Otero County New Mexico

Community Wildfire Protection Plan

2020 Update

Prepared For:

OTERO COUNTY
1101 New York Avenue
Alamogordo, NM 88310

Prepared by
The South Central Mountain
Resource Conservation & Development Council, Inc.
September 30, 2020

In Cooperation With:
Otero County
Otero Working Group
EMNRD – Forestry Division
Lincoln National Forest
Otero County Soil & Water Conservation District
New Mexico State Land Office
Bureau of Land Management
Bureau of Indian Affairs

2020 Otero County, New Mexico - Community Wildfire Protection Plan

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OTERO COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN

We the undersigned approve and support the Otero County Community Wildfire Protection Plan

Lori Bies, Vice-Chairman, Otero County Commission — Date: 10-8-2020

Gerald Matherly, Chairman, Otero County Commission — Date: 10-8-2020

Couy Griffin, Otero County Commissioner — Date: 10-8-2020

OTERO COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN

We the undersigned approve and support the Otero County Community Wildfire Protection Plan.

Cooperating Agencies

Randal Chavez, District Ranger,
USFS, Sacramento Ranger District

Date: 9/29/2020

Nick Smokovich, EMNRD Forestry Division
Capitan District Forester

Date: 9/29/20

Matt Clark, Director
Otero County Emergency Services

Date: 9/29/2020

Rick Merrick, Chairman
Otero Working Group

Date: 9/28/2020

Bureau of Indian Affairs

Date:

Bureau of Land Management

Date

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Date: 9/28/2020

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Date:

Bureau of Land Management

Date 12/21/2020

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Capitan District Forester — Date:

Matt Clark, Director
Otero County Emergency Services — Date:

Rick Merrick, Chairman
Otero Working Group — Date:

Bureau of Indian Affairs — Date: 10-5-2020

OTERO COUNTY
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We the undersigned approve and support the Otero County Community Wildfire Protection Plan.

Otero Soil & Water Conservation District

Bill Mershon, Chairman — Date: 10-7-20

Rick Baish, Vice Chairman — Date: 10-7-20

Jeff Rabon, Secretary/Treasurer — Date: 7 Oct 2020

Bob Nichols, Member — Date: 10/7/2020

Eddie Vigil, Member — Date: 10/7/2020

James Eyrage, Member — Date: 10-7-20

Colt Howland, Member — Date: Absent

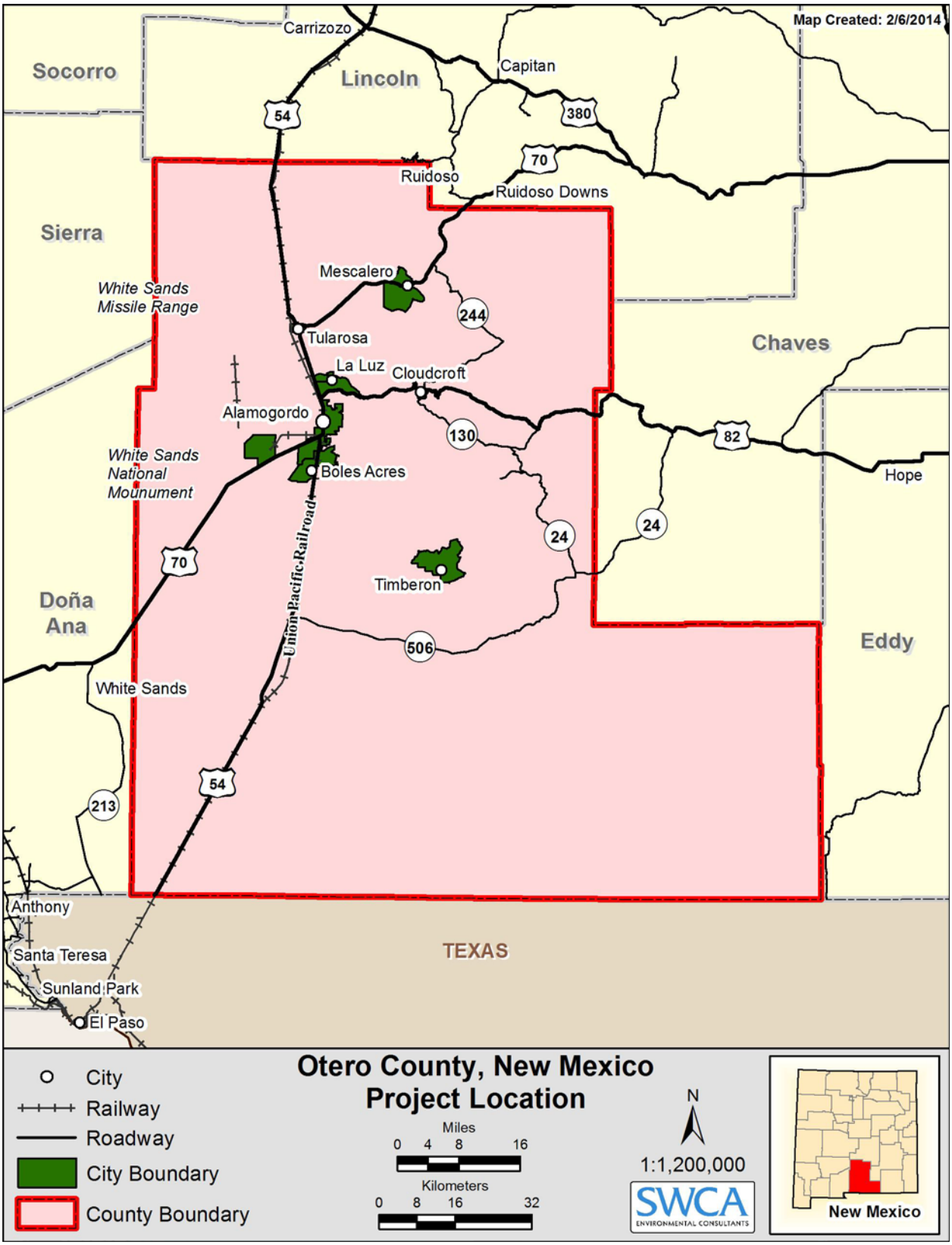
1. Introduction

This document serves to provide an update for the Otero Community Wildfire Protection Plan (CWPP). Its goal is to be a useful, living document that can help the communities guide wildfire mitigation efforts and be updated as needed. This protection plan provides a framework to address wildfire risk in Otero County. While this CWPP is a stand-alone document, our goal is to encourage and provide communities within the county the ability develop more specific plans to address localized fire risk.

CWPP's are not legal documents, and this update should be viewed in conjunction with previous CWPP documents. The first Otero County CWPP was drafted in 2004 and updated in 2014. Although written several years ago, it is an important landmark document and nothing in this document is designed to replace or contradict the previous plan.

Since the current Otero County CWPP was written in 2014, wildfire conditions in the area have remained much the same. The landscape continues to experience natural fire occurrences, bug kill and blow down. In light of these conditions, significant efforts have been made by communities and residents to mitigate the risk of wildfire throughout the county. Fuel mitigation projects have treated over 129,406 acres on both public and private land within our Wildland Urban interface (WUI), and a significant planning document, the South Sacramento Mountains Watershed and Forest Restoration Strategy, was developed. This document will update certain components of the existing CWPP to reflect changing conditions, additional knowledge, recent community mitigation efforts, and updated priorities. Applicable portions of the previous CWPP have been incorporated into this document as they provide a strong foundation.

The current Otero County CWPP was created in 2014 and takes a comprehensive look at the communities in Otero County. The document is evidence of local communities beginning to work together to address wildfire risk and mitigation. The document provides basic information about communities addressing the common wildfire hazard. While the document does not explicitly address particular areas or communities, the Wildland Urban Interface (WUI) area is represented in the map which outlines an area of increased wildfire risk. This area is still at high risk for wildfire and is the primary WUI within the county.


Map Created: 2/6/2014
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Missile Range
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Tularosa
Chaves
La Luz
Cloudcroft
Alamogordo
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White Sands
National
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Boles Acres
Hope
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24
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Timberon
Union Pacific Railroad
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Anthony
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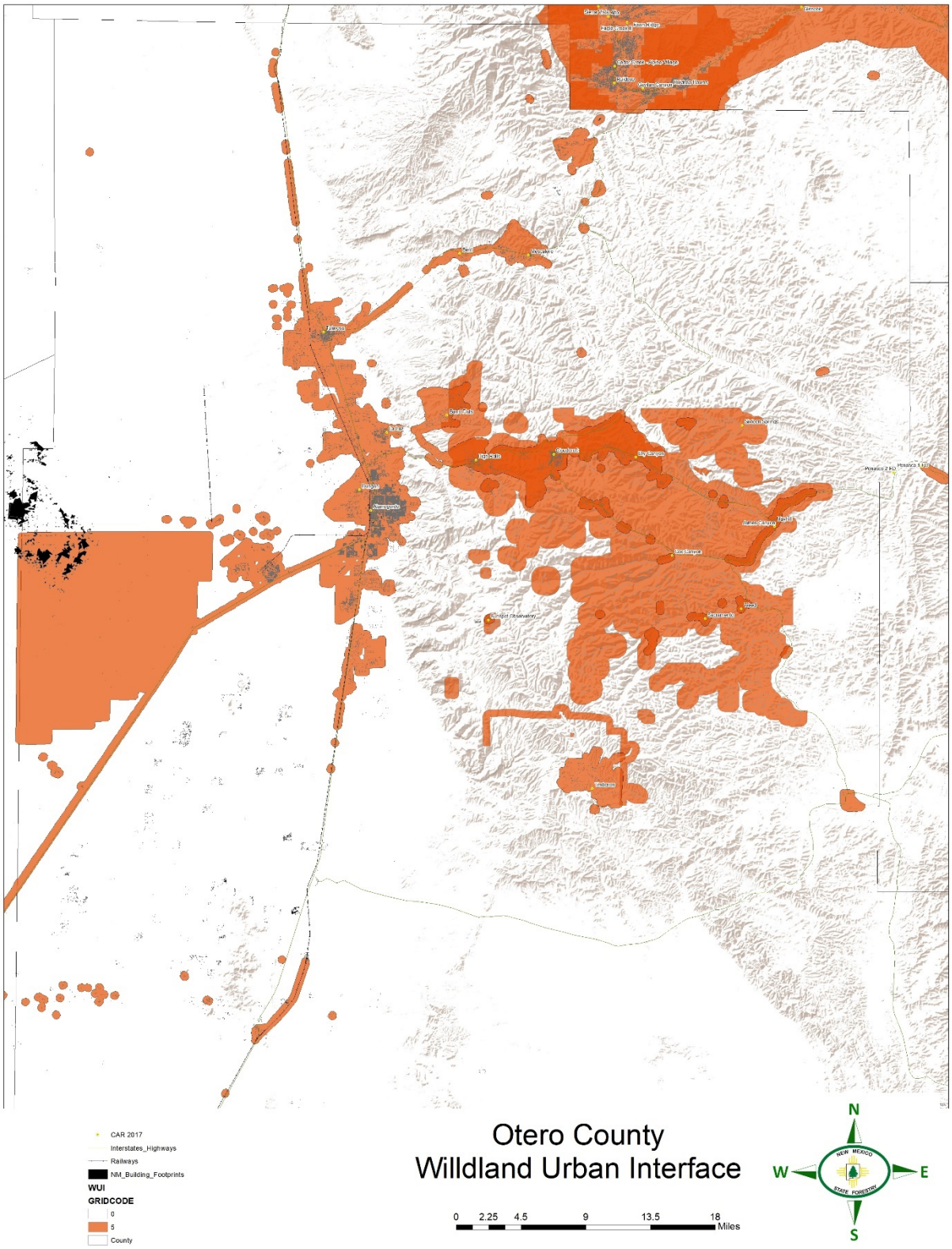
ENVIRONMENTAL CONSULTANTS
New Mexico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Interstates_Highways
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Willdland Urban Interface
0 2.25 4.5 9 13.5 18
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STATE FORESTRY

2. Goals and Objectives

The Goals of the 2020 Otero County Community Wildfire protection plan are to reduce both the risk and negative impacts of wildfires to the residents, firefighters, property, and natural resources of Otero County. The document represents a collaborative effort of multiple agencies groups, and stakeholders who have a shared responsibility to reduce the wildfire hazard in our community. This update will take previous assessments and build on those to develop a document that will guide future community protection and mitigation efforts. The document provides a framework for the community to show how we have addressed wildfire risk and what still needs to be accomplished. Communities and subdivisions are invited to provide more detailed input on specific initiatives and projects at a local level. The objectives of the Otero County Community Wildfire Protection Plan are;

- To educate residents regarding wildfire risk and shared responsibility.
- To reduce fuel loading around our homes, infrastructure, communities, and forests.
- To decrease structural ignitibility of our homes, business and buildings.
- To manage forested areas to promote forest health and foster resilience.
- To identify areas where landowners and land management agencies can work collaboratively.

3. Core Team Directory

The Otero Working Group is the most active interagency group in Otero County concerned with fuels reduction and wildfire risk. The CWPP update was discussed at multiple Otero Working Group meetings, which are open to the public, and members of the group were asked to participate in the process to update the CWPP. The core group was self-selected from the working group and represents a cross-section of our community, with individuals from various backgrounds and interests. The meetings were monitored by Otero Soil Water & Conservation District personnel. Below is a list of the Core Team members.

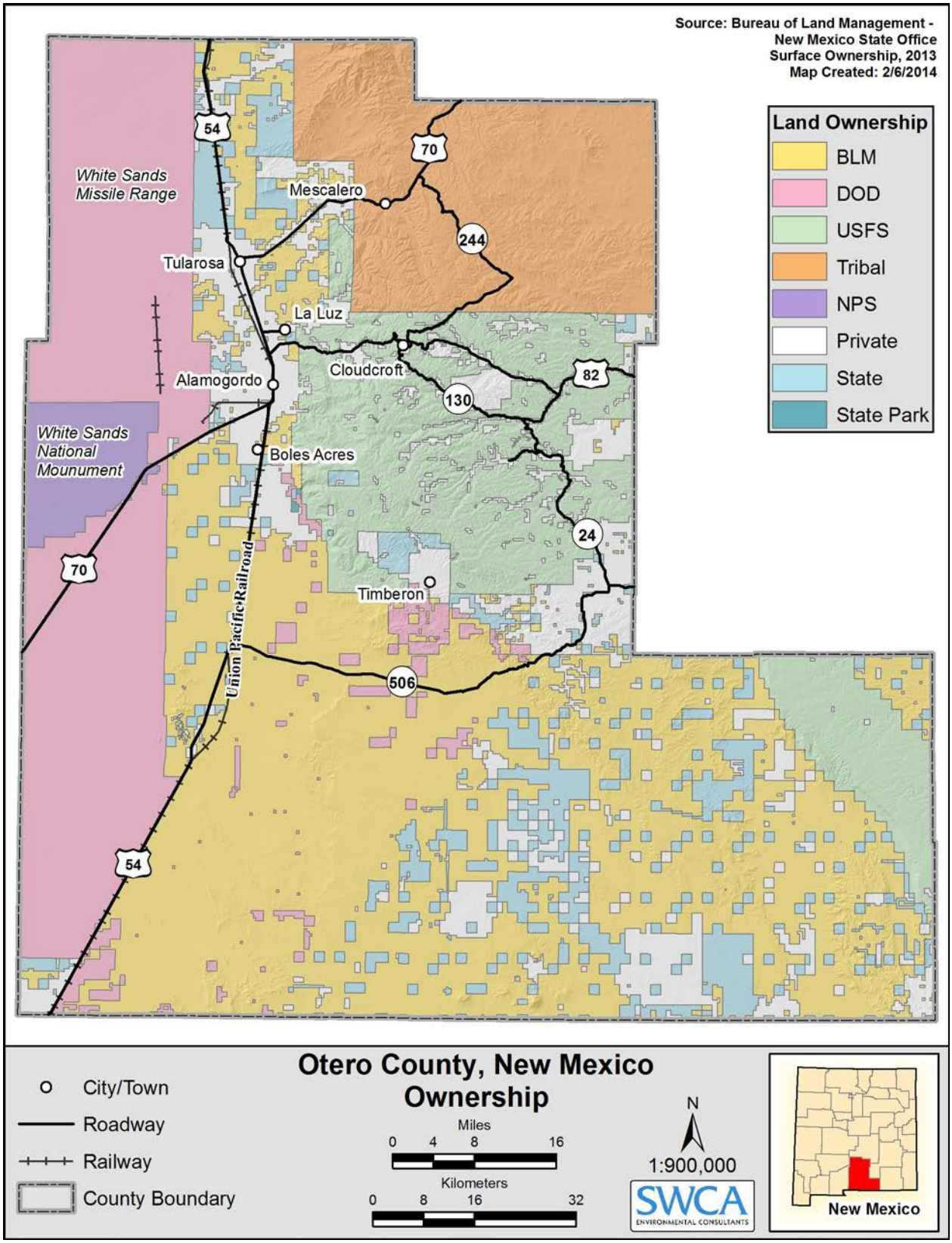
	Core Team Directory	
Name	**Agency**	**Title**
Walter Wilson	NM State Forestry	Fire Management Officer
Sue Dreikosen	Village of Cloudcroft	Emergency Services
Wes Gaskill	Otero County Electric	
Sid Gordon	Otero County Extension Svc	Extension Agent
Wesley Hall	USFS	Fire Planner/Fuels Specialist
Joe Kimble	USFS	
Rick Merrick	SCM RC&D Council	Rural Community Forester
Vicky Milne	Otero SWCD	Executive Director
Frank Silva	NM State Forestry	Timber Management Officer
Nick Smokovich	NM State Forestry	Capitan District Forester
Colleen Urban	USFS	Partnership Coordinator

4. Area Description

The County is in south-central New Mexico, bordering Texas, and comprises an area of 6,627 square miles. Elevations in the County ranges from 4,300 to 9,000 feet, with the highest points in the Sacramento Mountains, which form the southern tip of the Rocky Mountain chain. More than half of the County's 63,797 population resides in Alamogordo, the county seat, situated in the center of the County, within the Tularosa Basin and on the western flank of the Sacramento Mountains. The County comprises a diverse landownership, with the BLM making up the largest portion (36.25%). White Sands Missile Range (WSMR) comprises 18.5% of the western side of the County. The WSMR is a U.S. Army missile range used for military testing. A major tourist attraction for the County is White Sands National Monument (2.17% of the land area), located about 16 miles west of Alamogordo in western Otero County. White Sands National Monument is the largest gypsum dune field in the world and is part of the Tularosa Basin; it attracts over 600,000 visitors annually (Otero County Economic Development Council 2014). The park lies completely within the WSMR. The Mescalero Apache Reservation makes up 459,390 acres (10.84%) of the north eastern portion of the County and comprises three sub-tribes: Mescalero, Lipan and Chiricahua.

Land Ownership

Land Ownership	Acreage	Percentage
BLM	1,536,516	36.25%
U.S. Department of Defense	784,210	18.50%
USFS	557,050	13.14%
Tribal	459,390	10.84%
National Park Service	92,136	2.17%
Private	471,018	11.11%
State	337,607	7.97%
New Mexico State Parks	639	0.02%
Total	**4,238,566**	**100.00%**


Source: Bureau of Land Management - New Mexico State Office Surface Ownership, 2013
Map Created: 2/6/2014
Land Ownership
BLM
DOD
USFS
Tribal
NPS
Private
State
State Park
White Sands Missile Range
White Sands National Mounument
Mescalero
Tularosa
La Luz
Alamogordo
Cloudcroft
Boles Acres
Timberon
Union Pacific Railroad
54
70
244
82
130
24
506
City/Town
Roadway
Railway
County Boundary
Otero County, New Mexico
Ownership
Miles
0 4 8 16
Kilometers
0 8 16 32
N
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SWCA
ENVIRONMENTAL CONSULTANTS
New Mexico

Population

The following population information is drawn primarily from the 2010 U.S. Census data (U.S. Census Bureau 2014). The 2010 Census lists the County's population as 63,797 people and 24,115 households. An estimate of the 2013 population is 65,616 people. The County's population has increased by 2.9% between 2010 and 2013 and by 13.2% in the last decade (Otero County Economic Development Council 2014). The population density is listed as 9.6 people per square mile. In 2010, the County had a median income of $39,054, and 46% of the County's population live within the county seat of Alamogordo, which has a 2013 estimated population of 31,368 and a population density of 1,418 individuals per square mile. Alamogordo's economy is based primarily on service and retail, driven by tourism, the nearby Holloman Air Force Base, and military retirees. Other census-designated towns include Cloudcroft (674 people in 2010), Tularosa (2,842 people in 2010), Boles Acres (1,638 people in 2010), Holloman Air Force Base (3,054 people in 2010), La Luz (1,697 people in 2010), Mescalero (1,338 people in 2010), and Timberon (348 people in 2010). Smaller communities include High Rolls, Mountain Park, Newman, Sunspot, and Three Rivers.

The main local transportation corridors include U.S. Highway 54, which runs north-south through the center of the County through Alamogordo and adjacent to the Union-Pacific Railroad; U.S. Highway 70 from Ruidoso northeast of the County to Las Cruces southwest of Alamogordo; and U.S. Highway 82 goes from Alamogordo east to Artesia through the Lincoln National Forest. White Sands National Monument and U.S. Highway 70 are often subject to closure due to periodic military testing exercises within the WSMR.

New Mexico Climate

New Mexico has a mild, arid to semiarid, continental climate characterized by abundant sunshine, light total precipitation, low relative humidity, and relatively large annual and diurnal temperature ranges (New Mexico Climate Center 2006). The average hours of annual sunshine range from nearly 3,700 hours in the southwestern portions of the state to 2,800 hours in the north-central portions. The frost-free season ranges from more than 200 days in the southern valleys to fewer than 80 days in the northern mountains, where some high mountain valleys have freezes in the summer months.

In New Mexico, July is generally the warmest month of the year, with average monthly maximum temperatures ranging from 90 degrees Fahrenheit (°F) at lower elevations to 75°F to 80°F at higher elevations. A preponderance of clear skies and generally low relative humidity permit rapid cooling after sundown, resulting in comfortable summer nights. Generally, January is the coldest month, with average daytime temperatures ranging from the mid-50s °F to the mid-30s °F. Minimum temperatures below freezing are common throughout the state, but subzero temperatures are rare outside high mountain habitats.

A wide variation in annual precipitation totals is characteristic of arid and semiarid climates. The climate of the Southwest shows strongly seasonal patterns both within and between years. Drought

cycles are common and most annual precipitation comes in the course of a summer rainy season. Generally, July and August are the rainiest months of the year, contributing 30% to 40% of the state's annual precipitation. These rainfall events are often associated with brief but intense thunderstorms driven from unstable southeasterly air flows out of the Gulf of Mexico, as well as thunderstorms that develop from the west. Lightning fires are common during this period but are typically small due to the generous precipitation (Pyne 1982). Winter is the driest season in New Mexico; precipitation primarily results from frontal activity associated with Pacific Ocean storms that move across the country from west to east. Much of this precipitation falls as snow in mountain areas.

Wind speeds across New Mexico are usually moderate. However, relatively strong and sometimes unpredictable winds can accompany frontal activity during the late winter and spring. Wind direction is typically from the southwest.

Otero County Climate

According to climate records for Alamogordo that span from 1909 to 2009, the County experiences a mild, semiarid climate with annual average maximum temperatures of 80°F and annual minimum temperatures of 42°F (Western Regional Climate Center 2014). The highest temperatures are experienced from June through August and lowest temperatures from November through February. A century record of precipitation data for Alamogordo (from 1909–2009) reveals that average total annual precipitation is 10.95 inches, with an average annual snowfall of 4.1 inches. The majority of precipitation is received from July through September.

