

Socorro County Community Wildfire Protection Plan



CWPP Socorro County November, 2018

Contact:

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Sponsored by:

Socorro County Board of Commissioners

Socorro County Fire Marshal's Office

Socorro Office of Emergency Management

Socorro County Fire Chief's Association

New Mexico Energy, Minerals & Natural Resources Department, Forestry Division

Additional support from:

BLM — Socorro Office

USFWS — Bosque del Apache National Wildlife Refuge

USFWS — Sevilleta National Wildlife Refuge

USFS — Cibola National Forest

Socorro Soil and Water Conservation District

Socorro County Local Emergency Planning Committee

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Socorro County

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SOCORRO COUNTY COMMUNITY WILDFIRE PROTECTION PLAN (CWPP)

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We, the undersigned do hereby endorse and approve the Socorro County Community Wildfire Protection Plan.

Socorro County Fire Chief's Association


Chairman

11-27-2018
Date

Socorro County Board of Commissioners


Chairman

11/27/2018
Date

San Antonio Volunteer Fire Department


Fred Hollis, Fire Chief

11-27-2018
Date

Midway Volunteer Fire Department


Marc Wheeler, Fire Chief

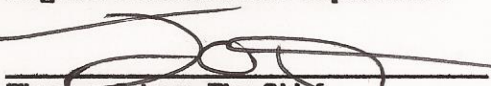
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Date

Abeytas Volunteer Fire Department


Richard Sylvestre, Fire Chief

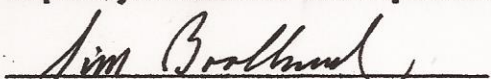
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Date

Veguita Volunteer Fire Department


Thomas Ortega, Fire Chief

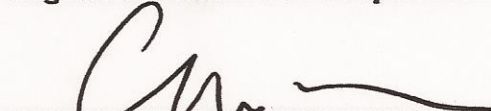
11.30-18
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Hop Canyon Volunteer Fire Department


Jim Bookland, Fire Chief

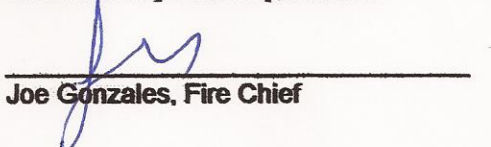
11/28/2018
Date

Magdalena Volunteer Fire Department


Michael Bisbee, Fire Chief

11/28/18
Date

Socorro City Fire Department


Joe Gonzales, Fire Chief

12-3-18
Date

New Mexico EMNRD Forestry Division

Doug Boykin
Doug Boykin, District Forester
Socorro District

11/29/18
Date

**SOCORRO COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN (CWPP)**

.....

We the undersigned support the Socorro County Community Wildfire Protection Plan.

COLLABORATING AGENCIES:

For: 

Mark Matthews, Manager
BLM Socorro Office

Date: 11/30/18

**SOCORRO COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN (CWPP)**

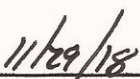
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We the undersigned support the Socorro County Community Wildfire Protection Plan.

COLLABORATING AGENCIES:



Kevin Cobble, District Manager
U.S. Fish & Wildlife Service, Bosque Del Apache National Wildlife Refuge



Date

**SOCORRO COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN (CWPP)**

.....

We the undersigned support the Socorro County Community Wildfire Protection Plan.

COLLABORATING AGENCIES:



Kim Obele, District Ranger
U.S. Forest Service, Magdalena Ranger District

11/29/2018

Date

COMMUNITY WILDFIRE PROTECTION PLAN

PURPOSE

TO ADDRESS THE WILDFIRE NEEDS OF SOCORRO COUNTY

Wildfires are a part of the natural process of life. Ecosystems are equipped for, and in fact thrive when fires are allowed to take their natural course. However, when human habitation and/or development mix with wildland fuels, the Wildland Urban Interface is created. The urban interface or WUI, creates an environment where structures and infrastructure become “fuels” for wildland fires. Developments in the WUI means both communities and individuals need to learn to identify wildfire hazards, prepare for wildfire events, and learn what can be done before a fire to reduce the negative impacts. This CWPP attempts to do just that. This plan should be used as a guideline to property owners and fire departments interested in addressing the wildfire hazards in their communities. The recommendations made are very general and the focus is on the privately owned WUI areas identified by the Core Team.

INTRODUCTION TO COMMUNITY WILDFIRE PROTECTION PLANS

The idea for community-based forest planning and prioritization is neither novel nor new. However, the incentive for communities to engage in comprehensive forest planning and prioritization was given new and unprecedented impetus with the enactment of the Healthy Forests Restoration Act (HFRA) in 2003. This landmark legislation includes the first meaningful statutory incentives for The US Forest Service (USFS) and the Bureau of Land Management (BLM) to give consideration to the priorities of local communities as they develop and implement forest management and hazardous fuel reduction projects. In order for a community to take full advantage of this new opportunity, it must first prepare a CWPP (CWPP).

This document — hereafter known as “The Plan” — is intended to summarize plans and activities targeted at reducing the risk of a catastrophic Wildland Urban Interface (WUI) fire event in Socorro County, and provide coordination and guidance to first responders and their respective jurisdictions in the event of wildfire. The successful usage of this planning document will ensure that the health, safety, and welfare of our citizens remain secure from the threat of wildfire in the urban interface. The Plan will improve planning tools for city and county alike, which will result in better building and development codes, as they relate to the urban interface growth. The Plan will also aid economic development of forest products by ensuring a sustainable forest by-product from fuels reduction efforts. Based on the needs of Socorro County, this Wildfire Protection Plan addresses the following issues;

The goals of The Plan are to:

- Prevent loss of life and health;
- Prevent destruction of property;
- Preserve and restore natural and beneficial function of our forests and watersheds;
- Control future increases in fire damage;
- Educate citizens and local businesses on the Plan’s content;
- Ensure the Plan and its goals are consistent with all stakeholders’ plans and expectations.

Objectives to be accomplished by The Plan include:

Identify, inventory and prioritize the risks associated with a WUI wildfire event;
Implement projects and programs intended to reduce the above risks;
Exercise (testing) and utilize the Plan with all local jurisdictions and first responder agencies.

Planning priorities of The Plan, in order of importance, are:

Protect human life and health.
Protect critical community infrastructure.
Protect private property.
Protect natural resources.
Wildfire hazards to the WUI and critical infrastructure.
Public education and outreach.
Hazard mitigation.
Fuels reduction projects
Treatment of structural ignitability
Improving firefighting capacity

The Socorro County Local Emergency Planning Committee, the USFS Magdalena District, the Bureau of Land Management Socorro Office, FWS Bosque del Apache Refuge, FWS Sevilleta Refuge, local Fire Districts, Socorro Soil and Water Conservation District, and the New Mexico State Forestry Socorro office have been working together over the years in an effort to better prepare for and respond to catastrophic wildfire in Socorro County. The information contained in this planning document reflects these organizations' focus and dedication to five strategies of the National Fire Plan:

- 1) Community Fire Planning;
- 2) Wildland Urban Interface Fuel Treatment;
- 3) Economic Development;
- 4) Forest Restoration
- 5) Community Education and Outreach.

The process of developing a CWPP can help a community clarify and refine its priorities for the protection of life, property, and critical infrastructure in the WUI. It also can lead community members through valuable discussions regarding management options and implications for the surrounding watershed. The language in the HFRA provides maximum flexibility for communities to determine the substance and detail of their plans and the procedures they use to develop them.

COMMUNITIES AND THE WILDLAND-URBAN INTERFACE

The WUI is commonly described as the zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. This WUI zone poses tremendous risks to life, property, and infrastructure in associated communities and is one of the most dangerous and complicated situations firefighters face. Both the National Fire Plan and the Ten-Year Comprehensive Strategy for Reducing Wildland Fire Risks to Communities and the Environment place a priority on working collaboratively within communities in the WUI to reduce their risk from large-scale wildfire. The HFRA builds on existing efforts to restore healthy forest conditions near communities and essential community infrastructure by authorizing expedited environmental assessment, administrative appeals, and legal review for hazardous fuels projects on federal land. The Act emphasizes the need for federal agencies to work collaboratively with communities in developing hazardous fuel reduction projects, and it places priority on treatment areas identified by communities themselves in a CWPP.

BENEFITS TO COMMUNITIES

In the context of the HFRA, a CWPP offers a variety of benefits to communities at risk from wildland fire. Among the benefits is the opportunity to establish a localized definition and boundary for the WUI. In the absence of a CWPP, the HFRA limits the WUI to within ½ mile of a community's boundary or within 1½ miles when mitigating circumstances exist, such as sustained steep slopes or geographic features aiding in creating a fire break. Fuels treatments can occur along evacuation routes regardless of their distance from the community. At least 50 percent of all funds appropriated for projects under the HFRA must be used within the WUI as defined by either a CWPP or by the limited definition provided in the HFRA when no CWPP exists. In addition to giving communities the flexibility to define their own WUI, the HFRA also gives priority to projects and treatment areas identified in a CWPP by directing federal agencies to give specific consideration to fuel reduction projects that implement those plans. If a federal agency proposes a fuel treatment project in an area addressed by a community plan but identifies a different treatment method, the agency must also evaluate the community's recommendation as part of the project's environmental assessment process.

COLLABORATION

A core group of personnel from Socorro County, New Mexico State Forestry, Socorro District and Federal Agencies was established to provide direction for the CWPP preparation.

Four public meetings were held on the afternoons and evenings throughout Socorro County, from September 6 2013, through September 28 2013. The purpose of these meetings was to encourage any group, organization, and/or persons to provide input and help with CWPP development. Specifically, meetings were held to establish a community base map, develop an initial CWPP outline, develop a community risk assessment, and establish community priorities and recommendations. Each meeting followed the same outline: present the purpose of the CWPP, provide an opportunity for questions and answers, and solicit group input. Input was also solicited from the BLM, Socorro District; New Mexico State Forestry, Socorro District; and Socorro County Fire Departments; among others.

The following agencies were invited to attend the core team meeting:

- Socorro County
- Bureau of Land Management
- Socorro Soil and Water Conservation District
- US Fish & Wildlife Service, Bosque Del Apache National Wildlife Refuge
- U.S. Forest Service, Magdalena Ranger District
- EMNRD State Forestry Division, Socorro District
- City of Socorro
- Village of Magdalena
- San Antonio VFD
- Midway VFD
- Abeytas VFD
- Veguita VFD
- Hop Canyon VFD
- City of Socorro FD
- Private land owners

Table 1. Core Team meetings

DATE	LOCATION
August 28, 2013 0900 hrs	Socorro County EMO. Office, Socorro NM
October 30, 2013 0900 hrs	Socorro County EMO. Office, Socorro NM
November 7, 2013 0900 hrs	Socorro County EMO. Office, Socorro NM

The purpose of these meetings was to encourage any group, organization, and/or persons to have input and help with development of Socorro County CWPP. We welcomed any support and/or the possibility of joining the core group. The plan will encourage the following:

- Interested Parties and to Form a Core Team,
- Establish a Community Base Map,
- Develop an Initial CWPP Outline,
- Develop a Community Risk Assessment, and
- Establish Community Priorities and Recommendations.

Participating Municipal and Volunteer Fire Departments:

Socorro City Fire Department
 Abeytas Volunteer Fire Department
 Hop Canyon Volunteer Fire Rescue
 Magdalena Village Fire Department
 Midway Hose Company & Rescue
 San Antonio Volunteer Fire Department
 Veguita Volunteer Fire Department

TABLE 2. Core Team Members

Organization	Name	Phone Cell	E-Mail
Socorro County FMO	Mark Mercer		
Socorro County EMO	Ken Wolf	575-835-2029	kwolf@co.socorro.nm.us
San Antonio Fire Chief	Fred Hollis	575-835-2029	
Hop Canyon Fire Chief	Jim Bookland	575-854-3107	
Midway Fire Chief	Marc Wheeler	575-418-8330	
Veguita Fire Chief	Thomas Ortega	505-321-7660	
Abeytas Fire Chief	Richard Sylvestre	505-205-4856	
Socorro City Fire Chief	Joe Gonzales	575-835-3969	
Magdalena Fire Chief	Michael Bisbee	575-418-7348	
NM State Forestry	Russell Thrun	505-410-7080	
USFWS	Kevin Cobble	505-864-4021	
BLM	Lann Moore		
USFS Magdalena	Ken Watkins	505-681-8736	
WxFireGraph LLC	Kenny Rogers	(575) 894-1043 (575) 740-7468	Kenny@wxfiregraph.com

COUNTY OVERVIEW

The Problems

“Good grass, soil, and water” were the natural resources that first drew the attention of Spaniards to Socorro in the late 18th century.

With increased residential growth in or near the forest boundary and the bosque areas (Wildland Urban Interface), risk from catastrophic wildfire has increased dramatically. Private inholdings are being developed with multiple structures and limited access. This growth has also increased the traffic on our roadways, resulting in safety concerns both for emergency response and urban interface fire evacuations.

The area receives an abnormally high number of lightning storms and ground strikes, due mainly to the topographical change from desert to rolling mountains; and receives only 6 inches of rainfall, annually in lower elevations, to 30 inches in the higher elevations above 10,000 feet., annually. The vegetation in the county ranges from desert grasslands in the lower elevation plains and foothills, riparian/bosque vegetation along the Rio Grande and other major drainages, oak/piñon-juniper savannah in the lower mid elevations, ponderosa pine stringers intermixed with piñon/juniper woodlands in the upper foothills, pure ponderosa pine stands on upper elevation slopes and mesa tops, and mixed conifer/alpine vegetation near the tops of the major mountain ranges. The vegetation surrounding the City and the vast 6634 square miles making up Socorro County consists of transitions from desert grasslands in the south to bosque river areas, to oak/piñon-juniper savannah, to ponderosa pine stringers intermixed with piñon/juniper woodlands, to pure ponderosa pine stands in the west. This ponderosa pine ecosystem is a part of the largest continuous area of ponderosa pine in the world, and is referred to as a short-interval, fire-adapted ecosystem. The frequent fires that helped sustain this ecosystem were low intensity, benign surface fires which kept stands open and park-like. However, with our nation’s intensive fire suppression efforts these past hundred years, these ponderosa and piñon/juniper ecosystems have grown into overly dense stands and have produced many unhealthy characteristics including:

- Accumulation of fuels with subsequent increases in fire severity and size;
- Decreases in soil moisture and nutrient availability;
- Decreases in growth and diversity of both herbaceous and woody plants;
- Decreases in spring and stream flow.

These areas are also taking the heaviest brunt of semi-urban construction, due to the aesthetically pleasing surroundings and advantageous climate.

CWPP Socorro County November, 2018

Socorro County's natural resources have played a significant role in the makeup of its communities' cultures and the development of mining and ranching that have sustained its local economy. The economic and environmental issues facing Socorro County go beyond current concerns with county budget shortfalls. They point to the need for a new commitment to planning on the part of local governments. How to deepen the process of economic diversification in the area has been an issue since the mid 19th century and will continue to need to be addressed and studied.

One of the purposes of this Community Wildfire Protection Plan is to ensure the above economic conditions and issues are addressed.

COMMUNITIES

Socorro County has two municipalities: City of Socorro and Village of Magdalena and seven rural community areas: Abeytas, Hop Canyon, La Joya, Las Nutrias, Bosquecito, Contreras, Sabinal, San Francisco, Midway, San Antonio, Veguita, and Alamo Reservation. In addition to the municipalities and communities, numerous remote ranches are located throughout the County. Essential infrastructure includes the Socorro Airport, Interstate Highway 25, US and State highways, NSF Railroad, electric transmission lines, petroleum product pipelines; and radio communication sites.

WATER RESOURCES

The Rio Grande River east side of the county is the only naturally occurring water source in Socorro County. Water utilized for municipal consumption, agricultural irrigation, ranching, and firefighting is drawn from aquifers.

Socorro County Local Community Water Supplies

Objective

To improve existing water systems and increase water supply to ensure adequate water supply for local firefighting efforts.

Work Completed

Abeytas has a 30,000 gallon storage tank. Hop Canyon has a 36,000 Gallon storage tank. La Joya has Fire Hydrants in area. Midway has Polvadera water system to cover their area. San Antonio has San Antonio water system to cover their area. Veguita has 42,000 gal. tanks to cover their area. Magdalena has a water system for their village. Socorro has a water system for the city.

Budget and Finance

Explore methods to use funds that are being allocated through the National Fire Plan and other community assistance programs to assist the county and local fire departments to install these improvements. FEMA and VFA/RVA grants are available for these types of projects.

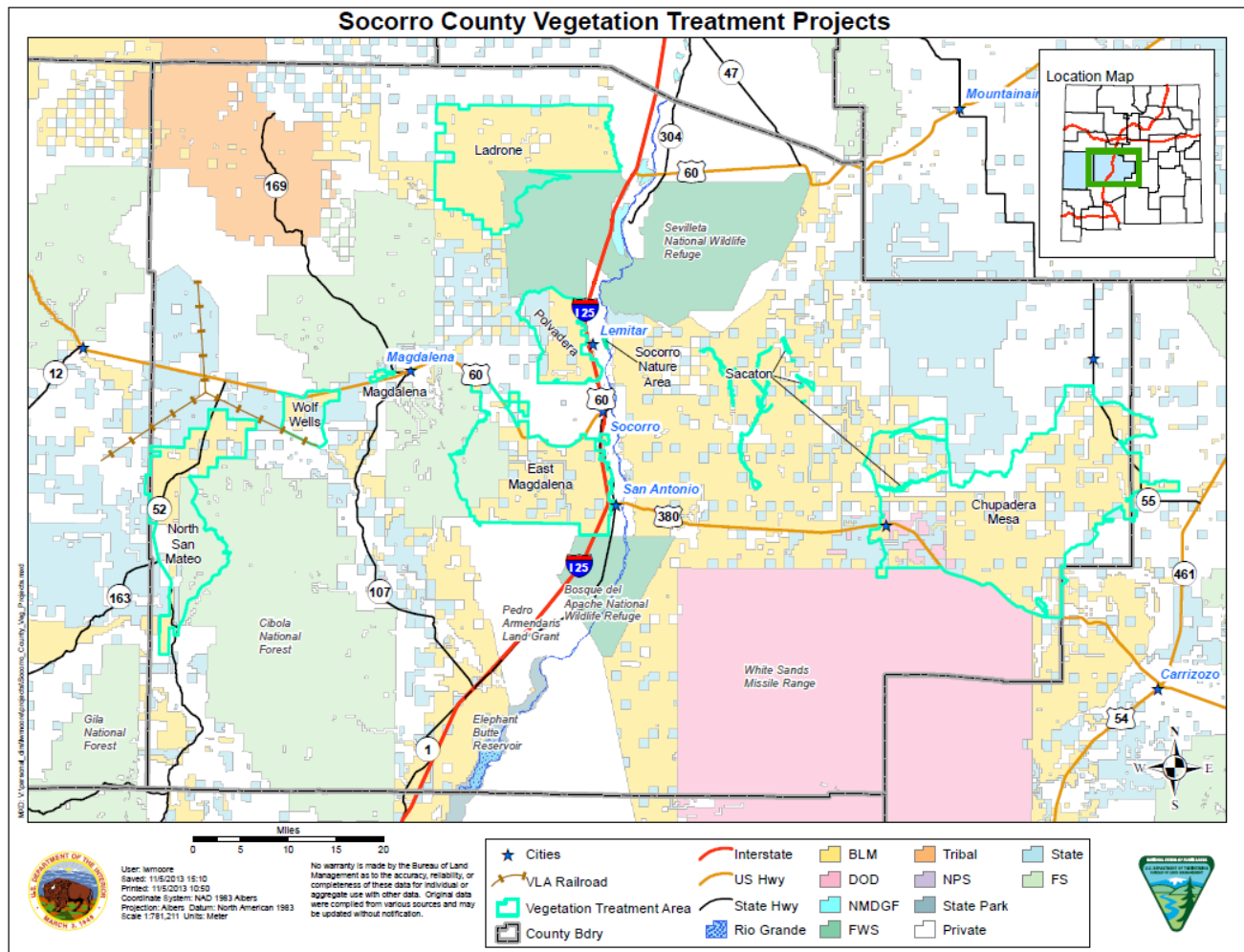
LAND and VEGETATION

Vegetation types in the County include:

- Lakebed, Lower elevation, Upper elevation, High Desert, and Sacaton Grasslands;
- Grassland/riparian;
- Chaparral;
- Desert Shrub lands;
- Riparian, Piñon-juniper, Piñon-juniper/oak, Oak, and Pine-oak Woodlands; and
- Coniferous and mixed woodland forests.

Fire behavior fuel models represented in the County are:

- Fuel Model 1 Grass Group (1 foot deep grass, very little shrub or timber present);
- Fuel Model 2 Grass Group (1 foot deep grass, open shrub lands and pine or oak stands present);
- Fuel Model 4 Shrub Group (6 feet deep fuels, with grass, chaparral, and shrub);
- Fuel Model 6 Shrub Group (2.5 feet deep fuels, general shrub lands);
- Fuel Model 8 Timber Litter Group (0.2 foot deep fuels; short needle conifers and or oak stands; needles, leaves, twigs); and
- Fuel Model 9 Timber Litter Group (0.2 foot deep fuels; long needle conifer and hardwood stands).



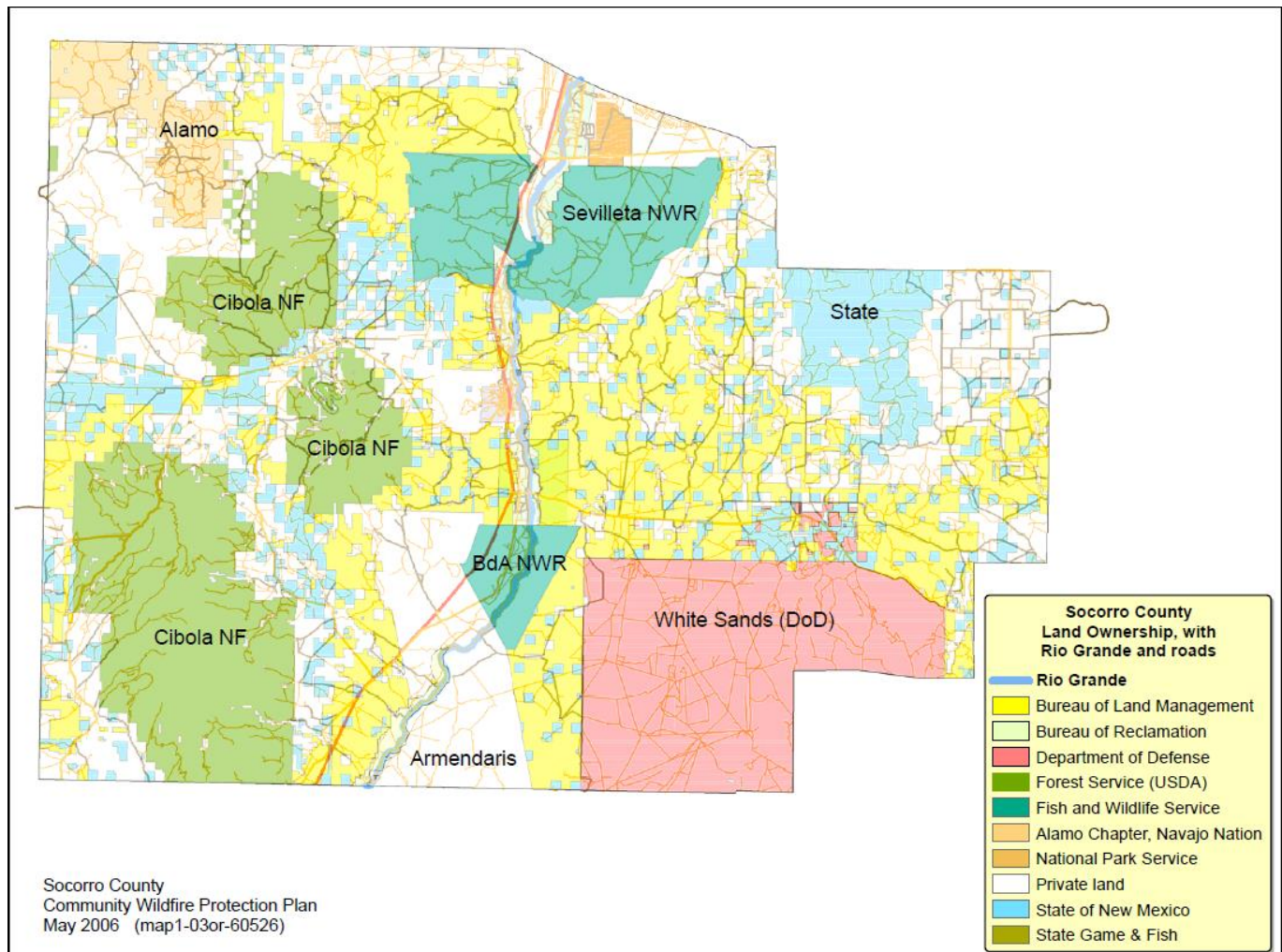
Map 1. Socorro County Vegetation Map.

Electronic Maps Disk:

Land Ownership

Landownership in Socorro County consists of a mix of private, State trust, USFS, BLM, F&WS, DOD, BOR, and Alamo Chapter Navajo Nation.

Map 2 shows the distribution of landownership in the county



Map 2. Socorro County Ownership Map.

Electronic Maps Disk:

[CWPP Socorro Appendix B County Maps/CWPPSocorro Ownership 8x11 Nad27UTM13N.pdf](#)

Fire History

Fire History in the Cibola National Forest

Prior to the late 1800's, frequent low-intensity surface fires helped to maintain this ponderosa pine and Gamble oak forest. Early records from the 1800's describe this forest as more open, with little downed woody material. Ground cover was a continuous grass savanna, with the grasses becoming dormant during the dry periods of May and June. The accumulated leaf biomass of several fire-free years provided fine fuels to carry low-intensity ground fires with little damage to the parent plant. These grasses recovered quickly with the arrival of moisture from the tropics during the summer monsoon period.

Tree ring analysis of burn scars has been used to estimate fire frequencies within the stands of ponderosa pine in the Southwest. It is generally accepted that fire occurred at 2 to 12 year intervals. Stand-replacement crown fires were considered rare and were typically confined to small thickets when they occurred. Because of these frequent fire events, it is believed that the species of plants and animals within this vegetation type have evolved with fire.

Fire History of BLM land

Most fires on BLM lands in Socorro County occur during the late spring and early summer, and are usually less than 10 acres in size. Grazing by wildlife and livestock reduces the fine fuel loading, which causes most fires to not burn well. In those years following a good monsoon season, grass production is higher which usually results in more and larger fires on BLM lands, with lightning as the major cause.

Prescribed fire makes up the majority of the acres that are burned on BLM lands in Socorro County. Most of the burning is done to maintain and/or restore grasslands, piñon / juniper stands and ponderosa pine stands. Historically, the Socorro Field Office has burned between 1,000 and 5,000 acres each year (this includes acres burned in Catron County).

Fire History of Bosque del Apache NWR

In 1936, the Federal Government purchased the land which had once been Antonio Sandoval's ranch, in order to establish a refuge for protecting wildlife which follow the Rio Grande in their wintering migrations, from Canada and the northern United States south to Mexico or beyond. In 1939 President Roosevelt created the 57,191-acre Bosque del Apache NWR in the area situated between the crest of the Chupadera range to the west and San Pasqual Mountain to the east. While the Congressional mandate for the Refuge focuses more on the wetlands, most of the Refuge consists of upland desert. It currently includes three Wilderness Areas, the Chupadera, the Indian Wells, and the Little San Pasqual, for a total of 30,850 acres, which are minimally managed. There are also five Research Natural Areas totaling 18,500 acres.

CWPP Socorro County November, 2018

In 1939, a large CCC crew and heavy equipment were brought in and set to work constructing ditches, dikes, and ponds in the riparian flood plain along the Rio Grande for wetland impoundments. They also built the administrative compound, and the Refuge prospered.

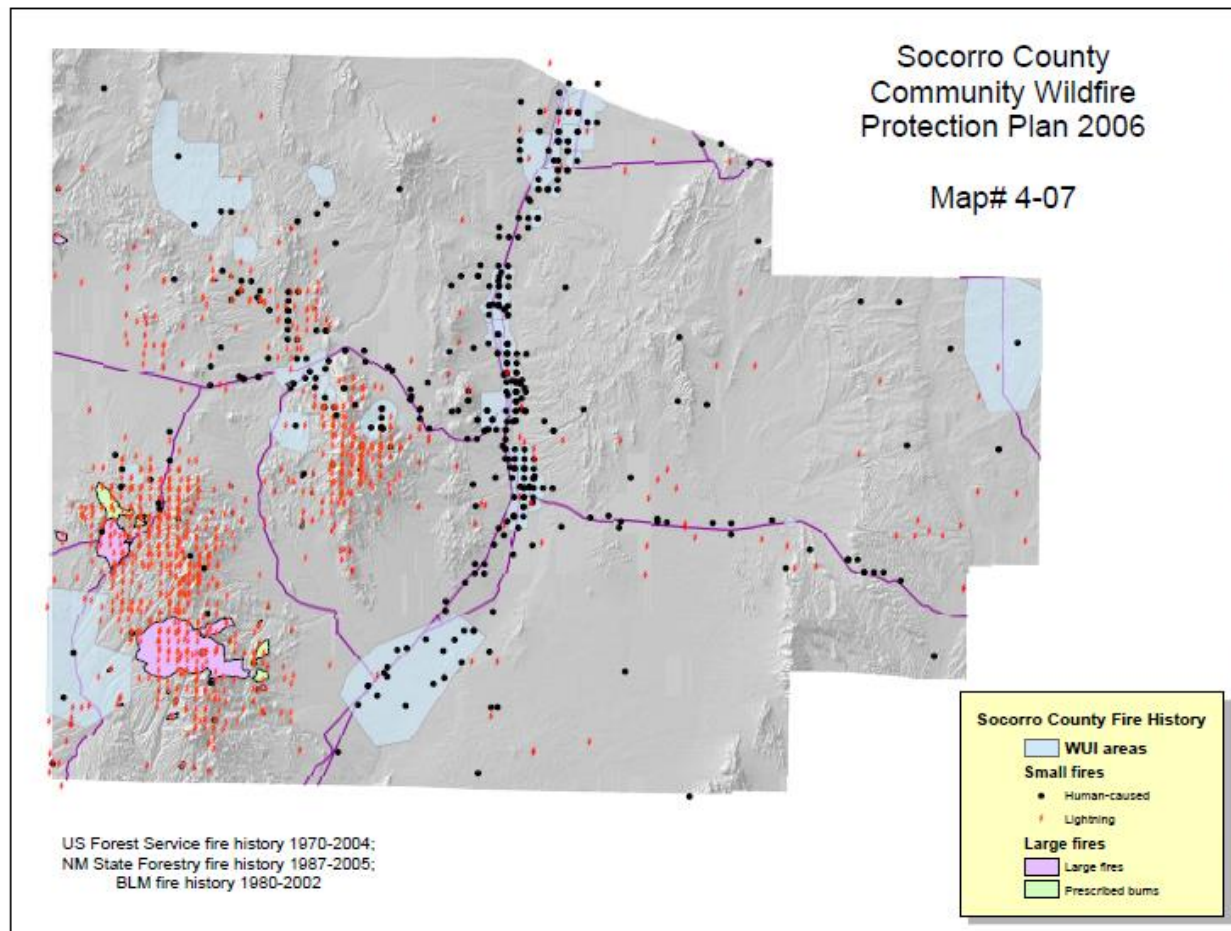
Unfortunately, only a small crew was left behind to manage all that was created. Budgets and management levels and styles fluctuated, and over time the Refuge fell into disrepair. Wetlands were actively managed off and on for the next 40 years.

In 1987 wetland renovation began, driven by Moist Soil Management techniques. The locations of inflows and outflows which bring water in and out of the fields (which are seasonally inundated with water to create wetlands primarily for dabbling ducks) were re-engineered to facilitate flow over the land from the intakes on the north and east sides of the fields to the outlets on the south and west sides. The lay of the land is higher to the east and north; therefore water enters the Refuge at the north through several water delivery canals running along higher ground to the east. After passing through a series of ditches and wetlands, it ends up in the Interior Drain, which is about four feet lower than the wetlands.

The Interior Drain runs along the west side of the wetlands flowing south and eventually back to the Rio Grande. More dikes were constructed so that water depths could be controlled on sloping terrain, and canals were reconstructed so water flow could be controlled, and a simple outflow gate was designed which made it easier to control water depth in the wetlands.

Much of the land managed for wetlands, as well as areas of the natural bosque, is being reclaimed from salt cedar brush lands. Salt cedar (tamarisk) is not native to the southwest. It robs essential moisture from the indigenous vegetation and responds favorably to fires that normally kill the native plants, making assertive reclamation efforts to re-introduce the native species necessary. The Refuge has been a partner in a number of habitat restoration efforts in the area, and is considered an important local resource for information on the natural environment and restoration techniques.

The Refuge hosts approximately 150,000 visitors per year with wildlife, viewing being the primary visitor use. The Festival of the Cranes each fall brings thousands of visitors to the local area



Map 3 Socorro County Fire History Map.

Electronic Maps Disk:

High Priority NTMB Species Cibola 2005 list

Blue grouse Scaled quail Montezuma quail Band-tailed pigeon Flammulated owl Elf owl Black-chinned hummingbird Broad-tailed hummingbird Williamson's sapsucker Red-naped sapsucker Olive-sided flycatcher Gray flycatcher Loggerhead shrike Piñon Jay Bendire's thrasher Crissal thrasher Olive warbler Virginias warbler Black-throated gray warbler Grace's warbler Red-faced warbler Painted redstart Black-chinned sparrow Vesper sparrow Eastern meadowlark
Cibola D3 (Magdalena) list of Regional Forester Sensitive Species as of 01/2006

MAMMALS Status on District

Black-tailed prairie dog *Cynomys ludovicianus* S* Mexican gray wolf *Canis lupus baileyi* S* Rocky Mountain bighorn sheep *Ovis canadensis canadensis* S*

BIRDS

Northern goshawk *Accipiter gentilis* SB American peregrine falcon *Falco peregrinus anatum* SB Bald eagle *Haliaeetus leucocephalus* S Mexican spotted owl *Strix occidentalis lucida* SB Loggerhead shrike *Lanius ludovicianus* S Gray vireo *Vireo vicinior* S? Montezuma quail *Cyrtonyx montezumae* SB

AMPHIBIANS

Chiricahua leopard frog *Rana chiricahuensis* S? Northern leopard frog *Rana pipiens* S?

FISHES

Rio Grande silvery minnow *hybognathus amarus* HD

SNAILS

Alamosa springsnail *Tryonia alamosae* HD Socorro springsnail *Pyrgulopsis neomexicana* HD

INSECTS

Blue-back silverspot butterfly *Speyeria nokomis nokomis* S NM silverspot butterfly *Speyeria nokomis nictocris* S

PLANTS

Zuni fleabane *Erigeron rhizomatus* S Horrid herrickia *Eurybia horrida* S? San Mateo penstemon *Penstemon pseudoparvus* S? (also called Crosswhite Mt. Washington beardtongue) Parish's alkali grass *Puccinellia parishii* S? Spellenberg's groundsel *Senecio spellenbergii* S?

STATUS DEFINITIONS:

S Presence of species documented and likely still occurs;

S* Presence of species documented or almost certainly occurred,

But almost certainly no longer occurs on District;

Management Indicator Species (MIS) for Cibola National Forest Mountain Districts

SOCORRO COUNTY WILDLAND URBAN INTERFACE

The WUI is commonly described as the zone where structures and other human development meet and intermingle with undeveloped wildland or vegetative fuels. This WUI zone poses tremendous risks to life, property, and infrastructure in associated communities and is one of the most dangerous and complicated situations firefighters face. Both the National Fire Plan and the Ten-Year Comprehensive Strategy for Reducing Wildland Fire Risks to Communities and the Environment place a priority on working collaboratively within communities in the WUI to reduce their risk from large-scale wildfire. A CWPP offers a variety of benefits to communities at risk from WUI. The Socorro County Core Team defined the Socorro County WUI by placing a WUI boundary around each of the communities in Socorro County as listed in Table 3. Most WUI areas within Socorro County have a threat of wildfire from within the boundary due to large amount and continuous light fuels growth inside the communities.

