017 update to the Cimarron Watershed Based Plan, a 2017 Moreno Valley Wetlands Action Plan, and a 2022 Cimarron Watershed Restoration Plan funded by a grant from the Bureau of Reclamation WaterSMART program. The Cimarron watershed contains ten different ecoregions within its 671,147 acres. Most of the watershed is in the Southern Rocky Mountain Ecoregion (476,114 acres). The rest of the watershed is in the Southwestern Tablelands Ecoregion of the Great Plains to the east.

Each ecoregion has diverse ecological conditions, management regimes, and challenges. Some regions are impacted more profoundly by legacy management problems. Steeper systems tend to be less resilient and more impacted. Most of the steeper terrain is forested with forests covering more than half of the watershed. Because many of the forests are headwaters in the steeper parts of the Cimarron watershed, forest management has an outsized impact on quality and quantity of water that reaches lower elevations.

The CWA worked with Ecotone Landscape Planning to collaborate with stakeholders to define forest management goals. "An Overview of Forest Management Priorities for Improving Water Storage Opportunities in Headwater Catchment Areas in the Upper Cimarron Watershed, New Mexico", summarizes the importance of forest management in the watershed. The in-depth report that examines the intersection of forest management and water, "Water Storage Opportunities in Headwater Catchment Areas in the Upper Cimarron Watershed, New Mexico" is described in more detail below.

Forest Management Recommendation for Water Supplies and Forest Ecosystem Health

As part of the 2022 Cimarron Watershed Restoration Plan (funded by the USDI-BOR WaterSMART Program 2020), the Cimarron Watershed Alliance (CWA) conducted several forest management studies. The reports from these studies were included in the Plan and provide details to recommended forest management priorities aimed at improving water storage opportunities in headwater catchment areas in the upper Cimarron Watershed. The forest management recommendations for the area are based on regional priority indications included in the 2020 New Mexico Forest Action Plan (FAP) (EMNRD 2020).

Throughout the U.S. forests are key determinants of the quality and quantity of water supplies, and their importance is increasing as freshwater resources become scarcer (Moeser et al. 2020). In the western United States, between 50 percent and 65 percent of the water supply comes from forest land. Most of this water originates from snowmelt in the mountain forests. Colfax County, and especially the Cimarron Watershed, are prominent proof in New Mexico of the critical importance of our nation's forest lands as regional source water areas. The forest-covered mountain ranges around the Moreno Valley are a case in point as they constitute the main sources of drinking and irrigation water for a considerable number of communities and ranches in the Cimarron watershed. Based on the number of downstream irrigators per acre-foot of water (EMNRD 2020), the forested headwaters of the Cimarron watershed rank among the most important and most threatened water sources in New Mexico.

A predicted reduction in the amount and duration of snowpack due to climate change will likely result in a disproportionate reduction of groundwater recharge and, ultimately, of streamflow in watersheds throughout the Sangre de Cristo Mountains' watersheds (Tolley et al. 2015). Because potential evapotranspiration is greatest during the summer (Stewart et al. 1999), a large portion of monsoon precipitation is lost to canopy interception, bare soil evaporation, and uptake by vegetation. Therefore, very little, if any, of the precipitation that falls during monsoon storms makes it past the root zone (Kurc and Small 2004; Tolley et al. 2015). Rising winter temperatures and high winds increasingly lead to earlier snowmelt, followed by early high peak runoff events and evaporation losses of melted ice and snow (USDI 2011; USGCRP 2018). The result of post-wildfire erosion is that even moderate flow events in mountain streams carry large amounts of sediment and woody debris. Inefficiencies in water harvesting, delivery, and storage exacerbate the water supply problems. Together these factors greatly limit present and future water diversion and use opportunities downstream.

The CWA research clarified how climate change impacts severely challenge opportunities for increasing water storage. Increased solar radiation and temperature, wind, and periodic droughts increase the occurrence of severe wildfires and threaten to greatly reduce snow accumulation and usable runoff. While the return intervals of wildfire in the headwater forests range from many decades to hundreds of years, fire threats from lower elevation areas outside the target treatment areas for water storage presently shorten the expected fire incidence time and increase the risk of high-intensity wildfire in the headwater forests.

Wildfire, bark beetle infestations, and other disturbances to forest vegetation due to climate change or variable land management reduce canopy cover (stand density) and increase the prevalence of canopy gaps and stand edges. These disturbance conditions can, however, contribute to increases, both observed and modeled, of heterogeneous snow accumulation patterns on the ground in forests because less snow is intercepted and subsequently sublimated (Moeser et al. 2020). Therefore, disturbance from wildfire in headwater forests could be beneficial if it would create small canopy gaps that accumulate snow and help store water in headwater forests.

Larger, stand-replacing fire is, however, more common in high elevation forests. Moreover, wildfire causes blackened debris and logs, which increases albedo and heat fluxes (higher temperatures) that lower the Snow-Water Equivalent (SWE) and accelerate the melt-out date (Field et al. 2020). High intensity fire also risks damaging forest ecosystems and soils to such an extent that snow accumulation and potential water storage decline, perhaps for decades. Therefore, natural, high severity fire must be avoided in the county's headwater forest ecosystems.

Amid these challenges and opportunities, CWA's research identifies a narrow but distinct path forward, which aligns with the 2020 FAP (EMNRD 2020) and has received support from the State Forestry Division and several critical partners and funders. The forest management vision for the Cimarron watershed combines strategic, site-specific, and continuous forest treatments in headwater forests to increase and maintain short-duration snow accumulation with landscape-wide and community-driven wildfire risk reduction strategies, such as through this CWPP, for long-term forest protection and adaptation to drought and fire.

These two strategies have short- to mid-term and longer-term treatment components. Short- to mid-term treatments include thinning and prescribed fire treatments in the drier, lower elevation ponderosa pine and dry mixed conifer ecosystems (8,200 – 8,800 feet) of the grassland to forest ecotones. This is to prepare them for the reintroduction of natural, low-intensity and mixed severity fire regimes, and to create a protective buffer of treated stands below the higher-elevation forests. The short- to mid-term strategy also includes small patch cut treatments at strategically selected locations in wet mixed conifer and spruce-fir stands, and selective thinning in the grassland-forest edges populated with aspen at higher elevations (9,000 – 10,500 feet) combined with selective treatment of slash and excessive fuel on the forest floor. These grassland-forest ecotone priority locations also enhance the fire break functions of the higher elevation meadows and protect stands higher up slope by reducing the chance of ignition in these edges (Conver et al. 2018). Long-term water source protection must be achieved primarily by protecting the headwater forests from high-severity wildfire impacts through continued, rotating treatments at the lower elevation forests and in the headwater forests with a specific rotation cycle of about 50 years. The treatments in the headwater forests aim to create small forest openings (gaps) and inter-canopy spaces that increase snow retention by increasing shading and reducing wind-borne evaporation and sublimation. This strategy leads to increased water storage and forest resilience to drought and has an effectiveness cycle of about ten years. Cumulative and recurring treatments over time and space, leading to at least 20 percent of the forests having natural canopy openings or having been treated within a previous ten-year timeframe, would optimize water storage and downstream water yield.

The forest management vision identifies actions and effects from a landscape scale to a fine (field) scale. At a landscape-level of tens of thousands of acres, forest treatments would need to protect the forest edges of the Moreno valley from fire fronts and from embers igniting fires in the Wildland-Urban-Interface of Angel Fire and Eagle Nest and in the higher elevation forests of the Cimarron Range. At a mid-level scale, specific locations must be selected and treated to reduce fire ignition sources and reduce chances for fire movement across the landscape. Warmer and drier mixed-conifer forests on south-facing slopes are particularly sensitive to wildfire. These forests have a cycle of frequent, low-intensity fire, but have not burned for many decades. Treatments that mimic wildfire are of importance here, consisting of annual small thinning treatments that create irregular patterns of gaps in the dense canopy, and many randomly spaced, small openings between groups of trees. These thinning treatments should be prioritized to prevent high-severity fire and protect the water source ability of the forest soils. At a fine scale, specific prescriptions for stem reduction, prescribed fire, and canopy gap sizes, shapes and orientations help optimize the effectiveness of the higher-level strategies.

In 2020 and 2021, the CWA worked with the New Mexico State Forestry Cimarron District to apply for state funding (Forest and Watershed Restoration Act of 2019 - FAWRA) to support this forest management vision for the next ten years. In 2021, the state awarded a grant to the Cimarron District and preparations are underway for project implementation with several private forest owners across a 40,000-acre landscape of the Cimarron Range.

This CWPP and other community-level CWPPs further support this forest management vision. This CWPP provides the county-wide context for the planned forest treatments through its recommendations on stepped-up, community-based fire adaptation planning, support of individual communities in fire adaptation and fire wise initiatives, and implementation of thinning treatments in the county's Wildland-Urban Interface. Conversely, the planned headwater forest treatments support a goal toward reduced intensity and severity of wildfire in the mixed conifer and spruce-fir forests, because forest stands will retain more moisture and comprise a mosaic of small openings which are likely to reduce risks of wildfire ignition and severity. Together these strategies hold the opportunity to reduce the chance of ignitions and the risk of high severity fire that would destroy the water storage capacity in headwater forests.

NM Rural Water Users Association

The New Mexico Water Association (NMRWA) provides technical assistance and training to public drinking water systems throughout the state. NMRWA's Source Water Protection Program works with public water systems to identify potential threats to their drinking water and develop a plan to address these threats. An important focus of NMRWA's Source Water Protection Program is articulating the relationship between drinking water systems and wildfire and postfire effects.

Martha Graham, of the New Mexico Rural Water Association's Source Water Protection Program, prepared the Village of Angel Fire Source Water Protection Plan in 2016, which identified wildfire and postfire effects as potential threats and sources of contamination to the Village's drinking water. In 2017 Graham worked with the Philmont Scout Ranch, New Mexico Environment Department, and Daniel B. Stephens and Associates to prepare a Source Water Protection Plan that again identified wildfire and postfire effects as potential threats to Philmont's many drinking water sources. Work on the Philmont Scout Ranch Source Water Protection Plan was set aside in 2018, due in part to the Ute Park Fire.

Wildfire and postfire impacts can affect both groundwater and surface water systems. Effects on groundwater systems can be less direct and immediate than for surface water systems – for example, contamination of groundwater from damaged septic and other wastewater systems. Wildfires and postfire processes can impact the rate of runoff and sedimentation into surface water sources, including turbidity, the type and quantity of nutrients (especially nitrogen), and total suspended solids. Some types of heavy metals, fallout radionuclides, cyanide, and polychlorinated biphenyls (PCBs) are also typically present in floods originating from burn areas. The presence of any of these substances may require additional testing and/or treatment of the water source to ensure that it meets safe drinking water standards.

In addition to applying the standard fire hardening and defensible space practices to water utility structures and other infrastructure, the Village of Angel Fire and Philmont Scout Ranch Source Water Protection Plans included recommendations to provide land managers and emergency responders with information about the water systems' critical infrastructure, participate in CWPP updates, and coordinate on forest treatments.

Geospatial Analysis and Map Descriptions

Additional information regarding the maps in Figures 5-11 is available in Table 1.

Fire Threat Analysis

To guide the creation of the CWPP it's crucial to identify areas of the greatest wildfire threat so that actions can be prescribed to fit the conditions on the ground (Williams et al., 2013; Brummel et al., 2010). Using a data-driven process to locate these treatments can lead to better outcomes and a better cost-benefit ratio (Low et al., 2010). An accurate assessment of hazards can also inspire action as stakeholders and residents see the threat they are confronted with (Jakes et al, 20017). Wildfire risk is determined by finding the intersection of where areas of hazard occur with values that are placed at risk by that hazard (Bar Massada et al., 2009).

To establish a rating of wildfire risk for Communities at Risk the stakeholders of the CWPP core team used a collaborative process to identify important values in the county, including human infrastructure such as homes, communication towers, or powerlines, as well as areas that provide key ecological services such as primary watersheds (Fleeger, 2008). By determining the fire hazard rating at those values, a preliminary assessment of the fire risk was made. This risk assessment was then modified by adjusting ratings according to local knowledge. Even though the threat map does not show the conditions of any one real-world fire, it shows how fires under a single set of modeled fuel and weather conditions will burn across the entire county to aid in comparing one area relative to another area.

To support this process, we used spatial data from the recent 2020 NM Forest Action Plan that takes into account fuel and topographic conditions (EMNRD, 2020). These data estimate wildfire hazard as a function of burn probability and conditional fire intensity.

Wildfire threat data combines landscape burn probability and conditional fire intensity into a single pixel value that identifies the fire threat for that pixel. The wildfire threat map provides a way to compare one area to another. Ultimately the threat of a wildfire, its intensity and probability of it occurring, combined with its likelihood to impact values at risk such as communities and communication points (Scott et al., 2013) will determine the priority of wildfire preparation and mitigation across the county.

Before this map can be used to determine wildfire risk it is important to understand its assumptions and limitations. The modeling that is depicted in the maps below uses historical weather conditions observed by Remote Automated Weather System (RAWS) from each predictive services area and historical ignitions of fires over 300 acres (from 1992-2011).

Additionally, the modeled conditions are based on assumptions of fuel data from 2012 LANDFIRE with edits from treatments and fires that may not match the reality of fuel conditions. It’s crucial to understand that this map is simply a model based on one set of conditions that we chose to closely match reality as possible. Actual fires in Colfax County could be influenced by an infinite set of weather conditions that are not represented in this model.

However, given these limitations, this model will give stakeholders in the CWPP process a visual basis to help frame what they already know about wildfire hazards. The threat map shows how fires under a single set of conditions will burn across the entire county to aid in comparing one area relative to another area.

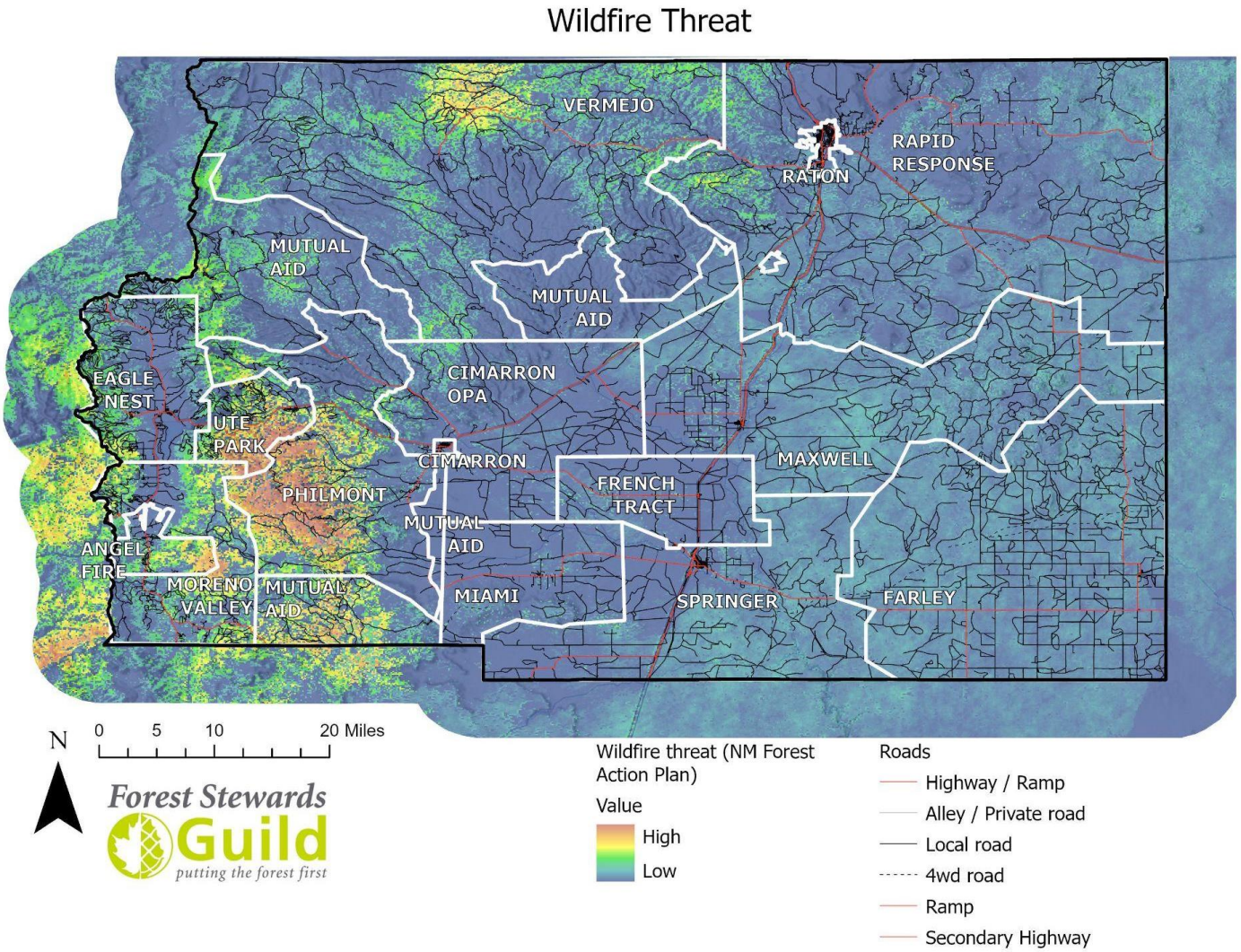

Figure 3. Wildfire Threat Map.

Wildland Urban Interface

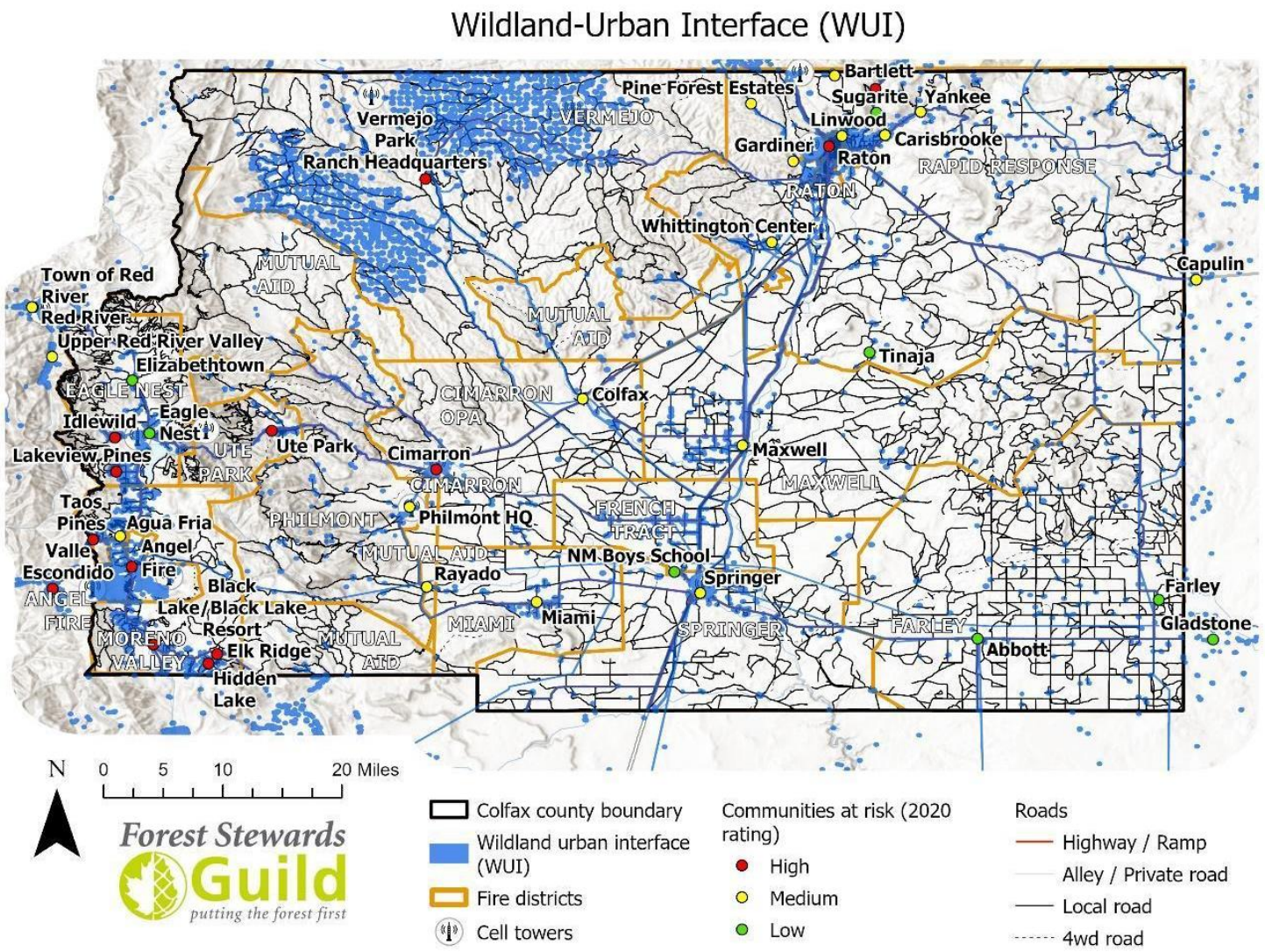

Figure 4. The Wildland-Urban Interface (WUI) Map. For more information see pg. 57 (WUI Determination Process).