Like much of New Mexico, the County has been in a period of prolonged drought for the last few years (New Mexico Drought Task Force 2008). During such periods, wildfire disasters are more likely, and firefighting resources are placed under considerable strain.

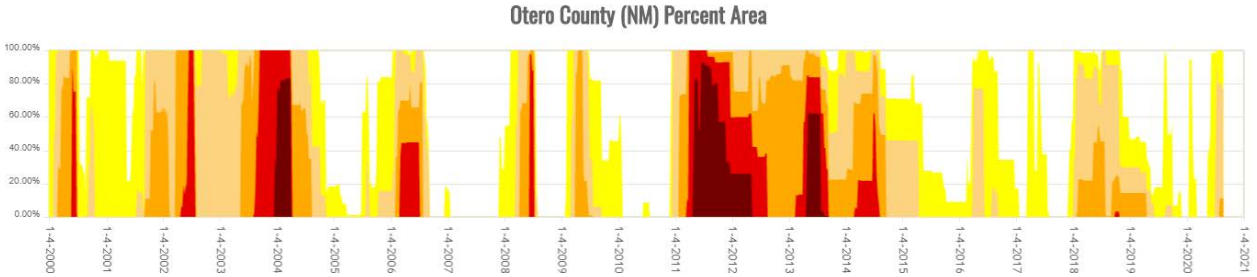
Average annual precipitation ranges from 6 inches in the low-lying western edge of the County in the White Sands area to 25 inches in the mountainous area from Mescalero northward in Lincoln County. The greatest annual rainfall on record for the County (and the State) was 62 inches at White Tail in 1941, and the least annual rainfall was 3 inches at White Sands National Monument in 1956. Precipitation consists of both rain and snow. The greatest amount of precipitation occurs during the warm months from May through September. Most of this precipitation occurs in the form of short, local, high-intensity summer thunderstorms frequently originating from the Gulf of Mexico. Mid-winter snows and rain form an additional high precipitation period. Late winter through early spring is typically the driest period of the year in Otero County.

The prevailing winds are westerly most of the year but are interrupted during the rainy season. During this time the winds are primarily from the south and east. However, the wind direction varies widely due to the great temperature fluctuations between the valley heat and the cooler mountains. The average wind speed is nine miles per hour during the windiest months of March, April and May. During the windy season there are frequent dust storms occurring over the Tularosa

Basin and White Sands National Monument with winds averaging 25 to 45 miles per hour and occasionally gusting to 60 and 70 miles per hour. Sometimes brief dust storms accompany thundershowers. Approximately three weeks a year the visibility is greatly reduced, often to six miles or less, due to blowing dust.

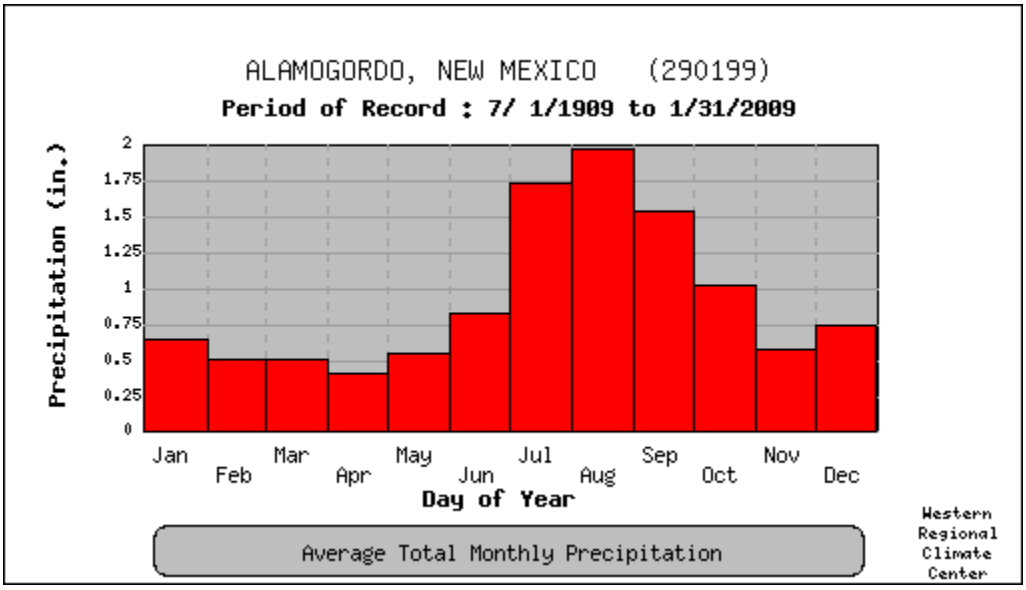
Drought Risk Atlas for Otero County – 2000 to Present

(National Drought Mitigation Center)



Monthly average total precipitation for Alamogordo

(Western Regional Climate Center 2014)



Vegetation

Vegetation is variable across the County. The U.S. Environmental Protection Agency (EPA) classifies the County into two ecoregions (Griffith et al. 2006): the east half is classified as Arizona/New Mexico Mountains and the western half as Chihuahuan Desert. The specific vegetation types associated with these regions are described by Dick-Peddie (1993). The Chihuahuan Desert zone is further broken down into Desert Grasslands—which consist primarily

of alkali sacaton (Sporobolus airoides), western wheatgrass (Agropyron smithii), blue grama (Bouteloua gracilis), and James' galleta (Pleuraphis jamesii)—and Chihuahuan Basins and Playas, which consists of iodine bush (Allenrolfea occidentalis), seepweeds (Suaeda sp.), saltgrass (Distichlis spicata), common spikerush (Eleocharis palustris), ricegrass (Oryzopsis sp.), prairie dropseed (Sporobolus spp.), or saltbush (Atriplex sp). In these plains-mesa grassland regions, the basic fine fuel is grass. The grasses, when not checked by fire, transition into desert succulents and woody species in some bottomland or lower elevation areas or are scattered across the plains. During drought years, grass fuels are reduced and give way to desert species that limit the transmission of fire. When rainfall replenishes the grassland, however, the fine fuel mass becomes more continuous across the landscape and risk of fire increases.

The Arizona-New Mexico Mountains region (Griffith et al. 2006) is further broken down into the high elevation Rocky Mountain Conifer Forests of the Sacramento Mountains made up of Douglas-fir (Pseudotsuga menziesii), ponderosa pine (Pinus ponderosa), Gambel oak (Quercus gambelii), and aspen (Populus tremuloides), and the Madrean Lower Montane Woodlands at lower elevations made up of ponderosa pine and piñon pine (Pinus edulis) and juniper (Juniperus sp.) woodland species (Dick-Peddie 1993).

Rangeland

Ninety percent of Otero County is rangeland, much of which is under federal management as part of WSMR or the McGrager Range (Otero County Extension 2014). Cattle and sheep farming are the most common agribusiness in the County, with most ranchers depending on state or federal grazing permits to meet grazing needs. The spread of noxious weeds and limited water supply are ongoing concerns for ranchers.

Agriculture—Cultivated Crops and Irrigated Agriculture

The County's agriculture is limited primarily by water, particularly as water demands for industry and urbanization increase (Otero County Extension 2014). Otero County has been increasing nut production, with pecan production estimated at 1,540 acres and pistachio production at 470 acres. Mountain communities support some apple and cherry production.

Developed

Developed land is situated around Alamogordo and other larger communities in the central portion of the County. Developed is another generic vegetation type that describes human-made, developed areas and can include structures, parking lots, dirt lots, and roads. Although these areas are not typically described in a natural fire regime, the structures built there can be a receptive fuel, so developed areas are typically central to WUI areas of concern.

Other Land Cover Types

Other land cover types are combined as a comprehensive category for vegetation types that exist within the County. This category accounts for 18 other land cover types that include riparian areas along streams, rivers, and lakes; other shrub- and herbaceous-dominated vegetation types; areas of introduced species; barren areas; and open water.

Historic Conditions and Present Changes in Fire-adapted Ecosystems

During the past few centuries, humans have altered the fire-adapted ecosystem in the Southwest. Prior to 1900, periodic, low-intensity surface fires burned through much of the forested and grassland landscape. This process reduced fuel loads by removing small-diameter understory trees and creating park-like ponderosa stands, or by removing dense brush cover and encroachments of small trees in grasslands. Thus, in the past, these fire-adapted ecosystems were routinely renewed, which supported healthy ecosystems.

Prior to European settlement, fire ignited by various Native American groups and lightning-caused fires were common and removed encroaching shrubs, forbs, and trees and promoted vigorous grassland vegetation (Pyne 1982). Juniper savannas and woodlands have also changed over time and have expanded above their historic range and densities as a result of livestock grazing, fire suppression, and climatic variation (Allen and Breshears 1998; Swetnam et al. 1999).

Non-native and Invasive Species

Fire-tolerant, flammable, non-native species now exist within cottonwood (Populus sp.) and willow (Salix sp.) stands in riparian areas in the County. One species that deserves special mention with regard to wildfire is the non-native phreatophyte saltcedar (Tamarix sp.). This species, also referred to as tamarisk, has invaded many riparian areas within the Tularosa Basin, which has resulted in reduced watershed function, increased soil salinity, decreased water quality and decreased biodiversity (BLM 2012). The BLM have been treating areas between Orogrande and Three Rivers with herbicide treatment to help reduce the spread of the species.

Native cottonwood trees and willows are not fire adapted and thus are less capable of recovering from the effects of fire than non-native saltcedar and Russian olive (Elaeagnus angustifolia) (Stromberg et al. 2002). Extensive bosque fires could result in further shifts away from diverse mesic native plant communities to more xeric non-native woodlands and shrublands. Other programs to reduce saltcedar are already active in the County, including efforts by the Otero SWCD, and in neighboring counties, and these efforts should continue in the future to ensure the control of this highly flammable invasive species.

Saltcedar and Russian olive are on the state list of noxious weeds for New Mexico (USDA 2010). For more information on noxious weeds, refer to the USDA noxious species lists by state, which can be found at http://plants.usda.gov.

History and Land Use

This portion of New Mexico has a long and diverse history. There is believed to have been human occupation for about 11,000 years, during the Paleoindian period (ca. 10,000–6000 B.C.). Most archaeologists believe that bands of mobile hunter-gatherers (Paleoindians) living during this time subsisted primarily on large game and Late Pleistocene megafauna, which was supported by the cooler, wetter environment of that era (Wase et al. 2003). Agriculture-based subsistence began in the Ceramic period (A.D. 600–1300). Mobility decreased and farming hamlets appeared, according to the archaeological record (Kemrer 1994). In A.D. 1600–1860, the area saw a transition from an aboriginal population to Euro-American occupation.

The County has a long history of cattle driving. The County's ranching background and rich heritage illustrate the cultural importance of protecting such historic features from wildfire; this need for protection is recognized in the recommendations in this CWPP.

Rangelands have been subjected to various environmental pressures and influences, both natural and unnatural, because of their large extent and cultural importance in New Mexico (Finch and Dahms 2004). Traditionally, the most common uses of fire in livestock management are to eradicate noxious weeds, convert brush to pastureland, and slow the encroachment of woody species (Allen 1996). Once established, pasturelands tend to experience a gradual reduction in the use of broadcast burning in favor of mechanical and chemical vegetation management, and lands become stocked with agricultural crops, including species that are neither native nor fire adapted. Much of the plains have therefore undergone widespread cover type conversion. However, with more intensive management and expansion of urban areas, fire has begun to disappear from ranching lands. Roads and development have broken up the continuity of the grassland fuels into a new mosaic. Heavy demand on grasses through grazing may have acted to reduce grassland fuel loads in many areas to a point where fire may be difficult to propagate. Similarly, urban lots and cultivated lawns may have reduced fuel loads, making some people feel that fire is not a risk to them. Rural declining population has meant that some areas have been taken out of production, which could provide increased fuel loads that threaten communities.

5. Fire History & Regime

The fire regimes in Otero County are largely dependent on forest type. Before human settlement, Pinon Juniper woodlands and mixed conifer forests experienced infrequent high intensity stand replacing fires, while Ponderosa Pine forests experienced more frequent lower intensity fires. Fires have been suppressed for about 100 years, since communities in this area have had the capacity to do so. Human efforts combined with climactic conditions have altered fire regimes and fuel conditions.

Fire intensity and size have been increasing due to the increase of fuels, tree density, large areas of continuous fuels and a dry weather cycle. Wildfires have occurred in almost every vegetation type within the county, including grasslands, pinon juniper forests, ponderosa pine forests, and

mixed conifer forests. Fires have been started by both human and natural causes close to homes roads, as well as isolated undeveloped areas.

Most fire suppression experts believe that the threat of massive damage to human lives, private property, and natural resources is increasing throughout North America (Arno et al. 2000; Gorte and Bracmort 2012). Wildland fires have become a major concern throughout New Mexico in recent decades for a number of reasons: 1) human activity patterns have changed the landscapes over the past three decades, 2) natural resources are now highly valued and protected against widespread wildfire, 3) national wildland firefighting budgets are shrinking, 4) more people are escaping the cities into the wildlands, 5) many rural areas are dependent on volunteer fire departments (VFDs) that have insufficient funds and resources to fight large conflagrations, and 6) climatic conditions such as drought can be like a match to volatile fuels.

Mixed Changes in Fire Frequency

A common vegetative community in the planning area is piñon-juniper woodland. These woodlands are some of the most poorly understood ecosystems in terms of fire regimes, but recent research suggests that fire may have been a less common and less important disturbance agent in piñon-juniper woodlands as compared to adjacent ponderosa pine and grassland ecosystems. In a recent review of piñon-juniper disturbance regimes, Romme et al. (2007) subdivided the piñon-juniper cover type into three subtypes: areas of potential woodland expansion and contraction, piñon-juniper savannas, and persistent woodlands. These categories are helpful in separating the broad piñon-juniper cover type into distinct communities, which are subject to different climatic, topographic, and disturbance conditions.

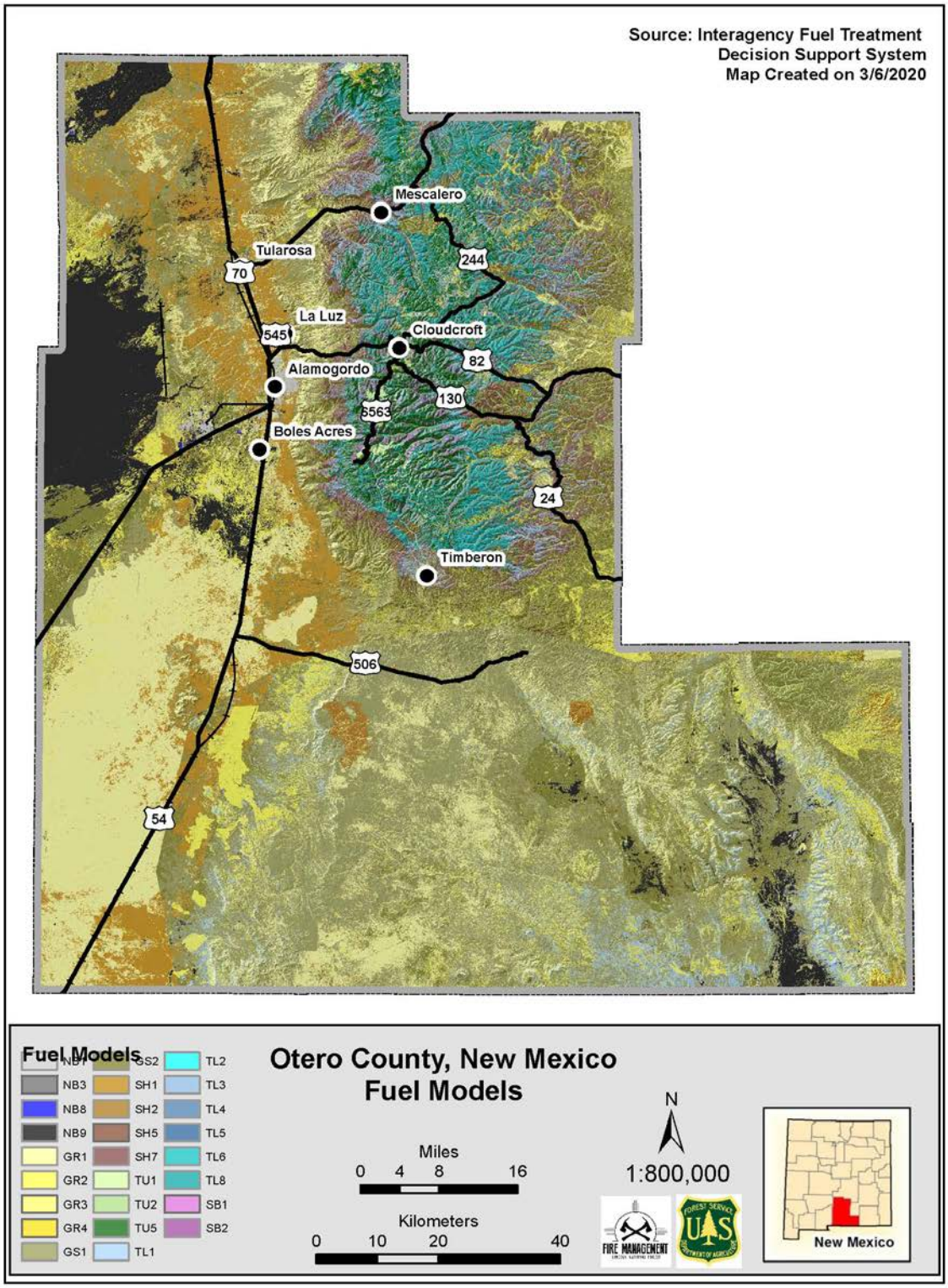
As mentioned previously, many grasslands in the Southwest have been colonized by trees as a result of a complex interplay of environmental factors. The issue of woodland encroachment into grasslands goes hand in hand with the assessment of historical conditions of the woodlands. Areas of potential expansion and contraction are those zones wherein the boundaries of the piñon-juniper ecotones have shifted. These shifting boundaries have been widely documented (e.g., Gottfried 2004), but the historical condition of the ecosystem may be relative to the time scale of evaluation. Betancourt (1987) has suggested that the changing distribution patterns seen in the last century may be part of larger trends that have occurred over millennia and not the result of land use changes. Overall, it is believed that greater landscape heterogeneity existed previously in many of these areas that are now uniformly covered with relatively young trees (Romme et al. 2007).

Piñon-juniper savannas are found on lower elevation sites with deep soils where most of precipitation comes during the summer monsoon season. Juniper savanna, the most common savanna in New Mexico, consists of widely scattered trees in a grass matrix (Dick-Peddie 1993). Similar to grasslands, the range of savannas has decreased as tree density has increased, but the mechanisms for the tree expansion are complex and the subject of current research. Significant

scientific debate currently exists over the natural fire return interval (FRI) for savannas, but most experts agree that fire was more frequent in savannas than in persistent woodlands.

Persistent woodlands, characteristic of rugged upland sites with shallow, coarse soils tend to have older and denser trees. Herbaceous vegetation within this community is typically sparse, even in the absence of heavy livestock grazing. Research from persistent woodlands provides strong evidence to support the theory that the natural fire regime of piñon-juniper woodlands was dominated by infrequent but high-severity fires and that FRIs may have been on the order of 400 years (Baker and Shinneman 2004; Romme et al. 2007). These findings are in stark contrast to previous estimates of piñon-juniper FRIs of 30 to 40 years (Schmidt et al. 2002; Smith 2000). The short FRI estimates were mostly inferred from FRIs of adjacent ponderosa pine ecosystems due to the scarcity of fire-scarred trees in these ecosystems.

In contrast to ponderosa pine, piñon pine and juniper produce relatively small volumes of litter. Understory fuels, either living or dead, must be sufficiently contiguous to carry a low-intensity surface fire. In the absence of fine surface fuels, fires that spread beyond individual trees have been most likely wind driven and spread from crown to crown (Romme et al. 2007). Fire extent has been greatest in higher-density woodlands and has been limited by both fuels and topography in sparse, low-productivity stands on rocky terrain. Most scientists agree that fire was more common in savannas and areas of expansion and contraction than it was in persistent woodlands, but debate remains on the exact range of fire frequency. Overall, frequent, low-intensity surface fires have not been the predominant fire regime in piñon-juniper woodlands. Therefore, fire exclusion may not have altered forest structure as dramatically in this forest type.


Source: Interagency Fuel Treatment
Decision Support System
Map Created on 3/6/2020
Mescalero
Tularosa
70
244
La Luz
545
Cloudcroft
82
Alamogordo
130
563
Boles Acres
24
Timberon
506
54
Fuel Models
NB3
NB8
NB9
GR1
GR2
GR3
GR4
GS1
GS2
SH1
SH2
SH5
SH7
TU1
TU2
TU5
TL1
TL2
TL3
TL4
TL5
TL6
TL8
SB1
SB2
Otero County, New Mexico
Fuel Models
Miles
0 4 8 16
Kilometers
0 10 20 40
N
1:800,000
FIRE MANAGEMENT
New Mexico

Increases in Fire Frequency

Although most of the County exhibits decreased occurrence of wildland fires compared to historical conditions, some areas within the County are at risk of experiencing an increase in fire occurrence and severity. Riparian ecosystems were historically shaped by natural hydrologic regimes. Native riparian vegetation is not adapted to fire, and fires did not typically occur within this ecological zone. As a result, fire can actually influence the composition and structure of riparian ecosystems (Ellis 2001). The ecology of this habitat type has changed significantly over time, as fire-adapted invasive species such as saltcedar and Russian olive have invaded many areas. Once saltcedar has been established at a location, it increases the likelihood that the riparian area will burn and, as a result, alter the natural disturbance regime. Saltcedar and Russian olive both sprout readily after fire, and although cottonwood will also regenerate after fire, it typically has limited survival of resprouting individuals. Studies have found that the density of saltcedar foliage is higher at burned sites than unburned sites within riparian areas (Smith et al. 2006).

It is also important to recognize that just because an area has been affected by a stand replacement fire, the risk of fire remains. With today's changing climate factors, without intervention, these areas may revert to grass or brush with a frequent fire return interval. As we begin to understand the impacts of climate change, it becomes increasingly important to proactively treat and manage the landscape.

Changes in Fire Severity

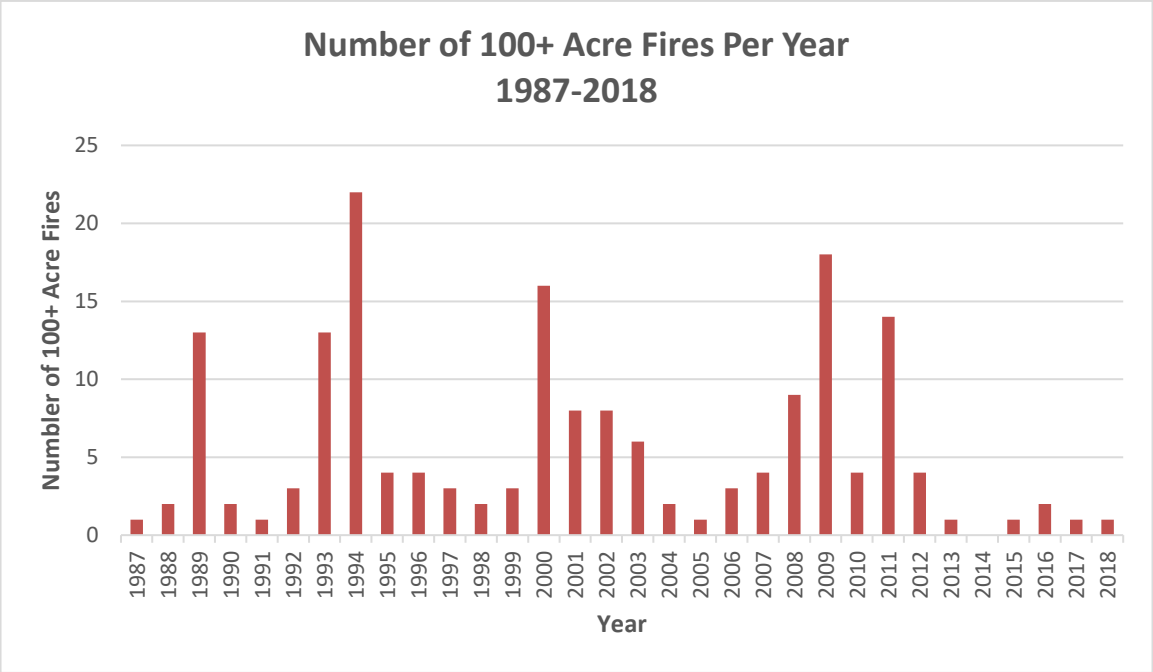
Fire severity refers to a fire's impact on an aspect of an ecosystem resulting from a combination of heat produced in the flaming front (intensity) and the duration of an area's exposure to heat. Areas that have experienced reduced fire frequency and a resultant increase in fuel loading are likely to experience more severe fires. Changes in climate are also likely to contribute to increased fire severity throughout the western United States. This may result in significant impacts to soil, runoff, the vegetation community, and the ecosystem at large.