RISK ASSESSMENT

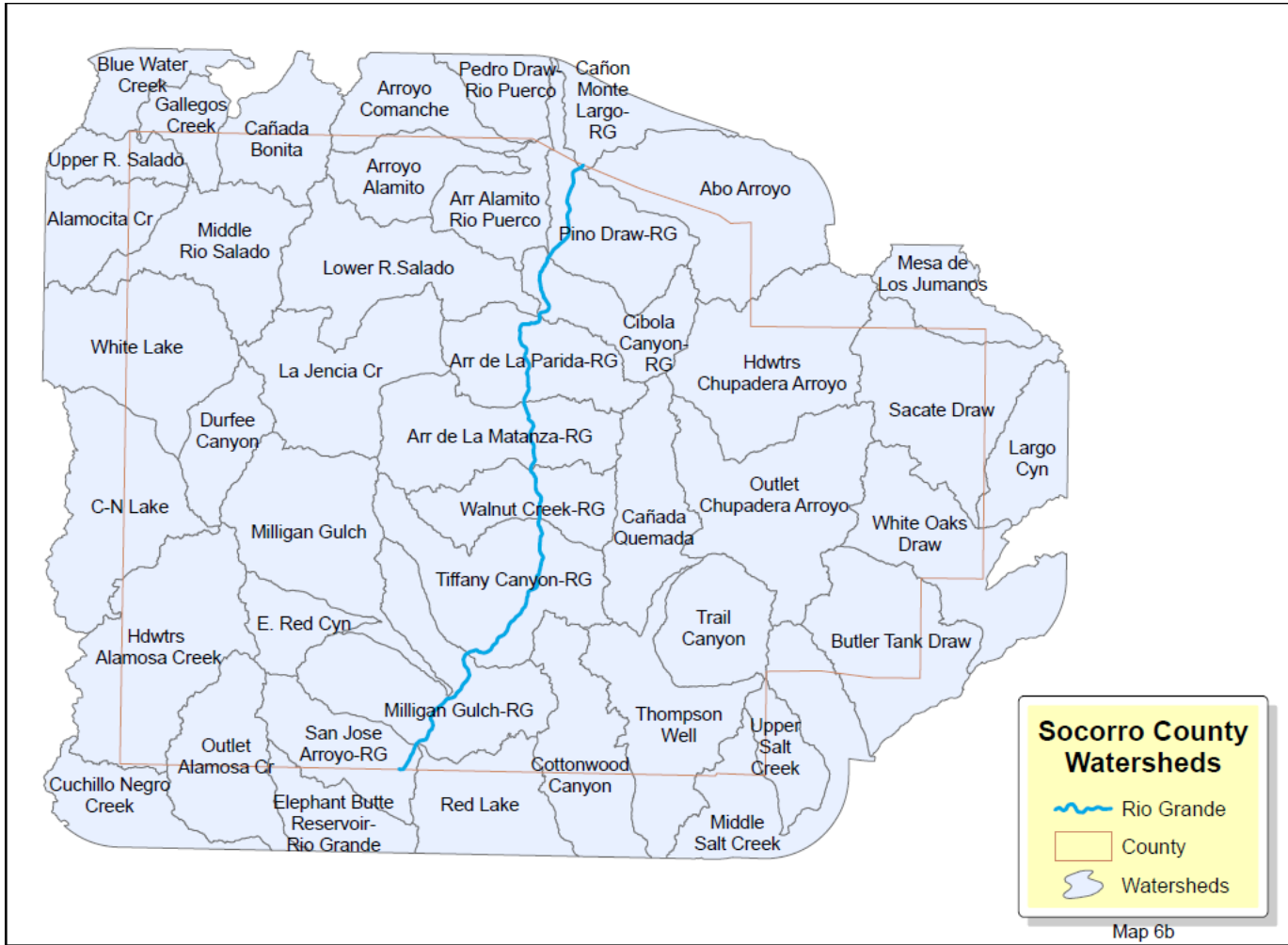
County WUI areas were evaluated and a hazard rating was developed for each based on the following criteria:

- Building construction materials;
- Infrastructure (roads, bridges, driveways and turnarounds);
- Water availability.
- Interface concerns (vegetation fuels, terrain, slope and aspect, number of lots, estimated structure density, and closest fire department).
- Weather, fuels, and fire behavior determined WUI boundary. There is no standard distance for WUI boundary.

TABLE 3 Socorro WUI/ Watershed Priority Matrix

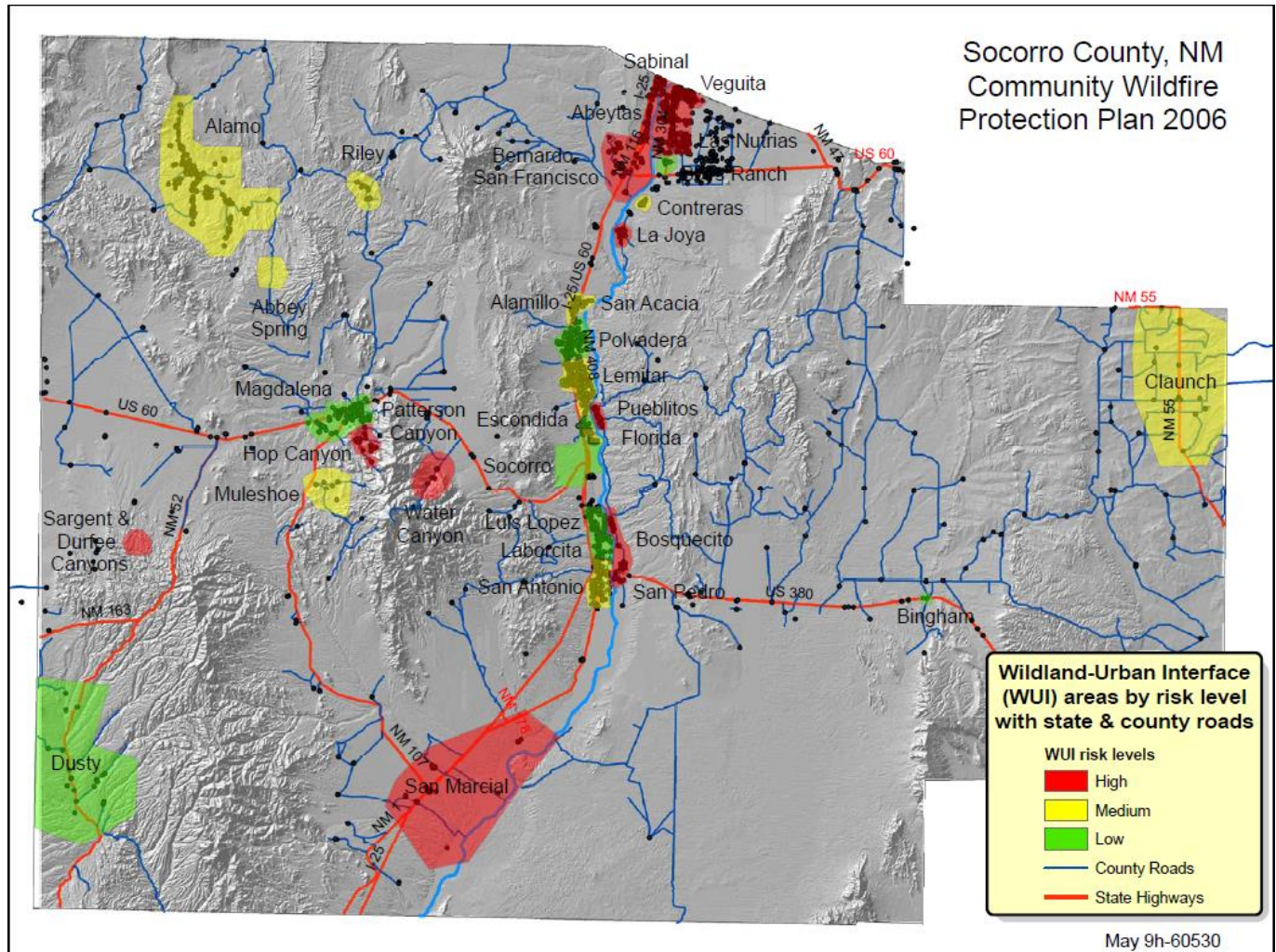
Socorro WUI/ Watershed Priority matrix			Low 1-6		Medium 7-10		High 11-15	
WUI Area	Private lands and structures Yes = 1, No = 0	Population density <250 =1, 250 = 2	Fuel Types Grass = 1, PJ-Shrub = 2, PiPo = 3, Mixed Conifer = 4, Bosque = 5	Ingress, Egress Issues 1 Low, 2 Medium, 3 High	FD- Yes = 0, No = 1	Federal Interagency Cooperation Possible, yes = 1, 0 = no	NEPA complete (2) or in planning (1) on adjoining federal ground	Total Score Possible total score of 15
San Antonio	1	2	2	1	0	1	0	7
Bosquecito	1	1	5	3	0	1	0	11
San Pedro	1	1	5	3	0	1	0	11
Luis Lopez	1	1	2	1	0	1	0	6
Laborcita	1	1	2	1	0	1	0	6
San Marcial	1	1	5	3	1	1	0	12
Lemitar	1	2	2	1	0	1	0	7
San Acacia	1	1	2	2	1	1	0	8
Polvadera	1	1	2	1	0	1	0	6
Pueblito	1	1	5	2	1	1	0	11
Alamillo	1	1	2	1	1	1	0	7
Escondida	1	1	2	1	0	1	0	6
Abeytas	1	2	5	2	0	1	0	11
Sabinal	1	2	5	2	0	1	0	11
San Francisco	1	1	5	3	1	1	0	12
La Joya	1	2	5	3	0	1	0	12
Contreras	1	1	2	2	0	1	0	7
Veguita	1	2	5	2	0	1	0	11
Las Nutrias	1	2	5	2	0	1	0	11
Boys Ranch	1	1	1	1	0	1	0	5
Hop Canyon	1	2	4	3	0	1	2	13
Paterson Canyon	1	1	4	3	0	1	2	12
Water Canyon	1	1	3	3	1	1	2	12
Bingham	1	1	1	1	1	1	0	6
Socorro city	1	2	1	1	0	1	0	6
Florida	1	2	2	1	1	1	0	8
Magdalena	1	2	1	1	0	1	0	6
Riley	1	1	2	2	1	1	0	8
Mill Canyon	1	1	2	2	1	1	0	7
Sargent Canyon	1	1	4	3	1	1	1	12
Durfee Canyon	1	1	4	3	1	1	1	12
Alamo	1	2	2	1	1	1	0	8
Abbe Springs	1	1	2	2	1	1	0	8
Dusty	1	1	1	1	1	1	0	6
Claunch	1	1	2	1	1	1	0	7

CWPP Socorro County November, 2018
MAP Socorro WUI/ Watershed Priority Matrix



Map 4 Socorro County WUI /Watershed Map.
Electronic Maps Disk:

MAP Socorro WUI/ overview



Map 5 Socorro County WUI Overview.

Electronic Maps Disk:

Hazard ratings of low, moderate, or high were assessed by fire history, fuels, topography, and nature of the WUI. Assessments for individual properties can be done using the assessment form included in Appendix 1 of this CWPP to determine an individual's home or property Fire Hazard.

WILDLAND URBAN INTERFACE PER FIRE DEPARTMENT

San Antonio Fire Department has a total of 6 WUI areas within its response district.

✓ **San Antonio**

LEGAL: T14S R18W Sec 33; T15S R18W Sec 3, 4, 11

DESCRIPTIVE LOCATION: 10 miles south of Socorro on Hwy 380

VEGETATION FUELS: Grass brush (mesquite) cottonwood, salt cedar & willow along the Rio Grande

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS: 120

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: Various

ROOF: Various; **TERRAIN:** Flat; **SLOPE:** 0-5% **ASPECT:** E to NE

ACCESS: Hwy 380; **ROADS:** Hwy 380 Hwy 1. Farm market road

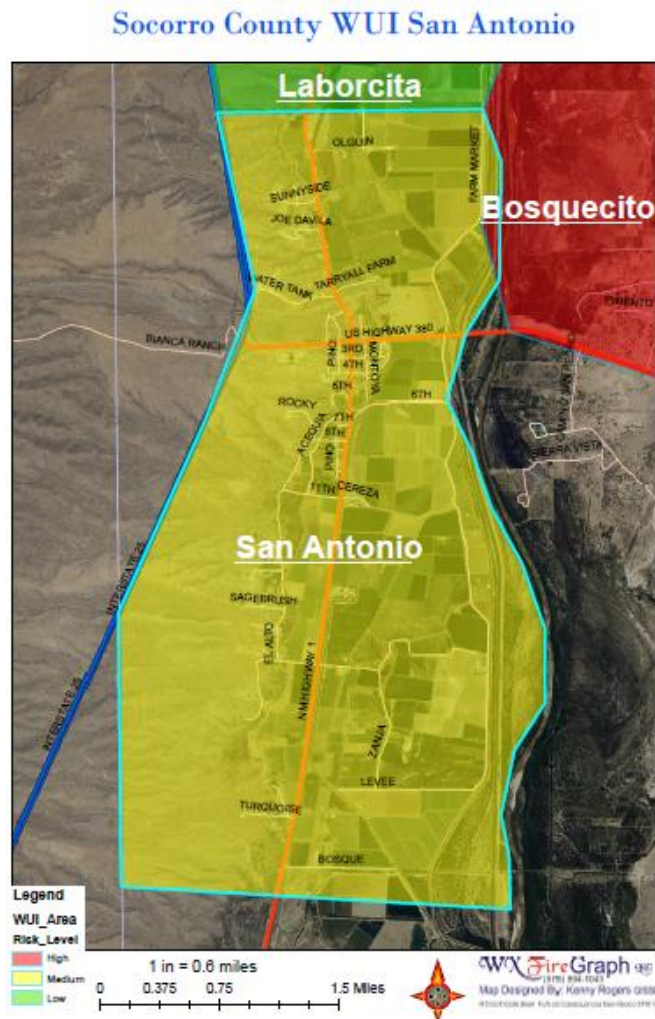
BRIDGES: Over Rio Grande: US 380

DRIVEWAYS: Driveways are dirt and some narrow

WATER AVAILABILITY: Fire hydrants available around district

CLOSEST FIRE DEPARTMENT (in miles): San Antonio VFD (ISO rating 5) 1/10 mile

AVERAGE HAZARD RATING: Low



Map 6. WUI-San Antonio Electronic Maps Disk

CWPP Socorro County November, 2018

✓ **Bosquectio**

LEGAL: T17S R13W Sec. 26

DESCRIPTIVE LOCATION: Hwy 380

VEGETATION FUELS: Grass, brush, cottonwoods. Salt cedar & willow along the Rio Grande

ESTIMATED DENSITY (population per square mile): 50

NUMBER OF LOTS: 30

TOTAL ACRES: 32000

CONSTRUCTION MATERIALS: Various

ROOF: Various primarily metal roofs.

TERRAIN: Open with some man made obstructions.

SLOPE: Flat to slightly rolling.

ASPECT: All

ACCESS: One way in and out on a good paved road.

ROADS: Paved roads wide easy access.

BRIDGES: None

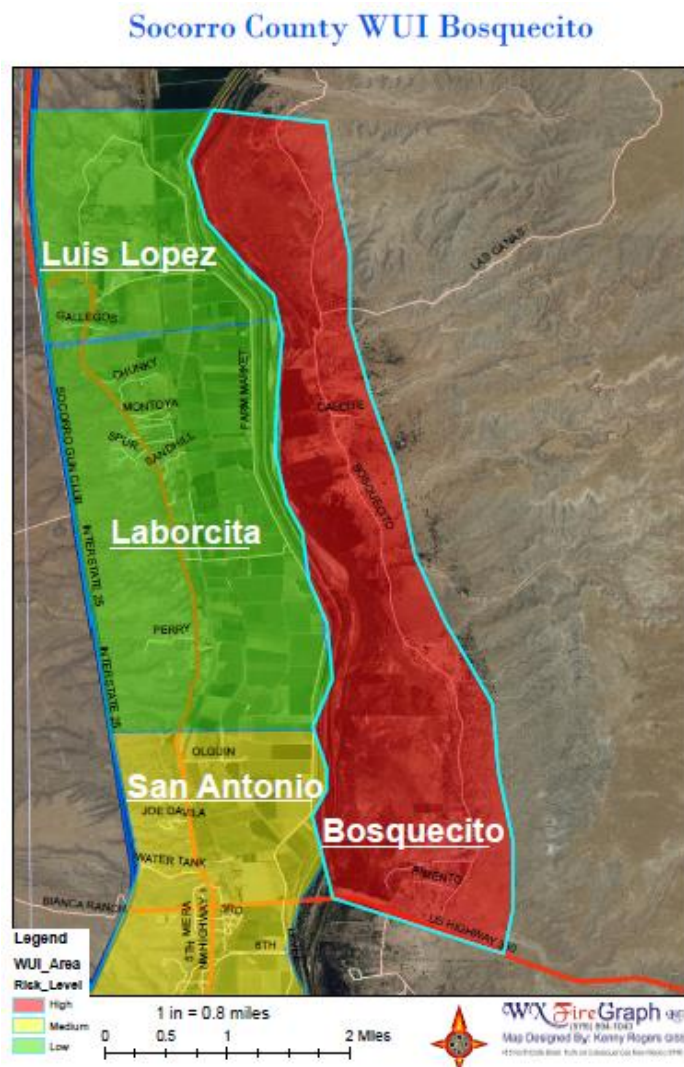
DRIVEWAYS: Short and accessible.

WATER AVAILABILITY: 20,000 gal. Tank

CLOSEST FIRE DEPARTMENT: San Antonio VFD (ISO rating 5) substation in Bosquecito

AVERAGE HAZARD RATING: High

COMMENTS: Easy access.



Map 7 WUI-Bosquectio Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **San Pedro**

LEGAL: T20S R11W Sec. 21

DESCRIPTIVE LOCATION: 2 miles East on Hwy 380

VEGETATION FUELS: Grass and Bosque. Brush (mesquite), cottonwood, salt cedar & willow along the Rio Grande

ESTIMATED DENSITY (population per square mile): 40

NUMBER OF LOTS: 16

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: From mobile homes to adobe

ROOF: Mostly metal or composition

TERRAIN: Rolls and dips

SLOPE: Flat to 5%

ASPECT: All

ACCESS: Paved road from US 380

ROADS: Fair

BRIDGES: None

DRIVEWAYS: Mostly short and narrow

WATER AVAILABILITY: Hydrants available from San Antonio MDWCA

CLOSEST FIRE DEPARTMENT: San Antonio (ISO rating 5)

AVERAGE HAZARD RATING: HIGH

✓ **Luis Lopez**

LEGAL: T18S R10W Sec. 14

DESCRIPTIVE LOCATION: 5 miles north of Hwy 380 on state road 1

VEGETATION FUELS: Grass, brush (mesquite), cottonwood, salt cedar & willow

ESTIMATED DENSITY (population per square mile): 100

NUMBER OF LOTS: 75

TOTAL ACRES: 1220

CONSTRUCTION MATERIALS: Various wood frame and conventional

ROOF: Mostly composition and metal

TERRAIN:

SLOPE:

ASPECT: All

ACCESS: State road one

ROADS: Good

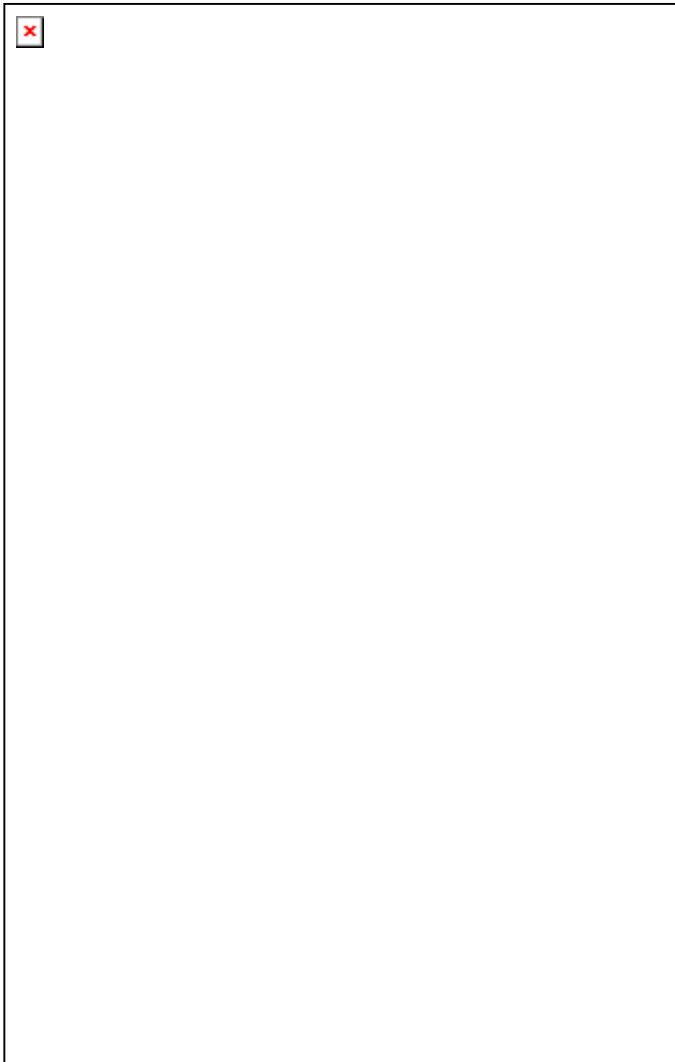
BRIDGES: At least 3 some limited to 5 tons or less over ditches

DRIVEWAYS: Narrow rough, locked gates

WATER AVAILABILITY: hydrants available

CLOSEST FIRE DEPARTMENT: Luis Lopez Station, San Antonio Fire District (ISO rating 5)

AVERAGE HAZARD RATING: Low



Map 9 WUI-Luis Lopez Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Laborcita**

LEGAL: T18S R10W Sec. 8

DESCRIPTIVE LOCATION: 2.5 miles North on Hwy 1 from San Antonio Hwy 380

VEGETATION FUELS: Grasses and Bosque grass, brush (mesquite) cottonwood, salt cedar & willow .

ESTIMATED DENSITY (population per square mile): 50

NUMBER OF LOTS: 25

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: From mobile homes to adobe

ROOF: Mostly composition and metal

TERRAIN: River bottom

SLOPE: Flat to 10%

ASPECT: All

ACCESS: State highway 1

ROADS: Fair narrow

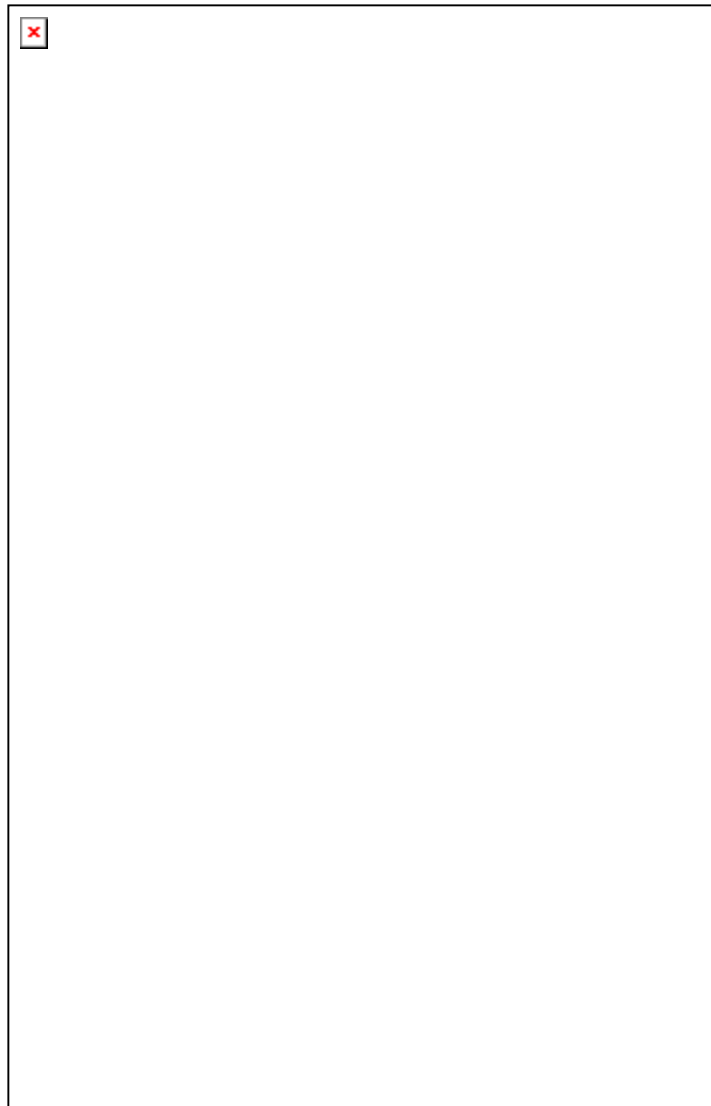
BRIDGES: None

DRIVEWAYS: Narrow

WATER AVAILABILITY: Water available from San Antonio MDWCA hydrants.

CLOSEST FIRE DEPARTMENT: San Antonio (ISO rating 5)

AVERAGE HAZARD RATING: Low



Map 10 WUI-Laborcita Electronic Maps Disk:

✓ **San Marcial**

DESCRIPTIVE LOCATION:

ESTIMATED DENSITY (population per square mile):

TOTAL ACRES:

ROOF: Mostly composition and metal

SLOPE: Flat to 10%

ACCESS: State highway 1

BRIDGES: 4 over channel

WATER AVAILABILITY: No water available trucked from San Antonio MDWCA hydrants.

CLOSEST FIRE DEPARTMENT: San Antonio (ISO rating 5)

AVERAGE HAZARD RATING: High

Socorro County WUI San Marcial



Midway Fire Department has a total of 5 WUI areas within its response district.

✓ **Lemitar**

LEGAL: T15S R17W Sec 28, 29, 33

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, mesquite, cottonwood, salt cedar and willow.

ESTIMATED DENSITY (population per square mile): 120

NUMBER OF LOTS: 175

TOTAL ACRES: 1280

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Flat w/ some hills

SLOPE: 0-20%

ASPECT: South mostly

ACCESS: Good

ROADS: Good

BRIDGES: Escondido over River

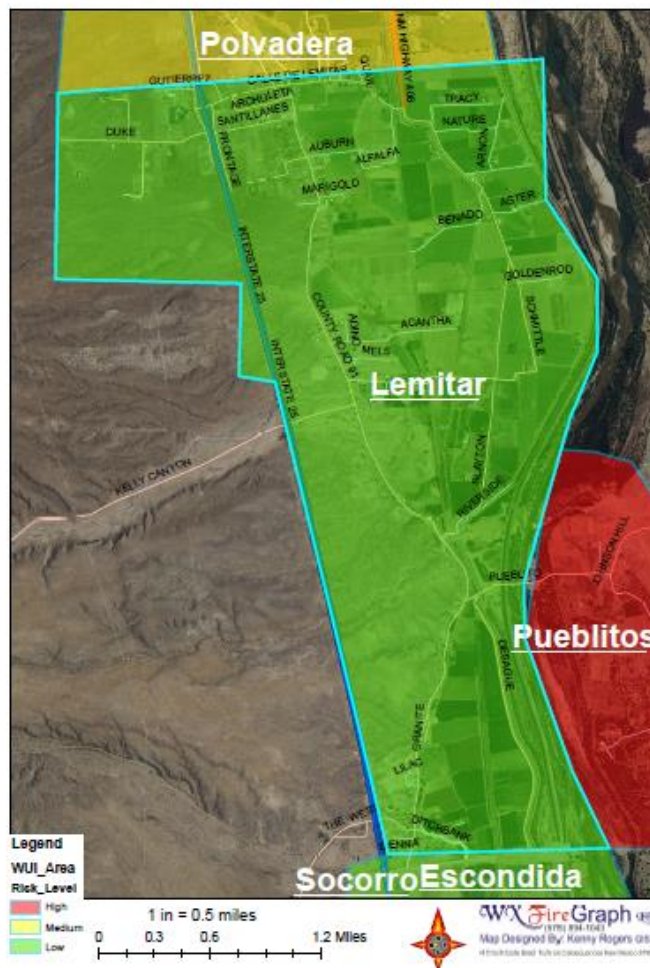
DRIVEWAYS: Most driveways are adequate for emergency vehicles

WATER AVAILABILITY: Water hydrants around district

CLOSEST FIRE DEPARTMENT (in miles): Midway VFD, (ISO rating 5) in center of village

AVERAGE HAZARD RATING: High

Socorro County WUI Lemitar



Map 12 WUI-Lemitar Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **San Acacia**

LEGAL: T16S R14W Sec. 31& 32

DESCRIPTIVE LOCATION: Approximately 5 miles north of Lemitar on frontage road.

VEGETATION FUELS: Grasses mesquite, cottonwood, salt cedar and willow.

ESTIMATED DENSITY (population per square mile): 60

NUMBER OF LOTS: 20

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: From mobile homes to adobe.

ROOF: Predominantly metal with some composition shingle.

TERRAIN: Flat

SLOPE:

ASPECT:

ACCESS:

ROADS: Good

BRIDGES:

DRIVEWAYS: Various mostly narrow.

WATER AVAILABILITY: Water available

CLOSEST FIRE DEPARTMENT: Midway VFD. (ISO rating 5)

AVERAGE HAZARD RATING: High

Socorro County WUI San Acacia



Map 13 WUI-San Acacia Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Polvadera**

LEGAL: T16S R14W Sec. 35, T17S R14W Sec. 2

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, mesquite, cottonwood, salt cedar and willow.

ESTIMATED DENSITY (population per square mile): 50

NUMBER OF LOTS: 25

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: Frame construction with wooden or stucco siding and adobe construction.

ROOF: Predominantly metal with some composition shingle.

TERRAIN: Flat

SLOPE:

ASPECT: All aspects.

ACCESS:

ROADS: Fair the county maintains the roads through the area.

BRIDGES:

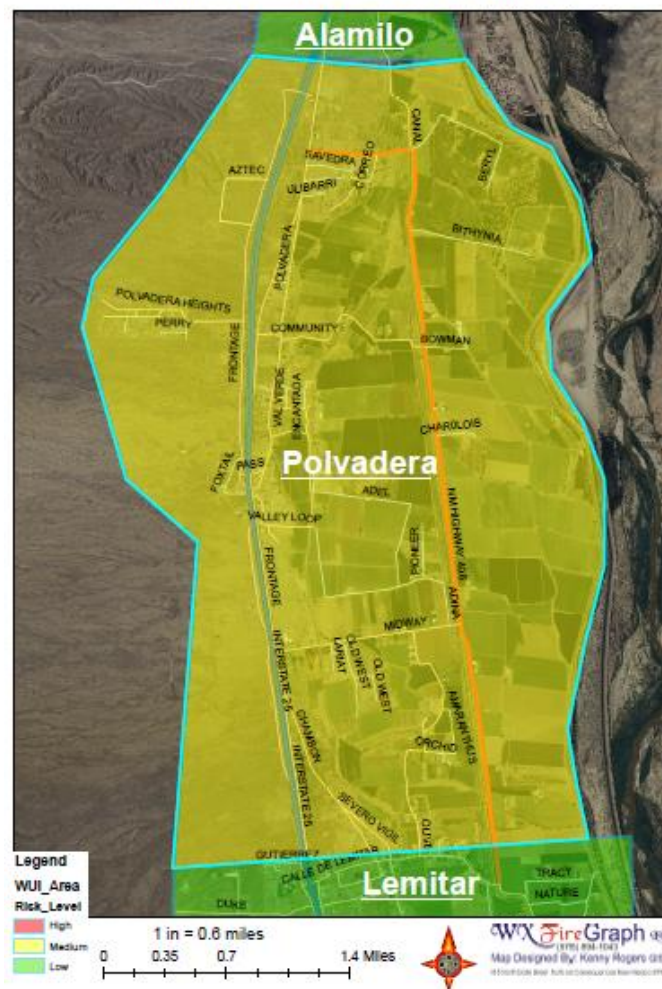
DRIVEWAYS: Various mostly narrow

WATER AVAILABILITY: Water hydrants available from Polvadera MDWCA

CLOSEST FIRE DEPARTMENT: Midway (ISO rating 5) about 3 miles away.

AVERAGE HAZARD RATING: High

Socorro County WUI Polvadera



Map 14 WUI-Polvadera Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Pueblitos**

LEGAL: T16S R14W Sec. 31, 32

DESCRIPTIVE LOCATION: Approximately 5 miles south of Lemitar across river.

VEGETATION FUELS: Grass, mesquite, cottonwood, salt cedar and willow.

ESTIMATED DENSITY (population per square mile): 50

NUMBER OF LOTS: 20

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: From mobile homes to adobe.

ROOF: Predominantly metal with some composition shingle.

TERRAIN:

SLOPE:

ASPECT:

ACCESS:

ROADS:

BRIDGES: Bridge across Rio Grand.

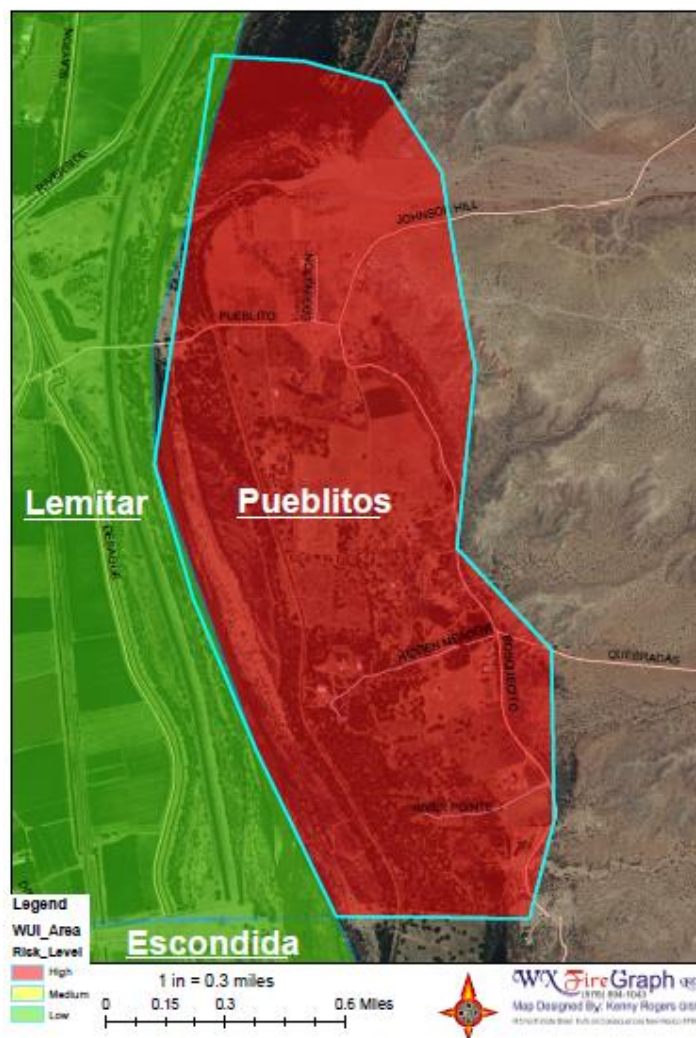
DRIVEWAYS: Various mostly narrow.

WATER AVAILABILITY: Water available from Polvadera water system across river

CLOSEST FIRE DEPARTMENT: Midway VFD. (ISO rating 5)

AVERAGE HAZARD RATING: High

Socorro County WUI Pueblitos



Map 15 WUI-Pueblitos Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Alamillo**

LEGAL: T16S R14W Sec. 31, 32

DESCRIPTIVE LOCATION: Approximately 5 miles north of Lemitar on frontage road.

VEGETATION FUELS: Grass, mesquite, cottonwood, salt cedar and willow.

ESTIMATED DENSITY (population per square mile): 30

NUMBER OF LOTS: 10

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: From mobile homes to adobe.

ROOF: Predominantly metal with some composition shingle.

TERRAIN:

SLOPE:

ASPECT:

ACCESS:

ROADS:

BRIDGES: Bridges across ditches.

DRIVEWAYS: Various mostly narrow.

WATER AVAILABILITY: Water available

CLOSEST FIRE DEPARTMENT: Midway VFD. (ISO rating 5)

AVERAGE HAZARD RATING: High

Socorro County WUI Alamillo



Map 16 WUI-Alamillo Electronic Maps Disk:

Abeytas Fire Department has a total of 3 WUI areas within its response district.

✓ **Abeytas**

LEGAL: T15S R17W Sec 23, 26, 27, 34, 35

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), cottonwood, salt cedar and willow.

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Not provided

ROOF:

SIDING:

DECKS:

TERRAIN: Mostly flat

SLOPE: 0-1%

ASPECT: West

ACCESS:

ROADS:

BRIDGES:

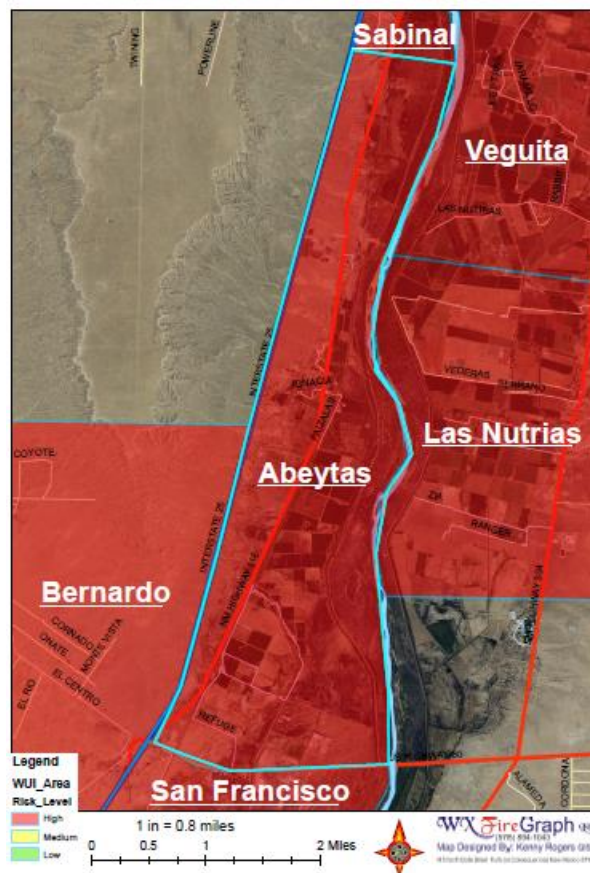
DRIVEWAYS: Most Driveways are adequate to narrow

WATER AVAILABILITY: Abeytas has a tank at fire station.