Surface Ownership

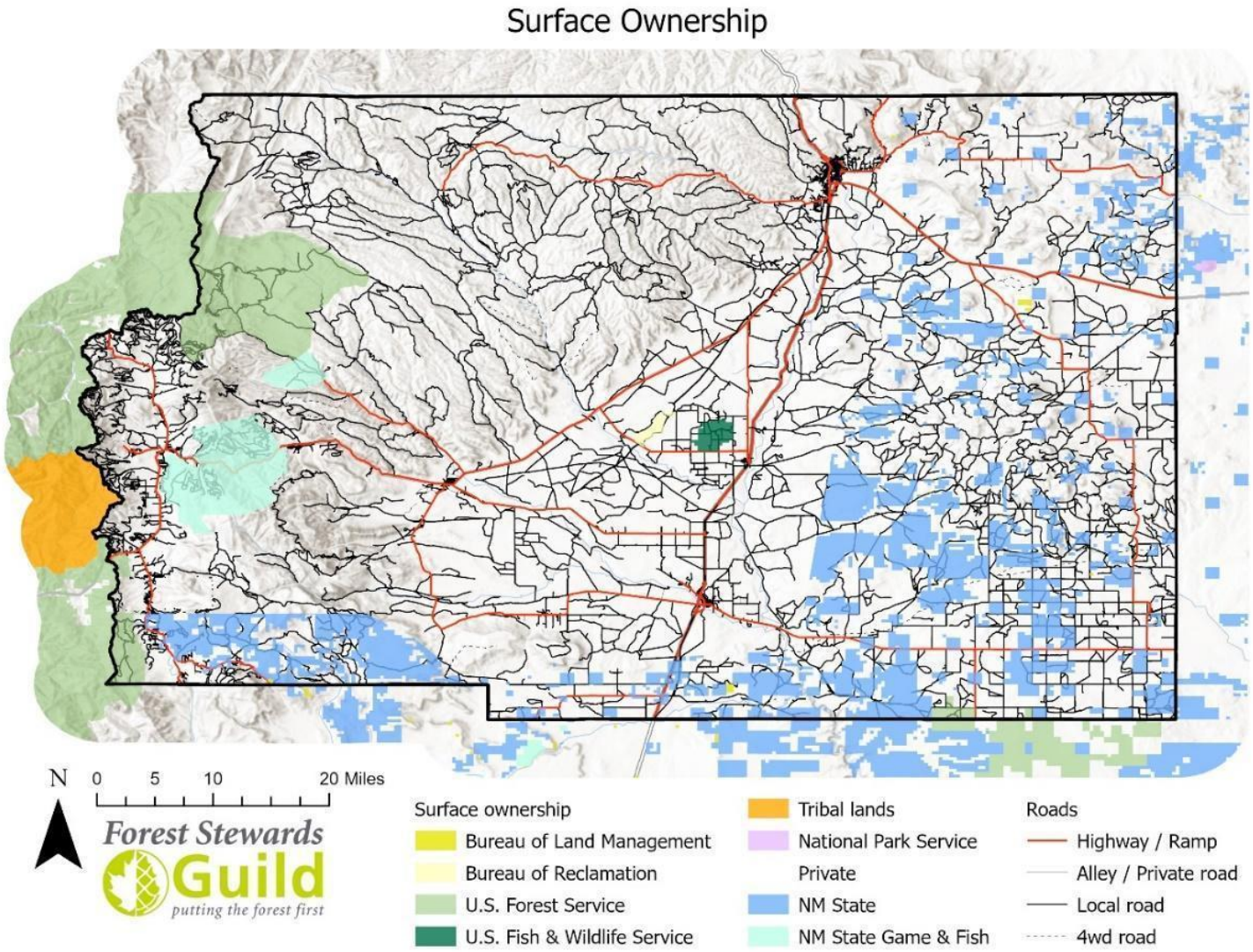

Figure 5. Surface Ownership Map.

Communities at Risk

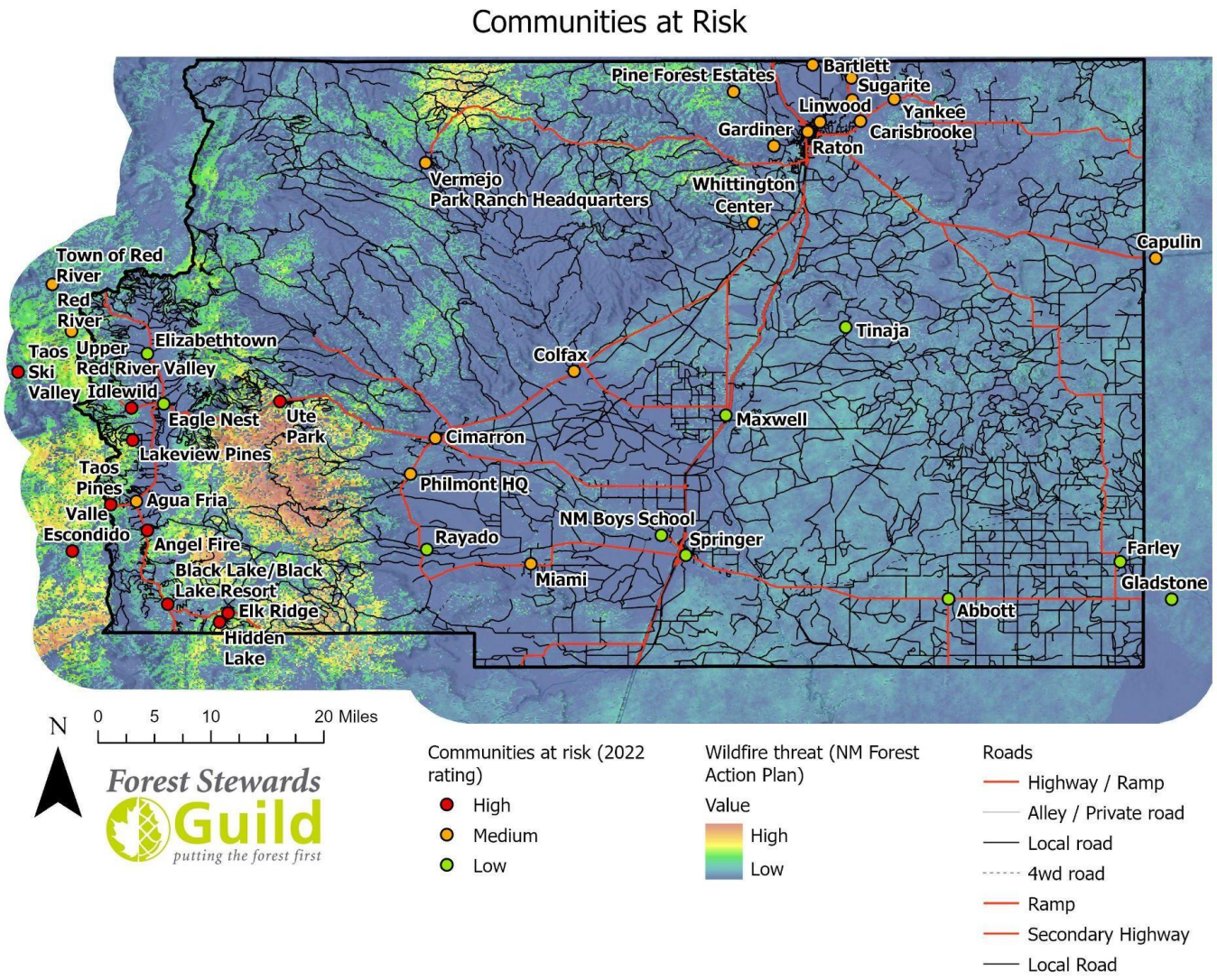

Figure 6. Communities at Risk Map.

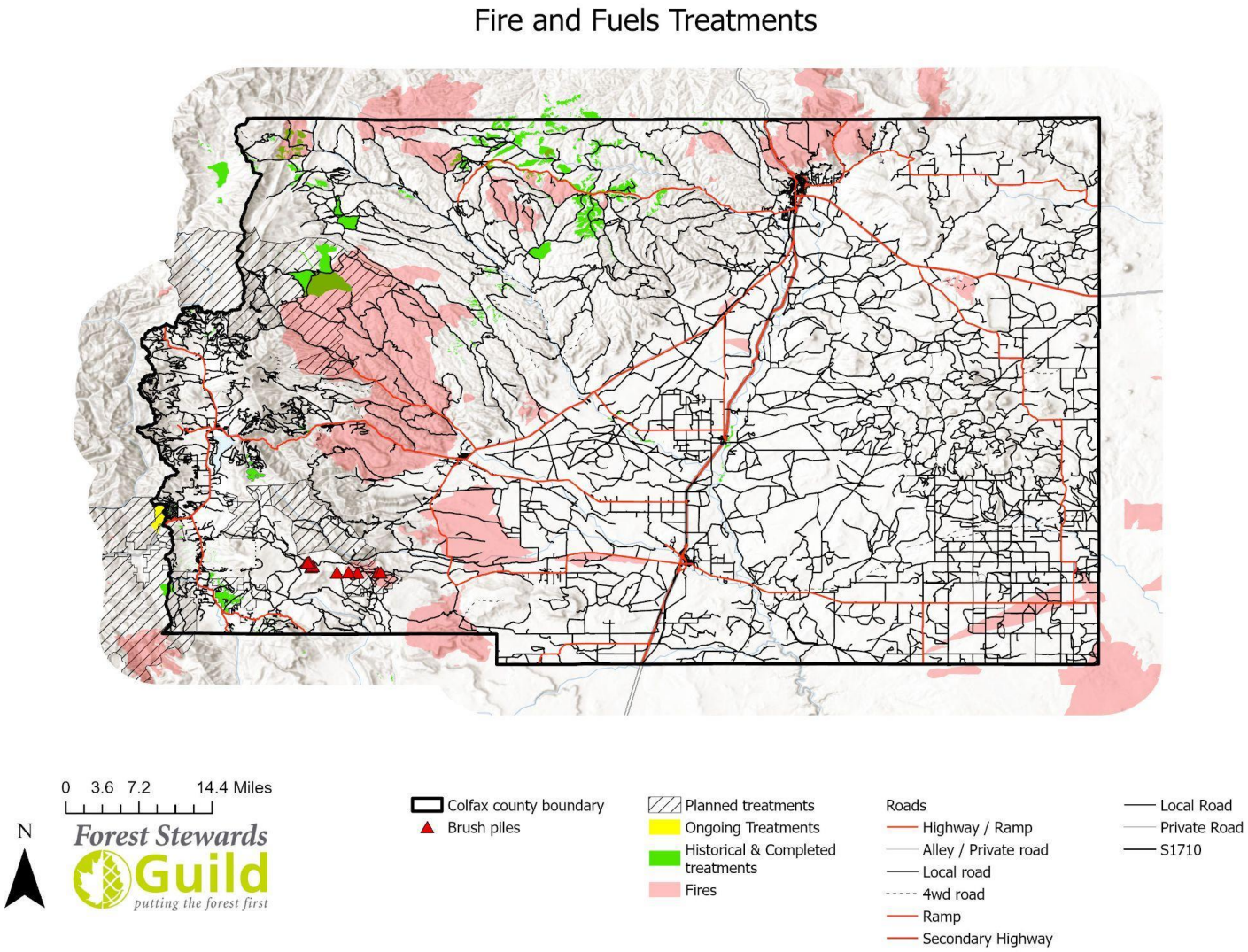

Figure 7. Treatment and Fire Areas Map. Wildfire perimeters were obtained from a New Mexico State Forestry Division database.

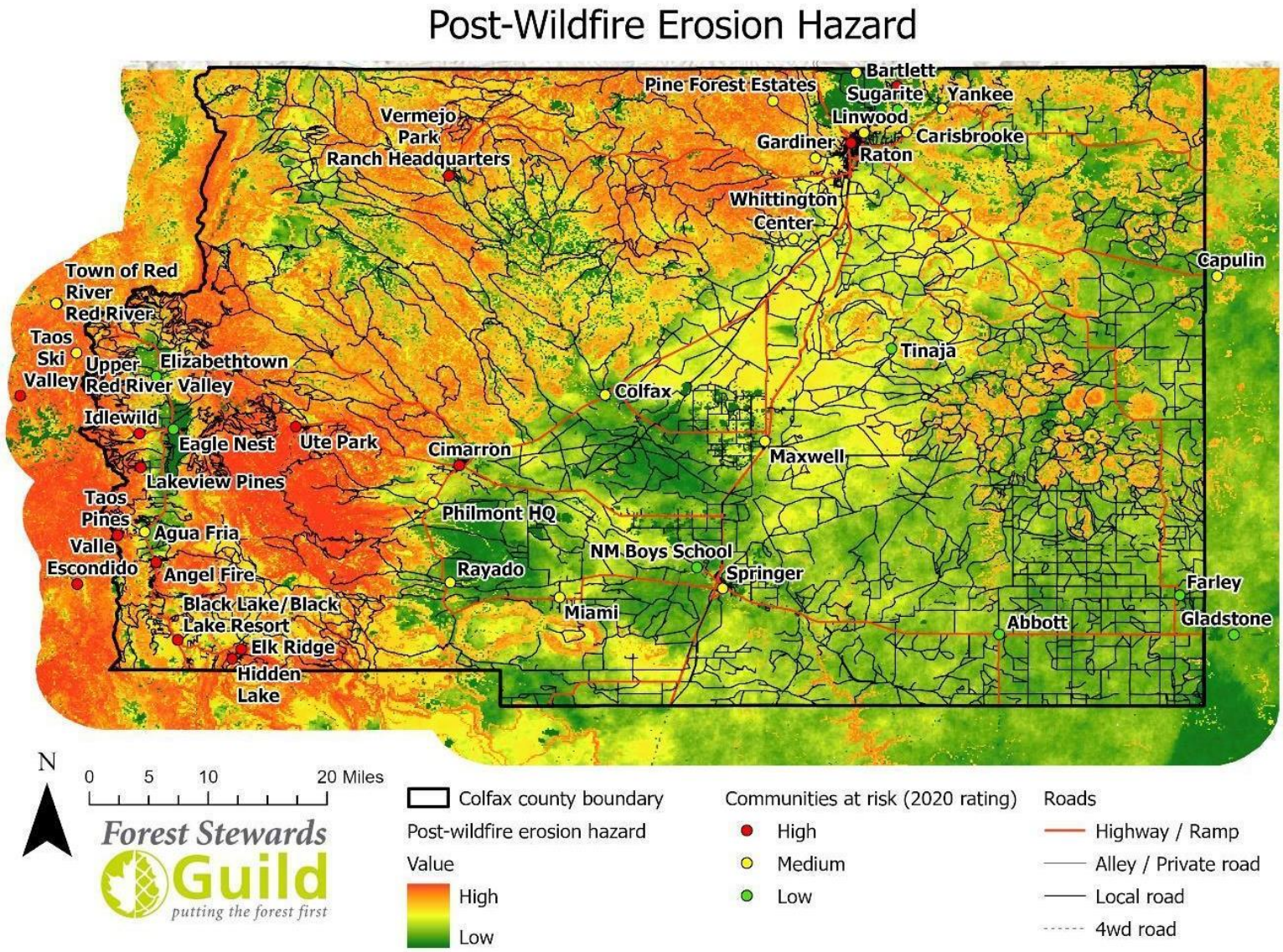

Figure 8. Post-Wildfire Erosion Hazard Map.

Water Resource Protection

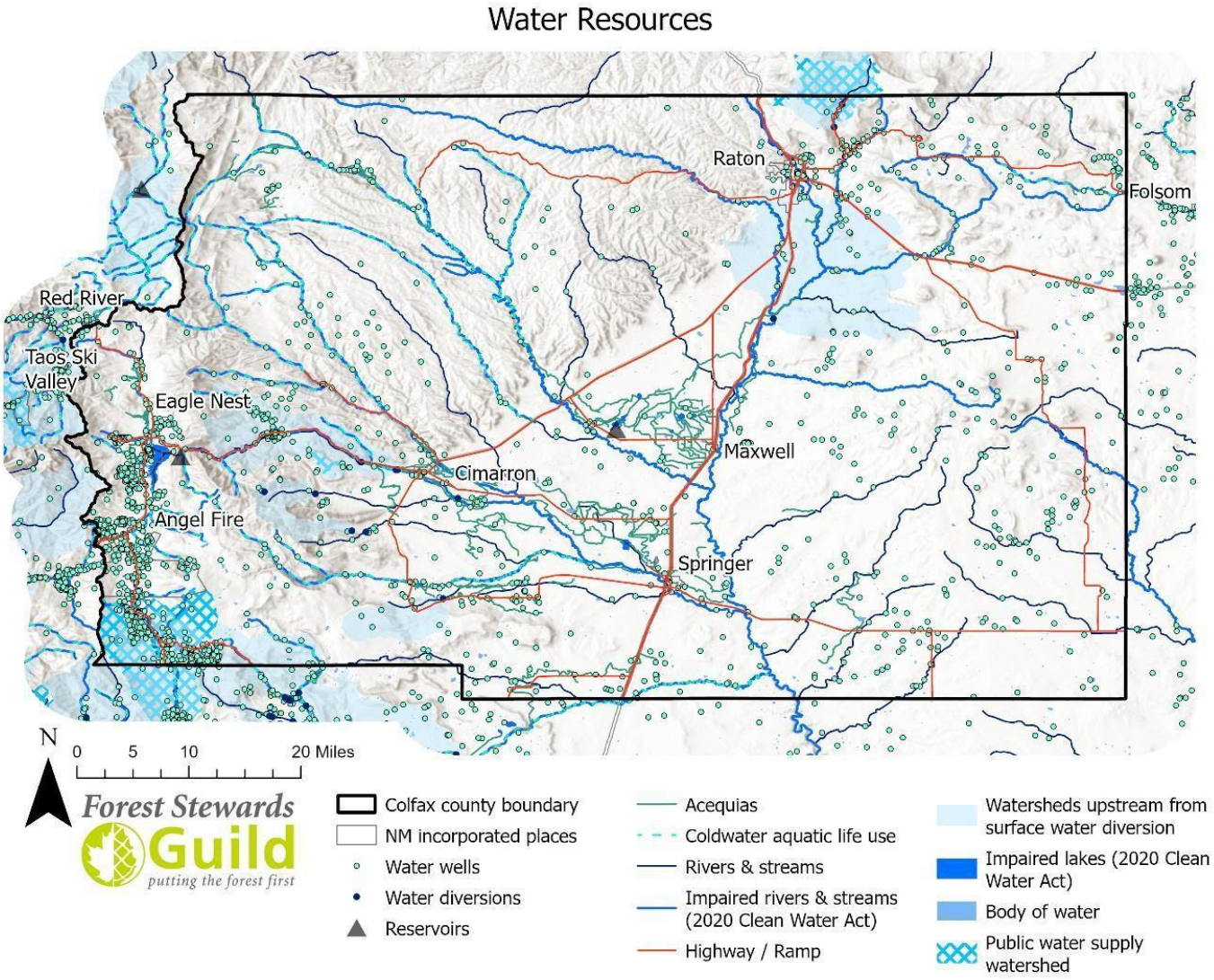

Figure 9. Water Resources Map.