Ignition Sources in Otero County

Human starts are often associated with roadside equipment or agricultural ditch or field burning, but could also be a result of arson. Lightning is common throughout monsoon season, which typically takes place from April through August. Most of these fires are detected early and suppressed before they gain acreage; however, given the right conditions, these fires may grow large and become difficult to suppress. Human ignitions are starting to increase, particularly in the WUI, with the development and improvement of roads, railroads, residences, and recreational opportunities into wildland areas.

Recent Fire History

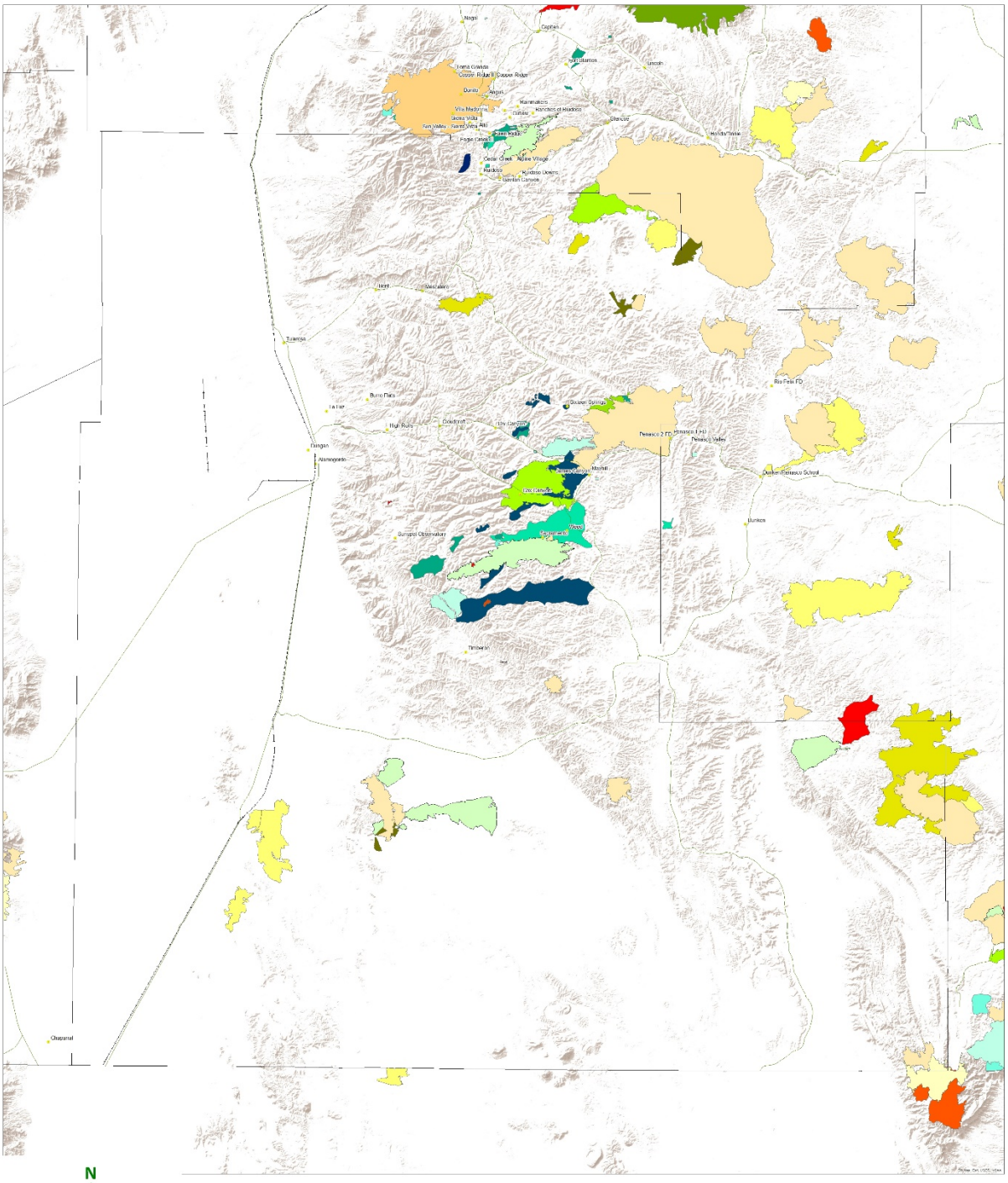
Wildfires can occur throughout the year and are typically suppressed before they gain any acreage. Multi-agency records document 1,134 fires in the County from 1987 to 2018. Most of these fires are quickly contained and are less than 100 acres in size. Within that period however, 177 wildfires grew to greater than 100 acres in size.



171 fires in Otero County grew to greater than 100 acres from the period of record 1987–2018.

From the graph, it is clear that peak fire years occurred in 1989, 1993, 1994, 2000, 2009 and 2011. According to climate summaries (Western Regional Climate Center 2014), these years experienced lower than average precipitation and higher than average temperatures. Wildfires are now possible in any season; however, the months of March and June have the highest occurrence (BLM 2010). The onset of the summer monsoons limits fire numbers in August and September.

From the documented period (1987–2018) there were 90 fires recorded that grew to over 1,000 acres, 22 of which that grew to over 10,000 acres. With all the data, it is possible that not all fires were reported to the NMSFD and are therefore not included in this record.



Otero Fire History 1940 - 2020

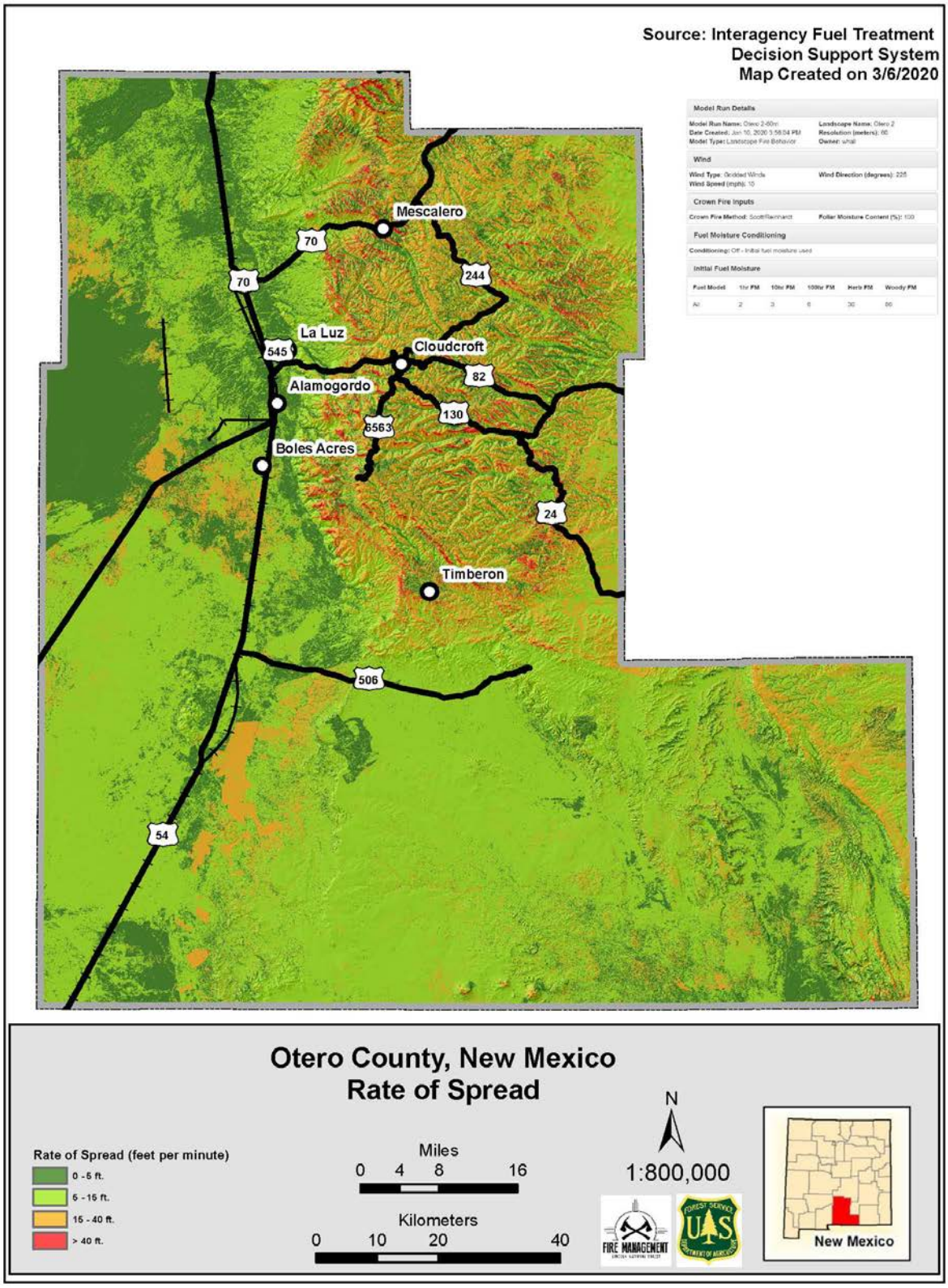
0 3.75 7.5 15 22.5 30
Miles

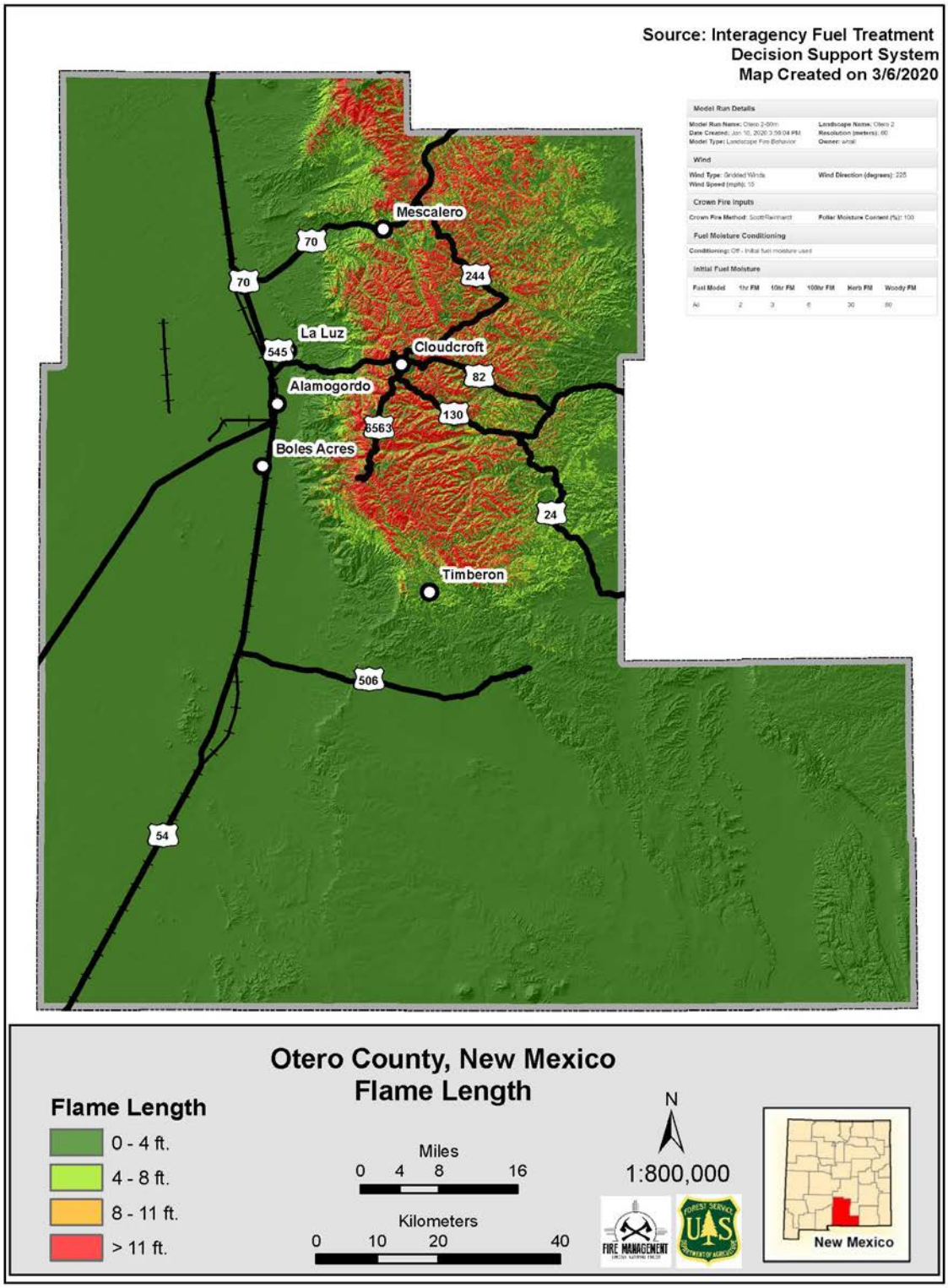
6. Current Conditions

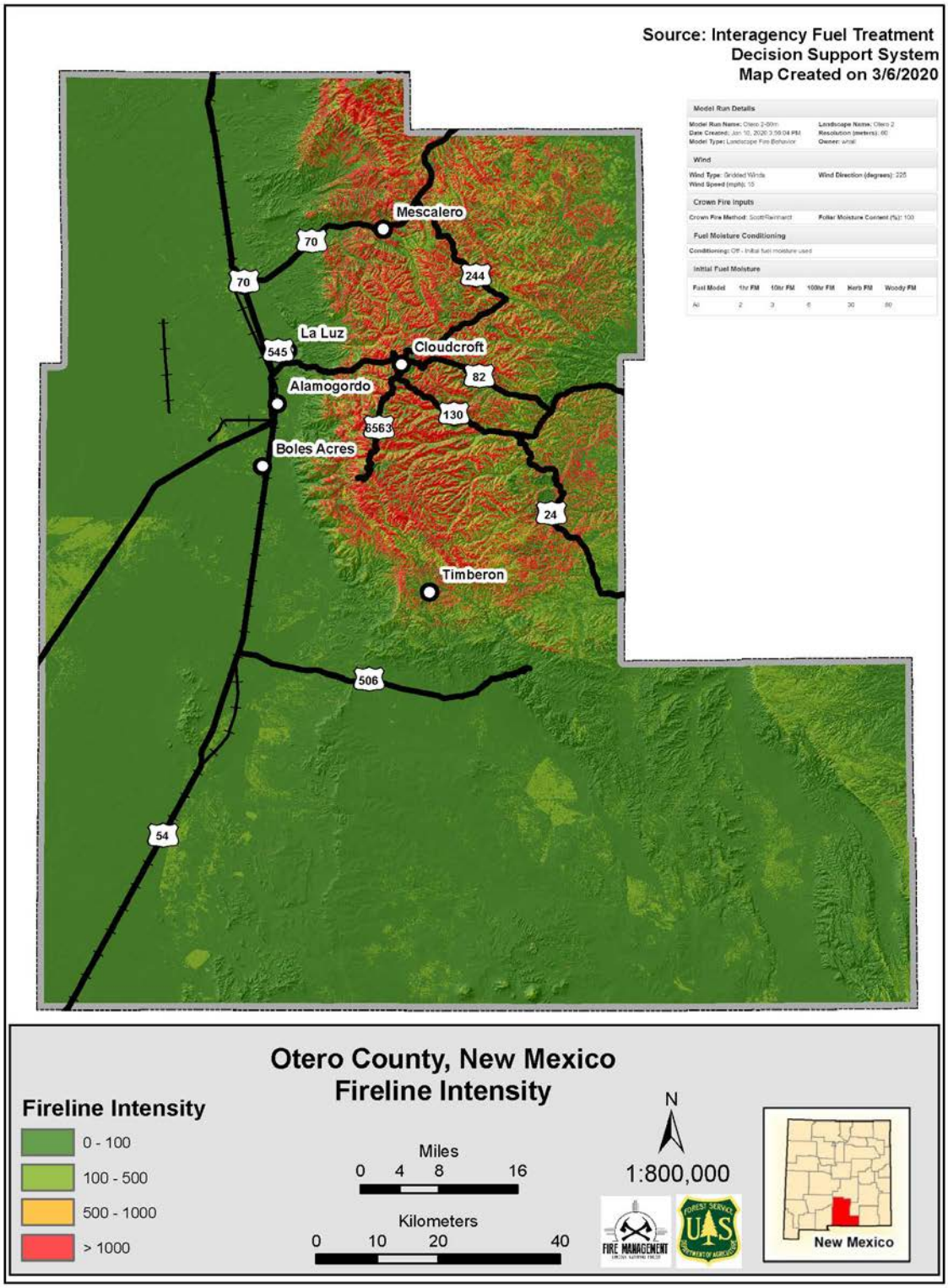
The majority of Otero County is dominated by a high desert, with grasslands, pinon juniper forests, ponderosa pine forests, and dry mixed conifer forests occurring at progressively higher elevations. Currently, forests are too dense with most stands in the County being overstocked, contributing to a high degree of departure from its historic range of variability (land fire dataset).

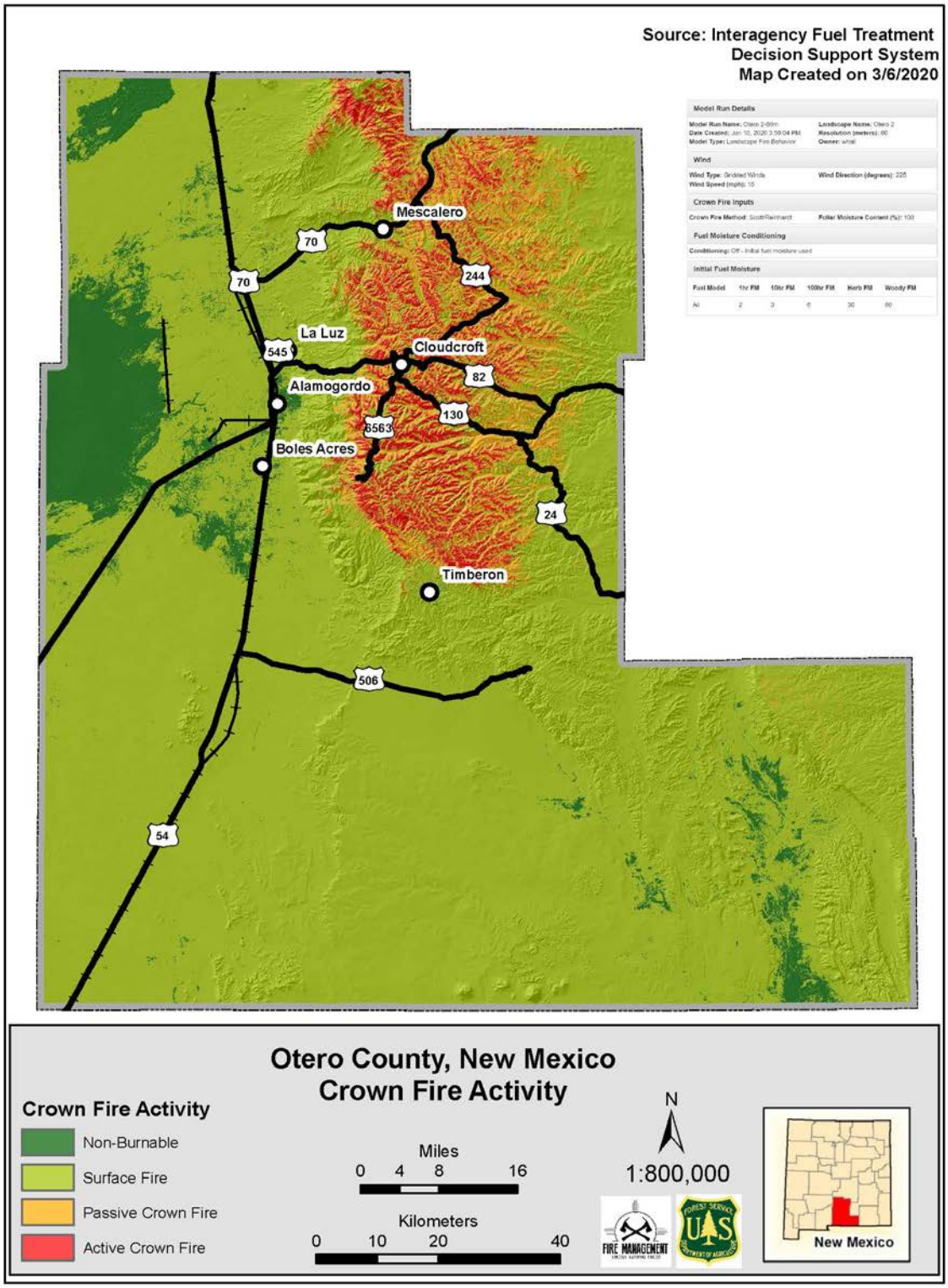
Otero County's wildland urban interface and areas of high fire risk are a mix of pinon juniper, ponderosa pine, and mixed conifer forest types. Limited amounts of riparian forests exist along waterways. Stand densities in untreated forest are higher than historical norms. As of 2014, beetle and insect damage are at epidemic proportions. This combination of insects, disease, drought, and fire caused stress are responsible for significant mortality in some stands/hillsides, and is expected to continue. This mortality increases fire risk while dead trees hold needles, and will contribute to increased fuel loading as dead trees fall to the forest floor. Treated areas (public and private land) have generally fared better then untreated land but are not immune to insects, disease, or drought. Current conditions around communities have improved largely due to thinning efforts, but much work remains to be completed. Vegetation on treated properties quickly grows back underscoring the need for continued maintenance.

The following maps show the Rate of Spread, Flame Length, Fireline Intensity and Crown Fire Activity for forested areas in Otero County.


