Mora County

Community Wildfire Protection Plan

2019 Update

Forest Stewards Guild
putting the forest first

Prepared for:

Mora County

PO Box 580

Mora, NM 87732

Prepared By:

The Forest Stewards Guild

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We, the undersigned, approve the Mora County Community Wildfire Protection Plan: 2019 Update

Signature Fire Administrator	David Montoya Printed Name Mora County	7/29/2019 Date
Title	Organization	

Signature	Donald Coriegi Printed Name	7/26/2019 Date
Deputy Director Title	Forestry Division Organization	

Signature	Jarrod Durán Printed Name	7/29/2019 Date
Fire Management Officer Title	New Mexico State Forestry Organization	

Signature	Rumaldo Pino III Printed Name	July 29, 2019 Date
Emergency Manager Title	MORA County Organization	

Signature	Todd Cole Printed Name	07/31/2019 Date
PRESIDENT Title	MORA County Fire Chiefs Assn. Organization	

Signature	Joseph Griego Printed Name	7-26-19 Date
Chairman Title	Western Mora Soil & Water Conservation District Organization	

Signature	Printed Name	Date
	Christopher D. Lohrengel	7/30/2019

Title	Organization
Project Leader (ACTING)	USFWS - Northern New Mexico Refuge Complex

Signature	Printed Name	Date
	HOWARD GROSS	8/1/2019

Title	Organization
Assistant Commissioner of Surface Resources	N.M. State Land Office

Signature	Printed Name	Date
	Michael Atkinson	August 1, 2019

Title	Organization
District Ranger	Kiowa and Rita Blanca N.G. Cibola National Forest

Signature	Printed Name	Date
	SEAN FERRELL	8.2.19

Title	Organization
DISTRICT RANGER	USDA FOREST SERVICE, CARSON NAT'L FOREST

Signature	Printed Name	Date
	Steve Romero	8/21/2019

Title	Organization
District Ranger	United States Forest Service

COUNTY COMMISSIONERS

LIONOR F. MAESTAS
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Resolution No. 2019-048

A RESOLUTION TO APPROVE AND ADOPT THE "MORA COUNTY COMMUNITY WILDFIRE PROTECTION PLAN UPDATE 2019"

WHEREAS, the Board of Mora County Commission met in regular session on August 8, 2019: and,

WHEREAS, the Board of Commissioners recognizes the fire danger in the Southwest. New Mexico, and Mora County and has taken an active role in wildfire protection planning: and,

WHEREAS, the Board of Commissioners recognizes the requirements of the Healthy Forest Restoration Act (HFRA. Public Law 108-148 2003) which upon plan approval and adoption allows communities at risk for wildfires the ability to apply for additional federal funds appropriate to reduce hazardous fuels and other actions that have been identified through the Community Wildfire Protection Planning process: and,

WHEREAS, Mora County contracted the technical services of Forest Stewards Guild to update the CWPP: and,

WHEREAS, the Board of Commissioners further recognizes that the Mora County Community Wildfire Protection Plan (CWPP) was approved in 2005: and,

WHEREAS, the Board of Commissioners further certifies, in coordination with Forest Stewards Guild, this plan was updated by a Core Team that was led by Mora County staff and Volunteer District Chiefs in 2018-19: and.

NOW THEREFORE BE IT RESOLVED by the Board of Commissioners of Mora County hereby approves and adopts the Mora County Community Wildfire Protection Plan Update 2019: and,

BE IT FURTHER RESOLVED THAT the County of Mora will continue to work to provide its citizens with an adequate level of services, education, and outreach in wildfire prevention and protection.

PASSED, APPROVED, AND ADOPTED by the Mora County Commission on this the **8th day of August, 2019.**

Board of County Commission:

Lionor F. Maestas, Chair

Veronica M. Serna, Vice Chair

Alfonso A. Griego, Member

COUNTY CLERK SEAL COUNTY OF MORA, NEW MEXICO

Attest: **Carlos J. Arellano, County Clerk**

Contents

Executive Summary

The 2019 Mora County Community Wildfire Protection Plan (CWPP) makes significant progress in documenting and formalizing the past efforts and future ambitions of key partners in the area to prepare residents and forests for wildfire and to create fire adapted communities. Since the previous CWPP in 2005 much has changed in Mora County and this update attempts to capture those changes. These updates include a construction of a Wildland Urban Interface (WUI) area where there was none previously, a thorough designation of all Communities at Risk in the county and an assessment of their fire risk level, and adding many additional elements including structural ignitability, how to communities should prepare for smoke, and how to create fire adapted communities.

The most important element of a CWPP however are the priority actions and priority fuels projects that guide future actions in the county. These were developed in consultation with the Core Team and the Community and are listed throughout the CWPP, but a few are listed here:

- Protect repeater sites and communication links throughout the county by creating fuels reduction projects at these key sites.
- To reduce human ignitions by increasing education and enforcement around burn bans.
- To improve communications for first responders in the County by installing repeaters in key locations and investigating creating an MOU with other agencies to access their frequencies.
- Create more cost share programs to fund defensible space thinning on private property especially in the most high-risk areas.

Introduction

What is a Community Wildfire Protection Plan?

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

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

> (1) Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
>
> (2) Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
>
> (3) Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

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

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

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

CWPP Updates

Planning efforts periodically need updating. This may be necessitated by new information, tools, ways of thinking, or rigor. Updating a plan is also an opportunity to evaluate past effectiveness. This evaluation can generate new ideas, recommendations, or changes.

In accordance with the Healthy Forests Restoration Act (HFRA) of 2003, the County completed a CWPP in 2005. The New Mexico Fire Planning Task Force recommends that CWPPs be updated every five years in order to assess new hazards and monitor progress made since the last CWPP update. Building community resilience to wildfire requires an adaptive approach that uses the

lessons of the past to inform future management. It is important to remember that this CWPP update is a living document. As new information becomes available and conditions on the ground change, priorities may need to be updated.

In 2015, the New Mexico Association of Counties (NMAC), in collaboration with New Mexico State Forestry (NMSF) and the Forest Stewards Guild (FSG), developed guidelines for updating CWPPs (NMAC, 2015). The guidelines outline the process for updating existing CWPPs as follows:

1. Review existing CWPP.
2. Host collaborative meetings.
3. Update maps.
4. Reflect changes in risk ratings due to complete projects or changes in landscape.
5. Develop updated priorities.
6. Distribute CWPP update drafts to key stakeholders (including local, state, tribal, and federal partners) for review and input before the final approval.
7. Submit the final document to your local government body, local fire department(s) and State Forestry for required signatures and endorsement.
8. Once signed and endorsed by your local governing parties, submit all documentation to NM State Forestry no later than September 1st for final approval by the New Mexico Fire Planning Task Force.

In addition to the items listed above, CWPPs and updates must also include the following elements:

1. Collaboration: A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
2. Prioritized fuel reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
3. Reduction in structural ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan
4. Signatures secured:
    a. The applicable local government (i.e., counties or cities);
    b. The local fire department(s); and
    c. The state entity responsible for forest management.

Previous Wildfire Planning in Mora County

In 2002 a WUI Plan was completed in Mora County. This plan predated the CWPP structure and included home hazard assessments in particularly high-risk communities and recommendations for those high-risk communities but did not address the County as a whole. This plan can be found at: http://www.emnrd.state.nm.us/SFD/FireMgt/archive/MORACO.pdf

In 2005 a CWPP was written to cover Mora County and add the additional elements that were needed to the 2002 plan to bring planning in Mora County up to the new standard defined by the Healthy Forest Restoration Act. The 2005 CWPP included minimal additional planning.

This 2019 update builds upon the 2005 CWPP but adds extensive content and revised priorities.

1| Geography

Land tenure

As in much of the western United States, land tenure in Mora County is a mix of public, private, State land. The County is largely privately owned at 84% of the total ownership. United States Forest Service (USFS) manages the next largest portion of the county although this is divided between two National Forests and a National Grassland. Table 1 below and the Surface Ownership map in appendix 1 display the surface ownership in Mora County.

Table 1 - Mora County surface ownership

Mora County surface ownership			
	Acres	**Square Miles**	**% of total land**
Private or other	1,035,676	1618	84%
Public (Federal or State)	200,734	314	16%
Total	1,236,410	1932	100%
Public jurisdiction surface breakdown			
USFS, Santa Fe National Forest	84637	132.2	6.85%
USFS, Cibola National Forest	5849	9.1	0.47%
USFS, Carson National Forest	17,053	26.6	1.38%
BLM Taos Field Office	7,203	11.3	0.58%
National Park Service, Ft. Union National Monument	721	1.1	0.06%
Fish and Wildlife Service, Rio Mora Wildlife Refuge	4,461	7.0	0.36%
NM State Trust Land	72,778	113.7	5.89%
New Mexico State Park and Recreation, Coyote Creek and Morphy Lake State Parks	7334	11.5	0.59%

Note: The calculations above are based on publicly available spatial data and are approximate. Calculations are not sourced from official land surveys.

Vegetation

Mora County contains a diversity of vegetation adapted to the high deserts and scattered forests of the Colorado Plateau and largely dependent on elevation and proximity to perennial sources of water. Grass, shrubs and piñon-juniper forests dominate the lowlands, while ponderosa pine and mixed-conifer systems prevail at higher elevations.

Fire behavior and severity is heavily influenced by vegetation type and the fire return interval (FRI) associated with it. Where continuous surface fuels are present, the FRI tends to be more frequent. At higher elevations, which tend to be wetter and cooler, fire is more infrequent but may burn with a greater severity due to the sustained buildup of fuels. Mitigation measures to reduce wildfire risk to nearby communities should take vegetation type into account. The maps in appendix 1 display the vegetation types and cover type found in Mora County.

2| Accomplishments Since 2005 CWPP

Since 2005 there have been many positive changes in Mora County that have prepared the county and its residents for wildfire. Forests have been restored on private and public land, fire departments have added capacity and increased the proficiency of their fire fighters and private residents have taken on responsibility and reduced their own fire risk. Due to the amount of time that has elapsed since the previous CWPP it was difficult to build a complete record of changes and accomplishments in the County, however, below is a list of highlights as recorded by the Core Team.

Private Land

- Many discreet projects have taken place on private lands since the 2005 CWPP update. Natural Resources Conservation Service (NRCS), Soil Water and Conservation Districts (SWCD), and NMSF have been very active in accomplishing work on private landowners' property throughout Mora County.
- Through WUI, NFL, and Forest Health Initiative (FHI) programs, NMSF has completed thousands of acres of fuels treatments in collaboration with private landowners.
- The Western Mora SWCD has worked on a variety of projects with a link to wildfire risk mitigation since 2005. Two projects, the Mora WUI II and the Non-Federal Lands (NFL) 2016, were completed in October of 2018.
    - The Mora WUI II consisted of 11 landowners in the communities of Chacon, Holman, Cleveland, Walker Flatts, Guadalupita, Ledoux, Mora, Ocate, and Monte Aplanado. Through this project, 214.4 acres of forest land received fuels treatments through thinning.
    - The NFL 2016 project consisted of one landowner in the community of Gascon, and 214.4 acres of forest land were received fuels treatments through thinning.
    - Since 2016, three landowners have utilized a cost-share program to complete acequia headgate projects on their properties.
- NRCS
    - Since 2005, NRCS has worked with private landowners in Mora County to treat 1,323 acres of forested lands through forest stand improvement and woody residue thinning. 1,271 of these acres were treated within the past three years.
    - Additionally, they have completed 2,200 feet of fuel breaks around private properties.

Figure 1 - NMSF thinning project completed through FHI on private land in Mora County. Photo credit: Rhiley Allbee, Forest Stewards Guild.

US Forest Service

- The Capulin Project is in beginning planning phases to allow thinning and removal of forest products in the Capulin and Walker flats areas on Santa Fe National Forest and private lands.
- Walker Flats area received a 1,000-acre prescribed burn in 2008 following thinning and other forest treatments.
- The Oso Grande project on the Camino Real District of the Carson National Forest borders much of western Mora County. The project is in it's beginning phases with the intention of eventually covering up to 100,000 acres depending on the extent of collaborative work.

Fire District Improvements

- In 2014 the Sierra Bonita-Ricon fire department was added to address a lack in coverage at.
- Fire Chiefs Association has increased its presence and better cooperation between districts has aided in efforts.
- County Fire Administrator position added to boost capacity and coordination across county.
- Training for fire districts has improved, including providing NWCG qualifications to many fire fighters in the County at the FFT2, FFT1 and single resource boss levels.

NM State Lands

- Ocate Collaborative Forestry Restoration Program treated over 250 acres of ponderosa pine area with a combination of CFRP, State Land Office and State Forestry funding.
- White Peak Landscape Planning Collaborative Forestry Restoration Program, approximately 20,000 acres of National Environmental Policy Act (NEPA) analysis was completed in Mora and Colfax County to allow for follow up treatments.
- Cooks Peak Project includes 150 acres of Ponderosa Pine treatment is currently in progress.

Wildfires

See the Wildfire History Map in Appendix 1 for a full history of wildfires in the last 10 years in the county. Some recent large fires include

- Emily Fire – In 2018 this fire burned 8432 acres in the Turkey Mountains in the center of Mora County
- Sardinas Canyon Fire – In 2018 this fire burned 2337 acres in high elevation timber just west of the Mora County line.
- Evans Fire - In 2015 near Rincon, this fire threatened 50 homes, but no structures were lost.

Community Organizations

Mora Valley Community Health Services (MVCHS)

- MVCHS currently has an All Hazards Emergency Plan and is working on building a cache of medical supplies, but the shelf life of the supplies limits the quantities that can be acquired if they will eventually be thrown away. MVCHS participates in Region 1 NM Health Coalition to mitigate some of these barriers and is able to tap into statewide resources/supplies.

3| Wildland Urban Interface and Communities at Risk

The U.S. Forest Service defines the Wildland Urban Interface (WUI) as the "area where structures and other human development meet or intermingle with undeveloped wildland". The WUI for Mora County was determined collaboratively between members of the core team and stakeholder groups identified in Tables 6 and 7 and through geospatial analysis of population centers and infrastructure. The map in Appendix 1 displays the WUI in Mora County.

WUI Determination

Based on recommendations of the core team this update expanded the WUI determination in specific areas throughout the county. The WUI determination was based on the address database for Mora County provided by the County GIS specialist. This database contains a point for every address within the county. The database was verified against orthographic imagery and some points that did not correspond to actual structures were removed. This database did not provide differentiation between residences and other structures. Each address point was buffered at a quarter mile to provide the basis of the WUI. From there critical communication structures were

added including cell phone towers and radio repeaters, these were also buffered at a quarter mile to encourage treatment to protect these vital resources to maintain communication during any emergency event. Primary possible escape routes for communities were identified using the 911 roads data provided by the County. These routes were given a tenth mile buffer to encourage treatment in these areas to facilitate safe escape by residents and safer access for responders. Additionally, the tri state powerline and railroad were given a tenth of a mile buffer to recognize these areas as places that might need additional treatment because of their increased risk of ignitions. This new WUI layer was merged with the WUI layer that was prepared by NMSF during their statewide planning process in 2010 to include the determinations made by the team assembled to complete that assessment. In very few cases the WUI was reduced after the core team identified the area as uninhabited and was verified by a review of satellite imagery.

Communities at Risk

Following CWPP guidelines, each community has been assigned a community hazard rating (CHR) of low, medium or high wildland fire risk. The list of 11 communities that were included in the 2005 plan were reassessed in 2019 to update the original ratings and 22 communities with additional communities combined into that were not previously assessed were added during the 2019 planning process. The rating assessment began with analysis of spatial data that was included in the fire risk analysis prepared by NMSF during their Statewide Natural Resources Assessments, the Wildfire Hazard Map produced by the U.S. Forest Service, Vegetation type and cover, access to communities, and vegetation adjacent to communities. Descriptions and maps showing the products used in the analysis are located in the appendices. These initial ratings were further refined by recommendations of the Core Team based on actions that have happened in specific communities to reduce fire risk, improvements of the structural ignitability of buildings within the communities, and efforts of communities to become more fire adapted or establish themselves as a designated Firewise Community.

Descriptions of each Community at Risk are located in Section 5, Fire Districts within their respective fire district.

Table 2 - Mora County 2019 Communities at Risk and their fire risk ratings

Mora CWPP 2019 Communities at Risk

Fire District	Communities	Risk Rating	Included Communities
Buena Vista	Buena Vista	Moderate	Cebollita
Chacon	Los Alamitos	High	
	Lujan and Luna Canyon	High	
	Chacon	Moderate	Quemado Canyon,
CHET	Cielo Vista	High	
	Rio de la Casa	High	Hummingbird
	Vallecitos	High	
	Cleveland	Moderate	El Encinal, Cordillera
	Holman	Moderate	Tramperos

Golodrinas	Golondrinas	Low	La Rama, La Pardita
Guadalupita	Guadalupita	High	Las Silvas, Los Cocas, William Canyon
	El Turquillo	Moderate	Cañada de Carro, Los Cisneros
LMC	Monte Aplanado	High	Pacheco Village, Sawyers Village, Morphy Lake Rd
	Abuelo	Moderate	El Aguila, Cañon
	El Carmen	Moderate	North Carmen, South Carmen, Tierra Monte, El Oro
	Ledoux	Moderate	
	Puertocito	Moderate	Las Aguitas
Mora	Christmas Tree Canyon	High	Los Cupaderos, Quejaeron
	Trumble Canyon Area	High	
	Mora	Moderate	El Alto, Talco
Ocate	Canada Bonita	High	
	Los LeFebres Mesa	High	Twin Willows Ranch
	Los Huerros	Moderate	
	Ocate	Low	Naranjos, Charette Lake
	Ojo Feliz	Low	La Jara
Rainsville	La Cueva	Moderate	Canoncito, La Jara
	Lucero	Moderate	Los Medinas
	Rainsville	Low	
Rociada	Gascon	High	
SBR	Sierra Bonita/Rincon	High	Coyote Creek SP
Watrous	Watrous	Low	Valmora, Tiptonville, Shoemaker, Loma Parda
Wagon Mound	Wagon Mound	Low	
Eastern Mora County	Optimo, Ciruela, Levy	Low	
	Alamito	Low	

4| Priority Actions

CWPP implementation and action items

The 2005 Mora County CWPP identified several priority actions designed to increase wildfire resilience. Many of those actions are ongoing and have been carried over to the 2019 plan. The CWPP core team and members of the public worked together to update the priority actions list and to identify new priority projects that will make Mora County more fire adapted. This is not an exhaustive list but provides a starting point for action, and other considerations such as funding or interest of residents may further define or shift these actions. Table 3 outlines the priority actions for 2019 and beyond. Priority actions are divided into five focus areas: (1) community involvement, (2) reducing structural ignitability, (3) fire districts and equipment, and (4) evacuation planning, and (5) water resources and (6) communication.

Key to accomplishing many of these tasks is formalizing the CWPP core team or creating a new collaborative group as it is an important first step towards implementing the 2019 CWPP update. Without a core group of residents and stakeholders to take the lead on implementing CWPP action items, Mora County runs the risk of priority actions not being accomplished. The CWPP core team will lead the effort to implement the 2019 CWPP update action items, in collaboration with County staff and resident partners.

Priority Fuels Treatments

According to the 2015 CWPP Update Guidelines (2015), all CWPP updates should include updated priorities for fuels treatments. Through phone outreach, surveys, and public meetings, the CWPP core team worked with CWPP stakeholders to identify priority fuels reduction projects in Mora County. The most important projects as identified by the Core Team are identified below:

- **Defensible space on private property** is a high priority across the county. Outreach to connect residents and landowners to existing programs may be the most effective way to achieve this goal. Alternatively seek funding to develop programs to assist residents in achieving this work. Additionally, coordinate with private landowners that want to complete large-scale thinning projects, and seek funding to complete these.

  Areas of particular concern that should receive attention are:

  1. Sierra Bonita and Rincon Subdivisions
  2. Trumble Canyon Subdivision
  3. Christmas Tree Canyon
  4. Sawyers Village and Monte Alplanado
  5. Rio de la Casa

- **Fuels treatment around the several radio repeater sites** in Mora County that provide radio contact for dispatch and first responders. Creating defensible space for these sites to be able to survive a wildfire was identified as a priority by many Core Team members in the County. In the 2018 Emily Fire the repeater site on Turkey Mountain was threatened, highlighting the need for this project. All the repeater sites are located on private property so a project to protect the sites would require cooperation with the landowners.