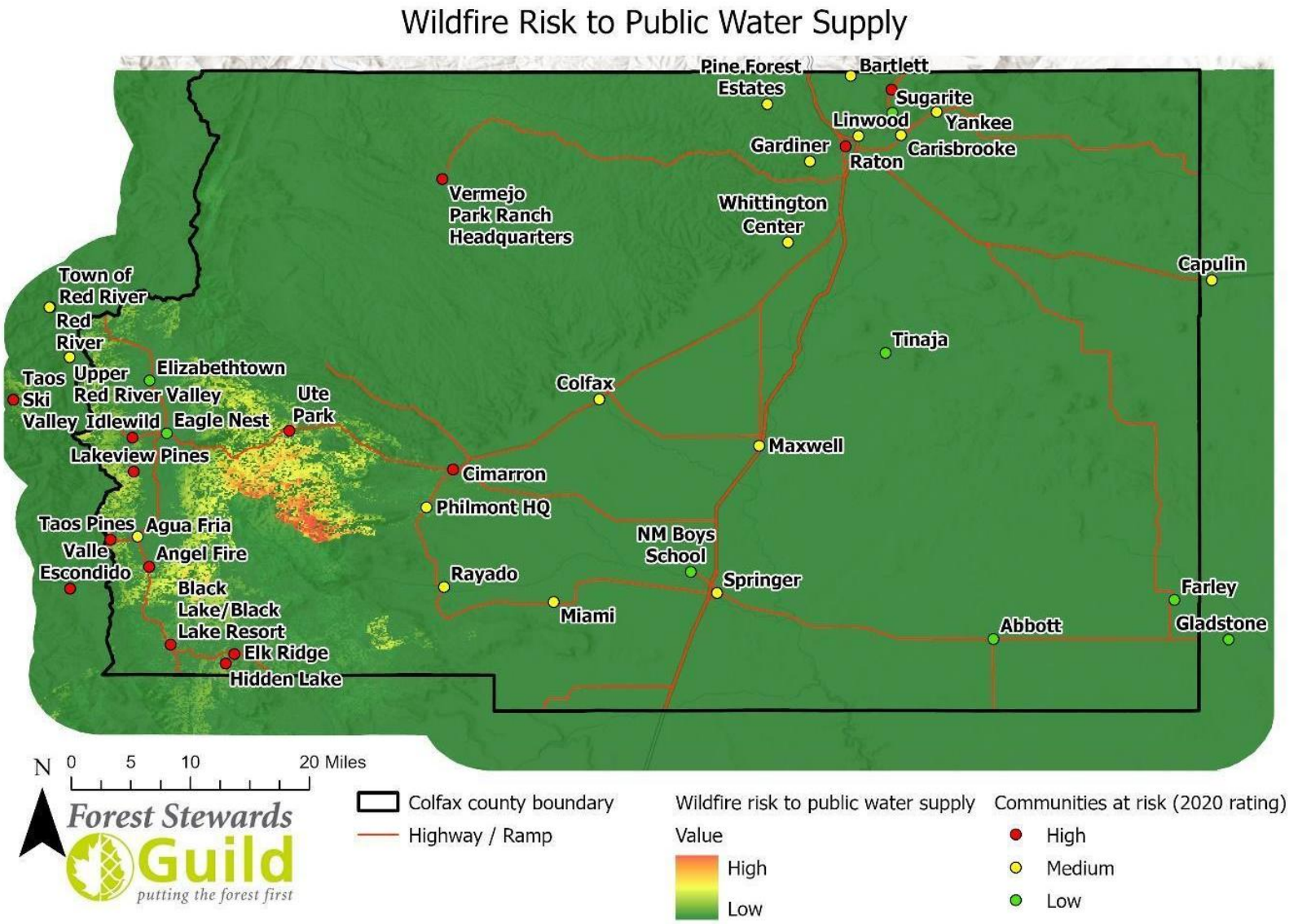

Figure 10. Wildfire Risks to Public Water Supply Map.

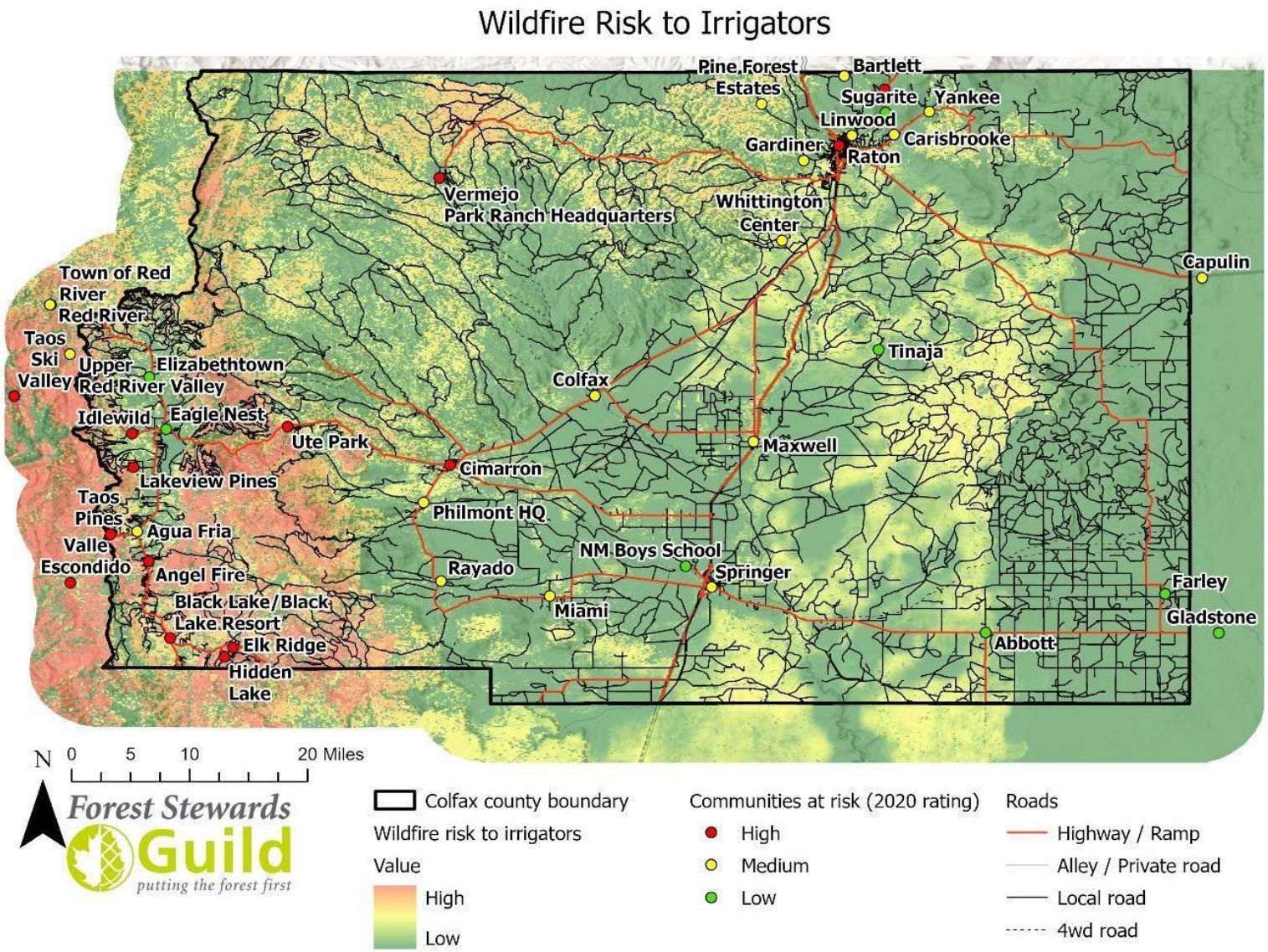

Figure 11. Wildfire Risks to Irrigators Map.

Map Descriptions

Table 1: Additional map descriptions for Figures 5-11.

Map Title	Map Description
Surface Ownership (Figure 5)	The surface ownership map displays the ownership of land by the various public land managers and private entities within the County
Communities at Risk (Figure 6)	This Communities at Risk Map displays communities that are at risk of wildfire within Colfax County. Many of the risk ratings remained unchanged from the 2008 CWPP. The communities of Idyllwild and Lakeview pines received changes in their risk ratings from low to high to reflect the risk of wildfire transmission between these communities and key water sources for nearby Taos Pueblo.
Fuel Treatments & Wildfires (Figure 7)	Fuel treatments and prescribed fires were identified from project partners and the New Mexico Forest Treatments map. This map is a collaborative effort to record and make available key data about projects that are occurring across all jurisdictions in New Mexico to facilitate well informed decision making for future planning. It is hosted by the New Mexico Forest and Watershed Restoration Institute (NMFWRI) and managed by the NMSF Division's Forest and Watershed Health Office. The fuel treatments on the map are grouped into 5 types: • Type 1 - Low intensity thinning with slash removed • Type 2 - High intensity thinning with slash removed • Type 3 - Low intensity thinning with slash lop and scattered • Type 4 - Moderate intensity mastication with slash remaining • Type 5 - High intensity Mastication with slash remaining
Post Wildfire Erosion Hazard (Figure 8)	This map displays post-fire debris flow hazard and population centers that are most at risk from flooding. Post-fire debris flow data was obtained from the 2020 NM Forest Action Plan (EMNRD, 2020) Debris flow hazard is a combination of probability of a debris flow and potential volume of debris flow. An important caveat is that this dataset shows where debris flows will originate and not necessarily where they will end up. This zone shows where floods are likely to occur and areas where communities should be prepared for a post fire debris flow if a wildfire occurs above them in the watershed. These data were compiled for the entire state, a locally specific effort for Colfax County would yield more applicable results.
Water Resources (Figure 9)	This map displays data from the 2020 NM FAP, NMED, New Mexico Water Division, and RGIS to show water resources across Colfax County to support mitigation activities related to protecting water sources and water infrastructure. See locally specific actions in Table 11.
Wildfire Risk to Public Drinking Water Supply (Figure 10)	This map depicts wildfire threat overlaid with surface water runoff weighted by beneficiaries. This map identifies where water sources that are most valued by public water system users are most at risk of wildfire.
Wildfire Risk to Irrigators (Figure 11)	This map depicts wildfire risk to irrigators dependent on surface water. This map identifies where water sources that are most valued by irrigators are most at risk of wildfire. Wildfire threat data are overlaid with surface water runoff and weighted by beneficiaries.

Priority Actions

In this CWPP "Priority Actions" include (a) bottlenecks and prerequisites in the realm of coordination, planning, and capacity building for accomplishing listed priorities and (b) priority actions at an implementation level. At the level of bottlenecks and prerequisites, there is a growing need to respond to the emerging strategies for landscape-scale planning. The recently announced US Forest Service strategy for landscape-scale planning in the Enchanted Circle priority area in New Mexico as part of the national Wildfire Crisis investment strategy (USDA Forest Service, 2022) will provide financial incentives for this landscape-scale approach in western Colfax County. In 2021, the State Forestry Division (NM SFD) announced a multi-year funding program for forest management and fire prevention in the Cimarron Range area. The latter state funding was boosted with a federal appropriation in early 2022 and will likely tie into the WCS initiative through the Shared Stewardship approach between the US Forest Service and NM SFD.

In the context of landscape-scale planning it will be important that a collaborative partnership of entities address essential regional capacity requirements to create an enabling environment for the effective implementation of priority activities on the land. Procedures for coordination and communication between public agencies, community organizations, large private landowners, and tribal entities are one example of the needed capacity requirements to be resolved. Another set of requirements pertains to the need to collaborate at a regional level on the development of economic drivers, such as wood processing and product manufacturing facilities, sort yards, road infrastructure, as well as power and water utilities to support the business network that is required in response to the planned forest management work. Regional coordination between other landscape-scale initiatives, such as the Rio Chama CFLRP and the Rio Grande Water Fund land restoration program will need to direct the location and scale of key processing facilities.

Various social and economic prerequisites will have to be addressed and resolved at a landscape-scale as well. These include, for example, hiring of key staff, such as one or more WUI coordinators and public outreach staff for Colfax County, the training of forest workers, and the expansion of the regional pool of contractors that can implement the priority forest treatments. Other requirements include clarity in the procedures and funding mechanisms between state and federal entities and community organizations (e.g., fire departments, fire wise groups, HOAs, and watershed associations) for local entities in support of the preparation of project proposals for funding. Colfax County lacks a work force and adequate housing for a potentially growing workforce in the private sector that is needed to support the initiatives suggested through the landscape-scale funding at federal and state levels. Therefore, coordination and investments toward workforce development and retention and adequate housing and schooling are essential elements in an enabling environment that must be created to scaffold priority actions recommended in this CWPP. Table 2 describes the detailed priority actions at an implementation level.

** Denotes priority actions that are considered bottlenecks or prerequisites to accomplishing other listed priorities.*

Table 2: Priority Fuel Reduction Projects

Priority Level	Action & Detail
HIGH*	**Support Forest Industry**
	Detail: Develop long term, consistent financial support for local forest industry, to include thinning operations and forest sawmills. *Who:* NM Forestry, USFS, Private Landowners, Enchanted Circle Priority Landscape effort
HIGH	**Improve Roads for Forest Access**

	Detail: Improve roads in remote areas to allow for access for forestry efforts such as thinning, mulching, prescribed fire, and wildland firefighting. *Who:* NM Forestry, NM SLO, NM Game & Fish, USFS, Private Landowners, Enchanted Circle Priority Landscape effort
HIGH	**White's Peak Project**
	Detail: Complete NEPA and continue treatment on State Trust Land, particularly in WUI areas and along major roads and highways. *Who:* NM State Land Office, NM DOT
HIGH	**Complete NEPA analysis on the South side of Taos Canyon into Colfax County**
	Detail: Extend into Colfax County along West Ridge and along boundary with the community of Angel Fire. Explore the use of categorical exclusions for expediting NEPA process in this area. *Who:* Taos Pueblo, Carson NF, Village of Angel Fire, Taos Pines Subdivision
HIGH	**Fuel break on ridge along Colfax County line north and south of Palo Flechado Pass**
	Detail: Create fuel break along the ridge between Colfax and Taos Counties, north and south of Palo Flechado Pass. Fuel break should continue along western and southern boundaries of Angel Fire and Black Lake communities. *Who:* Taos Pueblo, Carson NF, Village of Angel Fire, Black Lake Community, Taos Pines Subdivision
HIGH	**Thinning along the boundary of Bobcat Ranch and Valle Vidal**
	Detail: Continue thinning to help protect upper Moreno Valley watershed values. *Who:* Bobcat Ranch, Carson NF
HIGH	**Thinning along powerline right-of-ways**
	Detail: Work with power utility companies to complete and maintain thinning along powerline right-of-ways in forested areas, especially in Cimarron Canyon. *Who:* NM Forestry Division, Utility Companies, Kit Carson Electric
HIGH	**Thinning or fuel breaks along major highways and evacuation routes**
	Detail: Particularly along US Hwy 64 in Cimarron Cyn and at Palo Flechado Pass; Camino del Rey; El Camino; Valley of the Utes Road; NM 120; and NM 434. *Who:* Carson NF, NM DOT, NM Game & Fish, NM State Land Office
HIGH	**Forest treatments on the Colin Neblett State Wildlife Area**
	Detail: Including forest thinning, managed fire, and prescribed fire. *Who:* NM Game & Fish, NM Forestry Division
HIGH	**Forest treatment in the Ponil Watershed**
	Detail: Continue and increase forest treatment efforts, especially on the Valle Vidal Unit of the Carson National Forest *Who:* Carson NF
HIGH	**Implementation of the Cimarron Range and Upper Coyote Creek Elk Ridge FAWRA grants**
	Detail: Local partners to work with NM State Forestry Cimarron District to support implementation of the Cimarron Range and Upper Coyote Creek Elk Ridge FAWRA grants and more work along the lines of the CWA forestry study and plan *Who:* NM Forestry Division, Private Landowners
HIGH	**Dry mixed-conifer and ponderosa pine forest**
	Detail: Should be thinned to densities of 40 to 80 tree stems per acre (or 30 to 60 sq ft basal area per acre), with rates being higher at higher elevations and on cooler and moister sites (e.g., north facing slopes); all ladder fuels must be removed. For

	maximum benefits, the fuel reduction thinning should be followed with slash removal using a prescribed burn and/or mastication of the slash (more details in narrative). *Who:* County Wide Landowners and Land Managers
	Pinyon-juniper woodland ecosystems
	Detail: Should not be treated except in specific circumstances. Such circumstances include (a) Wildland Urban Interface areas or (b) ecotones between PJ ecosystems with a grass component (e.g., PJ savannah) and fire-prone higher elevation ponderosa pine or dry mixed conifer forest that has a priority indication for protection (more details in narrative *Who:* County Wide Landowners and Land Managers
	Public Land Treatments
	Detail: Thinning and prescribed fire on public lands throughout Colfax County *Who:* County Wide Public Land Managers

Table 3: Communication Priority Actions

Priority Level	Action & Detail
HIGH*	**Improved radio and cell phone communication infrastructure for NM Forestry**
	Detail: NM Forestry radio communication infrastructure is very poor; they rely heavily on cell phones. NM Forestry Cimarron District needs a repeater system and better cell reception. *Who:* NM Forestry
HIGH*	**Improved cross organizational communication**
	Detail: Develop a formal network for cross agency communication; develop improved communication between community organizations and funding sources regarding on-the-ground needs to get projects shovel ready *Who:* Colfax County Fire Marshall, community organizations, NM Forestry, Carson NF, Fire Adapted New Mexico learning network (FACNM)
HIGH	**Improve communication dead zones**
	Detail: Priority areas include the Miami area and areas south and southeast of Angel Fire, including the Whites Peak Area *Who:* Colfax County Fire Marshall
HIGH	**Contact person for critical water infrastructure**
	Detail: Identify a contact person for each piece of critical water infrastructure so that fire personnel have a direct person to contact in case of emergency *Who*: NM OSE, NM Forestry, NMED (DWB)/NMRWA
HIGH	**Homeowner fire safety education**
	Detail: Communicate importance of defensible space, structural hardening from ember washes, and fire-resistant building materials through one-on-one communication or workdays *Who*: Colfax County, Municipalities/Census designated areas, Firewise Communities
HIGH	**Touch-Me-Not mountain repeater maintenance**
	Detail: Improve access road and implement fuel reduction around the repeater on Touch-Me-Not Mountain. *Who*: Fire Marshall
	Improved communication with state police districts
	Detail: Communicate high risk areas to state police districts to prepare for road closures, evacuations, etc. *Who:* Colfax County Emergency Manager