Source: Interagency Fuel Treatment Decision Support System
Map Created on 3/6/2020
Model Run Details
Wind
Crown Fire Inputs
Fuel Moisture Conditioning
Initial Fuel Moisture
Mescalero
70
70
244
La Luz
545
Cloudcroft
82
Alamogordo
130
6563
Boles Acres
24
Timberon
506
54
Otero County, New Mexico
Rate of Spread
Rate of Spread (feet per minute)
0 - 5 ft.
5 - 15 ft.
15 - 40 ft.
> 40 ft.
Miles
0 4 8 16
Kilometers
0 10 20 40
N
1:800,000
FIRE MANAGEMENT
New Mexico


Source: Interagency Fuel Treatment Decision Support System
Map Created on 3/6/2020
Mescalero
70
70
244
La Luz
545
Cloudcroft
82
Alamogordo
130
6563
Boles Acres
24
Timberon
506
54
Otero County, New Mexico
Flame Length
Flame Length
0 - 4 ft.
4 - 8 ft.
8 - 11 ft.
> 11 ft.
Miles
0 4 8 16
Kilometers
0 10 20 40
N
1:800,000
New Mexico


Source: Interagency Fuel Treatment Decision Support System
Map Created on 3/6/2020
Model Run Details
Wind
Crown Fire Inputs
Fuel Moisture Conditioning
Initial Fuel Moisture
Mescalero
70
70
244
La Luz
545
Cloudcroft
82
Alamogordo
130
6563
Boles Acres
24
Timberon
506
54
Otero County, New Mexico
Fireline Intensity
Fireline Intensity
0 - 100
100 - 500
500 - 1000
> 1000
Miles
0 4 8 16
Kilometers
0 10 20 40
N
1:800,000
FIRE MANAGEMENT
New Mexico


Source: Interagency Fuel Treatment Decision Support System
Map Created on 3/6/2020
Model Run Details
Wind
Crown Fire Inputs
Fuel Moisture Conditioning
Initial Fuel Moisture
Mescalero
70
70
244
La Luz
545
Cloudcroft
82
Alamogordo
130
6563
Boles Acres
24
Timberon
506
54
Otero County, New Mexico
Crown Fire Activity
Crown Fire Activity
Non-Burnable
Surface Fire
Passive Crown Fire
Active Crown Fire
Miles
0 4 8 16
Kilometers
0 10 20 40
N
1:800,000
New Mexico

7. Desired Conditions

The county and other land management agencies continue to thin the landscape in an effort to reduce hazardous fuel. Strategically located public land has been treated by government agencies, and private land has been treated by landowners often with the assistance of government grant programs. The desired conditions around structures include defensible space with a minimum cleared area extending 30 feet from the structure. Additional clearance is desirable if appropriate. A variety of fuel treatment strategies are needed to reach the desired conditions. Treatment types include mechanical removal, mastication, bulldozer pushes, piling, hand work and prescribed burns. The Otero Working Group helps to coordinate activities between land management agencies..

In open areas away from structures, the silvicultural prescriptions that guide fuel treatments are generally designed to improve forest health, reduce fire risk, and improve forest resiliency. Specific objectives vary based on the location of the treatment and jurisdiction, but generally will reduce basal area and increase crown spacing with removal desirable. Most treatments on private land within the WUI are implemented with financial and or technical assistance from NM State Forestry. Treatments are focused on implementing defensible space around structures, and improving forest health and reduction of fire risk in and around communities.

USFS treatments take a holistic approach and focus on resiliency. Silvicultural prescriptions incorporate grazing, wildlife management, and utilization objectives. The USFS prescriptions will often incorporate burning during second or third entries and commit staff time and resources for burning operations to further reduce fuel loading. One of the more recent guidelines the USFS uses to guide restoration efforts is “Restoring Composition and Structure in Southwestern Frequent-Fire Forests: A science-based framework for improving ecosystem resiliency”. These guidelines can be applied to the forested areas found in Otero County.

Prescriptions for fuel treatments are variable and largely based on forest type and specific treatment objectives. Further, prescriptions are site specific, based on access, site index, slope, aspect, and hydrology, proximity to structures, communities, and jurisdiction. For this reason this CWPP update will not provide specific prescriptions for individual treatments.

8. Community Wildfire Hazard Risk Assessment

As part of the original 2014 CWPP planning process, the Core Team compiled a list of communities within the planning area. The 2020 Core Team felt the list of communities provided in the 2014 process remained accurate and opted to use the same list. In order to properly assess the hazards in and around these communities, field visits were implemented to carry out community assessments. The purpose of the community WUI assessment and subsequent hazard ratings is to identify fire hazard and risks and prioritize areas requiring mitigation and more detailed planning. These assessments should not be seen as tactical pre-suppression or triage plans. The community assessment helps to drive the recommendations for mitigation of structural

ignitability, community preparedness, and public education. The assessment also helps to prioritize areas for fuels treatment based on the hazard rating.

Community Hazard Ratings

Community/ Fire Department	1144 Score	Hazard Rating
La Luz	82	High
Burro Flats	82	High
High Rolls/Mountain Park	98	High
Cloudcroft	134	High
Sunspot	132	High
Mescalero	96	High
Bent	116	High
Village of Tularosa	66	Moderate
Dungan VFD District	91	High
Alamogordo	66	Moderate
Timberon	144	High
Weed	84	High
Mayhill	130	High
U.S. Highway 82 Corridor	138	High
Sixteen Springs	98	High
Cox Canyon	96	High
James Canyon	100	High
Dry Canyon	102	High

Risk Rating Classification:

<40 = Low

40–69 = Moderate

70–111 = High

Each community was rated based on conditions within the community and immediately surrounding structures, including access, adjacent vegetation (fuels), defensible space, adjacent topography, roof and building characteristics, available fire protection, and placement of utilities. Where a range of conditions was less easily parsed out, a range of values was assigned on a single assessment form. Each score was given a corresponding adjective rating of low, moderate or high.

It should be noted that when considering fire response capabilities for communities in the County, all firefighting agencies have automatic aid agreements and will respond to any other district in the County when needed.

Please refer to the 2014 CWPP for a comprehensive list of the communities including the assessment criteria, evaluation and recommendations. All recommendations discussed remain relevant to the communities in Otero County.

All of the communities found with the Wildland Urban Interface recognize the importance of removing potential wildfire fuels via thinning projects.

Recommendations for Fuels Reduction Projects

The purpose of any fuels reduction treatment is to protect life and property by reducing the potential for catastrophic wildfire, as well as to restore landscapes to a sustainable and healthy condition. Moderating extreme fire behavior, reducing structural ignitability, creating defensible space, providing safe evacuation routes, and maintaining all roads for firefighting access are methods of fuels reduction likely to be used around communities located in a WUI zone. Use of multiple treatment methods often magnifies the benefits.

The majority of the treatments are focused on high or extreme risk areas, as defined by the Composite Risk/Hazard Assessment, Core Team collaboration, and public input. Many of these treatment recommendations are general across the communities because similar conditions and concerns were raised for all communities that border wildland areas. A list of the recommendations can be found on pages 41-44 of this update.

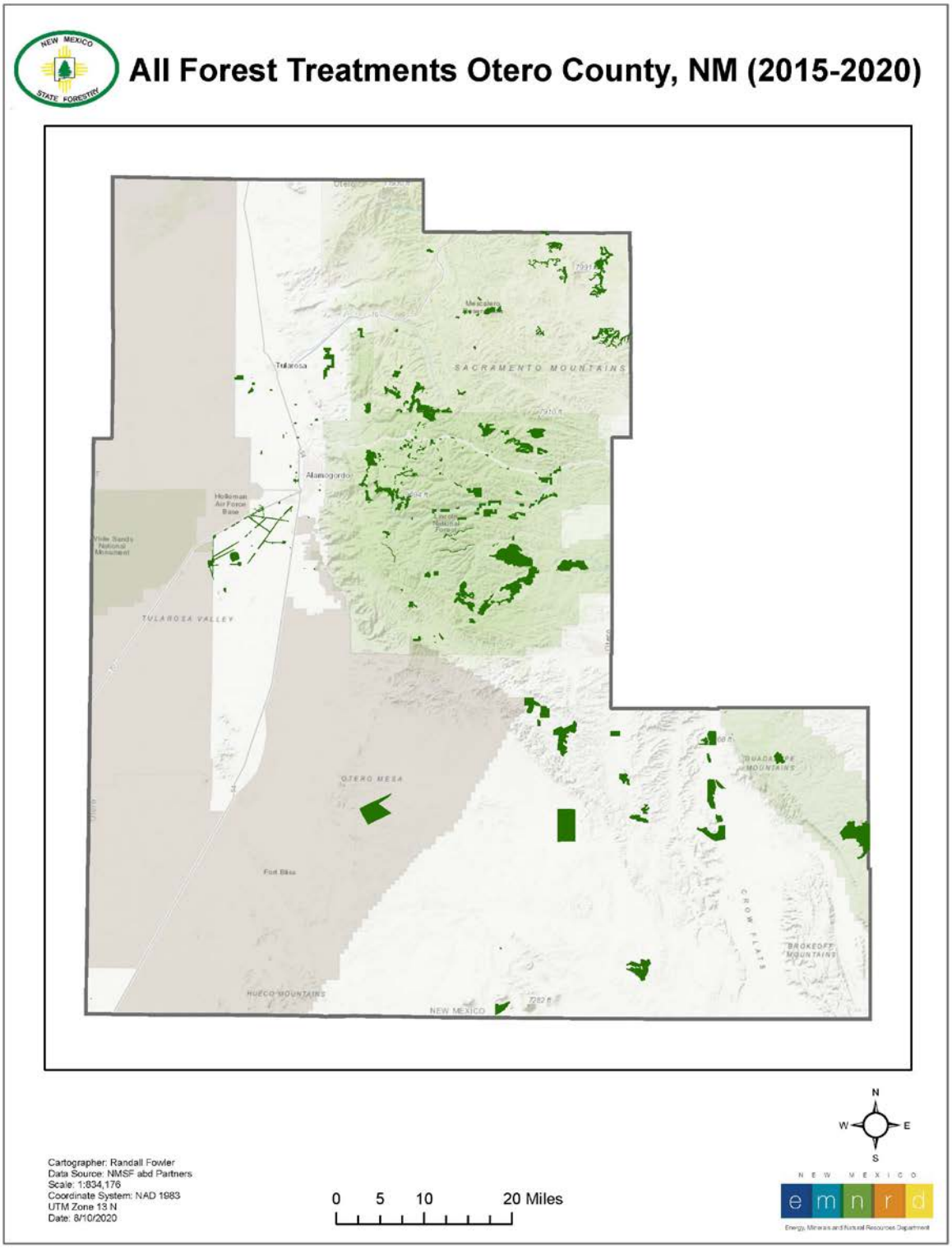
Fire management cannot be a one-size-fits-all endeavor; this plan is designed to be flexible. Treatment approaches and methods will be site-specific and should be adapted to best meet the needs of the landowner and the resources available. Moreover, each treatment recommendation should address protection of CVAR particularly the protection of threatened and endangered species. In 2014 the Otero Working Group agreed upon basic treatment goals and priorities, which hold true for this 2020 update:

1. Accelerate hazardous fuels reduction projects on public, private, state trust, and tribal lands in the identified areas using the best available science regarding wildfire hazard reduction.
2. Identify and mitigate legal and policy barriers to fuels reduction and ecological restoration projects across jurisdictional boundaries. Develop means to streamline procurement, funding mechanisms, and administrative processes.
3. Promote and support existing and emerging forest-based utilization industries. Offset government spending on restoration and fuels reduction projects.
4. Develop a protocol to integrate baseline data collection with short- and long-term monitoring on fuels mitigation, forest restoration, and fire rehabilitation projects. Create a mechanism for tracking outcomes and incorporating findings into the decision-making process.
5. Support, maintain, and develop a professional and technical labor force in governmental and private industries to accomplish ecological restoration and fuels reduction activities.
6. When designing CWPP projects, integrate watershed management in the decision-making process.

9. Community Accomplishments & Wildfire Mitigation Efforts

The stakeholders in Otero County have been working with one another for many years. Over this time, great strides have been made in reducing the wildfire risk around the community.

Various entities in Otero County have conducted hazardous fuel reduction projects and have treated over 129,406 acres since 2014. Treatments have occurred on National forest System lands, Tribal lands, BLM lands, State trust lands, Municipal lands, and private property.



A. Local Fire Suppression Resources

Otero County has multiple land management agencies and fire departments that respond to emergency incidents. Incidents are managed by different agencies depending on the jurisdiction. If additional resources are needed for a wildfire resources from multiple agencies are called in for assistance. Under certain circumstances joint command or incident management teams are used to manage wildfire incidents. Large incidents will require more resources, but the local resources listed below can respond quickly to wildfires in Otero County. Otero County and the Village of Cloudcroft have both signed Joint Powers Agreements with the New Mexico Resource Mobilization Plan.

NAME	UNIT#	RESOURCE NAME	TYPE	YEAR	EQUIPMENT DESCRIPTION	GPM/GAL
Bent Rural FVD						
	1652	Command		2003	Ford Expedition 4X4	
	1651	Command		1999	Chevy Suburban 2500 4X4	
	164	Command		2005	Ford F150 Ex-Cab 4X4	
	1655	Command		2006	Jeep Liberty 4X4	
	1610	Engine	1	2005	Freightliner 4X2	
	1630	Engine	6	1997	GMC 3500 4X4	
	1611	Engine	1	1992	Pierce Rescue/Pumper	
	1620	Tender/Support	2	1990	Freightliner	
	1621	Tender/Support	2	2011	Peterbilt	3000
					Fold A Tank	3000
		Medical			Ambulance	
	1641	Rescue/MedTec		2004		
Burro Flats Rural VFD						
	1451	Command		2001	Chevy Suburban 4X4	
	1453	Command		2006	Ford F150XL 4X4	
	1452	Command		2009	Ford Explorer XLT 4X4	
	1410	Engine	1	1989	Luverne Com. II Ford MHV 4X4	
	1431	Engine	6	2010	Ford F550 4X4	
	1411	Engine/Tanker	1 or 3	2015	Peterbilt 340 Tanker	
	1421	Tender	3	1984	Western Star	
	1422	Tender	1	2010	Peterbilt 340 Tanker	
					Fold Tank	2000
					Fold Tank	2000
	1441	Medical Rescue	1	1997	Ambulance Chevy Horton	
	1440	Medical Rescue		2006	Ford RPC Rescue Vehicle	
Cloudcroft Municipal VFD						
	10	Brush	6	2007	Dodge Ram 3500/Pump and Roll	95/350
	15	Command/Utility		1995	Chevy Tahoe	
	12	Tender/Structure	3 or 1	1986	Chevy	1000/1000
	11	Brush	6	1985	Ford/Pump and Roll	250/350
	14	Engine	1	1998	Pierce Freightliner	1000/750
Farsouth Rural VFD						
	2051	Command		2004	Dodge Durango	
	2011	Engine	1	1989	Luverne Pumper	
	2031	Engine		1995	Humvee Fire Vehicle	
		Engine		1998	Chevy 3500 Brush Truck	
	2010	Engine	1	2001	Navistar 4900 Pumper Rosenbauer Class A	
	2012	Engine	1	2008	Pumper	
	2020	Tender	1	2006	Freightliner M2016	
	2040	Medical Rescue			Ambulance	
				1996	Ford CVS IE	
	2045	Medical Rescue		2011	Ford F550 4X4 Crew Cab	
Jack Rabbit Flats Rural VFD						
	2451	Command	3	1983	Chevy Silverado	
	2452	Command		1997	Ford F150 Pick Up	
	2453	Command		1997	International Rescue Chevy Silverado	
		Command		2006	2500HD Diesel Turbo 4WD	
	2412	Engine	1	1984	Hend Pumper	
					HME Custom Silver Fox	
	2412	Engine	1	2017	Model	
	2414	Engine	1	1992	GMC Laverne	
	2415	Engine	1	1995	Kova KME Pumper	
					Rosenbauer Freightliner	
	2411	Engine	1	2009	Pumper	
					Ford F450 EXT AB 4X4	
	2430	Engine	6	2008	Brush Truck	
					Stewert Stevenson (LMV)	
	2432	Engine	5	1997	Brush/Cargo	
		Engine	1		GMC 6000	
	2421	Tender	3	2002	International 4900	

Jack Rabbit Flats Rural VFD (cont)						
	2425	Tender	3	2005	Freightliner	2000
	2420	Tender	2	2012	Peterbilt Super Tanker	3000
					Fold A Tank	3000
					Fold A Tank	2000
La Luz Rural VFD						
	401	Command		2003	Chevy Suburban	
	450	Command		2003	Ford Expedition	
	451	Command		2001	Chevy Tahoe 4X4	
	410	Engine	1	1999	HME Fire Truck Pumper	
	418	Engine		1994	Simom Suplex LT1	
	431	Emgome	6	1994	GMC 3500 Brush Truck	
	422	Tender	2	2006	Freightliner Tanker	
					Fold A Tank	3000
					Fold A Tank	3000
	440	Medical Rescue		1996	Ford COF Rescue F350	
Oro Vista Rural VFD						
	745	Command		1997	Rescue Vehicle Ford SVI	
	747	Command		2002	Ford Taylor Made Rescue	
	753	Command		2003	Dodge Durango SXT 4X4	
	751	Command		2008	Ford F150 Supercab 4X4	
	752	Command		2011	Ford 3/4 Ton Short Wheel Base 4X4 Crew Cab	
	713	Engine	2	1989	Kova KME Pumper	
	711	Engine	1	1999	Freightliner/Pierce 4 Dr	
	731	Engine	5	2012	Ford F550 Brush Truck	
	739	Engine	7	2016	Polaris ATV SID Unit	
	712	Engine	2	1982	Ford Tele Swuirt Ladder Trk	
	721	Tender	2		Peterbilt 340 Tanker	
					Peterbilt 348	
	720	Tender	2	2012	Pumper/Tanker	
					Fold A Tank (QTY-2)	3000
					Ambulance Chevy	
	740	Medical Rescue		1996	McCoy/Miller Rescue	
Pinon						
	1350	Command		2008	Ford F350 Crew Cab Diesel	
	1330	Engine	6	1989	Ford 350 LA Grange Mini Utah	
	1310	Engine	1	1995	Freightliner	
	1331	Engine	5	2014	Ford F550 FSH Brush Truck	
	1320	Tender	2	2002	Freightliner	
Sixteen Springs Canyon Rural VFD						
	1751	Command		2003	Chevy 1/2 Ton Ext Cab 4X4	
		Command		2004	Ford Super Duty F250 SRW	
	1711	Engine	1	1998	Freightliner	750/GPM
	1731	Engine	5	2012	Ford F 550 Brush Truck	
		Engine	7	2016	Polaris Ranger 6X6 Sage	
	1720	Tender	1T or 3	2004	Freightliner Tanker Tactical	2000
					Fold A Tank	2000
	1740	Medical		1991	Ambulance Chevy Van 4X4	
Timberon						
	1551	Command		1978	Chevy Rescue Vehicle	
	1552	Command		1994	Chevy Suburban K1500	
	1555	Command		1996	Ford Bronco 4X4	
	1557	Command		2008	Dodge Ram 1500 Crew Cab	
	1534	Engine	6	1987	Ford F350 4X4	
	1531	Engine	6	1993	Chevy K3500 Mini Pumper	
	1517	Engine		1997	International 40S	
	1533	Engine	5	2001	Ford S-Duty F550	
	15113	Engine	1	2002	Freightliner Streamline Pumper 4X4	1250/GPM
	1515	Engine		2014	HME Fire Truck Pumper	
	1542	Medical Rescue		1987	Ford Rescue Vehicle	
	1541	Medical Rescue		2000	F350 4X4 MR	

B. Interagency Fuels Treatment Basemap

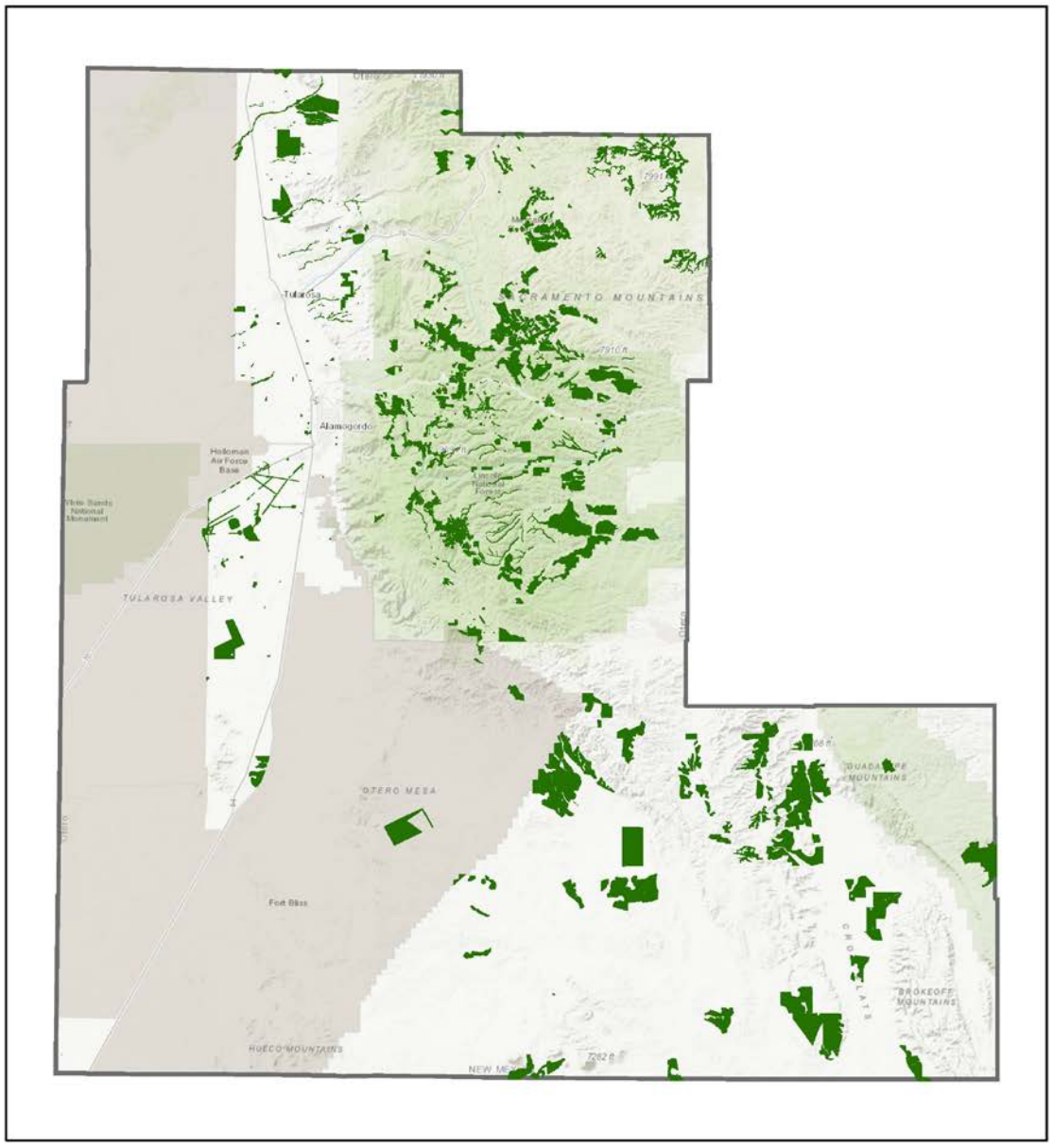
The agencies participating in the Otero Working Group have been using the group as a forum to plan and design projects. Working on adjacent land across jurisdictional boundaries has greater impacts on reducing landscape scale fire risk then smaller disjointed projects. The agencies (USFS, State Forestry, BLM, Mescalero BIA, SCM RC&D), have shared their fuel treatment data with one another and have submitted GIS files to be aggregated into an interagency fuels treatment GIS database on a yearly basis. New Mexico Highlands University via the New Mexico Forest and Watershed Institute is the repository for this information. Information can be found at: https://www.nmfwri.org/gis-projects/nm-vegetation-treatment-mapping.

The Community fuels treatment basemap shows land jurisdictions and where fuel treatments and fires have occurred. The forest treatment map on page 32 shows treatments completed from 2009 through 2020. It is frequently updated and used as a planning tool to help track accomplishments, identify areas of concern, and help plan future projects. These maps are used internally, during interagency coordination efforts, and during public meetings so agencies and the public can see where work has been done and where additional work needs to occur.