  The four repeater sites in Mora County that need consideration are:

  a. Turkey Mountain Repeater on Ft. Union Ranch (35.984249, -104.900829)

b. Mora Repeater, above mile maker 16 on Hwy 94 (35.960014, -105.354145)
c. Buena Vista Repeater, above mile marker 21 to west side of Hwy 518 (35.898792, -105.261004)
d. Guadalupita Repeater on Borrego Peak, above mile marker 9 on Hwy 434 (36.058445, -105.243935)

- **The USFS should be encouraged by communities to implement** projects next to large areas of private land and key communities where there are adjacent private landowners whom are willing to allow access for fuel breaks. The USFS should also be encouraged to move forward with NEPA clearance on more accessible and treatable land in order to expand treatment on the national forest.
- **Thinning along Highway 120 corridor** to open right of way and provide survivable space for firefighters and for evacuees. This a heavily trafficked single lane dirt road that travels through Mora County and is commonly used as a route to Angel Fire and Taos. Thinning along this road, and potentially paving and widening it, would reduce the chance of human ignitions and increase the road's usefulness as an escape route and potential barrier for wildland fires. The logistics to complete these may be complicated as much of the terrain in this area is inaccessible for thinning, there are many rock outcrops, and a stream runs along a large section of the road.
- **The Capulin project area is a high priority**, as NEPA analysis is in the beginning phases for up to 20,000 acres in the Capulin and Walker Flats area. This includes USFS as well as private and other jurisdictions. The NEPA process will guide future fuels mitigation, but more work will be needed to secure funds for implementation. Potential treatments include thinning and piling, removal of forest products, and fuelwood cutting. CE's should be considered for targeted fuel breaks and small-scale treatments to enhance work done on private property adjacent to national forest lands where work has not yet been completed on the national forest side.

Mora County CWPP Priority Actions

Table 3 - Mora County CWPP priority actions

Mora County CWPP priority actions		
Community Involvement		
High Priority	Formalize the CWPP group or create a new group that will focus on implementing CWPP priority actions.	
	Detail	A collaborative group that focuses on implementing CWPP priority actions is an important component to making this CWPP an actionable plan. Tasks for the CWPP group may include (1) implementing CWPP priority action items, and (2) providing education and outreach to County residents. The group should have regular meetings throughout the year and take meeting minutes to track resident concerns and ideas for implementing the CWPP. Sub-groups may include wildfire preparedness, evacuation planning, and pursuing funding for project implementation.

High Priority	Develop a strategy for targeted outreach and education of wildfire preparedness and prevention to all citizens of Mora County.	
	Detail	Conduct fire prevention campaigns during times when fire danger is high. Use newspapers, radio messages and signs to alert both visitors and residents. A diverse suite of outreach methods will increase the amount of people reached. Outreach is particularly important before and during fire season to encourage prevention and preparedness. Include information seasonally in the Las Vegas Optic, Our Mora, La Voz de Mora, on local radio stations, and on social media about actions that residents can take to reduce wildfire risk, increase emergency preparedness, etc. Host an annual wildfire preparedness day in conjunction with the national day for County residents. Preparedness days can take place in various parts of the county. Local volunteer fire departments (VFDs) would be good hosts for this outreach effort. Residents can learn about steps they can take to make their homes and properties more defensible and learn about ongoing efforts in the county to reduce wildfire risk. Promote the Ready, Set, Go! program to County residents and make resources available in print and on the County website. Ready, Set, Go! is a national effort to educate residents how to prepare ahead of time for an evacuation order. http://www.wildlandfirersg.org/ Consciously target vulnerable populations in outreach and education. The elderly and low-income individuals and families face a greater wildfire risk. Targeted outreach will help ensure these residents have the same access to education and outreach materials as well as cost-share programs to reduce wildfire risk.
High Priority	Reduce the number of human caused wildfire ignitions from refuse burning and abandoned campfires.	
	Detail	Education on burn bans and restrictions and effective enforcement of county rules will be key to reducing this type of wildfire ignition. A diverse and broad education program should be implemented. Consider implementing prescribed burn regulations and permitting for small burns.

	Work with NMSF to establish Firewise communities in Mora County	
	Detail	Attaining Firewise status for a community is often the catalyst for further action to engage community members in fuels reduction, wildfire preparedness, and other actions related to becoming a more fire adapted community. The CWPP group can help identify potential Firewise communities and community members to lead those efforts.
	Link leaders in the various areas working towards wildfire adaptation to the Fire Adapted Communities New Mexico Learning Network.	
	Detail	Linking to the state-wide network can help share resources and lessons learned across the state. Access facnm.org for more information.
	Promote implementation, education, and training about prescribed fire.	
	Detail	Prescribed burns are the most cost-effective way to reduce fuels and range from pile burns after fuels treatment to broadcast burns. Promote prescribed burning across all lands in the county to reintroduce fire and reduce fuels. Promote prescribed burning where appropriate on private and public land Promote VFDs to participate in prescribed burns with neighboring agencies to gain training and skills. Consider developing a Prescribed Burn Association (PBA). PBAs pool equipment and resources to formalize relationships between landowners who are interested in implementing prescribed burns on their property. This model has been very successful in supporting expanded use of prescribed fire on private property.
	Consider developing a County burn permit process and identify limitations and solutions for addressing them.	
	Detail	Consider developing a streamlined and clear the process of obtaining burn permits, to help landowners and land managers plan better to implement broadcast and pile burns in the County. The process may include (1) Making the permits available for download online (will still need review and signature of County fire administrator) (2) Outlining requirements such as burn pile size and quantity, weather, resources, smoke etc., and (3) Potentially issuing permits for burns on weekdays.

Reducing structural ignitability		
High Priority	Pursue funding for defensible space and general thinning projects on private lands in the County.	
	Detail	Cost share and grant programs exist to help offset the costs of fuel reduction projects. Promote these opportunities to interested parties.
High Priority	Work with residents to conduct a home hazard assessment of their property.	
	Detail	Members of the CWPP group and fire fighters can help guide residents in how to conduct an assessment. The FSG and the Wildfire Network have developed an assessment guidebook for use with the assessment developed by Santa Fe County. Both resources are available on the Fire Adapted Communities New Mexico website, at www.facnm.org
	Improve wildfire insurance coverage for residents.	
	Detail	Work with insurers and fire managers to find ways to improve coverage in areas that need wildfire insurance. A possible example could include home assessments completed by qualified individuals in the county with action items to reduce fire risk, that would lead to reduced insurance premiums.
	Consider adopting county codes and ordinances that address wildfire risk.	
	Detail	Codes and ordinances are tools available to local governments to address the shared wildfire risk within a community. Codes and ordinances may address fire resistant materials being required on new construction, defensible space implementation around existing structures, and reducing fuel loads adjacent to roadways. Examples of WUI codes and ordinances are available from other counties and municipal areas throughout New Mexico.
	Promote accurate signage of addresses to aid in firefighter response.	
	Detail	4-inch-high reflective signage that indicates that address of each residence should be placed in a visible location so first responders can quickly assess the location of residences.
	Pursue cost share programs to upgrade residential home building materials such as roofing, siding, and deck materials.	
	Detail	Upgrades to homes that reduce structural ignitability are often prohibitively expensive. Cost share programs do exist that can help offset the costs of these upgrades to County residents.

Fire responders and equipment		
High Priority	Encourage the cross-training of area fire departments and local government officials with state and federal agencies.	
	Detail	Wildfire incidents and other emergencies are often cross jurisdictional. Collaborative training exercises will help make emergency personnel more effective and ensure that all involved are using ICS procedures. Joint training builds cohesion between crews that don't often work together, reduces communication and technical difficulties, and enables sharing of knowledge between diverse resources. Training should include wildfire incidents and evacuation. Many Fire Chiefs mentioned the benefit of these activities.
High Priority	Develop new maps for fire districts.	
	Detail	Formalizing fire district boundaries by submitting new boundaries to the State Fire Marshall and then developing maps with roads and addresses within those boundaries will assist Fire departments in responding within their districts and in neighboring districts.
High Priority	Improve recruitment for VFDs	
	Detail	Recruitment of new members into the Volunteer Fire Departments has been identified as a challenge to meeting capacity needs for fire response. Forming a group to focus on this task would be an important responsibility of the continuing Core Team group or the Fire Chief's Association. Consider advertising on the web, on social media, in print and at public events.
	Develop a strategy to improve County fire departments' Insurance Services Organization (ISO) rating.	
	Detail	Strategies for improving a fire department's ISO rating include fire alarms and communication systems, staffing, training, equipment, and water delivery. https://www.isomitigation.com/. An improved ISO rating will increase annual fire department funding and reduce homeowner insurance rates.
	Hire a Wildland Urban Interface Specialist for the County.	
	Detail	The WUI specialist will obtain and manage WUI and hazardous fuels reduction grants, coordinate fire prevention activities and public involvement such as the Firewise communities program, coordinate actions with partners (including state and federal land management agencies, tribes, and private landowners), and work with the CWPP group to implement CWPP priority actions.

	Promote training for all firefighters in the County responsible for wildland fires and develop NWCG wildland qualified firefighters throughout the county.	
	Detail	Work to develop National Wildfire Coordination Group (NWCG) training and qualifications within the County Fire system. Continue working with NMSF to provide S-130 & S-190 classes to qualify fire fighters in the county at Firefighter Type 2 status. Work with NM State Forestry to provide more advanced training opportunities such as ENGB and CRWB.
	Expand wildland firefighting capability of all wildland fire responders in the County by adding equipment.	
	Detail	Identify equipment needs throughout the county and work to fill them. Develop a supply cache and apparatus that is capable of supporting wildland firefighting activities in the county. This includes purchasing new fire engines and water tenders, as well as maintain and expanding supplies of hand tools, PPE, radios, etc.
	Identify community liaisons who can relay relevant information between emergency personnel and residents in the event of a wildfire or other emergency.	
	Detail	Identifying community members to work with emergency personnel and residents is part of planning for during and after wildfires and other emergencies. A community liaison will help keep residents informed, providing a trusted and familiar voice to compliment more official channels. This liaison will likely need to be trained in the incident command system and to maintain some basic NWCG qualifications.
	Review and update mutual aid agreements with neighboring counties and state and federal jurisdictions.	
	Detail	Improved relationships with solid MOUs would aid in cross jurisdictional response in the many districts that are adjacent to other agencies and counties.
	Evacuation planning	
High Priority	Develop a reverse 911 notification system.	
	Detail	Reverse 911 can send notifications to residents within a discrete area quickly and efficiently to land line phones, cell phones and email. There are many providers of this service. Reverse 911 coupled with other notification techniques will aid in effectively warning residents of wildfires, evacuations, and other emergencies.

High Priority	Work with communities and fire districts to develop evacuation plans.	
	Detail	Evacuation plans at the appropriate scale that designate routes (including a map), safety zones, roles and responsibilities, and procedures for residents and emergency personnel will make for safer evacuations in the event of an emergency.
High Priority	Establish safety zones and/or evacuation staging areas for each fire district or community.	
	Detail	Having pre-determined safety zones or areas where residents can go to in the event of an evacuation for further instruction will limit confusion in the event of an evacuation.
	Support evacuation drills.	
	Detail	Evacuation drills can help to expose gaps in notification systems and evacuation procedures. Drills can be done on a household, neighborhood, community, multi-community, or county level. The frequency of evacuation drills will be dependent on time and resources, but evacuation drills should be held at least on a bi-annual basis, depending on scale.
	Utilize a suite of notification methods to communicate with residents during ongoing emergencies.	
	Detail	Notification methods may include: reverse 911; text messages/phone calls; door to door notifications; radio; social media (Facebook, Twitter, Nextdoor etc.); the County website; email; television; or newspaper depending on the type and urgency of the notification.
	Thin vegetation along roadways and at intersections and maintain previous treatments to create the greatest potential for visibility during a wildfire.	
	Detail	Thinning along roadways is particularly important along evacuation routes and near safety zones.
	Involve the County Sherriff's Department, State Police, and other co-operators in reviewing current All Hazard Plan and conducting field exercises.	
	Detail	Emergency personnel that will be directly involved in implementing an evacuation should be consulted when developing the County evacuation plan.

Communication		
High Priority	Reduce fuels around existing repeater sites to protect them in the event of a wildfire.	
	Detail	Several repeater sites in the county are located on mountain tops amid heavy fuels. Thinning around these sites to reduce the fire hazard to them and prevent a loss of communications during an emergency event. See the priority fuels project section for more details.
High Priority	Improve radio communications and remove dead spots.	
	Detail	Identify areas with limited communication and work to improve reception in those areas. Known dead zones or areas with no radio coverage that need to be covered in the county include: • canyons near Guadalupita • much of the area in Sierra Bonita-Rincon fire district • State Rt 120 in the Ocate District especially as it becomes more mountainous and enters the canyon • Portions along Hwy 434 • Much of the Chacon Fire District
Water resource protection		
	Consider a mapping effort to document the location of community water infrastructure including wells and water tanks.	
	Detail	Mapping community water infrastructure will help prioritize mitigation measures designed to protect them.
	Support projects to develop new water resources/enhance existing water resources.	
	Detail	Encourage USFS and residents to do more to develop water resources. Invest in water resources such as tanks or ponds. When they are not being drawn upon for firefighting, water development projects can serve alternative purposes such as recreation or water for wildlife.
	Seek updated FEMA Flood mapping.	
	Detail	The flood map data for Mora county is outdated and inadequate as it only portrays 100-year flood plain. Urging FEMA to update existing data and create models for more flood data will allow for Mora County residents to prepare for post fire flood events.
	Consider developing an MOU with Santa Fe National Forest to allow VFDs to utilize SFNF frequencies.	
	Detail	Investigating this opportunity will could provide county fire fighters with access to US Forest Service radio channels to expand their communication capabilities.

Human Sources of Ignition

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

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

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

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

Campfires

In outreach and education efforts, it is important to understand the causes and patterns of ignition. Especially considering the 2018 Bluewater Fire, which was started by an abandoned campfire, it is especially timely to redouble efforts at campfire education. The above-cited report provides the following insights into campfire ignitions:

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

Refuse Burning and Burn Ban Enforcement

A major issue identified during Core Team meetings is the lack of compliance with burn restrictions when residents are burning refuse on their own property. This has led to numerous escapes of fires from the burners control that then transitioned to wildfires. This issue will require a joint effort between Law Enforcement, County Government, and Fire Districts to increase enforcement of fire restrictions and provide notification of when bans are in place. Currently there is limited support in enforcing bans that are put in place by county government and the task often falls to Volunteer Fire Districts, causing conflicts between VFD members and residents. Determining a way to increase enforcement of bans and communication about burn bans and wildfire risk from refuse burning will be key to reducing this source of wildfire ignitions. Communication about burn bans and the risks associated with not following them should take place in many forms including road signs, signs at fire stations, billboards, radio,

online, and print advertisements and holding community events to instruct the public. The website firerestrictions.us/nm/ may also be a good resource to spread information about burn bans.

Power Lines

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

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

Greater collaboration is needed between the CWPP core team and local (e.g. Mora-San Miguel Electric Cooperative (MSMEC), and Springer Rural Electric) and regional (e.g. Tri State Generation and Transmission Association Inc., etc.) utility companies. Review of vegetation management plans for local power companies have shown that they are active in managing the vegetation along their right-of-ways but more communication to learn how these utilities are maintaining their right-of-way responsibilities regarding woody vegetation, and to discuss how these right-of-ways can be consistently maintained or expanded in width in the future would be valuable. Other strategies for reducing ignition potential from power lines include encouraging off the grid solar systems and burying future or expanded power lines networks. Communities and landowners have a role to play to identify power lines, poles, and transformers that are in poor condition or have excessive brush underneath and contact utilities or other authorities.

Figure 2 - Example of fuels reduction along power line corridor. Photo credit: Shannon Atencio, NMSF, NFL Project on the Pena Ranch, San Miguel County.

5| Fire Districts

There are 12 fire districts in Mora County, 10 of which are managed by the County, and all the districts are led and staffed by volunteer firefighters. We used the geographic boundaries of the Fire Districts to subdivide the county into smaller areas in which to record details because the geography of these areas is well-known and recognized. This required some redrawing of the fire district boundaries, as described in the Mapping of Mora County Fire Districts section below.

Some details to note about the fire districts are that the Wagon Mound District is a Municipal fire district that serves the area directly adjacent to the town of Wagon Mound. The Rociada district is served by San Miguel County due to the long access times from the rest of Mora County. The area called Eastern Mora County by this CWPP is not a fire district but is the area on the eastern side of the county not geographically covered by another fire district. More detail about each district including the communities at risk and fire risk of WUI in included below.

Mapping of Mora County Fire Districts

At the time this plan was created there were two different maps of the fire districts, one that is accepted as the official map by the Fire Chiefs of the county but did not exist as in a format other than a printed map. See Appendix 1, F*ire Districts, Current Map*. Although in practice the districts in the county provide full coverage by assisting adjacent districts and responding to areas outside of their boundaries this map has discrete boundaries that exclude large geographic portions of the county and does not include the new Sierra Bonita-Rincon District that was formed in 2014.

Another draft map had been created by County officials, but it conflicted with the previous map and did not account for the realities of coverage that the Fire Chiefs were familiar with.

As part of the CWPP planning process a way to subdivide the county to allow descriptions of smaller areas were needed. In consultation with the Fire Chiefs Association a new map was created based off the previous map that had been in place but that extended coverage in the western side of the County so that fire districts covered all of the area, see Appendix # *Fire Districts, as used by this CWPP*. In the eastern side of the County the independent municipal district of Wagon Mound covers a 6-mile diameter from the city center, the rest of the eastern county is sparsely populated and not officially covered by a fire district although in practice the nearest few fire districts respond to any incidents.

This new fire district map should not in practice change the way that departments function and respond to incidents but hopefully will provide some more clarity in dispatching and administrative boundaries. Further revision of this map by the Fire Chiefs Association and then submitting the new map to the Fire Marshall could solidify these districts and provide an updated map with accurate districts. After fire district boundaries are clarified a new mapping effort to provide detailed maps to each Fire Department of their district would be a high priority project.

Fire Department Training

Mora County Fire Districts with the support of NMSF maintain a robust training program that follows National Wildfire Coordination Group (NWCG) standards. Nearly 90% of VFD firefighters have received the training courses that would qualify them at, at least the firefighter 2 level, which is the basic firefighter qualification. Many other firefighters in the county have received higher levels of training necessary for positions of squad boss, single resource boss, such as engine boss or crew boss, and incident commander type four, which is an incident commander for incidents at the moderate level of complexity. This level of training shows impressive commitment from the firefighters involved and the agencies providing the training and should be commended.

To extend this classroom training to field training some field trainings have been staged, such as mock fires and evacuations. As much as possible trainings such as this with multiple agencies participating should be continued and expanded. This sort of training not only deepens understanding of wildfire suppression operations but also builds cohesion among different crews and provides a time to iron out communication and technical difficulties.

Another training opportunity that should be investigated is incorporating VFD members into prescribed fire operations. This provides live fire training opportunities that build important fire operation skills such as communication and running apparatus and tools.

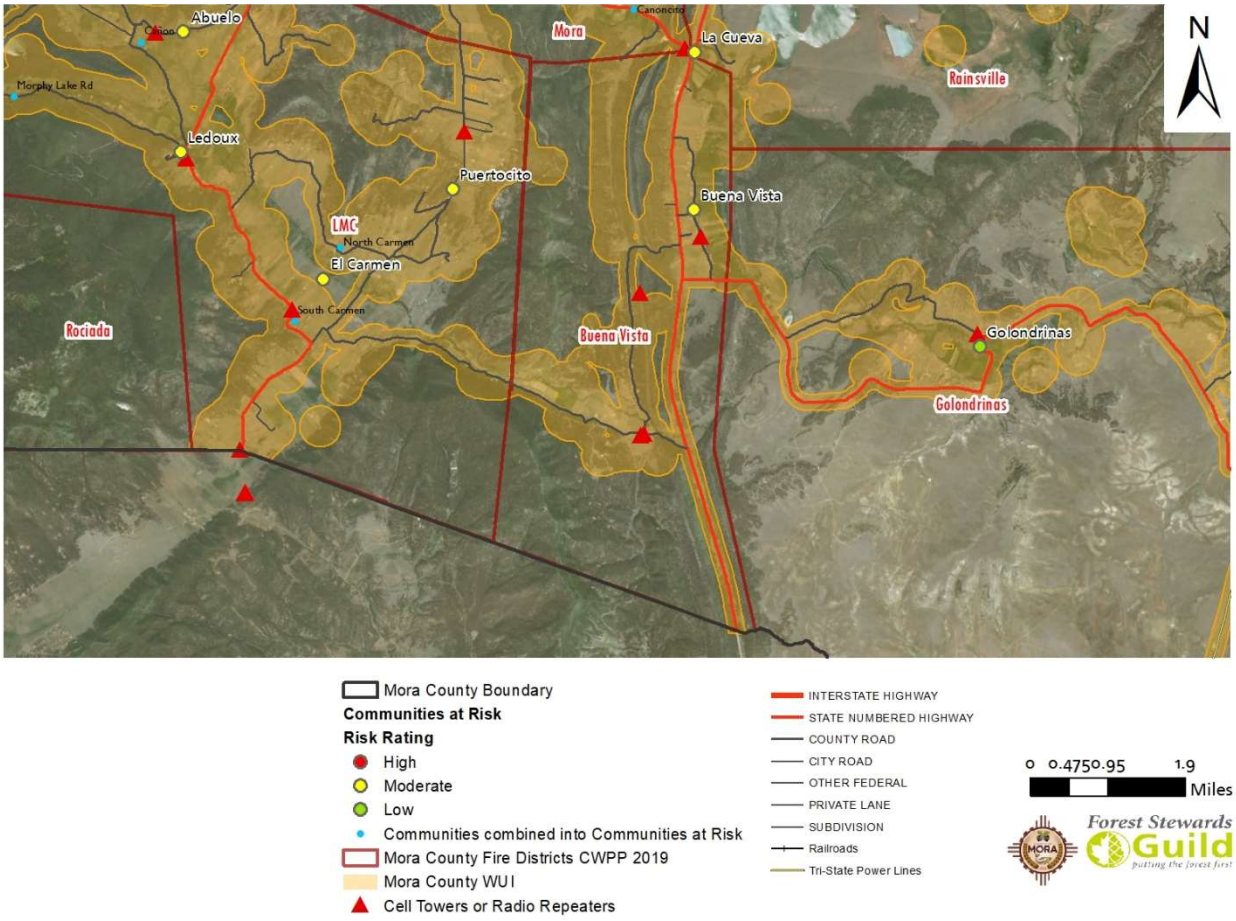
Fire Districts

The following table shows the number of acres in each Fire District and the amount of mapped WUI in that district. For each district the percentages of areas at high, moderate, and low fire wildfire within the WUI area for that district were calculated using the wildfire risk assessment used for this CWPP. This assessment does not account for wildfire risk further from WUI areas; however, the assessment of Communities at Risk levels does take that factor into account. For information on how WUI was developed and Wildfire risk calculated please refer to section 11, Geospatial Analysis.