	Improved communication to public regarding fire safety projects
	Detail: Communicate benefits & justifications for all fuel and non-fuel mitigation, planning, and preparation projects to public *Who*: Colfax County, NM Forestry
	Use social media tools to inform communities about wildfire risk
	Who: Colfax County, NM Forestry, Carson NF/Forest Service

Table 4: Community Involvement Priority Actions

Priority Level	Action & Detail
HIGH*	**Community slash removal**
	Detail: Aid community by getting more curtain burner trailers, hosting community chipper days, and other methods of slash disposal *Who:* Colfax County, Municipalities
HIGH*	**Hire a county wildland-urban interface (WUI) coordinator**
	Detail: Obtain funding for and hire a county WUI coordinator to work with the County Fire Marshall and support ongoing work related to this CWPP. The 2022 landscape-scale funding from the federal government is a potential source for such a position. Alternatively, or additionally, state funding may be identified to support this position. *Who:* Colfax County, New Mexico State Forestry Division
HIGH*	**Community training for water infrastructure.**
	Detail: Use Firewise type training to train people to clear around water infrastructure. *Who:* Colfax County, Local FD's, Municipalities, Firewise Groups
HIGH*	**Form CWPP working group**
	Detail: Formalize a working group to continue the CWPP effort and focus on implementing Priority Action Items *Who:* Colfax County, Cimarron Watershed Alliance
HIGH*	**Collaborative Fire Funding Sources**
	Detail: Work to establish funding sources which can be used to address forest treatments and post fire community needs on private lands. *Who:* USFS, FEMA, DHSEM
HIGH	**Develop points of contact in high-risk communities**
	Detail: Develop points of contact to help drive outreach in communities of Idlewild, Lakeview Pines, Hidden Lake, Aspen Hill, and Taos Pines *Who:* Colfax County, Cimarron Watershed Alliance
HIGH	**Utilize Shared Stewardship portal.**
	Detail: Input fuel treatment projects to the Shared Stewardship portal to build a project portfolio and apply for funding with New Mexico State Forestry, US Forest Service, and other agencies. *Who:* NM Forestry Division, Cimarron Watershed Alliance
HIGH	**Continue outreach to and development of Firewise communities**
	Detail: High priority along Lakeview and Taos Pueblo boundary *Who*: NM Forestry Division, Colfax County
	Community wildfire awareness days
	Detail: Host wildfire awareness days with emphasis on identifying escape routes *Who:* Colfax County, Local FD's, Firewise Groups
	Youth education and outreach
	Detail: Work with high schools for education and outreach to young people *Who:* Local FD's

Table 5: Wildfire Preparedness Priority Actions

Priority Level	Action & Detail
HIGH	**Share best practices from Taos Pines**
	Detail: Share best practices with other communities across Colfax County Who: NM Forestry Division, Colfax County
HIGH	**Education the county's reverse 911 communication system**
	Detail: Educate communities on the county's reverse 911 communication system and obtain funding for County to enter data to support the system *Who:* Colfax County Emergency Manager
HIGH	**Share defensible space and Ready, Set, Go! information**
	Detail: Share information with residents of all med/high/very high-risk communities *Who:* Colfax County, Local FD's, Firewise Groups
	Continue to refine and share information related to PODs
	Who: Large private landowners, County, NM Forestry, NM SLO, NM DGF, Carson NF
	Create geospatial fire response and management plan
	Detail: Create geospatial fire plan that can serve as a single tool for preparedness and response to wildfire and post-fire impacts at a fine scale *Who*: NM Forestry, Carson NF
	Work with communities to improve roads and access
	Who: Colfax County, NM DOT, Private Landowners, NM Forestry, NM SLO, NM DGF, Carson NF

Table 6: Reducing Structural Ignitability Priority Actions

Priority Level	Action & Detail
HIGH	**Fire safety incentivization program for homeowners**
	Detail: Develop a program to incentivize homeowners to maintain defensible space and to avoid building in areas that have post-fire flooding effects *Who:* Colfax County
HIGH	**Funding sources and guidance for home safety modifications**
	Detail: Develop funding sources and guidance to retrofit homes with fire resistant building materials as well as adjust exterior features (i.e., eaves and soffits) and designs to be more fire resistant *Who*: NM Forestry, Colfax County
HIGH	**Fire safety guidance for new home builders**
	Detail: Develop guidance for new home builders to utilize wildfire resistant building materials and designs *Who:* Colfax County
	Defensible space evaluations
	Detail: Evaluate defensible space in all med/high/very high-risk communities. Assess whether 5 ft of ground fuels, 30 ft of intact ladder fuels, and/or potential ember sources further out are present *Who*: Colfax County, Municipalities, Firewise Communities
	Adopt portions of International Wildland-Urban Interface Code 2021
	Who: Colfax County, Municipalities

Table 7: Fire Responders and Equipment Priority Actions

Priority Level	Action & Detail
HIGH*	**Ensure availability of rural domestic water supplies for firefighting**
	Detail: County wide coordination and agreements for FDs to use rural domestic water supplies for firefighting. As a prerequisite to make this item feasible, public water systems need to have a backup generator in place *Who:* Colfax County, Local FD's, NM Forestry
HIGH*	**Firefighter recruitment**
	Detail: Increased recruitment and training of firefighters to fully staff all county fire departments *Who*: Local FD's
HIGH*	**Access to water from Eagle Nest Lake**
	Detail: Build infrastructure to access water from Eagle Nest Lake for firefighting purposes *Who:* NM DGF, Eagle Nest FD, Moreno Valley FD
HIGH*	**Coordination between FD's and agencies**
	Detail: Cross-training and coordination between county fire departments and state/federal land management agencies *Who:* Colfax County, Local FD's, NM Forestry, Carson NF
HIGH	**Collaborative TREX-style burns**
	Detail: Continued opportunities for TREX-style collaborative burns with local fire departments at Black Lake and State Trust Lands *Who:* NM SLO
HIGH	**Improve wildland firefighting capabilities**
	Detail: All 13 FDs maintain and improve wildland firefighting capabilities including personnel, training & equipment *Who*: Colfax County Fire Marshall, Local FD's
	Wildland firefighting equipment
	Detail: Continue to upgrade and add to wildland firefighting equipment at County fire departments *Who*: Colfax County Fire Marshall, Local FD's
	NWCG qualified personnel and equipment
	Detail: FDs need NWCG qualified personnel and equipment to help get them on the State's Resource Mobilization Plan. *Who*: Colfax County Fire Marshall, Local FD's
	Prescribed fire certificates under prescribed fire act.
	Who: State and Private Land Managers, Local FD's

Table 8: Evacuation planning, Roads, Transportation Priority Actions

Priority Level	Action & Detail
HIGH	**US Hwy 64 corridor**
	Detail: US Hwy 64 corridor along Cimarron Canyon is at risk of post-fire flooding and causes bottlenecks in case of wildfire. *Who:* NM DOT
HIGH	**Improved access for firefighting in remote areas**

	Detail: Improve access to remote areas that are impeded by locked gates or poor road conditions. *Who*: Local FD's, State & Private Land Managers
	Maintenance on County roads
	Who: Colfax County
	Workshops on 4WD road maintenance and BMPs to allow access & reduce erosion
	Who: Colfax County
	Improve evacuation notifications and alerts and create dedicated FM station
	Who: Colfax County Emergency Manager
	Evacuation planning and preparedness
	Detail: Pre-plan evacuation routes and run drills depending on fire size, fire location, and wind direction. Use Sim Tables for education to public and for VFD training. Continue to educate the public about Ready, Set, Go! Establish safety zones. *Who:* Colfax County Emergency Manager

Table 9: Water Resource Protection Priority Actions

Priority Level	Action & Detail
HIGH	**CWA forest plan and FAWRA grant implementation**
	Detail: Implement CWA forest plan for headwater forest treatment for water storage enhancement; implement FAWRA grant. *Who*: NM Forestry, Private Landowners, NM DGF, NM SLO
HIGH	**Identify countywide municipal domestic water sources as values at risk.**
	Detail: Including wells, springs, reservoirs, storage tanks, distribution lines, and treatment facilities. *Who*: Colfax County, Municipalities/Census designated areas
	BAER team for post fire rehabilitation
	Details: Work with the state to create a BAER team for post fire rehabilitation on private land. *Who*: Colfax County Emergency Manager
	Create a FEMA Hazard Mitigation Plan for Colfax County
	Detail: Work with New Mexico Department of Homeland Security and Emergency management to create a FEMA Hazard Mitigation Plan for Colfax County. FEMA Hazard Mitigation Plans make Colfax County eligible for funding to protect critical infrastructure in the County on public and private lands. *Who:* Colfax County Office of Emergency Management
	Reimbursement fund for small water infrastructure
	Detail: Establish a fund to reimburse small water infrastructure that is damaged through firefighting in Colfax County *Who:* NM Forestry
	Develop master plan for protecting water quality in the Moreno Valley Watershed
	Detail: *Who:* Cimarron Watershed Alliance, NM Forestry

Table 10: Adjacent Lands Priority Actions

Priority Level	Action & Detail
HIGH*	**Work across boundaries**
	Detail: Continue to build strong partnerships and training exchanges to complete work across boundaries *Who*: NM Forestry, Cimarron Watershed Alliance, USFS
HIGH	**Extension of pueblo ridge project**
	Detail: Work with Pueblo of Taos to extend pueblo ridge project into Colfax County *Who*: Taos Pueblo
HIGH	**Fire planning and treatments on State Trust Lands**
	Detail: Build internal capacity for planning, obtain required prescribed fire resources for continued treatment of WUI, and work with lessees to develop wildfire management plans. *Who*: NM SLO
	Improved communication to nearby tribal lands
	Detail: Specifically, the Taos Pueblo Division of Natural Resources and Fire *Who:* Taos Pueblo, Moreno Valley Landowners

Locally-Specific Priority Actions

This CWPP encourages the continuation of many ongoing and planned forest management actions that are locally specific. These locally specific action items are driven by agency-specific management plans and initiatives by private landowners. The main actors for these locally specific actions are the NM State Forestry Department's (NM SFD) Cimarron District in collaboration with private landowners, the Carson National Forest (CNF), New Mexico State Land Office (NMSLO), and New Mexico Department of Game and Fish (NMDGF). The NM SFD Cimarron District continues to work with private landowners to plan and implement several forest treatments each year. Such treatments include thinning and logging projects on private ranches at the edges of the Moreno Valley and on other ranches between Cimarron and Rayado. This work will also include treatments associated with a ten-year program funded by the state Forest and Water Restoration Act (FAWRA) aimed at treating thousands of acres on several private ranches on the Cimarron Range. This landscape-scale forest treatment program for the Cimarron Range is based on a forest and watershed plan developed by CWA in 2020-2021 with funding from the Bureau of Reclamation and in collaboration with the SFD. Appendix A describes some background information of proposed key areas for treatment. Stakeholders identified several locally specific actions at a community level (Table 11).

Table 11: Locally Specific Priority Actions

Fuels Reduction
• Lakeview Pines- Reduce fuel loads through thinning and slash disposal, decrease canopy connectivity, and increase canopy base heights • Idlewild - Reduce fuel loads through thinning and slash disposal, decrease canopy connectivity, and increase canopy base heights • Hidden Lake- Aspen restoration and thinning on surrounding public land

• Taos Pines- Reduce fuel loads through thinning and slash disposal, decrease canopy connectivity, and increase canopy base heights; especially on the steep lots off Taos Pines Ranch Road (Middle Road). Enhance fire breaks between lots and adjoining Carson National Forest and Taos Pueblo.
Wildfire Preparedness
• Flying Horse Ranch- Hundreds of acres of blow down, high hazard needs planning and mitigation
Reducing Structural Ignitability
• Miami- all structures evaluated for home ignition zone conditions
Fire Responders and Equipment
• Idlewild - Install a fire suppression water tank in the community of Idlewild
Evacuation Planning, Roads, and Transportation
• Miami – Review and revise evacuation procedures • Ute Park- update evacuation plan to include shelter in place option and inform community • Lakeview Pines - Develop evacuation plan • County Road 10 near Cooke's Peak- replace access gate 1.1 miles in
Communication

• County wide - install air raid sirens in communities with poor cell and internet coverage
• NM 434 & NM 120- Need fire danger signs
• County wide - Improve communication dead zones, where possible
  ○ South Side of the County near Colmor
  ○ East faces all along the ridgeline from Cimarron up to Raton.
  ○ Upper Ponil Watershed, including the Valle Vidal
  ○ Northern part of Moreno Valley

Priority Fuels Treatments

Fuels treatments are planned and prescribed to be specific to the site, the forest type and the community. While general guidelines can be consulted, forest and fire management experts must be consulted to prescribe appropriate treatment details. Appendix B provides some updated prescription guidelines for different vegetation types with a view toward prioritizing treatment activities and maintaining ecological integrity of the forest landscape for locally critical forest ecosystem functions, such as water storage and conservation and wildlife habitat values.

Post-fire priority treatments

The 2018 Ute Park Fire ignited on May 31, 2018 and affected a total of 36,740 acres with varying degrees of severity on watershed resources. Burn severity and area estimates revealed that more than 70% of the burned area (or 25,709 acres) burned with moderate to high severity (SWCA 2018). The fire raged mostly on private land, comprising many acres of the Philmont Boy Scout Ranch and residential properties in Ute Park. The fire affected steep terrain covered with ponderosa pine forest and pinyon-juniper woodland. Post-fire impacts included flash flooding, heavy ash and debris flows, and high-volume sediment deposits on private lands, roads, water diversions, and other infrastructure.

Following the 2022 Cooke's Peak Fire, NM SFD will likely also prioritize post-fire forest restoration work in the burned area on the southeastern slopes of the Cimarron Range. While no post-fire inventories have been conducted at the time of this writing, it is to be expected that the Cooke's Peak Fire will have similar downstream impacts as the 2018 Ute Park Fire.

Due to limitations of funding available for post-fire treatments on private properties, many necessary Ute Park post-fire priority treatments remain incomplete. These treatments involve both forest restoration and watershed stabilization. An overview of post-fire priority treatments is listed below (Table 12).

Table 12: Post-fire Priority Treatments and Actions

Treatment Type	Goal	Information Source
Slope stabilization, such as directional felling of dead and burned trees	Reduce runoff volumes, reduce runoff velocity and energy, and reduce sediment transport; increase water yield in diversions and reservoirs	CWA stakeholder meetings in 2019
River and arroyo channel stabilization, for example with log racks (log dams) and boulder structures	As above	CWA stakeholder meetings in 2019
Implementation of headwater forest treatments for snow accumulation and retention	Prolonged melt-out dates and reduced peak flows in the Cimarron River and Cimarroncito Creek for improved water diversion conditions	CWA water storage studies (CWA 2021 and Jansens 2021)
Create a BAER team for post fire rehabilitation on private land	Ongoing rehabilitation on private properties	CWPP Core Team recommendations
Establish a fund to reimburse small water infrastructure that is damaged through firefighting	Financial support for impacted water utilities	CWPP Core Team recommendations
Alter water release regime (i.e., regulations) from Eagle Nest Lake	Sediment transport, debris flows, and their impacts on water utilities (esp. for Raton and Springer) taken into consideration in water release schedules	CWA study "Timing and Magnitude of Water Releases from Eagle Nest Dam" (March 2020)

CWA stakeholders suggested in 2019 and 2020 that target areas for treatment include:

- The burned slopes of Turkey Creek
- Turkey Roost Mountain
- The watershed above Ute Park
- The slopes above the Cimarron River around Ute Park
- Harlan Creek (3 miles upstream from the Raton intake point)
- Slopes around/at the mile post 302 area in the Cimarron River canyon
- Ute Creek
- Cimarroncito Creek on the Philmont Scout Ranch

Drones might prove useful to identify any additional target areas for treatment, including for areas affected by the 2022 Cooke's Peak Fire.

Other forest treatments to improve forest health and resilience

Several other forest and watershed treatments are available for consideration to improve forest health and resilience, both with a view to preventing wildfire and restoring land health in post-fire conditions. A list of suggested treatments and principles includes:

- Moisture retention (see WaterSmart summary above)
- Stream and wetland restoration
- Grazing management; resting certain areas; and managed grazing in grassland - forest ecotones to reduce dry grass biomass and lower the risk of any grass-brush fires expanding into the forestlands
- Ongoing thinning of small diameter timber (e.g., latilla harvesting)
- Prescribed fire
- Mastication of underbrush, slash, and woody debris
- Road closures and road improvement (for evacuation); and improved road (side) drainage systems; managing gates and closure infrastructure (for access limitation and for evacuation)
- Managing wild ungulate populations
- Burned area restoration, including tree planting

Capacity building for future action

Human Capacity

As investments in wildfire risk reduction and watershed resilience have been increasing in 2021-2022 in the southwestern part of Colfax County as part of the Enchanted Circle Priority Area (Figure 1), the limiting factor for implementing wildfire risk reduction and watershed resilience projects is shifting from funding to implementation capacity. At the time of this writing, there is a large gap of unfunded work between these two components of the project lifecycle. This is true for organizations, land management agencies, and private contractors. To account for these capacity gaps, it is critical that Colfax County develop contractor and organizational capacity in the coming years. This includes but is not limited to:

- Facilitation and strategic planning of watershed coalitions and collaboratives to support moving project ideas from this CWPP and other planning efforts towards shovel ready implementation
- Establishing a wildland-urban interface coordinator at the county level to work with land management agencies on project proposals through the Shared Stewardship Portal: https://nmssp.org/#/
- Supporting training and workforce development of contractors that can do thinning, prescribed fire (broadcast and pile burning), and watershed restoration (erosion control) implementation work through the NM Certified Burner program and other land restoration programs
- Formalizing a process for completing post-fire Burned Area Emergency Response (BAER) assessments on private lands in Colfax County
- Training and relationship-building with the NM Department of Homeland Security Emergency Management (DHSEM) related to FEMA funding pre- and post- wildfire (see post-fire section for details)
- Providing education and job training to local youth
- Continuing to support community-level Firewise organizations
- Supporting relationship-building and peer-learning amongst county leadership, land management officials, and fire departments across the County

To support the development of implementation capacity and to develop funding proposals requires dedicated staff at the county level. In many counties across New Mexico, this takes the form of a wildland-urban-interface coordinator. For this CWPP to be effective, it is essential that Colfax County prioritize the employment of a wildland-urban-interface coordinator that can champion the actions identified in this plan by developing proposals in partnership with New Mexico State Forestry Division, The Carson National Forest, New Mexico Counties, New Mexico Bureau of Land Management, New Mexico Department of Game and Fish, and many others.

Infrastructure Capacity

The implementation of forest treatments and forest restoration actions in Colfax County hinge to a large extent on the possibility to process slash and to market wood products. At this time, proposed forest treatments face the challenges of limited slash treatment equipment and a limited local and regional wood products manufacturing industry. Highly irregular supply, long distance to markets, poor infrastructure, and a reduced employment market are among the key challenges for business investment and establishment in Colfax County. Additionally, most of the timber in the area is of poor quality and low commercial value; there is a limited range of forest products that can realistically be produced from the timber in Colfax County.

It is hoped that the development of a steady forest treatment regime in the Cimarron watershed and the nearby Rio Chama landscape will boost the existing wood products industry and attract new businesses. A market inquiry by Lance Forest Products shows that the industry can be boosted with treatments on 4,000 acres or more a year (Jansens 2021). To develop wood utilization capacity, it is critical that Colfax County stakeholders invest in wood utilization infrastructure. This includes but is not limited to:

- Mills and drying installations
- Sort yards
- Trucking
- Road maintenance - for fire response and wood products industry
- Water and electric infrastructure for production

- Biochar production facilities
- Packaging facilities
- Training facilities
- Generators and secondary power support for mill infrastructure
- Relationships with lumber grading experts from elsewhere and/or training of regional grading experts
- Wood product standards reassessments in collaboration with the NM Construction Industries Division to improve the acceptance of local wood products in the construction marketplace
- Regional market development and marketing mechanisms (market studies, marketing networks, coops, etc.)