C. Otero Working Group

The Otero Working Group brings together local state, and federal agencies in Otero County. The group meets bi-monthly and meetings are open to the public. Current efforts and initiatives are discussed and the group represents the collaborative effort for fuels planning in the County. Agency representatives use the group to report on current projects and plan future projects. By making others aware of agency efforts, initiatives, and opportunities the group increases the scale of local mitigation. The working group has an assessment and outreach subcommittee that reviews completed projects and helps coordinate public outreach events respectively.

All Forest Treatments Otero County, NM (2009-2020)



Cartographer: Randall Fowler
Data Source: NMSF abd Partners
Scale: 1:834,176
Coordinate System: NAD 1983
UTM Zone 13 N
Date: 8/10/2020

0 5 10 20 Miles

NEW MEXICO emnrd
Energy, Minerals and Natural Resources Department

D. Grants

Mitigating wildfire risk in the community is a large and often expensive undertaking. The area uses state and federal grants to acquire financial and technical assistance in order to implement a variety of projects. Funding comes from a variety of sources and often has different requirements depending on the specific opportunity and funding agency. In addition to agency funding, members of the GRA WUI working group continue to seek out sources for additional funding and work collaboratively on applications. The table below identifies some of the grants the community has utilized to mitigate wildfire risk across the landscape.

Grant Name	Funding Agency	Applicant	Frequency	Approx Funding
WUI Cost share	Western Governors Association	County/ SWCD/ VOR	Yearly	$250,000
Non Federal land	USFS Regional/ State Forestry	County/ SWCD/ VOR	Yearly	$250,000
RAC	USFS	SCM RC&D	One Time	$72,000
Collaborative Forest Restoration Program	USFS Regional/ State Forestry	SCM RC&D	3 Year	$350,000
CWPP update	NMAC	SCM RC&D	1 Year	$15,000
Wildfire Outreach	NMAC	SCM RC&D	1 Year	$10,000

E. Sierra Blanca Wildland Fire Training Academy

The Sierra Blanca Wildland Fire Academy is a collaborative effort between local fire managers and has been training regional firefighters since 2001. The academy was set up to provide a low cost option to train firefighters. Structure firefighters can cross train in wildland fire, and volunteer departments can receive NWCG training opportunities without having to travel far. The academy is organized locally by members of the USFS, municipal, and county fire departments and helps to make sure firefighters receive the proper training. This interagency collaboration during training also improves coordination during wildfire incidents.

F. Sacramento Mountains Wildfire Academy

For the past 16 years, the Volunteer Fire Departments of Otero County have hosted the Sacramento Mountains Wildfire Academy. Their goal is to annually provide the best and most efficient schedule of courses to graduate, support and expand the knowledge of qualified wildland firefighters through the Single Resource Level (ie. Engine Boss) while also offering a variety of community outreach courses relating to personal safety and the expansion of the public's knowledge of the Firefighting/EMS field. Information about the Sacramento Mountains Wildfire Academy can be found at: http://www.smwa-cloudcroft.com/.

G. Slash Disposal

Slash disposal is often the most expensive part of reducing the fuel load on a piece of ground. The community has been developing small scale utilization and some of the removed material has found its way to local sawmills, bear carvers, fuel wooders, and composters, however the current market for biomass cannot support the supply creating a bottle neck and expense for county and village residents. This disconnect means slash disposal is often expensive, which has resulted in higher costs for mitigation efforts, less material being removed from treatment areas, and in some cases, illegal dumping. Most residents must dispose of the material themselves or hire a contractor which has its own set of difficulties. Members of the working group are working on producing pile burning guidelines for the public to safely burn slash as an additional option for disposal. There is a burn pit located in Cloudcroft that can be used by local residents.

H. Sustainable Forestry Funding

The wildfire problem the area faces is only going to get worse as our communities grow and the fuel loads in our forests increase. Mitigation efforts are targeted and can protect communities and infrastructure but as a whole the problem continues to get worse. Most mitigation funding comes from the federal government and as a result funding levels are uncertain from year to year and based on national economic conditions. Several communities across the western United States with similar wildfire hazard issues have recently looked to more local, consistent, and sustainable funding options to secure the money required to address the wildfire problem. Santa Fe has implemented a fee on resident's water bills which goes to reduce fuel load in the watershed. Flagstaff passed a long term bond to secure millions of dollars in funding. Assessing a fee locally, while unpopular, may work for Otero County and would provide increased and more certain funding for mitigation efforts. This certainty of future funding would encourage private investment, and utilization and should reduce the cost of these efforts.

I. Education & Outreach

Otero County, land management agencies, community groups, and the local university cooperate with one another on education and outreach through the Otero Working group and its outreach efforts. This is a coordinated approach to educate residents and visitors about forest health and wildfire risk. The outreach plan involves several methods to reach the widest audience possible and includes, radio spots, news articles and opinion pieces, community workshops, and displays and presentations at community events such as the Otero County Fair. The components of the outreach plan are flexible as members of the working group take advantage of outreach opportunities as they arise. Successful events are repeated, and new opportunities are explored. The outreach and community education efforts pull from national resources, including Firewise, Ready Set Go, and other local resource specialists. Outreach promotes a variety of wildfire risk related topics, including defensible space concepts, what to do in an emergency, forest health, insect epidemics, drought and watersheds, prescribed fire use, and utilization and disposal of cut

material. The efforts and contributions from multiple agencies and stakeholders form a coordinated and well-rounded approach and will continue outreach activities with oversight from the GRA working group.

10. Community Priorities

Otero County, NM State forestry, the USFS, the BLM, the Mescalero Apache Tribe, and private individuals have been implementing fuel reduction projects for many years but the risk of wildfire remains inherent. Despite these treatments the county continues to experience wildfires. Areas close to homes and communities, and areas within critical watersheds are especially important to protect. While the dominant fire spread direction comes from the southwest there is much variation, and several of the large fires have had fire heads which have moved south and or west. Members of the Otero Working Group and representatives from land management agencies continue to discuss the local fuel treatment priorities.

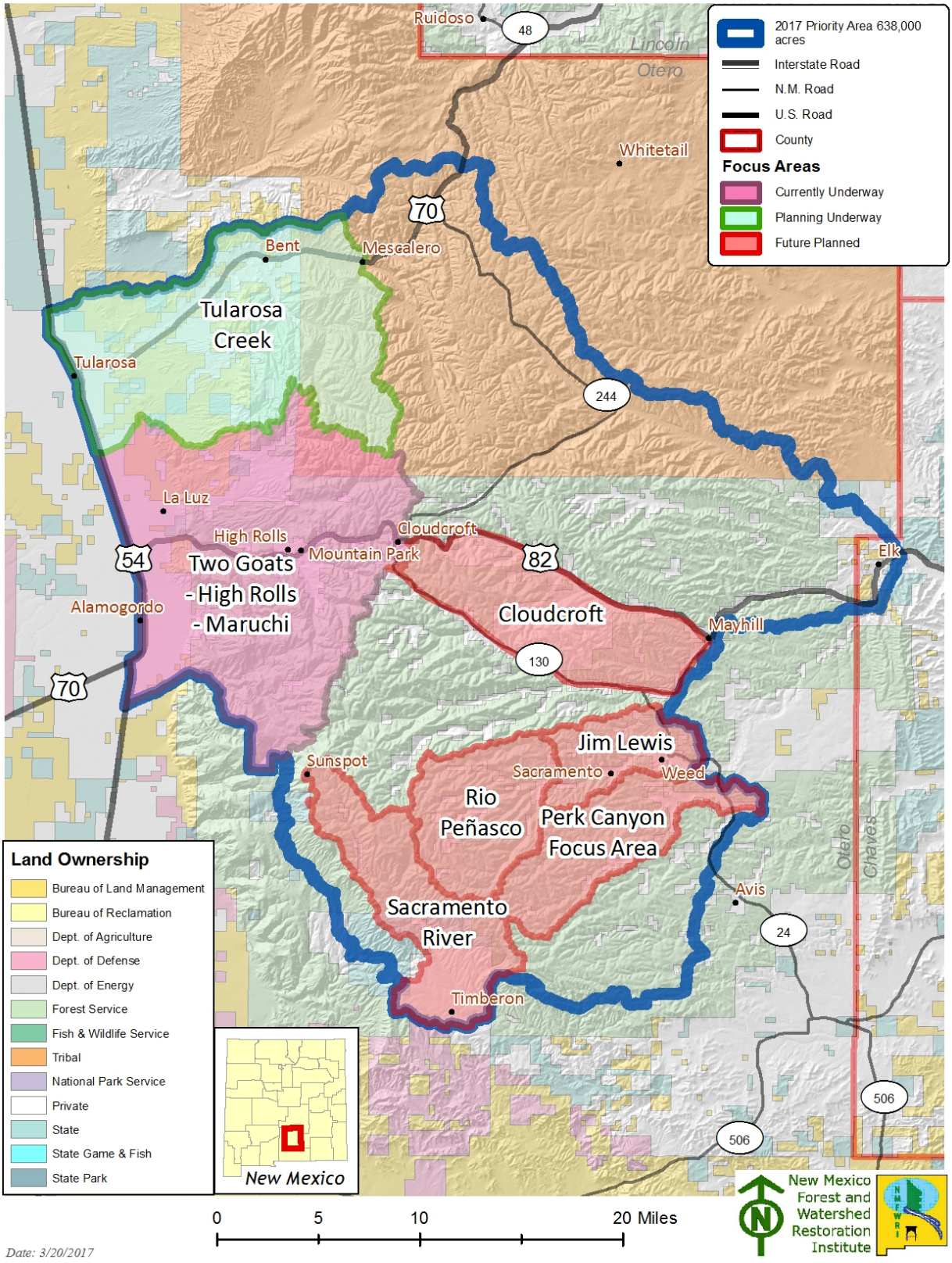
While every piece of ground is important and could potentially burn, priority areas have been selected by the core team and include;

A. Set of Conditions Used to Establish Priorities

- Incorporated and unincorporated communities in the county: Some communities have been identified by New Mexico State Forestry as Communities at Risk, although additional communities and subdivisions exist. Treatments should focus on the south and west sides of communities, although treatments on the north and east side are also priorities.
- Tribal Lands
- Large private properties (greater than 10 acres).
- Current or planned USFS and State Forestry projects throughout the County
- Areas of untreated land adjacent to previous treatments.
- Areas within and adjacent to highways, roads, evacuation routes, and utility right of ways.
- Untreated State Trust land with environmental clearance.
- Areas deemed as strategic locations to protect infrastructure and values at risk including; utilities, wells, schools, radio towers, wildlife habitat, and areas of commercial value.
- Maintenance of areas that have previously been treated to reduce hazardous fuels.
- Impaired and or critical watersheds.
- Highly populated areas.

2017 Focus Areas

Otero Working Group



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11. Community Involvement & Outreach

Each of the communities in Otero County have been encouraged to develop their own specific mitigation plans. As development continues, local planning and zoning committees will encourage developers to provide subdivision specific CWPPs as part of their planning process.

Several communities and governmental entities have already developed wildfire protection plans, comprehensive plans and emergency plans. Because these documents are quite lengthy, they are not included in their entirety in this document. However, each was examined and used as a reference in compiling this updated Community Wildfire Protection Plan for Otero County. These resources are available by contacting the following individuals:

- 2018 Mescalero Agency Community Wildfire Protection Plan: John Montoya, Fire Management Officer, Bureau of Indian Affairs, Mescalero Agency – John.Montoya@BIA.gov
- This document remains in draft form as it has not formally been signed.
- 2005 Otero County Comprehensive Plan: contact Otero County offices
- Village of Cloudcroft Hazard Mitigation Plan and Emergency Operations Plan: Susan Dreikosen, Fire Management Officer -

As part of the CWPP process, we developed a survey to assess the needs of Otero County residents – both real and perceived. We reached out to people at events like the Otero County Fair. Respondents could fill out the survey there, or go to SurveyMonkey.com and answer the questions on line. A copy of survey is included in the appendix.

Due to the Covid-19 pandemic, in-person public meetings were limited. We were able to conduct a meeting with the Otero County Fire Chiefs and received their input. The Otero Working Group continue to provide input throughout the process as they conducted meetings via conference call and zoom. We also reported to the Otero County Commission as the work progressed, and the Commission solicited public input during the approval process. In lieu of the planned public meetings, the survey was posted to both the Otero SWCD website at https://www.oteroswcd.org/ under “Public Comment Opportunities”, and the Otero County website at https://co.otero.nm.us/.

A total of 52 surveys were completed. The survey results showed that area residents feel that their properties are prepared for a wildfire, but they are very concerned about the surrounding properties. 83.3% of respondents felt their home was vulnerable to wildfire because of surrounding fuels on neighboring properties. Going hand in glove with this statistic, 70.45% said their biggest challenge to making their home fire safe was “neighboring properties that I have no control over”. 71.74% said Community Education was very important. The full results of the survey can be found in the appendix.

Engaging interested parties is critical in the CWPP process because substantive input from the public will ensure that the final document reflects the highest priorities of the local community. A key element in the CWPP process is the meaningful discussion generated among community members regarding their priorities for local fire protection and forest management.

A greater public involvement process was planned to engage the public in discussion about the CWPP. Unfortunately, the restrictions encountered by the Covid-19 pandemic led to more distant communication. Reports were made to the Otero County Commission and meetings were conducted via teleconference. Because of these restrictions, the survey became an important tool in hearing from the public.

12. Structural Ignitability

Structural ignition during wildfire incidents leads to the loss of structures including residential homes, and commercial buildings. The concept of the home ignition zone, which includes the home itself and the area immediately surrounding it (approximately 100 feet) are largely responsible for whether or not the home is ignited. Homes are often ignited by the ember wash and not the flame front of the fire itself. Embers and burning debris find their way to pile of dried grass under a deck, or into the attic through a hole in the homes eaves, smolder for up to 24 hours, and then ignite the home. Much research has been conducted to understand the science behind home ignitions, and much can be done to reduce the probability of home ignitions. The national Firewise program, recommends a variety of building materials, techniques and landscaping that can reduce the probability of structural ignition. Additionally, the International Wildland-Urban Interface Code (IWUIC) provides a set of building codes that may reduce structural ignitions from wildfire risk. Otero County has not adopted the IWUIC but do promote voluntary programs like Firewise to reduce the risk of structural ignition. Adapting components of the IWUC would further reduce the likelihood of structural ignitions during wildfire incidents. The CWPP core team recommends the continued promotion of Firewise principals and would support the adoption of IWUIC building codes by the county and its municipalities.

13. Recommendations

The following general actions are proposed to reduce wildfire risks and hazards. Project recommendations are based on interviews with county fire chiefs, municipal fire chiefs, federal and state fire management officers, field observations, and questionnaire responses.

- Encourage the development of defensible space around structures, utilities stations, communication towers and other structures at risk to wildfire. These efforts should be accompanied by public education and outreach.

- Grass and weed abatement needs to occur throughout the county. A common fuel hazard is herbaceous weedy vegetation. Native and non-native weedy grasses and forbs become flashy fuels as they dry in the late summer and fall. Also as the drought persist these

conditions also present high fire danger in early spring. These fine fuels ignite easily and burn rapidly. Herbaceous fuels are common and widespread in the WUIs. Herbaceous fuels occur among structures, along roads and driveways, and in fallowed fields and abandoned lots.

- Mowing along highways and roads will create fuel breaks. Highway and roads are linear features that provide a break to fuel continuity. Mowing to a minimum distance of 6 feet along each side of highways and roads will enhance their usefulness as fuel breaks, and reduce the chance of fire ignitions from vehicles or discarded smoking material. All communities have expressed a high concern of this situation. They would also recommend that a public outreach program addressing this issue be implemented.

- Community education and public outreach is an effective means to initiate local action to reduce wildfire risks and hazards. Community outreach could occur through each WUI to achieve improved awareness of wildfire issues such as creation of defensible space around structures.

- Residents of Otero County should be encouraged to sign up for the Reverse 911 system to keep informed about emergencies. The Reverse 911 system is a citizen notification method that will automatically convey to the citizens of Otero County important information in the event of an impending or occurring emergency via telephone communications. The system utilizes telephone company listings and addresses to place calls to residences in specific areas or county wide. Telephone companies do not maintain data bases for cellular phones that include addresses. If you wish to receive emergency messages on a cellular phone, you must register. You can register online by visiting: https://co.otero.nm.us/256/Reverse-911. If you do not have internet access, you can complete a Reverse 911 Self Registration Mail In form and return it to the Sheriff's Office in Alamogordo, NM.

- Training of the County Fire Districts (CFDs) and Municipal Fire Districts (MFDs) is an ongoing need. National Wildfire Coordination Group (NWCG) annual training need to occur. Nearly all fire districts have wildfire fighters trained at the Firefighter 2 level but there is a need for training at the Firefighter 1 and Engine Boss level. Because many volunteer firefighters work during the week, training should occur on weekends. The county is fortunate to have the Sierra Blanca Fire Academy to provide needed training.

- High priority for all fire departments is to develop additional water storage for fighting wild fires, fire hydrants, maps, and maintain strategically located water sources throughout each WUI. Dry hydrants, permanent surface water, stock ponds, or irrigation systems may be suitable water sources. Agreements with private landowners need to be negotiated

annually for property and water access. Protection of all water sheds was also identified as a priority.

- Improve the communication repeaters throughout the county.

- The fire protection authorities include CFDs, VFDs, the USFS, the NMSFD, BIA, DOD and the BLM. All agencies need to collaborate to maintain, and in some cases improve, wildfire fighting equipment, buildings, engines, and firefighting training.

- Develop pre-fire plans with special attention to civilian evacuation, firefighter escape, water supply and access to structures.

- Seek funding for home hazard assessments to inform homeowners about actions to reduce structural ignitability and defensible space.

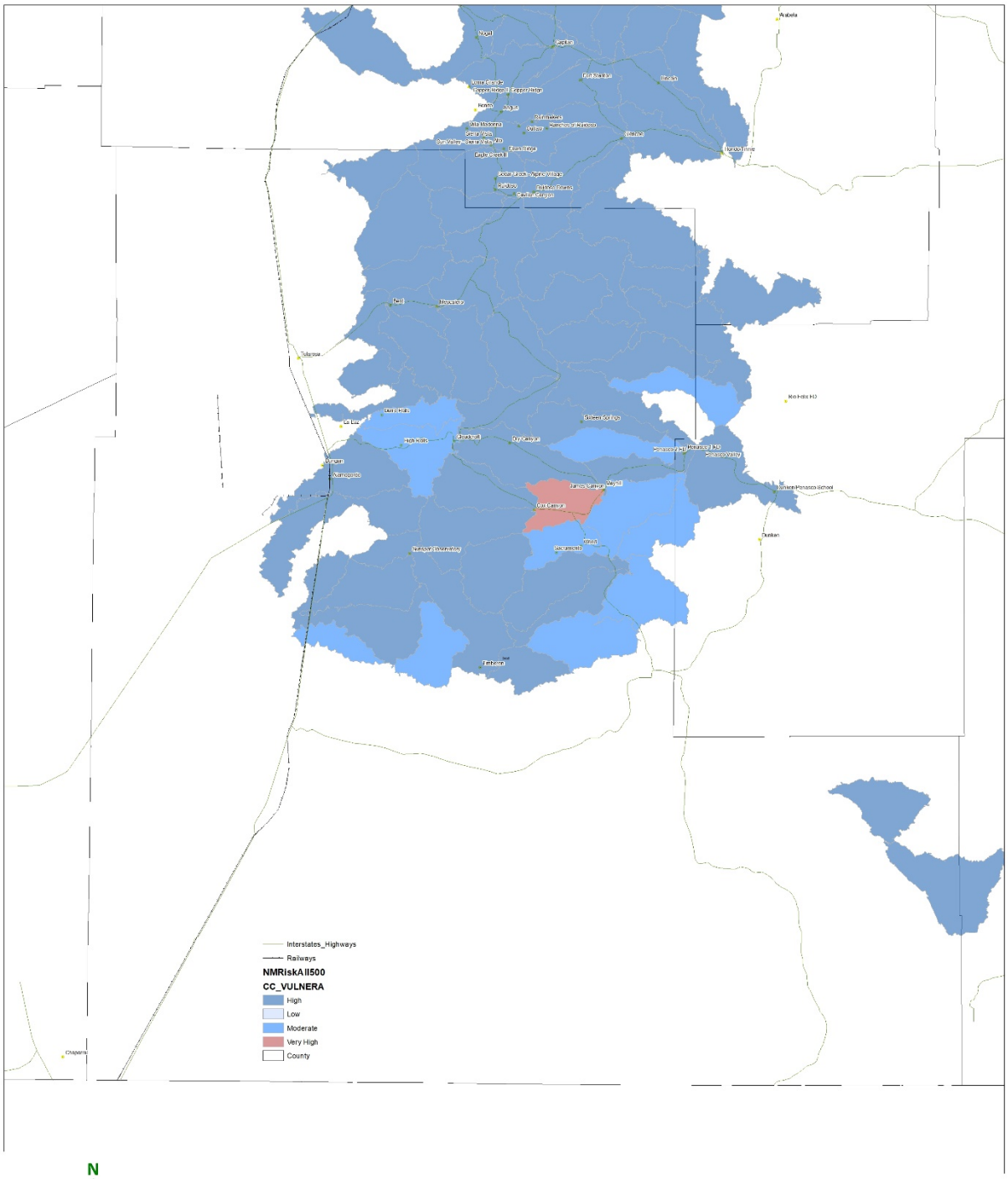
- Pursue Firewise Communities and similar grant funding opportunities to assist residents with the cost of treatments on private lands.

- Continue to target WUI properties in the Urban Interface of Otero County as well as larger tracts of land that improve forest and watershed health and better protect communities and homes from the effects of wildfire.

  Priorities would include:

  a. Acres that tie into previously treated acres (whether private, state or federal)
  b. Acres on the southwest side of communities or homes
  c. Acres that are downslope of communities or homes
  d. Acres that protect watersheds and improve forest health

- Align efforts with priorities found in the NM Forest Action Plan by EMNRD Forestry Division. Now in its 2nd draft form. The Priority Landscapes Model (below), shows the top 500 watersheds identified by the Scenario Investment Planning (SIP) model. The SIP is designed to align restoration activities based on priorities analysis identified by regional scientists using the same water, community and biodiversity metrics. These lands represent approximately 20% of all watersheds at risk, based on the Statewide Assessment data.



Risk to Otero Co.
Communites, Water & Biodiversity
from 2020 FAP

0 3.75 7.5 15 22.5 30
Miles

Fuels Reduction Treatment Recommendations

Project	Location	Land Ownership/ Management	Method	Serves To	Timelines for Implementation	Priority (H,M, L)	Monitoring	Contact
Defensible space cost-sharing programs	All private land within the OCCWPP planning area would be eligible; priority areas: Cloudcroft, Timberon, La Luz, Mescalero, Sixteen Springs, Cox Canyon, James Canyon, Dry Canyon and High Rolls/Mountain Park.	Private	Selective thinning; pruning (to about 25% of tree/shrub height); chip and/or remove debris; provide adequate defensible space.	Protect life and property by reducing spread of fire from wildland fuels to urban structures. Also improve vehicle access, increase tree health/vigor, and give firefighters a margin of safety. Treatment of fuels on private lands was highlighted as a priority by the public during outreach.	Ongoing	H	Conduct on-site inspections with owners; consider photo documentation of pre- and post-treatment; apply adaptive management from best available information; determine if Firewise Communities techniques are being applied.	SWCDs already offer these programs. Extra funding would help in their efforts.
Defensible space assessments	All private land within the OCCWPP planning area would be eligible	Private	Firewise Community -based assessments of individual homes. The professional assessment would help identify the most critical actions that an individual could take. Assessments could also include marking trees and shrubs suggested for removal.	Reduce risk of home ignitions. Empower homeowners to take the most effective actions. Allow funding to address a larger number of homes.	Ongoing	H	Conduct on-site inspections with owners; identify and mark trees or shrubs for removal within the 100-foot safety zone.	NMSFD, New Mexico Association of Counties (NMAC), rural schools - Title III funding opportunities for Firewise programs.
Create fuel breaks along highway rights-of-way	All state and County rights-of-way in the OCCWPP planning area would be eligible	State and County	Mowing and blading strips along fence lines and highways. Increase width of current mowing.	Mitigate extreme fire behavior and provide an area where firefighters can safely suppress fire. Reduces potential ignitions along highway.	Ongoing	H	Regular maintenance needed to maintain low fuel loading. Monitoring should occur prior to fire season (February) and in the fall (October).	NMDOT and County road departments. Explore option of using prison crews to maintain rights-of-way.