CLOSEST FIRE DEPARTMENT (in miles): Abeytas VFD (ISO rating 6) is in community

AVERAGE HAZARD RATING: High

Socorro County WUI Abeytas



Map 17 WUI-Abeytas Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Sabinal**

LEGAL: T16S R13W Sec.31, 32; T17S R13W Sec. 5, 6

DESCRIPTIVE LOCATION: Approximately 4 miles North of Abeytas

VEGETATION FUELS: Grass, mesquite, cottonwood, salt cedar and willow.

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS: 40

TOTAL ACRES: 1280

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN:

SLOPE:

ASPECT: All aspects present.

ACCESS: Good a state highway runs through town.

ROADS: Good to poor. Close to the center of town the roads are good but the outlying areas have some very narrow and rough sections.

BRIDGES: over ditches

DRIVEWAYS: Good to poor. Some are very narrow and rough.

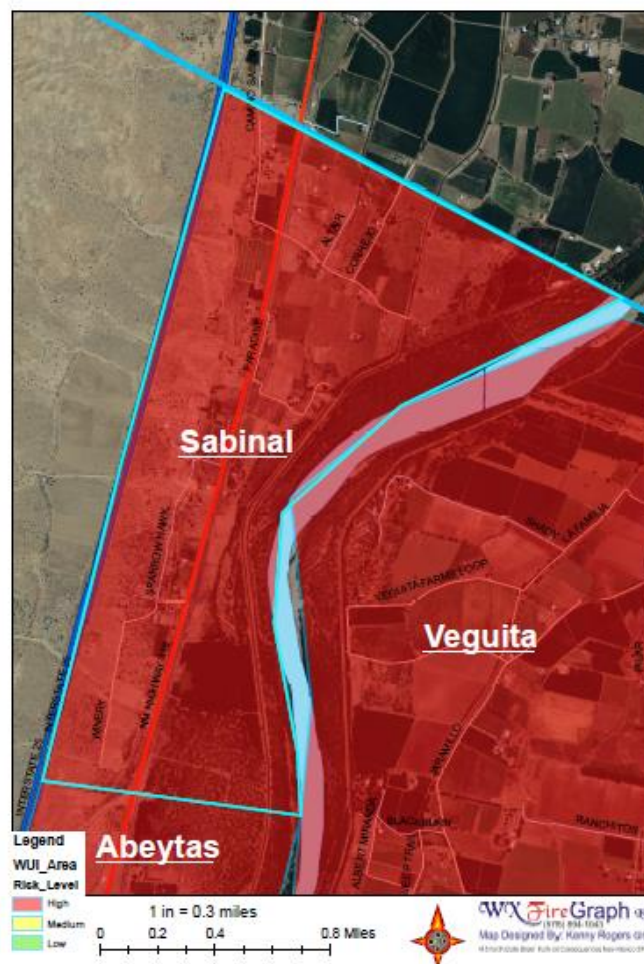
WATER AVAILABILITY: The only water is from the tank at Abeytas fire department.

CLOSEST FIRE DEPARTMENT: Abeytas VFD. (ISO rating 6)

AVERAGE HAZARD RATING: High

COMMENTS: the area has a lot of old construction and is surrounded by heavy Bosque fuel loads.

Socorro County WUI Sabinal



Map 18 WUI-Sabinal Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **San Francisco**

LEGAL: T16S R14W Sec. 33, 34; T17S R14W Sec. 3

DESCRIPTIVE LOCATION: Approximately 4.5 miles south of Abeytas.

VEGETATION FUELS: Grasses, forbs and salt cedar.

ESTIMATED DENSITY (population per square mile): 15

NUMBER OF LOTS: 5

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: Frame construction with wooden or stucco siding.

ROOF: Predominantly metal with some composition shingle.

TERRAIN: Flat

SLOPE: 0% to 1%

ASPECT: All aspects.

ACCESS: Fair

ROADS: Good

BRIDGES: No bridges

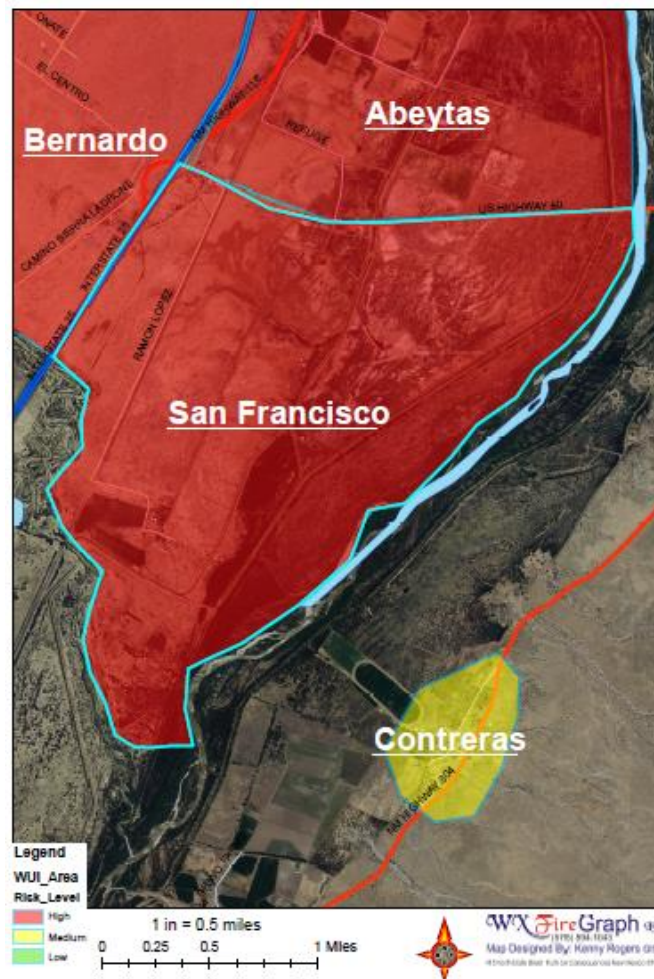
DRIVEWAYS: Various mostly narrow; some are very long .

WATER AVAILABILITY: Some residents have above ground domestic water supplies of various sizes.

CLOSEST FIRE DEPARTMENT: Abeytas Fire District Station (ISO rating 6) 5 miles

AVERAGE HAZARD RATING: High

Socorro County WUI San Francisco



Map 19 WUI-San Francisco *Electronic Maps Disk:*

Veguita Fire Department has a total of 3 WUI areas within its response district.

✓ **Veguita**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), salt cedar, cottonwood willow along the Rio Grande.

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: various

TERRAIN: Flat to hilly

SLOPE: 0-5%

ASPECT: South

ACCESS:

ROADS:

BRIDGES:

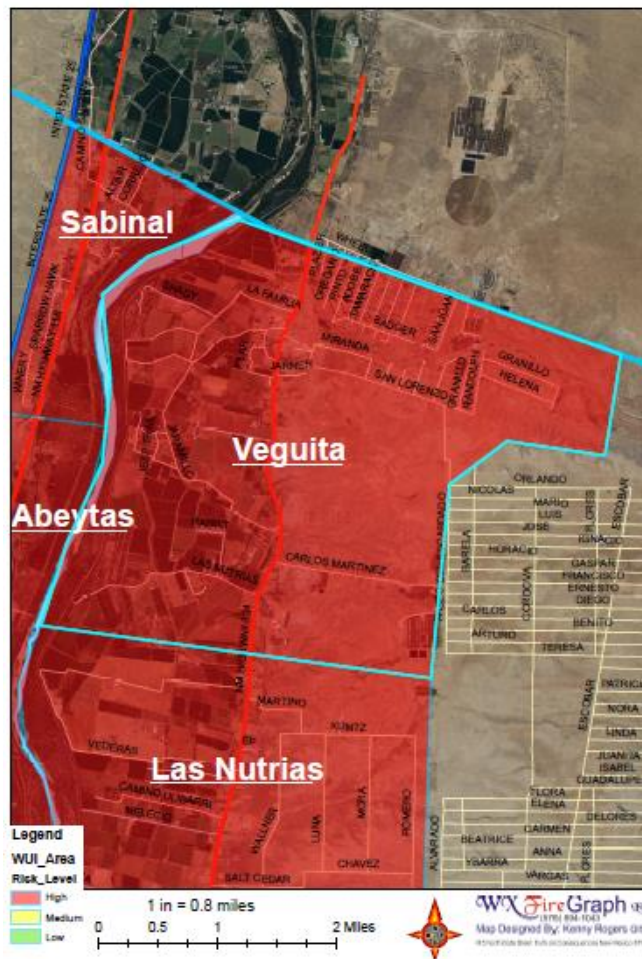
DRIVEWAYS: Narrow but open

WATER AVAILABILITY: Water available from 42,000 gal. Tank at fire station and water available at the school

CLOSEST FIRE DEPARTMENT (in miles): Veguita VFD (ISO rating 6)

AVERAGE HAZARD RATING: High

Socorro County WUI Veguita



Map 20 WUI-Veguita Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Las Nutrias**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), Salt Cedar, Cottonwood Willow along the Rio Grande.

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: various

TERRAIN: Flat to hilly

SLOPE: 0-4%

ASPECT: South

ACCESS:

ROADS:

BRIDGES:

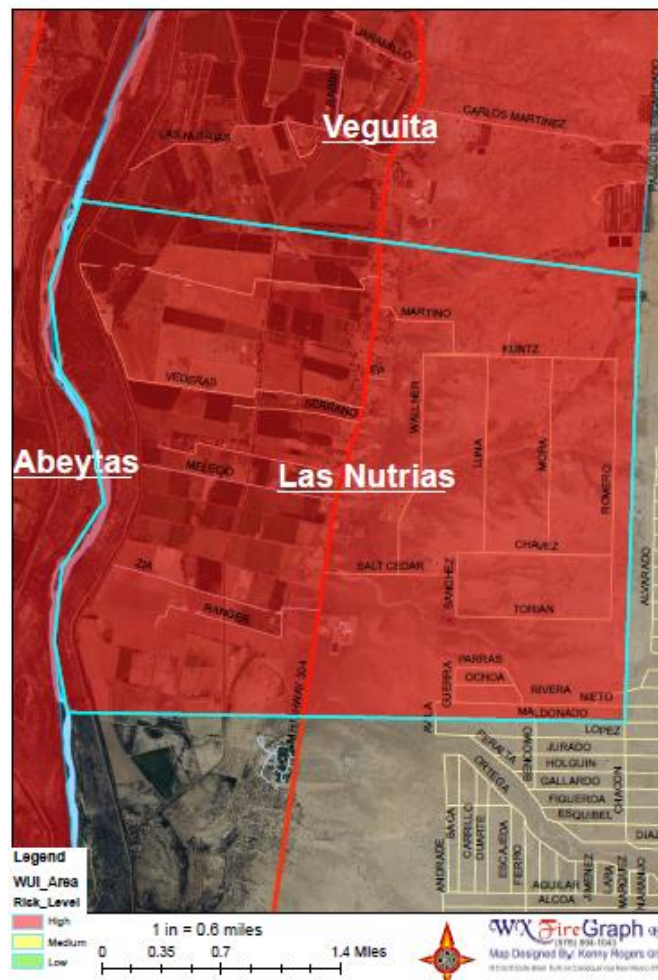
DRIVEWAYS: Narrow but open

WATER AVAILABILITY: Water available from 42,000 gal. Tank at fire station and water available at school.

CLOSEST FIRE DEPARTMENT (in miles): Veguita VFD (ISO rating 6)

AVERAGE HAZARD RATING: High

Socorro County WUI Las Nutrias



Map 21 WUI-Las Nutrias Electronic Maps Disk:

Hop Canyon Fire Department has a total of 3 WUI areas within its response district.

✓ **Hop Canyon**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush, P.J, ponderosa

ESTIMATED DENSITY (population per square mile): 200

NUMBER OF LOTS: 78

TOTAL ACRES: 1200

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Brushy rough

SLOPE: 1-50%

ASPECT: West and East

ACCESS: Brushy Mt. Rd

ROADS: Brushy Mt. Rd

BRIDGES: None

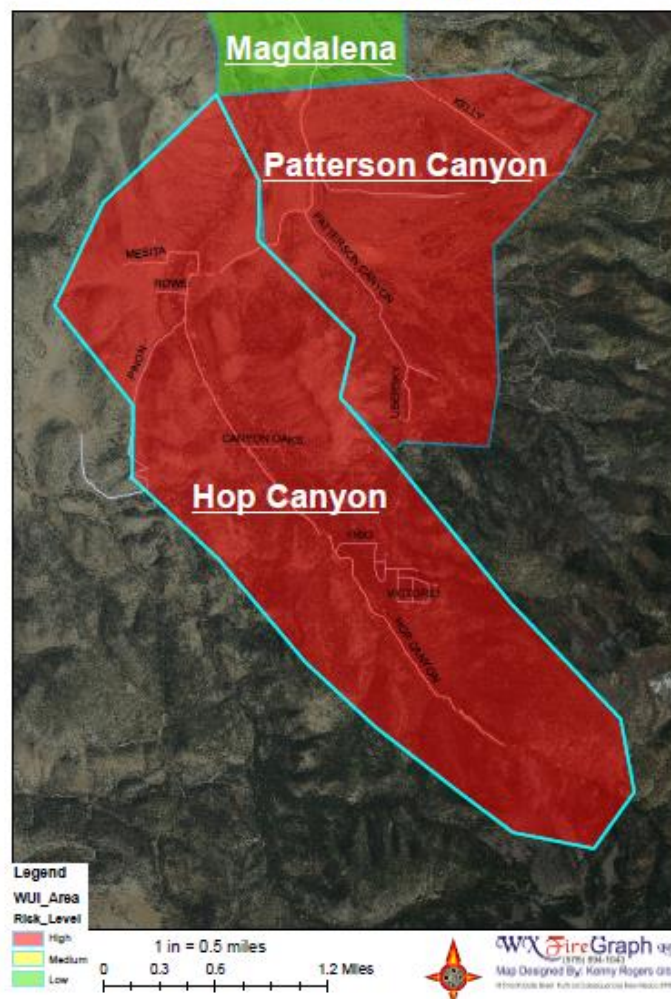
DRIVEWAYS: narrow to very narrow (less than 8 feet) with trees bordering

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT (in miles): Hop Canyon VFD . (ISO rating 6)

AVERAGE HAZARD RATING: Very High

Socorro County WUI Hop Canyon



Map 22 WUI-Hop Canyon Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Patterson Canyon**

LEGAL: T17S R11W Sec. 19

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Pinion, Juniper, Pine, Scrub, Oak , Brush and Grass

ESTIMATED DENSITY (population per square mile): 30 Approx

NUMBER OF LOTS: Approx. 10

TOTAL ACRES: 400

CONSTRUCTION MATERIALS: Various

ROOF: Composition and metal.

SIDING: Frame Metal

DECKS: Wooden

TERRAIN: Gentle slope

SLOPE: 5 to 20%

ASPECT: All slope positions

ACCESS: 2 unpaved seldom maintained roads

ROADS: Unpaved with good street signs although the numbers are hit and miss.

BRIDGES: None

DRIVEWAYS: Adequate with a few too narrow and very rocky.

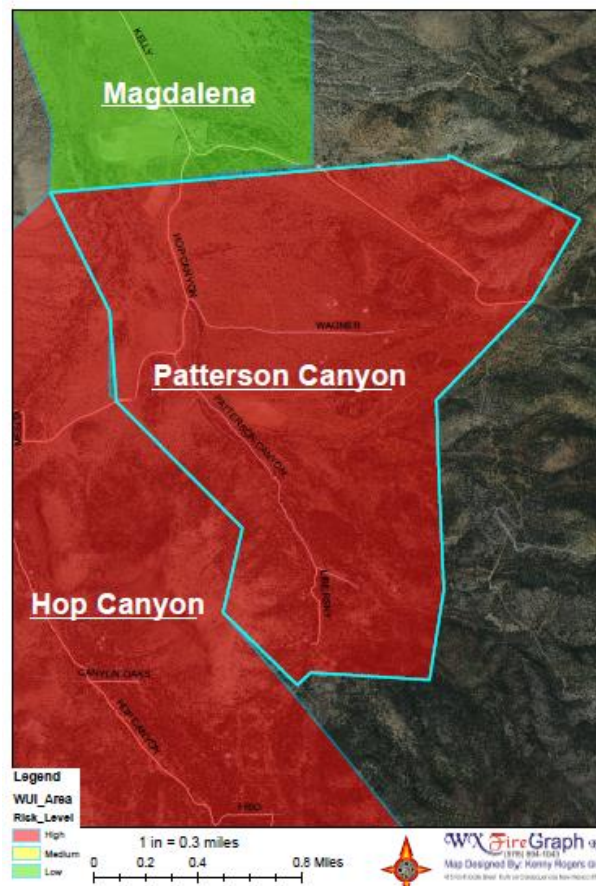
WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT: Hop Canyon. (ISO rating 6)

AVERAGE HAZARD RATING: High

COMMENTS: Wildland fire danger backs up to Forest land. Only 25% of houses have adequate defensible space.

Socorro County WUI Magdalena



Map 23 WUI-Paterson Canyon *Electronic Maps Disk:*

CWPP Socorro County November, 2018

✓ **Water Canyon**

LEGAL: T17S R11W Sec. 19

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Pinion, Juniper, Pine, Scrub, Oak, Brush and Grass

ESTIMATED DENSITY (population per square mile): Approx. 12

NUMBER OF LOTS: Approx. 5

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: Various

ROOF: Composition and metal.

SIDING: Frame Metal

DECKS: Wooden

TERRAIN: Gentle slope

SLOPE: 5 to 20%

ASPECT: All slope positions

ACCESS: 2 unpaved seldom maintained roads.

ROADS: Paved with good street signs although the numbers are hit and miss.

BRIDGES: None

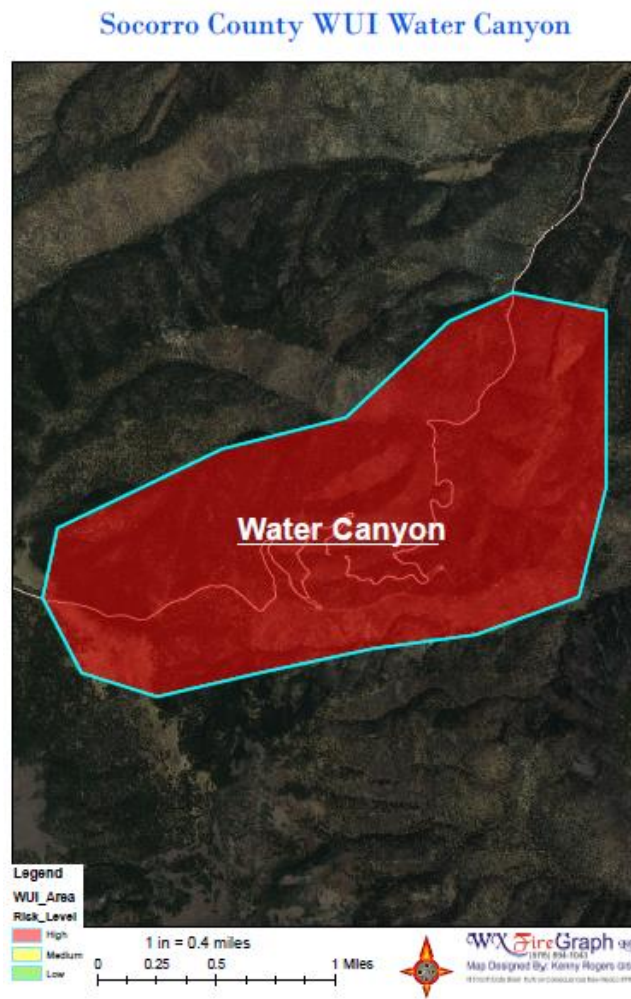
DRIVEWAYS: Adequate with a few too narrow and very rocky.

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT: Hop Canyon. (ISO rating 6)

AVERAGE HAZARD RATING: High

COMMENTS: Wildland fire danger backs up to Forest land. Only 25% of houses have adequate defensible space.



Map 24 WUI-Water Canyon *Electronic Maps Disk:*

There are a total of 8 WUI areas located outside of any fire department ISO district.

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush, cottonwood, salt cedar and willow along Rio Grande

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:**TOTAL ACRES:**

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 0-3%

ASPECT: North

ACCESS:

ROADS:

BRIDGES:

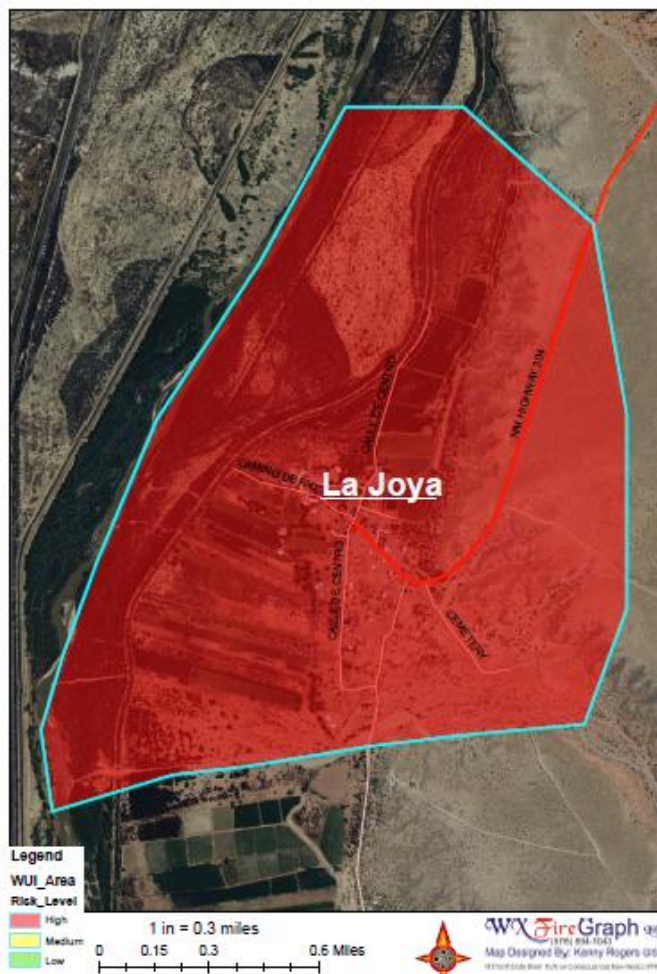
DRIVEWAYS: Narrow to 10-15 feet wide some rough

WATER AVAILABILITY: Water available from the LA Joya MDWCA.

CLOSEST FIRE DEPARTMENT (in miles): Veguita VFD (ISO rating 6)

AVERAGE HAZARD RATING: High

Socorro County WUI La Joya

**Map 25 WUI-La Joya** Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Contreras**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush, PJ, cottonwood, salt cedar and willow along Rio Grande

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 0-3%

ASPECT: North

ACCESS:

ROADS:

BRIDGES:

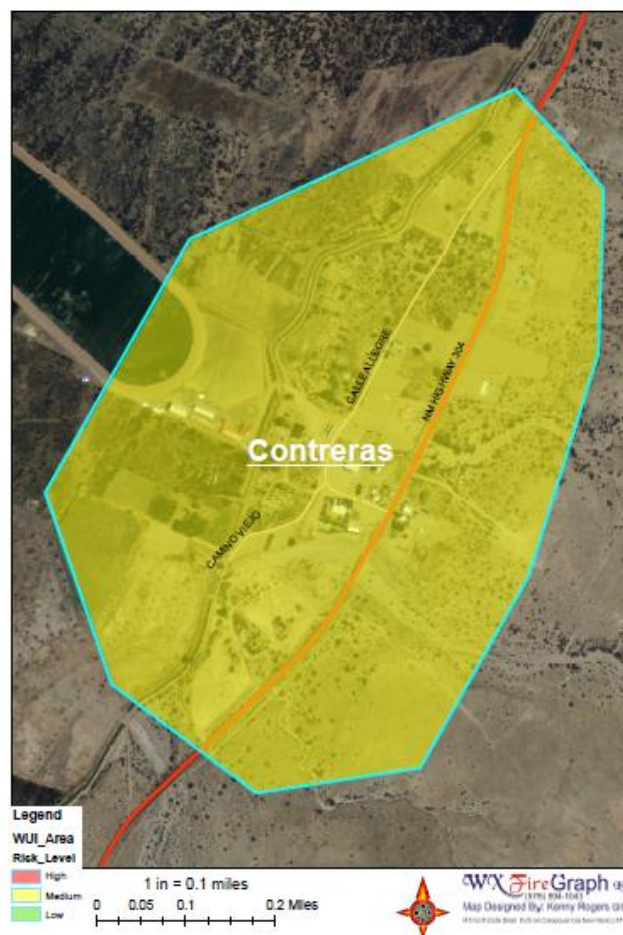
DRIVEWAYS: narrow to 10-15 feet wide some rough

WATER AVAILABILITY: Water available from the LA Joya MDWCA.

CLOSEST FIRE DEPARTMENT (in miles): Veguita VFD (ISO rating 6)

AVERAGE HAZARD RATING: High

Socorro County WUI Contreras



Map 26 WUI-Contreras Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Bingham**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper

ESTIMATED DENSITY (population per square mile): 6

NUMBER OF LOTS: 5

TOTAL ACRES: 1280

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

DRIVEWAYS: Good to narrow

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT San Antonio 30 miles west (ISO rating 5)

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Bingham



Map 27 WUI-Bingham Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Claunch**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper

ESTIMATED DENSITY (population per square mile): 20

NUMBER OF LOTS: 10

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

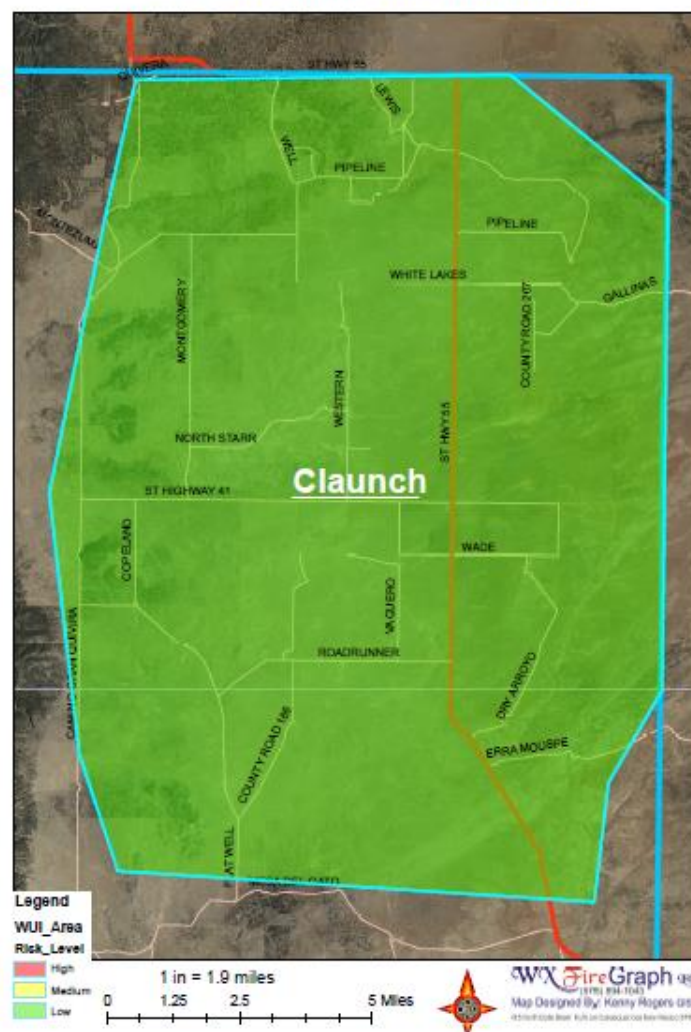
DRIVEWAYS: Good to narrow

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Claunch



Map 28 WUI-Claunch Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Dusty**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

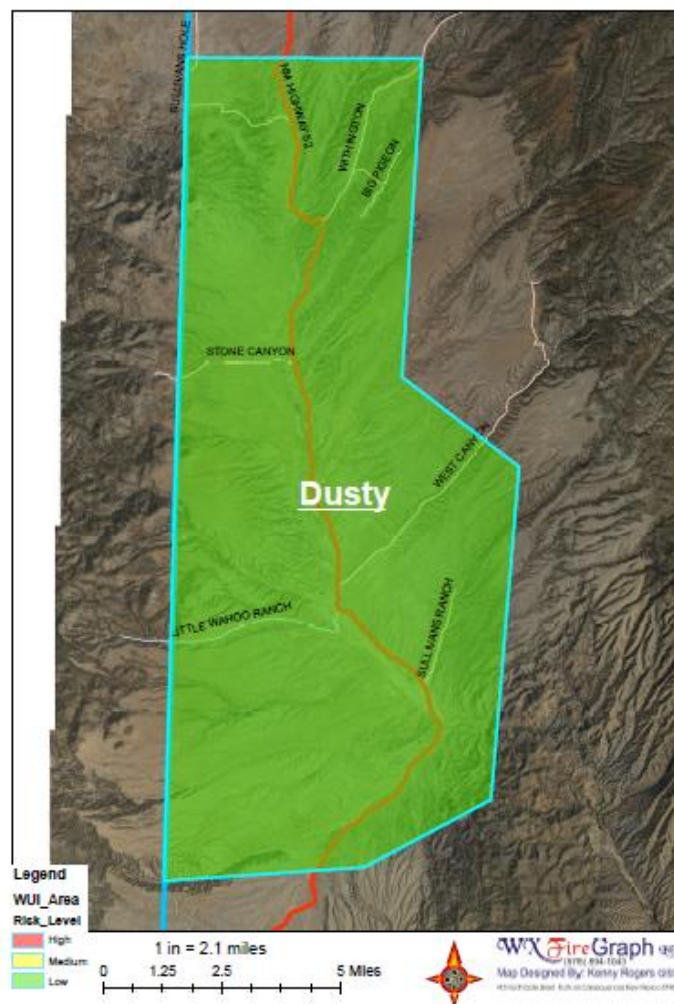
DRIVEWAYS: Good to narrow

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT:

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Dusty



Map 29 WUI-Dusty Electronic Maps Disk:

CWPP Socorro County November, 2018

✓ **Durfee Canyon**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

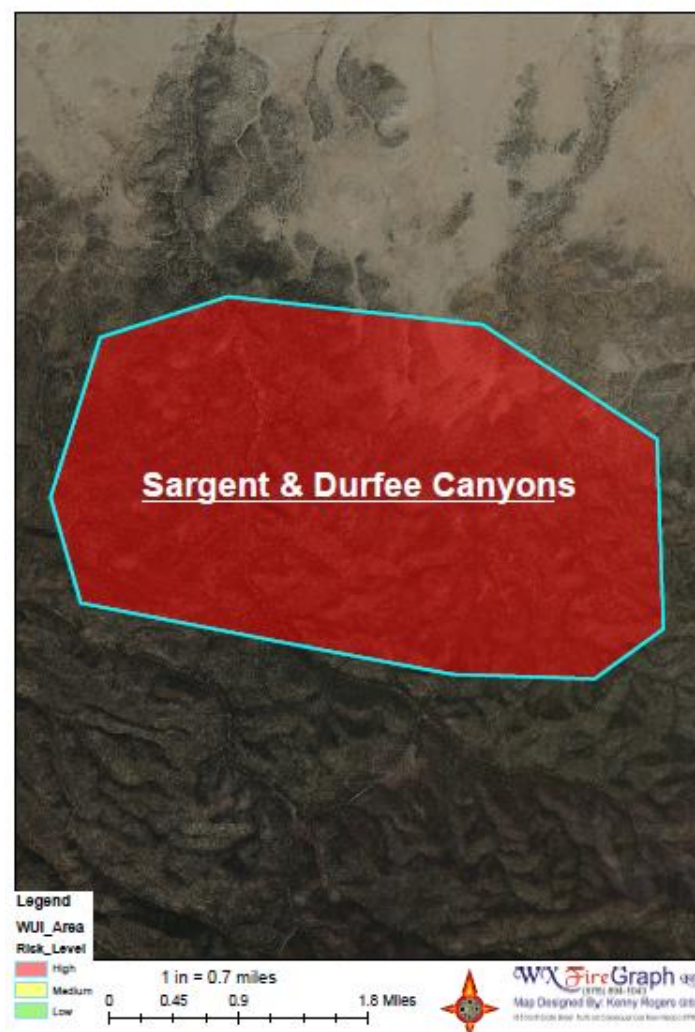
DRIVEWAYS: Good to narrow

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT:

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Sargent & Durfee Canyons



Map 30 WUI-Durfree Canyon *Electronic Maps Disk:*

CWPP Socorro County November, 2018

✓ **Sargent Canyon**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite) pinion-juniper

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

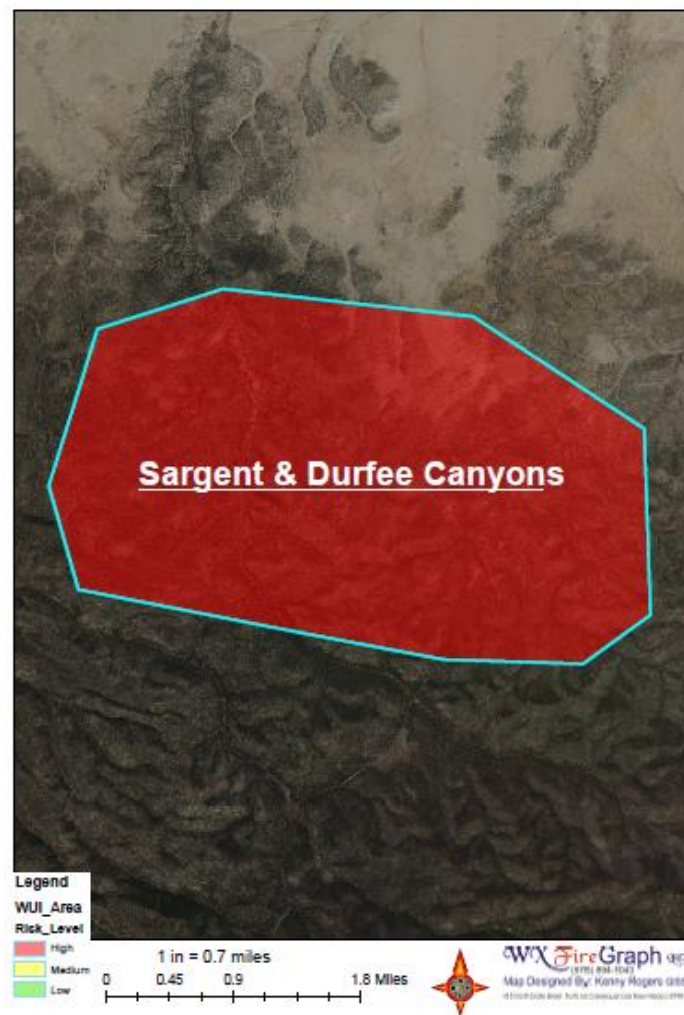
DRIVEWAYS: Good to narrow

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT:

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Sargent & Durfee Canyons



Map 31 WUI-Sargent Canyon *Electronic Maps Disk:*

CWPP Socorro County November, 2018

✓ **Mill Canyon**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

DRIVEWAYS: Good to narrow

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT:

AVERAGE HAZARD RATING: Moderate

Map 32 WUI-Mill Canyon *Electronic Maps Disk:*

City of Socorro Fire Department has a total of 2 WUI areas within its response district.