In addition to infrastructure related to forest and watershed resilience projects, it is important that Colfax County continue to invest in infrastructure to support effective use of prescribed fire and wildland fire response. This includes but is not limited to:

- Fire engines
- Personal Protective Equipment
- Training facilities
- Communication infrastructure - sign boards, repeaters, sirens, radios
- Water storage and transport
- Generators and secondary power support for wildfire response
- Smoke resources

Potential Funding Sources

PRIVATE LANDS

Table 13: Private Land Funding Sources by Type, Amount Range, Focus, Application Dates

Funding Source: Entity and Program	Funding Purpose/Focus	Funding Cycle	Eligibility Requirements	Amount Range & Match Needs
NM State Forestry Division (NMSFD) – Hazardous Fuels	Reduce fire threat for communities at risk adjacent to federal land, restoring fire adapted ecosystems	Applications due in March each year	Local and tribal governments; political subdivisions of the state	<$300,000; 10% non-federal match
NMSFD – Forest Health Initiative	Reduce insect and disease risk; improve degraded (incl. over-stocked) forest land	Varies depending on funding	Landowners who own at least 10 acres of forest land and have a stewardship plan	<$100,000; 30% non-federal match

Funding Source: Entity and Program	**Funding Purpose/Focus**	**Funding Cycle**	**Eligibility Requirements**	**Amount Range & Match Needs**
NMSFD – WUI grants	Planning and implementation of hazardous fuels mitigation work to reduce fire threat in WUI areas; within boundaries of approved CWPP	Applications due in March each year	Local and tribal governments; political subdivisions of the state	<$300,000; 1:1 non-federal match
NRCS – Environmental Quality Incentives Program (EQIP)	Implementation of measures to protect soil, water, plant life, etc., including thinning and riparian restoration	Throughout the year; long process (decisions early in year)	Landowners of non-industrial forest lands; tribes and pueblos	Varies (reimbursements made after work completion and approval)
Soil and Water Conservation District (SWCD)	Dependent on funding programs pursued by the SWCD	Varies, depending on funding	Landowners	Varies
North-Central NM Watershed Restoration Project (coordinated by Deirdre Tarr)	Dependent on funding programs pursued by the NCNMWRP, based on NRCS Regional Conservation Partnership Program	Varies, depending on funding (allocated >$7M between 2014-2018)	Landowners (in collaboration with SWCD and NRCS)	Varies; projects with high match are more competitive

Funding Source: Entity and Program	Funding Purpose/Focus	Funding Cycle	Eligibility Requirements	Amount Range & Match Needs
NM Forest and Watershed Restoration Act (FAWRA) – annual projects	State FAWRA Board selected projects for forest and watershed restoration, based on criteria TBD	TBD; possibly first RFP in fall 2020	TBD	TBD; $2.7M made available for FY2020
Coalitions and Collaboratives Inc. (COCO) AIM Grants	Capacity building for fire risk reduction and for increasing Fire Adapted Communities concepts in WUI areas next to USDA FS land	In January-February each year	Communities, non-profits, fire departments, counties, SWCD	TBD (rather small); 1:1 match
NM Finance Authority - NM Water Trust Board – Water Project Fund	Loans and grant programs for rehab of (1) water conservation and recycling; (2) flood prevention; (3) ESA collaborative projects; (4) water storage, conveyance & delivery; (5) watershed restoration and management	Annual cycle announced by NMFA; subject to detailed regulations (see nmfa.net website)	Mostly water management institutions, local and state government entities	Varies; often part loan and part grant funding
USDA Forest Service - Landscape Scale Restoration, through the Landscape Scale Competitive Grant Program	See: https://www.thewflc.org/landscape-scale-restoration-competitive-grant-program/fy-2022-landscape-scale-restoration	Annual in the fall	See website (mostly State Forestry Departments in relation to FAP)	See website

PUBLIC LANDS

Table 14: Public Land Funding Sources by Type, Amount Range, Focus, Application Dates

Funding Source: Entity and Program	Funding Purpose/Focus	Funding Cycle	Eligibility Requirements	Amount Range & Match Needs
NM Forest and Watershed Restoration Act (FAWRA) – annual projects	State FAWRA Board selected projects for forest and watershed restoration, based on landscape-scale planning criteria with a focus on (a) on-the-ground restoration treatments, (b) project planning, (c) economic development programs to advance the use of small- diameter trees and wood biomass removed for hazardous fuel reduction and forest and watershed restoration, and (d) workforce development for wood utilization projects	annually around February 1	consult FAWRA application criteria annually at https://www.emnrd.nm.gov/sfd/forest-and-watershed-restoration-act-fawra/	varies between years
USFS and NMSFD: Dep. of Interior Appropriations Act 2022: State of NM Cimarron Range Fire Protection Project (under Forest Resource Information and Analysis Acct.)	Support for expansion of the 2021 FAWRA grant awarded to the Cimarron District for fire protection on the Cimarron Range	One time	Through NMSFD and Cimarron District	$1,300,000

Funding Source: Entity and Program	Funding Purpose/Focus	Funding Cycle	Eligibility Requirements	Amount Range & Match Needs
NM Game & Fish Department	Various funding programs aimed at protection of listed species and habitat restoration	TBD; depending on funding program	Non-profit organizations and/or private landowners	Variable
USDA Forest Service – Collaborative Forest Restoration Program (CFRP)	Public forest land restoration, wildfire prevention, planning, wood utilization, public education, and multi-party collaboration	Annually in January	Non-profit organizations, businesses, tribes, SWCDs, local government agencies	Up to $360,000 for 4 years with a required $90,000 (25%) non-federal match
Enchanted Circle Priority Landscape - Region 3 Priority Area as part of the USFS program "Confronting the Wildfire Crisis - Initial Landscape Investments" (etc.)	Collaborative forest management and wildfire prevention treatment at a landscape scale to protect communities and improve resilience in American forests; includes funding for NEPA planning, expert studies and reports, road and other infrastructure improvements, and support to local non-governmental partners for capacity building in collaborative partnerships for training, planning, implementation, and monitoring	One-time and possibly renewable in future years	USFS funding, allocated through the Carson National Forest; for landscapes that (1) have or can have large-scale projects, (2) are outcome driven, (3) are collaboratively developed with communities and implementation-ready, (4) allow for investment in underserved communities, (5) could leverage current partner investments, and (6) could maximize use of existing authorities.	$11.3 million for 2022-2024

Funding Source: Entity and Program	Funding Purpose/Focus	Funding Cycle	Eligibility Requirements	Amount Range & Match Needs
National Forest Foundation	Collaborative and innovative programs on national forest lands: Matching Awards Program (for on-the-ground restoration work); Ski Conservation Funds (SCF) and Forest Stewardship Funds (FSF)	MAP: January and June (in 2 phases); SCF and FSF by invitation only (in December)	Non-profit organizations, universities and tribes	Average award: $25,000 with a 1:1 match

PRIVATE AND PUBLIC LANDS

Table 15: Private & Public Land Funding Sources by Type, Amount Range, Focus, Application Dates

Funding Source: Entity and Program	Funding Purpose/Focus	Funding Cycle	Eligibility Requirements	Amount Range & Match Needs
Private Donors	Mostly unrestricted	N/A	N/A	N/A
Volunteers	N/A	N/A	N/A	N/A
Trout Unlimited	Determined in collaboration with TU	TBD	TBD	TBD
Mule Deer Foundation	Determined in collaboration with MDF	TBD	TBD	TBD
Rocky Mountain Elk Foundation	Determined in collaboration with RMEF	TBD	TBD	TBD

Funding Source: Entity and Program	Funding Purpose/Focus	Funding Cycle	Eligibility Requirements	Amount Range & Match Needs
National Fish & Wildlife Foundation	Various grant programs that sustain, restore and enhance fish and wildlife habitat	Dependent on grant program	Dependent on grant program	Dependent on grant program
Wildlife Conservation Society – Climate Adaptation Fund	Competitive grants for on-the-ground actions focused on implementing priority conservation actions for climate adaptation at a landscape scale with a focus on implementing priority actions and strategies identified in State Wildlife Action Plans.	TBD	non-profit conservation organizations	Variable

Individual landowners can pursue NRCS-EQIP, NM Department of Game and Fish (NMDGF) grants, and Soil and Water Conservation District funding. In the context of the growing landscape-scale planning and land restoration efforts in the area, Colfax County, in collaboration with CWA, would be well positioned to start negotiations with the NCNMWRP for future funding for a landscape-wide project. NCNMWRP uses NRCS, NMFA-WTB/WPF, and other State funds to support SWCDs and other entities with funds for large-scale projects. Colfax County, in collaboration with CWA, would also be well positioned to negotiate forest restoration work in collaboration with NMDGF on the Colin Neblett Wildlife Area to complement work on private lands in the area. Private initiatives and contributions and support by conservation groups, such as Trout Unlimited (TU), Mule Deer Foundation (MDF), and the National Fish and Wildlife Foundation (NFWF) would also be important to build a comprehensive, multi-donor, landscape-scale funding strategy for the county's priority treatment area.

Collaboration

A CWPP must be a collaborative effort involving all parties with a stake in wildfire risk in the County. This ensures that all viewpoints are represented and the setting of priorities is balanced among all groups (Fleeger, 2008). The 2022 CWPP update was a collaborative effort between the CWPP core team and CWPP stakeholders and the community at large. This CWPP features a robust outreach effort that included a field tour with surrounding County and community-level Core Teams, Core Team and Community Meetings, two surveys customized to the recipient, targeted interviews, and outreach to the community through print and online methods.

Table 16 below lists CWPP stakeholders who were invited to participate in the 2022 Colfax County CWPP update process. In addition to these individual invitations, the CWPP update was also publicized through multiple outlets, including: the Cimarron Watershed Alliance website, the Forest Stewards Guild, as well as through flyers, surveys, a radio announcement, and other informational materials distributed by core team members. The CWPP update team also solicited input from area residents during community meetings and via an in-depth survey that was advertised at meetings, on the Cimarron Watershed Alliance website, and on flyers that were sent out to be posted by core team members. All Colfax County Fire Chiefs and municipal Fire Chiefs were contacted multiple times with a survey designed to capture their input on the CWPP update.

A field tour of the Enchanted Circle area supported collaboration between Taos County, Colfax County, and the Village of Angel Fire. Core team members from the three areas identified common protocol for mapping and agreed to host a joint meeting where stakeholders from all three areas could prioritize fuel reduction projects across boundaries in the Enchanted Circle area. The joint meeting took place in February of 2022 at the Village of Angel Fire community center. Over 35 community members from Taos County, Colfax County, and the Village of Angel Fire participated in the public and core team meetings on February 17th, 2022.

Table 16: Colfax County CWPP 2022 Update Stakeholder List

Name	Organization	Title
Jeff Carr	Village of Eagles Nest	Mayor
Ray Levengood	Western Wood Products	President
Krystal Harty	Silver Dollar Racing and Shavings	Owner
Anthony Arnold	NRCS Raton Service Center	District Conservationist
Mary Berglund	Village of Eagles Nest	Administrator
Chris Sandlin	Colfax County	GIS Specialist
Ryan Darr	NM Department of Game and Fish	Lands Program Manager
Bob Funk	UU-Bar Ranch	Owner

Margaret Gigante	NRCS Raton Service Center	Soil Conservationist
Tim Herfel	Village of Angel Fire	Sustainability Committee
Gus Holm	Cimarron Watershed Alliance	Board Member
David Kenneke	Philmont Scout Ranch	Director of Ranching and Conservation
Mike Lujan	Camino Real Ranger District	District Ranger
Jay Mitchell	Village of Angel Fire	Village Manager
Kelli Murtagh	Village of Angel Fire	Emergency Manager
Jeff Ogburn	NM Game and Fish	Wildlife Biologist
Justin Torres	Flying Horse Ranch	Operator
Ken Rostron	El Renzo Ranch and North Lakeview	Community Member
Greg Fought	Lakeview Pines	Community Member

Core Team

The CWPP core team makes up the heart of the CWPP. This group of County officials and individuals from other organizations participate in gathering information for the CWPP and guide the setting of priorities and designation of WUI and Communities at risk. For a CWPP to function and lower wildfire risk in the county it is crucial that the CWPP Core Team continue to gather well after the CWPP is completed and coordinate efforts to match the priorities set in the plan. Table 17 below lists the members of the CWPP core team that participated in 2022. This list should be modified as the Core Team changes.

Table 17: Colfax County CWPP 2022 Update Core Team List

Name	Organization	Title
Tom Vigil	Colfax County	Emergency Manager
Nick Cardenas	Colfax County	Fire Marshall
Anthony Burk	City of Raton	Emergency Manager & Fire Department Chief
Kevin Henson	Village of Angel Fire	Fire Chief
Craig Sime	Village of Angel Fire	Lieutenant

Ben Davis	American Creek Properties	Director of Long-term Development
Bruce Davis	American Creek Properties	Director
Julia Davis-Stafford	CS Ranch	Strategic Planning
Arnie Friedt	New Mexico State Forestry Division	Cimarron District Forester
Richard Martinez	Kit Carson Electric	COO
Jonathan Grassmick	Bobcat Ranch, Pueblo of Sandia	Director of Ranch Properties
Martha Graham	Rural Water Users Association	Source Water Protection Association
Lee Hughes	Philmont Scout Ranch	Director of Conservation
Jan-Willem Jansens	Ecotone Landscape Planning, LLC	Owner/Principal
Ray Corral	Forest Service – Carson National Forest	East Zone Fire Management Officer
Mark Meyers	State Land Office	Forester
Blanca Gonzalez	State Land Office	Landscape Planner
Casey Morrow	American Creek Ranch	Ranch Manager
Mike Overby	Angel Fire Firewise	Firewise Leader
Kevin Pacheco	New Mexico State Forestry Division	Cimarron District Fire Management Officer
Rene Romero	Taos Pueblo	Fire Management Officer
Kyle Sahd	BLM Taos Field Officer	Fire Management Officer
Richard Smith	Cimarron Watershed Alliance	Board President
Mollie Walton	Cimarron Watershed Alliance	Restoration Ecologist
Jim Cannaday	Green Valley	Community Member
Joe Craig	Idlewild Firewise	Firewise Leader
Joseph Stehling	Hidden Lake Firewise	Firewise Leader
Jim MacGillivray	Ute Park	Community Leader
Donna Woolsey	Idlewild	Community Member

Kim Wright	Elk Ridge	Community Member
James Sanchez	Philmont Fire Department	Chief
Mike Vigil	Miami Fire Department	Chief
Jim Rockenfield	Ute Park Fire Department	Chief
Steve Briggs	French Tract Fire Department	Chief
Bruce Jassmann	Moreno Valley Fire Department	Chief
Jacob Martinez	Vermejo Fire Department	Chief
Nathaniel Sandoval	Rapid Response Fire Department	Chief
Scott Gibson	Village of Eagles Nest Fire Department	Chief
Anthony Martinez	Cimarron Fire Department	Chief
Shawn Mitchel	Maxwell Fire Department	Chief

Key Informant Interviews

To capture in-depth information from core team members, FSG, Ecotone Landscape Planning, and the CWA conducted interviews with 13 key informants from the core team. Key informants were chosen to supplement in-person and survey data. Interviews attempted to represent the range of organizations, agencies, and private landowners across Colfax County. Interviews were conducted over the phone and typically lasted around forty-five minutes. Thirteen interviews were completed, and interviewees represented 11 different organizations.

Table 18: Key Informational Interviews for Colfax County CWPP 2022 Update

Name	Organization	Title
Mike Overby	Angel Fire Firewise	Firewise leader
Bruce Jassmann	Moreno Valley Fire Department	Chief
Scott Gibson	Village of Eagles Nest fire Department	Chief
Kevin Henson	Village of Angel Fire Department	Chief
Craig Sime	Village of Angel Fire Fire Department	Lieutenant
John Caid	UU-Bar Ranch	Ranch Manager

Mark Meyers	State Land Officer	Forester
Ray Corral	Forest Service – Carson National Forest	East Zone Fire Management Officer
Kyle Sahd	Taos BLM	Fire Management Officer
Tom Vigil	Colfax County	Emergency Manager
Martha Graham	New Mexico Rural Water Association	Source Water Protection Program
Nick Cardenas	Colfax County	Fire Marshall
Anthony Martinez	Cimarron Fire Department	Chief

FSG, Ecotone, and the CWA used an interview guide that covered various topics, including fuels treatments, communication, travel/transportation, evacuation/alerts/notifications, training, suppression resources, Fire Adapted Communities, human ignitions, post fire preparations, communities at risk, and accomplishments.

Community Meetings and Outreach

Multiple meetings for Colfax County residents and stakeholders were held to discuss progress made since the 2008 CWPP; to determine updates to communities at risk ratings and priority rankings; and to identify priority action items for the 2022 CWPP update. The community meetings engaged members of various communities throughout the county to discuss issues of wildfire protection and preparedness.
Some questions posed at these meetings engaged homeowners in assessing their own wildfire risk prevention practices, such as open space thinning, fuel breaks, and defensible space zone treatments.
Table 19 below provides an overview of the core team and public meetings convened for the 2022 Colfax County CWPP update and organizations that were represented at those meetings

Table 19: Meetings and Outreach Conducted for Colfax County CWPP 2022 Update

Date	Meeting Type	# Of participants	Representation (organizations, e.g., Forest Service, State Forestry, etc.)
October 27th, 2021	Public Meeting (field tour)	6	Forest Service, American Creek Properties, Pueblo of Sandia, Cimarron Watershed Alliance, NMSF
November 10th 2021	Core Team	21	NMSF, Village of Angel Fire, Village of Eagle's Nest, Vermejo Park Ranch, Taos Pueblo, Sandia Pueblo, Cimarron Watershed Alliance, Philmont Scout Ranch, Colfax County, American Creek Ranch

February 17th, 2022	Core Team	27	Sandia Pueblo, Village of Eagle's Nest, Colfax County, Angel Fire Resort, Village of Angel Fire, NMSF, Taos Pueblo, New Mexico Rural Water Users, Moreno Valley EMS, American Creek Properties, Philmont Scout Ranch, NM BLM, Taos Pines Firewise, Carson National Forest, Woodsharks, LLC, Elk Ridge Firewise
February 17th, 2022	Public Meeting	33	Colfax County, Angel Fire Resort, Village of Angel Fire, NMSF, Taos Pueblo, New Mexico Rural Water Users, Moreno Valley EMS, American Creek Properties, Philmont Scout Ranch, NM BLM, Taos Pines Firewise

Large, printed maps were used as a tool through all community meetings to facilitate location-specific conversation about wildfire protection. Maps helped to prompt discussion between core team members and their communities about wildfire risk throughout the county,

Outreach about the CWPP update was completed through in-person visits, where flyers were hung on bulletin boards, and through social media and web outreach, where digital flyers were posted to partner websites and circulated via email.

In many ways, the process of developing this CWPP is as important as the document itself. With that in mind, we encourage core team members to think of this document as an actionable plan and work collaboratively from planning into implementation.

Community Surveys

In addition to meetings, stakeholders and members of the public were invited to complete a survey that helped inform priorities and action items for the 2022 update. This survey was available on the Cimarron Watershed Alliance's website, was advertised at CWPP meetings, and on bulletin boards throughout the county on flyers that were distributed at CWPP meetings.

The working team solicited input from area residents on their actions, priorities, and concerns regarding wildfire risk mitigation. Of the 8 residents to respond, all are full-time residents. Together these residents represented the communities of Idlewild and Village of Angel Fire. Survey data provided direct input to initial drafts of the priority fuel reduction projects, priority action items, community risk ratings, and accomplishments sections of the CWPP. With a resurgence of Covid-19 risk during the Fall and Winter of 2021, the survey provided an important method for the public to provide input to the CWPP through a virtual process.