Fuels Reduction Treatment Recommendations, continued

Project	Location	Land Ownership/ Management	Method	Serves To	Timelines for Implementation	Priority (H,M,L)	Monitoring	Contact
Saltcedar reduction	All riparian areas throughout the County	Private and public	Removal of saltcedar by cut and stump treatment or entire root extraction. Thin-from-below treatments in cottonwood to raise crown base height to >8 feet. This helps to reduce potential crown fire in cottonwood. Slash removal and disposal. Selective removal of other non-natives from riparian ecosystem.	Help mitigate extreme fire behavior in timber fuels and reduce potential spread to communities adjoining the bosque.	Ongoing	H	Monitor effects on wildlife populations, soils, understory vegetation, invasive species, and water yield. Potential for community monitoring programs that include schools and youth groups. Refer to Chapter 6, Levels 1–4.	U.S. Fish and Wildlife Service, Natural Resources Conservation Service (NRCS), SWCD, NMSFD, BLM. Possible cooperation between use of flood control funds for saltcedar extraction in the County, prioritizing areas at risk of wildfire.
Collaborative Forest Restoration Program (CFRP) project	All throughout the Sacramento Mountains where public and private lands border	Public	RFP	Build capacity within the local communities and bring more money into the area for forest restoration projects.	Ongoing – dependent on availability of CFRP funds and success of grant applications	M	CFRP has a required monitoring component and encourages youth and community involvement.	USFS. Possible cooperation with the local communities that are surrounded by USFS lands.

Fuels Reduction Treatment Recommendations, continued

Project	Location	Land Ownership/ Management	Method	Serves To	Timelines for Implementation	Priority (H,M, L)	Monitoring	Contact
Remove abandoned structures and clean up yard debris	All communities	Private	Conduct mechanical thinning and manual clearing. Develop program of enforcement for the County. Begin plans to implement ICC code in part or full to enforce building regulations in the WUI zone.	Protect life and property by preventing spread of fire from wildland to structural fuels. Improve firefighter safety by providing clear access to structures in the WUI. Yard debris and fuels on private property were identified by residents as a concern during surveys.	Ongoing	H	Develop a community taskforce to carry out assessments.	County to enforce.
Mow and remove invasive species along railroad	Railroad throughout extent of County	Private, state, BLM, Burlington Northern Santa Fe (BNSF)	Mow a 70-foot buffer along edge of railroad. Regularly remove invasive species and shrub encroachment.	Protect ranchland and communities from potential ignition from railroad. Railroads are incorporated into the WUI.	Ongoing	H	Regular maintenance needed to ensure clearance of vegetation and reduced fuels density. Monitoring should occur prior to fire season (February) and in the fall (October).	BNSF, BLM, State Land Office.
Protect power lines and communication lines	All private land within the OCCWPP planning area	Utilities company/ private	Maintain clearance under power lines and around posts.	Prevent destruction of energy or communications infrastructure in event of fire.	Fall 2025	H	Regular maintenance needed to ensure lines are clear of vegetation.	Utility companies.
Mow/Blade firebreaks on private lands	Grassland areas on private land in valley areas	Private	Mow a 70-foot buffer around inside of ownership boundary.	Protect life and property by slowing the rate of spread to adjoining grasslands and communities in event of grassland fire.	Ongoing	H	Monitor effects of treatments on species dynamics and species composition, particularly invasion of exotic species and soil erosions. Monitor regrowth and erosion and maintain clearance Monitoring should be carried out prior to fire season.	Private landowners, NMSF.D

Fuels Reduction Treatment Recommendations, continued

Project	Location	Land Ownership/ Management	Method	Serves To	Timelines for Implementation	Priority (H,M,L)	Monitoring	Contact
Green waste pick-up	WUI communities throughout the planning area	Public	Facilitate green waste removal by picking up and hauling away slash throughout the area.	Reduce fuel loading in areas identified as having extreme fire risk.	Spring 2025	M	Monitoring and maintenance should occur prior to fire season (February) and in the fall (October).	County, private landowners.
Community chipper days	WUI communities throughout the planning area	County	Purchase chipper with operators and make available with two hired operators to neighborhood associations throughout the year.	Reduce fuel loading in areas identified as having extreme fire risk.	Spring 2025	M	Annual maintenance cycle.	NMSFD, County, private landowners.

Recommendations for Public Outreach and Education

Project	Description	Presented By	Target Date	Priority	Resources Needed	Serves To
VFD open invitation days	Raise awareness of the fire departments through open house and tours of equipment.	VFDs	Annually	H	Advertising, refreshments, handouts.	Protect communities and infrastructure by potentially increasing recruitment and financial support for the fire service.
Neighbors for defensible space	Organize a community group made up of residents and agency personnel to develop materials and communicate relevant defensible space messages. Could coordinate with fire departments.	SWCDs, USFS BLM, NMSFD, local residents	Ongoing	M	Funding to help cover costs of materials and participation.	Engage diverse stakeholders in reaching out to community members and encourage defensible space practices. `
Increase signage	Increase fire prevention signage along highways to reduce human ignitions.	New Mexico Department of Transportation	Ongoing	M	Signs, posts, people to post signs.	Protect communities and infrastructure by raising awareness of local citizens and those traveling in the County about actions that can prevent fire.
Improve enforcement of burn bans	Implement burn ban enforcement and raise public awareness of the ban through signage and online information sources.	County	Summer 2025	H	Funding for increased numbers of enforcement officers.	Raise awareness of the dangers of burning on private property and emphasize that unauthorized burning is illegal and will be punished.
Homeowner's Guide	Develop a handbook that gives locally relevant and detailed information to help residents be more prepared for wildfire, including a defensible space checklist specific to local structural and wildland fuel considerations.	SWCD, local fire departments, State Cooperative Extension agents	2021	H	Funding to develop and print copies of the handbook. Volunteers to help distribute and explain the document. Consider applying for NMAC grant.	Give residents detailed and locally specific tools that they can use to improve preparedness.

Recommendations for Public Outreach and Education, continued

Project	Description	Presented By	Target Date	Priority	Resources Needed	Serves To
Emergency preparedness meetings	Use American Red Cross volunteers and other preparedness experts. Attend community functions and hold special meetings to provide guidance for creating household emergency plans.	American Red Cross, County personnel	Ongoing	H	Written materials.	Improve preparedness by facilitating the communication between family members and neighbors about what procedures to follow in the event of a wildfire. Survey respondents stated that many people would not be prepared if a wildfire occurs.
Pre-planning for pets and livestock evacuation	Residents need to plan how they will evacuate livestock in event of wildfire evacuations. Consider transport, feed, water, and boarding options while evacuated. Include a contingency plan for if you are not at home. Practice loading horses and livestock in trailers to reduce stress in the event of rushed evacuation. Evacuate early.	Animal control, livestock boars, Animal Services, Animal Protection of New Mexico (APNM), and the New Mexico Department of Homeland Security and Emergency Management (NMDHSEM)	Spring 2025	M	-Household Pet Emergency Resource Manual—APNM/NMDHSEM is developing a plan. -APNM fire fund monies have been available following wildfire to shelters that have assisted animals impacted by wildfire. -The Equine Protection Fund Volunteer Network provides assistance, including shelter and transportation in the event of fire-related horse evacuation. -APNM and NMDHSEM are working to develop a comprehensive list of resources for emergency managers to address emergency shelter of displaced animals, including companion animals during wildfire.	Provide for the safe evacuation and care of animals and alleviate bottlenecks caused by livestock handling during wildfire response by firefighters. May encourage residents to evacuate who would otherwise refuse so as to not leave animals and livestock.

Recommendations for Reducing Structural Ignitability

Project	Private Lands/ Homeowner	Public Lands	Programs Available	Description	Possible Contacts for More Information	Priority
Offer fire protection workshops	All residents would be encouraged to participate	None	Community fire liaison, agency outreach personnel	Offer hands-on workshops to highlight individual home vulnerabilities and teach how-to techniques to reduce ignitability of common structural elements. Examples include installing metal flashing between houses and fences or decks, and installing wire mesh over eaves, vents, and under decks.	State Firewise Communities personnel, NRCS, fire chiefs	High
Strengthen building codes for new development	County	None	International Wildland-Urban Interface Code	ICC enforces building codes and ordinances for new development in the WUI.	State fire marshal, NMSFD	Moderate
Construct defensible space	All residents would be encouraged to participate	None	Firewise Communities, NMSFD, local fire department liaison	Educate homeowners about defensible space practices. Remove all but scattered trees within 30 feet of structures. Keep grass mown and green within 100 feet of structures. Keep flammable materials at least 30 feet from structures. Surround foundations with rocks or gravel to a width of 1 foot.	www.firewise.org or local NMSFD Firewise Communities-trained personnel; possible land ownership assistance program through NMSFD-sponsored program; requires preparation of a Wildfire Mitigation Cost Share Application	High
Implement community chipper days	All residents would be encouraged to participate; most appropriate for WUI residents	None	NMSFD	A chipper and operator would be provided free of charge in a central location for residents to bring small trees and brush. Chips could remain at chipper location or be utilized by participants.	NMSFD	High
Assess and improve accessibility to property	All residents would be encouraged to participate	None	Fire departments, code enforcement officers	Inform homeowners about the importance of keeping driveways accessible to fire trucks and emergency responders.	Local fire departments	Moderate
Provide a list of mitigation measures to homeowners with different scales of actions	All residents would be encouraged to participate	None	Fire departments, Firewise Communities, NMSFD literature, USFS literature, academic and peer-reviewed literature	Work with FireWise principles to educate community members.	SWCDs, NMSFD, fire departments	High

Recommendations to Improve Firefighting Capability

Project	Fire Department	Possible Solution	Timeline	Contact
Increase VFD recruitment (diversify age classes).	All fire departments	Target fire education in schools to encourage younger generations to become interested in firefighting. Carry out recruitment drives through open house and mailings.	Annually	Fire department chiefs, school districts
Increase funds for VFDs.	All fire departments	1. Maintain contact with state fire marshals and regularly seek grant money. 2. Implement regular evaluations of resource needs for each VFD and make available to public to raise awareness of shortages. 3. Maintain updated list of fires in the County and provide to the NMSFD. 4. Use local media to inform public of fire resources situation. Work with local newspaper editor to have a year-round column that documents fire department activities. 5. Apply for Rural Fire Assistance Program grants. 6. Groups should participate in Volunteer Fire Assistance (VFA) Grants with a yearly application to NM State Forestry. 7. Improve ISO ratings.	Monthly review of grant opportunities	Fire department chiefs, County emergency managers, Fire Services staff, and County Managers to approach County Commissioners to raise the issue in commissioner meetings.
Train volunteer firefighters.	All fire departments	1. Research into funds that could provide stipends to volunteer firefighters to improve participation in training course. 2. Seek funding to hire trainers to come to VFDs to do training. 3. VFD should submit their training needs annually to NM State Forestry, so the agency can set up classes with contractors to meet those needs. 4. Research online training classes for volunteer firefighters. **5.** Set up agreement between USFS and BLM and County where county volunteer firefighters can be used by the USFS and BLM for prescribed burning to increase capacity of County firefighters.	Ongoing	Fire Services staff, fire department chiefs, BLM Fire Management, USFS Fire Management
Carry out quarterly audit of department equipment.	All fire districts	Most fire departments have an established cache of wildland fire tools and personal protective equipment. An inventory and audit of the equipment's condition should occur on a regularly scheduled basis. A schedule for equipment replacement should be established to allow for allocation of funds and seeking of grants. Prepare a list of desired new equipment. Also carryout regular fire hydrant testing in cooperation with water companies. This will improve ISO ratings.	Quarterly	Fire district chiefs, County
Coordinate pre-incident planning.	All fire districts and agencies	Identify areas of high risk and hazard, allowing engine companies to target specific areas for tactical planning. The CWPP and associated GIS data can be used as a whole to assist planning at the strategic level. Including access, water supply and infrastructure improvement issues.	Annually	Municipal, County, state, federal

Recommendations to Improve Firefighting Capability, continued

Project	Fire Department	Possible Solution	Timeline	Contact
Increase water sources and water delivery systems, particularly in areas adjacent to WUI.	All fire departments	1. Obtain funding to purchase equipment and to implement rainwater harvesting or similar systems on all VFD stations. 2. Obtain portable dip tanks for fire departments; 3. Strategically locate water storage on private lands with prior agreement from landowner to maintain water supply. Fire departments would have permission to access tanks in the event of wildfire.	Ongoing	Fire department chiefs
Regularly seek funding to purchase improved equipment.	All fire departments	Obtain funding to purchase equipment or continue to make trade agreements with other fire stations. Regular communication with federal agencies who may be decommissioning old trucks/tankers that could be acquired by VFDs. Pursue grant opportunities and state auctions.	Ongoing	Funding agencies
Map water supplies.	All fire departments	Use global positioning system (GPS) units to map all available water supplies.	Spring 2025	1. Fire department chiefs, Fire services staff, County emergency managers, and County managers to approach County about potential funding

Appendix

List of Fire Behavior Terms

Aerial Fuels	All live and dead vegetation in the forest canopy or above surface fuels, including tree branches, twigs, cones, snags, moss, and high brush.
Aspect	Direction a slope faces.
Direct Attack	A method of fire suppression where actions are taken directly along the fire's edge. In a direct attack, burning fuel is treated directly, such as by wetting, smothering, or chemically quenching the fire or by physically separating burning from unburned fuel.
Chain	A unit of linear measurement equal to 66 feet.
Crown Fire	The movement of fire through the crowns of trees or shrubs more or less independently of the surface fire.
Dead Fuels	Fuels with no living tissue in which moisture content is governed almost entirely by atmospheric moisture (relative humidity and precipitation), dry-bulb temperature, and solar radiation.
Defensible Space	An area either natural or manmade where material capable of causing a fire to spread has been treated, cleared, reduced, or changed to act as a barrier between an advancing wildland fire and the loss to life, property, or resources. In practice, "defensible space" is defined as an area a minimum of 30 feet around a structure that is cleared of flammable brush or vegetation by building and maintaining fire-safe communities compatible with the natural surroundings.
Firewise	Firewise is a national program to serve as a resource for agencies, tribes, organizations, communities, fire departments, and private landowners who are working on the goal to reduce the loss of lives, property, and resources to wildfire.
Fire Behavior	The manner in which a fire reacts to the influences of fuel, weather, and topography.
Fire Danger	The broad-scale condition of fuels as influenced by environmental factors.
Fire Front	The part of a fire within which continuous flaming combustion is taking place. Unless otherwise specified, the fire front is assumed to be the leading edge of the fire perimeter. In ground fires, the fire front may be mainly smoldering combustion.

Fire Hazard	The presence of ignitable fuel coupled with the influences of terrain and weather.
Fire Intensity	A general term relating to the heat energy released by a fire.
Fire Return Interval	The historic frequency that fire burns in a particular area or fuel type without human intervention.
Fire Regime	The characterization of fire's role in a particular ecosystem, usually characteristic of a particular vegetation and climatic regime, and typically a combination of fire return interval and fire intensity (i.e., high frequency low intensity/low frequency high intensity).
Fire Weather	Weather conditions that influence fire ignition, behavior, and suppression.
Flame Length	The distance from the base to the tip of the flaming front. Flame length is directly correlated with fire intensity.
Flaming Front	The zone of a moving fire where combustion is primarily flaming. Behind this flaming zone combustion is primarily glowing. Light fuels typically have a shallow flaming front, whereas heavy fuels have a deeper front.
Fuels	Combustible material; includes vegetation such as grass, leaves, ground litter, plants, shrubs, and trees that feed a fire. Not all vegetation is necessarily considered fuel; deciduous vegetation such as aspen actually serve more as a barrier to fire spread, and many shrubs are only available as fuels when they are drought-stressed.
Fuel Break	An area of land where fuel continuity and load is reduced to reduce wildfire rate of spread and severity and to improve control opportunities.
Fuel Loading	The amount of fuel present expressed quantitatively in terms of weight of fuel per unit area.
Fuel Model	Simulated fuel complex (or combination of vegetation types) for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified.
Fuel Type	An identifiable association of fuel elements of a distinctive plant species, form, size, arrangement, or other characteristics that will cause a predictable rate of fire spread or difficulty of control under specified weather conditions.

Ground Fuel	All combustible materials below the surface litter, including duff, tree or shrub roots, punchy wood, peat, and sawdust that normally support a glowing combustion without flame.
Hazard	Vegetation-fuel attributes that may be conducive to propagate and carry a fire.
Indirect Attack	A method of fire suppression where actions are taken some distance from the active edge of the fire due to intensity, terrain, or other factors that make direct attack difficult or undesirable.
Intensity	The level of heat radiated from the active flaming front of a fire, measured in British thermal units (BTUs) per foot.
Ladder Fuels	Fuels that provide vertical continuity between strata, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. Ladder fuels help initiate and ensure the continuation of crowning.
Live Fuels	Living plants, such as trees, grasses, and shrubs, in which the seasonal moisture content cycle is controlled largely by internal physiological mechanisms, rather than by external weather influences.
National Fire Rating System (NFDRS)	A uniform fire danger rating system that focuses on the **Danger** environmental factors that control the moisture content of fuels.
Prescribed Fire	Any fire ignited by management actions under certain predetermined conditions to meet specific objectives related to hazardous fuels or habitat improvement. A written, approved prescribed fire plan must exist, and National Environmental Policy Act (NEPA) requirements must be met prior to ignition.
Rate of Spread	The relative activity of a fire in extending its horizontal dimensions. It is expressed as a rate of increase of the total perimeter of the fire, rate of forward spread of the fire front, or rate of increase in an area, depending on the intended use of the information. Usually it is expressed in chains or acres per hour for a specific period in the fire's history. Sometimes it is expressed as feet per minute; one chain per hour is equal to 1.1 feet per minute.

Risk	The probability that a fire will start from natural or human-caused ignition.
Surface Fuels	Loose surface litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches that have not yet decayed enough to lose their identity; also grasses, forbs, low and medium shrubs, tree seedlings, heavier branchwood, downed logs, and stumps interspersed with or partially replacing the litter.
Topography	Referred to as "terrain." The term also refers to parameters of the "lay of the land" that influence fire behavior and spread. Key elements are slope (in percent), aspect (the direction a slope faces), elevation, and specific terrain features such as canyons, saddles, "chimneys," and chutes.
Wildfire	A wildland fire that is unwanted and unplanned.
Wildland Fire	Any fire burning in wildland fuels, including prescribed fire, fire use, and wildfire.
Wildland Fire Use	The management of naturally ignited wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas outlined in Fire Management Plans.

2020 Otero County Community Wildfire Protection Plan Update – Public Survey

A Community Wildfire Protection Plan (CWPP) is a way for communities to address their wildfire risk by evaluating wildfire risks and coming up with options for mitigating those risks. Otero County is in the process of updating the 2015 CWPP and is seeking input from residents about your concerns and ideas for how we can improve the plan and make our community more resilient to wildfire.

We appreciate you taking the time to complete the survey (it should take less than 10 minutes). Your input is extremely valuable in helping us to create an effective Community Wildfire Protection Plan.

1. What neighborhood and/or community do you live in?

- ☐ Alamogordo
- ☐ Tularosa
- ☐ HAFB
- ☐ High Rolls/Mountain Park
- ☐ Cloudcroft
- ☐ Timberon
- ☐ Mescalero
- ☐ Weed/Mayhill
- ☐ Greater Otero County
- ☐ Other (please specify) _____

2. What type of resident are you? (Please check all that apply)

- ☐ Full-time Resident
- ☐ Seasonal Resident
- ☐ Homeowner
- ☐ Renter
- ☐ Owner of Undeveloped Lot(s)
- ☐ Owner of a Home Rental Property
- ☐ Owner of a Ranch or Farm Property
- ☐ Business Owner

3. How concerned are you about wildfire in your area?

- ☐ Not at all concerned
- ☐ Slightly concerned
- ☐ Moderately Concerned
- ☐ Extremely Concerned

4. How much control do you feel you have over your risk from wildfire?

- ☐ No control
- ☐ A little control
- ☐ A great deal of control
- ☐ Complete control

5. How would you rate your home in terms of risk from Wildfire?

- ☐ Low
- ☐ Medium
- ☐ High

6. My home is vulnerable to wildfire because of:
- ☐ Surrounding fuels on your property – trees, grass, shrubs, etc.
- ☐ Surrounding fuels on neighboring properties
- ☐ The type of building materials used in my home
- ☐ Lack of water supplies
- ☐ I live in an inaccessible area
- ☐ I do not feel my home is vulnerable to wildfire

7. My biggest challenge to making my home fire safe is: (check the option that applies the most)
- ☐ Time
- ☐ Money
- ☐ Not knowing what to do
- ☐ Neighboring properties that I have no control over
- ☐ I think my home is already safe

8. Under which of the following conditions would you be willing to do mitigation work on your property?
- ☐ I would do mitigation work regardless of what anyone else does.
- ☐ Only if the work would be cost shared with government or private agencies.
- ☐ Only if the work would be fully funded by government or private agencies.
- ☐ Only if I can be convinced that work will improve the ability of my home to survive wildfire.
- ☐ Under no circumstances
- ☐ Other (please specify) _____

9. Which of the following mitigation actions do you do each year to prepare for fire season? (Please check all that apply)
- ☐ Move firewood away from my home to a spot up slope and downwind.
- ☐ Cut grass and weeds around my house.
- ☐ Remove (or rake away) pine needles on the ground, roof and in the gutters.
- ☐ Repair or install screens to block sparks from blowing in and under my home, eave vents and outbuildings
- ☐ Remove flammable objects, including firewood, brush and other materials from under my wooden deck.

10. Since 2015 have you taken any of the following steps to reduce the risk of wildfire to your home? (Please check all that apply)
- ☐ Defensible space thinning
- ☐ Structural improvements (removed wooden deck, installed fire resistant building materials, etc.)
- ☐ Improvements to driveway
- ☐ Other (please specify)_____

11. How prepared is your community and Otero County for a large Wildfire?
- ☐ Poorly Prepared
- ☐ Moderately Prepared
- ☐ Prepared
- ☐ Well Prepared

12. How acceptable do you find each of the following practices?

Practice	Unacceptable	Somewhat Unacceptable	Neither Acceptable or Unacceptable	Somewhat Acceptable	Very Acceptable
Programs to assist with disposal of removed vegetation (chipping, etc)					
Structural FireWise ordinances for new buildings					
Structural FireWise ordinances to retrofit existing buildings					
One on one consultations on how to make my property/home FireWise					
Cost-share programs for reducing vegetation on private property					
Vegetation management ordinances					

13. Rate the importance of the following activities in making Otero County better prepared for wildfires:

Practice	Not Important At All	Somewhat Important	Important	Very Important	Not Sure
Clean-up by individual property owners					
Better fire-fighting equipment					
Improved Water Supply					
Fire mitigating fuel treatments on public lands					
Fire mitigating fuel treatments on private property					
Community Education					

14. Rate your comfort level with the following activities.

Practice	Very Uncomfortable	Somewhat Uncomfortable	Neither Uncomfortable or Comfortable	Comfortable	Very Comfortable
Cutting and chipping hazardous fuels (trees, limbs, brush and tall grasses) within 100 feet of my home.					
Using prescribed burns to reduce fuels on the Lincoln National Forest and other forested areas.					
Working collaboratively with other property owners to create shaded fuel breaks to stop or slow large wildfires before they reach my home.					
Cutting and chipping hazardous fuels and open space areas within local communities.					