✓ **City of Socorro**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), cottonwood, and willow - salt cedar
Riparian vegetation along Rio Grande

ESTIMATED DENSITY (population per square mile): 6000

NUMBER OF LOTS: 2000

TOTAL ACRES: 9216

CONSTRUCTION MATERIALS: Various

ROOF: Various:

TERRAIN: Flat some rolling hills

SLOPE: 0-15%

ASPECT: Southwest

ACCESS:

ROADS: Good

BRIDGES:

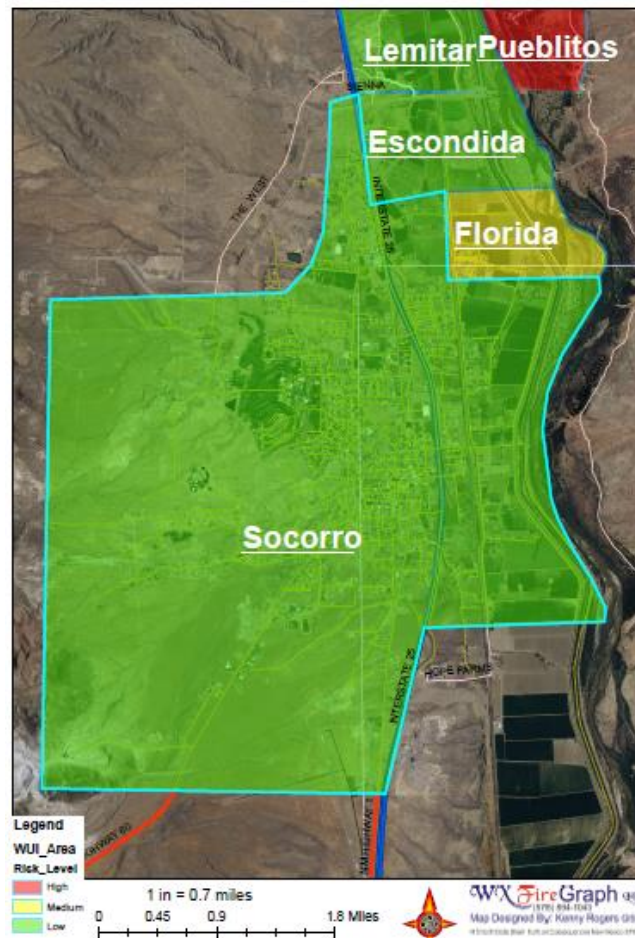
DRIVEWAYS:

WATER AVAILABILITY: City of Socorro

CLOSEST FIRE DEPARTMENT (in miles): Socorro FD (ISO rating 5)

AVERAGE HAZARD RATING: Moderate

Socorro County WUI City of Socorro



Map 33 WUI-City of Socorro *Electronic Maps Disk:*

CWPP Socorro County November, 2018

✓ **Florida**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), cottonwood, and willow salt cedar riparian
Vegetation along Rio Grande

ESTIMATED DENSITY (population per square mile): 200

NUMBER OF LOTS: 50

TOTAL ACRES: 640

CONSTRUCTION MATERIALS: Various

ROOF: Various :

TERRAIN: Flat some rolling hills

SLOPE: 0-1%

ASPECT: Southwest

ACCESS:

ROADS:

BRIDGES:

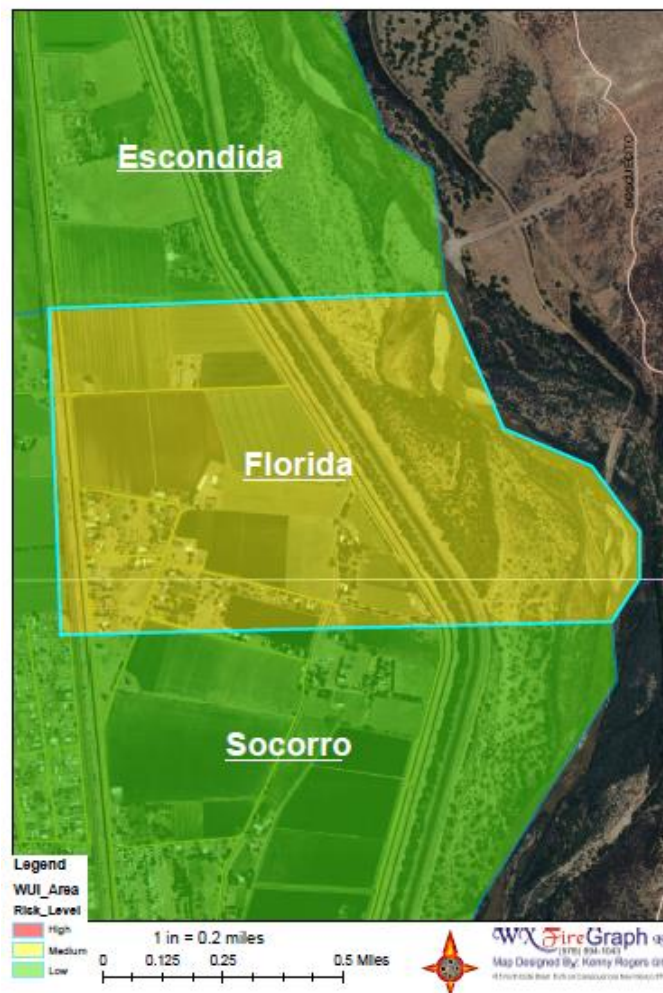
DRIVEWAYS:

WATER AVAILABILITY: City of Socorro

CLOSEST FIRE DEPARTMENT (in miles): Socorro FD (ISO rating 5)

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Florida



Map 34 WUI-Florida Electronic Maps Disk:

Village of Magdalena Fire Department has a total of 2 WUI areas within its response district.

✓ **Magdalena**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper

ESTIMATED DENSITY (population per square mile): 913:

NUMBER OF LOTS: 372

TOTAL ACRES: 3968

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

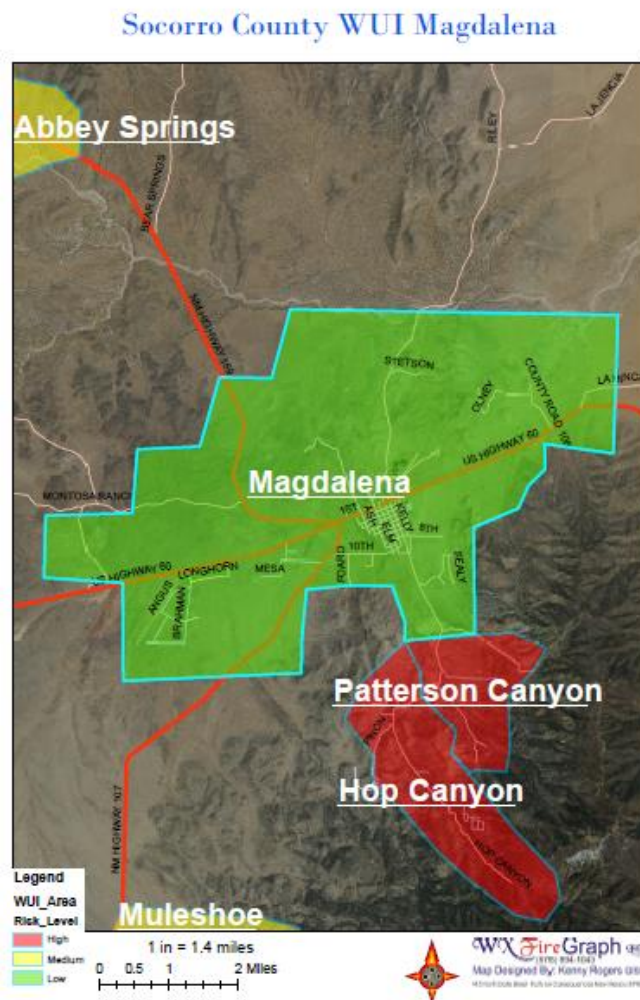
BRIDGES: None

DRIVEWAYS: Good to narrow

WATER AVAILABILITY: Village water supply

CLOSEST FIRE DEPARTMENT (in miles): Magdalena FD (ISO rating 5)

AVERAGE HAZARD RATING: Moderate



CWPP Socorro County November, 2018

✓ **Riley**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper, salt cedar.

ESTIMATED DENSITY (population per square mile): 20

NUMBER OF LOTS: 10

TOTAL ACRES: 1280

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

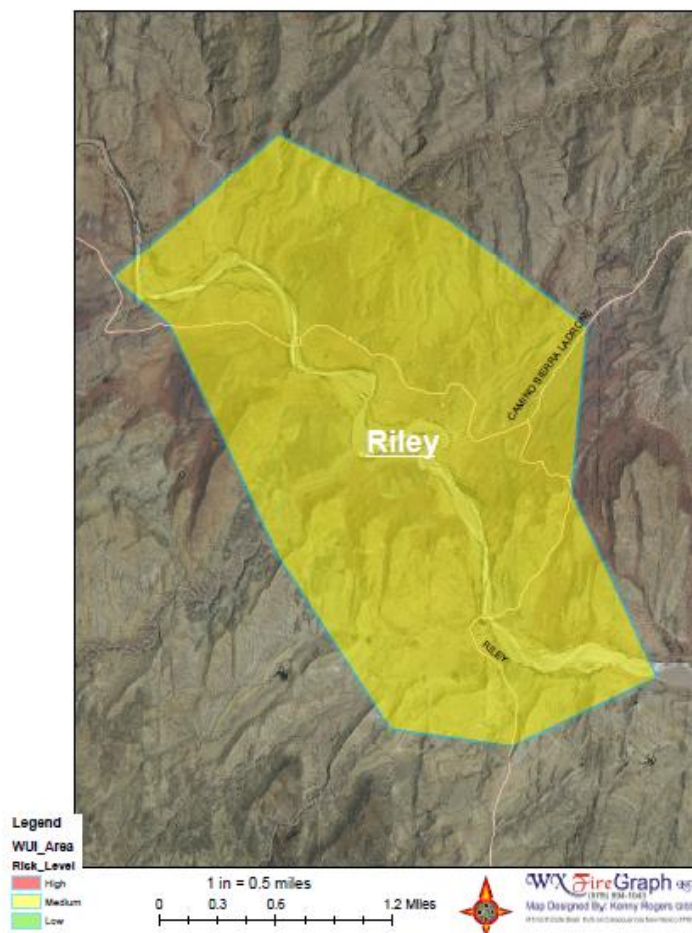
DRIVEWAYS: Good to narrow

WATER AVAILABILITY: Village water supply

CLOSEST FIRE DEPARTMENT (25 miles): Magdalena FD (ISO rating 5)

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Riley



CWPP Socorro County November, 2018

Alamo Reservation Fire Department has a total of 2 WUI areas within its response district.

✓ **Alamo**

LEGAL:

DESCRIPTIVE LOCATION: 30 miles North West of Magdalena

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

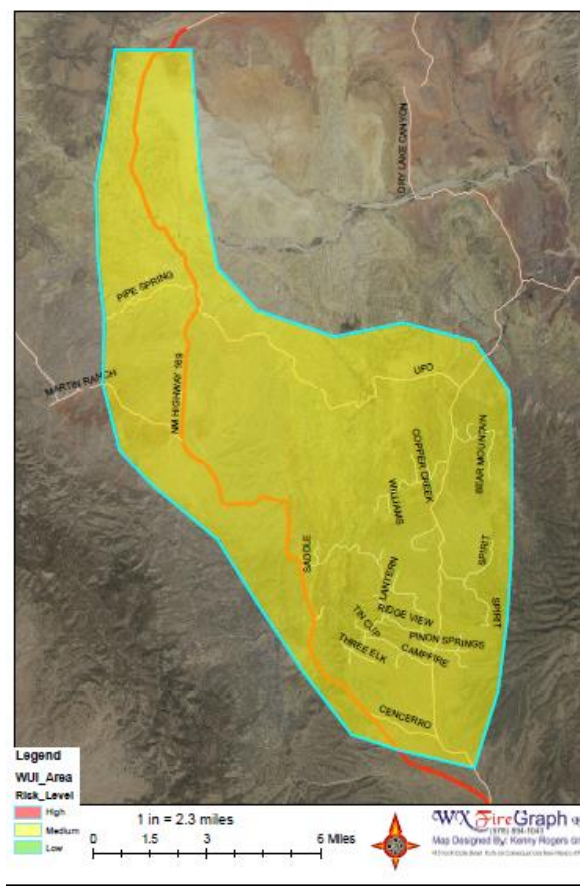
DRIVEWAYS: Good to narrow

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT: Magdalena 30 miles south west

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Alamo



Map 37 WUI-Alamo Electronic Maps Disk: Socorro CWW_WUI-Alamo.pdf

CWPP Socorro County November, 2018

✓ **Abbe Spring Subdivision**

LEGAL:

DESCRIPTIVE LOCATION:

VEGETATION FUELS: Grass, brush (mesquite), pinion-juniper

ESTIMATED DENSITY (population per square mile):

NUMBER OF LOTS:

TOTAL ACRES:

CONSTRUCTION MATERIALS: Various

ROOF: Various

TERRAIN: Rolling hills

SLOPE: 10-30%

ASPECT: Northeast

ACCESS:

ROADS:

BRIDGES: None

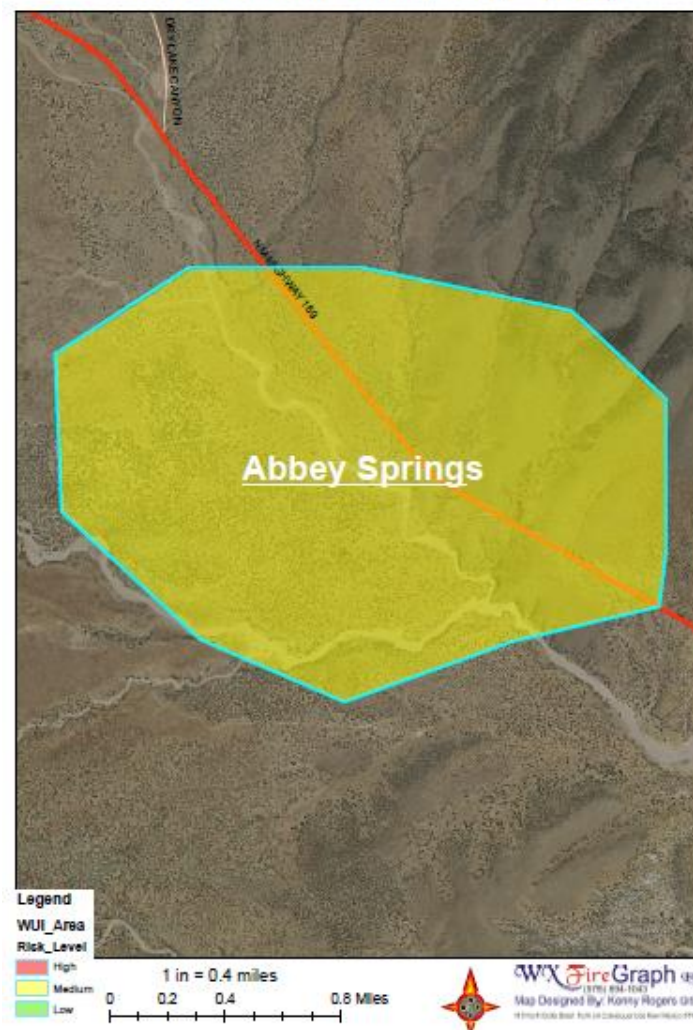
DRIVEWAYS: Good to narrow

WATER AVAILABILITY:

CLOSEST FIRE DEPARTMENT:

AVERAGE HAZARD RATING: Moderate

Socorro County WUI Abbey Springs



Map 38 WUI-Abbe Spring Subdivision Electronic Maps Disk:

INFRASTRUCTURE PROTECTION

Utilities

Completed Objective

To open a clear and direct dialogue between the USDA-FS, BLM and other entities and companies on all right-of-way responsibilities and procedures regarding the installation maintenance and responsibilities of all utilities that service areas in Socorro County.

Further objectives:

Create a feathered appearance from edge of right-of-way back into the adjoining forest stand so that approaching crown fires would have the potential to become ground fires which would result in reduced spread.

Reduce fuels to minimize arcing of power lines during wildfire prescribed fire and strong wind events. Transmission lines are very sensitive to smoke. The actual lines must be cleaned by hand.

C. In some areas especially on large interstate type transmission lines the lines are very high due to canyon spans and typically are not affected by wildland fires.

D. Approved herbicides and growth retardants would be beneficial in controlling vegetation.

E. Utility substations need to be treated including areas outside of chain link fences.

F. Amend and review all agreements with cooperators as needed to be sure that there are no issues or concerns that will hinder appropriate actions.

ADDITIONAL MITIGATION MEASURES

Electrical Power lines — Includes two classifications:

Interstate Transmission: Plains Electric Co Op

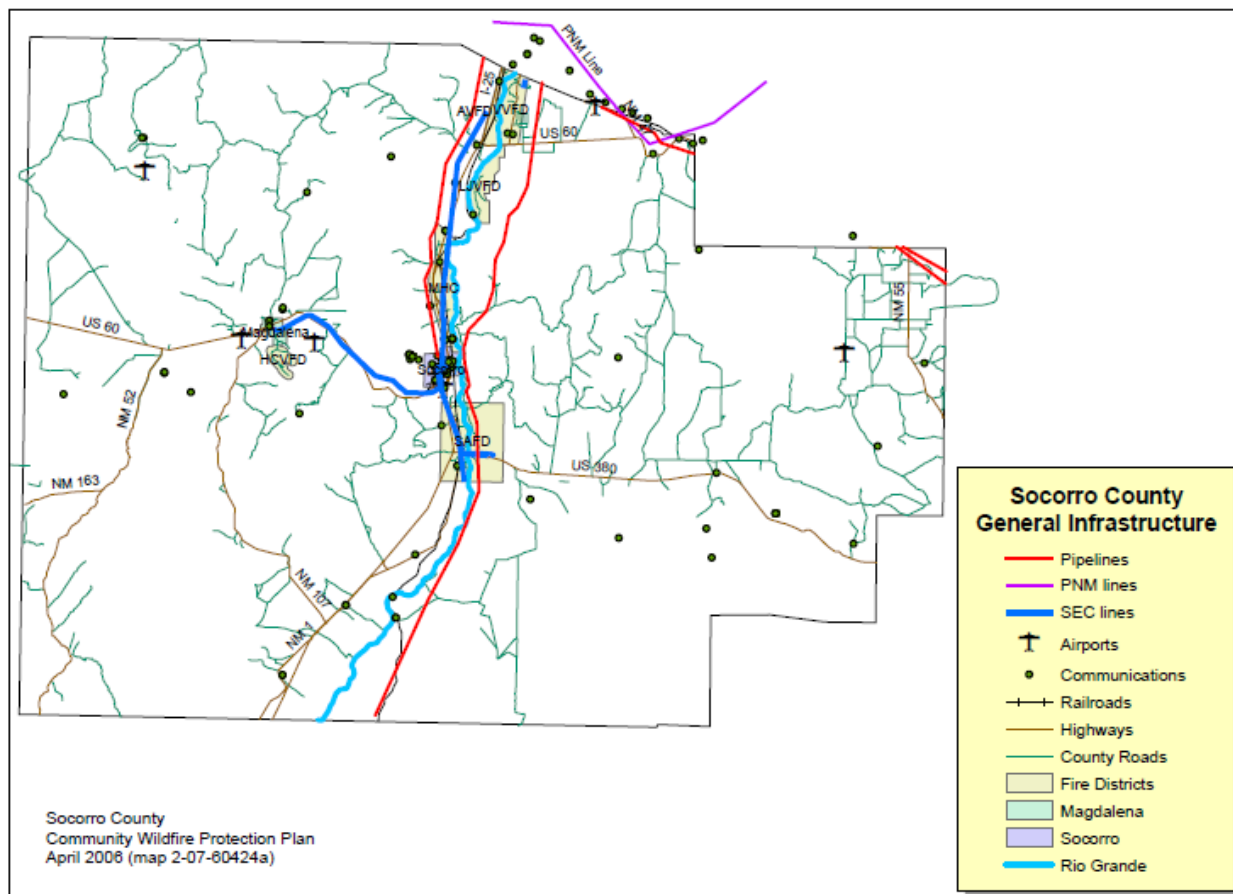
Local Service: Socorro Electric Coop

Telephone Service

Most all lines are underground; the main company serving Socorro County is Qwest Communications, with ENMR-Plateau serving the eastern part of the county, and Western New Mexico Telephone Company serving the western part.

Propane Companies

AX Gas Cortez Gas Action Gas.



Map 40 WUI-Utilities *Electronic Maps Disk*:

Highway Rights-of-Way.

Socorro County is in District 1 in the State Highway Department's organizational structure. The major highways in Socorro County consist of:

- 1 State Highway 380 (I-25 to county line east)
- 2 State Highway 60 (I-25 to county line east)
- 3 State Highway 60 (I 25 to county line west)
- 4 Highway 304 (Junction with Highway 60 to county line north).
- 5 Highway 304 (Junction with Highway 60 to La Joya on the south)
- 6 Highway 109 (Junction with Highway 60 to county line north).
- 7 Highway 408 (Lemitar on the south to Polvadera to the north).
- 8 Highway 169 (Highway 60 to the south through the Alamo to county line to the north)
- 9 Highway 1 (County line on the south to city of Socorro on the north).

There are numerous secondary roads (County and Forest Service) and private (ranch) roads.

Objective

The primary objective is to develop a procedure where the right-of-ways along all major roads are managed so that tree densities allow motorist to see and avoid wildlife safely. Additionally if these right-of-ways were thinned and maintained they could be used as viable fuel breaks and pre-suppressions lines by wildfire suppression resources.

The USDA Forest Service currently holds the right-of-way titles where the highway crosses National Forest lands. On BLM lands some areas are dedicated highway right-of ways and others are under special highway designation status. Where highways cross State Trust land the State Land Office holds the title, with a lease being to the State Highway Department.

Maintaining aesthetics and view sheds is an issue.

Prescriptions for recovery and thinning zones have been approved and implemented by the State Highway Department in other Districts. These prescriptions should be considered for use and could be adapted for areas within Socorro County under a categorical exclusion procedure.

These approved prescriptions consist of:

Recovery Zone: clear everything from white line to 24 feet out regardless of slope.

Thinning Zone: from recovery zone out to 53 feet or to right-of-way fence, whichever comes first; thin Ponderosa Pine under 9" in diameter and all other species under 12" diameter; All trees will be pruned up to 6" above ground level.

ACTION PLAN

WUI Areas

The risk assessment identified that the communities, historic/cultural areas, and communication sites in Socorro County are at high to low risk from wildland fire impacts. These ratings dominate an urgent need to mitigate wildfire hazards in the WUI areas. Concurrent with efforts to improve and maintain firefighting capacity are fire prevention and public education programs. One method of fire prevention and public education is “defensible space” workshops.

There is increasing recognition that the ability to live more safely in the WUI, fire-prone environment depends on “pre-fire activities.” Pre-fire activities are actions taken before wildfire occurs which improve the survivability of people and homes by providing for proper vegetation management around homes, (home ignition zone), use of fire resistant building materials, and appropriate subdivision design. Combustible roofs, narrow roads, limited access, lack of fire-resistant landscaping, and inadequate water supplies are some of the issues that should be addressed. “Defensible space” includes the following:

- ❖ *Defining the defensible space*, a buffer zone, and a minimum of 30-feet of noncombustible area.
- ❖ *Reducing flammable vegetation, trees and brush around the home*, choosing plants with loose branching, non-resinous woody material, and high moisture content.
- ❖ *Removing or pruning trees*, thinning overcrowded or weakened trees, pruning low hanging branches, and limbing-up “ladder fuels”.
- ❖ *Cutting grass and weeds* regularly, keeping vegetation well watered.
- ❖ *Relocating woodpiles and leftover building materials*; stacking all wood, building debris and other burnable materials at least 30 feet away from the home, and clearing flammable vegetation within ten feet of wood/debris piles.
- ❖ *Keeping both roof and yard clean* (especially the roof) by clearing pine needles, leaves and debris from roof, gutters and yard to eliminate ignition sources.
- ❖ *Signs, addresses, and access*. Easy-to-read road signs and address numbers that are visible from the road allow firefighters to find homes quickly. Safe and easy access includes two-way roads that can accommodate emergency vehicles and give them space to turn around.
- ❖ *Rating roofs*: The roof is the most vulnerable part of the house in a wildfire. If not already fire resistant, roofs should be replaced with approved fire resistant materials.
- ❖ *Recycling yard debris and branches*; check into alternative disposal methods like composting, recycling, or selling the material to small wood/biomass businesses.

Table 5. Proposed Wildfire Hazard Mitigation for Socorro County WUI's

Wildland-Urban Interface and Infrastructure at Risk	Proposed Fuel Treatment, reduction of wildfire danger and improved Firefighter response	Responsible Party
Socorro County Communities	• Public Outreach and Education • Defensible Space around homes • Fuel Breaks along pasture fences and property boundaries • Fuel break along WUI boundary • Fuels reduction by mowing, grazing, prescribed burning • Increased water storage capacity • Maintain vegetation along road ways (Mowing) • Improved Radio Communications • Increased Training for firefighters	• Socorro County Fire Departments • Property Owners • Property Owners • Socorro County Fire Departments • Socorro County Fire Departments and Property Owners • Socorro County Fire Departments and Socorro County • State, County, and City Road Departments • Socorro County Fire Departments and Socorro county • Socorro County Fire Departments and New Mexico State Forestry
Cell Towers & Repeater Sites	• Fuels reduction by mowing, grazing	• Property Owners
Electrical transmission sites	• Fuels reduction by mowing, grazing	• Property Owners
Gas Plant Line	• Fuels reduction by mowing, grazing	• Property Owners
Highways and County Roads	• Regular Fuels reduction by mowing	• NM-DOT and Socorro County Road Department
Railroads	• Regular Fuels reduction by spraying.	• Property Owners

IMPLEMENTATION of PLAN

Establish a committee to have annual reviews and update to the CWPP.

Establish a county coordinator to oversee the progress of the CWPP.

EVACUATIONS

Development of an evacuation plan for WUI areas within Socorro County could be used for floods and fire incidents.

TREATMENTS

Fire behavior responds to fuels, weather, and topography. Changes to fuels, for example from prescribed fire burning or thinning, are related to potential fire behavior at that site and have resulted in reduced severity of wildfires where fuel treatments have occurred. The two basic methods available for altering vegetative conditions are prescribed fire and mowing. The effectiveness of each of these methods in altering the structure of or reducing the amount of fuels is different. Each type of treatment has a different set of financial costs. The choice of which method to use, to achieve the best combination of risk reduction and environmental effects within the available budget, should be considered.

PRESCRIBED FIRE

Prescribed fire is generally used to remove ground fuels, under-story vegetation, and small trees, and sometimes to kill larger trees. Prescribed fire is often seen as more environmentally benign than other methods for modifying vegetation. Prescribed fire projects are done to enhance wildlife and watersheds through removal of old and decayed growth and thereby stimulating new and vigorous growth of forbs and grasses in those spaces. Chemical treatments remove the woody brush species (creosote and mesquite) and accomplish the same objectives as prescribed fires.

MOWING

Mowing is another option to help remove or reduce the grass in and around Socorro County. (Right of ways, private lands, and public lands) There has to be communications with NM-DOT, Socorro County Road Department and private landowners. At the present time the state mows the right-of-ways once or twice a year. The core group is looking at ways to increase the width of the mowed area and the frequency the areas are mowed.

Community Outreach Program

Residents of our area want to live in a natural setting with native vegetation, and are reluctant to modify their surroundings to reduce fire hazard. At the same time most of our community is unaware of the beneficial uses of fire. The Socorro County Fire Marshal will set up a community outreach program with funds from the NMAC and BLM.

The National Fire Plan Implementation Team is seeking funding that would allow comprehensive mitigation of both these citizen misconceptions. The proposal would provide area residents, homeowners, business owners, and other opinion-makers with information, education and training on why fuel treatments are necessary and what constitutes proper fuel treatment and how these treatments can be accomplished. The Proposal focuses on hiring a qualified public relations person to develop and implement a public information and education plan that includes goals, objectives, background, key messages/talking points, communication strategy, tactics, action plan and evaluation criteria.

Activities would include development of education modules for homeowners, rural volunteer fire departments, elected officials, students in grades K-12, homebuilders, insurance companies, developers, and planners; public service announcements, brochures, showcase demonstration projects, website development and continued Firewise workshops.

Annual Emergency Operations Plan Review and Revision:

Our Local Emergency Planning Committee was instrumental in the drafting and implementation of the Socorro County All Hazards Emergency Operations Plan. It is a matter of life and death that the Plan be reviewed, revised and tested annually to ensure that all components are accurate in content, current with regards to responsibilities, techniques, agency policy and proven workable through an exercise program. The current Plan, has been adopted in 2013, has been reviewed and revised to incorporate the concepts and strategies involving the Unified

Fire Command Protocols and Evacuation Plans. The responsibility for ensuring the Plan is up to date with regards to content and workability rests with the Office of Emergency Management.

Incorporation of the Socorro County Local Emergency Planning Committee: LEPC

Incorporating the LEPC as a “non-profit” will allow more autonomy and potential funding from both government agencies and private foundations. This funding could be used to purchase and install all the components of an early warning/alert system described above.

The EOP is currently being revised

Completed Development of an Exercise Program: Testing the Plan

An exercise program should be developed and implemented by the Office of Emergency Management to ensure that the Emergency Operations Plan is a workable document, and addresses the latest in technique and policy

Completed The Creation of a County Fire Marshal’s Office: to assist in Coordination

Our volunteer fire departments are just that — citizens volunteering to assist rural communities protect life and property. Has provides the coordinating of equipment, training and coverage needs of their departments. The State Forestry has developed and obtained funding for a county “wildland fire coordinator” and it has developed into a formal County Fire Marshal position.

Recruitment and Development of our Rural Fire Departments

Our rural fire departments are the County’s first line of defense. Yet, membership in these departments has been declining. Much of the reason for the declines is the County’s depressed economy, and resultant lack of employment for our young people. Another reason is the increasing state mandates for more training of our volunteer fire personnel. It is critical that the Office of Emergency Management, the County, and the LEPC develop strategies to attract and keep more volunteers. One such strategy would be the creation of an elite “Strike Team,” comprised of experienced, highly trained members of the various volunteer departments.

Communication Systems (911 and Local Dispatch Center)

Has been completed and provided the Upgrade our local dispatch center and install repeaters in the outline areas that would allow full communication coverage in all parts of county. The center is also needed to able to dispatch all fire departments in the county, to include Hop Canyon Fire Department.

Evacuation Route, Hop Canyon to Patterson Canyon:

Working with the USFS Magdalena District has opened an evacuation route from Hop Canyon to Patterson Canyon. This will be open only during emergencies. Hop Canyon VFD will monitor the condition of the evacuation route and report the condition to the EMO to maintained.

Develop a road conditions schedule

OPEN BURNING REQUIREMENTS

When determining which fuels treatment to utilize on your lands consider what will be done with the resulting materials. When doing a prescribed burn or burning slash piles, be aware that the NM Environment Department, Air Quality Bureau, Environmental Improvement Board has a statewide Open Burning Policy in place. Title 20 Environmental Protection, Chapter 2 Part 60 Open Burning states that effective December 31, 2003, open burning of vegetative material under this section shall meet the following requirements:

- For purposes of disposal of such material, burning of areas with non-piled vegetative material does not exceed ten acres per day, or burning of piled, vegetative material, including material gathered in a pit or open container, does not exceed one thousand cubic feet of pile volume per day. In determining daily burn area and daily burn pile volume, areas or piles that are within three hundred feet of each other shall be considered to constitute a single burn if the burning occurs on the same day and on property under ownership or possessory control of the same person
- Burning shall be conducted at least 300' from any occupied dwelling, workplace or place where people congregate, which is on property owned by or under possessory control of, another person;
- Burning shall begin no earlier than one hour after sunrise, and shall be extinguished no later than one hour before sunset
- Burning shall be attended at all times
- The appropriate local fire department or dispatch or firefighting authority shall be notified prior to burning
- For burns exceeding one acre per day or 100 cubic feet of pile volume per day, the burner shall provide prior notice of the date and location of the burn to all households within one quarter of a mile of the burn
- If the burn will be within one mile of other people, you must visually monitor the smoke from the burn. Watch the smoke and note the color of the smoke and the direction it goes.
- The burner shall consider alternatives to burning prior to igniting a burn
- Material to be burned shall be as dry as practicable
- Effective June 1, 2004, open burning of household waste, other than vegetative material is prohibited.

For more information please contact New Mexico Environment Department, Air Quality Bureau, Smoke Management Program, 2044 Galisteo Street, Santa Fe, NM 87505; 1-800-224-7009.

Alert/Warning System: Office of Emergency Management

In the CWPP of 2006 the development of a community alert/warning system is critical to continued health, safety and welfare of our citizens. In 2006 there was no warning system in place to alert our citizens of impending danger from wildfire. There are three systems available that would dramatically improve warning. They include Weather Radio System, a Radio/TV Emergency Alert System. And automated dialup telephone alert system. A project is needed to get all these systems developed and implemented.

Currently the Socorro County Office of Emergency Management is implanting the Everbridge emergency call system throughout the Socorro County.

FUELS REDUCTION PROJECTS WITHIN SOCORRO COUNTY

Current Activities and Programs:

Six programs addressing Socorro County's fire prevention efforts will be in place, and their mention below is meant to emphasize their importance to the Plan's success. Five additional projects are recommended and will be discussed further on in this section.

1. Hazard Reduction Programs — National Fire Plan Implementation Team

There is little doubt that any hazard reduction programs, especially in construction of fuel breaks, will include mechanized treatment. "Fire Use" prescriptions are also an integral strategy of the Plan's, but discussion of this highly complex treatment is left to the federal and state land use agency partners to address in their own policies and procedures. The discussion that follows utilizes a National Fire Plan Study as a "base line" and makes recommendations describing both the hazard reduction and economic effectiveness of various mechanical prescriptions in the Wildland Urban Interface.

The "Strategic Assessment of Fire Hazard In New Mexico" referenced above stated that its overall goals were to profile forest conditions and fire hazard and evaluate the potential effectiveness and costs of hazard reduction treatments. Specific objectives were to:

- a. Describe and quantify forest conditions and rate these conditions for fire hazard;
- b. Develop alternative treatment prescriptions and evaluate their effectiveness in reducing hazard, both now and 30 years in the future;
- c. Determine harvest and slash reduction costs associated with treatments;
- d. Determine the potential revenue from timber products generated by the hazard reduction treatments.

The Analysis identified three basic mechanical treatment prescriptions for reducing fire hazard in the WUI, which are described below:

- a. Thin-from-below: an approach of low thinning to a given diameter limit, a treatment that has been widely recommended. The Analysis used a diameter limit of 9 inches.
- b. Diameter-limit: Retains all trees larger than 16 inches. However, if reserve basal area is less than 50 ft/ac, reserve additional trees less than 16" until basal area is equal to 50 ft/ac. This prescription is influenced by concerns that there may be a deficit of trees in the Southwest greater than 16" compared to historic levels, and that cutting trees larger than 16" is economically rather than ecologically motivated.
- c. Comprehensive: ecologically-based; reserves a target basal area of 40-50 ft/ac, primarily comprised of larger trees. This approach aims at initiating restoration of sustainable structure and composition (and longer term, ecological function), and therefore focuses on the trees to leave in terms of a target density, diameter distribution, and species composition.

Aside from 92% of the short-interval, fire-adapted ecosystems being in high/moderate fire hazard condition, the assessment also determined the following:

- Mechanical hazard reduction treatments differ substantially in their potential to reduce crown fire hazard. The Thin-from-Below treatment increases crowning index from 21

to 43 mph, but moves only 29 % of treated acres into the low hazard category. The Comprehensive treatment, in contrast, increases crowning index to 61 mph and moves 69% of treated acres into a low hazard condition.

- Woodland species contribute substantially to fire hazard; removing these species from the ponderosa pine and dry mixed conifer stands improves average crowning index by 15 to 24 mph.
- The value of timber produced as by-product of implementing the Comprehensive mechanical prescription would, on average, pay for all treatment and haul costs, i.e. breaking even, while both the “Thinning from-Below” and “Diameter-Limit” prescriptions resulted in negative costs of -\$368 and -\$439 respectively.
- Results of this study show that the fire hazard problem in New Mexico is best addressed by management approaches that recognize the broader ecological context within which it occurs.
- Whether the problem is viewed from the standpoint of hazard reduction, ecological condition, or treatment cost, a “comprehensive” prescription evaluated in this Analysis achieves greater hazard reduction, improves ecological condition, and is less expensive to employ than alternative treatments.

Currently the State Forestry Socorro Office is coordinating all WUI hazardous fuel mechanical treatments and assisting in the development and coordination of a large forest rehabilitation/restoration project (discussed below).

2. Economic Development Utilizing Harvested Fuels

In The Plan’s development all saw the need, early on, to begin attracting entrepreneurs to develop products utilizing the wood “bio mass” of the hazardous fuels reduction efforts, and forest restoration projects. Fortunately, Collaborative Forest Restoration Program, and include:

- Conducting research and development activities dedicated to the development of appropriate new logging and processing equipment specifically designed for efforts relating to forest ecosystem restoration;
- Supplying local wood products businesses with a supply of raw material.
- Conducting research and development activities dedicated to the creation of value-added wood products derived from small diameter logs obtained as a by-products from forest restoration projects;
- Creating and expanding market activities relating to those products;
- Educating and assisting the general public in the use of those techniques, equipment, and products in development of viable small businesses that will benefit local economies and provide jobs

3. Forest Restoration

Restoration projects are extremely complex, requiring extensive planning, consultation, design, and sometimes- contracting, and may take several years to fully implement. Monitoring and evaluating effectiveness of treatments may occur following control of a fire. Activities may include: reforestation, watershed restoration, road and trail rehabilitation, fence replacement, fish and wildlife habitat restoration, invasive-plant treatments, and replanting and reseeding.

Current problems with forest ecosystems, including large increases in forest density and fuel loading, have led to an increase in fire severity and size, and mortality in old growth trees and

decreases in resiliency to natural disturbances, soil moisture and nutrient availability, and growth and diversity of both herbaceous and woody plants. There are various models of restoration advocated to deal with some of these problems.

The primary objective of these model are to restore natural processes into forest ecosystems. Ecological goals rather than an economic imperative guide this approach, addressing many of the concerns of the conservation community. This is accomplished by working with positive aspects of existing forest structures to move toward natural structure and function using the largest trees to create groups that will develop move quickly toward old growth condition.