Wildland Urban Interface and Communities at Risk

Understanding Wildfire Risk

Wildfire risk can be understood as a combination of the likelihood and intensity (together called the "hazard" or "threat") and the exposure and susceptibility (together called "vulnerability") related to a wildfire event. In this plan, we use GIS data and fire behavior modeling to account for wildfire threat and input from the core team and the general public to understand the vulnerability of communities throughout Colfax County. Both the threat modeling and input from the core team can augment risk ratings. In some cases, the threat of wildfire may be low according to our modeling, but vulnerability is high enough that the overall risk will be rated as high. Vulnerability accounts for things like the susceptibility of a community to losing an important water source or having limited financial resources to recover from wildfire, for example. To learn more about wildfire risk to communities, visit: https://wildfirerisk.org/understand-risk/.

Wildland Urban Interface

The WUI is defined as any area where human infrastructure intersects with wildland fuels that cause a fire hazard (Radeloff, 2005). Having a clearly defined WUI area helps focus fuel treatments and other fire mitigation work that needs to happen in the County. The Core Team decided to take a more expansive definition of the WUI based on other examples from the US that use consistent buffers of identified values at risk throughout the County. Although most WUI definitions use potential fire behavior as a main driver when defining WUI our method emphasizes the human infrastructure within an area (Stewart, 2007). This approach creates a consistent definition of WUI uninfluenced by potential fire behavior, that we believe is more inclusive and provides all communities and individuals the justification they need to proceed with their own fire mitigation efforts and recognizes what they value most within their communities. This approach is also applicable for the predominantly rural Colfax County, where modeled fire behavior shows there is some risk of fire throughout the county. When this WUI layer is coupled with wildfire modeling it creates a robust and layered approach that allows for interpretation by the Core Team, Stakeholders and the Community as they plan their wildfire mitigation activities.

WUI Determination Process

This plan bases its WUI definition on specific values at risk as determined in 2022. There are 318,276 total acres of WUI in the county included in the 2022 CWPP. During the WUI determination process drafts of the WUI area were reviewed by the Core Team and community and refined based on their local knowledge. These values were included in the 2022 WUI layer with a specific buffer distance for each value.

The input data included:

- Address Locations and Values at risk – The New Mexico RGIS database provided point data for all addresses in the county, these points were visually verified and buffered at 0.2 miles.
- Microsoft Building Footprints – this dataset contains computer identified building footprints across all 50 states. These data capture building locations that may not have been included in address data. These data were inspected and cleaned for use in Colfax County. Verified points were buffered at .2 miles. https://wiki.openstreetmap.org/wiki/Microsoft_Building_Footprint_Data
- Primary Escape Routes – The Colfax County GIS department provided a map of all inventoried roads. The Core team identified primary escape routes, and these were buffered at a tenth of a mile.

- Cell towers and Radio Repeaters- Homeland Infrastructure Foundation Level Data (HIFLD) provided a map of location and they were buffered at a quarter mile.
- Powerlines –Homeland Infrastructure Foundation Level Data (HIFLD) Major transmission lines were buffered at a tenth of a mile to indicate areas that are more prone to ignitions and should be considered for treatment.
- Oil and gas wells – New Mexico Energy, Minerals, and Natural Resources department (EMNRD) provided data on oil and gas wells in Colfax County. Wells were buffered at a quarter of a mile.
- Rail lines – the Colfax County GIS specialist provided data of rail lines through Colfax County. Rail lines were buffered at a tenth of a mile.
- Recommendations of the Core Team - This data was further amended based on new construction identified from satellite imagery and recommendations and knowledge of the Core Team.
- Surface water for municipal supply based on data from New Mexico Department of Environment and the 2020 NM FAP

Communities at Risk

Following New Mexico CWPP guidelines, a CWPP must delineate communities and assign them a community hazard rating (CHR) of low, medium or high wildland fire risk (EMNRD, 2021).

Thirty-four communities in Colfax County were assessed for wildfire risk. A community may be a town or a locally known area where people live, including HOAs, neighborhoods and more loosely defined areas. Many of these communities are combined with adjacent nearby communities where the fire risk is similar, these grouped communities can be seen in the table below. We intended to cover every community in the County with this list, so even if it is not explicitly listed, the risk rating for nearby communities should apply. Descriptions and maps showing the products used in the analysis are located in the appendices and at the online wildfire viewer.

The CHRs take in factors such as the relative fire risk, ingress and egress and other factors specific to each community that change a community's risk rating such as fuel type and local VFD capacity. Ratings were initially determined by surveying the core team at the first meeting. To propose initial CHRS those survey results were combined with the fire hazard analysis for the county that combines fire intensity and probability. The initial ratings were further refined by recommendations of the Core Team, the Fire Chiefs Association, and the public based on actions that have happened in specific communities to reduce fire risk, improvements of the structural ignitability of buildings within the communities, and efforts of communities to become more fire adapted or establish themselves as a designated Firewise Community.

The communities with an asterisk (*) next to their rating are communities located at a distance from hazardous fuels or potential wildfire events and that are nonetheless at risk of wildfire impacts such as flooding, sedimentation, and water supply disruption. Such communities are located along mountain streams and at the foot of the mountains where flash flooding and debris flows can cause severe damage and where pollution of surface water supplies are likely to jeopardize their water distribution systems for irrigation and drinking water. Some of the communities denoted with an asterisk were affected by the Cook's Peak wildfire in 2022 and are listed as high risk due to the potential for them to experience post-fire flooding and erosion.

This list should be used to prioritize how fire mitigation work occurs in the county. Also, this list should be updated as conditions change that might lower a community's risk rating. To see Communities at Risk, see the map in Figure 6.

Table 20: Communities at Risk Ratings

2022 Communities at Risk	2008 Rating	2022 Rating
Angel Fire	High	High
Black Lake	High	High
Black Lake Resorts	High	High
Elk Ridge	High	High
Hidden Lake	High	High
Idyllwild	Low	High
Lakeview Pines	Low	High
Taos Pines	High	High
Ute Park	Very High	High
Agua Fria	Medium	Medium
Bartlett	Medium	Medium
Carisbrooke	Medium	Medium*
Cimarron	High	Medium*
Colfax	Medium	Medium
Gardiner	Medium	Medium*
Linwood	Medium	Medium*
Miami	Medium	Medium*
Philmont Headquarters	Medium	Medium*
Pine Forest	Medium	Medium
Raton	High	Medium*

Sugarite	Low	Medium
Sugarite State Park	High	Medium
Vermejo Park Ranch Headquarters	Moderate	Medium
Whittington Center	Medium	Medium
Yankee	Medium	Medium
Rayado	Medium	Medium*
Springer	Medium	Medium*
Abbott	Low	Low
Eagle Nest	Low	Low
Elizabethtown	Low	Low
Farley	Low	Low
Maxwell	Medium	Low
NM Boys School	Low	Low*
Taylor Springs	Medium	Low*
Tinaja	Low	Low

Wildfire Preparedness

Community Oriented Programs

Fuel reduction projects and wildfire risk reduction projects in general are just one component of a successful strategy to reduce the negative effects associated with wildfire. We must couple fuel reduction projects with education and outreach about how to live within landscapes that are prone to wildfire.

The following sections provide an introduction to the Fire Adapted Communities and Firewise frameworks. These sections provide a starting point to engage in a more in-depth discussion into each of these topics. See Appendix C for in-depth sections on: structure hardening, developing defensible space, conducting home ignition zone assessments, planning for evacuations, planning and improving ingress/egress systems and improving roadways, managing human sources of ignition, planning for smoke impacts and smoke impact mitigation, developing communication systems (emergency notifications and first responder communications), and forming a community emergency response team.

Fire Adapted Communities

The concept of "Fire Adapted Communities" comes from The National Cohesive Wildland Fire Management Strategy (NCWFMS), which was initiated in 2009. The NCWFMS is a strategic push to work collaboratively among all stakeholders and across all landscapes, using best science, to make meaningful progress towards the three goals: 1) resilient landscapes, 2) fire adapted communities, and 3) safe and effective wildland fire response. Since the NCWFMS, this reference of fire adapted communities has been refined conceptually and embedded within formal networks that are committed to putting the concept into action.

The core idea of a Fire Adapted Community (FAC) is an acknowledgement that with increasing frequency and severity of wildfire, our communities need to learn to coexist safely with wildfire. Improving community wildfire adaptation involves working across sectors to consider before, during, and after the wildfire. There are many roles within a fire adapted community, including: residents, fire departments, businesses, local governments, land management agencies, and other stakeholders. The process of developing a fire adapted community requires professional relationship building and peer-learning between residents, fire departments, businesses, local governments and land management agencies. This process is incremental and ongoing. Topic areas related to fire adapted communities include but are not limited to: resident mitigation; wildfire response; safety and evacuation; recovery; infrastructure and business; regulations policy and plans; prevention; public health; landscape treatments; and partnerships and community engagement. This approach differs from the Firewise Communities program, which focuses on public education and resident-led fire risk mitigation before a wildfire.

Table 21: Components of a Fire Adapted Community

Components of a Fire Adapted Community			
	Before a wildfire	**During a wildfire**	**After a wildfire**
Residents	***Firewise***, defensible space, home hardening, packing a go-bag, signing up for alert systems.	***Ready, Set, Go!*** Evacuation for people and livestock	***After the Wildfire Guide***, Insurance claims, rebuilding/re-entry, erosion/flood mitigation, replanting.
Fire departments	Evacuation planning, wildland training, assessments, wildfire prevention campaigns, public education, fuel reduction treatments, establishing mutual aid agreements	Wildfire response, evacuation, emergency alerts systems, shelters, equipment and PPE.	Coordinating reentry, erosion/ flood mitigation, applying for post-fire funding.

Businesses	Backing up important documents, appropriate insurance policy, planning for evacuation and alternative income streams.	Evacuation, alternative income streams, communication to clientele	Insurance claims, rebuilding/re-entry, inventory.
Local governments	Codes and ordinances, responsible development, infrastructure to support wildfire response, community wildfire protection planning, education and outreach to residents, working with public health departments for smoke readiness	Alignment with emergency communications and evacuation, working from alternate locations in case of evacuation, smoke resources	Seeking post-fire funding, reentry/rebuilding, restoring utilities.
Land management agencies	Planning and implementing landscape scale fuel reduction, prescribed fire implementation, wildland training, establishing mutual aid agreements	Safe and effective wildland response, early rehabilitation and erosion mitigation,	Erosion/flood mitigation, replanting, salvage logging, infrastructure stabilization
Core processes: communication, peer-learning, relationship-building			

New Mexico has the Fire Adapted New Mexico learning network (FACNM), which is set up to support communities in their incremental process of becoming more fire adapted. The statewide network hosts webinars, in-person events, monthly calls, and curated resources to support local leaders. The network is committed to supporting local communities by working with local leaders to set up learning and networking opportunities. Past examples include workshops to share best practices for pile burning on private land, webinars about community smoke programs, home hazard assessment trainings, and many more.

The core of the FACNM network is its members, who can share lessons learned about how to approach wildfire adaptation efforts. We encourage anyone who is interested to visit the website www.facnm.org and consider joining the network as a member and for more information.

Both individuals and organizations can join FAC and FACNM to gain access to resources, tools, and connections with other members working toward wildfire resiliency. See Appendix C for additional information about FAC and the FACNM Learning Network.

Firewise Communities

Firewise Communities is a recognition program administered by the National Fire Protection Association (NFPA). Firewise Communities (i.e., communities with a Firewise USA Community designation) focus on reducing the loss of life and property from wildfire – particularly before a wildfire is burning -- for

residents and homeowners. This is accomplished through providing resources that allow communities to responsibly build and maintain structures on their properties and to assist each other in preparing for, and recovering from, wildfire. Firewise emphasizes fuels reduction and gives recommendations for steps homeowners can take to reduce their individual risk to wildfire. For example, practices to reduce flammable materials close to the home and home maintenance practices that reduce the chance of a home catching fire. Several resources for homeowners, such as an online toolkit and checklist for steps to reduce wildfire risk can be found at www.firewise.org. Firewise recognition is achieved after a community completes a 6-step process:

1. Forming a Firewise board/committee of community residents and other applicable wildfire stakeholders
2. Verifying community risk to wildfire by obtaining a wildfire risk assessment as a written document from the local fire department, State Forestry Division, or US Forest Service. This assessment is a living document and needs to be updated every five years.
3. Developing an action plan based on the assessment, which should be updated every three years.
4. Hosting a "Firewise Day" outreach event.
5. Investing a minimum of $2 per capita in local Firewise actions for that year.
6. Submitting an application at portal.firewise.org to your Firewise state liaison.

Firewise recognition is an important tool for a community in the ongoing process of becoming fire adapted. Many communities working to become fire adapted begin by becoming recognized as a Firewise Community.

Other Wildfire Preparedness Strategies

Besides getting organized and developing participatory learning experiences for residents, there are several key wildfire preparedness strategies that have become part of the standard package of community wildfire protection planning. The most important strategies are described in Appendix C and include:

- Structure Hardening
- Developing Defensible Space
- Conducting Home Ignition Zone Assessments
- Planning for Evacuations
- Planning and Improving Ingress/Egress Systems and Improving Roadways
- Managing Human Sources of Ignition
- Planning for Smoke Impacts and Smoke Impact Mitigation
- Developing Communication Systems (emergency notifications and first responder communications)
- Forming a Community Emergency Response Team

Planning for Post-Fire Recovery

As a wildfire will occur in, or around, Colfax County, it is important to plan for how the county and individual communities will recover after a wildfire. NM SFD provides an excellent resource for thinking about post-fire recovery called *After Wildfire* (www.afterwildfirenm.org). For this CWPP we briefly cover some aspects of this topic. We recommend that the Core Team reconvene to discuss this topic at length and create detailed plans for the County. The 2022 Cooke's Peak Fire could serve as a case study for this task and the post-fire response and recovery after this fire could serve as the basis for how Colfax County will respond to future post-fire recovery needs.

Immediate Post Fire Safety

The foremost post-fire recovery concern is safety. After a wildfire, it is important that residents do not return to their homes or businesses until officials have determined it is safe. Because utility services can be disrupted by wildfire:

- Do not drink or use water from the faucet until officials say it is okay;
- Use extreme caution around trees, power poles, and other tall objects that may have lost stability during the fire;
- If you have a propane tank or system, contact a propane supplier, turn off valves on the system, and leave valves closed until the supplier inspects your system.

In addition:

- Be on the lookout for smoke or sparks that may still be burning.
- Be aware that smoke levels in the air may continue to be hazardous to health even after residents are allowed to return following an evacuation.

Flooding and Erosion

Post-fire flooding and erosion are high risk concerns for large parts of Colfax County. The map in Figure 8 displays post-fire debris flow hazards and illustrates which population centers are most at risk from flooding. In these maps, post-fire debris flow was modeled using a standard methodology (Cannon et. al., 2010). Debris flow hazard is a combination of probability of a debris flow and potential volume of debris flow. An important caveat is that this dataset shows where debris flows will originate and not necessarily where they will end up.

The heavy monsoon-season rains common in New Mexico in the late summer and early fall can often bring flooding and debris flows after wildfire. These storms are typically local, very intense, and of short duration, delivering large amounts of rain in a short period of time. When such storms develop over burned areas, the ground cannot absorb the rain quickly enough, forcing the water and topsoil to run off the burned area, accumulate in streams, and produce flash floods. Post-fire debris flows pose a risk to water infrastructure, such as reservoirs and pipe systems. They can affect water quality through increased turbidity, or the introduction of contaminants such as heavy metals, nitrates, and *E. coli*.

FEMA flood risk maps can still help guide post-fire preparation for flooding. Some homes and businesses may want to reevaluate their flood insurance coverage as post-wildfire floods are often more extensive than the flood risk might indicate before a wildfire.

Important resources related to flooding in Colfax County can be found at:

- NM Flood, Projects, and Maps: https://nmflood.org/?page_id=336
- New Mexico Multi-hazard Risk Portfolio: https://nmflood.org/wp-content/uploads/2013/10/NM_MHRP2015.pdf

NM After Wildfire Guide

The New Mexico *After Wildfire* guide (http://afterwildfirenm.org/) is a comprehensive resource for communities seeking to develop emergency plans ahead of potential wildfires. Besides offering guidelines on immediate safety and flood information, the guide also includes the following sections:

- Mobilizing your community – provides points to help local governments and community leaders get started on recovery coordination

- Who can help? - describes programs and services provided by agencies and non-profits for communities and individuals affected by wildfire
- Post-wildfire land management treatments to facilitate recovery
- Financial tips for individuals and communities after wildfire

The guide suggests that communities designate a Post Fire Coordinator (or multiple coordinators) to work directly with local, state or federal agencies, emergency response officials, volunteers, and other stakeholders to address needs and seek assistance. Post Fire Coordinators may be part of the CERT mentioned above in the Wildfire Preparedness section.

It may be appropriate to implement post-wildfire recovery efforts, such as erosion control or planting, in affected forested areas. First, however, communities should be sure to identify values-at-risk post-wildfire and focus on treatments that reduce the threats to those values. The *After Wildfire* guide has a catalog of potential treatments that include:

- Seeding and mulching to reduce erosion;
- Contour log felling and other erosion barriers;
- Installation of check dams and other channel treatments; and
- Culvert modifications and other road treatments.

FEMA Hazard Mitigation Grants

There are numerous funding sources available for pre- and post- fire mitigation through FEMA grant programs. These include the Building Resilient Infrastructure and Communities (BRIC) program, the Flood Mitigation Assistance Program (FMA), the Hazard Mitigation Assistance Program, and the Hazard Mitigation Program - Post Fire. These grants require an investment of time and substantial training to obtain. One of the first steps for some of these, but not all, is to create a FEMA Hazard Mitigation Plan. There is funding available through FEMA to develop a Hazard Mitigation Plan. The first step to unlocking this funding is for a government entity (county) or an entity working on their behalf (non-profit) to contact the State Hazard Mitigation Officer with the New Mexico Department of Homeland Security (DHSEM). This person will support training and proposal development in partnership with the county to obtain FEMA funding. For an overview of FEMA grant programs offered through the DHSEM, visit: https://www.nmdhsem.org/preparedness-bureau/mitigation/

Lessons Learned

The Ute Park Fire

"The threat of wildfires, which will increase in severity due to climate change, has the potential to have the most severe deleterious effect on the ecological and social conditions in the Cimarron watershed. The Ute Park Fire of 2018 burned 36,740 acres, resulting in the closure of Philmont Scout Ranch for the summer, the loss of 14 buildings, and prolonged flooding in the community of Ute Park. Because the fire was predominantly on private land, there was no mechanism for burn rehabilitation or for helping private landowners deal with the aftereffects of the fire. The fire also created significant problems for municipalities. They had to contend with sediments from runoff resulting from the fire that overwhelmed the infrastructure of the municipal water systems." (Walton, 2021)

Post fire flooding from the Ute Park Fire has been a major problem with few good solutions. After the fire, debris flows closed US Hwy 64 on an almost daily basis during the 2018 monsoon season. NM DOT installed concrete Jersey Barriers along the right of way and assumed responsibility for cleaning sediment from the highway and the right of way. Debris flows onto the highway have decreased since 2018, partly

due to decreased rainfall during 2019, and perhaps because much of the available sediment has washed away, leaving mostly bedrock in the ephemeral drainages.

While impacts to US Hwy 64 have decreased, post fire flooding continues to be a problem in the community of Ute Park and in many of the ephemeral drainages that run off the fire scar directly in the Cimarron River. One heavily burned drainage in particular has impacted several homes in the Ute Park Community. These homeowners have spent a considerable amount of their own money to divert debris flows away from their homes, keep roads open, and haul away sediment and debris. A few homeowners have reportedly given up and no longer attempt to protect or occupy their homes.