Table 4 - Geography of Mora County Fire Districts including total acres, acres of WUI, and percentages of fire risk levels within each district's designated WUI area.

Mora County Fire Districts					
Name	**Total Acres**	**Acres of WUI**	**% of WUI that is High Fire Risk**	**% of WUI that is Moderate Fire Risk**	**% of WUI that is Low Fire Risk**
Buena Vista	10,877	4,329	9%	39%	51%
Chacon	52,680	7,490	15%	39%	46%
CHET	46,423	12,536	11%	22%	68%
Golondrinas	46,494	6,420	1%	46%	53%
Guadalupita	27,544	8,264	8%	27%	65%
LMC	27,104	14,920	10%	32%	58%
Mora	34,233	11,889	6%	30%	65%
Ocate	205,658	20,864	5%	35%	60%
Rainsville	41,318	6,269	1%	46%	53%
Rociada	78,822	2,008	37%	15%	49%
SBR	22,997	3,910	31%	18%	50%
Wagon Mound	18,091	5,392	0%	8%	92%
Eastern Mora County	527,993	34,229	0%	6%	94%
Watrous	96,551	14,955	1%	26%	73%

Buena Vista



The wildland vegetation of the Buena Vista VFD is characterized by ponderosa pine woodland, some piñon-juniper woodlands, some gable oak scrubland. The values- at-risk include homes, businesses, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands. The core of the mapped WUI occurs along State Highway 518 and County Road C001 corridors and the spur properties and subdivisions. The Buena Vista Fire District also contains the main transportation corridor between Mora and Las Vegas, NM. A wildfire event in this area will likely be wind driven in the crowns of the piñon-juniper woodlands and through patches of ponderosa pine forest.

Total Acres of Fire District	10,877
Acres of WUI in Fire District	4,329
Percent of High Wildfire Risk WUI	9%
Percent of Moderate Wildfire Risk WUI	39%
Percent of Low Wildfire Risk WUI	51%

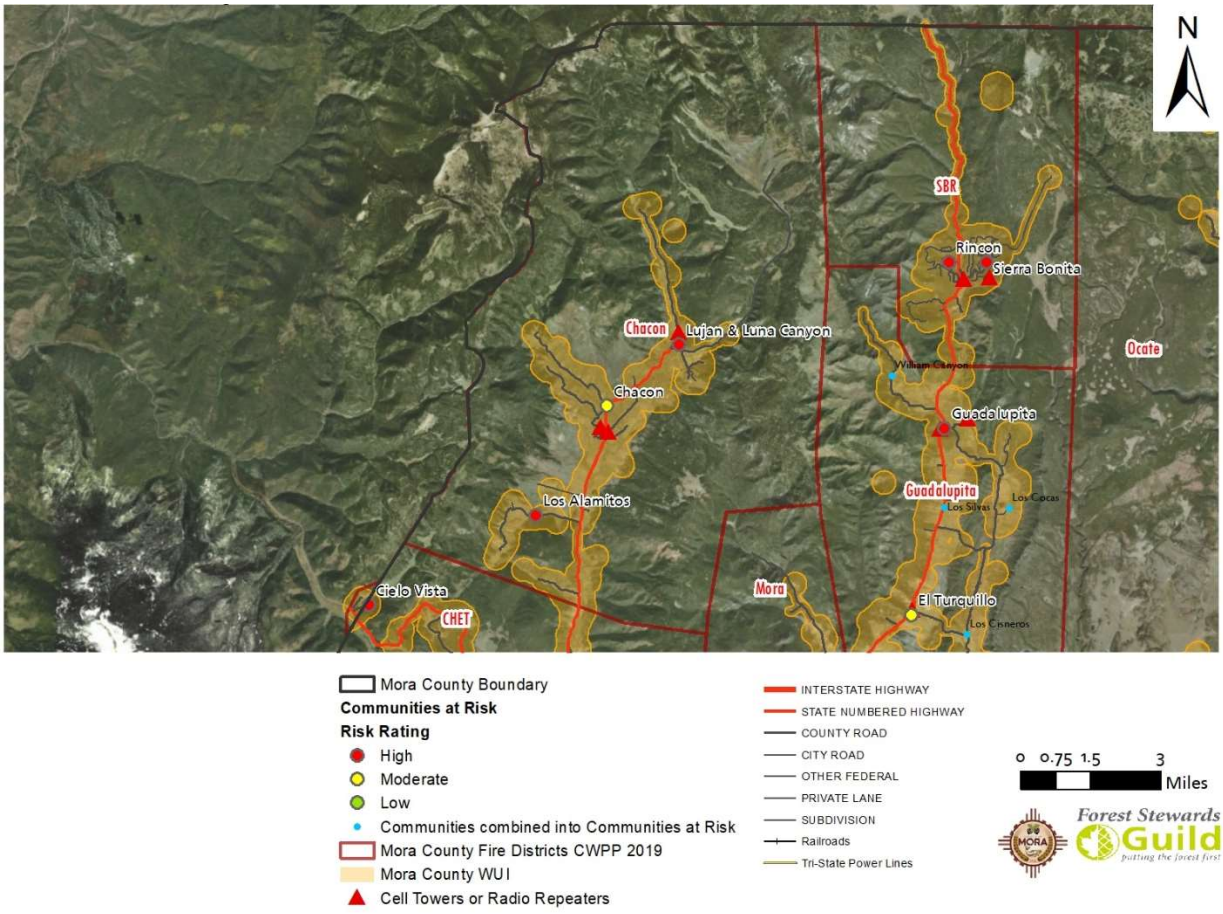
Communities at Risk:

Moderate Risk

Buena Vista - Cebollita

These communities are located on valley bottoms with grass cover and agricultural fields but limited burnable material that could transition to a crown fire; however, they are surrounded by slopes of with dense tree cover that presents a higher fire risk to the communities. Buena Vista has good access to the highway and the ability to escape in at least two directions.

Chacon



The wildland vegetation of the Cachon VFD is characterized by grassland, low density shrubland, and ponderosa forest that quickly transitions to dry mixed conifer on the steeper slopes surrounding the main valley. The values-at-risk include homes, businesses, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands on the eastern side of the district and the Carson National Forest on the western side. The core of the mapped WUI occurs along the State Highway 121 corridor and the spur properties and subdivisions. The mapped WUI did captures developments in medium to high fire risk areas off the main roads and many of the areas of higher fire risk are located on these spur roads. A wildfire event in this area will likely be driven by winds and large amounts of fuel in the dry mixed conifer and ponderosa fuel types

present on the mountainous slopes in the district. Long range spotting will be a concern with wildfires in this district.

Total Acres of Fire District	52,680
Acres of WUI in Fire District	7,490
Percent of High Wildfire Risk WUI	15%
Percent of Moderate Wildfire Risk WUI	39%
Percent of Low Wildfire Risk WUI	46%

Communities at Risk:

High-risk

Los Alamitos

Lujan and Luna Canyons

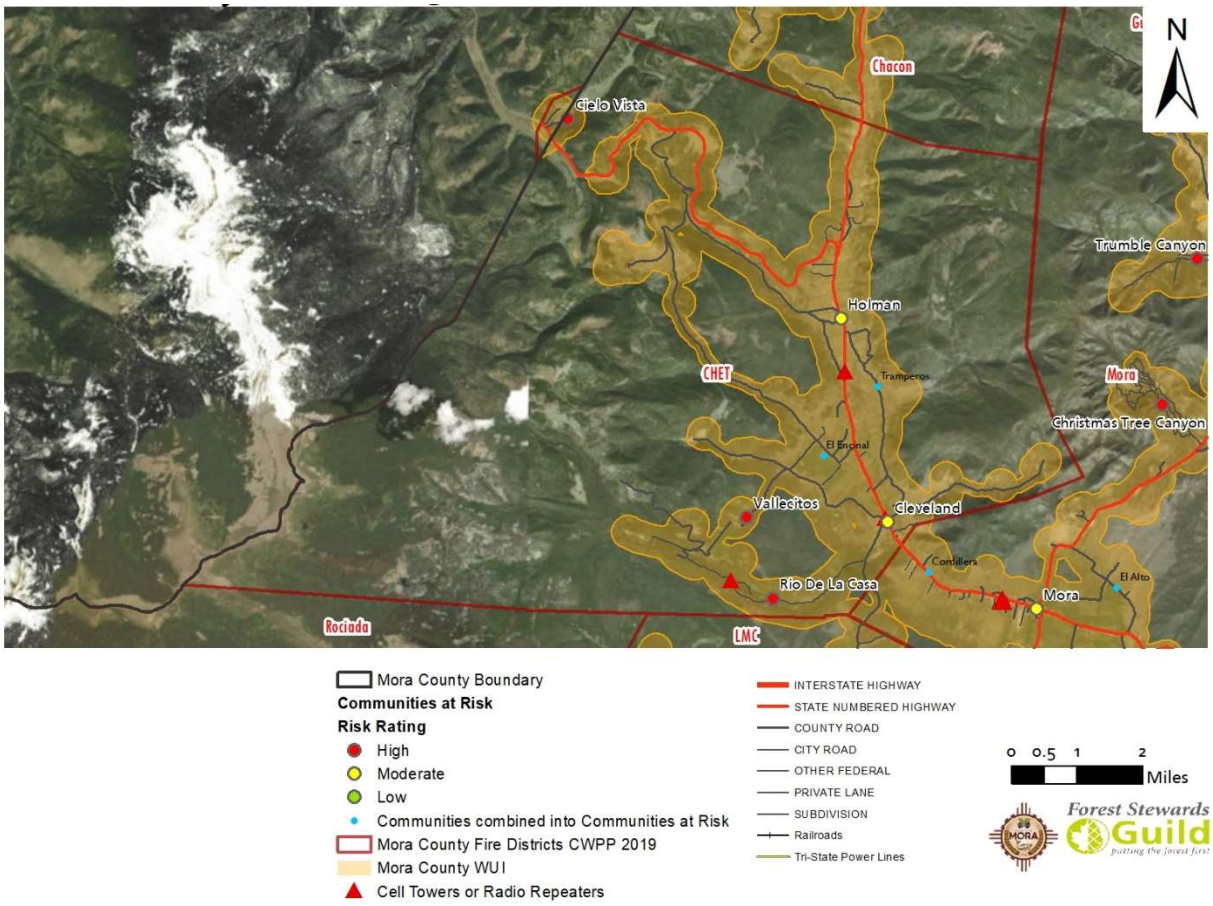
Los Alamitos, Lujan Canyon and Luna Canyon are surrounded by dense tree cover that poses a higher risk of wildfire. These communities are also located on one way in one way out access roads that add to the risk of wildfire having serious impacts.

Moderate Risk Communities

Chacon

The community of Chacon is in a valley bottom surrounded by grass and agricultural fields that pose little risk of wildfire. The slopes surrounding the communities are densely covered with trees that have a high-risk of crown fire however the distance between these fuels and most residences makes this a moderate risk community.

CHET – Cleveland, Holman, Encinal, Tramperos



The wildland vegetation of the CHET VFD is characterized by grassland, and ponderosa forest that quickly transitions to dry mixed conifer on the steeper slopes and hilltops surrounding the main valley. The values-at-risk include homes, businesses, a major highway that provides transportation throughout the county from Mora to the Rio Grande Valley, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands on the eastern side of the district and the Santa Fe and Carson National Forests on the western side. The core of the mapped WUI occurs along the State Highway 518 corridor and the spur properties and subdivisions, many of the areas of higher fire risk are located on these spur roads. Although most of the WUI is located in valley bottoms with lower fire risk residences closer to forested areas are at a much higher risk of wildfire. A wildfire event in this area will likely be driven by winds and large amounts of fuel in the dry mixed conifer and ponderosa fuel types present in the district. Long range spotting will be a concern with wildfires in this district.

Holding community events to promote wildfire awareness and preparedness are a priority activity for this district in the future. Additionally, the district is working to add equipment such as ATVs that will increase the mobility of their firefighters.

Total Acres of Fire District	46,423
Acres of WUI in Fire District	12,536
Percent of High Wildfire Risk WUI	11%
Percent of Moderate Wildfire Risk WUI	22%
Percent of Low Wildfire Risk WUI	68%

Communities at Risk:

High-risk

Cielo Vista

Rio de la Casa - Hummingbird

Vallecitos

These communities are located within dense tree cover that poses a high-risk of extreme fire behavior. The lack of access to these areas and alignment of slope and wind also adds to the risk from impacts of wildfire.

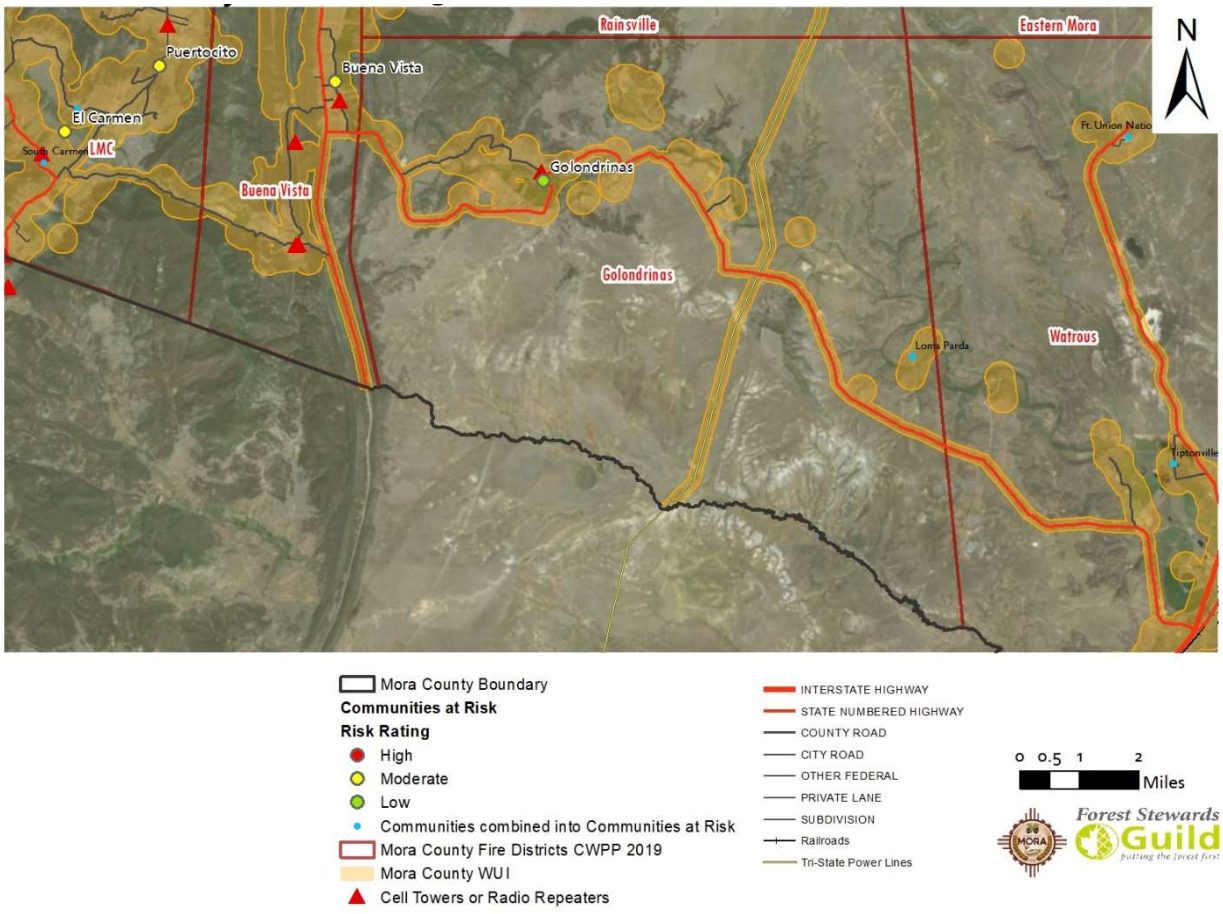
Moderate Risk

Cleveland - El Encinal, Cordillera

Holman - Tramperos

These communities are located on valley bottoms with grass cover and agricultural fields with limited burnable material that could transition to a crown fire, however they are surrounded by slopes of with dense tree cover that presents a higher fire risk to the communities.

Golodrinas



The wildland vegetation of the Golodrinas VFD is characterized by grassland, low density shrubland, piñon-juniper woodlands, and piñon-juniper ponderosa pine woodlands and riparian vegetation along the Rio Mora Corridor. The values-at-risk include homes, businesses, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands but includes the western half of the Rio Mora Wildlife refuge. The core of the mapped WUI occurs along the State Highway 161 corridor and the spur properties and subdivisions. The mapped WUI did capture where infrastructure developments intersect with medium to high fire risk off the main roads and many of the areas of higher fire risk are located on these spur roads. A wildfire event in this area will likely be primarily a wind driven crown fire through pinon and juniper with moderate to high intensities. Training is a high priority in this district to maintain the capabilities and skills of the firefighters. Additionally, the Golodrinas Fire District is seeking to upgrade their equipment to meet the needs of the department.

Total Acres of Fire District	46,494
Acres of WUI in Fire District	6,420
Percent of High Wildfire Risk WUI	1%
Percent of Moderate Wildfire Risk WUI	46%
Percent of Low Wildfire Risk WUI	53%

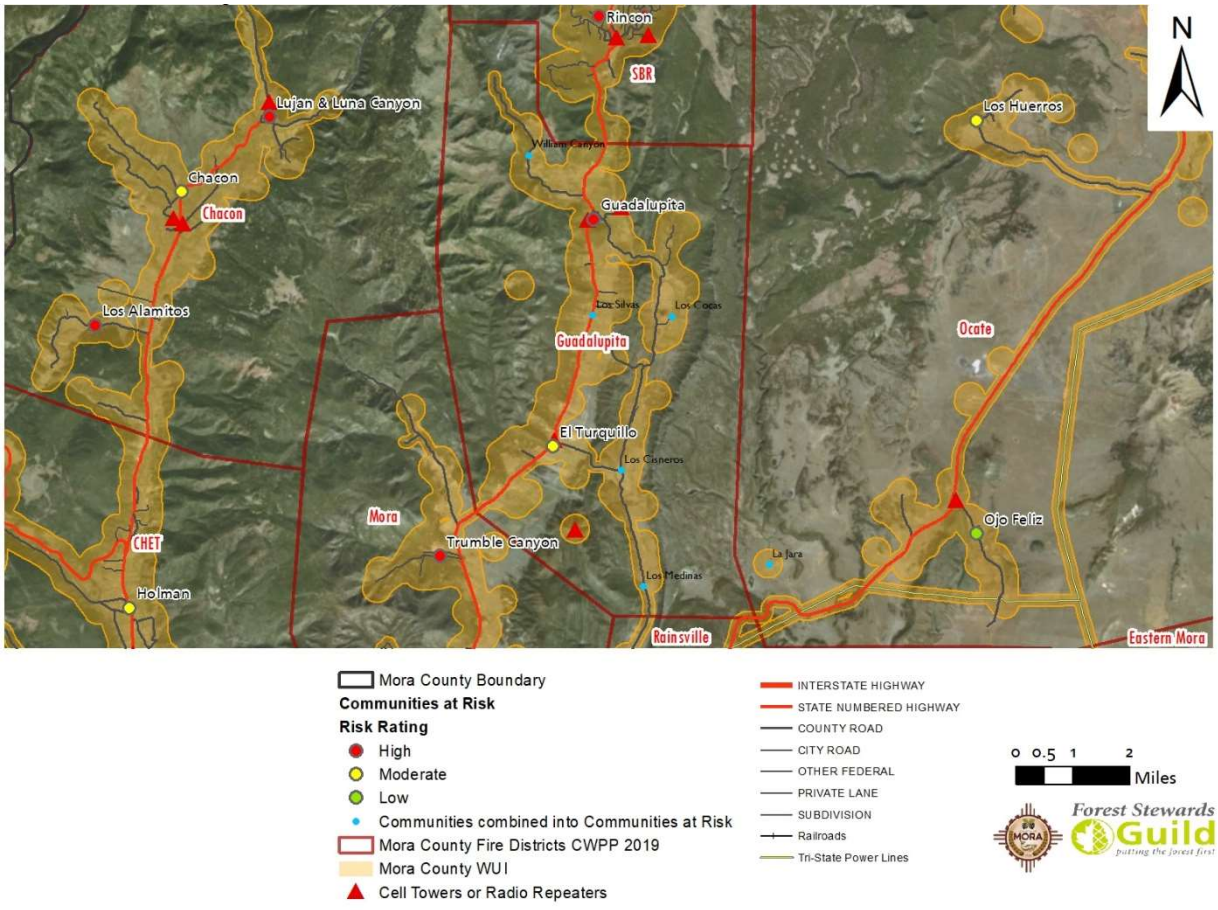
Communities at Risk:

Low Risk

Golondrinas - La Rama, La Pardita

These communities are located on valley bottoms with grass cover and agricultural fields with limited burnable material that could transition to a crown fire. Some pinyon juniper tree cover exists on slopes but at considerable distance from the communities. Although overall wildfire risk is low some communities could be at risk of fast-moving grass fires.