4. Landowner Assistance Program — State Forestry and County of Socorro

New Mexico State Forestry along with Socorro County has developed and implemented a The landowner begins the process by requesting a fire hazard assessment be conducted on his/her land. A qualified fire professional from one of the local fire departments or State Forestry will visit the property and assess it using the NFPA 299 Assessment form. The findings are reviewed with the property owner and actions recommended to protect structures, improvements and the property itself from wildland fire. If minimal work is needed to mitigate the threat, the landowner will be encouraged to complete it himself, without considering financial assistance.

If the assessment recommends major actions, the landowner can apply for cost-share assistance from the County of Socorro who manages the program for the New Mexico State Forestry Division.

Assistance is given in the form of 70% reimbursement and 30% landowner responsibility. The landowner must prepare a "Wildfire Mitigation Cost-Share Assistance Application." The completed application and the initial assessment are then used by the fire professional to prepare a "Treatment Plan" identifying activities that need to take place to mitigate hazards to the structure(s).

Approved activities consist of:

- Structure Protection/Survivable Space/Zone
- Thinning
- Fuel Break Development

Upon preparation of the Treatment Plan and approval signatures obtained from the Landowner, the County of Socorro and the State District Forester, the landowner will receive a "Notice to Proceed". The landowner either completes the work or hires a contractor to do it. (Cost share rates are calculated in the "Treatment Plan".) In-kind costs that can be calculated in to the 30% Landowner match include: hours worked; chainsaw time; transportation time moving the cut fuels to a disposal site; purchase and installation of spark arresters on chimney; and road rehabilitation/erosion control.

Once all work identified on the Treatment Plan has been completed, the landowner requests an Inspection of the property and the work performed. Once approval on the work is obtained, the landowner submits the documented costs (contractor or self) associated with the project on an itemized expense schedule.

An audit of the submitted expenses will be accomplished, and the County of Socorro will then request appropriate reimbursement from the State, which in turn will be given the landowner. The timeframe between landowner submittal of receipts and landowner reimbursement should be no longer than 30 days.

5. Defensible Space Workshops

There is increasing recognition that our ability to live more safely in our wildland urban interface fire prone environment depends on “pre-fire activities.” Pre-fire activities are actions taken before wildfire occurs which improve the survivability of people and homes, by providing for proper vegetation management around the home, (known as defensible space), use of fire resistant building materials, and appropriate subdivision design. Untreated shake and shingle roofs, narrow roads, limited access, lack of fire-wise landscaping, and inadequate water supplies are some of the issues that need to be addressed.

Prevention specialists with the Cibola National Forest have developed and implemented a comprehensive community assistance program to help landowners in our wildland urban interface prepare for wildfire. The program focuses on creating an effective “defensible space” and guides the participants through a ten-step effort including:

- Step One: Defining the defensible space, a buffer zone, a minimum of 30 foot noncombustible area around the home;
- Step Two: Reducing flammable vegetation, trees and brush around the home, choosing plants with loose branching, non-resinous woody material, and high moisture content;
- Step Three: Removing or pruning trees, thinning overcrowded or weakened trees, pruning low hanging branches, and limbing up “ladder fuels;”
- Step Four: Cutting grass and weeds regularly, keeping vegetation well watered;
- Step Five: Relocating wood piles and leftover building materials; stacking all wood, building debris and other burnable materials at least 30 feet away from the home, and clearing flammable vegetation within ten feet of wood/debris piles;
- Step Six: Keeping both roof and yard clean; especially the roof, clearing pine needles, leaves and debris from roof, gutters and yard to eliminate ignition sources;
- Step Seven: Signs, addresses, and access: easy-to-read road signs and address numbers that are visible from the road allow fire fighters to find homes quickly. Safe and easy access includes two-way roads that can accommodate emergency vehicles and give them space to turn around;
- Step Eight: Rating roofs: The roof is the most vulnerable part of the house in a wildfire. If not already fire resistant, roofs should be replaced with approved fire resistant materials;
- Step Nine: Recycling yard debris and branches; check into alternative disposal methods like composting, recycling, or selling the material to small wood/bio mass businesses;
- Step Ten: What to do when fire strikes; monitor your local radio and television stations for fire reports and evacuation procedures and centers. Keep an emergency checklist handy. Proper actions also include closing all windows and doors, arranging garden hoses so they can reach any area of the house, and packing the car for quick departure.

To schedule a workshop or to obtain more defensible space information contacts the State Forestry or your local fire department.

6. FIREWISE Communities Workshops:

The County Fire Marshal's Office with the local Fire Districts will co-sponsor a FIREWISE Communities workshop in 2018.

Program components include the following:

- FIREWISE Website (www.firewise.org): Representing a successful partnership of private and government agencies, this site averages 50,000 hits a month.
- Communication tools such as publications and videos: Firewise concepts on landscaping, building, firefighter safety and other topics are available online as well as through other outlets. The latest project is a television documentary called "Keepers of the Flame," which puts America's fire history and interface fire problem in context.
- Workshops, Training Sessions and Demonstration Events: These activities are focused on reducing fire risk to property and lives through better community design and retrofit and preparedness planning.
- Technical Assistance to Communities: As FIREWISE spreads across the country, more communities are looking to program organizers for help. This component includes GIS mapping technology.
- FIREWISE Communities USA Recognition Program: Communities can earn national status for their work to improve planning for and mitigation of fire hazards. Currently, there are eleven geographically diverse pilot communities in the recognition program, which will be officially unveiled in later 2003. Nationwide, there are thousands of communities with wildland/urban interface areas.

PRIORITIZED FUEL REDUCTION PROJECT NEEDS

Input from community meetings indicates that support and funding of rural fire departments is the highest priority. Community members recognize that County volunteer firefighters are the first line of defense in any wildland fire situation. The fact that efforts to improve rural fire departments was identified as the highest priority does not reduce the value and need for fuel reduction projects that enhance firefighting efforts. The two outstanding needs indicated the requirement for a multi-faceted approach to mitigating wildland fire risk in the county. Priority ranking for fuels treatments and improving rural fire departments are presented below.

PRIORITY 1 – TRANSPORTATION INFRASTRUCTURE CORRIDOR FUEL REDUCTION

The risk assessment identified that transportation infrastructure in the county is at high risk from wildland fire impacts and is the top priority for fuel reduction and risk mitigation. Transportation infrastructure includes the interstate highway; federal, state and county roads; the railroads; pipelines; and electric transmission lines. Human caused fires account for the largest number of wildland fires within the county. Reducing fuels within these corridors will help to reduce the occurrence and size of human caused fires in these areas. Smaller accumulations of fuels and shorter grass will reduce ignition potential; limit fire spread, and help to act as fuel

breaks/suppression lines for approaching wildfires. The Socorro County CWPP recommends that the County, working with the Department of Transportation, State Forestry, State Land Office, federal agencies, MRGCD, and private property/utility owners develop and implement a program for periodic transportation infrastructure corridor fuel reduction maintenance.

- **Project one:** Establish a truck turnaround every ½ miles along all Middle Rio Grande Conservation District canals. **THIS IS A LIFE SAFETY CONCERN.**
- **Project two:** Establish Crossover's as need to for firefighter safety along all Middle Rio Grande Conservation District canals. **THIS IS A LIFE SAFETY CONCERN.**
- **Project three:** Inspect and maintain evacuation route between Hop Canyon and Paterson Canyon, twice a year and/or every significant rain event.
- **Project four:** This project is to mow the right-of-ways along county roads to establish a firebreak. This will assist in removing fuels along the roads in preparation for fire season.
- **Project five:** Coordinate the frequency of fuel treatments of roadways with NM-DOT, Socorro County Road Department, Federal Agencies, and Private land owners.
- Prioritize identified road system in rank order of: high, moderate, or low.
- Set up a frequency schedule of fuel treatments for each road system.
- Have wildland coordinator tract results throughout the year.
- Federal/State transportation corridors needing periodic fuel reduction maintenance include:
- County roads needing periodic fuel reduction maintenance include:
- **Project six:** This project is to cut and spray the rights-of-way along railroads to establish a firebreak. This will assist in removing fuels along the railroads in preparation for fire season.
- Railroad companies currently have a spray program and maintain the railroads.
- This has had a decrease in fires along the railroad's corridors.
- Maintain a schedule of spraying with the railroad companies.
- **Project seven:** Abeytas Access to I-25 From Sabinal Station. Current response time is 15-30 minutes. There is option to decreases the time by 10-25 minutes. Option should be explored.
- **Project eight:** VFD's utilizing millings to spread on VFD's parking lots, Helicopter landing zones, and water dip sites.

A limited amount of fuel reduction maintenance work may be needed, on roads within BLM, USFS and F&WS lands. Where fuel accumulations and topography are appropriate, fuel reduction work should be expanded beyond road corridors into BLM, USFS and F&WS lands. Treatments to reduce fuels might include mowing, prescribed fire, or natural ignition fire management to achieve resource objectives in fire-adapted ecosystems.

Pipelines and electric transmission lines crossing the county are generally located in areas of grass and brush fuel types. The light, flashy nature of the grass/brush fuel type does not pose a major threat to pipelines, electric transmission lines and their associated facilities. Should there be significant grass and brush growth additional maintenance of these corridors may be needed.

PRIORITY 2 - DEFENSIBLE SPACE

One of the priorities for Socorro County is to reduce fuels and to create effective defensible space zones around homes that are at risk of being affected by wildfires. Defensible space is an

area around a structure where fuels and vegetation are treated, cleared or reduced to slow the spread of wildfire towards the structure. It also reduces the chance of a structure fire moving from the building to the surrounding wildland. Defensible space provides room for the firefighters to do their jobs. Your house is more likely to withstand a wildfire if grasses, brush, trees and other common wildland fuels are managed to reduce a fire's intensity. Creating an effective defensible space involves developing a series of management zones in which different treatment techniques are used. Develop defensible space around each building on your property. Include detached garages, storage buildings, barns and other structures in your plan. The actual design and development of your defensible space depends on several factors:

- ◆ size and shape of buildings
- ◆ materials used in their construction
- ◆ slope of the ground on which structures are built
- ◆ surrounding topography
- ◆ sizes and types of vegetation on your property.

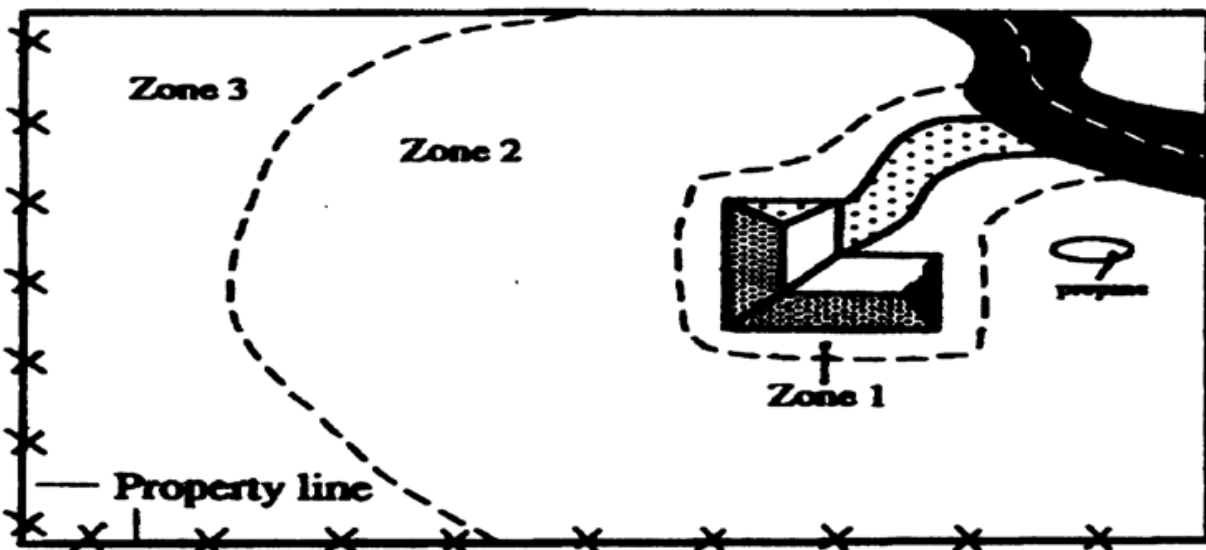


Figure 1: Forested property showing the three fire-defensible zones around a home or other structure.

Zone 1

The size of Zone 1 is 15 feet, measured from the edges of the structure. Within this zone, several specific treatments are recommended.

- Plant nothing within 3 to 5 feet of the structure, particularly if the siding is a flammable material
- Decorative rock creates an attractive, easily maintained nonflammable ground cover.
- If the house has noncombustible siding, widely spaced foundation plantings of low growing shrubs or other “fire wise” plants are acceptable.
- Do not plant directly beneath windows or next to foundation vents. Be sure there are no areas of continuous grass adjacent to plantings in this area.
- Frequently prune and maintain plants in this zone to ensure vigorous growth and low growth habit.
- Remove dead branches, stems and leaves.

- Do not store firewood or other combustible materials in this area.
- Enclose or screen decks with metal screening.
- Extend the gravel coverage under the decks.
- Do not use areas under decks for storage.
- Remove all trees from Zone 1 to reduce fire hazards. If you do keep one tree, consider it part of the structure and extend the distance of the entire defensible space accordingly. Isolate the tree crown from any other surrounding forest by at least 15 feet. Prune it to at least 15 feet above the ground. Remove any branches that overhang the roof or are within 10 feet of the chimney. Remove all “ladder fuels” from beneath the tree. Ladder fuels are small shrubs, trees, tree limbs and other materials that allow fire to climb into the tree crown –the branches and foliage.

Zone 2

- Selectively remove (thin) trees and large shrubs so there is at least 10 feet between crowns. Crown separation is measured from the furthest branch of one tree to the nearest branch on the next tree, not from tree trunk to tree trunk. On steep slopes, allow more space between tree crowns.
- Remove all ladder fuels (undergrowth) from these remaining trees.
- Carefully prune trees to a height of 10 feet.
- Thin the inner portion of Zone 2 more heavily than the outer portions. Gradually increase tree density as you approach Zone 3. As a rule of thumb, the recommended width of defensible space from the structure to the outer edge of Zone 2 will increase as slope percent increases.
- Isolated shrubs may remain, provided they are not under tree crowns.
- Prune and maintain these plants periodically to maintain vigorous growth.
- Remove dead stems from trees and shrubs annually.
- Limit the number of dead trees (snags) retained in this area. Wildlife needs only one or two snags per acre. Be sure any snags left for wildlife cannot fall onto the house or block access roads or driveways.
- Mow grasses (or remove them with a weed trimmer) as needed through the growing season to keep them low, a maximum of 6 or 8 inches. This is extremely critical in the fall when grasses dry out and cure or in the spring after the snow is gone but before plants green up.
- Stack firewood and woodpiles uphill or on the same elevation as the structure at least 30 feet away.
- Clear and keep away flammable vegetation within 10 feet of these woodpiles.
- Do not stack wood against your house or on or under your deck, even in winter. Many homes have burned from a woodpile that ignited as the fire passed. Wildfires can burn at any time of year in the southwest.
- Locate propane tanks at least 30 feet from any structures, preferably on the same elevation as the house. Clear and keep away flammable vegetation within 10 feet of these tanks.
- Do not screen propane tanks with shrubs or vegetation.
- Dispose of slash (limbs, branches and other woody debris) removed from your trees and shrubs by chipping, lop and scattering or by piling and burning.

Zone 3

Zone 3 is an area of management for landowner objectives and is of no particular size. It extends from the edge of Zone 2 to your property boundaries. In this area you are encouraged

to manage your forests in a more traditional manner. Typical management objectives for areas surrounding home sites or subdivisions are:

- Provide optimal recreational opportunities
- Enhance aesthetics
- Maintain tree health and vigor
- Provide barriers from wind, noise, dust and visual intrusions
- Support limited production of firewood, fence posts and other forest commodities; or grow Christmas trees or trees for transplanting.
- Prune trees along trails and fire access roads.
- Any approved method of slash treatment is acceptable for this zone, including piling and burning, chipping or lop and scatter.

PRIORITY 3 - FUEL BREAKS AROUND WUI BOUNDARIES

Socorro County will assist federal and state agencies to reduce fuels and to create fuel breaks adjacent to a community's outer perimeter of homes. A fuel break is a strategically located block or strip of land in which a cover of dense, heavy or flammable vegetation has been permanently changed to one of lower fuel volume and reduced flammability. A well-designed fuel break may provide an area in which firefighters can attempt to stop an oncoming fire. When planning for fuel break locations, the following factors should be considered:

- Fuel types and loading
- Topographical features
- Prevailing winds
- Access
- Proximity to homes
- Archaeological sites should be avoided
- Presence of threatened and endangered species

Acquire funding to assist federal and state agencies with fuel breaks. Fuel breaks may be beyond the scope of the County. In that case, the NM State Forestry may be consulted. Hazardous fuels monies are available from state and federal agencies. For more information visit the New Mexico State Forestry website, www.nmforestry.com, or the local NRCS Office, or the Funding Sources list in Appendix H of this CWPP.

Development of a 20 year fuels reduction strategy-

One major problem that continues to hamper economic development of the utilization of forest by-products is any guarantee of a steady supply of material. To date there is no formal long range strategy by either the USFS or the BLM, nor any guarantees that they will continue with their current level of interest, commitment and funding assistance with regards to their fuels reduction and forest restoration strategies

TREATMENT OF STRUCTURAL IGNITABILITY

There is an increased interest to build subdivisions in undeveloped areas throughout Socorro County. As such, the Socorro County recognizes the need to provide guidelines to homeowners and communities to reduce the potential of structural ignitability. The recommendations include:

- The placement of water storage tanks where homes are going to be built.

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- Public education and outreach.
- Implementing the guidelines presented by the NM State Forestry Publication, Living with Fire and Firewise Literature.

The primary determinants of a home's ability to survive wildfire are its roofing material and the quality of the "defensible space" surrounding it.

ICC WUI Codes

For homes and communities that are already established the suggestions made in the Action Plan, Proposed Wildfire Hazard Mitigation for Socorro County WUI's, address reducing structural ignitability. There are ICC WUI codes that may be adopted to assist Socorro County. The core group discussed this, but at this time there were no need to implement the ICC codes within Socorro County. Public education would serve Socorro County citizens in a more proactive way.

DEFENSIBLE SPACE AND FIREWISE ANNUAL CHECKLIST

- Trees and shrubs are properly thinned and pruned within the defensible space.
- Slash from thinning is disposed of.
- Roof and gutters are clear of debris.
- Branches overhanging the roof and chimney are removed.
- Chimney screens are in place and in good condition
- Grass and weeds are mowed to a low height.
- An outdoor water supply is available, complete with a hose and nozzle that can reach all parts of the house.
- Fire extinguishers are checked and in working order.
- The driveway is wide enough with clearance of trees and branches adequate for fire and emergency equipment. (Check with your local fire department.)
- Road signs and your name and house number are posted and easily visible.
- There is an easily accessible tool storage area with rakes, hoes, axes and shovels for use in case of fire.
- You have practiced family fire drills and your fire evacuation plan.
- Your escape routes, meeting points, and other details are known and understood by all family members.
- Attic, roof, eaves, and foundation vents are screened and in good condition.
- Stilt foundations and decks are enclosed, screened or walled up.
- Trash and debris accumulations are removed from the defensible space.

IMPROVING FIREFIGHTING CAPACITY

FIRE DEPARTMENTS

Socorro County is served by two municipal fire departments: City of Socorro Fire Department and Magdalena Volunteer Fire Department and rural volunteer fire departments: Table 1 lists the ISO insurance rating of each fire department.

Table 4 Fire Department ISO Ratings.

Fire Department	ISO Rating
San Antonio	5
Midway	5
Abeytas	5
Veguita	6
Hop Canyon	6
Socorro City	5
Village of Magdalena	5

Fire Department Training

Objective

To build capacity and knowledge so that the recognized volunteer fire departments in Socorro County can not only assist the state and federal agencies in wildfire suppression and protection but also is a complementary force to all wildland fire management activities. Members of Volunteer Fire Departments would serve as the Initial Attack with an Incident Commander until state and federal agencies arrive.

TRAINING

- Seek instructors to provide certification training to a small number of students at a time (5 or less), due to the distance for volunteers to travel for training.
- Provide training that can be broken down into small units to provide the opportunity for those with shift-work schedules to attend training.
- Build capacity and knowledge of the recognized volunteer fire departments in Socorro County so they not only assist the state and federal agencies in wildfire suppression and protection but can also be a complementary force to all wildland fire management activities. Members of volunteer fire departments would serve as the initial attack with an incident commander until state and/or federal agencies arrive.
- Seek funding and resources for training through NM State Forestry, BLM, USFS, Private Sector, and/or grants.

Budget and Finance

NM Forestry Division has responsibility, through the Joint Powers Agreement with Socorro County, to provide and coordinate wildland fire training courses to fire department personnel in Socorro County. Additionally, the USDA Forest Service, FWS Bosque del Apache Refuge, FWS Sevilleta Refuge and BLM will continue to assist with Forestry Division's training activities.

There will be funds appropriated through the National Fire Plan to address training needs over the next few years. These needs will be prioritized in accordance with the list shown above.

TRAINING EQUIPMENT NEEDED:

Various training videos and manuals, including:

- "Essentials in Firefighting" and
- "Wildland Fire Training" (videos)

Every firefighter in Socorro County should have at least the introductory wildland firefighter training courses. These courses provide training in the proper use of firefighting tools and apparatus, basic fire behavior, and weather. The minimum training recommendations include:

- S-130 Firefighting Training
- S-190 Introduction to Wildland Fire Behavior
- I-100 Introduction to Incident Command System
- L-180 Human Factors on the Fire line
- RT-130 The annual fire line safety refresher

Additional and encouraged wildland firefighting training courses include:

- S-131 Firefighter Type 1
- S-133 Look Up, Look Down, Look Around
- S-211 Portable Pumps and Water Use
- S-215 Fire Operations in the Wildland/Urban Interface
- S-290 Intermediate Wildland Fire Behavior
- S-260 Interagency Incident Business Management
- L-280 Followership to Leadership

Training should be coordinated through the Socorro District Office of NM State Forestry. Training may be taken from any NWCG qualified instructor. Wildland firefighter training courses that are available in the southeastern portion of the state are posted on the Interagency Dispatch Center Website (http://gacc.nifc.gov/swcc/management_admin/training/training.htm). Other training may be available to the fire departments through the local Bureau of Land Management office. Funding may be available through New Mexico State Forestry to pay for instructors to conduct Wildland courses at the fire departments.

Appendix F contains a complete training program for Socorro County firefighters.

For more information on qualifications and required trainings go to www.NWCG.gov and select NWCG publications, then Qualifications, or call the Fire Management officer at New Mexico State Forestry.

EQUIPMENT

Equipment needs include; a headlamp, goggles, water bottles, MREs, water, first aid kits, maps, compasses, global positioning systems, sleeping bags, and hand-held radios for every firefighter, as well as chainsaws, hand tools and bladder bags. Recommended hand tools

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include Pulaski, McLeods, shovels, and flappers. Because of the shortage of draft sites in the county, each fire department needs at least 1-type II water tender.

Each department should have at least one, preferably two, type VI wfire engine. The engine should be four-wheel drive and be equipped with a mobile radio, water tank and pump with draft capabilities, hose, hose adapters and valves, nozzles, spanner wrench, drafting equipment and foam capabilities. Each engine should also carry a pair bolt cutters.

Training, PPE, equipment and apparatus requirements are outlined in the New Mexico Resource Mobilization Plan and at the National Wildfire Coordinating Group website, www.NWCG.gov.

Communication Needs

Objective

The objective is to improve communications between federal, state, county and local entities to maximize the use of current communications infrastructure and improve communications where they are currently inadequate and unsafe.

Work Completed and scheduled itemized in Action Plan

COMMUNICATION SITES OVERVIEW

3. Communications/Emergency Operations Plan

Objective

The purpose of this plan is to describe how Socorro County will handle emergency situations and/or disasters within its jurisdiction. It assigns responsibilities for emergency preparedness and planning and for coordinating Emergency response activities before during and after any type of emergency or disaster. A *DRAFT* plan is a part of this Appendix.. Fire departments will develop site-specific plans for their own jurisdictions.

Personal Protective Equipment (PPE)

Wildland fire clothing, personnel protective equipment (PPE), is very different from the bunker gear used in structural firefighting. Every firefighter needs a full set of PPE that fits well and meets the minimum standards established by the National Fire Protection Association. PPE includes Nomex wildland fire pants and shirt, leather gloves, an appropriate helmet, and a pair of high-topped leather boots with a vibram sole, no steel toe. Each firefighter also needs a fire shelter, which is to be carried on them at all times. Training in the proper deployment of the fire shelter is critical, and should be practiced periodically as a training exercise. Training shelters should be purchased, as they are reusable and provide a cost effective way, to provide periodic shelter deployment training.

The fire departments across the county are not able to consistently provide their volunteers with wildland PPE. In some instances, fire department members either use structure firefighting PPE or street cloths.

- Funding – State (Volunteer Fire Assistance) and Federal (BLM - Rural Fire Assistance, FEMA Assistance to Firefighters Grant Program) grants are available to the county fire departments. However, the fire departments do not necessarily have the capacity to apply for the grants.
- Acquire funding for a grant writer.

FIRE APPARATUS

- Several fire departments have been able to acquire new structure firefighting apparatus including engines and tenders. These do not necessarily lend themselves to the remote, rugged nature of many wildland fires that the departments are called to suppress.

COMMUNITY FIREFIGHTING WATER SUPPLIES

The rural fire departments can increase their firefighting capacity; improve their ISO ratings; and lower homeowner insurance premiums with the addition or upgrade of community firefighting water storage tanks and hydrants.

- Acquire funding for hydrants systems
- Acquire funding for water storage tanks.
- Acquire funding for water transportation systems.

RECRUITMENT and RETENTION of VOLUNTEER FIREFIGHTERS

Possible programs to recruit and retain volunteer firefighters include:

- Training – Offer local training, to small groups, in blocks scheduled around volunteer firefighter employment commitments. Training opportunities will build capacity and knowledge so that the fire departments in Socorro County can, not only assist state and federal agencies in wildfire suppression and protection, but can also be a complementary force to all wildland fire management activities including deployment to incidents outside of the county and New Mexico. A suggested training plan is included in Appendix E.
- Stipend – Ask the voters to approve a tax increase to provide the volunteers with a “nominal fee” to help offset the costs of being a volunteer (fuel, clothing, child care).

Insurance – Provide low cost health, disability, and life insurance to the volunteer firefighters.

FIRE DEPARTMENT FUNDING GUIDELINES

Currently fire funds are based on ISO rating which are based strictly on structural firefighting capabilities. Fire Departments in rural areas, like Socorro County, receive more wildfire calls than structure fire calls annually. However, funding from the State Fire Fund cannot be used to purchase wildland fire apparatus, equipment, or PPE. Each department needs to be able to assess the needs of their department and purchase equipment according to their individual needs.

- Acquire funding from other agencies both state and Federal.
- Have a program for volunteer departments to acquire PPE from wildland agencies.

SOCORRO COUNTY FIRE DEPARTMENT NEEDS

Fire Department Equipment

Objective

To acquire equipment needed to adequately improve the ability to safely respond to Wildland fires and to ensure acquisition of personal protective equipment (PPE) which is essential when responding to wildland fires. To coordinate New Mexico Volunteer Fire Assistance and the BLM Rural Fire Assistance funds to maximize interagency cooperation. To assist Volunteer Fire Departments (VFDs) with acquiring Federal Emergency Management Agency funds.

Work Completed

Wildland fire apparatus has been acquired or is in the process of be purchased by most fire departments in Socorro County. All departments are at various inventory levels of PPE for their firefighters but will require additional acquisitions to meet our objectives.

Work Scheduled

Equipment needs assessments will be accomplished in 2006 and given to the Socorro County Fire Marshals Office.

Work Needed

Fire departments will maintain and upgrade equipment inventories for wildland firefighting. Inventories should be submitted to the fiscal agent at Socorro County each year. Fire Departments will also submit lists of equipment needs annually

Budget and Finance

Currently funding appropriated by the State Fire Marshal's Office is insufficient to meet the stated objectives. Additional funds that will be made available through the National Fire Plan should be earmarked for enhancing the capabilities of fire departments. Additional funding source include BLM (Rural Fire Assistance Program) NM Forestry Division (Volunteer Fire Assistance Program) and Federal Emergency Management Association (FEMA) grants. The fire departments will be responsible for coordinating directly with Socorro County to pursue FEMA grant opportunities. BLM and NM Forestry Division will work in conjunction with Socorro County to prioritize distribution of grant funds as they become available.

Equipment Available

Table 5. Fire Department Wildland Equipment Needs Assessment

FIRE DEPARTMENT	NEEDS	TARGET DATE
Abeytas	1) 4X4 WUI Engine 1,000 gal	VFA Grant?
Hop Canyon	1.) Tanker 4,000 2.) Breather Air compressor with cascade 3.) 12 SBA with fiber bottle 4.) 12 fire shelters	VFA Grant? FEMA (Truck)
Midway	1.) Type 1 Fire Engine 2.) Type 6 Brush Truck 3.) 2 nd Main Station	FEMA (truck) VFA
San Antonio	1). Firefighter protective clothing-one per volunteer 2). Wildland firefighting Equipment 3) PPE Equipment	FEMA VFA
Veguita	1). PPE 2). Portable Radios	FEMA VFA
Socorro Fire Department	1). Brush truck 2). PPE for all firefighters 3) Wildland firefighting equipment 4.) Hand tools and Wildland Hoses and nozzles	FEMA (TRUCKS) VFA
Magdalena Fire Department	1). PPE for 20 2). 4X4 Brush Truck. 3). Tanker Truck. 4). 10 Portable Radios	FEMA (Trucks) VFA
Alamo	1). Tanker Truck (3000 gallon) 2). 4X4 Brush Truck 1-200 gallon porta-tank. 3). PPE for 10. 4). Wildland fire tools (10 each) 5). Portable radios	FEMA (Trucks) VFA
County Fire Marshal	1.)Training aids 2) PPE Equipment 3)Semi – Tractor 4)Semi- Transport trailer 5)Dozer	

Table 6. Fire Department Wildland Equipment Current

<i>FIRE DEPARTMENT</i>	<i>EQUIPMENT</i>
ABEYTAS FIRE DEPARTMENT (Volunteer)	Brush truck (2) Tankers (3) Engine, Structural (1), Drafting Trailer (1), Tender Trailer (1)
HOP CANYON FIRE DEPARTMENT (Volunteer)	Brush Truck (1) Engines, Structural (1) Tender (2)
MIDWAY FIRE DEPARTMENT (Volunteer)	Brush Truck (2) Engines, Structural (1) Tender (1)
SAN ANTONIO FIRE DEPARTMENT (Volunteer)	Brush Truck (4) Engines, Structural (3) Tender (3)
VEGUITA FIRE DEPARTMENT (Volunteer)	Brush Truck (2) Engines, Structural (2) Tender (2)
SOCORRO FIRE DEPARTMENT (Municipal, paid)	Engines, Structural (4)
MAGDALENA FIRE DEPARTMENT (Municipal, Volunteer)	Brush Truck (?) Engines, Structural (?) Tender (?)

Table 7 Agency's Wildland Equipment

BLM	EQUIPMENT
SOCORRO	1 Type 6 Light Engine 1 5,000 gallon water trailer 25 person fire cache 2 F350 4 x 4 pickups (6 seats) 1 D-6 Dozer (varies within district) 1 Truck with lowboy trailer transport
ALBUQUERQUE	1 Type 6 Light Engine (Grants) 1 Type 4 Heavy Engine 20 person fire cache
US FOREST SERVICE	EQUIPMENT
MAGDALENA	
Magdalena	10 person reg Forest Service fir crew 2 type 6 wildland engine 20 person SWFF fire crew 10 person SWFF camp crew 20 person fire cache 1,000 gallon water trailer 2 porta/dip tanks Misc. support vehicles & equipment

NEW MEXICO FORESTRY DIVISION	EQUIPMENT
SOCORRO	3 type 6 light engines 20 Person fire Cache

FWS	EQUIPMENT
Bosque del Apache Wildlife Refuge Sevilleta Wildlife Refuge	1- type 6 light engine 1- type 4 Heavy Engine

**National Mobilization Minimum Engine and Water Tender Typing
October 2007**

Requirements	Engine Type						
	Structure		Wildland				
	1	2	3	4	5	6	7
Tank minimum capacity (gal)	300	300	500	750	400	150	50
Pump minimum flow (gpm)	1000	500	150	50	50	50	10
@ rated pressure (psi)	150	150	250	100	100	100	100
Hose 2½"	1200	1000	-	-	-	-	-
1½"	500	500	1000	300	300	300	-
1"	-	-	500	300	300	300	200
Ladders per NFPA 1901	Yes	Yes	-	-	-	-	-
Master stream 500 gpm min.	Yes	-	-	-	-	-	-
Pump and roll	-	-	Yes	Yes	Yes	Yes	Yes
Maximum GVWR (lbs)	-	-	-	-	26,000	19,500	14,000
Personnel (min)	4	3	3	2	2	2	2

Requirements	Water Tender Type				
	Support			Tactical	
	S1	S2	S3	T1	T2
Tank capacity (gal)	4000	2500	1000	2000	1000
Pump minimum flow (gpm)	300	200	200	250	250
@ rated pressure (psi)	50	50	50	150	150
Max. refill time (minutes)	30	20	15	-	-
Pump and roll	-	-	-	Yes	Yes
Personnel (min)	1	1	1	2	2

1. All types shall meet federal, state and agency requirements for motor vehicle safety standards, including all gross vehicle weight ratings when fully loaded.
2. Type 3 engines and tactical water tenders shall be equipped with a foam proportioner system.
3. All water tenders and engine types 3 through 6 shall be able to prime and pump water from a 10 foot lift.
4. Personnel shall meet the qualification requirements of NWCG *Wildland Fire Qualification System Guide*, PMS 310-1.

Table 8 National Mobilization Minimum Engine and Water Tender Typing

RESPONSE PLANNING

Preface

In 2006 the County will adopt and implement the comprehensive “**Socorro County All Hazards Emergency Operations Plan**” (EOP). The document is being written by the Socorro County Local Emergency Planning Committee (LEPC), and will be endorsed by every first response agency or organization, in every jurisdiction in Socorro County. The EOP is the starting point for all other emergency plans in Socorro County. It provides broad guidelines for emergency management, thus enabling the individual agencies to write detailed operational plans of their own. What follows is abridged version of the EOP that describes the mission, goals, situation and assumptions, concept of operations, organization and assignment of responsibilities.

Purpose

The purpose of the EOP is to describe how Socorro County will handle emergency situations and disasters within its jurisdiction. The Plan assigns responsibilities for emergency preparedness and planning and for coordinating emergency response activities and resources before, during and after any type of emergency or disaster.

The overall emergency management goal is to coordinate emergency response efforts to save lives, reduce injuries, and preserve property. Since the Plan is essentially a contingency plan, its primary goal is to assemble, mobilize and coordinate a team of responders and coordinators that can deal with any emergency.

The EOP response strategies include:

- Utilizing a graduated response which is in proportion to the scope and severity of an emergency or disaster;
- Utilizing Four Emergency Action Levels that describe the extent of response. Each Emergency Action Level is a shorthand guide for describing the scope and severity of an emergency and for activating resources to respond to the emergency.

Situation and Assumptions

Situation: The County’s two biggest hazards are wildfire and severe weather. In fact, severe weather plays a pivotal role in the area’s infamous dry lightning storms, with scores of ignitions that severely stress the County’s ability to provide effective response. Adding to the complications of inherent wildland fire risk, is the continuing development of wildland urban interface communities, scattered remotely throughout the County. Of equal importance is the vulnerability of the County’s communication sites and other critical facilities. Most of the sites are located on top of forested mountains, prime targets of lightning and catastrophic fire, which in turn would cripple our response efforts.

Assumptions: The Response Plan makes certain assumptions about preparedness, emergencies and response. It is assumed that:

- Emergencies occur that will require multiple agency response and that exhaust local jurisdiction resources;
- Assistance from other jurisdictions will be needed for large-scale emergencies or disasters;
- The experience and expertise of annex coordinators called to the Emergency Operations Center during an emergency will compensate for gaps in emergency planning;

- Individuals who are responsible for emergency response and coordination will have a working knowledge of the **Emergency Operations Plan**;
- County, City and Village officials and response agencies will have been trained in the Incident Command system (ICS) and in Emergency Operations Center management;
- **The Emergency Operations Center** needs to be sufficiently organized and equipped to coordinate emergency

Concept of Operations

The following priorities are listed in order of importance. Whenever demands for emergency resources (personnel or equipment) conflict, the operational demand that is highest on this list will prevail:

1. Save Lives
 - a. Save human lives
 - b. Treat the injured
 - c. Warn the public to avoid further casualties
 - d. Shelter and care for those evacuated.
 - e. Save animals
2. Protect property
 - a. Save property from destruction
 - b. Take action to prevent further loss
 - c. Provide security for property, especially in evacuated areas
3. Restore the Community to normal
 - a. Restore essential utilities
 - b. Restore community infrastructure such as roads
 - c. Help restore economic basis of the community.