15. How would you prioritize the following elements of community wildfire preparedness?

Practice	Not Important	Somewhat Important	Neutral	Important	Very Important
Hazardous fuels reduction open space and adjacent lands					
Defensible space around homes					
Emergency notification during a wildfire					
Homeowner education and outreach					
Evacuation notices and procedures					
Post-fire Recovery					

Other (please specify)_____

16. Which of the following best describes your household's current disaster/emergency plan in case of wildfire?

- ☐ My household does not have a disaster plan
- ☐ My household has a plan, but it is not written
- ☐ My household has a written plan

17. Do you have a prearranged meeting place for family members in the event of an evacuation?

- ☐ Yes
- ☐ No

18. How would you prefer to receive information regarding wildfire prevention? Please check all that apply.

❑ Local Newspaper ❑ Radio ❑ Television ❑ Family/Friends/Neighbors ❑ Internet ❑ Twitter

❑ Facebook ❑ Brochures ❑ Conversations with Local Government Representatives (county, city, etc)

❑ Local Fire Department ❑ Insurance Company ❑ Homeowners Association

19. How would you prefer to receive information during a wildfire emergency? Please check all that apply.

❑ Local Newspaper ❑ Radio ❑ Television ❑ Family/Friends/Neighbors ❑ Internet ❑ Twitter

❑ Facebook ❑ Brochures ❑ Local Government Representatives ❑ Local Fire Department

20. What additional priority actions should Lincoln County include in the 2019 CWPP update?

_____

_____

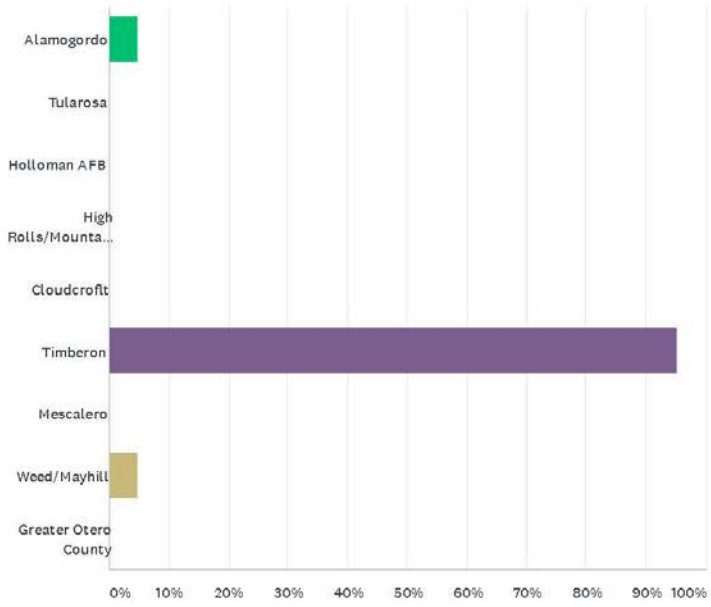
_____

If you prefer you may complete this survey online at
https://www.surveymonkey.com/r/M7JMTHF

Please return all surveys to: SCM RC&D Council, 201 Oak Grove Place, Ruidoso, NM 88345
You may also email completed surveys to laura@scmrcd.org. Questions? Call 575-446-3973

Q1 What neighborhood and/or community do you live in?

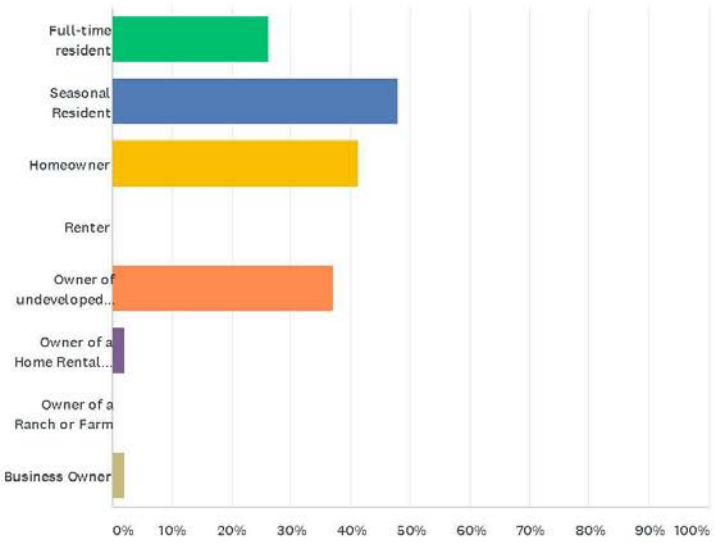
Answered: 42 Skipped: 4



ANSWER CHOICES	RESPONSES	
Alamogordo	4.76%	2
Tularosa	0.00%	0
Holloman AFB	0.00%	0
High Rolls/Mountain Park	0.00%	0
Cloudcroft	0.00%	0
Timberon	95.24%	40
Mescalero	0.00%	0
Weed/Mayhill	4.76%	2
Greater Otero County	0.00%	0
Total Respondents: 42		

Q2 What type of resident are you? (Please check all that apply)

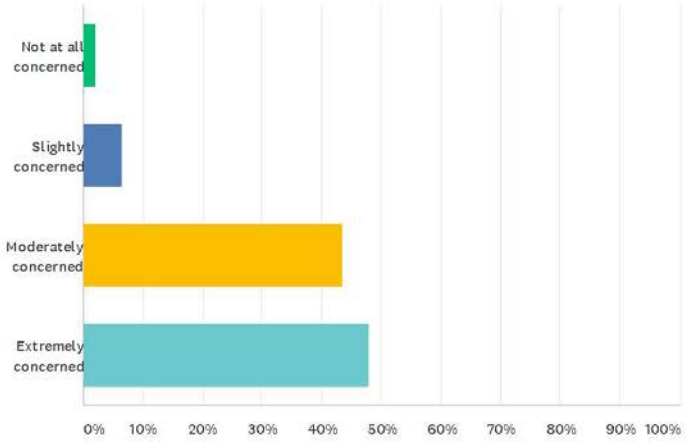
Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Full-time resident	26.09%	12
Seasonal Resident	47.83%	22
Homeowner	41.30%	19
Renter	0.00%	0
Owner of undeveloped lot(s)	36.96%	17
Owner of a Home Rental Property	2.17%	1
Owner of a Ranch or Farm	0.00%	0
Business Owner	2.17%	1
Total Respondents: 46		

Q3 How concerned are you about wildfire in your area?

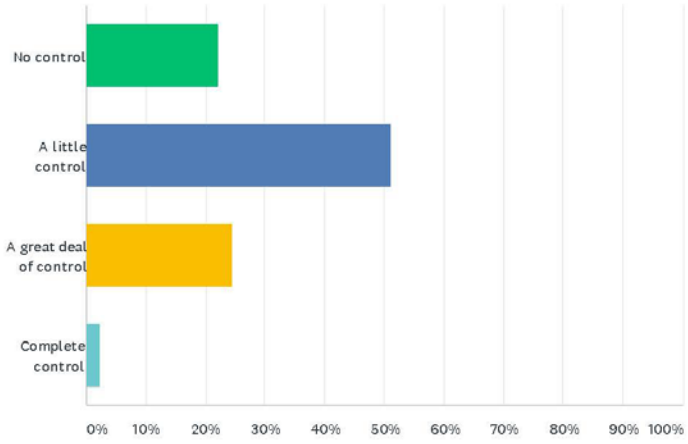
Answered: 46 Skipped: 0



ANSWER CHOICES	RESPONSES	
Not at all concerned	2.17%	1
Slightly concerned	6.52%	3
Moderately concerned	43.48%	20
Extremely concerned	47.83%	22
TOTAL		46

Q4 How much control do you feel you have over your risk from wildfire?

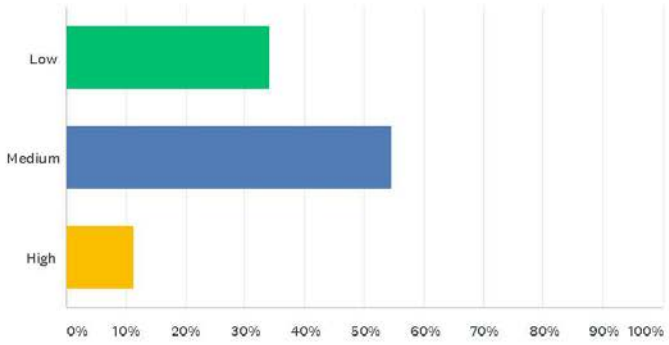
Answered: 45 Skipped: 1



ANSWER CHOICES	RESPONSES	
No control	22.22%	10
A little control	51.11%	23
A great deal of control	24.44%	11
Complete control	2.22%	1
TOTAL		45

Q5 How would you rate your home in terms of risk from Wildfire?

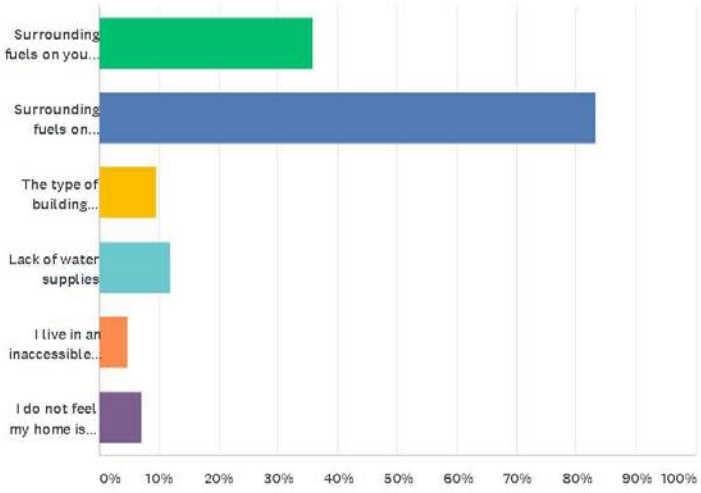
Answered: 44 Skipped: 2



ANSWER CHOICES	RESPONSES	
Low	34.09%	15
Medium	54.55%	24
High	11.36%	5
Total Respondents: 44		

Q6 My home is vulnerable to wildfire because of:

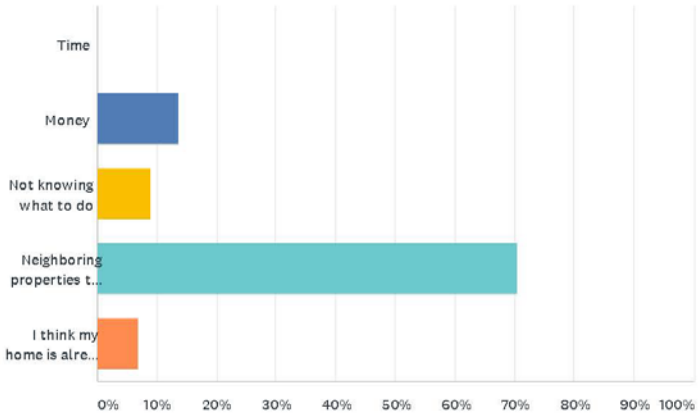
Answered: 42 Skipped: 4



ANSWER CHOICES	RESPONSES	
Surrounding fuels on your property - trees, grass, shrubs, etc.	35.71%	15
Surrounding fuels on neighboring properties	83.33%	35
The type of building materials used in my home	9.52%	4
Lack of water supplies	11.90%	5
I live in an inaccessible area	4.76%	2
I do not feel my home is vulnerable to wildfire	7.14%	3
Total Respondents: 42		

Q7 My biggest challenge to making my home fire safe is: (Check the option that applies the most)

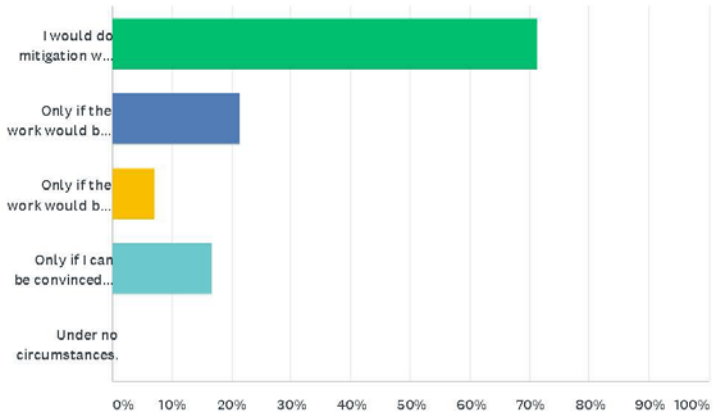
Answered: 44 Skipped: 2



ANSWER CHOICES	RESPONSES	
Time	0.00%	0
Money	13.64%	6
Not knowing what to do	9.09%	4
Neighboring properties that I have no control over	70.45%	31
I think my home is already safe	6.82%	3
TOTAL		44

Q8 Under which of the following conditions would you be willing to do mitigation work on your property?

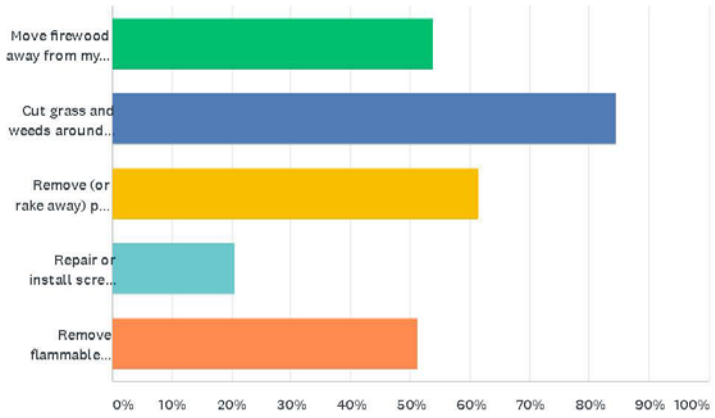
Answered: 42 Skipped: 4



ANSWER CHOICES	RESPONSES	
I would do mitigation work regardless of what anyone else does.	71.43%	30
Only if the work would be cost shared with government or private agencies.	21.43%	9
Only if the work would be fully funded by government or private agencies.	7.14%	3
Only if I can be convinced that work will improve the ability of my home to survive a wildfire.	16.67%	7
Under no circumstances.	0.00%	0
Total Respondents: 42		

Q9 Which of the following mitigation actions do you do each year to prepare for fire season? (Please check all that apply)

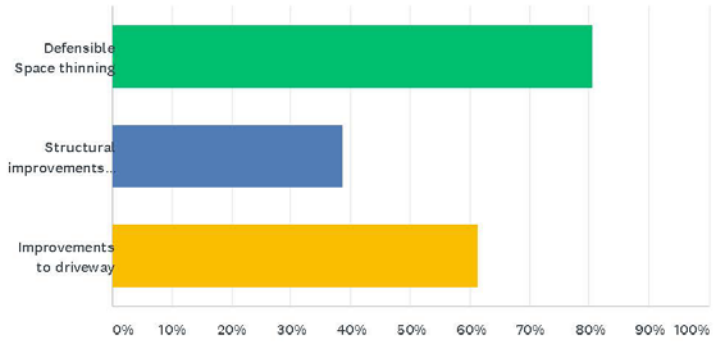
Answered: 39 Skipped: 7



ANSWER CHOICES	RESPONSES	
Move firewood away from my home to a spot up slope and downwind.	53.85%	21
Cut grass and weeds around my house.	84.62%	33
Remove (or rake away) pine needles on the ground, roof and in the gutters.	61.54%	24
Repair or install screens to block sparks from blowing in and under my home, eave vents and outbuildings.	20.51%	8
Remove flammable objects, including firewood, brush and other materials from under my wooden deck.	51.28%	20
Total Respondents: 39		

Q10 Since 2015 have you taken any of the following steps to reduce the risk of wildfire to your home? (check all that apply)

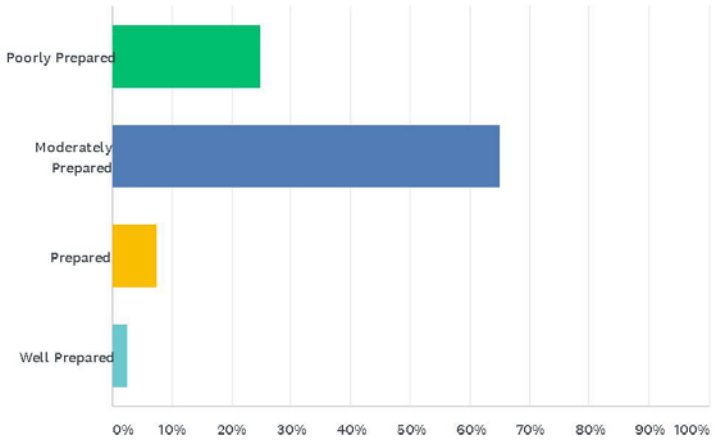
Answered: 31 Skipped: 15



ANSWER CHOICES	RESPONSES	
Defensible Space thinning	80.65%	25
Structural improvements (removed wooden deck, installed fire resistant building materials, etc.)	38.71%	12
Improvements to driveway	61.29%	19
Total Respondents: 31		

Q11 How prepared is your community and Otero County for a large Wildfire?

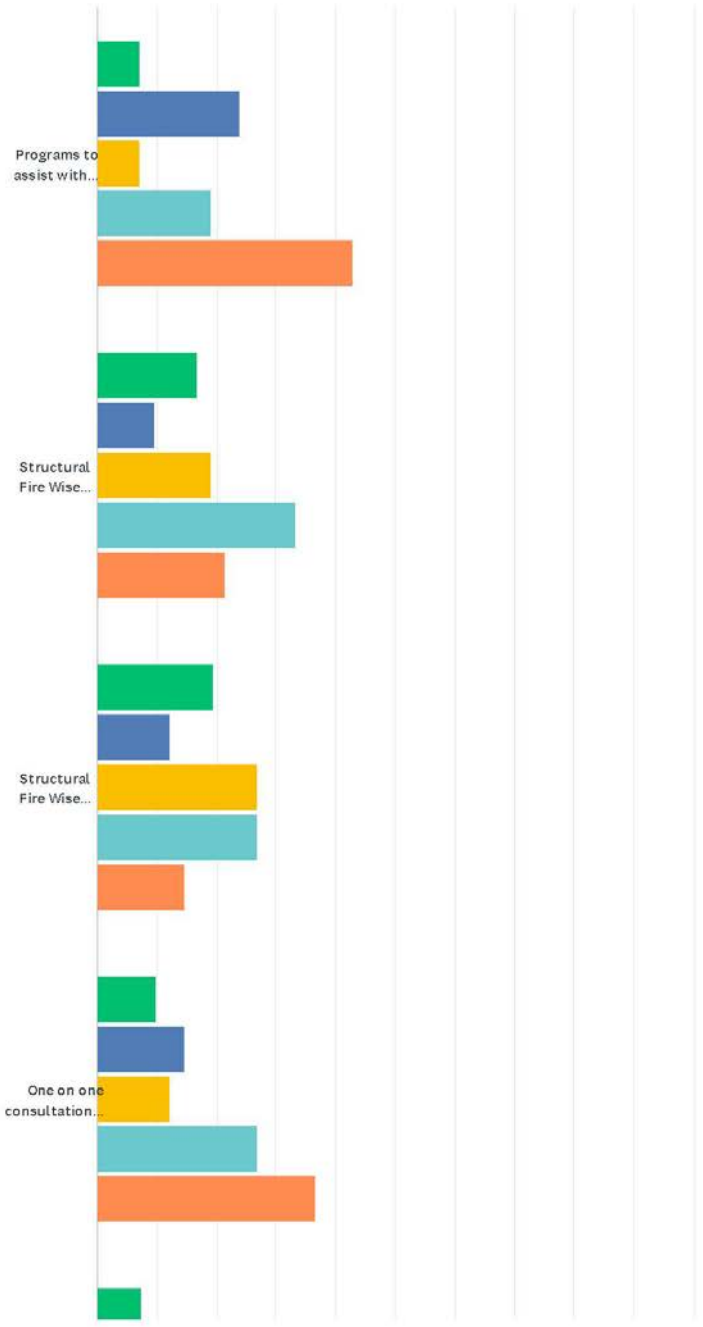
Answered: 40 Skipped: 6



ANSWER CHOICES	RESPONSES	
Poorly Prepared	25.00%	10
Moderately Prepared	65.00%	26
Prepared	7.50%	3
Well Prepared	2.50%	1
Total Respondents: 40		

Q12 How acceptable do you find each of the following practices?

Answered: 42 Skipped: 4



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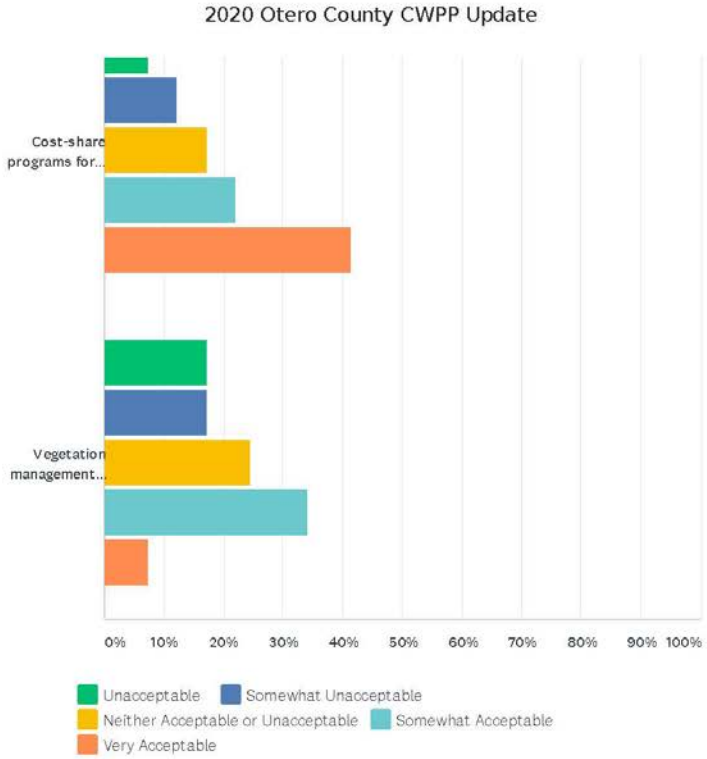
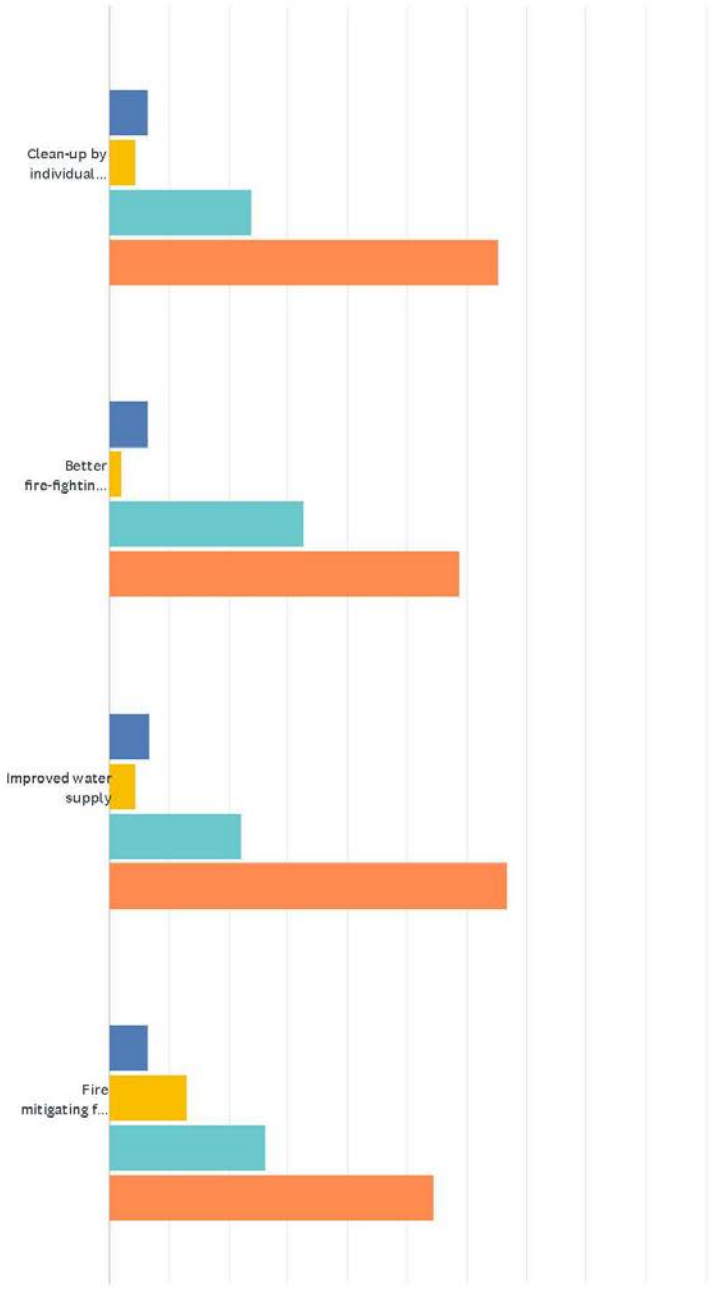

2020 Otero County CWPP Update
Cost-share programs for...
Vegetation management...
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Unacceptable
Somewhat Unacceptable
Neither Acceptable or Unacceptable
Somewhat Acceptable
Very Acceptable

	UNACCEPTABLE	SOMEWHAT UNACCEPTABLE	NEITHER ACCEPTABLE OR UNACCEPTABLE	SOMEWHAT ACCEPTABLE	VERY ACCEPTABLE	TOTAL	WEIGHTED AVERAGE
Programs to assist with disposal of removed vegetation (chipping, etc)	7.14% 3	23.81% 10	7.14% 3	19.05% 8	42.86% 18	42	3.67
Structural Fire Wise ordinances for new buildings	16.67% 7	9.52% 4	19.05% 8	33.33% 14	21.43% 9	42	3.33
Structural Fire Wise ordinances to retrofit existing buildings	19.51% 8	12.20% 5	26.83% 11	26.83% 11	14.63% 6	41	3.05
One on one consultations on how to make my property/home Fire Wise	9.76% 4	14.63% 6	12.20% 5	26.83% 11	36.59% 15	41	3.66
Cost-share programs for reducing vegetation on private property	7.32% 3	12.20% 5	17.07% 7	21.95% 9	41.46% 17	41	3.78
Vegetation management ordinances	17.07% 7	17.07% 7	24.39% 10	34.15% 14	7.32% 3	41	2.98

Q13 Rate the importance of the following activities in making Otero County better prepared for wildfires.