Infrastructure for drinking water and irrigation water have been severely impacted by the Ute Park Fire post fire flooding, sediment, and debris flows. Sediment removal can be very problematic, and the Ute Park Fire has been cited as a huge source of sediment in the system. In the irrigation systems, since the Ute Park Fire, sometimes 4 feet of sand can be deposited overnight. The City of Raton diverts water from the Cimarron River immediately below the confluence with Turkey Creek. After the Ute Park Fire, turbidity in the Cimarron River became a significant problem at the Raton diversion. Dan Campbell of Raton Water Works reported that whereas turbidity might have maxed out at 100 NTUs before May 2018, turbidity since the fire has been measured as high as 1,000 NTUs. Besides suspended sediment, large boulders and woody debris have been transported down the river and Turkey Creek tributary. Some of this debris has been deposited and lodged near the water intake. Subsequent to some summer storms it has taken multiple days with heavy machinery to clear the diversion of debris before water treatment could resume. (Walton, 2021)

A BAER report for the 2018 Ute Park Fire was prepared by SWCA Environmental Consulting for the New Mexico Department of Homeland Security and Emergency Management and can be found here: https://www.swca.com/sites/default/files/final_ute_park_report_compressed.pdf

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APPENDIX A - Background Information of Proposed Key Areas for Treatment

Proposed key areas for treatment are located in the following (sub-)watersheds:

a. the Agua Fria Creek sub-watershed, Headwaters Rayado Creek sub-watershed, and the upper part of the Urraca Creek sub-watershed, all located east of Angel Fire on the American Creek Ranch, American Creek Properties, and UU Bar Ranch
b. the five sub-watersheds along the Moreno Valley, including the Headwaters Cieneguilla Creek sub-watershed (around Angel Fire), Outlet Cieneguilla Creek sub-watershed (to the north of the previous one), Eagle Nest Lake sub-watershed, Outlet Moreno Creek sub-watershed (to the north of the previous one), and the Headwaters Moreno Creek sub-watershed (at the northern end of the Moreno Valley)
c. the Ute Creek and Ute Creek-Cimarron River sub-watersheds and the upper part of the Cimarroncito Creek sub-watershed, at the heart of the Cimarron Range; the majority of this priority area is located on the Colin Neblett WMA, managed by NM DGF, while the northern and southern parts are owned by the Philmont Scout Ranch.

Additionally, some short- to mid-term forest treatments have been proposed in the areas upstream of and inside the burned forests of the Ute Park fire on the Philmont Scout Ranch. These treatments aim to retain soil, spread water flows, prevent flash floods and debris flows, and restore the forest ecosystem. Treatments would include directional felling of logs on contour, pile burns, tree planting, and drainage stabilization.

The USFS Carson National Forest intends to continue implementing treatments on national forest lands of the eastern Valle Vidal and around Palo Frechado Pass and alongside Highway 64.

The New Mexico State Land Office (NMSLO) plans to continue a long-term treatment program of forest lands of the White Peak management area on the boundary with Mora County. NMSLO is preparing a management plan for this area and continues to implement thinning and prescribed fire on select parcels.

The New Mexico Department of Game and Fish (NMDGF) manages the Colin Neblett Wildlife Management Area (WMA). The agency is preparing future forest and watershed restoration activities which will complement the landscape-wide activities to reduce wildland fire.

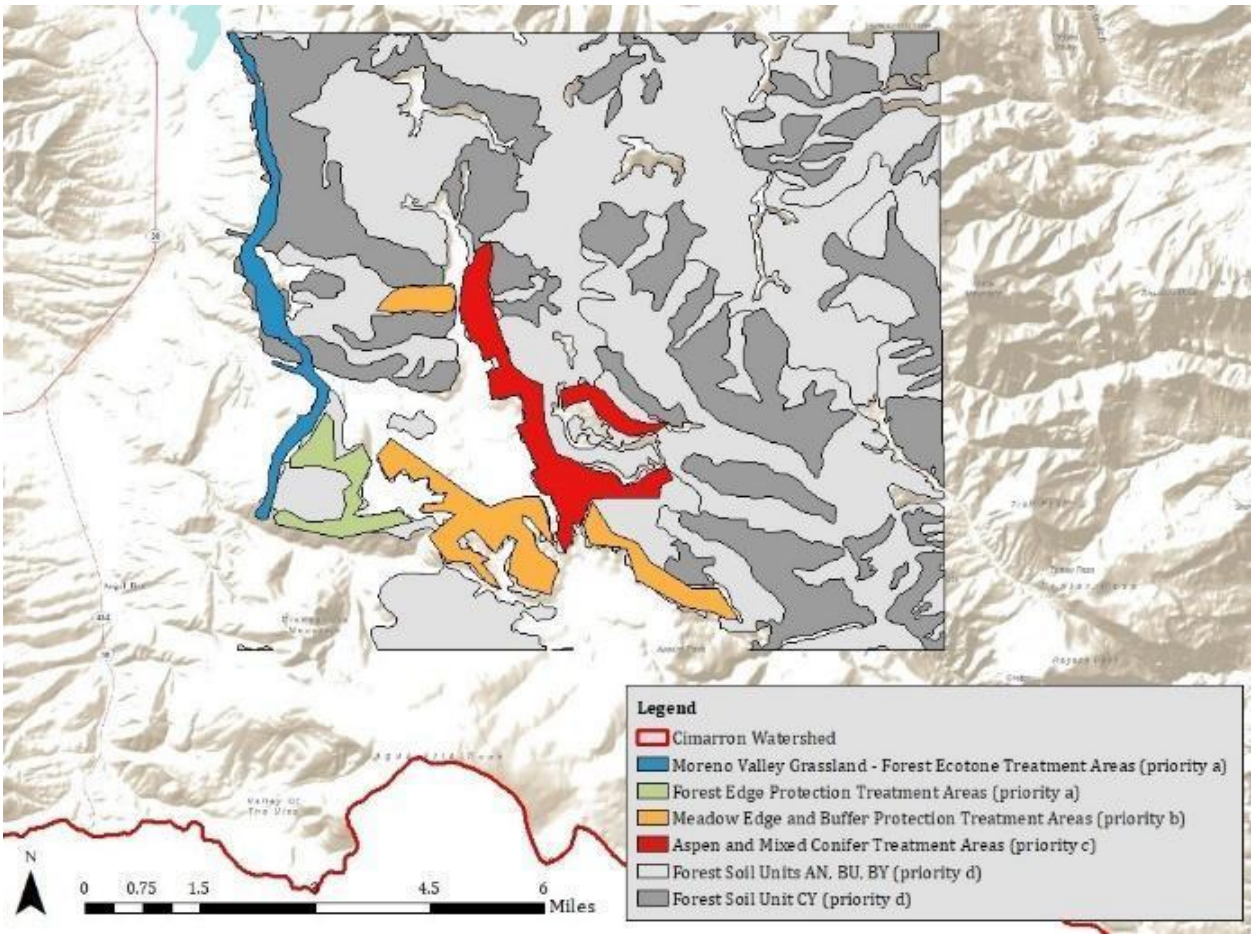

Figure 12. Priority areas for forest treatments aimed at snow accumulation and water storage

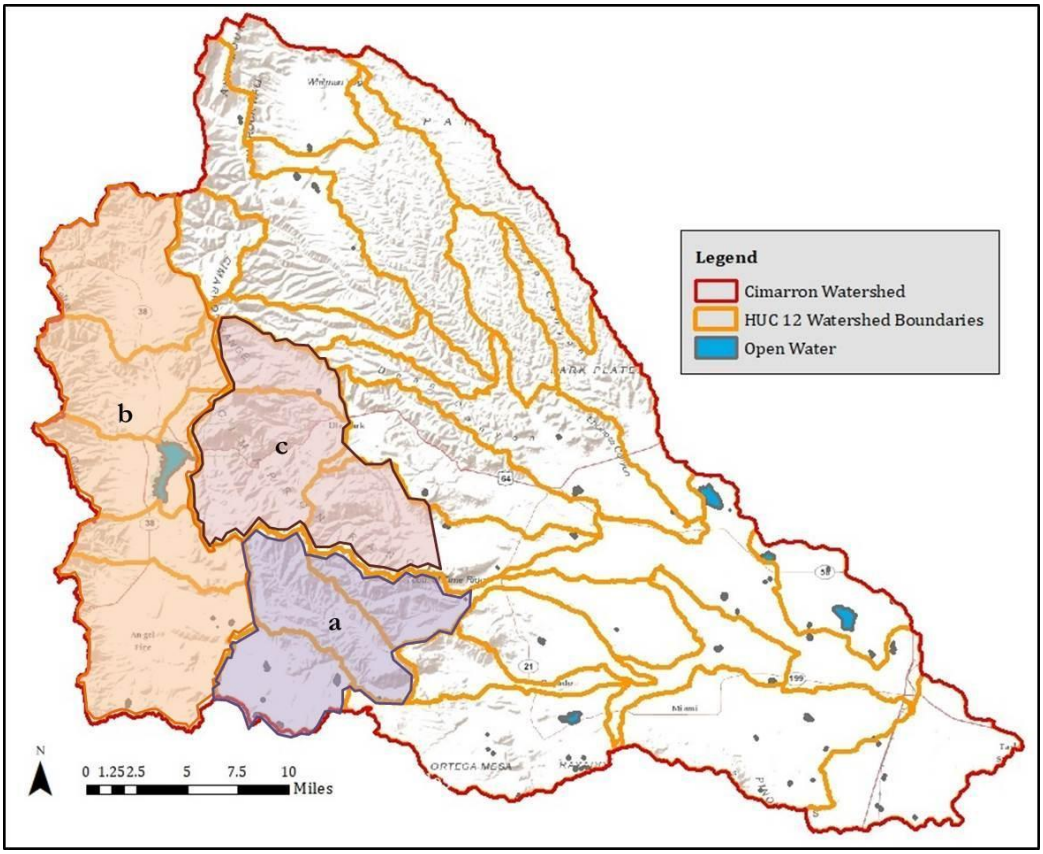

Figure 13. High priority sub-watershed areas

APPENDIX B- Treatment Guidelines for Locally Appropriate Prescriptions by Vegetation Type

The pinyon-juniper woodland ecosystems should not be treated unless in specific circumstances. Such circumstances include (a) Wildland Urban Interface areas or (b) ecotones between PJ ecosystems with a grass component (e.g., PJ savannah) and fire-prone higher elevation ponderosa pine or dry mixed conifer forest that has a priority indication for protection.

PJ Treatment Protocol Recommendations

To determine the optimal treatments in PJ ecosystems in WUI areas and ecotones, first identify the PJ ecosystem type among the following choices:

(A) In Persistent Woodlands and Open (Persistent) Woodlands (rocky, gravelly or coarse soil texture, winter precipitation is an important or dominant source of moisture): avoid any tree removal; if thinning has to happen in the defensible space around homes or if slash or woody debris is present, redistribute slash and fuels (a) from beneath driplines of taller, older trees, (b) when in piles higher than 2 feet, (c) when mixed with herbaceous plants; and spread fuels over bare sites outside the 100-feet defensible space area in a depth no more than 12 inches off the ground.

(B) In PJ Shrubland, PJ Savannah, or Grassland with PJ (coarse to fine textured soil at mid- to lower elevations with many fine fuels): remove PJ, other conifer saplings, and shrubs (ladder fuels) beneath canopies of mature (tall, old) ponderosa pine and Douglas fir trees; identify natural clumps of PJ trees that are not mixed with ponderosa pines or Douglas firs (high density, multiple canopies, low crown base height at the edges) and keep these clumps intact; remove all but tall or old trees on finer textured soils that have higher amounts of herbaceous plants and/or sage or chamisa or other shrubs; create openings of 30-50 feet (where possible, stretched in E-W direction) between canopy edges of clumps or (groups of) tall trees; on northerly facing slopes clumps may remain larger and denser; on fine textured soils, remove parts of shrub cover to interrupt shrub cover continuity; use mastication whenever possible to remove trees, shrubs and slash; apply broadly spreading chip settings on equipment; redistribute slash and fine fuels from beneath taller trees and when in piles; spread over bare spots; apply soil conservation (erosion control) BMPs where necessary using the slash. These treatments and BMPs will help prevent cheat grass invasion and stimulate perennial, native grass cover. When removing pinyon and juniper, maintain naturally occurring or equal representation of each species; select on health and vigor. In more grassy, fine textured soils, remove all pinyon and all juniper trees, saplings and seedlings that appear to have encroached on the grassy ecosystem.

Dry mixed-conifer and ponderosa pine forest must be thinned to densities of 40 to 80 tree stems per acre (or 30 to 60 sq ft basal area per acre), with rates being higher at higher elevations and on cooler and moister sites (e.g., north facing slopes; Reynolds et al., 2013); all ladder fuels must be removed. For maximum benefits, the fuels reduction thinning should be followed with slash removal using a prescribed burn and/or mastication of the slash. For purposes of fire risk reduction and wildlife habitat selected areas can also be treated by maintaining denser groups or clumps of trees and creating inter-canopy openings of 0.5 to 1 acre. Canopy gaps should be 80-100 feet in diameter in a north-south direction on southern aspects and at most 200 feet in diameter at other aspects, and at most 375 feet in size in an east-west direction to optimize moisture retention and minimize wind impacts (Jansens, 2021).

The cool and moist mixed conifer and spruce-fir forest within the WUI areas react differently to thinning and prescribed fire than do the previously mentioned forest types, and require treatment tailored to each individual stand. Wind throw of the residual stand is a concern anytime trees are removed from the

canopy, as well as the fire susceptibility of the spruce and true fir species. This CWPP recommends that each proposed project that includes spruce-fir forest type be subjected to independent review by an experienced forester, such as a Society of American Foresters certified forester (www.safnet.org), a forester of the Association of Consulting Foresters (www.acf-foresters.org/), Forest Stewards Guild (www.forestguild.org), or the New Mexico State Forestry Division (www.emnrd.state.nm.us). Treatment should proceed upon agreement between the land manager and the reviewer. In WUI areas and in the defensible space around homes, patch cuts can be made that create small openings with irregular shapes or in a chevron or heart shapes with the apex of the opening pointing south (avoid creating south-facing forest edges and openings longer than 200 ft exposed to the southwest and southeast), separated by dense, closed-canopy groups of trees (canopies touching and intertwined). Canopy gaps should be 80-100 feet in diameter in a north-south direction on southern aspects and at most 200 feet in diameter at other aspects, and at most 375 feet in size in an east-west direction. The suggested gap sizes and shapes surrounded by dense stands will likely minimize wind impacts while optimizing accumulation of snow in the winter. Patch cuts will need to take place landscape wide in fire-sensitive areas and be repeated in cycles of about 50 years or less to maintain some level of fire resilience across the landscape. However, in places adjacent to large forest openings or where soils are shallow or often waterlogged, no patch cuts should take place to avoid the risk of severe wind damage on remaining trees in the forest edges.

In aspen stands, utilize existing terrain and vegetation features to guide implementation by creating a random pattern of canopy gaps and small, irregular or more-or-less circular openings, separated by dense, closed-canopy groups of trees (canopies touching). Openings should be no more than 200 feet in diameter. Using patch cuts, primarily remove concentrations of small (<5-8 inches in diameter) vegetation of conifers and over-mature aspen, groups of white fir, and stressed and diseased trees. Improve forest health by removing stress, damage, and mortality agents. Strive to maintain at least 30 percent canopy cover per acre and upwards to 60 percent for denser stands with an even spacing between stems. Favor mid-aged and mature aspen, Douglas fir, limber pine, and sub-alpine fir. Use existing clumps of aspen, Douglas fir, and sub-alpine fir groups as anchor points for action or use large/old trees as anchor points for creating nearby openings. Where Douglas fir groups exist, thin from below to create more space around leave trees. Leave mid-size and larger aspen, Douglas fir and sub-alpine fir of >16 inches DBH. Do not cut in any spruce stands that are mixed in with the aspen. On more productive sites more discretion is required to create openings. Look for depressions, flat areas, and high densities of smaller diameter trees as potential openings, especially where the potential for grass cover is high between the aspen. Within groups of trees, strive for homogeneity in age, height, and size classes (Jansens 2021).

Riparian forest stands in river and creek bottoms of Colfax County normally are not of great concern when planning for wildfire because the natural vegetation associated with the river and creek bottoms are not particularly flammable. However, a crown fire entering a river or creek bottom from the outside could have devastating effects, particularly on wildlife habitat. The river and creek bottoms are important and unique wildlife habitat and should be treated to retain the wildlife habitat characteristics. The primary fuels treatment for the benefit of the river or creek bottoms should be concentrated on the adjacent lands that contain coniferous trees. These adjacent lands should receive the same treatment as woodlands and forest lands receive in the WUI areas. Treatment should extend out one-half mile. This distance will be sufficient to turn an approaching crown fire into a surface fire. In addition to treating the adjacent area, the river or creek bottom itself should be treated by removing accumulated dead fall trees and limbs (except any logs in the streambed and on the floodplain), and more importantly, invading junipers and other coniferous trees should be removed, as they are more flammable and could accelerate the spread and intensity of a wildfire that travels into a river or creek bottom from adjacent areas.

APPENDIX C- Additional information on Community Oriented Programs

Fire Adapted Communities

One of the largest challenges in establishing Firewise and Fire Adapted Communities throughout Colfax County is the large proportion of part-time and absentee homeowners who are unavailable for extended periods of time. In order to overcome this obstacle, community leaders must establish creative and flexible opportunities for engagement. One example of such leadership came from the Village of Angel Fire's Fire Department, who hosted a very successful Facebook Live fundraiser with absentee homeowners. Other opportunities would require engaging homeowners in specific times of year when a majority are present by hosting community events that include an educational component. By combining the two approaches of hosting virtual events that are accessible to even those who are not physically present in the community and hosting in-person events during strategic times of the year, a greater number of homeowners may be reached. These efforts will undoubtedly require a large amount of outreach to spread the word and could therefore best be carried out by a dedicated community group or fire department. Reaching out directly to homeowner associations would also be a useful tool in encouraging larger community participation.