Training is the key to effective response and is one of the most significant of any operational concepts. Two areas of training unique but critical to successful response are the: incident command system, and support coordination at the Emergency Operations Center.

Emergency Action Levels define the Plan's increasing severity and response levels. They consist of:

Level One: Incident Command system is necessary but able to control emergency without additional assistance of the EOC.

Level Two: Resources that are immediately available to IC are exhausted. Local Emergency Operations Center is activated to manage and coordinate related, multiple, or low level emergencies at different locations. Some precautionary evacuation may be necessary.

Level Three: State response and management resources may be needed to assist local and regional response. Local area evacuation and mass care activities characterize this level. EOC at State and Local level are coordinating resources.

Level Four: This is the **worst case scenario** for a disaster. All local, regional, state and federal response and management are needed to handle a disaster. Wide area evacuation and mass

care activities characterize this level. EOCs at all government levels are coordinating resources.

Organization and Assignment of Responsibilities

The County All Hazards Emergency Operations Plan describes general operational functions and organizes these specific emergency resources into *Annexes*. The Annexes describe basic emergency functions and actions that can apply to any type of emergency. These annexes include:

- (A) Direction and Control
- (B) Communications
- (C) Warning
- (D) Emergency Public Information
- (E) Evacuation
- (F) Mass Care
- (G) Health and Medical
- (H) Fire and Rescue
- (I) Resource Management
- (J) Animal Control and Care

Each *Annex* contains a job description outlining general and specific duties, and a checklist that incorporates essential and time-critical tasks, special considerations and priorities. The intent of these job descriptions and checklists are to:

- 1) Get coordinators into action-starting them immediately on critical coordination tasks;
- 2) Direct coordinators in what to do with aid of wall posters, job descriptions, priorities, etc;
- 3) Program initial work of coordinators with a checklist to show how he/she fits into the team;
- 4) Help coordinators identify and outline reminders and priorities for specific emphasis; and
- 5) Familiarize coordinators with essential reference information as they work through time-critical tasks in the checklist.

General policies for both responders and Annex coordinators include:

- When in doubt about the appropriate level of emergency response, do more than is expected;
- Emergency response agencies should expect to sustain themselves during the first 24 hours of an emergency;
- Emergency service personnel and EOC coordinators should exhaust their own channels of support before turning to others for assistance;
- County/City maintenance crews and equipment will provide primary assistance at the disaster site (debris clearance, road upgrading, damage assessment etc.) and assist with the repair and restoration of essential services and vital facilities;
- All responding agencies and EOC coordinators will manage and coordinate their own people, equipment, facilities and supplies to accomplish their tasks;
- Lead jurisdiction in the emergency will be based on the location of the emergency, the jurisdiction committing the majority of initial response resources and the arrival of higher authorities (such as State or Federal agencies).

Authorities and References

The authority of local officials during any emergency. The documents which authorize EOC, ICS, and emergency management operations are the State Civil Emergency Preparedness Act, State Executive Order, and the Emergency Management Act.

In addition to the Authorities and References already cited, the following publications were used to develop the Plan.

- a. Guide for All-Hazard Emergency Operations Planning, State and Local Guide, (SLG-101), FEMA, September 1996
- b. Disaster Assistance Program (DAP), Local Government Handbook, New Mexico Department of Public Safety, Office of Emergency Management (DPS OEM).

CONCLUSIONS AND RECOMMENDATIONS

To ensure this document remains a “LIVING DOCUMENT” and does not just reside on a shelf, several operational and monitoring tasks must be completed:

- Develop individual community CWPPs to address specific needs for each WUI area.
- Continue funding the Socorro County Fire Marshal (EMO). This position will be a critical link between state and federal land management agencies and the Socorro County Board of Commissioners.
- Hold quarterly review and follow up meetings to keep plan implementation on track, to outline priorities and projects, and celebrate accomplishments.
- Conduct annual reviews and document updated amendments or accomplishments.
- Track accomplishments on a simple document or spreadsheet and forward to members of the core group.
- Keep community leaders engaged in the prioritization, accomplishments, and long term planning needed to make this plan and its implementation a long-term success. Implementation of these recommendations is critical to long-term success of the Socorro County CWPP.

It should be noted that this CWPP does not provide specifics as to work needed in Socorro County to protect its communities, infrastructure, and watersheds from catastrophic wildfire or to restore forest and rangelands to a more healthy state. It also does not attempt to develop treatment prescriptions, management actions, or on-the-ground management options. The plan simply identifies areas, issues and concerns of community members and government officials as called for in the Healthy Forest Restoration Act. It is agreed that areas of concern presented in this plan will become the focal point for collaborative risk mitigation and forest and rangeland restoration activities for the Bureau of Land Management, New Mexico State Land Office, Natural Resources Conservation Service, New Mexico Forestry Division, USFS, USFWS, BLM, Socorro Soil and Water Conservation District and others.

All of the issues presented are of great importance to the citizens of Socorro County and cannot be isolated from the overall goal of safety and fire mitigation.

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Appendix A –Maps

Electronic Maps

All maps are created in a PDF format

On the CD Maps

APPENDIX B

FIRE DEPARTMENT

WILDLAND FIRE

TRAINING PROGRAM

FIRE DEPARTMENT WILDLAND FIRE TRAINING

Objective

- To seek instructors to provide certification training to a small number of students at a time (5 or less), due to the distance for volunteers to travel for training.
- Provide training that can be broken down into small units to provide the opportunity for the shift works schedules to attend training.
- To build capacity and knowledge so that the recognized volunteer fire departments in Socorro County can not only assist the state and federal agencies in wildfire suppression and protection but can also be a complementary force to all wildland fire management activities. Members of Volunteer Fire Departments would serve as the Initial Attack with an Incident Commander until state and federal agencies arrive.
- Seek funding and resource for training through NM State, BLM, USFS, Private Sector and/or grants.

Required Training to meet the minimum standards of the National Wildfire Coordinating Group (NWCG)

(Reference - Wildland Fire Qualification System Guide, PMS 310-1, May 2008)

The following Introduction Courses are Required to be qualify in the positions of Firefighter Type 2 and Firefighter Type 1. These need to be offered on an annual basis.

- Introduction to ICS (I-100) 4 Hours
- Human Factors in the Wildland Fire Service (L-180) 4 Hours
- Annual Fireline Safety Refresher (RT-130)
- Firefighting Training (S-130) 30 – 35 ½ Hours
- Firefighter Type 1 (S-131) 8 Hours
- Look up, Look Down, Look Around (S-133) 4 Hours
- Introduction to Wildland Fire Behavior (S-190) 6-8 Hours

Required NIMS training for all firefighters NIMS ICS 700

FIREFIGHTER TYPE 2 (FFT2)

➤ REQUIRED TRAINING

- ✓ Introduction to ICS (I-100) 4 Hours
- ✓ Human Factors in the Wildland Fire Service (L-180) 4 Hours
- ✓ Introduction to Wildland Fire Behavior (S-190) 6-8 Hours
- ✓ Firefighting Training (S-130) 30 – 35 ½ Hours
- ✓ Annual Fireline Safety Refresher (RT-130)

➤ **REQUIRED EXPERIENCE**

- ✓ None

FIREFIGHTER TYPE 1 (FFT1)

➤ **REQUIRED TRAINING**

- ✓ Firefighter Type 1 (S-131) 8 Hours
- ✓ Look Up, Look Down, Look Around (S-133)
- ✓ 4 Hours Annual Fireline Safety Refresher (RT-130)

➤ **REQUIRED EXPERIENCE**

- ✓ Satisfactory performance as a Firefighter Type 2 (FFT2)
plus
- ✓ Successful position performance as a Firefighter Type 1 (FFT1) on a wildland fire incident

INCIDENT COMMANDER TYPE 5 (ICT5)

➤ **REQUIRED TRAINING**

- ✓ Firefighter Type 1 (S-131) 8 Hours
- ✓ Look up, Look Down, Look Around (S-133) 4 Hours
- ✓ Annual Fireline Safety Refresher (RT-130)

➤ **REQUIRED EXPERIENCE**

- ✓ Satisfactory performance as a Firefighter Type 2 (FFT2)
plus
- ✓ Successful position performance as an Incident Commander Type 5 (ICT5) on a wildfire incident.

➤ **OTHER TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS**

- ✓ Wildland Fire Chain Saws (S-212)

The following Intermediate Courses are required to be qualified in the following positions and need to be offered on a biannual basis.

- Initial Attack Incident Commander (S-200) 16 Hours
- Crew Boss (Single Resource) (S-230) 24 Hours {S-290 is a prerequisite for S-230}
- Engine Boss (Single Resource) (S-231) 16 Hours {S-230 & S-290 is a prerequisite for S-230}
- Intermediate Wildland Fire Behavior (S-290) 32 Hours

ENGINE BOSS, SINGLE RESOURCE (ENGB)

➤ **REQUIRED TRAINING**

- ✓ Intermediate Wildland Fire Behavior (S-290) 32 Hours
- ✓ Crew Boss (Single Resource) (S-230) 24 Hours
- ✓ Annual Fireline Safety Refresher (RT-130)

➤ **REQUIRED EXPERIENCE**

- ✓ Satisfactory performance as a Firefighter Type 1 (FFT1)
- ✓ plus
- ✓ Successful position performance as an Engine Boss, Single Resource (ENGB) on a wildland fire incident

➤ **OTHER TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS**

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- ✓ Basic ICS (I-200) 16 Hours
- ✓ Followership to Leadership (L-280) 16 Hours
- ✓ Basic Air Operations (S-270) 16 Hours
- ✓ Interagency Incident Business Management (S-260) 16-20 Hours
- ✓ Ignition Operations (S-234) 32 Hours
- ✓ Engine Boss (Single Resource) (S-231) 12-16 Hours

INCIDENT COMMANDER TYPE 4 (ICT4)

➤ **REQUIRED TRAINING**

- ✓ Initial Attack Incident Commander (S-200) 16 Hours
- ✓ Annual Fireline Safety Refresher (RT-130)

➤ **REQUIRED EXPERIENCE**

- ✓ Satisfactory performance in any Single Resource Boss position (CRWB, DOZB, ENGB, FELB, FIRB, HMGB, TRPB)
plus
- ✓ Successful position performance as an Incident Commander Type 4 (ICT4) on a wildfire incident

The following Courses should be offered to improve firefighter skills.

- Basic ICS (I-200) 16 Hours
- Followership to Leadership (L-280) 16 Hours
- Portable Pumps and Water Use (S-211) 24 Hours
- Wildland Fire Chain Saws (S-212) 36 Hours
- Fire Operations in the Willand/Urban Interface (S-215) 28-32 Hours
- Engine Boss (Single Resource) (S-231) 12-16 Hours
- Ignition Operations (S-234) 32 Hours
- Interagency Incident Business Management (S-260) 16-20 Hours
- Basic Air Operations (S-270) 16 Hours

TRAINING EQUIPMENT NEEDED:

Various training videos and manuals, including:

“Essentials in Firefighting” and “Wildland Fire Training” (videos)

APPENDIX C

Wildfire Hazard Home Assessment Form

Community Name:	Points	My Points here (choose the best one)
My fire protection provided by:		
1. The Main road to my house is best described as:		
Two or more primary roads	1	
One road, primary route	3	
One way in and out	5	
2. The main road to my house is:		
20 feet wide or more	1	
Less than 20 feet	3	
3. The main road to my house is:		
Smooth road, grade <5%	1	
Rough road, grade >5%	3	
Other		
4. My Driveway is best described as:		
Loop Road, cul de sacs with Outside radius > 50 ft		
Loop Road, cul de sacs with Outside radius <50 ft	1	
OR		
Dead end driveway less than 200 ft to my house	3	
Dead end driveway longer than 200ft to my house	5	
5. My Lot Size is:		
More than 10 acres	1	
Between 1-10 acres	3	
Less than 1 acre	5	
6. Street signs in my community are:		
Present (4" in size & reflective)	1	
Not Present	5	
VEGETATION		
7. The vegetation or "fuels" around my home are:		
Light Fuels, grasses	1	
Medium Fuels, light brush, small trees	5	
Heavy Fuels, dense brush, timber	10	
Slash, down & dead fuels	10	
8. I have cleared the "fuels" around my house:		
More than 100ft of treatment around my house	1	
30-70 ft treatment from my home & bldgs	5	
No defensible space treatment, the fuels are right up to my house	10	
TOPOGRAPHY		
9. Slope around my house is best described as:		
Less than 9%	1	
Between 10-20%	4	
Between 21-30%	7	
Between 31-40%	8	
Greater than 41%	10	
ADDITIONAL RATING FACTORS		
10. Rough topography that contains steep canyons around or on the way to my house	2	
11. Areas with a history of higher fire occurrence than surrounding areas due to special situations such as heavy lightning, railroads, escaped debris burning, arson, etc around or near my home	3	
12. I live in an Area that is periodically exposed to unusually severe fire weather and strong winds	4	

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ROOFING MATERIALS

13. Construction Material of my roof

Class A roof: example non combustible tile or metal	1
Class B roof	3
Class C roof: ex.	5
Non- rated: ex. Wood shingles	10

MY HOUSE IS MADE MOSTLY OF:

14. Materials

Noncombustible siding & non combustible deck	1
Noncombustible siding with a wood deck	3
combustible siding and deck	10

AVAILABLE FIRE PROTECTION

15. Water Source Available (on site)

500 gpm hydrants <1000 ft apart	1
Hydrants above or draft site	2
No hydrants or draft site	3

16. Water source Available (off-site)

Source within 20 min. round trip	1
Source within 21-45 min. round trip	5
Source > 46 min. round trip	10

UTILITIES (GAS, ELECTRIC)

17. Placement

All underground utilities	1
One underground, one above	3
All aboveground	5

ADD UP YOUR POINTS

1. Low Hazard	<49 points
2. Moderate Hazard	49-68 points
3. High Hazard	69-83 points
4. Extreme Hazard	84+ points

APPENDIX D

FUNDING SOURCES

The following section provides information on federal, state, and private funding opportunities for conducting wildfire mitigation projects.

FEDERAL FUNDING

Source: Predisaster Mitigation Grant Program

Agency: Department of Homeland Security Federal Emergency Management Agency (DHS FEMA)

Website: <http://www.fema.gov/government/grant/pdm/index.shtm>

Description: The DHS includes FEMA and the U.S. Fire Administration. FEMA's Federal Mitigation and Insurance Administration is responsible for promoting predisaster activities that can reduce the likelihood or magnitude of loss of life and property from multiple hazards, including wildfire. The Disaster Mitigation Act of 2000 created a requirement for states and communities to develop predisaster mitigation plans and established funding to support the development of the plans and to implement actions identified in the plans. This competitive grant program, known as PDM, has funds available to state entities, tribes, and local governments to help develop multi hazard mitigation plans and to implement projects identified in those plans.

Source: Funding for Fire Departments and First Responders

Agency: DHS, U.S. Fire Administration

Website: <http://www.usfa.dhs.gov/fireservice/grants/>

Description: Includes grants and general information on financial assistance for fire departments and first responders.

Programs include the Assistance to Firefighters Grant Program (AFGP), Reimbursement for Firefighting on Federal Property, State Fire Training Systems Grants, and National Fire Academy Training Assistance.

Source: Conservation Innovation Grants (CIG)

Agency: National Resource Conservation Service

Website: <http://www.nm.nrcs.usda.gov/programs/cig/cig.html>

Description: CIG State Component. CIG is a voluntary program intended to stimulate the development and adoption of innovative conservation approaches and technologies while leveraging federal investment in environmental enhancement and protection, in conjunction with agricultural production. Under CIG, Environmental Quality Incentives Program (EQIP) funds are used to award competitive grants to non-federal governmental or nongovernmental organizations, tribes, or individuals. CIG enables the Natural Resources Conservation Service (NRCS) to work with other public and private entities to accelerate technology transfer and adoption of promising technologies and approaches to address some of the nation's most pressing natural resource concerns. CIG will benefit agricultural producers by providing more options for environmental enhancement and compliance with federal, state, and local regulations. The NRCS administers the CIG program. The CIG requires a 50/50 match between the agency and the applicant. The CIG has two funding components: national and state. Funding sources are available for water resources, soil resources, atmospheric resources, and grazing land and forest health.

Source: Rural Fire Assistance

Agency: Department of the Interior

Description: DOI program focused on rural fire department training, and the purchase protective fire clothing and firefighting equipment and public education. Departments that serve a community of less than 10,000 people located near federal (BLM) land are eligible. The maximum award is \$20,000 and requires a 10% cost share which may include in-kind services. For more information contact the DOI at 202-606-3211

Source: Volunteer Fire Assistance

Agency: USDA Forest Service

Website: <http://www.fs.fed.us/fire/partners/vfa/>

Description: USDA Forest Service funding will provide assistance, through the states, to volunteer fire departments to improve communication capabilities, increase wildland fire management training, and purchase protective fire clothing and firefighting equipment. This grant may also be used to fund a wildland coordinator position in the county. The maximum grant amount is \$25,000 and is a 90%, 10 % cost share. For more information and an application, go to NMForestry.com

Source: State Fire Assistance Socorro County

Agency: USDA Forest Service

CWPP Socorro County November, 2018

Description: USDA Forest Service program providing financial and technical support directly to state wildland fire agencies to enhance firefighting capacity of state, local and rural organizations. The program also supports community based hazard mitigation and an expanded public service fire prevention program. Funds have been awarded for private lands defensible space thinning. For more info contact the USFS Regional Office at 505-842-3344

Source: Firewise

Agency: Multiple

Website: <http://www.firewise.org>

Description: The WUI Working Team (WUIWT) of the National Wildfire Coordinating Group is a consortium of wildland fire organizations and federal agencies responsible for wildland fire management in the United States. The WUIWT includes the USDA Forest Service, USDI Bureau of Indian Affairs, USDI BLM, USDI Fish and Wildlife Service, USDI National Park Service, FEMA, U.S. Fire Administration, International Association of Fire Chiefs, National Association of State Fire Marshals, National Association of State Foresters, National Emergency Management Association, and National Fire Protection Association. There are many different Firewise Communities activities that can help homes and whole neighborhoods become safer from wildfire without significant expense. Community cleanup days, awareness events, and other cooperative activities can often be successfully accomplished through partnerships among neighbors, local businesses, and local fire departments, at little or no cost. The Firewise Communities recognition program page (<http://www.firewise.org/usa>) provides a number of excellent examples of these kinds of projects and programs. The kind of help you need will depend on who you are, where you are, and what you want to do. Among the different activities individuals and neighborhoods can undertake the following actions often benefit from some kind of seed funding or additional assistance from an outside source:

- Thinning/pruning/tree removal/clearing on private property—particularly on very large, densely wooded properties
- Retrofit of home roofing or siding to noncombustible materials
- Managing private forest
- Community slash pickup or chipping
- Creation or improvement of access/egress roads
- Improvement of water supply for firefighting
- Public education activities throughout the community or region

Some additional examples of what communities, counties, and states have done can be found in the National Database of State and Local Wildfire Hazard Mitigation Programs at <http://www.wildfireprograms.usda.gov>. You can search this database by keyword, state, jurisdiction, or program type to find information about wildfire mitigation education programs, grant programs, ordinances, and more. The database includes links to local websites and e-mail contacts.

Source: The National Fire Plan

Website: <http://www.forestsandrangelands.gov/>

Description: Many states are using funds from the NFP to provide funds through a cost-share with residents to help them reduce the wildfire risk to their private property. These actions are usually in the form of thinning or pruning trees, shrubs, and other vegetation and/or clearing the slash and debris from this kind of work. Opportunities are available for rural, state, and volunteer fire assistance.

Source: Staffing for Adequate Fire and Emergency Response (SAFER)

Agency: DHS

Website: <http://www.firegrantsupport.com/safer/>

Description: The purpose of SAFER grants is to help fire departments increase the number of frontline firefighters. The goal is for fire departments to increase their staffing and deployment capabilities and ultimately attain 24-hour staffing, thus ensuring that their communities have adequate protection from fire and fire-related hazards. The SAFER grants support two specific activities: (1) hiring of firefighters and (2) recruitment and retention of volunteer firefighters. The hiring of firefighters activity provides grants to pay for part of the salaries of newly hired firefighters over the five-year program. SAFER is part of the Assistance to Firefighters Grants and is under the purview of the Office of Grants and Training of the DHS.

Source: The Fire Prevention and Safety Grants (FP&S)

Agency: DHS

Website: <http://www.firegrantsupport.com/fps/>

Description: The FP&S are part of the Assistance to Firefighters Grants and are under the purview of the Office of Grants and Training in the DHS. FP&S grants support to projects that enhance the safety of the public and firefighters who may be

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exposed to fire and related hazards. The primary goal is to target high-risk populations and mitigate high incidences of death and injury. Examples of the types of projects supported by FP&S include fire-prevention and public-safety education campaigns, juvenile fire-setter interventions, media campaigns, and arson prevention and awareness programs. In fiscal year 2005, Congress reauthorized funding for FP&S and expanded the eligible uses of funds to include firefighter safety research and development.

STATE FUNDING

Source: State and Private Forestry Programs

Agency: National Association of State Foresters

Website: http://www.stateforesters.org/S&PF/coop_fire.html

Description: The National Association of State Foresters recommends that funds become available through a competitive grant process on Wildland-Urban Interface hazard mitigation projects. State fire managers see opportunities to use both the State Fire Assistance Program and the Volunteer Fire Assistance Program to improve the safety and effectiveness of firefighters in the interface, as well as in other Wildland fire situations. To ensure firefighter safety, minimize property and resource loss, and reduce suppression costs, land management agencies, property owners, local leaders, and fire protection agencies must work cooperatively to mitigate interface fire risks, as well as to ensure that Wildland firefighters receive the training, information, and equipment necessary to safely carry out their responsibilities. The 2007 Western WUI Grant Program is a specific grant available under the State Fire Assistance Program. It includes opportunities for hazardous-fuels reduction, education, and community and homeowner actions. An application and instructions can be found at: http://www.firesafecouncil.org/news/attachments/2007_CDF_application-process_final168.pdf

Source: New Mexico Association of Counties 2007–2008 Wildfire Risk Reduction Program

Agency: New Mexico Association of Counties

Website: <http://www.nmcounties.org/wildfire.html>

Description: This program targets at-risk communities by offering seed money to help defray the costs of community wildfire protection projects. During the past two years, the Wildfire Risk Reduction Grant Program has primarily funded projects for the development of CWPPs (CWPP), a prerequisite to all other activities. In 2007, priority was given to projects that requested funding for hazardous fuel reduction, wildfire prevention, and community outreach activities that were identified in completed Cwpp.

PRIVATE FUNDING

Source: The Urban Land Institute (ULI)

Website: <http://www.uli.org>

Description: ULI is a 501(c)(3) nonprofit research and education organization supported by its members. The institute has more than 22,000 members worldwide, representing the entire spectrum of land-use and real estate development disciplines, working in private enterprise and public service. The mission of the ULI is to provide responsible leadership in the use of land to enhance the total environment. ULI and the ULI Foundation have instituted Community Action Grants (http://www.uli.org/Content/NavigationMenu/MyCommunity/CommunityActionGrants/Community_Action_Gr.htm) that could be used for Fire wise Communities activities. Applicants must be ULI members or part of a ULI District Council. Contact actiongrants@uli.org or review the web page to find your District Council and the application information.

Source: Environmental Systems Research Institute (ESRI)

Website: <http://www.esri.com/grants>

Description: ESRI is a privately held firm and the world's largest research and development organization dedicated to geographic information systems. ESRI provides free software, hardware, and training bundles under ESRI-sponsored Grants that include such activities as conservation, education, and sustainable development, and posts related non-ESRI grant opportunities under such categories as agriculture, education, environment, fire, public safety, and more. You can register on the website to receive updates on grant opportunities.

APPENDIX E

A HOMEOWNER'S GUIDE

This reference guide is included to provide tips and recommendations to homeowner's on how to reduce structural ignitability and improve preparedness when it comes to wildland urban interface fires.

BEFORE THE FIRE

Reducing Structural Ignitability

Building Materials

- Roofs – the most vulnerable part of a home to ignition by falling embers. Metal roofs provide the best resistance to ignition. Slate, tile, Class an Asphalt shingles also provides fire resistance. Avoid wood and other combustible materials for roofs. Keep gutters clear of debris such as leaves.
- Siding, decks and fences – noncombustible materials are recommended, adobe, stucco, block, brick, noncombustible siding. Keep the area below the deck clear of leaves and debris, screen off the area leaving openings no larger that one-half inch. Do not stack firewood on or below deck or right up against the home. Keep other flammable materials, paint, oil, gasoline in approved containers away from the home and any ignition source.

Potential Ignition Sources

- Chimneys and Fireplaces – Inspect you chimney and damper at least twice a year. Clean the chimney before first use and periodically thereafter, depending on frequency of use. Have the spark arrestor inspected and confirm that it meets the latest safety code. Keep chimneys and stovepipes clear of leaves, limbs and debris.
- Ashes – Never place hot ashes in a nonmetal container or dump them on the ground. Place in a metal container and either soaks with water or covers and allows cooling for several days before disposing.
- Propane Tanks – should be at least 30 ft. from any structure. Keep flammable at least 10 ft. from tank. Learn how to turn the tank off and on. In case of fire, turn off the gas before evacuating *if* time and safety allow.
- Fireworks – never allow children to play with or ignite fireworks or other incendiaries unattended.
- Smoking – Never throw lit cigarettes, cigars, etc. into a fuel source such as dead leaves, dry grass, debris, etc. Always use an ashtray and make sure to fully extinguish.

Defensible Space

- **Zone 1** – this is the area closest to the structure. This well-irrigated area encircles the structure for at least 30 ft. on all sides, providing space for fire suppression equipment in the event of an emergency. Plantings should be limited to carefully space low flammability species. If possible maintain a mowed green lawn. Remove dead vegetation and leaves, exposing mineral soil is recommended in a 2 ft. wide perimeter along the foundation of the structure. Focus on fuel breaks such as concrete patios, walkways, rock gardens, and irrigated grass or garden within this zone. Gravel is recommended over wood chips or pine needles.
- **Zone 2** – Low flammability plant materials should be used here. Plants should be low-growing, and the irrigation system should extend into this section.
- **Zone 3** – Place low-growing plants and well-spaced trees in this area, remembering to keep the volume of vegetation low.
- **Trees** – all trees within the safety zones should have lower limbs removed to a height of 6-10 ft. Remove all branches within 15 ft. of your chimney or overhanging part of your roof.
- **Ladder fuels** – are short shrubs or trees growing under eaves of the house or into the tree canopy that can “carry” fire up. The removal of ladder fuels within about 100 ft. of the structure will help limit the risk of crown fire around the structure.

PUBLIC OUTREACH AND EDUCATION

Community fire education is critical to assist in the prevention of fire. Most residents are unaware of potential fire hazards, which exist. Other residents are aware of the potential of fire, however, they are not does not know how to minimize these fire hazards.

Many of the residents in Socorro County are in remote areas far from the limited fire fighting resources within the county. This makes it difficult for firefighting resources to respond to all fires in a timely manner.

The goal of any fire education program should be to create an awareness of the potential hazards and effects of fire, with hopes to gain community support with hazard reduction efforts. It is imperative to adequately communicate the advantages of any fire hazard reduction program and to explain the alternatives available. It is also helpful to explore possible funding sources to aid in the implementation of such programs.

More information can be obtained at www.firewise.org, or by visiting your local NM State Forestry Office in Socorro or the Socorro County Firewise Coordinator.

Access

Limited access may prevent firefighters from reaching homes in the event of a WUI fire.

- In the event of a WUI fire, leave your gate open
- Keep driveway uncluttered and at least 12 ft. wide
- Slope of driveway should be less than 10 percent
- Trim overhanging branches to allow at least 13.5 ft. of overhead clearance
- Ensure overhead line are at least 14 ft. above ground
- Consider a turn around within your property at least 45 ft. wide especially if you driveway is more than 300 ft. in length.
- Bridges must be designed to hold the weight of a fire engine

DURING THE FIRE

When Fire Threatens – Before an evacuation is called

- Do not jeopardize your life
- Park your car facing the direction of escape with windows rolled up
- Place all valuable you want to take with you in the vehicle
- Open your Gate
- Close all windows, doors, vents in house
- Disconnect automatic garage openers
- Leave exterior doors unlocked
- Close all interior doors
- Move furniture away from windows and glass doors
- Remove lightweight curtains
- Close heavy curtains, drapes, and blinds
- Leave a light on in each room
- Turn off propane tank
- Move firewood and flammable patio furniture away from house
- Connect garden hoses to outdoor faucets
- Place a ladder against the side of home opposite the direction of the approaching fire

When Evacuation Is Ordered

- Leave immediately
- Check out at designated location, if one is set up
- Do not try to enter an area that is being evacuated

AFTER THE FIRE

- Do not attempt to return until it has been deemed safe to do so
- Check for hazards, such as gas or water leaks and electrical shorts
- Turn off damaged utilities

APPENDIX F

Socorro County All Hazards Emergency Operations Plan

WILDFIRE EVACUATIONS

I. Objectives:

- To provide guidelines to assist in a safe and orderly evacuation
- To identify special concerns that will assist agencies and responding units; including persons requiring extraordinary care; livestock; and other property requiring specialized handling
- To identify the resources necessary to accomplish a timely, safe, and orderly evacuation

II. Authority:

- **Authority** for ordering an evacuation during a wildfire incident in the County rests with the Chairman of the Socorro County Commission or the Sheriff of Socorro County. This Authority is based on State Statutes: the State Civil Emergency Preparedness Act, the Emergency Management Act; State Executive Order, and existing multi-agency Joint Powers Agreements, local Memorandums of Understanding.
- **Responsibility** for planning, implementing, and managing an evacuation rests with NM DPS-State Police. In the event the State Police is unable to respond, the Emergency Operations Center Law Enforcement Staff (Socorro County Sheriff's Department) will manage evacuation operations.
- **The Incident Commander of a wildfire incident** is authorized to order an evacuation if conditions immediately threaten the health, safety, or welfare of citizens and the Emergency Operations Center is not operational nor are County Commission members available.

III. Evacuation Stages (Levels of Response):

Stage 1: **Notification and briefings** of persons within the affected areas. This stage will be implemented when *fire has a high potential of reaching structures in the area within 24 to 36 hours.*

Stage 2: **Warnings of potential evacuation** will be announced if there is a good probability of a need to evacuate. Warnings will include the recommended movement of persons requiring special needs or care, livestock, and large mobile property. This stage will be implemented when *fire has a high potential of reaching structures within the area in 16 hours.*

Stage 3: **Evacuation Requested** when the *fire has a high potential of reaching structures within the area in 6 hours.* Residents will be asked to leave within a specified time period by an announced route and assemble at pre-designated locations. These locations are listed below.

Stage 4: **Evacuation Ordered** when a *fire has a high potential of reaching structures within the area in 2 hours or less, and a disaster or emergency proclamation has been issued by*

the CEO of the jurisdiction affected by the incident. Access to the affected area is prohibited to anyone not authorized by the Incident Commander or his designee.

Stage 5: Perimeter Roadblocks and Patrols: Once an evacuation has been ordered, perimeter roadblocks will be set up and maintained; and the evacuated area patrolled 24 hours a day. Regular status briefings will be provided to evacuees at the pre-designated assembly locations and shelters established by the American Red Cross.

Stage 6: Return of Residents to Their Homes: Once the incident is declared under control and safe for entry by the Incident Commander, evacuees will be allowed to return. Evacuation teams will re-contact residents to evaluate hardships and special needs.

IV. Implementation Procedures

- 1 In the event that an evacuation is requested or ordered by the jurisdiction affected and given to the Incident Commander for implementation, the **State Police will coordinate the evacuation** through officer(s) assigned to the Emergency Operations Center.
- 2 In the event of **non-compliance by residents** ordered to evacuate the State Police will coordinate all efforts to re-contact the person(s) and stress the immediacy of the threats and the need for evacuation.
- 3 **Evacuation routes and roadblock locations** will be determined by the Incident Commander specific to each incident. He will provide this information to the State Police and the Emergency Operations Center staff.
- 4 Assembly locations for residents being evacuated are listed below:

Area: Report To: Midway Area, Midway School Parking Lot. Veguita La Promesa School Parking Lot. La Joya, La Promesa School Parking Lot. Abeytas Abeytas Fire Department Parking Lot. Hop Canyon, Magdalena School Parking lot San Antonio, San Antonio School Parking lot

NOTE: additional assembly locations or re-routing may be identified during incident.

V. Anticipated Resources

- Personnel with vehicles and radios to warn residents and patrol evacuation area
- Personnel at roadblocks and patrolling evacuation routes to ensure traffic flow and accountability of personnel and residents
- Personnel at Assembly locations to direct evacuee processing and assist with sheltering and information dissemination needs. These personnel will work under the authority of the American Red Cross.

APPENDIX-G

Socorro County All Hazards Emergency

Operations Plan UNIFIED FIRE

COMMAND

PROTOCOLS

I. Introduction:

The USFS Magdalena Office, BLM Socorro Office, State Forestry Socorro Office, USFWS Bosque del Apache NWR and Sevilleta NWR, County and City Fire Departments and local Law Enforcement agencies will develop a specialized procedure to assist the Emergency Operations Center in staffing and guidance with the complex issues involved with multi jurisdictional authority communications and resource allocation focused on wildfire in the urban interface. These protocols are incorporated into the County All Hazards Emergency Operations Plan by reference as an appendix H.

II. Concept of Operations:

The protocols are intended as guides to help EOC staff better manage resource needs of a large incident, and consist of:

- Beefing up EOC communications between the incident and the two dispatch centers that would be involved with a fire in the WUI, and:
 - □□The establishment of two deputy operations personnel under Operations Chief (in the incident command organization chart); one for structure fire fighting and protection and one for wildland suppression. Additional guidance is given to EOC staff as follows:
- The incident commander will be determined by the host unilead jurisdiction)
- Incident Commander will order all resources through their respective Dispatch Center (either the Gila Zone Dispatch or Central Dispatch)
- Incident Commander will remain at the Incident Command Post in order to better coordinate responding resources
- All resources report to the Incident Commander or Staging Area Manager if one has been appointed.
- Incident Commander will designate the Operations Section Chief and assist the Chief in selecting the deputy Chiefs who will be in charge of Structure Operations and Wildfire

- Law Enforcement: The EOC will identify the Lead Officer on the scene to coordinate law enforcement activities with the incident commander.

VFDs may be used in either structural or wildland fire operations if properly trained in both scenarios.

III. Fire Staffing for the Emergency Operations Center

Staffing of the EOC for wildfire incidents in the urban interface may include decision making representatives formally appointed to staff by their respective agencies:

- New Mexico State Forestry
- USFS: Magdalena District
- Bureau of Land Management-Socorro
- FWS Bosque del Apache / Sevilleta
- Socorro County Fire Marshal
- Socorro City Fire Department
- NM DPS-State Police
- Socorro County Sheriff's Department
- Socorro City Police Department
- Office of Emergency Management
- County Road Department
- NM State Highway Department
- American Red Cross
- County Manager

If a multi agency level incident occurs, the designated representatives will report to the County EOC and begin assessing and planning efforts. The EOC staff will operate according to the policies, strategies, and objectives outlined in the County All Hazards Emergency Operations Plan.

IV. Fire Staffing for the Incident Command Post

An Organization/Flow Chart is presented below to assist the reader in understanding the structure and staffing of the incident command team. The incident command team is made up of the following.

APPENDIX H Hop Canyon Risk and Resource Evaluation

Michael Mideke, 9/7/13

Lots of thoughts and little time. Hopefully this will be orderly enough to contribute to the discussion.

1-

Priority to developing a viable escape route following the existing track opened by Socorro County several years ago. John Snyder was central to the creation of that track and it will be useful to talk with him ASAP.

Parallel with this we need to develop evacuation plans for Patterson and upper Hop Canyons.

We need to do it on the ground. A good way to begin would be with firefighters and friends. OK to start with the road in its present condition. Work through various scenarios. This will help us determine what road development is needed.

Then bring in Law Enforcement and refine planning.

From there move to “fire drills” involving as many residents as can be persuaded to participate. Use stand-ins to play the roles of those who won’t.

(Really try to get everyone to DO it, at the very least once solo behind a lead vehicle. To traverse the routes, to LEARN them and know you can do it will create confidence. Experienced participants will give us smoother, safer evacuation. The more the better.)

Somewhere in this part of the process, bring in Forest Service. Build to a major drill where we have coordination of incoming forces and outgoing residents moving in escorted groups. Priority to effective communications among units and agencies.

Then throw in some curve balls.

If we can't get all the elements together at one time we can use stand ins, swap roles.

2-

Upper Hop and Patterson may be our most intractable problem but there are at least two other areas where it seems to me that non-improbable ignition and spread scenarios could put residents in "no exit" situations.

The Galalie (sp?) development (4 or 5 residences) on the ridge below Kelly is accessed via the unnamed road to east, about 0.6 miles from Hop/Kelly intersection. So far as I know that is the only vehicle access but there may be a rough track reaching Patterson

Mine road south of Kelly. Need to consider fuels, structures and any mitigation work residents have done.

Next we have the area west and nw of Hop Canyon road accessed by Mesita Drive (1.5 miles from intersection) and Rowe Lane at 1.65 miles.