Guadalupita



The wildland vegetation of the Guadalupita VFD is characterized by is characterized by grassland, and pinon and juniper woodland that transitions to ponderosa forest and eventually to dry mixed conifer on the steeper slopes and hilltops surrounding the main valley. The values-at-risk include homes, businesses, a major highway that provides transportation throughout the county, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands but includes the western half of the Rio Mora Wildlife refuge. The core of the mapped WUI occurs along the State Highway 434 and County Road A020 corridor and the spur

properties and subdivisions. The mapped WUI captures where developments intersect with medium to high fire risk in many areas. Subdivisions in this district are at very high-risk of wildfire and are of concern to fire managers in the county. A wildfire event in this area will likely be driven by winds that move through the canyons and large amounts of fuel in the dry mixed conifer and ponderosa fuel types present in the district.

Total Acres of Fire District	27,544
Acres of WUI in Fire District	8,264
Percent of High Wildfire Risk WUI	8%
Percent of Moderate Wildfire Risk WUI	27%
Percent of Low Wildfire Risk WUI	65%

Communities at Risk:

High-risk Communities

Guadalupita - Las Silvas, Los Cocas, William Canyon

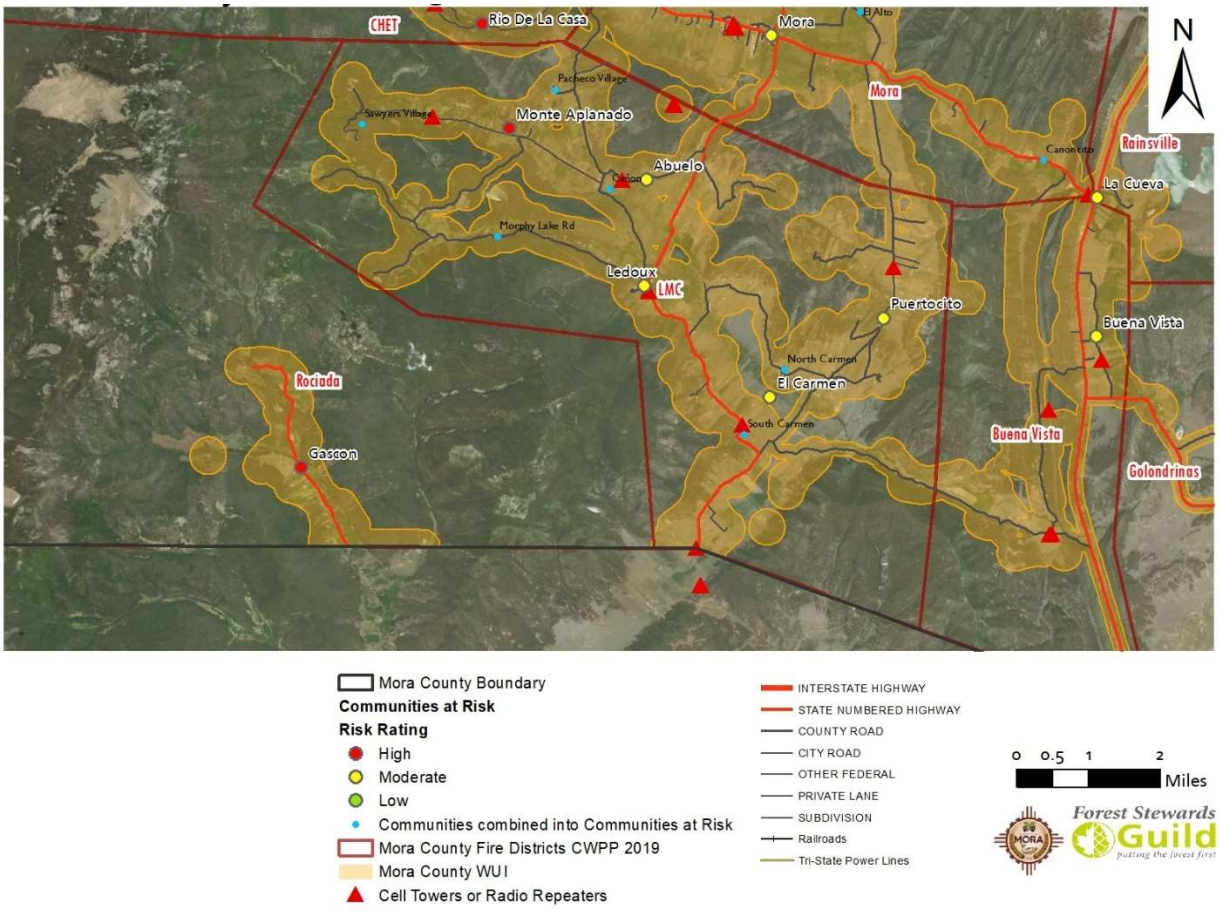
These communities are located in tight canyons with dense tree cover that aligns with prevailing winds in many cases. This alignment of wind and fuels creates high fire danger conditions and causes these communities to be at high-risk.

Moderate Risk Communities

El Turquillo - Cañada de Carro, Los Cisneros

These communities are located on valley bottoms with grass cover and agricultural fields with limited burnable material that could transition to a crown fire, however they are surrounded by slopes of with dense tree cover that presents a higher fire risk to the communities. William Canyon is at higher risk of fire impacts due to the limited access.

LMC – Ledoux, Monte Alplanado, El Carmen Rociada



The wildland vegetation of the LMC VFD is characterized by grassland and ponderosa forest that quickly transitions to heavier fuels loadings of dry mixed conifer on the steeper slopes surrounding the main valleys. The further west portions of the district are in narrow valleys with heavy timber fuels, the fuel in these areas could align with wind to create extreme fire behavior. The values-at-risk include homes, businesses, recreational infrastructure near the state park. and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands but includes the Morphy Lake State Park which draws many visitors and is also bordered by large parcels of the Santa Fe National Forest to the west. Over half of this district is mapped as WUI and much of it is at high-risk of wildfire. The core of the mapped WUI occurs along the State Highway 94 and the numerous spur roads and associated properties and subdivisions. A wildfire event in this area will likely be driven by winds and large amounts of fuel in the dry mixed conifer and ponderosa fuel types present in the district.

Total Acres of Fire District	27,104
Acres of WUI in Fire District	14,920
Percent of High Wildfire Risk WUI	10%
Percent of Moderate Wildfire Risk WUI	32%

Percent of Low Wildfire Risk WUI	58%

Communities at Risk:

High-risk

Monte Alplanado - Pacheco Village, Sawyers Village, Morphy Lake Rd

These communities are located within dense tree cover that poses a high-risk of extreme fire behavior. Sawyers Village and Morphy Lake Rd area are at especially high-risk because of their proximity to dense tree cover and lack of access.

Moderate Risk Communities

Abuelo - El Aguila, Cañon

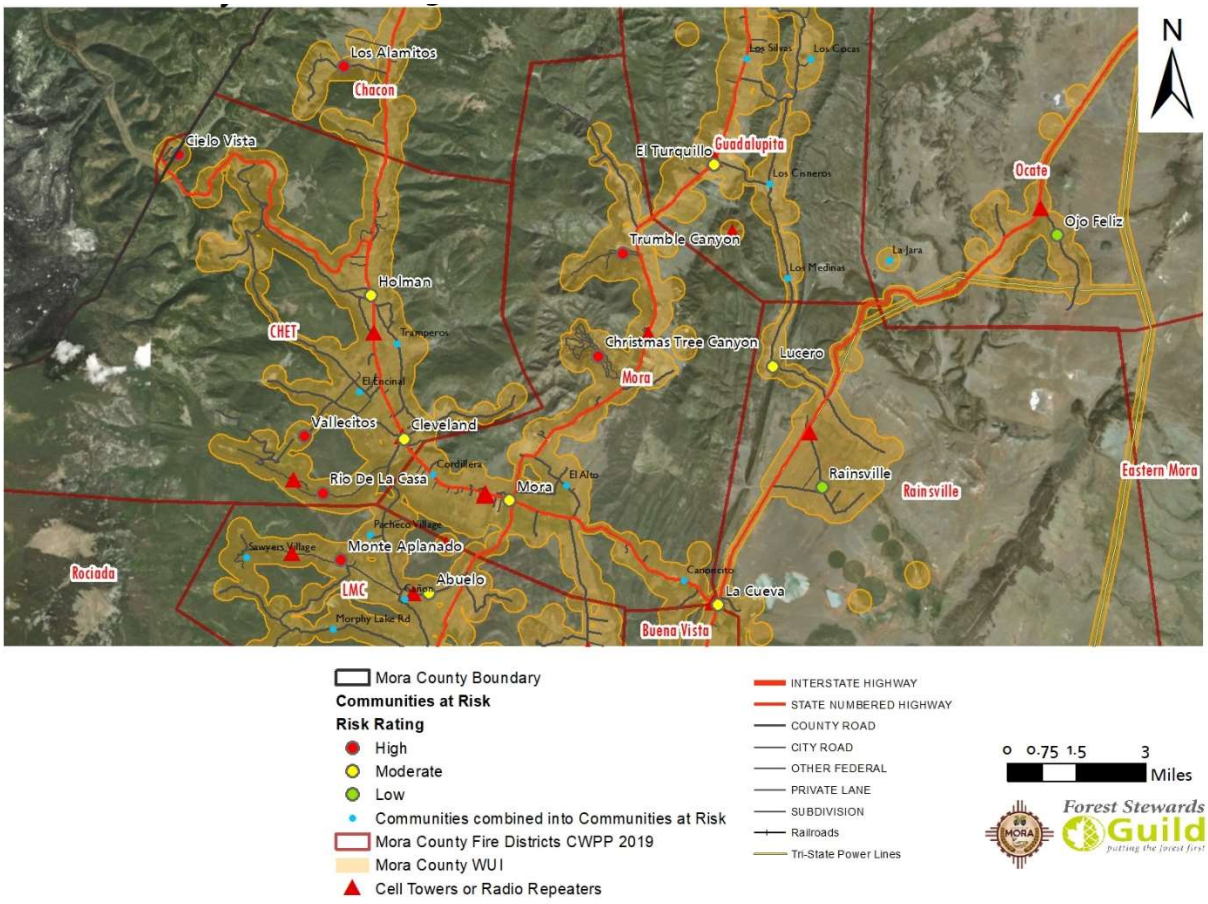
El Carmen - North Carmen, South Carmen, Tierra Monte, El Oro

Ledoux

Puertocito - Las Aguitas

These communities are located on valley bottoms with grass cover but limited burnable material that could transition to a crown fire; however, they are surrounded by slopes of with dense tree cover that presents a higher fire risk to the communities.

Mora



The wildland vegetation of the Mora VFD is characterized by grassland, piñon-juniper woodlands, and piñon-juniper ponderosa pine woodlands, and some dry mixed conifer on higher slopes and mountain tops. The values-at-risk include homes, businesses, NGOs and much of the schools and government infrastructure of Mora County and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands but includes a small part of the southern part of Coyote Creek State Park which draws many visitors. The core of the mapped WUI occurs along the State Highway 343 and the numerous spur roads and associated properties and subdivisions. Two of the subdivision that are built amid heavy timber fuels are areas of very high wildfire risk to residences in the county. A wildfire event in this area will likely be driven by winds and large amounts of fuel in the dry mixed conifer and ponderosa fuel types present in mountainous parts of the district.

Total Acres of Fire District	34,233
Acres of WUI in Fire District	11,889
Percent of High Wildfire Risk WUI	6%
Percent of Moderate Wildfire Risk WUI	30%
Percent of Low Wildfire Risk WUI	65%

Communities at Risk:

High-risk Communities

Christmas Tree Canyon - Los Cupaderos, Quejaeron

Trumble Canyon

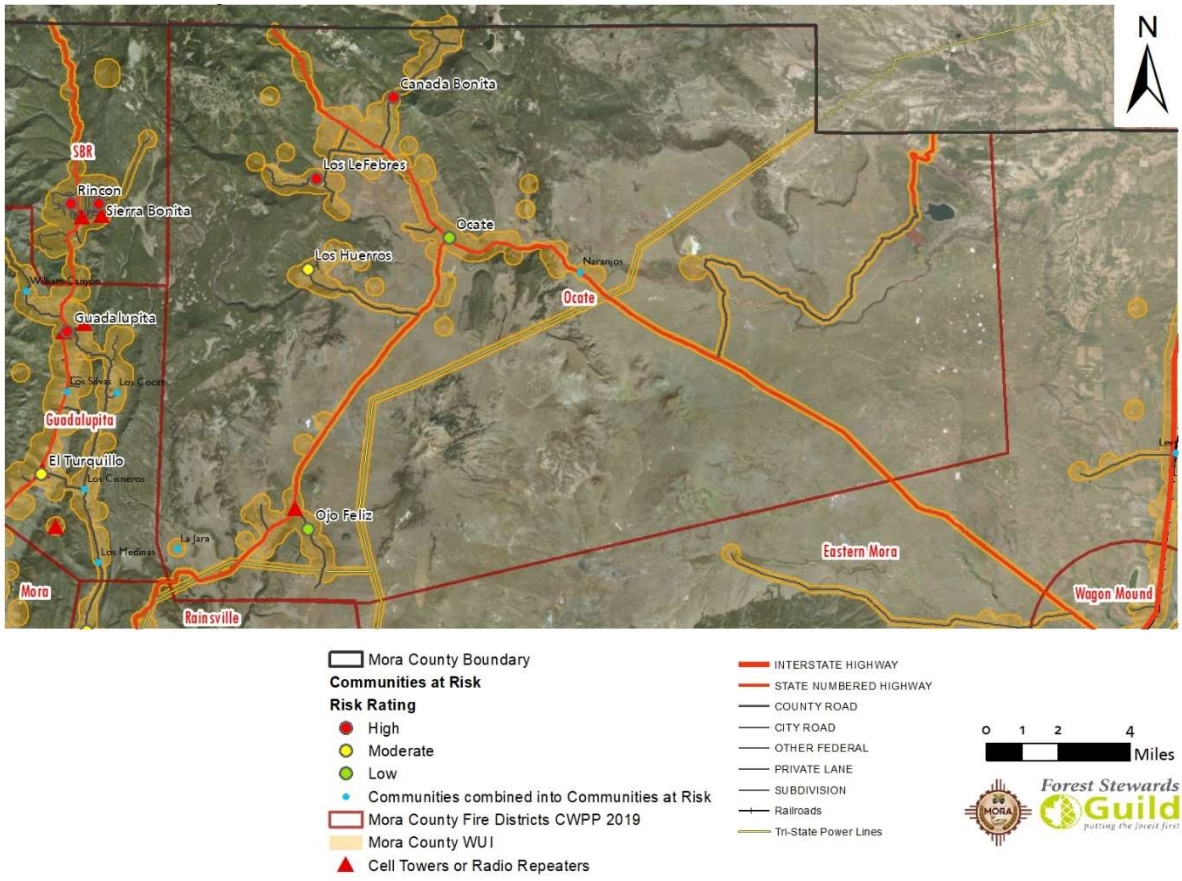
These communities are located within dense tree cover that poses a high-risk of extreme fire behavior. The subdivision is at especially high-risk because of their proximity to dense fuels and lack of access due to the one way in and one way out road. This area is of concern for fire managers in the County.

Moderate Risk Communities

Mora - El Alto, Talco

These communities are located on valley bottoms with grass cover but limited burnable material that could transition to a crown fire; however, they are surrounded by slopes of with dense tree cover that presents a higher fire risk to the communities.

Ocate



The wildland vegetation of the Ocate VFD is characterized by grassland, low density shrubland, piñon-juniper woodlands, and piñon-juniper ponderosa pine woodlands. The values-at-risk include homes, businesses, agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands but in the northern part of the district includes many large parcels managed by New Mexico State Land Office and a few small parcels of BLM. The core of the mapped WUI occurs along the communities located along State Highway 442 and 120 although many of the areas of higher fire risk are located on spur roads especially at Los Lefebres, Canada Bonita, and Los Huerros. The tri-state transmission powerline also bisects this district and contributes to WUI area. A wildfire event in this area will likely be driven by winds and carry through the crowns of Pinyon and Juniper at lower elevations and ponderosa and other conifers at higher elevations. Additionally, this district could experience large fast-moving grass fires in the eastern and southern parts of the district.

This district has recently added a tactical tender and three 10,000-gallon water tanks. Also, the fire department has completed a few additions to their station that added capacity to hold trainings and provide other services to firefighters and the community. Priority actions for the future include replacing both of their current type 6 fire engines and increasing water storage

throughout the district to aid in firefighting capacity. Also, the district would like to hold meetings in each community to explain how to evacuate and make routes clear for residents.

Total Acres of Fire District	205,658
Acres of WUI in Fire District	20,864
Percent of High Wildfire Risk WUI	5%
Percent of Moderate Wildfire Risk WUI	35%
Percent of Low Wildfire Risk WUI	60%

Communities at Risk:

High-risk Communities

Canada Bonita

Los LeFebres - Twin Willows Ranch

This communities are located on valley bottoms with grass cover and some burnable material that could transition to a crown fire, however they are located in narrow canyons and surrounded by steep slopes with dense tree cover that presents a higher fire risk to the communities. One way in and one way out access with poor roads to all these communities add to the chance that a wildfire could have more severe impacts to residents.

Moderate Risk Communities

Los Huerros

This community is located on a valley bottom with grass cover and limited burnable material that could transition to a crown fire, however it is surrounded by steep slopes with moderate tree cover that presents a fire risk to the community. One way in and one way out access adds to the chance that a wildfire could have more severe impacts.

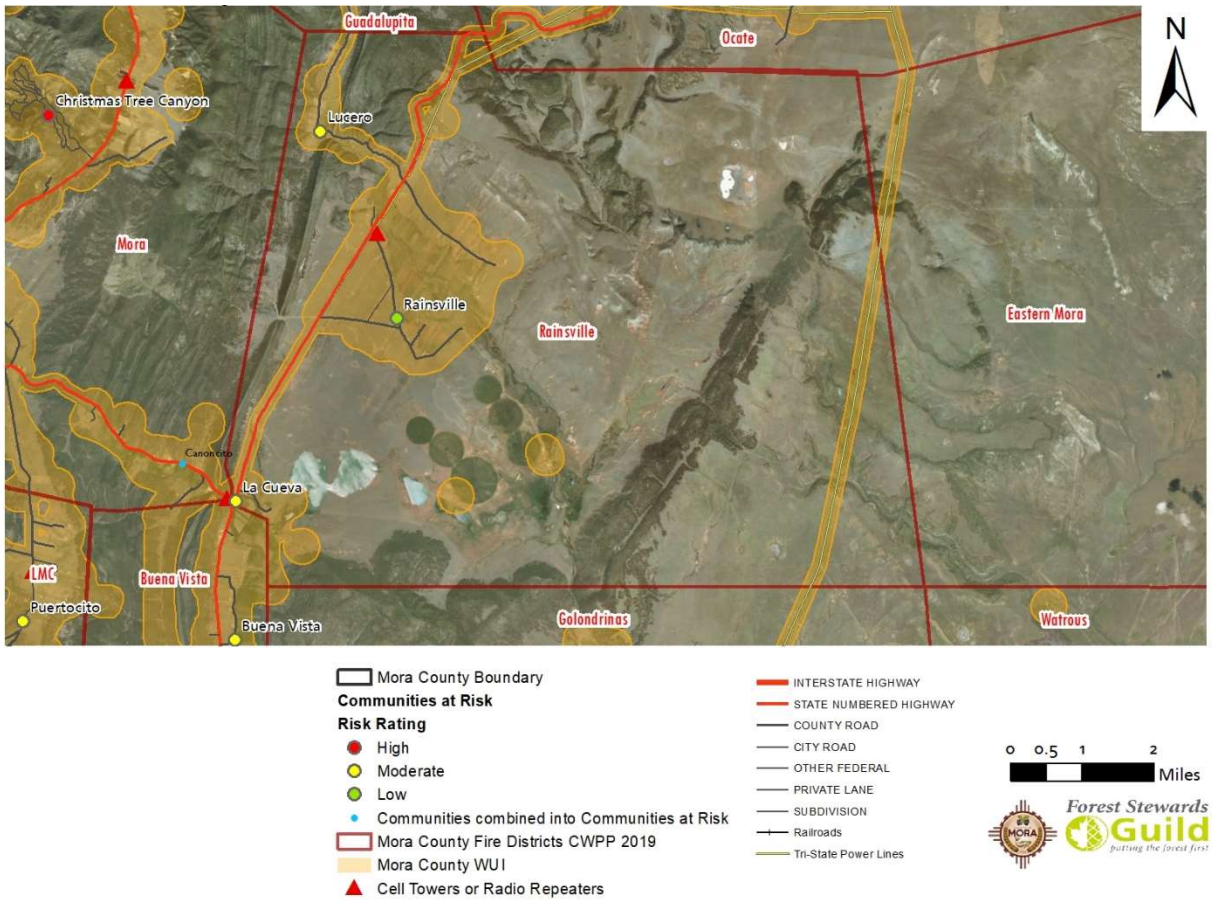
Low Risk Communities

Ocate - Naranjos, Charette Lake

Ojo Feliz – La Jara

These communities are located on valley bottoms with grass cover and agricultural fields with limited burnable material that could transition to a crown fire. Some pinyon juniper tree cover exists on slopes but at considerable distance from the communities. Although overall wildfire risk is low some communities could be at risk of fast-moving grass fires.