Answered: 46 Skipped: 0



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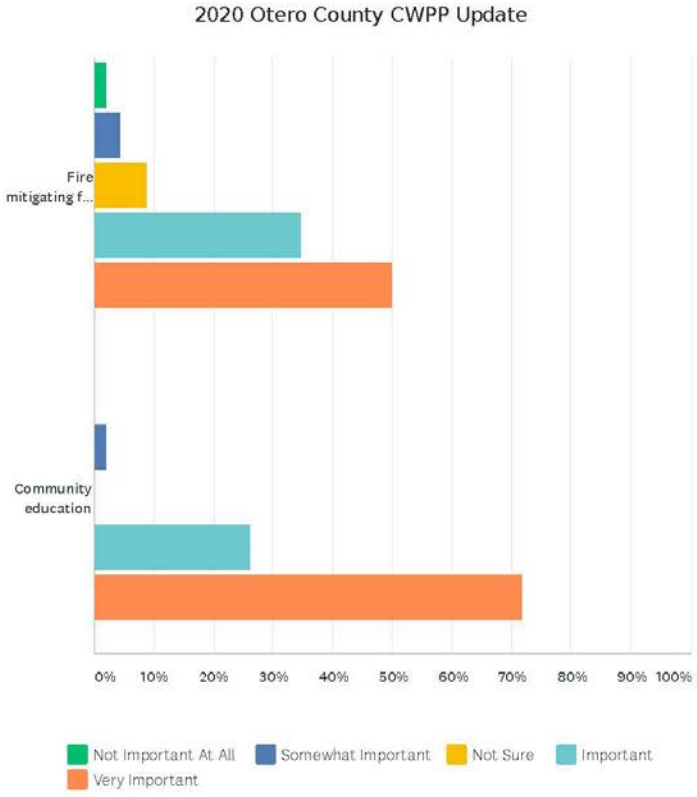
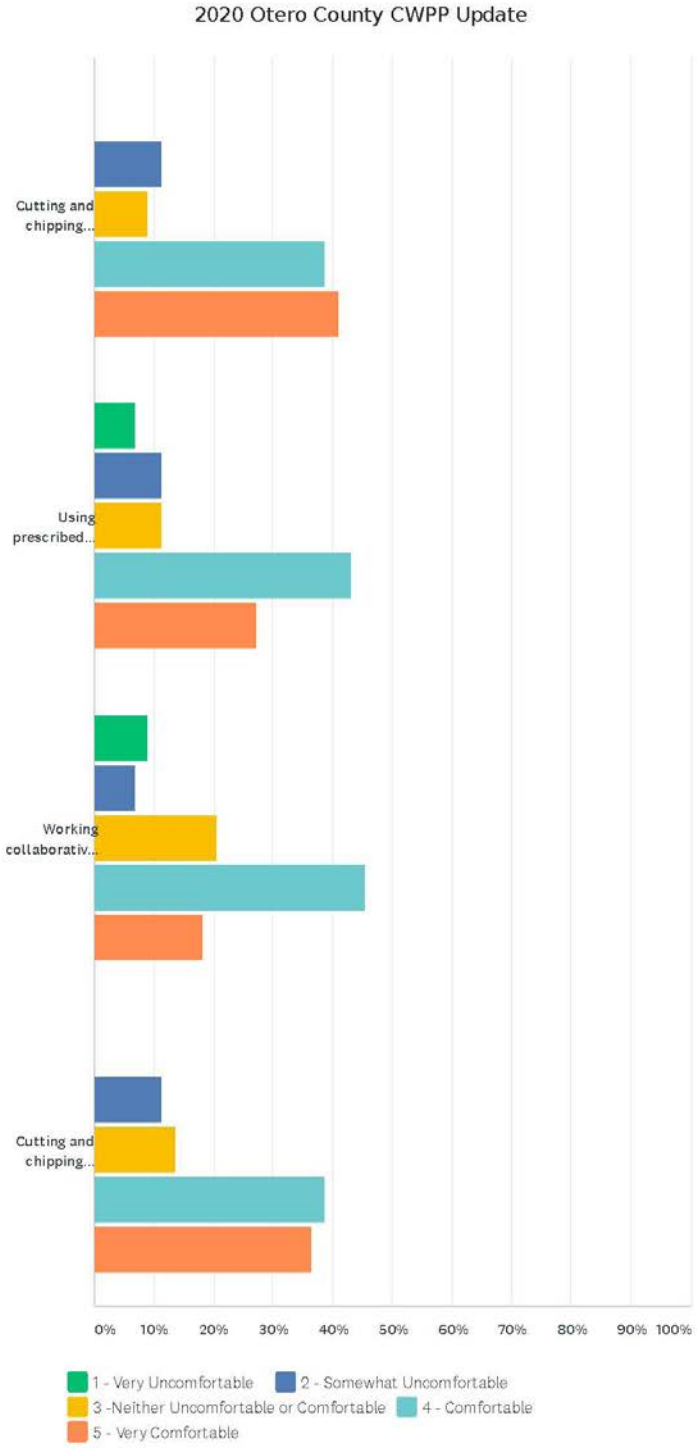


	NOT IMPORTANT AT ALL	SOMEWHAT IMPORTANT	NOT SURE	IMPORTANT	VERY IMPORTANT	TOTAL	WEIGHTED AVERAGE
Clean-up by individual property owners	0.00% 0	6.52% 3	4.35% 2	23.91% 11	65.22% 30	46	4.48
Better fire-fighting equipment	0.00% 0	6.52% 3	2.17% 1	32.61% 15	58.70% 27	46	4.43
Improved water supply	0.00% 0	6.67% 3	4.44% 2	22.22% 10	66.67% 30	45	4.49
Fire mitigating fuel treatments on public lands	0.00% 0	6.52% 3	13.04% 6	26.09% 12	54.35% 25	46	4.28
Fire mitigating fuel treatments on private property	2.17% 1	4.35% 2	8.70% 4	34.78% 16	50.00% 23	46	4.26
Community education	0.00% 0	2.17% 1	0.00% 0	26.09% 12	71.74% 33	46	4.67

Q14 Rate your comfort level with the following activities. Rate from low (very uncomfortable) = 1 to high (very comfortable) = 5

Answered: 44 Skipped: 2


2020 Otero County CWPP Update
Cutting and chipping...
Using prescribed...
Working collaborativ...
Cutting and chipping...
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
1 - Very Uncomfortable
2 - Somewhat Uncomfortable
3 -Neither Uncomfortable or Comfortable
4 - Comfortable
5 - Very Comfortable

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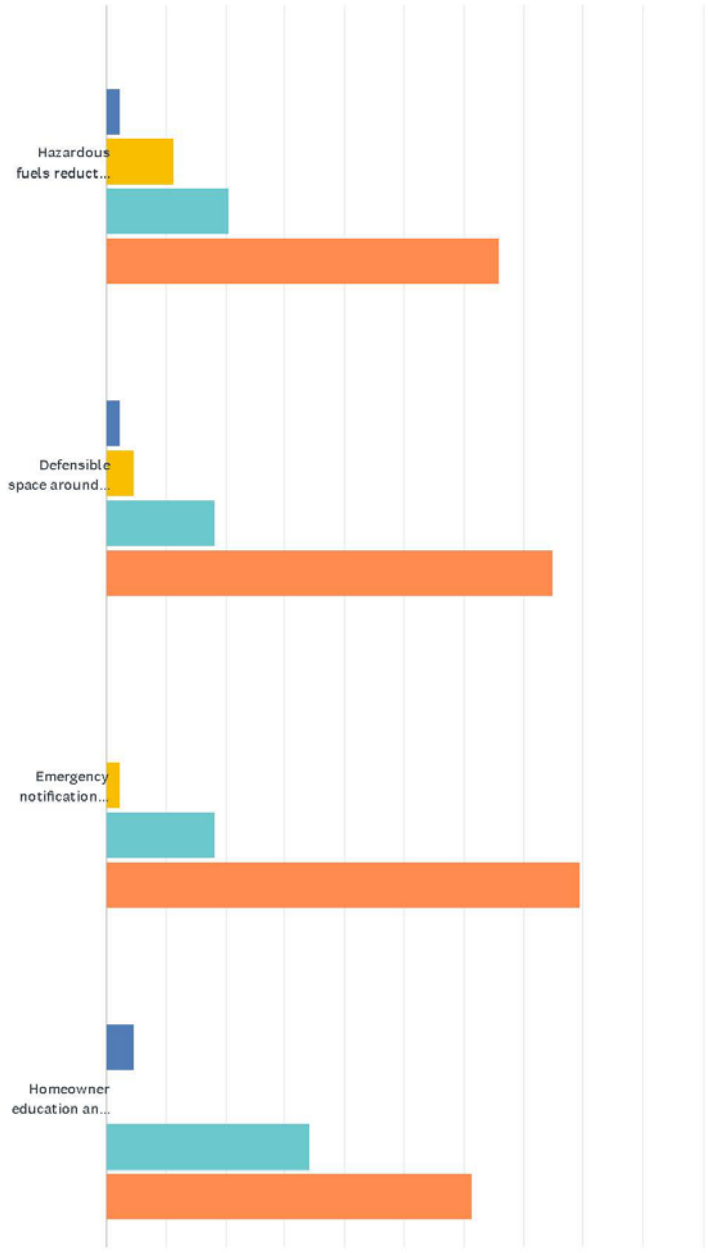
	1 - VERY UNCOMFORTABLE	2 - SOMEWHAT UNCOMFORTABLE	3 -NEITHER UNCOMFORTABLE OR COMFORTABLE	4 - COMFORTABLE	5 - VERY COMFORTABLE	TOTAL	WEIG AVER
Cutting and chipping hazardous fuels (trees, limbs, brush and tall grasses) within 100 feet of my home.	0.00% 0	11.36% 5	9.09% 4	38.64% 17	40.91% 18	44	
Using prescribed burns to reduce fuels on the Lincoln National Forest and other forested areas.	6.82% 3	11.36% 5	11.36% 5	43.18% 19	27.27% 12	44	
Working collaboratively with other property owners to create shaded fuel breaks to stop or slow large wildfires before they reach my home.	9.09% 4	6.82% 3	20.45% 9	45.45% 20	18.18% 8	44	
Cutting and chipping hazardous fuels and open space areas within local communities.	0.00% 0	11.36% 5	13.64% 6	38.64% 17	36.36% 16	44	

Q15 How would you prioritize the following elements of community wildfire preparedness? Rate each from low (not at all important) = 1 to high (very important) = 5.

Answered: 44 Skipped: 2



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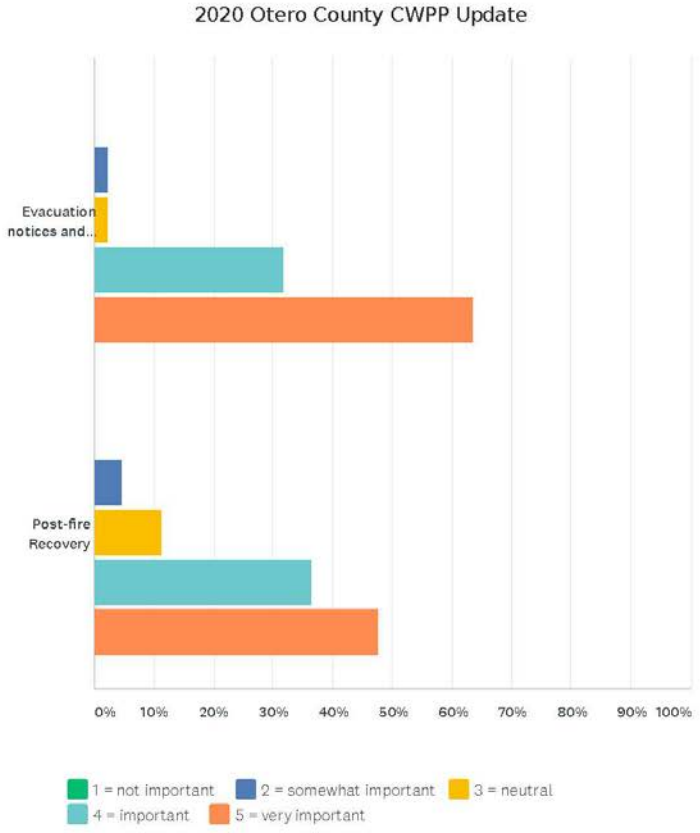
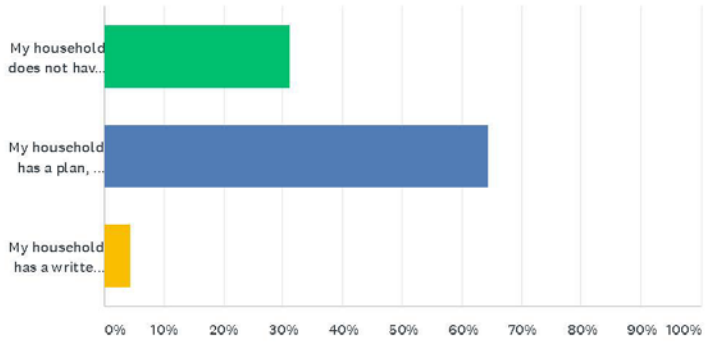


	1 = NOT IMPORTANT	2 = SOMEWHAT IMPORTANT	3 = NEUTRAL	4 = IMPORTANT	5 = VERY IMPORTANT	TOTAL	WEIGHTED AVERAGE
Hazardous fuels reduction in open space and adjacent lands	0.00% 0	2.27% 1	11.36% 5	20.45% 9	65.91% 29	44	4.50
Defensible space around homes	0.00% 0	2.27% 1	4.55% 2	18.18% 8	75.00% 33	44	4.66
Emergency notification during a wildfire	0.00% 0	0.00% 0	2.27% 1	18.18% 8	79.55% 35	44	4.77
Homeowner education and outreach	0.00% 0	4.55% 2	0.00% 0	34.09% 15	61.36% 27	44	4.52
Evacuation notices and procedures	0.00% 0	2.27% 1	2.27% 1	31.82% 14	63.64% 28	44	4.57
Post-fire Recovery	0.00% 0	4.55% 2	11.36% 5	36.36% 16	47.73% 21	44	4.27

Q16 Which of the following best describes your household's current disaster/emergency plan in case of wildfire?

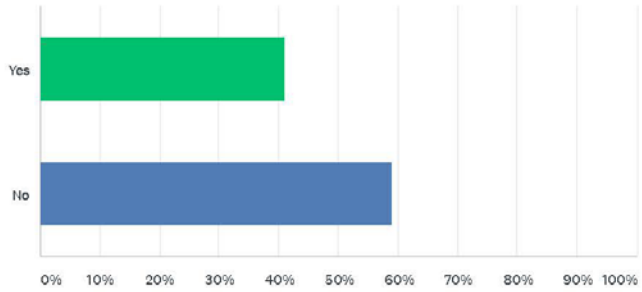
Answered: 45 Skipped: 1



ANSWER CHOICES	RESPONSES	
My household does not have a disaster plan	31.11%	14
My household has a plan, but it is not written	64.44%	29
My household has a written plan	4.44%	2
TOTAL		45

Q17 Do you have a prearranged meeting place for family members in the event of an evacuation?

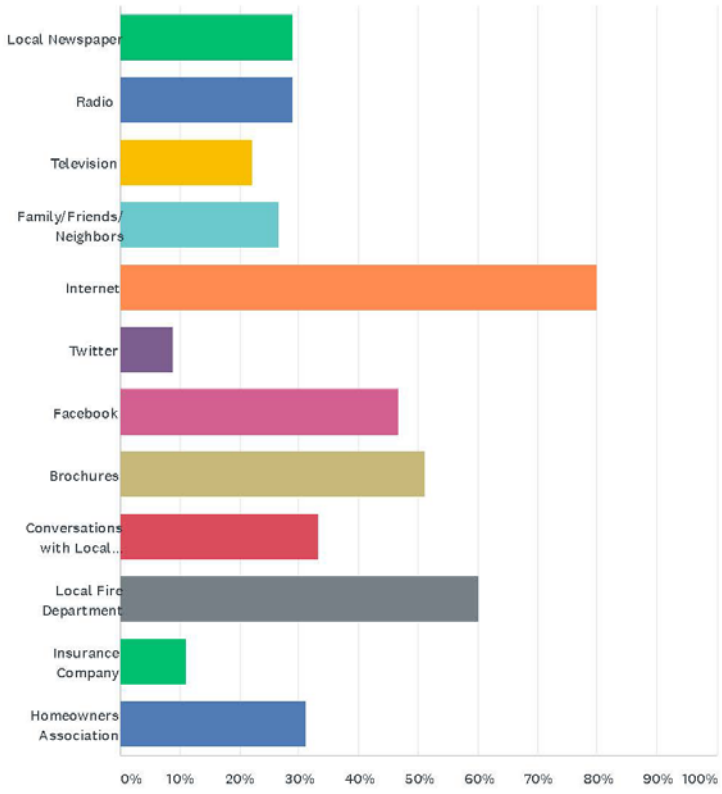
Answered: 44 Skipped: 2



ANSWER CHOICES	RESPONSES	
Yes	40.91%	18
No	59.09%	26
TOTAL		44

Q18 How would you prefer to receive information regarding wildfire prevention? Please check all that apply.

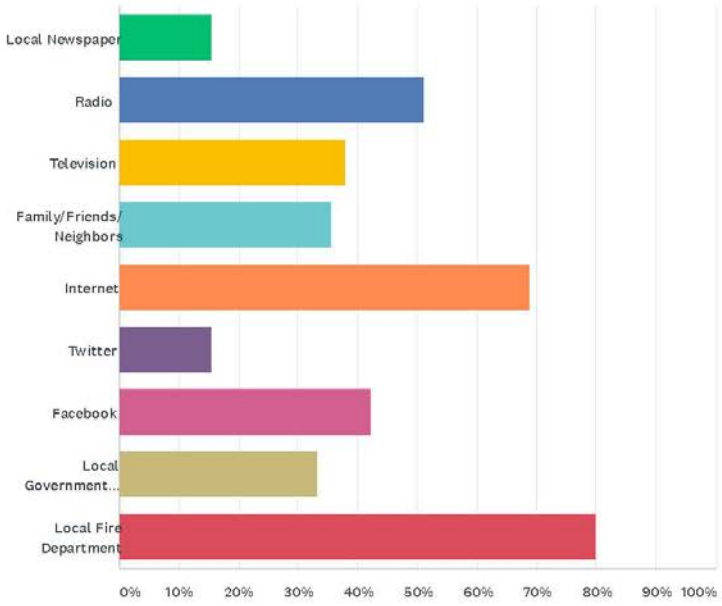
Answered: 45 Skipped: 1



ANSWER CHOICES	RESPONSES	
Local Newspaper	28.89%	13
Radio	28.89%	13
Television	22.22%	10
Family/Friends/Neighbors	26.67%	12
Internet	80.00%	36
Twitter	8.89%	4
Facebook	46.67%	21
Brochures	51.11%	23
Conversations with Local Government Representatives (county, city, etc)	33.33%	15
Local Fire Department	60.00%	27
Insurance Company	11.11%	5
Homeowners Association	31.11%	14
Total Respondents: 45		

Q19 How would you prefer to receive information during a wildfire emergency? Please check all that apply.

Answered: 45 Skipped: 1



ANSWER CHOICES	RESPONSES	
Local Newspaper	15.56%	7
Radio	51.11%	23
Television	37.78%	17
Family/Friends/Neighbors	35.56%	16
Internet	68.89%	31
Twitter	15.56%	7
Facebook	42.22%	19
Local Government Representative	33.33%	15
Local Fire Department	80.00%	36
Total Respondents: 45		

What are additional priority actions should Otero County include in the 2020 CWPP update?

- Answered: 14
- Skipped: 32

Have local fire departments access each property and give a score from 1 to 5 for fire protection. 1 being very poor to 5 being very defensible. County to provide information on how to upgrade score. County would tax properties with a 1 or two 2 rating and additional tax levy. Properties with a 4 or 5 rating a tax break.

Evacuation routes, emergency radio frequencies

Begin a State/federal fire mitigation program for home and land owners living in heavily forested areas.

Require some type of tree or thinning ordinance for private land in wooded areas.

Need better and update-able maps

Communication!

Property owners don’t clear the dead fall on property LLP

Have all campers/seasonal residents sign-in with the local fire dept and sign out out upon leaving, to verify no active embers are left on the property.

Test reverse 911 periodically to insure proper working order. Educate public. Many in Timberon don't know what it is.

We are brand new to the community and currently only have raw land, so I am not sure about a lot of this.

Awareness of folks with disabilities. Checking on them during emergencies.

Clean and remove brush from vacant properties.

Evacuation routes signage in mountain communities.

Locate and improve abandoned properties in Timberon with permission of the county and the local residents.