3-

The green gate on the west side of Hop Canyon Rd at about 1.8 miles, now locked, formerly a designated USFS road (220 or 225?) connects to a network of ranch roads eventually reaching HWY 107. I haven't been in there in a few years and never all the way across. Road condition presently unknown. Probably locks would have to be cut to get through. Lots of sparse open pasture in that area affording temporary refuge, helicopter access, etc. We need to go through there and study the possibilities.

4-

We need to get on the ground and walk through all the identifiable USFS "thinnings" slash piles, etc. Take notes and photos and try comparing what we observe with what Forest Service thinks they've done. Try to use the existing elements as a step toward a coherent plan and process that can benefit both residents and forest. There should be integration of residents' trimming and thinning and ground perimeters

with the USFS work and with one another. Consideration should be given to negotiating and developing fuel reduction breaks across unoccupied private properties. Especially in areas where the pinyon is already dead.

When I'm back in October I'll be happy to dig into the 'field trips' suggested above, welcoming anyone who would like to join me. Two or three heads and their eyes can accomplish more than one.

5 - The Grizzly Bear in the Doghouse:

This morning we had a spontaneous combustion of weed/grass trimmings in the illicit dump a mile north of Magdalena cemetery. I saw the smoke, called Dispatch to dispatch us. About two minutes later Don the Marshal did the same thing. We went and put out the fire. Magdalena Fire was completely unresponsive.

In times past we've often come in as mutual aid to find Magdalena Fire already engaged. Sometimes to the point where we don't have much to do. But they're in serious trouble now, to the point where we can assume Hop Canyon attacks Magdalena fires with Socorro coming to help. We're a small department, often short-handed, with responsibility to a large territory. At best our capability to respond to multiple incidents is very limited. At worst we could be fiddling in Dusty while Magdalena burned.

Considering the percentage of high to extreme fire danger days we're experiencing, the dangerous accumulation of contiguous fuels in Magdalena and the high winds to which the town is subject, the value of rapid, effective response is paramount. I don't know how or if it can be done but that town really needs a fire department that works. Not

least so that when the day comes when we have a major incident in Hop Canyon, we can go to work with confidence that Mutual Aid is not far away.

6- Education:

I'd be interested to learn what Kenny has in the way of lectures, lessons, media regarding fire behavior- both as relates to safe effective

firefighting and things we might use to entice the public into at least considering their situation and options.

7- Staff:

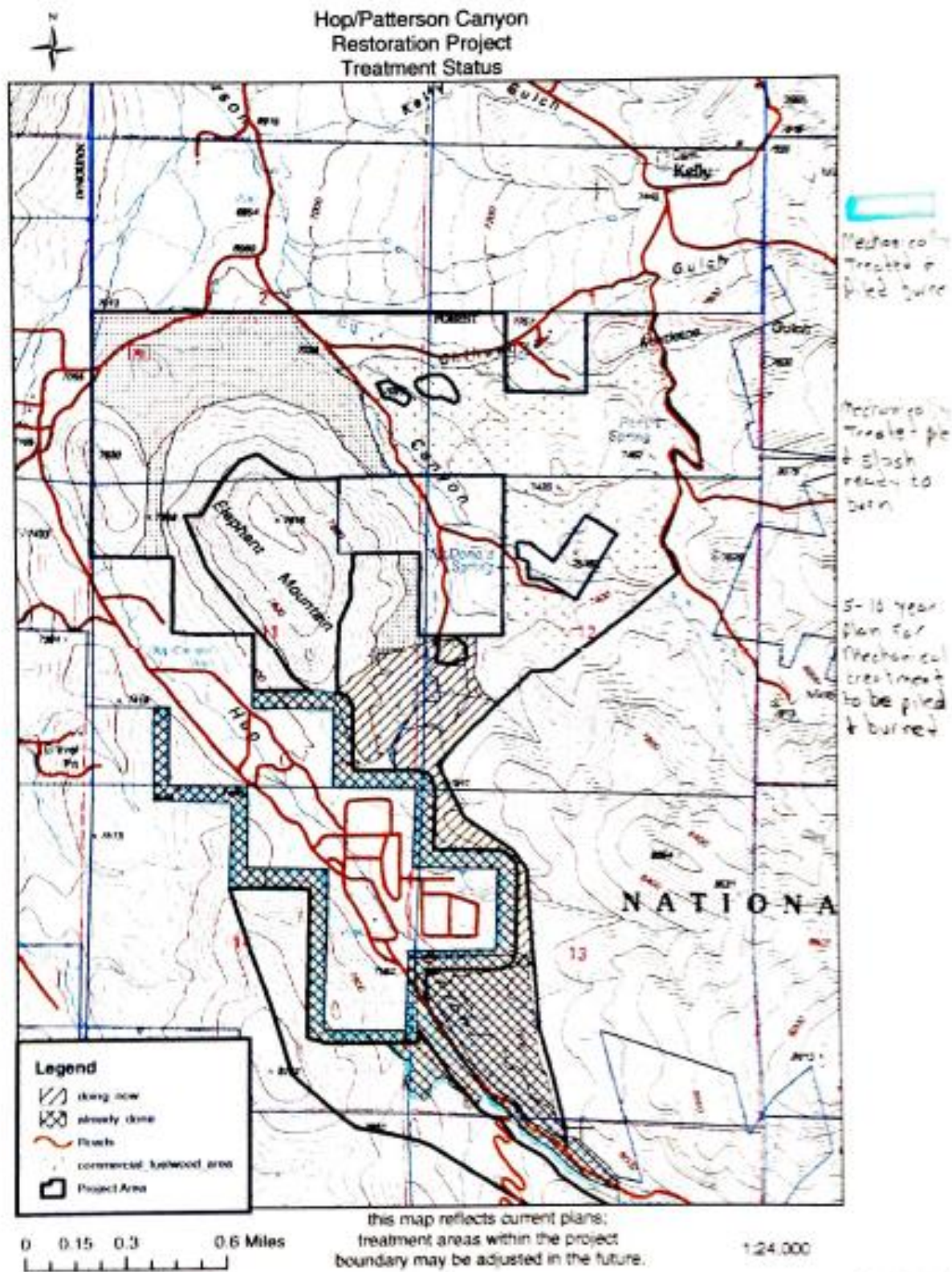
Kenny asked what we needed. A few minutes in our station reveal that we have way more tools than hands to use them. At the moment we're better off than Magdalena but we really need people. Right now everything that needs doing is being done by a handful of aging firefighters.

Yesterday we were considering incidents that are sooner or later going to happen. On our scale of things they are going to be major. We cannot wear more than two hats at a time and one is a hell of a lot better. Example: We're evacuating the canyons, Forest Service is bringing in crews, spot fire has threatened route and we're dealing with it while residents take temporary refuge in a field. We need someone in our unit who is just holding situational awareness and communicating with everyone who needs to know what's up. At the center of that is Hop Canyon Station where we need a person at the radio who knows the ground and the people and how to make decisions and contact the people and agencies involved. These people can't just come in off the street - they need to study, train and practice with at least some of those they'll be working with. They need to understand what the firefighters are doing and what they need. They don't need to be firefighters. This is an extreme but realistic example of the kind of help we could use. More firefighters would be fine too.

Most folks, quite understandably, fade back with a hint of horror at our invitations. I did that myself when Cascabel AZ VFD was hinting they really really needed more hands. Hop Canyon was #2 and they got me through sheer ruthlessness. Fact is, present staff is overextended and aging, the recruitment pool appears to be shrinking and we really need ideas and inspiration as to how this valuable organization can be sustained and expanded to do more work better.

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APPENDIX J – USFS Fuel Treatments



APPENDIX K – BLM Fuel Treatments

The BLM Socorro Field Office has multiple areas with ongoing and planned vegetation and fuels management projects. These include, but are not limited to the following projects.

Chupadera Mesa - including areas near Bingham, NM. This area is mostly in the “back 40”, but it does include protection for power lines and communications sites. Past treatments include chemical treatment of piñon/juniper (PJ), patch thinning, and broadcast burning. Additional thinning and burning are planned for this area, with follow-up treatments planned every 10-20 years. There is currently a dead fuelwood area open for a portion of this project area, with additional fuelwood areas planned in the future.

Sacaton – This project includes scattered grassy draws east of the Rio Grande and mostly north of US Highway 380. These draws are on a rotating schedule for burning every 5-10 years depending on conditions. Some of these draws are in close proximity to isolated ranch houses, wells, and corrals.

Socorro Nature Area – This area located just east of Lemitar, NM in the Rio Grande Bosque is an ongoing project with a picnic area and nature trail, and several homes in close proximity. Periodic fuels treatments include thinning, piling and/or pile burning; it also includes removal and treatment of invasive species (i.e. salt cedar)

Ladrone – This project is located due west of Bernardo, NM and includes a small portion of the Sevilleta National Wildlife Refuge. There has been some thinning in the past outside the wilderness study area, with some potential for additional thinning in the future. A majority of the mountain has been burned in the past as well. In the future, follow-up thinning and/or burning are planned every 10-20 years depending on conditions.

Polvadera – This project, located west of Lemitar, NM, is currently approved for PJ thinning and chemical treatment of creosote, with plans to obtain approval for burning in the near future. Both thinning of PJ and chemical treatment of creosote has occurred on portions of the project area in the past.

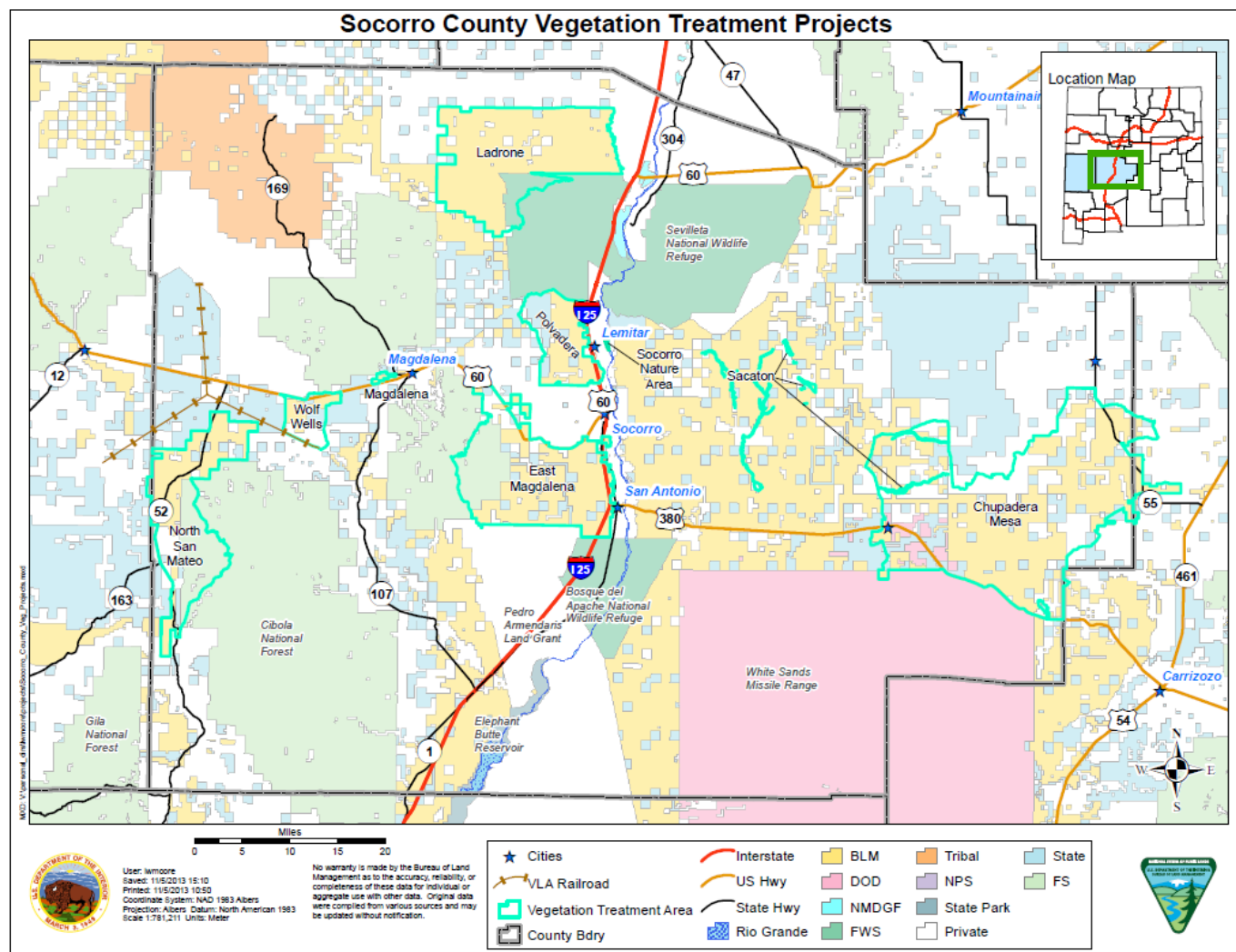
East Magdalena – This large landscape is located west of San Antonio, NM and south of US Highway 60. In 2009 a portion of the project area was burned in cooperation with the Cibola NF. Portions of the creosote flats located on the east side of the project area (North of Bosque del Apache) were chemically treated in 2012. There have been multiple (PJ) thinning treatments completed as well. There are plans to burn an additional 6,500 acres in the next year to include USFS, BLM, and private lands. A 345 KV power line transects the project area from north to south, and there are also scattered ranch houses located throughout the project area.

Magdalena – This project is located 3 miles west of Magdalena, NM just north of Highway 60. Most of the area has been thinned and burned, with about 100 acres left for initial treatment. Power lines and isolated homes are in close proximity to the project area. There will be periodic follow-up burns every 5-10 years to help maintain the open character of the area.

Wolf Wells – This project, located 11 miles west of Magdalena, NM, is currently under way with about 1,000 acres thinned and 770 acres burned. Additionally, part of this area is currently open for dead fuelwood removal following a bark beetle outbreak in 2012. Additional thinning and burning is planned for this area to help protect a critical travel corridor (US Hwy 60) and power lines.

North San Mateo – This project is located south of the Very Large Array (VLA) off NM Highway 52. There has been some thinning completed in the past in Kellogg Canyon, with a prescribed burn completed in 2005 in the same area. The BLM is working with the USFS to implement additional burns in this project area in the near future.

Map Socorro County Vegetation Treatment Projects



APPENDIX L – USF&W NM Fire District Spatial Fire Management Plan

File is on Electronic disk



Sevilleta NWR
Fire Management Plan

Reviewed by: _____

Jake Nuttall, Fire Management Officer

Date: _____

11/5/12

Reviewed by: _____

Kathy Granillo, Refuge Manager

Date: _____

Nov 5, 2012

APPENDIX G
SEVILLETA NATIONAL WILDLIFE REFUGE
Fire Management Plan

G.1 INTRODUCTION

Location

Sevilleta National Wildlife Refuge is located in Socorro County, central New Mexico, approximately 50 miles south of Albuquerque. The seventh largest refuge in the lower 48, Sevilleta NWR runs the full width of the Rio Grande Valley extending from the Sierra Ladrones on the west to the Los Pinos Mountains on the east. It is roughly 30 miles in width and runs 18 miles in length, covering a total of 228,770 acres or 400 square miles. Elevations range from 4,430 feet at the Rio Grande to 8,953 feet at the Sierra Ladrones. The physiographic diversity of the area includes the Rio Grande and its surrounding mosaic of bosque canopy and vegas, mountains, alluvial fans, piedmont bajadas, terraces, canyons, washes, arroyos, escarpments, hills and ridges, black lava flows, basaltic buttes, sand dunes, and alkali flats. The Rio Grande bisects the refuge.

Land Ownership/Use

Properties immediately adjacent to Sevilleta NWR consist of privately owned lands that are primarily used for cattle grazing and public lands including Bureau of Land Management (BLM) and New Mexico State. The portion of the Sierra Ladrones not owned by the Service is BLM land managed as a wilderness study area. The Rio Grande provides irrigation water to farmers; therefore, floodplain agriculture is also prevalent. The irrigation water delivery and recovery system that parallels the Rio Grande is located on the Refuge. Some of these structures predate the establishment of the Refuge and are maintained by the Bureau of Reclamation, the Interstate Stream Commission, and the Middle Rio Grande Conservancy District. Directly east of Interstate-25 across from Refuge headquarters is the La Joya and Bernardo State Wildlife Management Areas, part of the Ladd S. Gordon Complex operated by the New Mexico Department of Game and Fish. The two units, totaling 1,700 acres, are managed primarily for wintering waterfowl and sandhill cranes.

With the growth of Albuquerque and the nearby villages of Los Lunas and Belen, the pressure to develop the lands north of the Refuge boundary continues to increase. Currently, one portion of the northern boundary has over 1,500 property owners in a 1 mile wide by 7 mile long parcel. The majority of occupants in this area live in mobile homes or camper trailers. Traveling east along Highway 60 to a land mark known as Black Butte, the occupation rate remains constant with approximately one housing unit or salvage yard every ½ mile on both sides of the highway. East of Black Butte, 90 percent of the land north and south of the highway is privately owned and currently used for livestock grazing. The only communities directly adjacent to the refuge are La Joya and Contreas, located at the northern boundary south of Highway on Highway 47.

Most other boundaries still border active ranches. The boundary of the Refuge along the Interstate-25 (I-25) corridor is a mixed ownership. The southwest boundary from I-25 to San Lorenzo Canyon waterfalls has recreational use. This public area is managed jointly by the Service and the Bureau of Land Management.

Mission

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Sevilleta National Wildlife Refuge was established in 1973 when the Campbell Family Foundation conveyed the property to The Nature Conservancy, who in turn donated it to the U.S. Fish and Wildlife Service (Service). The purpose of the refuge as stated in the warranty deed is as follows:

“...to preserve and enhance the integrity and the natural character of the ecosystems of the property by creating a wildlife refuge managed as nearly as possible in its natural state, employing only those management tools and techniques that are consistent with the maintenance of natural ecological processes...not to be subjected to commercial exploitation...and the land and the plants and animals supported by it to be managed to permit the natural ecological successions and processes typical of the area to prevail... and... portions of the property will be made available to educational institutions and conservation organizations for scientific research and study.”

This purpose guides refuge management direction and decisions.

G.2 Land Management Planning and Partnerships

Land/Resources Management Planning Documents

Fire management goals, objectives and implementation strategies expressed within are intended to support and/or facilitate the accomplishment of the overall habitat and wildlife goals as expressed in the Sevilleta Comprehensive Conservation Plan, 2000.

The Comprehensive Conservation Plan and Environmental Assessment states the following goals:

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|----------|--|
| GOAL I | Threatened and Endangered Species Management. To provide for the enhancement, preservation, and protection of threatened and endangered species as they occur naturally or were historically present on the Sevilleta NWR so that viable, self-sustaining populations can be restored to their natural habitats. |
| GOAL II | Wildlife and Habitat Management. To restore and maintain the natural diversity of flora and fauna as it occurred historically on the Sevilleta NWR. |
| GOAL III | Research. To encourage research from bona fide research institutions, to provide an atmosphere conducive to investigations into environmental processes on the Refuge, and to assume a pro-active role in facilitating research projects as they occur on the Refuge. |
| GOAL IV | Water Rights and Protection. To protect existing and secure additional water rights and/or in-stream flow rights as necessary to protect the integrity at the riparian and aquatic habitat on the refuge. To maintain the quality of the water and watershed and to measure the usage of surface and subsurface water sources on the refuge. |
| GOAL V | Compatibility and Public Use. To achieve appropriate levels of public use that are compatible with the purpose(s) for which the refuge was established, and with the goals of the National Wildlife Refuge System; and to regulate, as provide by law, all activities, uses, and practices that are potentially harmful to refuge resources. |
| GOAL VI | Environmental Education and Public Outreach. To establish a formal program for public outreach, identify important public resources, and implement environmental education programs accordingly. |
| GOAL VII | Cultural Resource Management. To protect Service managed cultural resources on Sevilleta NWR for the benefit of present and future generations. |
| GOAL IX | Staffing, Facilities, and Funding. To effect improvements to funding, facilities, and staffing that will result in enhancement of refuge habitat and wildlife resources, leading to the achievement of the goals of this plan and the goals of the National Wildlife Refuge System. |

GOAL X Interagency Coordination. To strengthen interagency and jurisdictional coordination on or near the Sevilleta NWR resulting in decisions benefitting fish and wildlife resources while avoiding duplication of effort.

Fire Management Actions to meet District Objectives

The broad objectives of fire management in the National Wildlife Refuge System, as stated in the U.S. Fish and Wildlife Service *Fire Management Handbook*, are to protect and enhance habitat and ecosystems for the benefit of fish and wildlife on Service lands. District fire management objectives are included within the District-wide portion of the FMP.

The Sevilleta NWR fire management actions are:

1. Fuel breaks at the north and south end of the Rio Grande floodplain of the refuge would continue to be constructed and maintained using mechanical, chemical, and prescribed fire treatments to remove salt cedar.
2. The Service would continue to coordinate with adjacent landowners to reduce dense stands of tamarisk within 5 miles to the north and south of the refuge boundary along the Rio Grande corridor to reduce the threat of wildfire to the refuge and neighboring property.
3. The existing fuel break along the refuge boundary south of Highway 60 would continue to be maintained through regular grading.

The Service would continue to coordinate with neighboring agencies and landowners to apply prescribed fire, mechanical, and chemical treatments across jurisdictional boundaries to reduce the threat and severity of wildfire and improve habitat conditions.

4. Prescribed fire and/or mechanical treatments would continue to be used to restore and maintain pinyon-juniper savannah habitat at Condition Class 2 or better.
5. The current condition class of refuge habitats would continue to be maintained or improved through the use of prescribed fire, mechanical, and chemical treatments. The treatment interval would be based, in part, on monitoring of vegetative response.
6. Mechanical and chemical treatments would continue to be used to assist in the control of nonnative invasive plant species in all parts of the refuge, as monitoring and field assessments identify sites.
7. Broadcast burning would continue to be used to reduce fuel loading and/or construct fuel breaks and defensible space in order to protect wolf pens, refuge infrastructure, and identified sensitive or critical habitat.
8. Natural-caused wildfire would be allowed to burn in the land management and strategic management zones of the refuge to restore the natural role of fire and reduce the potential adverse effects of suppression actions. The appropriate suppression response would be identified and used if fire threatens to cross onto neighboring properties.

Partnerships

Interagency cooperation is critical to the successful implementation of this plan. Mutual aid and joint decision making will occur between different wildland fire suppression agencies on all suppression incidents within and in close proximity to the Refuge boundary, primarily in the Mutual Threat Suppression Unit. Cooperative agreements with other firefighting agencies and jurisdictions will be developed and approved for a maximum shelf life of five years. They will be reviewed annually by the District Fire Management Officer (FMO) and cooperators in accordance with the approved preparedness plan. Agreements with the following agencies will be maintained to facilitate these suppression actions and the implementation of the prescribed fire program in the Refuge:

- **Joint Powers Operating Plan:** The Operation Plan for Albuquerque Zone (USFWS, BLM, National Park Service (NPS), Bureau of Indian Affairs (BIA), State Forestry and the United States Forest Service (USFS) describes how to request fire resources to be used in the Refuge and for other services required such as weather forecasting, communications, record keeping, etc. Automatic extended attack resources are also activated through the agreement (On file, Refuge Office).
- **Albuquerque Interagency Dispatch Center Annual Operating Plan (AOP):** This purpose of this AOP is to establish an agreement for wildfire initial attack procedures for the Albuquerque Dispatch Center (ABC) for USFWS, United States Forest Service (USFS), Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), National Park Service (NPS) and NM State Forestry.

G.3 Fire Management Zone Descriptions

Fire Management Strategies

Sevilleta National Wildlife Refuge is committed to protecting life, property and the environment through appropriate management response to wildland fire and the application of chemical, mechanical and prescribed fire treatments. The fire management program will work with refuge staff, cooperating agencies and neighboring landowners to reduce the threat of wildfires and meet habitat management objectives on the refuge and across jurisdictional boundaries.

Fire Management Zones (FMZ's) have been identified to provide refuge management, incident responders, cooperators, and landowners a set of management actions specific to a geographic area. The FMZs have been identified and described according to the primary management strategy to be employed and the values to be protected within and adjacent to each. Fire Management Zones are used to assist decision-makers in developing an appropriate suppression response to wildfires and setting fuels management priorities.

Fire Management Zone Descriptions

Three Fire Management Zones have been delineated for the planning area; Asset Protection Zone (APZ), Off-site Asset Protection Zone, and Strategic Management Zone (SMZ).

Asset Protection Zones/Off-site Asset Protection Zones

The Asset Protection Zone is located around the Refuge headquarters, along the Rio Grande riparian corridor, and the north boundary of the refuge. The Off-site APZ addresses the numerous houses and structures in and around the communities of La Joya, Contreras, San Acacia, Alamillo and along the south side of Highway 60. The primary objective is the protection of life, property, and other high-value resources including critical habitat requiring protection from fire. The primary strategy is to reduce fire hazard through pro-active fuels treatments for point protection and to institute a full suppression response to wildfires.

The APZ includes most of the capitalized development on the Refuge including the headquarters, visitor center, living quarters, and maintenance facilities. Throughout the refuge, there are other dispersed forms of development, including but not limited to; wells, utilities, signing, windmills, buildings, gates, etc. The combined worth of capital development is estimated to be \$181,683,200.

The APZ includes the majority of the active floodplain due to the values at risk including: mature stands of native forest, threatened and endangered species habitat (including critical habitat for southwestern willow flycatcher (*Empidonax traillii extimus*), Rio Grande silvery minnow (*Hybognathus amarus*) as well as the yellow-billed cuckoo (*Coccyzus americanus*). Rail road tracks, visibility impacts to Interstate 25, and power lines, and close proximity to houses and private lands are also included in this zone.

Strategic Management Zone

The SMZ portion of the refuge includes all areas of the refuge not identified as Asset Protection Zone. The primary objective of a Strategic Management Zone is to reduce fuel intensity at a landscape level to allow for safer, less costly wildfire management while balancing resource values. The primary strategy is to implement a full range of wildfire management options considering resource values. The entire array of suppression techniques may be used ranging from direct attack to monitoring only. Areas with high hazard will be identified for fuels projects to reduce fire behavior to moderate levels. A full range of suppression response may be utilized while protecting internal values at risk.

Internal values at risk include; Long Term Ecological Research (LTER) program research equipment, utility and pipe lines, boundary fences, interpretive signs, critical habitat, and cultural sites.

Although the LTER has many high valued research experiments on the refuge, the refuge is not required to protect these structures. It is required for all research projects to take fire into account:

All new projects must be "fire compatible." Wildfires can and do happen on the refuge, and prescribed fire is used as habitat management tool. In general, research projects will not be protected from wild or prescribed fire. As determined by refuge staff, some existing projects may be protected. (Sevilleta NWR Research Permit Instructions, 2007)

The LTER may identify research sites that they would like to be protected, but this is only to inform refuge and fire management. The list does not act as an agreement to protect the LTER research sites. Defer to refuge staff when these decisions need to be made during a fire.

Fire Management Considerations and Constraints

Considerations

- Smoke impacts to visibility along Interstate 25 and State Highway 60 will be considered, monitored, and mitigated as appropriate.
- Registration and tracking of smoke for planned and unplanned ignitions will be completed per NM Air Quality Bureau requirements.
- Consult with refuge manager or resource advisor on LTER (Long Term Ecological Research) regarding protection requirements for research sites during suppression or planned treatments.
- Equipment use, including aircraft, may be restricted on portions of the refuge. Consult with refuge manager or resource advisor on allowed tactics prior to conducting operations.
- Manage fire activities to prevent the further spread of invasive plants.

Constraints

- Retardants and foams will not be used within 300 feet of any waterway.
- Water may only be dipped or drafted from designated locations.
- Off-road vehicle and equipment use in the SMZ will require approval from the refuge manager or designated resource advisor.*
- All wildfires will require consultation with a designated resource advisor to identify and minimize damage to values at risk within the refuge.*
- Heavy equipment use will require approval from the refuge manager or designated resource advisor and will be monitored to minimize impacts to cultural resources, wetlands, and other resources at risk.
- Fuels and suppression activities conducted in designated critical habitat will require prior consultation on allowable tactics with the refuge manager or designated resource advisor to

*In the event that the Incident Commander and/or the duty officer is unable to contact the refuge manager or resource advisor, the IC will take the appropriate actions deemed necessary to protect life and property.

Fire Management Safety Considerations

Firefighter and public safety will be the first consideration in all fire management actions. The extent of public notice relative to wildland fire within and near the refuge will depend on the specific fire situation. However, when the hazards of a wildland fire are high, signs will be posted in appropriate locations. Fire restrictions or closures on refuge lands may be implemented if deemed necessary by the District FMO in consultation with the Refuge Manager and federal, state, and local cooperators. In all cases, visitor use will be limited or prevented near prescribed and/or wildland fires and potentially affected areas. Fire personnel and/or law enforcement may be used to ensure visitor compliance with prescribed fire or area closure orders.

Unique Hazards

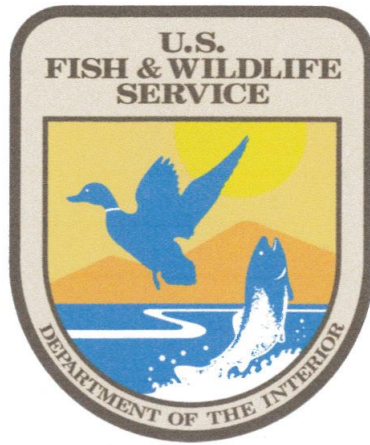
- Working underneath power lines (west side of refuge).
- Working above gas lines (both west and east side of refuge).
- Working near active railway.
- Working in active and historic research areas. Structures are not always identified and visible, such as rebar and t-posts.
- Suppression activities near major roadways. Personnel will need to mitigate hazards associated with suppression actions near traffic.

Special Fire Behavior Considerations

- Rapid rates of spread and sudden changes in spread direction may be associated with most fires in short grass prairie and some wetland habitat types.
- The tamarisk fuel complex has not been successfully modeled via the BEHAVE program. Expect extreme rates of spread, long distance spotting, and high resistance to control with fires in this fuel type.

Fuels Management Strategies

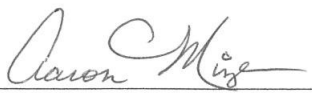
General fuels management strategies are addressed within the District portion of the FMP. Prescribed burning will occur in support of two primary objectives; removal of excessive fuel accumulations in areas where uncontrolled wildland fires could endanger lives and cause significant hazards to public and private facilities, and to accomplish specific resource management objectives. Mechanical projects on the Refuge primarily involve the maintenance and construction of fuel breaks on refuge boundaries and along the river corridor and the removal of dense stands of tamarisk along riparian corridors and refuge boundaries. Chemical applications to treat remaining tamarisk stems in mechanically treated areas may be used as well.



Bosque del Apache NWR
Fire Management Plan

Reviewed by: 
Jake Nuttall, Fire Management Officer

Date: 11/1/12

Reviewed by: 
Aaron Mize, (Acting) Refuge Manager

Date: 11/1/12

Appendix B

Bosque del Apache National Wildlife Refuge

Fire Management Plan

B.1 Introduction

Location

Bosque del Apache NWR is located in Socorro County New Mexico approximately 90 miles south of Albuquerque in the Middle Rio Grande Valley. The physiographic diversity of the area is varied and includes the active Rio Grande channel, surrounding riparian forest, grasslands, mountains, alluvial fans, piedmont bajadas, terraces, canyons, washes, arroyos, escarpments, hills and ridges, black lava flows, basaltic buttes, sand dunes and alkali flats.

The 57,331 acre refuge is a landscape of contrasts. Beginning at the southeast corner of the refuge atop the 5,500 foot San Pascual Mountain, the land slopes gently downward to the west to an elevation of 4,500 feet along the Rio Grande. It then rises sharply to the highest point of 6,272 feet on the peak of Chupadera Mountain located in the northwest corner of the refuge.

Land Ownership/Use

Bosque del Apache NWR was originally part of the Pedro Armendariz Spanish land grant used for livestock grazing and small farm plots. Irrigated agriculture remains the dominate land use in proximity to the Refuge. Public lands and large private ranches adjacent to Refuge uplands are managed for domestic livestock grazing. Adjacent lands to the North of the refuge are owned by private landowners with the majority of this land in field crops. The land east of the refuge is owned by the Bureau of Land Management (BLM) with the extensive White Sands Missile Range (WSMR), a Department of Defense (DOD) armament testing facility located east of the BLM. Limited control and removal of tamarisk (*Tamarisk spp.*) has been conducted in scattered locations along the Bosque (the strip of riparian habitat along the Rio Grande) within Socorro County, however; these lands remain some of the most fire prone within the Middle Rio Grande due to the heavy infestation of invasive woody species.

There are three designated wilderness areas on the Refuge. Most of the Chupadera mountain range is managed as a portion of the 5,310 acre Chupadera Wilderness, other wilderness units include the 5,140 acre Indian Well Wilderness and the 19,830 acre Little San Pascual Wilderness. The 3,100 acre managed floodplain portion of the Refuge within the Rio Grande Valley has been developed into a series of farm and managed wetland units. The remainder of the floodplain is managed to restore and preserve native riparian plant communities and natural river processes.

Five Research Natural Areas (RNA) have been established on the Bosque del Apache NWR, the Chupadera, the Rio Grande Marsh, the Apache Camp, the Jornada del Muerto, and the San Pascual. The Chupadera RNA is 5,130 acres and conforms to the boundaries for the Chupadera Wilderness. The Rio Grande Marsh RNA is 218 acres and contains managed marsh units 25A and 25B. The Apache Camp RNA was established as a 326 acre representation of a Rio Grande cottonwood (*Populus deltoides*) Bosque. The Jornada del Muerto RNA consists of 9,133 acres and lies within the San Pascual Wilderness Area. The San Pascual RNA was established in December 1972 and consists of 3,200 acres within the San Pascual Wilderness.

Refuge Mission

Bosque del Apache National Wildlife Refuge was established by Executive Order 8289 on November 22, 1939 “as a refuge and breeding ground for migratory birds and other wildlife.” The management emphasis at the time of establishment was the recovery of the Rocky Mountain Population (RMP) of sandhill cranes, which were believed at that time to have numbered around 40 birds. In 1975, the refuge provided

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wintering habitat for an experimental flock of endangered whooping cranes. Today, refuge lands have become increasingly important as habitat for wintering migratory waterbirds, Neotropical migratory birds, endangered species and a rich diversity of resident wildlife. Extensive management work in the control and removal of invasive species in riparian areas and the restoration of native riparian vegetation is being conducted to ensure that the habitat requirements of these species are met.

The Refuge Recreation Act (16 USC 460-1) identifies the refuge as being “suitable for incidental fish and wildlife-oriented recreational development, the protection of natural resources and the conservation of endangered species or threatened species.” The Endangered Species Act of 1973 requires federal agencies to “take such action necessary to insure...the continued existence of such endangered and threatened species.” The Wilderness Act of 1964 (P.L. 88-577) directs the United States Fish and Wildlife Service (Service) at Bosque del Apache National Wildlife Refuge to “maintain wilderness as a naturally functioning ecosystem” on portions of the refuge.

B.2 Land Management Planning and Partnerships

Land/Resource Management Planning Documents

Fire management goals, objectives and implementation strategies expressed within are intended to support and/or facilitate the accomplishment of the overall habitat and wildlife goals as expressed in the Bosque del Apache NWR Comprehensive Conservation Plan (CCP), April 2006.

The Comprehensive Conservation Plan and Environmental Assessment states the following goals:

- **Goal 1:** Contribute to conservation efforts and foster the ecological integrity of the Rio Grande watershed and Chihuahuan Desert through innovative management practices of the Bosque del Apache NWR resources.
- **Goal 2:** Protect and enhance, through conservation, restoration, and management, wildlife habitat for native species and natural species diversity on the Refuge, including special status species, migratory waterbirds, Neotropical migrants, and other resident wildlife.
- **Goal 3:** Provide Refuge visitors opportunities for safe, high quality, compatible, wildlife-dependent public use and recreation with an emphasis on environmental education, interpretation, wildlife observation, photography, hunting and fishing, to promote understanding, appreciation and support for the Service’s mission.
- **Goal 4:** Protect and preserve the three Wilderness Areas in an untrammelled, natural, undeveloped condition and provide solitude for primitive and unconfined recreation.
- **Goal 5:** Support land management by providing management-based arid lands research opportunities and serve as a demonstration area where innovative land management techniques are developed, implemented and showcased.
- **Goal 6:** Provide both administrative and public use facilities to support the Refuge purposes, goals and objectives.

Fire Management Actions to Meet District Objectives

The broad objectives of fire management in the National Wildlife Refuge System, as stated in the U.S. Fish and Wildlife Service *Fire Management Handbook*, are to protect and enhance habitat and ecosystems for the benefit of fish and wildlife on Service lands. District fire management objectives are included within the District-wide portion of the FMP.