Rainsville



The wildland vegetation of the Rainsville VFD is characterized by grassland, low density shrubland, piñon-juniper woodlands, and piñon-juniper ponderosa pine woodlands, transitioning to higher conifer fuel loads on steeper slopes on the western side of the district. The values-at-risk include homes, businesses, agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands but includes a small portion of the Coyote Creek State Park in the north western portion of the district. The core of the mapped WUI occurs along the communities located along State Highway 442 mostly in the community of Rainsville. Part of the tri-state transmission powerline also cuts across the eastern side across this district and contributes to WUI area. A wildfire event in this area will likely be driven by winds and carry through the crowns of pinyon and juniper at lower elevations and ponderosa and other conifers at higher elevations. Additionally, this district could experience large fast-moving grass fires in the eastern parts of the district.

Total Acres of Fire District	41,318
Acres of WUI in Fire District	6,269
Percent of High Wildfire Risk WUI	1%
Percent of Moderate Wildfire Risk WUI	46%
Percent of Low Wildfire Risk WUI	53%

Communities at Risk:

Moderate Risk Communities

La Cueva - Canoncito, La Jara

Lucero - Los Medinas

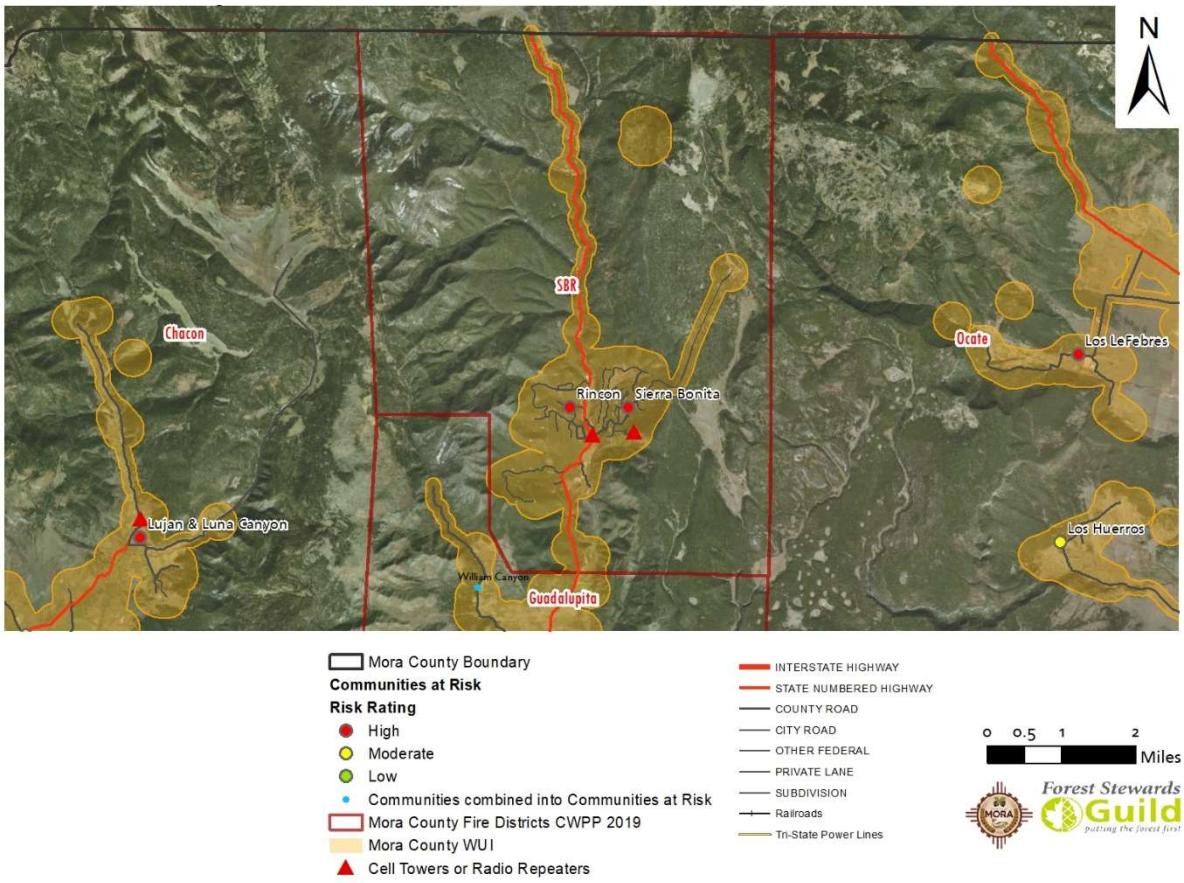
These communities are located on valley bottoms with grass cover and agricultural fields but limited burnable material that could transition to a crown fire; however, they are surrounded by slopes of with dense tree cover that presents a higher fire risk to the communities. Both communities have multiple access routes.

Low Risk Communities

Rainsville

This community is located in a wide flat valley with grass cover and agricultural fields with limited burnable material that could transition to a crown fire. Some pinyon juniper tree cover exists on slopes but at considerable distance from the community. Although overall wildfire risk is low there is a risk of fast-moving grass fires.

Sierra Bonita – Rincon (SBR)



The SBR district was formed in 2014 to meet the needs of fire protection from the adjacent communities. The wildland vegetation of the SBR VFD is characterized by riparian vegetation in the lowest areas of the district and ponderosa forest that quickly transitions to dry mixed conifer on the steeper slopes and hilltops surrounding the main valley. The values-at-risk include homes, businesses, agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands. The core of the mapped WUI occurs along the communities located along State Highway 434, and almost entirely in the subdivisions of Sierra Bonita and Rincon. The SBR district contains a small proportion of WUI area in comparison to the rest of the district but it has one of the highest proportions of high wildfire risk in the mapped WUI area and is an area of concern for many of the fire managers in the county. A wildfire event in this area will likely be driven by large amounts of fuels in the dry mixed conifer and ponderosa fuel types present throughout all the districts.

The SBR district has developed evacuation maps for residents in the area and distributed the maps to aid in evacuation preparedness. Additionally, some thinning has occurred on individual basis but an organized program with a cost share program could be especially beneficial in this area. Priorities for the future include adding a water tender and other apparatus as well as more funding to complete facilities at the fire station. Communication is also a serious challenge in the

area and adding a repeater to allow communication with state dispatch is a high priority. Cell service is also spotty in the area.

Total Acres of Fire District	22,997
Acres of WUI in Fire District	3,910
Percent of High Wildfire Risk WUI	31%
Percent of Moderate Wildfire Risk WUI	18%
Percent of Low Wildfire Risk WUI	50%

Communities at Risk:

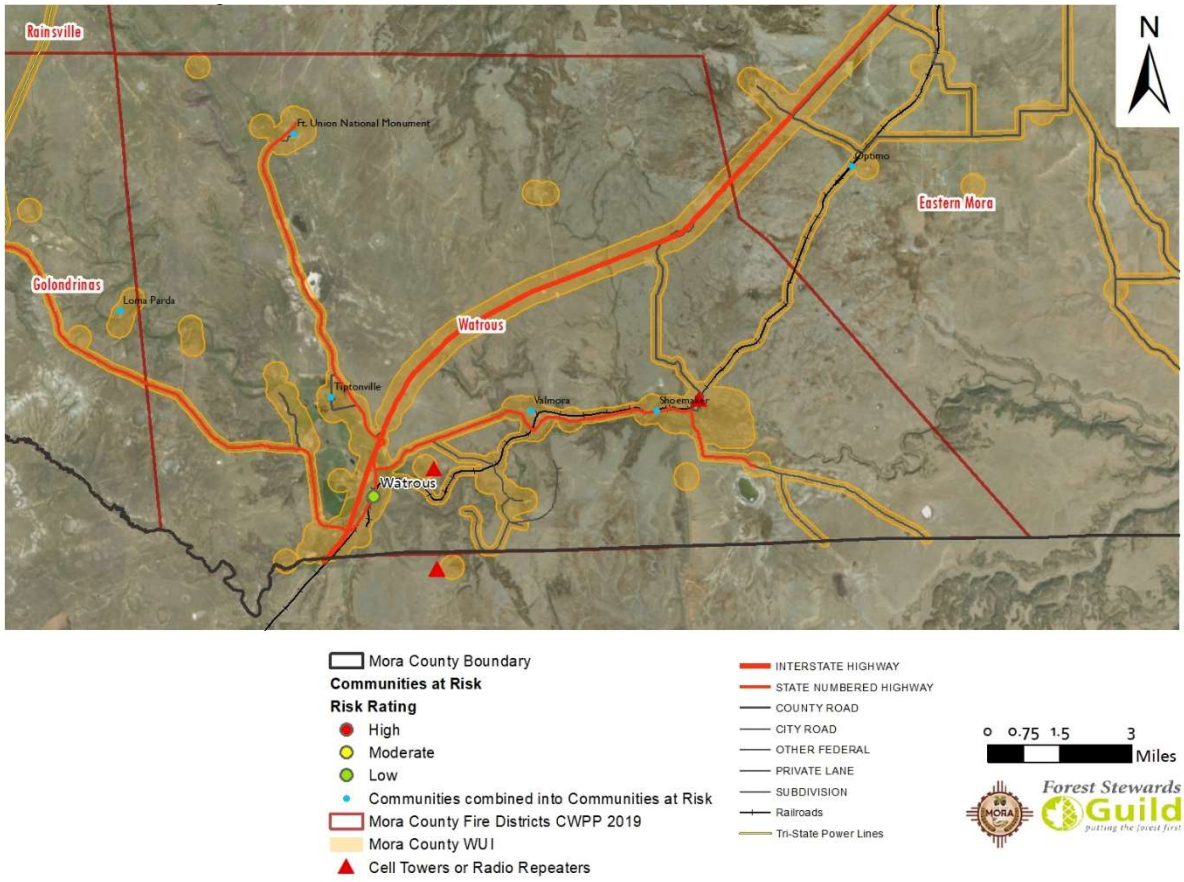
High-risk Communities

Sierra Bonita - Coyote Creek SP

Rincon

These communities are located within dense continuous tree cover that poses a high-risk of extreme fire behavior. The lack of access to these areas and alignment of slope and wind also adds to the risk from impacts of wildfire. Sierra Bonita has only one way in and one out of the community.

Watrous



The wildland vegetation of the Watrous VFD is characterized by grassland, low density shrubland, piñon-juniper woodlands, and piñon-juniper ponderosa pine woodlands. The values-at-risk include homes, businesses, transportation infrastructure, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands but also includes the eastern half of the Rio Mora Wildlife Refuge and the Ft. Union National Monument. The core of the mapped WUI occurs along Interstate 25 and State Highway 97 and the surrounding isolated communities and ranches. Interstate 25 also bisects the county and adds to the amount of WUI in the County. A wildfire event in this area will likely be wind driven and fast moving in the grass, shrub and pinon and juniper fuels.

Total Acres of Fire District	96,551
Acres of WUI in Fire District	14,955
Percent of High Wildfire Risk WUI	1%
Percent of Moderate Wildfire Risk WUI	26%
Percent of Low Wildfire Risk WUI	73%

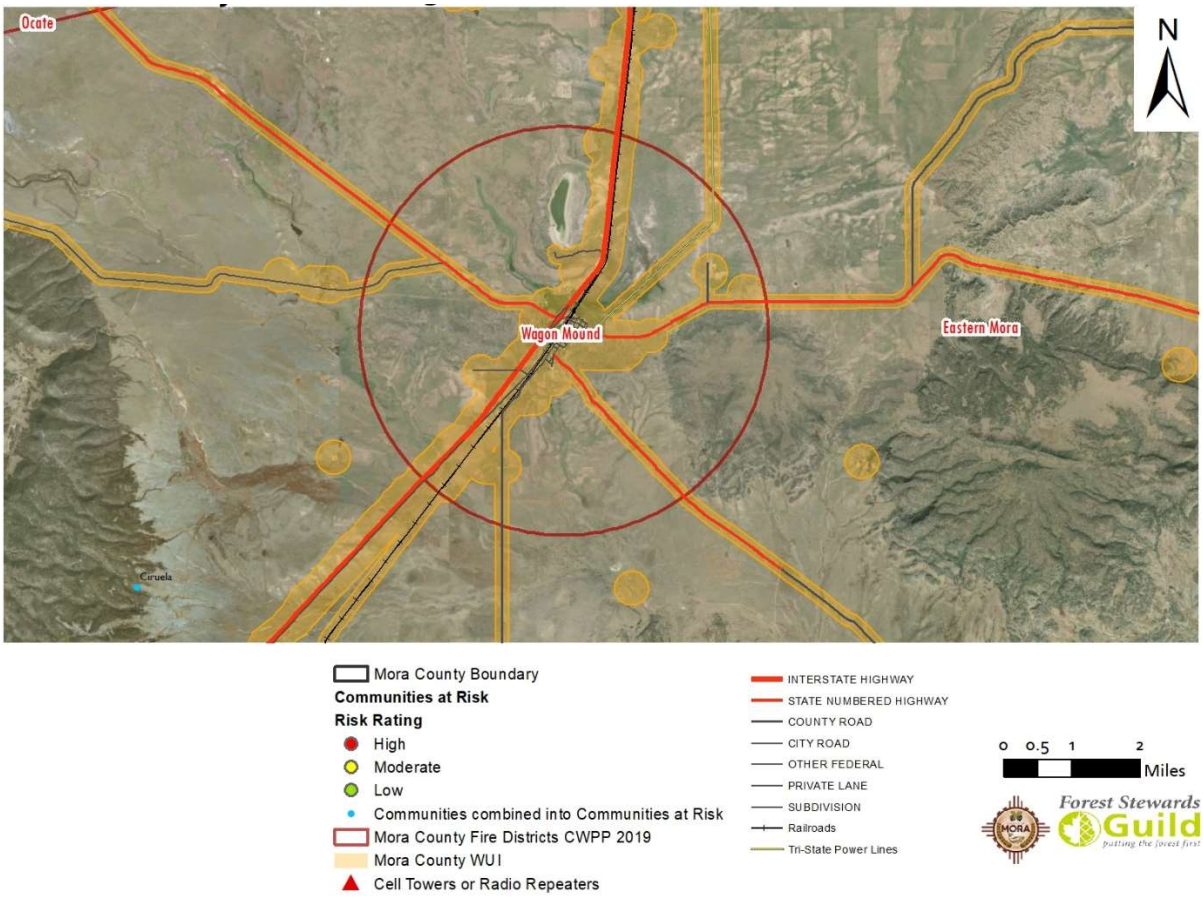
Communities at Risk:

Low Risk Communities

Watrous - Valmora, Tiptonville, Shoemaker, Loma Parda

These communities are located in mostly in open grass lands with agricultural fields with limited burnable material that could transition to a crown fire. Some pinyon juniper tree cover exists on slopes but at considerable distance from the communities. Although overall wildfire risk is low some communities could be at risk of fast-moving grass fires.

Wagon Mound



The Wagon Mound district is a municipal district not under the jurisdiction of Mora County and encompasses a 6-mile diameter circle around the town of Wagon Mound. The wildland vegetation of the Wagon Mound VFD is characterized by grassland, low density shrubland, piñon-juniper woodlands, and some piñon-juniper ponderosa pine woodlands on the slopes of mesas. The values-at-risk include homes, businesses, transportation infrastructure, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands, but also includes parcels of NM, State Land, BLM, and the Wagon Mound Wildlife Management Area. The core of the mapped WUI occurs directly in the town of Wagon Mound and surrounding isolated communities and ranches, although Interstate 25 also bisects the district and adds to the amount of WUI in the District. A wildfire event in this area will likely be wind driven and fast moving in the grass, shrub, and pinon and juniper fuels.

Total Acres of Fire District	18,091
Acres of WUI in Fire District	5,392
Percent of High Wildfire Risk WUI	0%
Percent of Moderate Wildfire Risk WUI	8%
Percent of Low Wildfire Risk WUI	92%

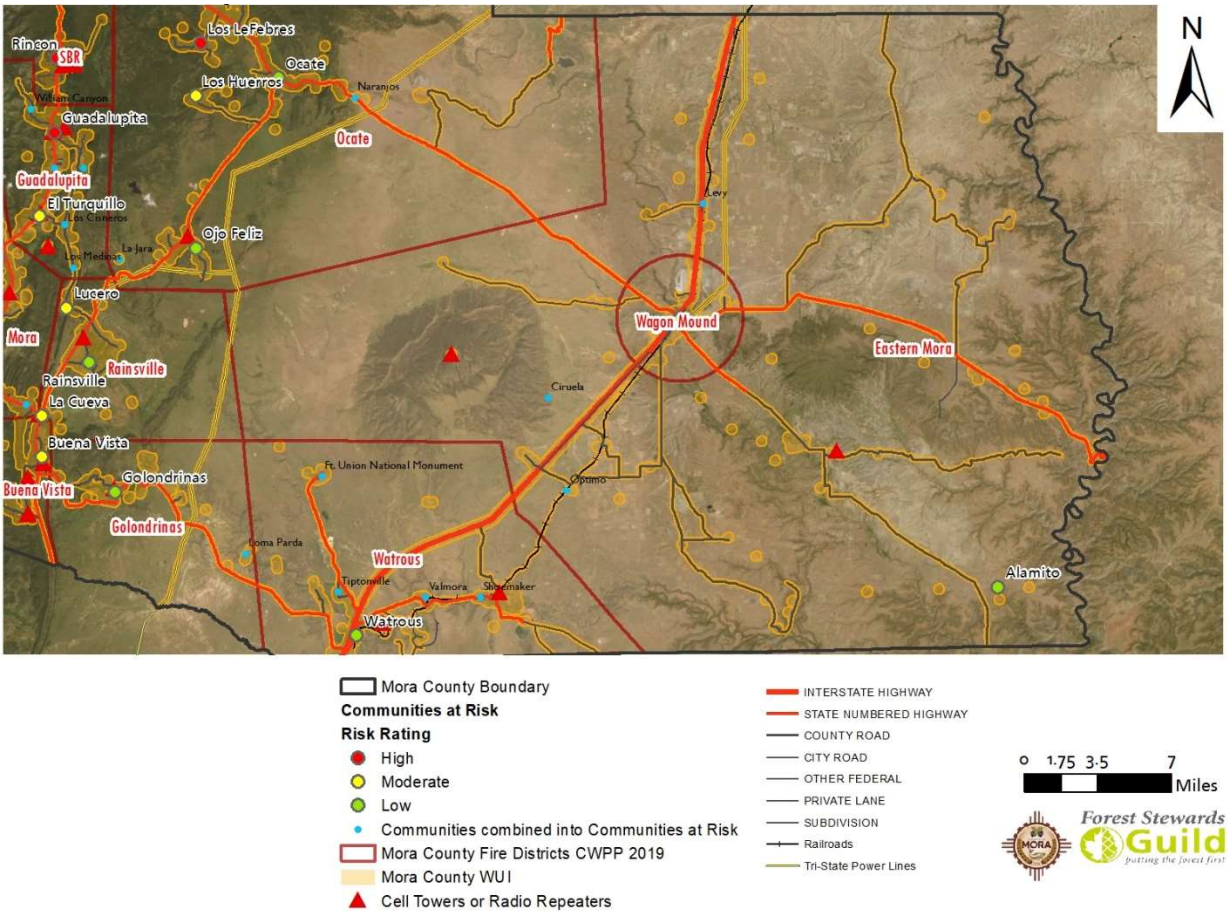
Communities at Risk:

Low Risk Communities

Wagon Mound

This community is located in mostly in open grass lands with agricultural fields with limited burnable material that could transition to a crown fire. Some pinyon juniper tree cover exists on slopes but at considerable distance from the communities. Although overall wildfire risk is low the community could be at risk of fast-moving grass fires.