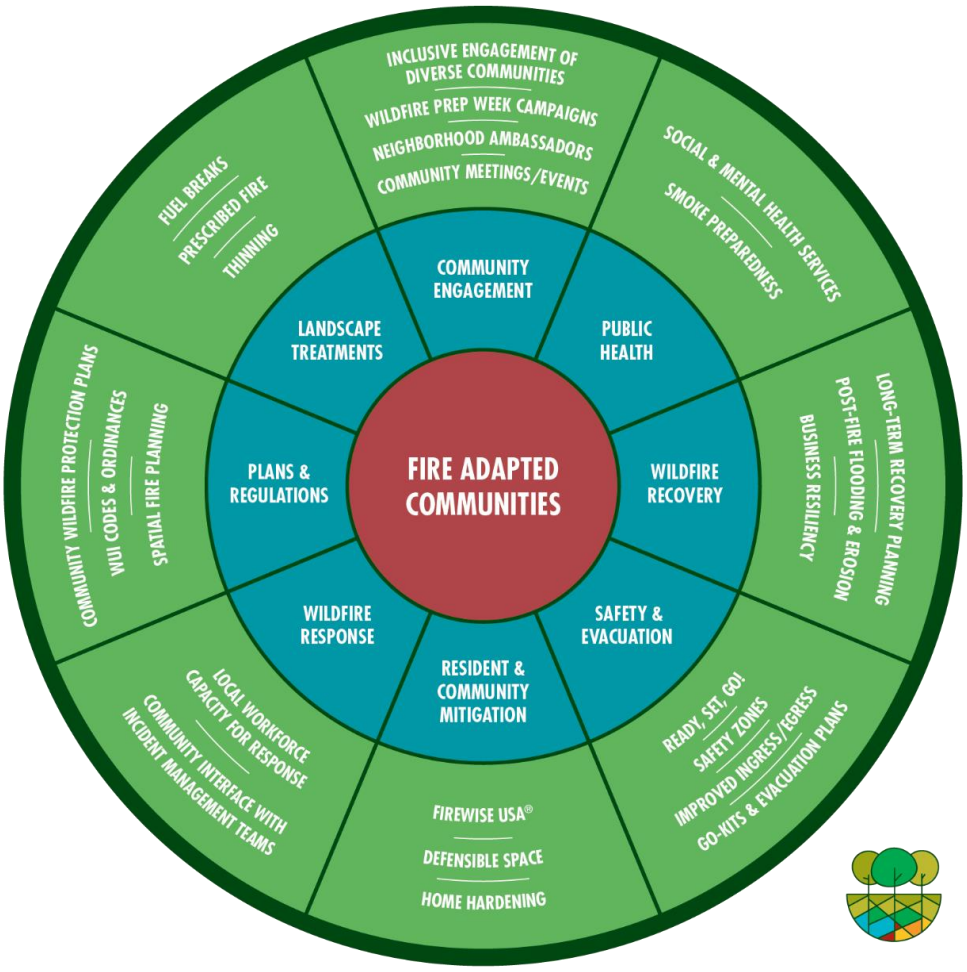

Figure 14. Fire Adapted Communities diagram: This diagram displays the many pieces that make up a fire adapted community.

The risk of wildfire is shared between neighbors, communities, and jurisdictions. The reduction of that risk is best accomplished through both top-down and grassroots approaches. Top-down strategies (regulations, zoning, ordinances, etc.) provide guidelines for residents to follow that require them to take responsibility for their own safety, as well as that of their communities and neighbors. However, some rural communities in New Mexico have opposed past ordinances regarding wildfire mitigation (Weinstein, 2014). In order to cultivate greater community support, the Fire Adapted Communities (FAC) Network utilizes a grassroots method focused on outreach, education, and the direct involvement of individuals residing in the WUI (https://facnm.org/). By promoting and developing a FAC, local governments and land managers may find alternatives to ordinances and regulations or find a more receptive and educated public when proposing such measures as defensible space thinning.

Part of being fire adapted is recognizing that not all members of the community can prepare for, respond to, and recover from a wildfire in the same ways. Research and experience have shown that socially vulnerable populations may not be able to mitigate and recover from wildfire to the same extent as the less vulnerable members of the community (Lynn & Gerlitz, 2005). Residents of an older age may not have the ease of mobility to move their wood pile, clean gutters and eaves, or rake needles and debris. Households that are below the poverty threshold may not have access to funds to reduce structural ignitability by installing a new roof, or they may not be able to pay for fuels reduction treatments. Consideration to protect these groups form wildfire should be made when designing wildfire mitigation programs. For resources related to functional needs and accessibility in fire adapted communities, please see the following blogpost from the Fire Adapted New Mexico learning network: https://facnm.org/news/2022/5/11/wildfire-wednesdays-86-disability-and-wildfire

Visit Fire Adapted New Mexico at www.facnm.org or the national Fire Adapted Communities network at www.fireadaptednetwork.org for more information.

The Home Ignition Zone: Home Hardening and Defensible Space

Residents can significantly reduce their wildfire risk by creating defensible space around their homes and hardening their homes to the potential for ignition. The combination of home hardening and defensible space is considered the home ignition zone.

To learn more about how to prepare the home ignition zone for wildfire, visit the National Fire Protection Associations page: https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Preparing-homes-for-wildfire

For a collection of resources related to home hardening and defensible space, visit: www.facnm.org/prepare.

Structure Hardening

Addressing the materials and construction of the structure is important to reducing the risk of the home igniting. A significant resource that should guide residents as they consider new construction or retrofit of structures is the research from the Insurance Institute for Business and Home Safety on factors that contribute to home ignitions from wildfire. Their research addresses a wide variety of factors from vents that limit ember entry to buildings and materials that siding, and decks are constructed of that resist wildfire. Their research can be accessed at https://ibhs.org/risk-research/wildfire/ as well as in this series of one-page reviews on specific materials from NFPA available here https://facnm.org/prepare.

Defensible Space Zones

Targeting trees, shrubs, and other vegetation in the immediate vicinity of the house can also make the home more fire resistant. Firewise USA recommends three zones of defensible space that provide useful guidance for County residents (Firewise USA, 2016):

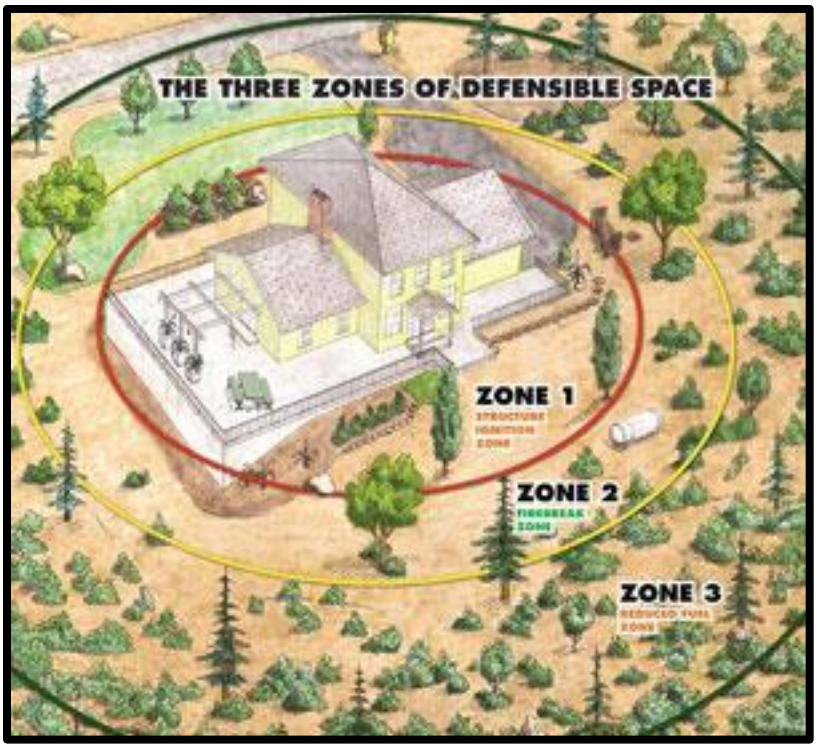

Figure 15. Three zones of defensible space.

Zone 1: Encircles the structure and all its attachments (wooden decks, fences, and boardwalks) for at least 30 feet on all sides. *Note:* the 30-foot number comes from the very minimum distance, on flat ground, that a wooden wall can be separated from the radiant heat of large flames without igniting.

In Zone 1:

- Space plants carefully, selecting those that are low-growing and free of resins, oils and waxes that burn easily.
- Mow the lawn regularly.
- Prune trees six to ten feet up from the ground.
- Space coniferous trees to allow 30 feet between crowns. Trim back trees that overhang the house.
- Create a 'fire-free' area within five feet of the home, using non-flammable landscaping materials and/or high-moisture-content annuals and perennials.
- Remove dead vegetation from under decks and within 10 feet of the house.
- Consider fire-resistant materials for patio furniture, swing sets, etc.
- Remove firewood stacks and propane tanks; they should not be located in this zone.
- Water plants, trees and mulch regularly.
- Consider xeriscaping if you are affected by water-use restrictions.

Zone 2: 30 to 100 feet from the home.

In Zone 2:

- Select plants that are low-growing, well irrigated and minimally flammable.
- Leave 30 feet between clusters of two to three trees, or 20 feet between individual trees.
- Encourage a mixture of deciduous and coniferous trees.
- Create 'fuel breaks' such as driveways, gravel walkways, and lawns.
- Prune trees six to ten feet up from the ground.

Zone 3: 100 to 200 feet from the home. NOTE: Because of other factors such as topography, the recommended distances to mitigate for radiant heat exposure extend between 100 to 200 feet from the home – on a site-specific basis. In this area:

- Conduct thinning of trees, although less space is required than in Zone 2.
- Remove smaller conifers that are growing between taller trees (these can serve as "ladder fuels" and give ground-level fires a path into the crowns of larger, mature trees).
- Remove heavy accumulation of woody debris.
- Reduce the density of tall trees so that their canopies do not touch.

Assessments

Many resources exist to assist people in making their homes more resistant to wildfire. An assessment of the factors that make a building vulnerable to wildfire is the best place to start. Individuals and fire departments can perform this assessment themselves with the help of a guide such as the one from Firewise https://www.nfpa.org/assets/gallery/riskassessment/story.html" https://www.nfpa.org/assets/gallery/riskassessment/story.html or at https://facnm.org/assessmentools, or they can contact a local professional to help with the assessment. An assessment completed by a professional or the homeowner themselves will provide a plan to tackle the most hazardous issues first and then move to less hazardous issues.

Evacuation

Residents should be ready to leave as soon as evacuation is recommended by officials, in order to avoid being caught in fire, smoke, or road congestion. Evacuating early helps firefighters keep roads clear of congestion and lets them move more freely to do their job. Resources are available to help residents prepare ahead of time for evacuation (see the resources for residents section). Early preparation can help residents with everything from packing lists—essentials can include taking a supply of critical medications—to how to address pets and livestock.

Here is a list of resources related to evacuation:

- Ready, Set, Go. This is the best tool for residents to prepare for different stages of evacuation: https://www.emnrd.nm.gov/sfd/wp-content/uploads/sites/4/FINAL-new-mexico-RSG-guide-2017_000.pdf
- Colfax County emergency alerts to learn about changes in evacuation plans: http://www.co.colfax.nm.us/government/emergency_management.php
- Past experiences and insights from evacuation: Firsthand Accounts: How to Prepare Your Community for a Wildfire Evacuation.
- Evacuation planning for fire departments:

- https://www.fema.gov/sites/default/files/2020-07/planning-considerations-evacuation-and-shelter-in-place.pdf
- https://fireadaptednetwork.org/evacuation-a-resource-round-up/

At the community level, the CWPP update includes a priority action item to establish safety zones and/or evacuation staging areas. A safety zone is an area without burnable fuel that is large enough so that the distance between the firefighters and flames is at least four times the maximum flame height. These should be established and made known in a community, but it should be made clear to residents that these safety zones do not allow any reduction in other preparations, since they should only be relied upon as a last resort.

Ingress and Egress/ Roads

Ingress (access for wildfire suppression equipment and personnel) and egress (ways for residents and visitors to escape the wildfire) are crucial to wildfire preparedness. Communities with only one way in and out, such as Idlewild, face a greater risk during wildfires. Planning evacuation routes at the community or fire district level is one way to identify hazards ahead of time. Actions to improve ingress and egress during a wildfire may include thinning along roadways, road condition improvements, and signage directing residents where to go during an emergency. The best course of action to remedy one way in one way out roads would be to add a second access route and the possibility of this should be assessed on a case-by-case basis. However, in many cases this is impractical and, in this case, widening roads and adding or improving turn outs will help ease this problem to allow for a two-way flow of traffic.

Many secondary roads that provide access for fighting wildland fires in Colfax County are in poor condition and will hamper response by firefighters and evacuation by residents during an emergency. In addition, many communities have one way in and one way out access roads. An evaluation of roads in each district would be helpful to indicate where turnarounds are needed and to establish a point of no return for large fire apparatus. Specific roads that need evaluation and improvement are identified in the Priority Actions section.

Human Sources of Ignition

On average in the U.S., human-caused wildfires burn over half of the total acres burned by wildfire in a given year. Even in the Southwest, where lightning ignites many wildfires, people are responsible for many of the largest, most severe fires. Many of the human-caused ignitions originate from abandoned campfires and downed powerlines. Others arise from vehicles, fireworks, cigarettes, cook stove sparks, and burning yard waste. Understanding the patterns of human ignitions and effectiveness of prevention strategies is therefore crucial to reducing the impact of high-severity wildfire.

Since human ignitions are preventable, increasing education and awareness could be the key to reducing the number of large wildfires. In the planning and implementation of education and awareness initiatives, it is important to keep in mind:

- Prevention efforts should recognize the variation in how and where people start wildfires
- Prevention should be tailored to mode of ignition
- Outreach should be implemented to reach people who are likely to build campfires

For more information on human ignitions, risk awareness, and wildfire prevention in New Mexico, refer to FSG's March 2018 report: *Increasing Wildfire Awareness and Reducing Human-Caused Ignitions in Northern New Mexico* (http://forestguild.org/wildfire_prevention).

Campfires

In outreach and education efforts, it is important to understand the causes and patterns of ignition. Especially considering that 80% of wildfires are caused by campfires within a ¼ mile of a road, it is necessary to redouble efforts at campfire education (Evans 2018). The above-cited report provides the following insights into campfire ignitions:

- Abandoned campfires account for 44% of human-caused wildfires in the Southwest since 2011.
- 80% of wildfires started by campfires are within a quarter mile from a road.
- Campfire bans have demonstrated limited effectiveness, possibly due to their great importance to people recreating.

Power Lines

Electric power lines are increasingly becoming common ignition points for large wildfires in New Mexico. Three major incidents have occurred since 2011, and in May 2018 a power line ignited the Los Alamitos fire, which burned 67 acres in two hours. Part of the prominence of power line ignitions can be attributed to the fact that the conditions that often lead to downed powerlines—specifically high winds—also contribute to increasing the intensity and reach of wildfires, as well as the difficulty of firefighting (Mitchell, J. W. 2009).

In April 2013, the Forest Service held a summit with western utilities in Los Angeles to discuss the issue; the New Mexico representative identified 505 miles of transmission line at risk. This number likely underestimates the risk, as smaller energy cooperatives are underrepresented in this listing.

Greater collaboration is needed between the CWPP core team and local (Kit Carson Electric, Springer Electric Cooperative, Northern New Mexico Gas Company, etc.) utility companies. Strategies for reducing ignition potential from power lines include encouraging off the grid solar systems and burying future or expanded power lines networks. Communities and landowners have a role to play to identify power lines, poles, and transformers that are in poor condition or have excessive brush underneath and contact utilities or other authorities. Volunteer Fire Departments should work with communities to identify areas where power infrastructure poses the risk of wildfire ignition. Regular inspections of lines, poles, transformers, etc. will help reduce the likelihood of human-caused wildfires from faulty power infrastructure.

Smoke Impacts

Wildfire smoke can have significant negative effects on public health. This can be the case even from fires occurring miles away or after a local fire has been controlled. Some demographics are particularly at risk, including people over 65 years old, under 18, and pregnant women. People whose health may already be compromised may also be particularly vulnerable to the effects of wildfire smoke; for this reason, special consideration should be given to preparing hospitals, assisted living facilities, and other health service centers. Residents with heart or lung diseases or any kind of respiratory issues are at particularly elevated risk of adverse smoke impacts.

Personal Smoke Mitigations

For residents, the Center for Disease Control recommends the following measures to decrease the impact of wildfire smoke:

- Check local air quality reports.
- Keep indoor air as clean as possible by keeping doors and windows shut; consider obtaining high efficiency particulate air (HEPA) filters to aid in keeping indoor air clean. Installing a

HEPA filter in bedrooms can provide around 8 hours nightly of clean breathing, regardless of air conditions outside and during waking hours.

- Avoid activities that increase indoor pollution such as smoking, burning candles, spraying aerosols, vacuuming, and using fireplaces or gas stoves.
- Assuming you are in a safe place, away from the fire, limiting physical exercise can help to limit smoke inhalation. During exercise, people can increase their air intake as much as 10 to 20 times over their resting level.
- Seek shelter in a designated evacuation center or away from the affected area if necessary.
- Above all, seek to limit your exposure to smoke.

Community Smoke Mitigation

For community leaders, here are some considerations and steps ahead of a potential wildfire to prepare your communities:

- "Safe spaces" should be designated and prepared where community members can have a respite from smoky air. Communities should explore installing integrated HEPA filters at key locations such as public libraries, hospitals, nursing homes, and schools so that places provide clean air to vulnerable populations during their normal daily activities.
- Organizers should consider suspending certain outdoor activities and events if air quality is poor. Outdoor sports events and school recesses are examples of activities that can be canceled, postponed, or moved indoors to minimize exposure.
- Create a system to supply sensitive individuals with portable HEPA filters during times of smoke impacts. HEPA filter loan programs have been implemented on small scales that succeed in providing clear for the most vulnerable residents in an area.

Helpful websites include:

- New Mexico Fire Info, Smoke Management - New Mexico Fire Information - an interagency effort by federal and state agencies in New Mexico
- Air Now, Interactive Map of Smoke Monitors & Fire Current Conditions - Environmental Protection Agency
- Smoke and HEPA Filter Loan Program - from Fire Adapted New Mexico
- Protect Your Health on Smoky Days - from New Mexico Environmental Public Health
- Wildfire Smoke Frequently Asked Questions - Environmental Protection Agency
- New Mexico's Smoke Management Program - New Mexico Environment Department's Air Quality Bureau

Communication

Communication is one of the best tools for reducing the impact of wildfires. Good communication allows firefighters to efficiently suppress wildfires, residents to evacuate if the need arises, and responders to help those in need. In order to ensure good communication during an incident, it is crucial to have lines of communication established before an incident. Emergency responders from the County, VFDs, and state and federal agencies need to be sure they understand each other's communications protocols and requirements. Pre-wildfire season meetings of key individuals is a worthwhile investment to ensure seamless communication during a wildfire. These meetings also serve to build the personal connections and trust that can be very important during an incident.

Emergency Notifications

In addition to effective communication between first responders, a way to communicate emergency information to residents and visitors is crucial, especially in the event of an evacuation. The most basic

version of this is going door to door during an emergency but this takes time and is usually only employed at the last moment during the early stages of an incident or during large incidents after additional staff has been brought in to handle this task. An up-to-date rural addressing system will aid in these door-to-door efforts. A coordination meeting between the different agencies that manage address data would be helpful to ensure that there aren't gaps in accountability across the county.

Another essential communication tool that is already in place in Colfax County to assist with wildfire and other emergency notifications is the "Code Red" reverse 911 system. The Code Red system will send notifications to all landline phones in a selected area. The new system allows you to enter additional information into the emergency notification system to be notified through other devices cell phones, a text device, email address, fax number, or work phone number. This allows for mass notifications to be sent out in the event of any sort of emergency. It also allows for more frequent one-way communication from emergency managers, pre-evacuation notices, and any other early warnings can be sent out in the early stages of emergencies well before evacuation notices. Other devices can be registered through the County's Emergency Management website: (https://www.co.colfax.nm.us/government/emergency_management.php).

Communication for First Responders

Communication is a challenge in some parts of Colfax County. Steep canyons and mountains limit the extent of radio and cell phone coverage in many areas. The lack of timely communication is a concern that we heard of from many community members and core team members. Eliminating radio dead spots will provide for firefighter safety and effective response by allowing better communication with the county dispatch and fellow first responders.

Community members and firefighters both lack cell phone coverage in many areas of Colfax County. Working with telecommunication companies to extend this coverage would also be a very worthwhile investment for managing wildfire suppression and evacuation. Both of these tasks are identified as priority actions in Table 3.

Community Emergency Response Team

The Federal Emergency Management Agency (FEMA) has a program called Community Emergency Response Team (CERT) to help community members take part in the response to disasters. The CERT program helps volunteers use training learned in the classroom and during exercises to assist others in their community after a disaster when professional responders are not immediately available to help.

More information on the CERT Program can be found on the following web pages:

https://www.ready.gov/community-emergency-response-team

https://www.fema.gov/news-release/2003/05/29/community-emergency-response-team-cert-program