The Bosque del Apache NWR fire management actions are:

1. Mechanical, chemical and prescribed fire treatments would continue to be used to construct and maintain fuel breaks at the north, mid-refuge and south boundary locations of the Rio Grande active floodplain through the removal of invasive woody plants.
2. A minimum of one quarter river mile at each boundary would be maintained as open grassland or shaded fuel break. Cottonwood and willow stands would continue to be maintained to provide shaded fuel breaks through chemical and mechanical control to limit woody encroachment. Following invasive plant removal, the mid-refuge fuel breaks on the active floodplain would be monitored for invasive species encroachment. As other projects are implemented on the active floodplain, mid-refuge fuel breaks could be allowed to transition to denser native vegetation without degrading their ability to reduce extreme fire behavior and rates of spread.
3. The Service would continue to coordinate with adjacent landowners to remove invasive woody species within 5 miles of the north and south of the refuge boundary along the Rio Grande corridor to reduce the threat of wildfire to the refuge and neighboring property.
4. The Service would continue to coordinate with neighboring agencies and landowners to apply prescribed fire, mechanical, and chemical treatments across jurisdictional boundaries to reduce the threat and severity of wildfire and improve habitat conditions.
5. The current condition class of refuge habitats would continue to be maintained or improved through the use of prescribed fire, mechanical, and chemical treatments. The treatment interval would be based, in part, on monitoring of vegetative response.
6. Mechanical and chemical treatments would continue to be used to control invasive plant species in all parts of the refuge as monitoring and field assessments identify sites.
7. Broadcast burning would continue to be used to reduce fuel loading and/or construct fuel breaks and defensible space in order to protect refuge infrastructure and identified sensitive or critical habitat.
8. Natural-caused wildfire would continue to be allowed to burn in the Little San Pascual, Chupadera, and Indian Well Wilderness Areas to restore the natural role of fire and reduce the potential adverse effects of suppression actions. The appropriate suppression response would be identified and used if fire threatens to cross onto neighboring properties or areas identified as sensitive or critical habitat.
9. Burned areas along the riparian corridor would continue to be restored with native species, including but not limited to cottonwood, willow, and the native grasses that serve as shaded fuel breaks.

Partnerships

Interagency cooperation is especially critical to the successful implementation of this plan. Mutual aid and joint decision making will occur between the different jurisdictional agencies on all significant fire management issues and incidents that occur within the boundary of the fire management planning unit. A cooperative agreement(s) between the jurisdictional and assisting agencies will be developed and approved as needed for a maximum shelf life of five years in order to facilitate the legal and fiscal obligations associated with the implementation of this plan. This agreement(s) will address all forms of required cooperation including training, radio communications, and the transfer of funds and equipment. Agreements will be reviewed annually by the District Fire Management Officer (FMO) and agency representatives in accordance with the approved preparedness plan. In addition, the following

agreement(s) will be maintained to facilitate suppression actions and the implementation of the prescribed fire program in the Refuge:

- **Joint Powers Operating Plan.** The Operation Plan for the Albuquerque Zone (USFWS, BLM, National Park Service (NPS), Bureau of Indian Affairs (BIA), State Forestry and the United States Forest Service (USFS) describes how to request fire resources to be used in the Refuge and for other services required such as weather forecasting, communications, record keeping etc. Automatic extended attack resources are also activated through the agreement (On file - FMO Office).
- **San Antonio (Socorro County) Volunteer Fire Department (VFD).** This VFD has an annual operating agreement with the State of New Mexico under the Joint Powers Operating Plan to provide assistance to the Refuge in the event of a wildfire.
- **Department Of Defense (DOD), White Sands Missile Range (WSMR).** This agreement designates initial attack boundaries outside the Refuge for the management of fires burning within and near the Refuge, when it is most feasible to do so (for minimum impact suppression response and firefighter safety). It recognizes that in some instances, Service initial attack resources assigned to the Refuge will strategically plan initial attack on lands outside the administrative jurisdiction of the Agency. Likewise, BLM will initial attack some fires within the Refuge.
- **Albuquerque Interagency Dispatch Center Annual Operating Plan (AOP):** This purpose of this AOP is to establish an agreement for wildfire initial attack procedures for the Albuquerque Dispatch Center (ABC) for USFWS, United States Forest Service (USFS), Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), National Park Service (NPS) and NM State Forestry.

B.3 Fire Management Zone Characteristics

Fire Management Strategies

Bosque del Apache National Wildlife Refuge is committed to protecting life, property and the environment through appropriate management response to wildland fire and the application of chemical, mechanical and prescribed fire treatments. The fire management program will work with refuge staff, cooperating agencies and neighboring landowners to reduce the threat of wildfires and meet habitat management objectives on the refuge and across jurisdictional boundaries.

Fire Management Zones (FMZ's) have been identified to provide refuge management, incident responders, cooperators, and landowners a set of management actions specific to a geographic area. The FMZs have been identified and described according to the primary management strategy to be employed and the values to be protected within and adjacent to each. Fire Management Zones are used to assist decision-makers in developing an appropriate suppression response to wildfires and setting fuels management priorities.

Fire Management Zone Descriptions

Four Fire Management Zones have been delineated for the planning area; Asset Protection Zone, Off-site Asset Protection Zone, Strategic Management Zone, and Land Management Zone. Zone boundaries are identified on the Planning and Operation Maps.

Asset Protection Zones/Off-site Asset Protection Zones

Asset Protection Zones (APZ) are located on and near the Middle and South Tracts due to the presence of on and off-site structures and oil production sites. The primary objective is the protection of life, property, and other high-value resources including critical habitat requiring protection from fire. The

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primary strategy is to reduce fire hazard through pro-active fuels treatments for point protection and to institute a full suppression response to wildfires.

The APZ includes most of the capitalized development on the Refuge including the headquarters, visitor center, living quarters, and maintenance facilities. Ten major buildings are located on the Refuge, of these some date earlier than the 1940s and are constructed of adobe block. Throughout the Refuge, there are other dispersed forms of development, including but not limited to; wells, utilities, signing, windmills, dikes, buildings, gates, etc. The combined worth of capital development is estimated to be \$112,000,000. The Off-site APZ addresses the numerous farm and ranch properties that occupy lands north of the Refuge that lead into the small town of San Antonio that could be threatened by fire.

The APZ includes the majority of the managed and active floodplain due to the high number of values at risk throughout this Zone including: wildlife observation viewing decks; mature stands of native forest; threatened and endangered species habitat including critical habitat for southwestern willow flycatcher (*Empidonax traillii extimus*) and Rio Grande silvery minnow (*Hybognathus amarus*) as well as the yellow-billed cuckoo (*Coccyzus americanus*) and New Mexico Meadow jumping mouse (*Zapus hudsonius luteus*) both candidate species; rail-road tracks; visibility impacts to NM highway 1 and U.S. Interstate 25; and power lines.

Strategic Management Zone

The primary objective of a Strategic Management Zone (SMZ) is to reduce fuel intensity at a landscape level to allow for safer, less costly wildfire management while balancing resource values. The primary strategy is to implement a full range of wildfire management options considering resource values. The entire array of suppression techniques may be used ranging from direct attack to monitoring only. Areas with high hazard will be identified for fuels projects to reduce fire behavior to moderate levels. A full range of suppression response may be utilized while protecting internal values at risk.

Internal values at risk include; boundary fences, interpretive signs, southwestern willow flycatcher, Rio Grande silvery minnow, yellow-billed cuckoo and New Mexico meadow jumping mouse critical habitat, and a buried gas line along the east boundary of the SMZ.

Land Management Zone

The primary objective of a Land Management Zone (LMZ) is to manage fire to promote resource values to restore or maintain desired resource conditions. The primary is to implement a full range of wildfire management options with primary consideration for resource values and objectives. Fuels projects will be identified to restore or maintain resource conditions to desired conditions.

The LMZ portion of the refuge is located on the three designated Wilderness Areas. Typically, the appropriate management response will be confinement using indirect methods (zone boundary or other physical barriers) as the primary suppression tool. If a direct response is required, non-mechanical suppression methods will be used whenever possible because of the wilderness designation. An appropriate management response defined simply by monitoring actions, unsupported by any form of direct or indirect suppression response, may be entirely appropriate given due consideration of; Step-up Plan guidance (Burning Index, Drought, etc.) fire weather (current and predicted), behavior, location of the fire, cost, time of year, and other mitigating issues such as resource availability.

Values at risk in the LMZ may include archeological sites (Piro Pueblo sites and petroglyphs which are common throughout this Zone) and an underground natural gas pipeline going north/south along the boundary with the SMZ. A gas transfer facility is located on the Armendaris Ranch (private land) south of the refuge boundary.

Fire Management Considerations and Constraints

Considerations

- Firefighter and public safety will be the first consideration in all fire management actions.
- Smoke impacts to visibility along U.S. Interstate 25, State Highway 1, and State Highway 380 will be considered, monitored, and mitigated as appropriate.
- Utilize existing natural and man-made fuel breaks to the extent possible before creating new disturbances.
- Multiple draft sites may be utilized contingent upon water availability and water levels. Consultation with refuge manager or resource advisor may be required prior to drafting from the Rio Grande.
- Registration and tracking of smoke for planned and unplanned ignitions will be completed per NM Air Quality Bureau requirements.
- Fuels and suppression activities conducted in designated critical habitat will require prior consultation on allowable tactics with Project Leader or designated resource advisor to address threatened and endangered species requirements.
- Equipment use, including aircraft, is restricted in designated Wilderness Areas. Consult with Project Leader or designated resource advisor on allowed tactics prior to conducting operations.
- Manage fire activities to prevent the further spread of invasive plants.

Constraints

- Retardants and foams will not be used within 300 feet of any waterway.
- Heavy equipment use will require approval from the Project Leader or designated resource advisor for each incident and will be monitored to minimize impacts to cultural resources, wetlands, and other resources at risk.

Fire Management Safety Considerations

Firefighter and public safety will be the first consideration in all fire management actions. The extent of public notice relative to wildland fire within and near the refuge will depend on the specific fire situation. However, when the hazards of a wildland fire are high, signs will be posted in appropriate locations. Fire restrictions or closures on refuge lands may be implemented if deemed necessary by the District FMO in consultation with the Project Leader and federal, state, and local cooperators. In all cases, visitor use will be limited or prevented near prescribed and/or wildland fires and potentially affected areas. Fire personnel and/or law enforcement may be used to ensure visitor compliance with prescribed fire or area closure orders.

Unique Hazards

- Working underneath power lines.
- Working near active railway.
- Suppression activities near major roadways.

Special Fire Behavior Considerations

- Rapid rates of spread and sudden changes in spread direction may be associated with most fires in Chihuahuan Desert uplands, riparian forest and some wetland habitat types. The tamarisk fuel complex has not been successfully modeled via the BEHAVE program. Expect extreme rates of spread, long distance spotting, and high resistance to control with fires in this fuel type.

Fuels Management Strategies

General fuels management strategies are addressed within the District portion of the FMP.

Prescribed burning will occur in support of two primary objectives; removal of excessive fuel

CWPP Socorro County November, 2018

accumulations in areas where uncontrolled wildland fires could endanger lives and cause significant hazards to public and private facilities, and to accomplish specific resource management objectives.

Mechanical projects on the Refuge primarily involve the maintenance and construction of fuel breaks on refuge boundaries and along the river corridor and the removal of dense stands of tamarisk along riparian corridors and refuge boundaries. Chemical applications to treat remaining tamarisk stems in treated areas may be used as well.

APPENDIX M- 2018 CWPP UPDATES

The Defensor Chieftain

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L 152 • No. 43

SOCORRO, NEW MEXICO • OCTOBER 18, 2018

50 cents

Fire marshal seeks comments on plan

The Socorro County

Fire Marshal's office is seeking comments on the Socorro County Community Wildfire Protection Plan (CWPP). You can view the plan by going to the socorrocounty.net, then in the left hand column, select Fire Marshal, then go to Program Pages, click on CWPP and then select Socorro CWPP 2013.

Please send your comments in writing to Ken Wolf at kwolf@co.socorro.nm.us by Oct. 31.

El Defensor Chieftain

www.dchieftain.com

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Vol. 152, No. 44 SOCORRO, NEW MEXICO • OCTOBER 25, 2018

Sheet 1

Fire marshal seeks comments on plan

The Socorro County Fire Marshal's office is seeking comments on the Socorro County Community Wildfire Protection Plan (CWPP). You can view the plan by going to the socorrocounty.net, then in the left hand column, select Fire Marshal, then go to Program Pages, click on CWPP and then select Socorro CWPP 2013. Please send your

comments in writing to Ken Wolf at kwolf@co.socorro.nm.us by Oct. 31.

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SOCORRO, NEW MEXICO • NOVEMBER 1, 2018

Public review of wildfire plan Tuesday

The Socorro County Fire Marshal's office is having a public review of the Socorro County Community Wildfire Protection Plan (CWPP) on Tuesday November 6th from 4 p.m. to 6 p.m. at the Socorro County Annex, 198 Neel Ave. Please stop by our booth for more information.

2018 CWPP update USFWS

Sevilleta NWR

Projects/RX

Middle Tank burn is located on the northern end of Sevilleta NWR on the East side of the Rio Grande. The RX was 4,814 acres with the northern edge of the burn on our northern boundary of the refuge. Objectives of the burn was to enhance wildlife habitat as well as limit the treat of a wildfire to the communities located along highway 60 to the north of the refuge. The burn has set back fuels on the northern boundary of the refuge and limited fire activity.

Other projects that have been completed are along the river on Sevilleta NWR which include salt cedar removal to enhance wildlife habitat but also limits the chance of a wildfire starting on Sevilleta and moving towards the community of La Joya to the east of the river. The project is located along unit C and A on the Refuge. Fuels were removed using heavy equipment piling and burning.

Bosque Del Apache NWR

The southern end of Bosque Del Apache NWR has had salt cedar removal as part of a fuel break project this project was completed in 2016 to limit the impacts of wildfire leaving the refuge and threatening the San Marcial area just south of the refuge.

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Tony Delfin, Division Director
State Forestry Division



April 27, 2015

Tracey Hamilton
Grants Manager/Administrator, Socorro County
P.O. Box 1
Socorro, NM 87801

Re: Socorro Valley Bosque Wildfire Mitigation Grant- Wildfire Recurrence Interval;
Value of Timber

Dear Ms. Hamilton,

This letter is to serve as source documentation required for the Socorro Valley Bosque Wildfire Mitigation Grant Benefit Cost Analysis (BCA).

From data on file in the New Mexico State Forestry Fire Management System, the Bosque Wildfire Recurrence Interval/ potential for the wildfire mitigation project area is on average every 7 years with an overall interval of 3 to 12 years, depending on location and extent of the previous event. What this means is that after a catastrophic wildfire, the bosque has the potential to support a large, destructive wildfire within 3 years of an event and, in areas where the data shows multiple starts have become established, wildfires have burned every 7 years, on average. In a few areas where multiple starts have been recorded, the interval has extended up to 12 years between events.

The Value of Timber (firewood) harvested from the Socorro Valley Bosque Wildfire Mitigation Grant project scope of work is estimated to be \$135,100. A total of 1,351 acres will be treated with the potential of harvesting an average of 2 cords per acre. The average market value of a load of salt cedar firewood is \$50.00 per cord.

Sincerely,

A handwritten signature in blue ink that reads "Doug Boykin". The signature is written over a horizontal line.

Doug Boykin, Socorro District Forester



New Mexico Forestry Division

Socorro District

District Large Bosque Fire Suppression Cost

District Average Suppression Cost

Updated 2018-08-15

Socorro District Large Bosque Fires:

2016 through 2018

Year	Fire	Size	Suppression Cost
2016	La Joya Fire	300 Acres	\$700,000.00
2016	Brown Fire	400 Acres	\$250,000.00
• 2016	Escondida Fire	525 acres	\$600,000.00
○	Multiple structures lost or damaged during fire.		
○	100 acres of Bosque restoration work destroyed		
▪	Cost for that restoration work alone was +/- \$100,000		
2017	Tiffany Fire	9200 acres	\$2,600,000.00
•	Cost of disruptions in BNSF and El Paso Electric Service		
○	Disruption cost could be estimated at \$1,000.000 per day.		
○	Shutdown approximately 5 days. Disruption cost estimated \$5,000,000.00.		
•	Loss of Critical Habitat =		
○	Cost per acre to restore habitat \$2,500.00		
○	700 acres restored x \$2,500.00 acre. Estimated cost \$1,750,000.00.		
2017	Labor Day Fire	25 acres	\$75,000
	US Hwy 60 had to be closed for about 4 hours.		
	Socorro Electric Coop. Powerline south of Hwy 60 was damaged and repaired.		
	Cost to repair powerline approximately \$50,000.00		
2018	North Loop Fire	196 acres	\$50,000
	Fire was on Bosque del Apache Wildlife Refuge		

Total Suppression Cost for five (5) Large Bosque Fires is \$4,275,000.00

Average cost per fire:	\$855,000.00 suppression cost
Total large fire acreage burned:	10,646 suppression acres burned
Average suppression cost per acre:	\$401.56 suppression cost per acre

2018 CWPP

FEMA Mitigation Projects

FEMA Mitigation Project #4152 – South Bosque WUI Project On-going \$119,805.00

The Socorro Valley Bosque Hazard Mitigation Project (SVBHMP) is designed to mitigate critical wildfire threats to homes, businesses, critical infrastructure and a unique and diverse natural habitat types found only in the middle Rio Grande Valley of New Mexico. The small rural communities of Pueblitos, Bosquecito, and San Pedro as well as the larger community of Socorro would be protected from wildfire to a much greater degree with project implementation. There are numerous natural gas, electric or fiber optics lines, bridges, state highways, and the Rio Grande that traverse the Socorro Valley which would be further protected through project implementation. Per the latest documentation received from the U.S. Census Bureau Socorro County has a population of 17,584 which includes the City of Socorro's population of 8,906. Fifty-six percent (56%) of the population will indirectly benefit from this project by reducing the risk of large fires creating heavy smoke, flying firebrands and embers. Nine (9%) of the population will directly benefit from implementation of this project by reducing the risk of wildfires burning to and/or thru their property. There are approximately 506 structures located in or adjacent to the proposed project implementation areas that will be affected directly and/or impacted by a wildfire, by flying firebrands, by embers and by smoke from a wildfire in these areas. The natural habitat types protected through this project include critical habitat for the Federally endangered southwestern willow flycatcher and the Rio Grande silvery minnow. For the flycatcher, the habitats along this reach of river provide the highest concentration of nesting territories in its current range. For the minnow, aquatic habitat is not subject to ash runoff following a wildfire adjacent to the river.

Projects that will meet this objective are located between the northern boundary of Bosque del Apache National Wildlife Refuge to the south and the Arroyo del Veranito, just north of the small east side community of Pueblitos to the north, a distance, in river miles of approximately 20 miles. Projects proposed include 1) developing fuelbreaks in and around critical urban-interface areas and infrastructure assets to improve the protection from wildfire for these assets, provide firefighters strategic suppression locations and providing firefighter safety zones 2) assisting landowners in critical areas with defensible space/fuels reduction projects around their property and 3) conduct fuel modification adjacent to these fuelbreaks and at critical key locations in the Socorro Valley Bosque by removing monotypic stands of salt cedar and Russian olive, by removing salt cedar and Russian olive in the understory of Cottonwood/willow stands adjacent to fuelbreaks to increase the total fuel reduction area and make them less susceptible to catastrophic wildfire and restoring native Bosque woodlands, scrublands, and meadows that are less susceptible to catastrophic wildfire and more closely resemble historic vegetation patch sizes.

The Middle Rio Grande valley is home to a diverse and unique vegetation type, known locally as the "Bosque". Historically, it was made up of a mosaic of Riparian Woodlands (made up of Rio Grande Cottonwoods, New Mexico olive and native willows), Riparian Scrublands (made up of dry land willows, Four-wing Saltbush and other various shrubs), Emergent Stands (Regeneration of various tree age classes) and Wetland Marshes, and Salt Grass meadows. Intermixed with these vegetation communities, there were ever-changing large sandbars on river bends and gravel scools near the mouth of the numerous arroyos that drained into the river from the adjoining uplands. Fire played a minimal role in the

development and structure of these vegetation types due to the moist nature alongside the Rio Grande. When lightning did start fires during the summer thunderstorm season, these fires would be primarily ground fires and burn small areas due to the complicated matrix of vegetation types, age classes and proximity to a relatively high water table. Seasonal flooding from the Rio Grande (from snow melts, or summer thunderstorms) was the main driver in the development, establishment and recycling of all these vegetation types. These natural conditions started to change with channelization, water diversions and large scale farming, resulting in, by the 1950's, a narrow river channel, a perched river bed that could not move back and across the historical flood-plain, and the influx of fire adapted species including Salt Cedar and Russian Olive. These two species have introduced a new disturbance regime to the Bosque which can be both catastrophic to the natural vegetation as well to the adjacent wildland urban interface

During the estimated useful life of seven (7) years for this project, the maintenance that will be required after the initial treatment and project completion of each area is expected to involve approximately two follow up treatments to control non-native vegetation. This can include annual weeds, noxious weeds, and/or nonnative tree resprouts. This work would be carried out through a partnership between landowners and interested parties, including but not limited to the landowners, the Save Our Bosque Task Force, the Socorro Soil and Water Conservation District, the NM State Forestry Division and Socorro County. This partnership has been underway for the past 20 years through the Task Force, SWCD, and others and is expected to continue. These entities have worked together to address vegetation management and maintenance issues through grant and organization funding and in-kind services, with the landowners taking the responsibility and lead for maintenance work required. This project, in the long term, will help mitigate critical wildfire threats to the urban interface area and assist firefighters in a safer attack on any wildfires that might occur in the areas. In addition, if successful in implementing these projects the wildfires will be kept to a manageable size and thereby reducing the cost to suppress the wildfires in this area.

See the attached documents.

FEMA Mitigation Project #4197 – North Bosque WUI Project On-going \$176,541.00

The North Section, Socorro County Bosque Hazard Mitigation Project (NS-SCBHMP) is designed to mitigate wildfire threats to homes, businesses, critical infrastructure and a unique and diverse natural habitat types found only in the middle Rio Grande Valley of New Mexico. The 557 acres of hazardous fuels reduction will protect the small rural communities of La Joya, Contreras, Sabinal, Bernardo, and Veguita from wildfire (582 homes within two miles of project areas, 80 homes within one-mile ember zone) to a much greater degree than present conditions allow. Numerous electric utility lines, railroad infrastructure, county, state, and federal highways (one river crossing), historic irrigation systems or “acequias,” and the Rio Grande that traverse northern section of the County would be further protected through project implementation (see Section 8.10 for more details, Section 8.2 and 8.15 for maps). Per the latest documentation received from the U.S. Census Bureau Socorro County has a population of 17,584, which includes the City of Socorro's population of 8,906. Although a small portion of the County's population (40%) live in the direct project area, another fifty six percent (50%) of the population will indirectly benefit from this project by reducing the risk of large fires creating heavy smoke and/or moving quickly to more populated areas to the north and south.

Area wildfires also affect important infrastructure that Socorro and other larger communities depend upon including transmission lines and commerce (railroad and highways). There are approximately 582 structures located in or adjacent to the proposed project implementation areas that will be affected directly and/or impacted by a wildfire, by flying firebrands, by embers and by smoke from a wildfire in these areas. The natural habitat types protected through this project include critical habitat for the federally endangered southwestern willow flycatcher and Rio Grande silvery minnow, and federally threatened yellow-billed cuckoo. For the flycatcher and cuckoo, the habitats along this reach are important nesting areas within its current range. For the minnow, aquatic habitat could be subject to ash runoff following a wildfire adjacent to the river, affecting habitat quality.

The estimated costs of project implementation are \$ 1,208,456.15. This cost includes the project environmental compliance, project management, and project implementation. Implementation includes the mobilization of equipment, the fuels reduction work and demobilization of equipment. Fuels reduction work includes mechanical and chemical control of nonnative tree species and the removal or treatment of the slash piles produced through treatment. The project proponents will utilize best management practices to complete all aspects of the hazardous fuels reduction work. The County personnel and partner organization personnel have a combined 50 years' experience in this work in the local area and require a high standard of experience and expertise within the pool of licensed contractors.

The project proponents expect the hazardous fuels reduction project could be completed in two to three years. This schedule includes the environmental compliance and project implementation. The on-the-ground work will begin in the fall after compliance is completed to avoid Migratory Bird Treaty Act regulations and will pause in May of the following year for the same reason. With this schedule, it will take two work seasons to complete project implementation.

Projects are located between the northern boundary of Socorro County to the north and the Sevilleta National Wildlife Refuge to the south, a distance of approximately 20 miles. The project includes hazardous fuels reduction in and around critical infrastructure (State Highway 60, railroad, utilities), and at strategic locations that provide firefighters suppression staging areas and safety zones. The total hazardous fuels reduction area including native Bosque woodlands, scrublands, and meadows will be less susceptible to catastrophic wildfire and more closely resemble historic vegetation patch sizes. The Middle Rio Grande valley is home to a diverse and unique vegetation type, known locally as the "bosque."

Historically, it was comprised of a mosaic of riparian woodlands (made up of Rio Grande cottonwoods, New Mexico olive and native willows), diverse age classes of forest, riparian scrublands (made up of dry land willows, four-wing saltbush and other various shrubs), wetland marshes, and saltgrass meadows. Intermixed with these vegetation communities, there were ever-changing large sandbars on river bends and gravel bars near the mouths of the numerous arroyos that drained into the river from the adjoining uplands. Fire played a minimal role in the development and structure of these vegetation types due to the moist nature alongside the Rio Grande and plant species composition. When lightning did start fires during the summer thunderstorm season, these fires would be primarily ground fires that burned small areas due to the complicated matrix of vegetation types, age classes and proximity to a relatively high water table. Seasonal flooding from the Rio Grande (from snowmelts or summer thunderstorms) was the main driver in the development, establishment and recycling of all these vegetation types. These natural conditions started to change with channelization, water diversions and large-scale farming,

resulting by the 1950's in a narrow river channel, a perched riverbed that could not move across the historic floodplain, and the influx of fire-adapted species including tamarisk and Russian olive. With these two species, a new disturbance regime is now a part of the bosque and can be both catastrophic to the natural vegetation and adjacent homes and infrastructure - the wildland urban interface. Through hazardous fuels reduction the project goal, to reduce the fuel loads that feed wildfires that spread through the bosque with devastating results, will be achieved.

The expected life of the hazardous fuels reduction projects are conservatively estimated at seven to ten years. The lifespan of the wildfire mitigation project could actually be much greater than ten years. The regrowth of the non-native plants is a slow process and with continued project maintenance of these areas, it will all but eliminate regrowth of these hazardous fuels. The maintenance that will be required after the initial treatment and project completion of each will involve two follow up treatments for control of the hazardous fuels. This work is completed through partnerships between landowners and the Save Our Bosque Task Force, the Socorro Soil and Water Conservation District, the NM State Forestry Division and Socorro County. This partnership has been underway for the past 20 years. Landowners and these partners have committed \$40,000 towards maintenance of the project areas to assure project longevity. With this maintenance schedule, the wildfire mitigation project could last much longer. In addition, with successful implementation of the projects, future wildfires will be kept to a manageable size and suppression costs will be greatly reduced.

FEMA Mitigation Project #4199 – Generators for Fire Stations On-going \$450,000.00

Install generators at all County Fire Districts to provide emergency power in case the electric power goes out to mitigate the loss of vital operations. Project to start July 2018

FEMA Mitigation Project #4199 – Public Outreach January 2016 thru June 2018 \$60,000.00

Wildfire Mitigation project hired a qualified individual to develop and implement a public wildfire education plan. The project will utilize the Ready, Set, Go and Firewise Programs to education homeowners in structure defense, preparedness and early evacuation. The program worked with the local fire departments and wildfire agencies to educate the public.

Socorro County CWPP – US Forest Service Updates 2013-2018**Wildfires over 10 acres 2013-2018**

Incident #	Fire Name	Acres	Cause	Mountain Zone	WUI Area
CIF-371	TeePee	19	Lightning	San Mateo	NA
CIF-344	Quail	24.5	Lightning	Magdalena	Water Canyon
CIF-154	Red Canyon	17,843	Lightning	San Mateo	NA
CIF-021	505	22	Human	Magdalena	Water Canyon
CIF-232	North Fire	42,102	Lightning	San Mateo	Sargent/Durfee
CIF-341	Puertecito	106	Lightning	Magdalena	Muleshoe
CIF-455	Corral Canyon	10	Lightning	San Mateo	NA
CIF-252	Taylor Canyon	4,578	Lightning	San Mateo	Sargent/Durfee
CIF-375	Deep	15	Lightning	San Mateo	NA

Completed Projects 2013-2018

Project	Acres	Treatment	Mountain Zone	WUI Area
Alamo CFRP	2000	Mechanical	San Mateo	Sargent/Durfee
Hop Canyon	150	Mechanical	Magdalena	Hop/Patterson
Hop Canyon	100	RX Piles	Magdalena	Hop/Patterson
Hop Canyon	80	RX Broadcast	Magdalena	Hop/Patterson
Gallinas	2500	RX Broadcast	Gallinas	NA

Planned Projects 2018-2023

Project	Acres	Treatment	Mountain Zone	WUI Area
Alamo CFRP	500	Mechanical	San Mateo	Sargeant/Durfee
Durfee Bolander	10000	RX Broadcast	San Mateo	Sargeant/Durfee
Hop Canyon	50	RX Piles	Magdalena	Hop/Patterson
Fisher	8,600	RX Broadcast	San Mateo	Sargeant/Durfee
San Juan/Long Spring	10000	RX Broadcast	San Mateo	NA

Ken Wolf

From: Moore, Lann <lwmoore@blm.gov>
Sent: Wednesday, October 31, 2018 11:39 AM
To: Ken Wolf
Cc: Todd Richards; Zach Saavedra; Lino Baca
Subject: BLM Fuels Treatments

Ken,

Here are the fuels treatments in Socorro County that are planned and those that have been completed by the BLM in the last 5 years. Hope this works for you. Please let me know if you need any more information.

Planned				
Project	Treatment	Type	Year Planned	Acres Planned
Chupadera Mesa	East School Section RX	Broadcast Burn	2019	2,700
Wolf Wells	Gray Hill Thinning	Thinning	2019	400
Wolf Wells	Wolf Wells Lop & Scatter	Lop & Scatter Slash	2019	300
Chupadera Mesa	Chupadera Mesa Mastication	Mastication	2019	250
Wolf Wells	Gray Hill Thinning	Thinning	2021	300
			TOTAL	3,950

Completed				
Project	Treatment	Type	Year Completed	Acres Treated
Wolf Wells	Gato Thinning	Thinning	2013	378
Wolf Wells	Wolf Wells Fuelwood	Thinning	20013 - 2016	1,500
Wolf Wells	Old Highway 60 Thinning	Thinning	2014	205
Chupadera Mesa	South Hoot Owl RX	Broadcast Burn	2014	3,200
Chupadera Mesa	Randall Tank Mastication	Mastication	2015	154
Chupadera Mesa	Chupadera Fuelwood	Thinning	20015 - 2018	1,200
Chupadera Mesa	Chupadera Thinning	Thinning	2015	250

CWPP Socorro County 2018

Wolf Wells	Gato Thinning	Thinning	2016	390
BOR - San Marcial	BOR Piles	Pile Burn	2017	75
Wolf Wells	Wolf Wells RX	Broadcast Burn	2017	10
Chupadera Mesa	Chupadera Thinning	Thinning	2018	240
BOR - Escondida	BOR Piles	Pile Burn	2018	10
			TOTAL	7,612

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Lann Moore
 RX Fire & Fuels Specialist
 Albuquerque District (Socorro)
 901 S Highway 85
 Socorro, NM 87801
 575-838-1296(office)
 575-838-6286 (cell)

CWPP Socorro County 2018

Abeytas Fire district, Socorro county, New Mexico

Community WildLife Protection Plan meeting presentation 2018

2013-2-8	#0004-13	Wildland
2013-2-12	#0005-13	Wildland
2013-3-5	#0009-13	Wildland
2013-3-12	#0012-13	Wildland
2013-4-23	#0018-13	Wildland
2013-5-21	#0024-13	Wildland I-25 mm 175
2013-6-1	#0025-13	Wildland
2013-6-21	#0029-13	Wildland I-25 mm 180
2013-6-27	#0030-13	Wildland mm4-5 Hwy 116 between Hwy 116 & river
2014-3-29	NM-NGS-000080	PINO Fire (#1)
2014-2015	Unknown locations due to paperwork not being available	
2016-2-9	NM-#16-60320280X	PINO Fire #2
2016-3-20	NM#16-30340440X	La Joya-Veguita Mutual aid
2016-6-10-12	NM#16-30070584X	Wildland Escondida Lake fire (three days)
2017-9-1/2	18-30100174X	Wildland Labor Day Fire (two days); Hwy 60, 58 acres
2017-6-25	A170603	Lightening Strike X2 Behind Gerry Slate residence Hwy116; Across from Sabinal Fire Station
2017-3-9	A170309	Wildland Sevietta Controlled Burn SWLR 4800 acres RXB-Aeby
2018-4-21	18-30330540X	A180421 Wild Land Hwy 116 Fire at Ladd S. Gordon behind Tinnen Hunt Club both sides Hwy 116. (2 days) electric by bird.

*Bull Dog truck delivered July 2017

ISO Rating now #6; Talked to MRGC about Bosque (Yazmine); will try to use inmate forestry labor to clear 30-40 feet off ditch road, continue to remove downed dead trees (woodcutting project).

CWPP

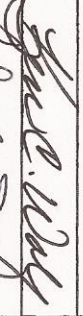
Date: 10-1-18

	Name	Signature	Organization	E-Mail	Contact #
1.	Alfred Hillis		SCSEM	Alfred.Hillis@CWPP.org	855-8119
2.	Zach Saavedra		BLM	rsaavedra@blm.gov	505-508-6093
3.	KEN A. NOBLE		SCSEM	Ken.A.Noble@CWPP.org	855-8119
4.	Gregory D. Hunsley		SCSEM	greg.hunsley@scsem.nm.us	505-508-6093
5.	Gregory D. Hunsley		NMSEF	greg.hunsley@nm.us	505-508-6093
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Socorro County CWPP

Date:

10/12/2018

	Name	Signature	Organization	E-Mail	Contact #
1.	KEN WOLFE		SCEM	kwolfe@co.socorro.nm.us	835-2029
2.	Richard SYLVESTER		AVFD	on file	205-4850
3.	FRED Hollis		SEEM	on file	805-8461
4.	Lynn Moore		BLM	lumoore@blm.gov	838-1296
5.	Gail Bogos		SCEM	gbogos@co.socorro.nm.us	838-5700
6.	Andy Lopez		FWS	andy.lopez@fws.gov	575-835-0060
7.	Russell Thuan		NMSE	Russell.Thuan@state.nm.us	575-838-3026
8.	Mark L. Pierce		SCEM	on file	575-2029
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Socorro County CWPP

Date: 10/12/2018

	Name	Signature	Organization	E-Mail	Contact #
1.	Donna Shresta		AVFD	AVFD@CO.SOCOR.CO.NM.US	205-4856
2.	Termy Zherleva		Soc. Co. EMT/Paramedic	zherleva@co.socorro.nm.us	505-835-8119
3.	Ken Watkins		USFS	kwatkins@fs.fed.us	505-834-2281
4.	Carlos Flores		Scen. Medway	on file	on file
5.	Jill Borklund		H.C. V.I.F.		83-4-3107
6.	Zach Saavedra		BLM	rsaavedra@blm.gov	(505) 508-6093
7.	Logan Bynum		NMSE	on file	on file
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CWPP Socorro County Chiefs Association Meeting

Date:

10/31/18

	Name	Signature	Organization	E-Mail	Contact #
1.	Richard Rumpel		May Gov		
2.	FRED HOLIC		SCFM	on file	on file
3.	Juan Moore		BLM	on file	on file
4.	KEN WOLF		SCFM	on file	on file
5.	Richard Sylvestre		AVFD	on file	on file
6.	Donna Sylvestre		AVFD	on file	505-205-4836
7.	Russell Thoma		NMSE	on file	171-828-3020
8.	TERESA ALVARADO		SCFM/MHC	on file	505-835-8119
9.	Carlos Vega		SCFM/MHC	on file	575-418-7977
10.	Mace Wheeler		MHC	on file	on file
11.	Dean Abrecht		SCFM/SAPD	on file	on file
12.	JIM BROOKHUIS		H.P. V.I.F.D.		854-3117
13.	JESSICA PEREZ		PH	jperetz@phiar.medica.com	817-271-7824
14.					
15.					
16.					
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19.					
20.					

Attention:

The Socorro County Fire Marshal's office is having a public review of the Socorro County Community Wildfire Protection Plan on Tuesday November 6th from 4pm to 6pm at the Socorro County Annex, 198 Neel Ave. Please stop by our booth for more information.

CWPP Public Review

This section is reserved for Sign-In Sheets from Public Review of the Socorro County Community Wildfire Protection Plan (CWPP) conducted on November 6th, 2018 from 4:00 pm to 6:00 pm at the Socorro County Annex Building located at 198 Neel Ave. Socorro, NM.

Sign-in sheets were used to document those participating in the local review of the CWPP Update. A total of 51 local community members signed the sign-in sheets during the review period for a total of 6 sign-in Sheets recorded.

To review Sign-in Sheets please contact Mr. Ken Wolf, CWPP Coordinator at the Socorro County Emergency Management office located in the Socorro County Annex Building.