Eastern Mora County



For the purposes of this CWPP we are designating the area not covered by a fire district on the east side of the county Eastern Mora County. Although this area does not have official coverage

the adjoining fire districts and NMSF respond in this area and provide coverage. The wildland vegetation of the Wagon Mound VFD is characterized by grassland, low density shrubland, piñon-juniper woodlands, piñon-juniper ponderosa pine woodlands, and some dry mixed conifers on isolated higher slopes. The values-at-risk include homes, businesses, transportation infrastructure, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by private lands. The core of the mapped WUI occurs along the major transportation routes in the area and in the surrounding isolated communities and ranches. Interstate 25, State Highway 120, State Highway 271 also cross the area and adds to the amount of WUI. Generally, though this area is sparsely inhabited and the proportion of WUI to total area is low. A wildfire event in this area will likely be wind driven and fast moving in the grass, shrub and pinon and juniper fuels.

Total Acres of Fire District	527,993
Acres of WUI in Fire District	34,229
Percent of High Wildfire Risk WUI	0%
Percent of Moderate Wildfire Risk WUI	6%
Percent of Low Wildfire Risk WUI	94%

Communities at Risk:

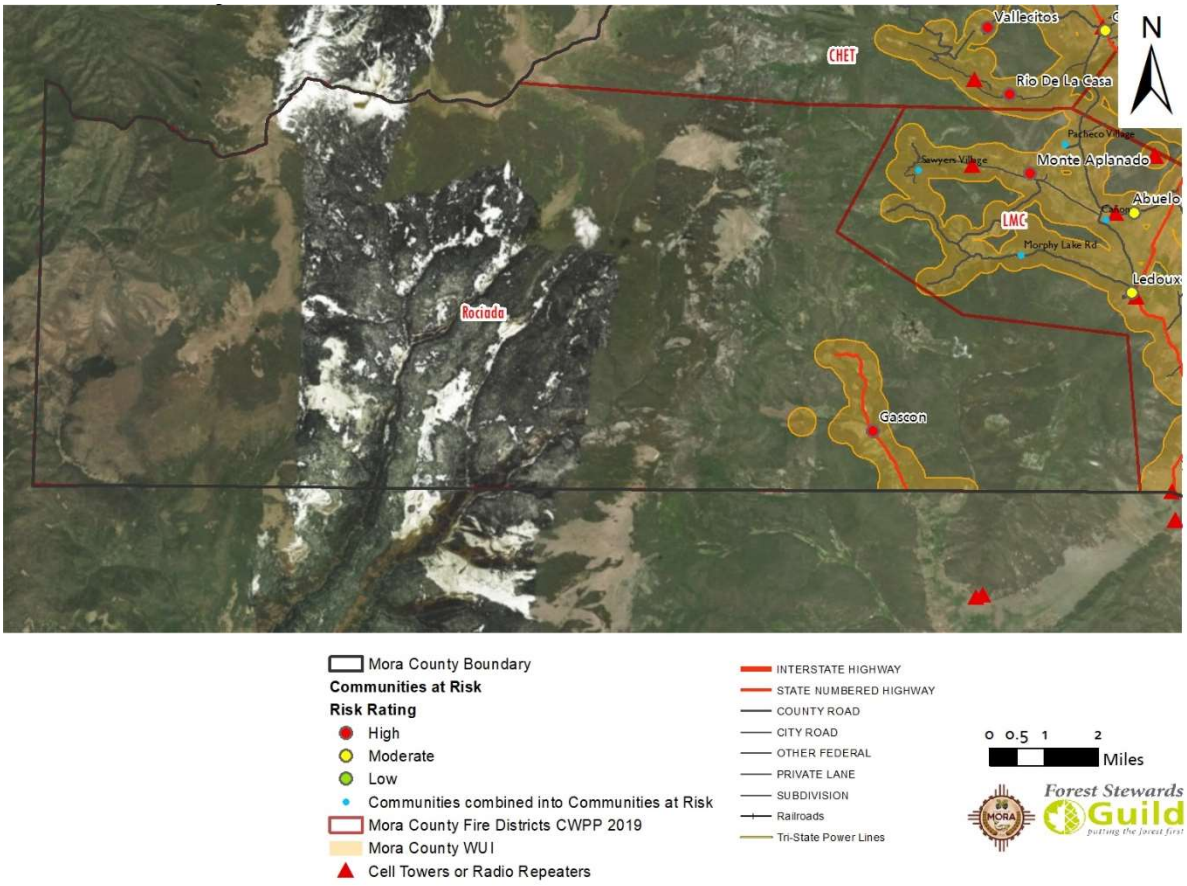
Low Risk Communities

Almito

Optimo, Ciruela, Levy

These communities are located in mostly in open grass lands with agricultural fields with limited burnable material that could transition to a crown fire. Some pinyon juniper tree cover exists on slopes but at considerable distance from the communities. Although overall wildfire risk is low some communities could be at risk of fast-moving grass fires. Communities that border the Turkey Mountains face some additional risk from wildfires from the increase presence of forested cover that could lead to crown fires and more extreme fire behavior.

Rociada



The only access to the Rociada Fire District is through San Miguel County and for this reason the community of Gascon is served by the San Miguel County Fire Department. There is a small proportion of WUI compared to the total land area in the district as nearly 75% of the district is managed by the US Forest Service, and a large part of that is in the Pecos Wilderness. The wildland vegetation of the Wagon Mound VFD is characterized by grassland, and riparian vegetation in the lowest areas of the district and ponderosa forest that quickly transitions to dry mixed conifer on the steeper slopes and hilltops surrounding the main valley with some wet mixed conifer at the highest areas to the west of Gascon. The values-at-risk include homes, and agriculture and rangeland infrastructure. Land jurisdiction in this VFD is dominated by the Santa Fe National Forest with a core of private property surrounding the community of Gascon. The core of the mapped WUI occurs along State Highway 105 as it is the only access to the area. Although the proportion of WUI to the area of district is low, the proportion of that WUI that is at high-risk from wildfire is the highest in the county. A wildfire event in this area will likely be driven by large amounts of fuel in the dry mixed conifer and ponderosa fuel types present in mountainous parts of the district.

Total Acres of Fire District	78,822
Acres of WUI in Fire District	2,008
Percent of High Wildfire Risk WUI	37%

Percent of Moderate Wildfire Risk WUI	15%
Percent of Low Wildfire Risk WUI	49%

Communities at Risk:

High-risk Communities

Gascon

These communities are located mostly on valley bottoms with grass cover and agricultural fields but are surrounded by slopes of with dense tree cover that come down close to residencies and present a high fire risk to the communities. Access is an additional key factor that makes this a high-risk community because although it is served by paved, two lane State Highway 105 this is the only access in and out of the community.

6| Companion Plans

The companion plans component of the 2019 CWPP update, below, is a result of stakeholder input provided at community meetings and through public surveys.

Statewide Natural Resources Assessment

The *New Mexico Statewide Natural Resources Assessment & Strategy and Response Plans* sets an overarching vision for prioritizing and conducting natural resource management activities across the state (EMNRD Forestry Division. 2010). One of the key areas of focus of the *Assessment* is protecting watersheds from harm, particularly high severity wildfire. For Mora County, the *Assessment* is most useful as a way to place the County's wildfire protection efforts within a state-wide context.
http://www.emnrd.state.nm.us/SFD/documents/New_MexicoNatural_ResourceAssessment.pdf

New Mexico State Hazard Mitigation Plan

The New Mexico Department of Homeland Security and Emergency Management's *Hazard Mitigation Plan* takes a state-wide view of both hazards and capabilities (NMDHSEM 2018):
https://drought.unl.edu/archive/plans/GeneralHazard/state/NM_2018.pdf

New Mexico All-Hazard Emergency Operations Plan

The New Mexico Department of Health's (NMDOH) *All Hazard Emergency Operations Plan* (NMDOH 2014) establishes a guideline for the coordination of the NMDH's resources and response to provide public health and medical services during an emergency or disaster.
https://nmhealth.org/publication/view/plan/958/

Surrounding County CWPP's

CWPP's that have been reviewed by the New Mexico Fire Planning Task Force are able to be located on NMSF's website (EMNRD 2019).

Table 5 - Adjoining County and Community CWPPs

County	CWPP Access Point	Citation
Colfax	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/ColfaxCountyCWPP.pdf	(SEC[1] 2008)

Angel Fire	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/ANGELFIRECWPP-2016.pdf	(Piccarello, Evans, & Krasilovsky 2016)
Enchanted Circle	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/EnchantedCircle_CWPP_Plan_Annexes_000.pdf	(ECRFPA 2006)
Taos Pines	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/TaosPinesCWPP.pdf	(CCFA[1] 2006)
Hidden Lake	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/HiddenLakeCWPP.pdf	(Stehling 2006)
Elk Ridge	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/ElkRidgeCWPP2018.pdf	(EROSC 2018)
Cimarron Watershed	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/CWPPCimarronWatershed.pdf	(SEC[2] 2008)
Ute Park	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/UteParkCWPP.pdf	(CCFA[2] 2006)
Harding	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/Harding_Main_Report_Final.pdf	(APG & TPG[1] 2008)
Rio Arriba	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/RioArribaCWPP_2017_FINAL.pdf	(Hohman, et al. 2017)
Upper Rio Chama	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/UpperChamaCWPP.pdf	(Barker 2008)
San Miguel	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/San_Miguel_CWPP_Main_Report.pdf	(APG & TPG[2] 2008)
Santa Fe	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/SantaFeCountyCWPP2.pdf	(Geery, et al. 2008)
Taos	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/TaosCounty2016CWPPUpdate_MASTERFINAL.pdf	(Gardiner 2016)
Village of Questa	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/QuestaCWPP.pdf	(Gardiner 2008)
Taos Pueblo	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/Taos_Pueblo_CWPP_Final031809.pdf	(TPCWPPCT & Lissoway 2009)
Peñasco	http://www.emnrd.state.nm.us/SFD/FireMgt/documents/PenascoCWPPUpdate2018Final.pdf	(PCWPPUC 2018)

Mora County All-Hazard Plan

We were unable to access a copy of this plan prior to completion of the CWPP. Verbal reports indicate that the plan is out of date and due for revision.

7| Community Oriented Programs

Fire Adapted Communities

The risk of wildfire is shared between and across neighbors, communities, and jurisdictions. The reduction of that risk is best accomplished through both top-down and grassroots approaches. Top-down strategies (regulations, zoning, ordinances, etc.) provide guidelines for residents to follow that push them to take responsibility for their own safety, as well as that of their communities and neighbors. However, in the past when ordinances to wildfire mitigation have been proposed,

opposition has been experienced from some rural communities in New Mexico (Weinstein, 2014). In contrast, Fire Adapted Communities (FAC) utilizes a grassroots method focused on outreach, education, and the direct involvement of individuals residing in the WUI. By also promoting and taking part in FAC, local governments and land managers may find alternatives to ordinances and regulations or find a more receptive and education public when proposing such measures as defensible space thinning.

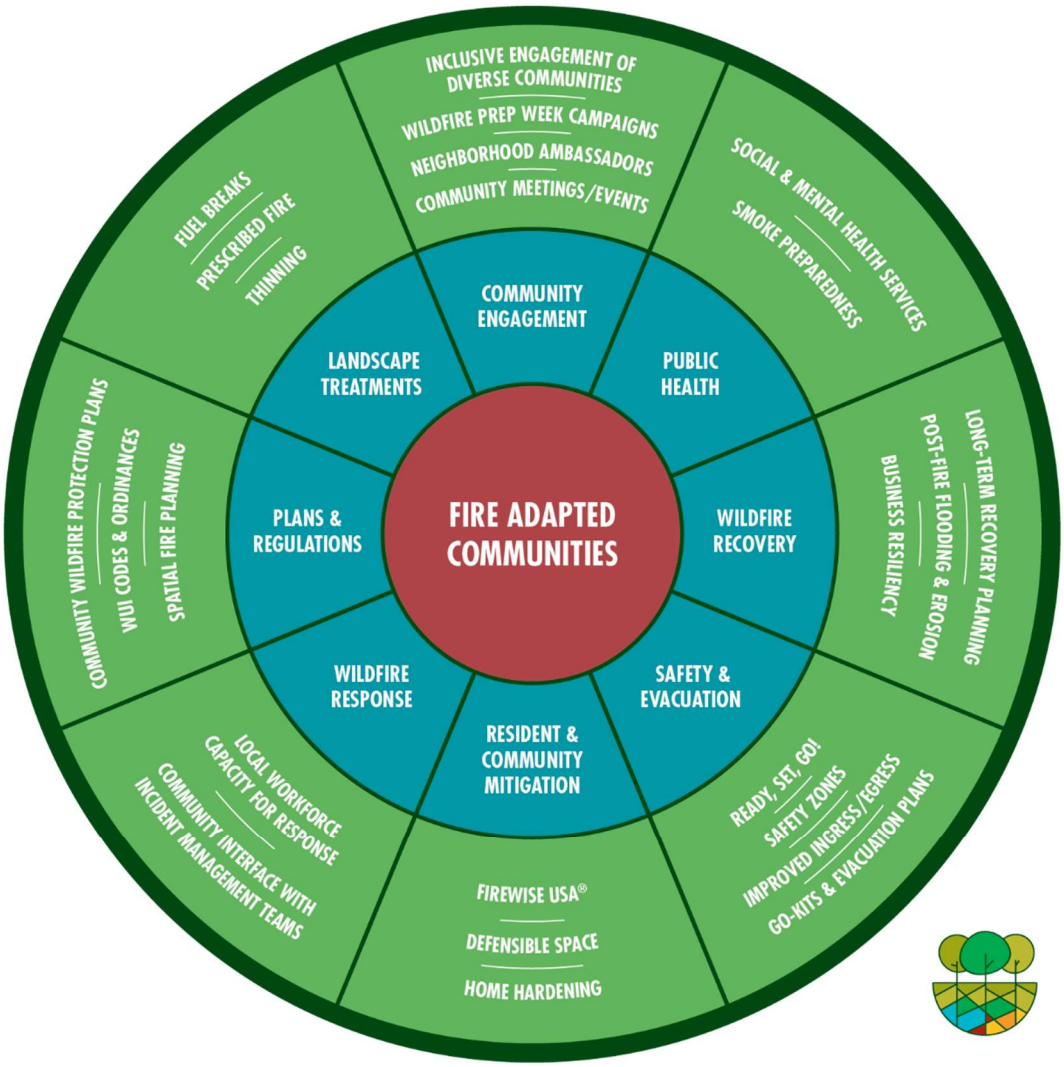


Figure 3. Fire Adapted Communities diagram

FAC's are listed as one of the three goals, along with resilient landscapes and safe and effective wildfire response, by the National Cohesive Wildland Fire Management Strategy. This strategy is "a strategic push to work collaboratively among all stakeholders and across all landscapes, using best science, to make meaningful progress towards the three goals ("The national strategy," 2019)." FAC's are one of the three goals as it provides a framework for engaging community stakeholders and land management agencies at varying levels in order to help reduce the risk of wildfire, from federal agencies, to non-governmental organizations, to businesses, to individual

homeowners. FAC concepts are useful for helping individuals and communities reframe how they think about and live with wildfire on the landscape. In the western United States, wildfires are a natural component of the landscape. The presence, and reoccurrence, of wildfires has led to the development of ecosystems and vegetation that are fire adapted. The map in appendix 1 highlights the fact of the natural presence and reoccurrence of wildfire on the landscape by displaying all the occurrences of wildfire in Mora county between 2000 and 2018. Acknowledging this fact is an important step towards becoming a more fire adapted community, and a good starting point for education and outreach to community members. As individuals and communities that live on landscapes that are adapted to wildfire, we too must become adapted to wildfire.

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

Firewise Communities

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

1. Form a Firewise board/committee of community residents and other applicable wildfire stakeholders
2. Verify community risk to wildfire by obtaining a wildfire risk assessment as a written document from the local fire department, state forestry, or forest service. This assessment is a living document and needs to be updated every five years.
3. Develop an action plan based on the assessment, that should be updated every three years.
4. Host a “Firewise Day” outreach event.
5. Invest a minimum of $2 per capita in local Firewise actions for that year.
6. Submit an application at portal.firewise.org to your Firewise state liaison.

Firewise recognition is an important tool in the ongoing process of being fire adapted. Many communities working to be fire adapted begin by becoming recognized as a Firewise community. Part of being fire adapted is recognizing that not all members of the community can prepare for, respond to, and recover from a wildfire in the same ways. Research, and practical experience, has shown that socially vulnerable populations may not be able to mitigate and recover from wildfire to the same extent as the less vulnerable members of the community (Lynn & Gerlitz, 2005). Residents of an older age may not have the ease of mobility to move their wood pile, clean gutters and eaves, or rake needles and debris. Households that are below the poverty threshold may not have access to funds to reduce structural ignitability by installing a new roof, or they may not be able to pay for fuels reduction treatments.

8| Wildfire Preparedness

Ingress and Egress

Ingress (access for wildfire suppression equipment and personnel) and egress (ways for residents and visitors to escape the wildfire) are crucial to wildfire preparedness. Communities with only one way in and out, such as Sawyer's Village, face a greater risk during wildfires. Planning evacuation routes at the community or fire district level is one way to identify hazards ahead of time. Actions to improve ingress and egress during a wildfire may include thinning along roadways, road condition improvements, and signage directing residents where to go during an emergency.

Roads

Many roads within Mora County are in poor condition and will hamper response by firefighters and evacuation by residents during an emergency. In addition, many communities have one way in and one way out access roads. The best course of action would be to add a second access route and the possibility of this should be accessed. However, in many cases this is impractical and, in this case, widening roads and adding or improving turn outs will help ease this problem to allow the two-way flow of traffic. An evaluation of roads in each district would be helpful to indicate where turnarounds are needed and to establish a point of no return for large fire apparatus.

Roads of specific concern the were identified by the Core Team:

HWY 120 to Black Lake – This road is identified as a priority fuels project to reduce fire hazard along this well used corridor.

Los Huerros Access Rd – This is a single lane dirt access road to a community.

Ojo Feliz Rd- This community used to have a second escape route to Fort Union, but this route has since been lost. Currently there is only one way in and out of Ojo Feliz on the Ojo Feliz Rd.

Highway 434 – The improvement of this road has led to more traffic and an increased possibility of human ignitions.

Sierra Bonita Roads on the east side of Highway 434 - Narrow and poorly maintained county roads that lead to communities that need to be widened and maintained. Current conditions will hamper evacuations and first responders.

Trumble Canyon Road - Access to this subdivision is one way in one way out via a single lane dirt road, maintenance of the road surface, improving turnouts and turnarounds, and reducing fuels along the road will improve it in the event of a wildfire.

Christmas Tree Canyon Road – Access to this subdivision is one way in one way out via a single lane dirt road.

Canada de Carro – This access road is fenced on both sides leaving little room for turn outs and turn arounds for fire apparatus.

Rio de la Casa Road – The portion of this road from the Hwy to the National Forest Boundary is surrounded by very heavy fuels and should be thinned to provide for survivable space for evacuees and first responders.

Evacuation

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

For advice and insight into preparing for evacuation, see the Fire Adapted Community's March 2018 article, Firsthand Accounts: How to Prepare Your Community for a Wildfire Evacuation.

At the community level, the 2019 CWPP update includes a priority action item to establish safety zones and/or evacuation staging areas. A safety zone is an area without burnable fuel that is large enough so that the distance between the firefighters and flames is at least four times the maximum flame height (NWCG, 2014).

Smoke Impacts

Smoke generally consists of carbon monoxide, carbon dioxide, water vapor, hydrocarbons, other organic chemicals, nitrogen oxides, trace minerals and particulate matter.

- Particulate matter consists of solid particles and liquid droplets suspended in the air. Particles with diameters less than 10 microns are upper respiratory tract and eye irritants.
- Smaller particles (2.5 microns) are the greatest health concern – they can be inhaled deep into the lungs and can affect respiratory and heart health. *(HEPA filters remove particles down to .3 PM)*
- Carbon monoxide, a colorless, odorless gas produced by incomplete combustion, is a health concern and levels are highest during the smoldering stages of a fire.

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

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

- Check local air quality reports. Helpful websites include:
    - New Mexico Fire Info, Smoke Management - New Mexico Fire Information - an interagency effort by federal and state agencies in New Mexico

    - Air Now, Interactive Map of Smoke Monitors & Fire Current Conditions - Environmental Protection Agency
    - Smoke and HEPA Filter Loan Program Pilot - from Fire Adapted New Mexico
    - Protect Your Health on Smoky Days - from New Mexico Environmental Public Health
    - Wildfire Smoke Frequently Asked Questions - Environmental Protection Agency
    - New Mexico's Smoke Management Program - New Mexico Environment Department's Air Quality Bureau
- Keep indoor air as clean as possible by keeping doors and windows shut; consider obtaining high efficiency particulate air (HEPA) filters to aid in keeping indoor air clean. Installing a HEPA filter in bedrooms can provide around 8 hours nightly of clean breathing, regardless of air conditions outside and during waking hours.
- Avoid activities that increase indoor pollution such as smoking, burning candles, spraying aerosols, vacuuming, and using fireplaces or gas stoves.
- Assuming you are in a safe place, away from the fire, limiting physical exercise can help to limit smoke inhalation. During exercise, people can increase their air intake as much as 10 to 20 times over their resting level.
- Seek shelter in a designated evacuation center or away from the affected area if necessary.
- Above all, seek to limit your exposure to smoke.

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

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

Communication

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

Emergency Notifications

In addition to effective communication between first responders a way to communicate emergency information to residents and visitors is crucial, especially in the event of an evacuation. The most basic version of this is going door to door during an emergency but this takes time and is usually only employed at the last moment during the early stages of an incident or during large incidents after additional staff has been brought in to handle this task. The address map book that has been created by Mora County would be very helpful in aiding in any notifications that are delivered door to door, that address map book should be distributed to any law enforcement or first responders in the county that may be tasked with delivering notifications door to door. In addition, any new fire district maps that are created should include these address locations to aid in this task.

Another effective communication tool that should be investigated in Mora County to assist with wildfire and other emergency notifications is the reverse 911 system. Reverse 911 depends on individual vendors but depending on the system selected reverse 911 will send notifications to all landline phones in a selected area and either registered cell phones or all cell phones in an area. This allows for mass notifications to be sent out in the event of any sort of emergency. It also allows for more frequent one-way communication from emergency managers, pre-evacuation notices any other early warnings can be sent out in the early stages of emergencies well before evacuation notices.

Communication for First Responders

Communication is a challenge across all of Mora County. Steep canyons and mountains limit the extent of radio and cell phone coverage in many areas. The lack of timely communication is a large concern that we heard of from many community members and core team members. Radio systems for fire suppression resources are in place but need to have their range extended in many places in the county where dead zones exist. To provide for firefighter safety and effective response these dead zones should be eliminated by placing repeaters to allow for communication with the Sate Dispatch in Las Vegas and fellow first responders.

Known dead zones or areas with no radio coverage:

- Canyons near Guadalupita
- Much of the area in Sierra Bonita-Rincon
- State Rt 120 in the Ocate District especially as it becomes more mountainous and enters the canyon
- Portions along Hwy 434
- Much of the Chacon Fire District

Community members and firefighters have a similar problem with lack of cell phone coverage in many areas. Working with telecommunication companies to extend this coverage would be a very worthwhile investment for managing wildfire suppression and evacuation.

Community Emergency Response Team

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

More information on the CERT Program can be found on the following web pages:
https://www.ready.gov/community-emergency-response-team
https://www.fema.gov/news-release/2003/05/29/community-emergency-response-team-cert-program

Defensible Space and Home Hardening

Residents can significantly reduce their wildfire risk by creating defensible space around their homes and hardening their homes to the potential for ignition. Keeping gutters and roofs clear of flammable debris, moving woodpiles and propone tanks away from the house, and keeping the grass mowed are some simple steps that homeowners can take to make their homes more resistant to wildfire.

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

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

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

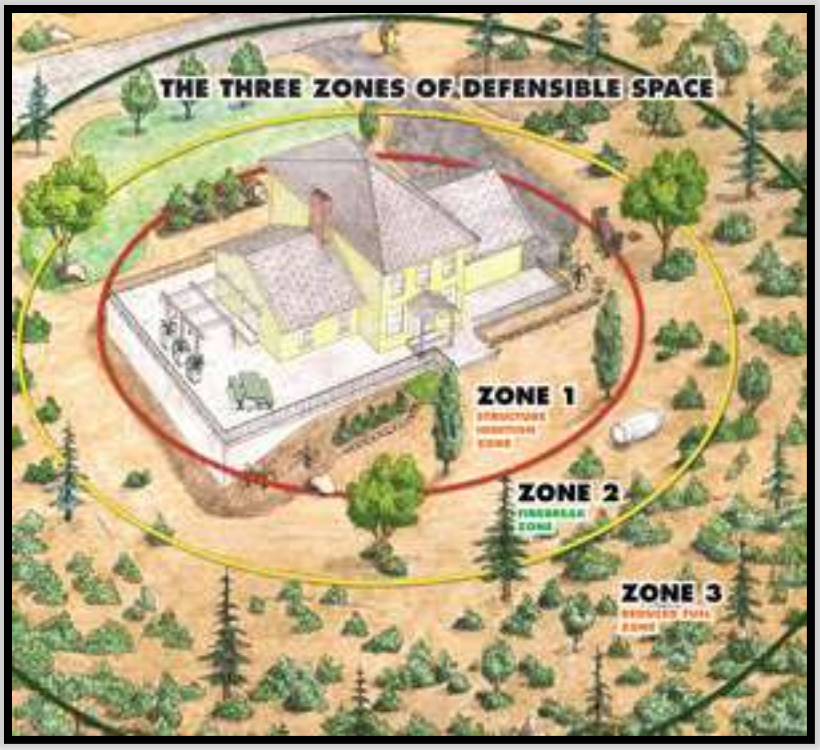


Figure 4 - Three zones of defensible space.

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

In Zone 1:

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

Zone 2: 30 to 100 feet from the home.

In Zone 2:

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

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

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

9| Planning for Post-Fire Recovery

As a wildfire will eventually occur in, or around, Mora County, it is important to plan for how the county and individual communities will recover after a wildfire. NMSF provides an excellent resource for thinking about post-fire recovery called *After Wildfire* (www.afterwildfirenm.org).

Safety

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

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

In addition:

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

Flooding and Erosion

Post-fire flooding is a major concern. The map in appendix 1 displays post-fire debris flow hazards and illustrates which population centers are most at risk from flooding. In these maps, post-fire debris flow was modeled using a standard methodology (Cannon et. al., 2010). Debris flow hazard

is a combination of probability of a debris flow and potential volume of debris flow. An important caveat is that this dataset shows where debris flows will originate and not necessarily where they will end up.

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

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

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

- NM Flood, Projects and Maps: https://nmflood.org/?page_id=336
- New Mexico Multi-hazard Risk Portfolio: https://nmflood.org/wp-content/uploads/2013/10/NM_MHRP2015.pdf
- NRCS's Rapid Watershed Assessment: Mora Watershed: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs144p2_067278.pdf

NM After Wildfire Guide

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

- Mobilizing your community – provides points to help local governments and community leaders get started on recovery coordination
- Who can help? - describes programs and services provided by agencies and non-profits for communities and individuals affected by wildfire
- Post-wildfire land management treatments to facilitate recovery
- Financial tips for individuals and communities after wildfire

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

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

- Seeding and mulch to reduce erosion;

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

10| Collaboration

Figure 5 – Public meeting for Mora County's CWPP on April 24, 2019 at Mora High School. Photo credit: Rhiley Allbee, Forest Stewards Guild.

The 2019 CWPP update was a collaborative effort between the CWPP core team and CWPP stakeholders. Table 6 below lists CWPP stakeholders who were invited to participate in the 2019 Mora County CWPP update process. In addition to these individual invitations, the CWPP update was also publicized through the Las Vegas Optic, local radio stations, the Our Mora newsletter, Mora County's Facebook page, as well as on FSG's website. Several articles appeared in the Las Vegas Optic to promote the community meetings and promote participation in the resident surveys. The CWPP update team also solicited input from area residents during community meetings and via an in-depth survey that was advertised at meetings, on the Mora County Facebook page, in the Las Vegas Optic, on FSG's website, and was also sent out to all staff members within the Mora School System. Additionally, surveys were sent to all the district fire chiefs and other fire management professionals in the county to gather their input.

Table 6 - Stakeholders for the Mora County 2019 update and their respective positions and affiliations.

Mora CWPP 2019 Update Stakeholders		
Name	**Position**	**Affiliation**
Arturo Marlow	County Manager	Mora County
Frances Muniz	Administrative Assistant	Mora County
Frank Maestas	Commission Chairman	Mora County Commission
Brenda Casados	Director	Mora Ambulance
Amos Espinoza	Sheriff	Mora County Sheriff
Carmen Austin	Las Vegas District Forester	NMSF
Shannon Atencio	Las Vegas District Timber Management Officer	NMSF
Ernie Lopez	Cimaron District Forester	NMSF
David E. Trujillo, P.E.	District 2 Engineer	New Mexico Department of Transportation
Josephine Martinez	Patrol Supervisor	New Mexico Department of Transportation
Frances Martinez	District Manager	Mora/Wagon Mound Soil and Water Conservation Districts
Jacquelyn Sanchez	District Clerk	Western Mora Soils and Water Conservation Districts
Kenneth Alcon	District Conservationist	NRCS
Travis Vigil	Soil Conservationist	NRCS
Ray Ramero	Soil Conservationist	NRCS
Larry Barela	Operations Manager	MSMEC
Les Montoya	Operation Manger: Mora	MSMEC
Susane Cole		Mora County Extension
Ron Barshear	Line Superintendent	Spriner Rural Electric
Michael Serna		Buena Vista
Mike Atkinson	District Ranger	Kiowa National Grassland
Sean Ferrell	Camino Real District Ranger	Carson National Forest
Marvin Roybal	Camino Real District Fire Management Officer	Carson National Forest
Steve Romero	Las Vegas District Ranger	Santa Fe National Forest
Lorenzo Vigil	Chief of Interpretation & Operations	Fort Union National Memorial
Elyssa Duran		BLM
Kyle Sahd	Fuels Manager	BLM
Ken Roberts	Zone Prescribed Fire Specialist	U.S. Fish and Wildlife Service
Justin Garcia		BV Mutual Water
Laundete Quintana	Mayor	Village of Wagon Mound
Katie Meicklejohn		High Plains Grassland Alliance

Isaac Herrera	Chief	Guadalupita VFD
Joseph Lopez	Assistant Chief	Golondrinas VFD
Paula Valdez	Assistant Chief	Ocate-Ojo Feliz VFD
David Montoya	Chief	Rainsville VFD
Adolph Montoya	Assistant Chief	Rainsville VFD
Jim DeCastro	Assistant Chief	SBR VFD
Frank Lucero	Chief	Watrous VFD
Robert Mondragon	Chief	Wagon Mound VFD

Core Team

The CWPP core team consisted of the County officials and individuals from a varying range of organizations that actively participated in the gathering of information for the CWPP update. Table 7 below lists the members of the CWPP core team.

Table 7 - Core Team members for the Mora County CWPP 2019 update and their respective affiliations and positions.

Mora CWPP 2019 Update Core Team		
Name	**Position**	**Affiliation**
David Montoya	County Fire Administrator	Mora County Fire Department
Mitchell Richardson	Fire Chief – Chairman MFCA	Mora County Fire Chief's Association
Rumaldo Pino		Mora County Office of Emergency Management
Jerry Martinez	Road Foreman	Mora County Road Department/Solid Waste Management
Jarrod Duran	Las Vegas District FMO	NMSF
Frieda Bustos	Supervisor	DPS Dispatch
Dr. Kent Reid	NMFWRI Director of Forest Institute	New Mexico Highlands University (NMHU)
Clarence Montoya		Adelante Research, Conservation, and Development Council
Larry Rose	GIS	MSMEC
Joseph Lopez	CIO & Development Director	Mora Valley Community Health Service, Inc.
Ray Corral	Camino Real District Fire Management Officer	Carson National Forest
Joe Julian	Las Vegas District FMO	Santa Fe National Forest
Vidalia Vigil	Last Vegas District Prevention Officer	Santa Fe National Forest
Chris Lohrengel	Refuse Manager	Rio Mora Wildlife Refuge
Philip Garcia	Wildlife Biologist	Rio Mora Wildlife Refuge
Eytan Krasilovsky	Southwest Director	FSG
Mark K. Meyers	Forester, Field Operations Division	NM State Land Office

Lillian Maestas	Chief	Buena Vista VFD
John Abeyta	Chief	Chacon VFD
Jack Vigil	Chief	CHET VFD
Danny Chavez	Chief	Golondrinas VFD
Joel Peters	Chief	LMC VFD
Michael Lujan	Chief	Mora VFD
Gerald Moleski	Chief	Ocate-Ojo Feliz VFD
Richard Carrillo	1st Captain	Ocate-Ojo Feliz VFD
Mickey Richardson	Chief	SBR VFD

Community Meetings

Several meetings for Mora County residents and stakeholders were held to discuss progress made since the 2005 CWPP; to determine updates to communities at risk ratings and priority rankings; and to identify priority action items for the 2019 CWPP update. The community meetings engaged members of various communities throughout the county to discuss issues of wildfire protection and preparedness. Some questions posed at these meetings engaged homeowners in assessing their own wildfire risk prevention practices, such as open space thinning, fuel breaks, and defensible space zone treatments. Table 8 below provides an overview of all core team and public meetings convened for the 2019 Mora County CWPP update and organizations that were represented at those meetings.

Table 8 - Meetings held for the Mora County CWPP 2019 update.

2019 Mora County CWPP Update Meetings			
Date	**Meeting Type**	**# of Participants**	**Representation (organizations, e.g. Forest Service, State Forestry, etc.)**
July 10, 2018	Core Team	13	NMSF; Buena Vista VFD; Serra Bonita-Rincon (SBR) VFD; Mora County Road Department; Mora County FD; New Mexico State Land Office (NMSLO); Ocate-Ojo Feliz VFD; NM Forest and Watershed Restoration Institute (NMFWRI); Mora County; Fort Union National Memorial; FSG
September 21, 2018	High Plains Grasslands Alliance	13	New Mexico State University (NMSU); NMHU; Twin Willows Ranch; Fort Union Ranch; Zeigler Geologic Consulting; Tequesquite Ranch; Rio Mora National Wildlife Refuge; Reineke Construction; Watrous Valley Ranch; FSG
February 7, 2019	Mora County Fire Chiefs Association	17	SBR VFD; CHET VFD; New Mexico State Police (NMSP); Rainsville VFD; Mora County FD;

			Mora VFD; Ocate-Ojo Feliz VFD; Golondrinas VFD; NMSF; LMC VFD; MVCHS; FSG; NMSF
February 14, 2019	Core Team	23	United States Fish and Wildlife Service (USFWS); MSMEC; Mora County Road Department; Twin Willows Ranch; Golondrinas VFD; MVCHS; FSG
April 24, 2019	Community	18	Mora County FD; CHET VFD; NMSF; USFS; Mora County; Members of the Community; FSG
July 9, 2019	Core Team Draft Review	5	USFS; MSMEC; NMSF; Mora County; Mora County Commissioners; FSG
July 9, 2019	Community Draft Review	10	Members of the Community; NMSF; Mora County, FSG
August 8, 2019	Mora County Commission Meeting	8	Mora County Comission, Mora County, FSG, Members of the Community

Community Surveys

In addition to meetings, stakeholders and members of the public were invited to complete a survey that helped inform priorities and action items for the 2019 update. This survey was available on FSG's website, was advertised in the Las Vegas Optic, on Mora County's Facebook page, in the Our Mora newsletter, at community meetings, and was also distributed to all employees of the Mora school system.

The working team solicited input from area residents on their actions, priorities, and concerns regarding wildfire risk mitigation. Of the 9 residents to respond, all are full-time residents. Together these residents represent the communities of Abuelo, Alamito, Buena Vista, Cañada Bonita, Cañada de Carro, Cañoncito, and Cebollita.

Perceived Risk to Wildfire

In the surveys, residents were asked to rank their level of concern regarding aspects of life, property, or community in Mora County that could be vulnerable to wildfire. The results are as follows, ranked from highest concern to lowest:

1. Damage to watershed/water supply | Loss of life | Disruption of livestock or agriculture
2. Damage to home | Personal and familial safety | Decreased property value | Loss of insurability | Human caused wildfires
3. Post-fire erosion
4. Economic disruption | Loss of recreational activities | Smoke impacts

Residents reported that the areas in Mora County that were at highest risk for wildfire included forested areas due to overstocking and the buildup of fuels, as well as communities with a high frequency of absentee landowners, and rural areas with poor evacuation routes and insufficient means of emergency communication.

In regard to personal property, residents felt that the three factors that made their home most vulnerable to wildfires were: non-fire-resistant building materials; living in areas that are not easily accessible or that have long emergency response times; and the buildup of fuels on neighboring properties. Following this, residents felt that a buildup of fuels on their own properties, human ignition sources, and a lack of water resources made their homes vulnerable to wildfire.

Wildfire Mitigation

Community members were asked to prioritize what elements of community wildfire preparedness were of highest importance. Having a defensible space around homes and having an emergency notification system were rated as the highest priority. Being prepared for evacuation, reducing hazardous fuels on adjacent lands, and increasing the capacity of the VFDs followed as also being of high priority. Homeowner education and outreach was ranked as relatively high priority, while post-fire recovery was rated as the lowest priority concern.

Most residents (six) reported having implemented defensible space thinning treatments around their home. Four reported making driveway improvements. Two have also made structural improvements to their properties such as removing wooden decks or installing fire-resistant building materials, screens, and vents, etc. And, one resident has implemented pro-wildfire landscaping practices.

Additionally, residents reported that every year in the spring they prepare for wildland fire season in a variety of ways. Seven of the nine residents stated that they remove or cut the vegetation surrounding their homes. The removal of pine needles from the ground, roof, or gutters, is a practice that five of the resident's report practicing each spring. Four residents state that they move firewood away from structures in an upslope or downwind direction. While three residents also report repairing or installing screens to block sparks of embers.

Residents were asked to rate their level of comfort with various methods of reducing vegetative fuel loads. Residents were most receptive of the idea of ***cutting and chipping hazardous fuels or burning open spaces within the community***. Next was ***working collaboratively with other homeowners and large landowners to create shaded fuel breaks to stop or slow large wildfires before they reach homes*** and ***cutting and chipping hazardous fuels within 100 feet of the home***. Residents felt least comfortable with using prescribed burns to reduce fuels and improve ecological conditions.

Half of the residents who responded (4) said they would do wildfire mitigation work on their property regardless of what anyone else was doing. Two individuals stated that they would only do wildfire mitigation work if it was fully funded by the government or private agencies, and another two stated that they would only do mitigation work if they could be convinced that they work would increase the survivability of the their home during a wildfire.

Residents were asked to rank constraints that prevented them from taking action to reduce the risk of wildfire on the property. Constraints ranking from high to low included:

1. Financial costs
2. Time constraints
3. Lack of information regarding the removal of slash and hazardous fuels

4. Neighboring properties not taking action, therefore reducing effectiveness of actions taken on property
5. Lack of knowledge and resources
6. Belief that actions will not be effective in reducing risk to property
7. Lack of awareness of wildfire risk
8. Difficulty finding a contractor to complete work
9. Do not want to change aesthetics of property
10. Restrictions on cutting trees (HOA)

Three-quarters of the respondents (6) reported that they would not be interested in having a home hazard assessment conducted on their property, with the remaining 25% (2 residents) stating that they would be interested. Additionally, 62.5% of respondents (5) stated that they are not interested in community volunteering opportunities to reduce wildfire risk such as chipper days or evacuation drills, with the remaining 37.5% being interested in participating in events such as these. Even so, five residents did express interest in receiving community wildfire risk mitigation trainings. Four people were interested in the following trainings: Firewise; Fire Adapted Communities; wildland firefighting; forest worker safety; and prescribed fire implementation. Three residents were also interested in acquiring training in Ready, Set, Go! Additionally, residents specifically stated to increase resilience to wildfire communities needed to be focused on thinning overstocked forests, reducing slash through the production of wood pellets or mulch, keeping properties clear of refuse, and having free or reduced fee dump days for county residents.

The survey also asked residents whether they thought that the County and/or their community should adopt zoning ordinances and/or building codes to reduce wildfire risk. Most respondents supported requiring fire-resistant materials on any new construction, as well as codes that would require residents to implement defensible space around existing building and reduce fuel loads adjacent to roadways and rights of way. Three residents did not support the idea of implementing new ordinances or codes related to wildfire risk reduction.

Respondents specifically stated that they saw a need for increased education and outreach related to wildfire risk mitigation for all citizens throughout the county.

Evacuation

In the event of an evacuation, nearly half of the respondents (4) stated that they would leave their home. Two residents reported that they would be likely to leave, while an additional two reported that they would be likely to stay. One respondent reported that they would not leave their home in the event of an evacuation.

Residents were also asked if they would know what route use and if they had a pre-arranged meeting place for family members in the event of an evacuation. Three of the nine respondents reported that they did not know what route they would use in the event of evacuation, and five of the nine respondents also stated that they did not have a pre-arranged meeting place for family members.

When asked about preferred methods to receive information regarding wildfire notices and evacuations, most respondents stated that they would like to receive notification by text message. This was followed by a phone call or in-person notification.

Themes from the Community

The community meetings hosted for the CWPP update helped to shed light on serious issues that community members face and deem to be important. One of the themes voiced in multiple meetings and surveys was the need for increased educational outreach and extension for all citizens of Mora County. Areas that residents reported they felt would be valuable to have increased education on include prescribed fire implementation, Fire Adapted Communities, Firewise, wildland firefighting, forest worker safety, and Ready, Set, Go!.

Another recurring theme was the question of access—for firefighters and emergency responders to gain easy entry, and for residents to make a quick exit if necessary. Good access will help ensure safety even in potentially less-than-optimal conditions such as thick smoke, high stress, and immediate action. One resident pointed out the high number of seasonal residents who may not be fully aware of the risks associated with wildfire and may not be on the lookout for warning signs that full-time or long-time residents are more aware of. Good access and communication are key for helping to make sure that everyone present has the ability to get where they need to go safely.

11| Geospatial Analysis and Map Descriptions

Surface Ownership

The surface ownership map displays the ownership of land by the various public land managers and private entities within the County.

Wildland Urban Interface

The WUI map indicates human- made values at risk on the landscape that could be impacted by wildfire. It mapped as a polygon that includes communities, escape routes, and other values and a buffer around them. The WUI polygon should be used to help locate and prioritize treatments to minimize the impact of wildland fire to the area.

The input data included:

- WUI polygons – The Silvis Lab at University of Wisconsin built this map based on U.S. Census TIGER block polygons to identify housing density as of 2010. The previous version of this map was used by the New Mexico Statewide Natural Resources Assessment & Strategy and Response Plan (NM Assessment).
- Address Locations – The Mora County GIS specialist provided point data for all addresses in the county, these points were verified and buffered at a quarter mile.
- Roads – The Mora County GIS department provided map of all inventoried roads, and primary escape routes were identified and buffered at a tenth of mile.
- Cell towers and Radio Repeaters- The County GIS department also provided a map of location and they were buffered at quarter mile.
- Railroads and Powerlines - were buffered at a tenth of a mile to indicate areas that are more prone to ignitions and should be considered for treatment.
- Recommendations of the Core Team - This data was further amended based on new construction identified from satellite imagery and recommendations and knowledge of the Core Team.

Communities at Risk

This Communities at Risk Map displays communities that are at risk of wildfire within Mora County. Some of these communities were identified in the 2005 CWPP update, however in this update several communities were added at the guidance of the Core Team.

Fire Districts, Current Map

This map shows the current map that is accepted as the official map by the Fire Chiefs of the county but did not exist as in a format other than a printed map. Although in practice the districts in the county provide full coverage by assisting adjacent districts and responding to areas outside of their boundaries this map has discrete boundaries that exclude large geographic portions of the county and does not include the new Sierra Bonita-Rincon District that was formed in 2014.

Fire Districts, as used by this CWPP

As part of the CWPP planning process a way to subdivide the county to allow descriptions of smaller areas were needed. In consultation with the Fire Chiefs Association a new map was created based off the previous map that had been in place but that extended coverage in the western side of the County so that fire districts covered the entirety of the area. In the eastern side of the County the independent municipal district of Wagon Mound covers a 6-mile diameter from the city center, the rest of the eastern county is sparsely populated and not officially covered by a fire district although in practice the nearest few fire districts respond to any incidents.

This new fire district map should not in practice change the way that departments function and respond to incidents but hopefully will provide some more clarity in dispatching and administrative boundaries. Further revision of this map by the Fire Chiefs Association and then submitting the new map to the Fire Marshall could solidify these districts and provide an updated map with accurate districts. After this a new mapping effort to provide detailed maps to each Fire Department of their district would be a high priority project.

Wildfire Risk

This data layer identifies areas with a relatively high-risk of destructive wildfire. The intent of this layer is to identify areas where forest management is most likely to reduce the risk of wildfire damage (or reduce the impact of wildfire on natural resources, and human infrastructure and development). This layer was developed for the New Mexico State Strategy and Response Plan to help prioritize areas where treatment will minimize potential and reduce impact of wildfire. The scale of the data is meant for broad scale planning and prioritizing. The model combines inputs of rate of spread, flame length, crown fire potential, fire occurrence, WUI, fire regime condition class in an additive equal weight overlay. For this CWPP the WUI layer was removed since we created a much more extensive WUI overlay that was available at the time this risk assessment was completed.

Wildfire Hazard Potential

The wildfire hazard potential map is generated by the USDA Forest Service in 2014. Its intent is to shows potential for fires that would be difficult for suppression resources to contain. Higher values represent fuels with a higher probability of experiencing extreme fire behavior under conducive weather conditions. The full description of the data from the US Forest Service is below:

The wildfire hazard potential (WHP) map is a raster geospatial product produced by the USDA Forest Service (USFS), Fire Modeling Institute that can help to inform evaluations of wildfire risk or prioritization of fuels management needs across very large landscapes (millions of acres). Our specific objective with the WHP map is to depict the relative potential for wildfire that would be difficult for suppression resources to contain. To create the 2014 version the USFS built upon spatial estimates of wildfire likelihood and intensity generated in 2014 with the Large Fire Simulator (FSim) for the Fire Program Analysis system (FPA), as well as spatial fuels and vegetation data from LANDFIRE 2010 and point locations of fire occurrence from FPA (ca. 1992 - 2012). With these datasets as inputs, USFS produced an index of WHP for all the conterminous United States at a 270-meter resolution. The map is presented in two forms: 1) continuous integer values, and 2) five WHP classes of very low, low, moderate, high, and very high. Areas mapped with higher WHP values represent fuels with a higher probability of experiencing torching, crowning, and other forms of extreme fire behavior under conducive weather conditions, based primarily on 2010 landscape conditions.

On its own, WHP is not an explicit map of wildfire threat or risk, but when paired with spatial data depicting highly valued resources and assets such as communities, structures, or powerlines, it can approximate relative wildfire risk to those resources and assets. WHP is also not a forecast or wildfire outlook for any particular season, as it does not include any information on current or forecasted weather or fuel moisture conditions. It is instead intended for long-term strategic planning and fuels management.

Wildfire History

The Wildfire History map shows wildfires that have occurred in the county since the year 2000. This map shows point data for smaller fires and polygons for larger fires. This map also might not show the full extent of small wildfires that were contained quickly because of the difficulty in recording and accessing this data from the multitude of firefighting services across the County. Data was collected from these sources:

- US Geological Service reports on fires across jurisdictions that reach a management and complexity level that requires an Incident Status Summary Form (ICS-209). For this reason, this data captures large fires very well but excludes small fires that are contained quickly.
- US Forest Service reports on fire occurrence of small fires as point data and fire history from larger fires as polygon data. This data is only recorded from National Forest Lands.
- State Forestry records point data for fire that occur on their jurisdiction and on private land.

Flame Length

The Flame Length map models estimated flame lengths at the flaming front of a fire burning in surface fuels. In general, flame lengths estimate the ability of suppression forces to be successful with direct attack on a fire. Generally, flame lengths less than four feet can be managed by ground crews, between four and eleven feet requires aerial equipment, greater than eleven feet are unmanageable even with aerial equipment. This data was generated by NMSF as part of the Statewide Natural Resources Assessment. It combines input data that represents biophysical conditions and weather parameters including elevation, slope, aspect, canopy closure, fuel model

40, canopy base height, and canopy bulk density, and weather based on average conditions in spring throughout the fire weather zones in New Mexico.

Vegetation Cover

The Vegetation Cover map shows the percent of cover broken into vegetation type. This data was derived from the Existing Vegetation Cover data from LANDFIRE tool set and the data was developed in 2014. It represents the vertically projected percent cover of the live canopy layer and is generated separately for tree, shrub and herbaceous cover lifeforms using training data and other layers. Percentage tree, shrub, and herbaceous canopy cover training data are generated using plot-level ground-based visual assessments.

Vegetation Type

The Vegetation Type map shows the vegetation type across the landscape. This data was derived from the Existing Vegetation type data from LANDFIRE tool set and the data was developed in 2014. The Existing Vegetation Type (EVT) layer is mapped using decision tree models, field data, Landsat imagery, elevation, and biophysical gradient data. Decision tree models are developed separately for each of the three lifeforms -tree, shrub, and herbaceous and are then used to generate lifeform specific EVT layers.

Fuel Treatments

Fuel treatments were identified from input from community members and the core team as well as from the New Mexico Opportunity Map. This map is a collaborative effort to record and make available key data about projects that are occurring across all jurisdictions in New Mexico to facilitate well informed decision making for future planning. It is hosted by the New Mexico Forest and Watershed Restoration Institute (FWRI) and managed by the NMSF Division's Forest and Watershed Health Office.

Post-Wildfire Debris Flow Hazard

This map displays post-fire debris flow hazard and which population centers are most at risk from flooding. Post-fire debris flow was modeled using a standard methodology (Cannon et. al., 2010). Debris flow hazard is a combination of probability of a debris flow and potential volume of debris flow. An important caveat is that this dataset shows where debris flows will originate and not necessarily where they will end up. Additionally, this map includes the Zone-A or 100-year floodplain data. This zone shows where floods are likely to occur and areas where communities should be prepared for a post fire debris flow if a wildfire occur above them in the watershed.

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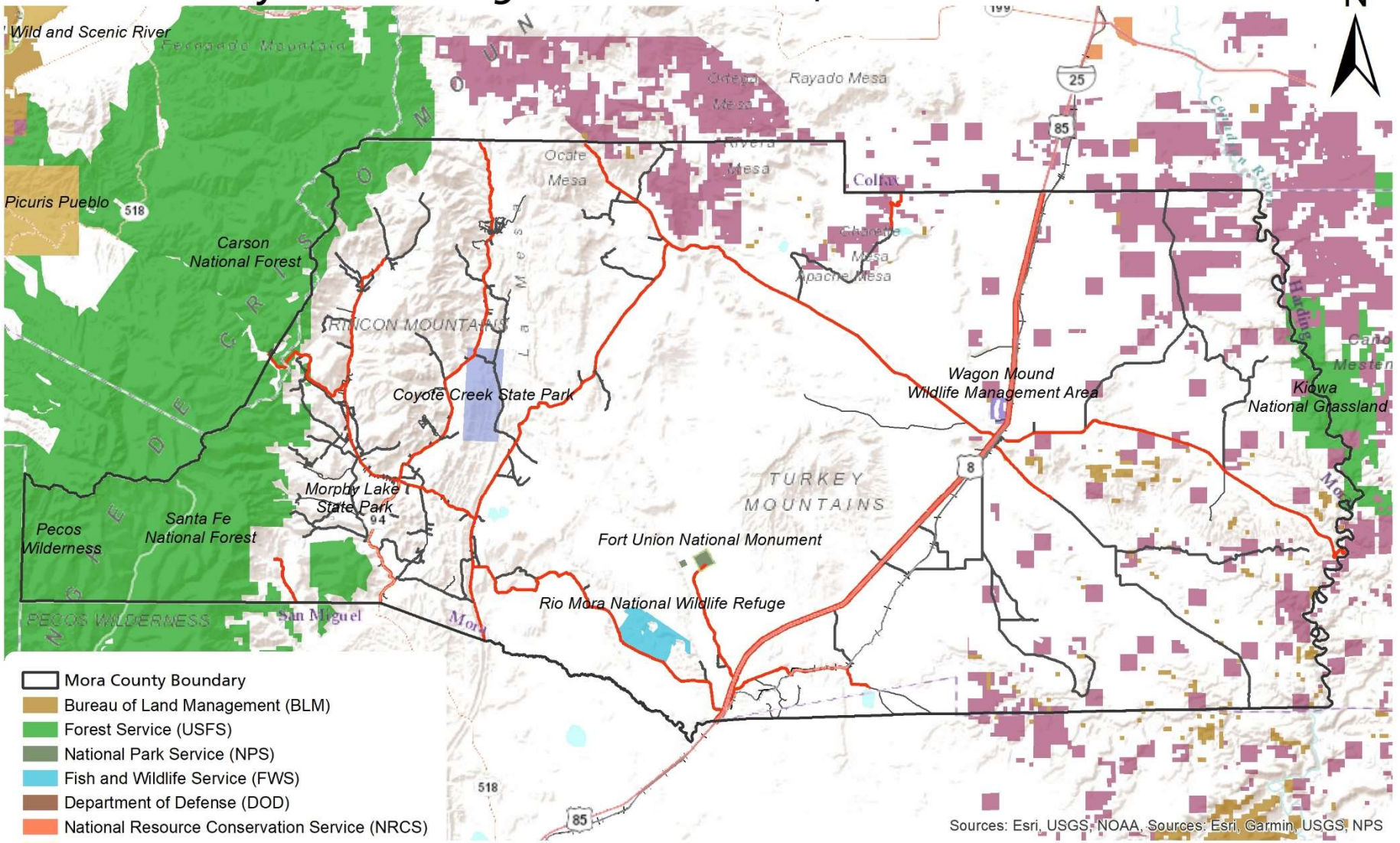
Appendix 1: Maps

Surface Ownership

Mora County CWPP 2019 Surface Ownership



- Mora County Boundary
- Bureau of Land Management (BLM)
- Forest Service (USFS)
- National Park Service (NPS)
- Fish and Wildlife Service (FWS)
- Department of Defense (DOD)
- National Resource Conservation Service (NRCS)
- American Indian Lands (BIA)
- State Fish and Wildlife
- State Parks and Recreation
- State Trust Land
- Other State (NHP,DOT,HS,etc.)
- County Land \ Regional Agency Land
- Private Conservation; Private Corporation

Date created: 6/28/2019

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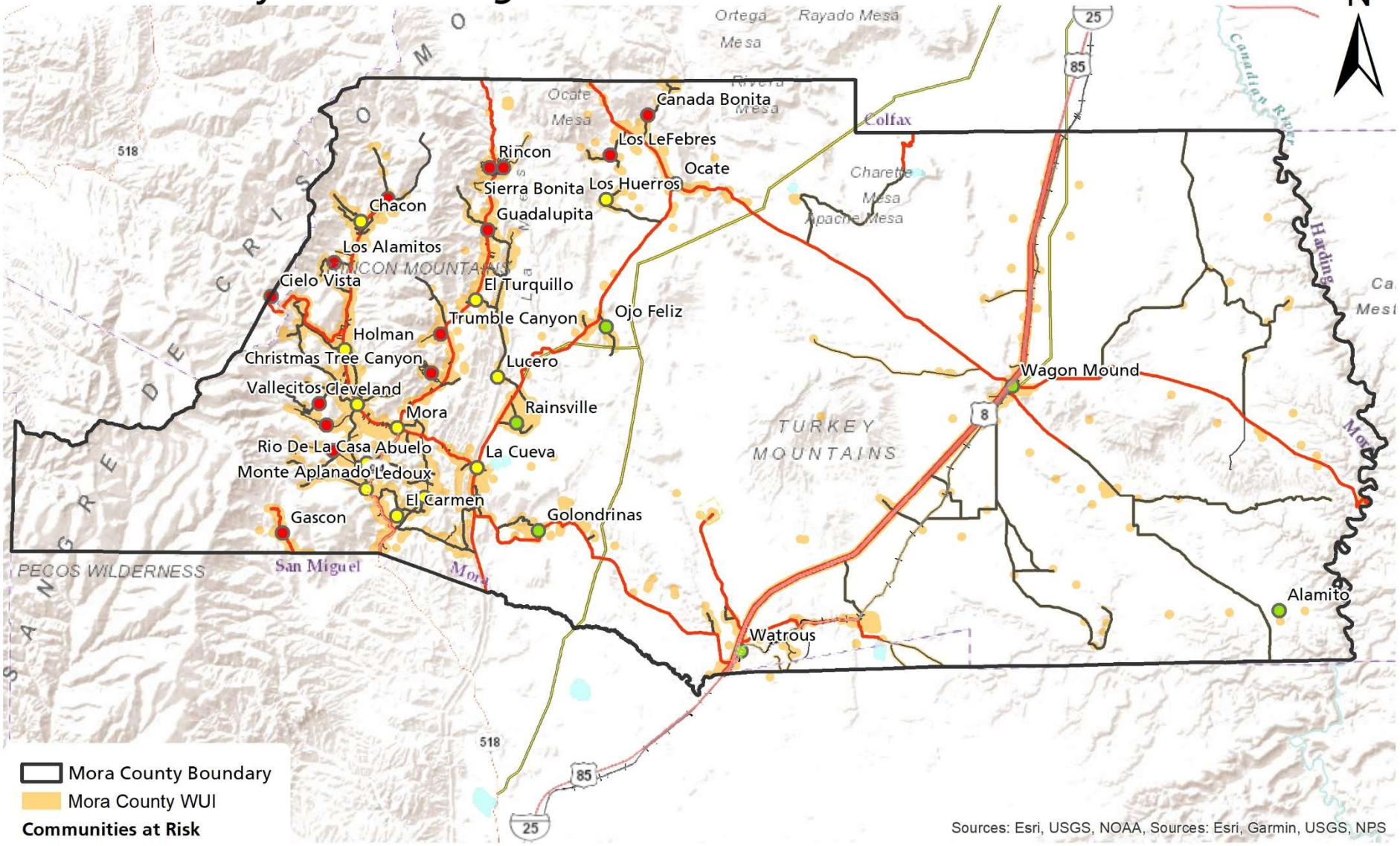
Mora County CWPP 2019 Wildland Urban Interface



Date created: 7/26/2019

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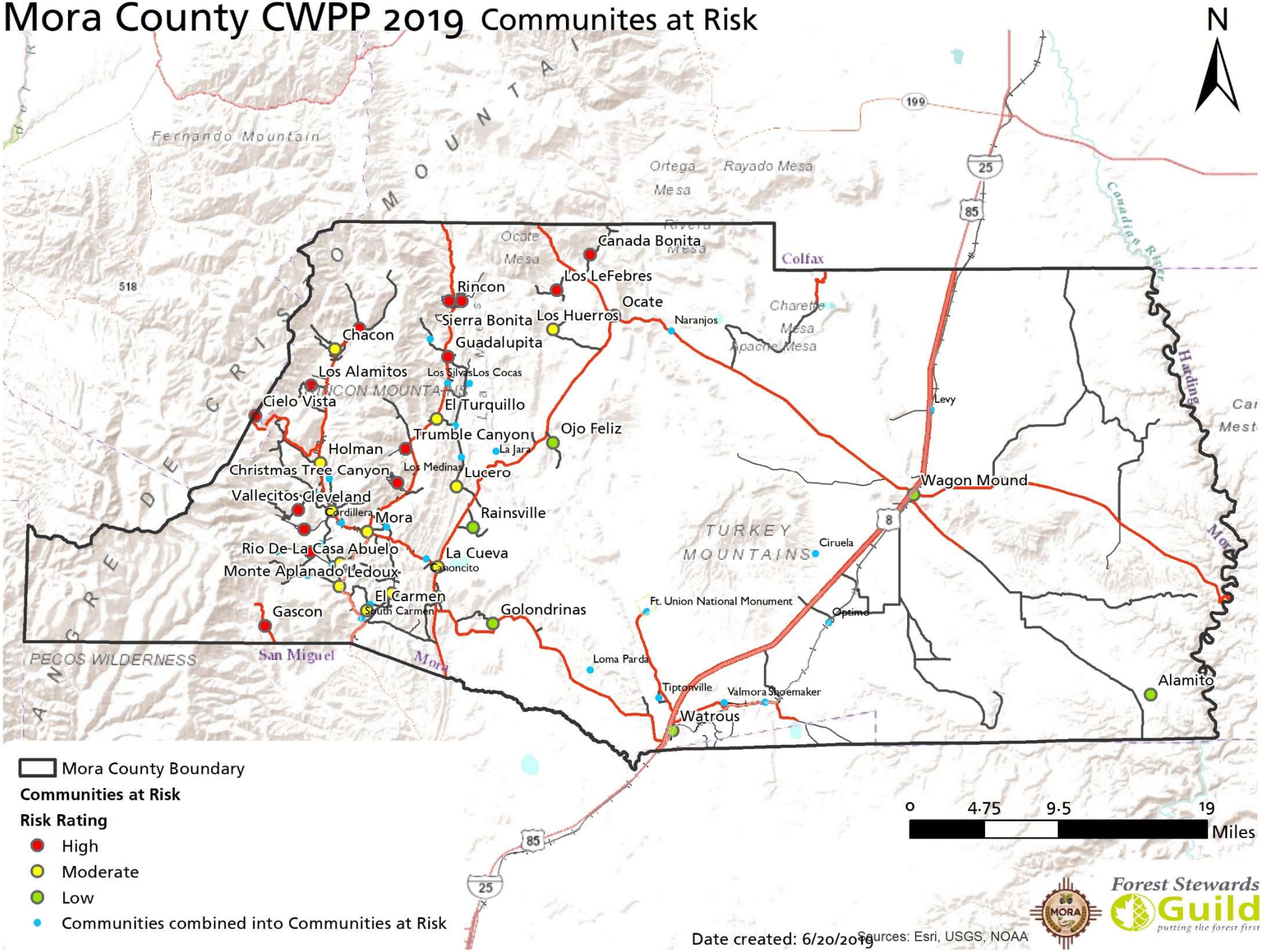
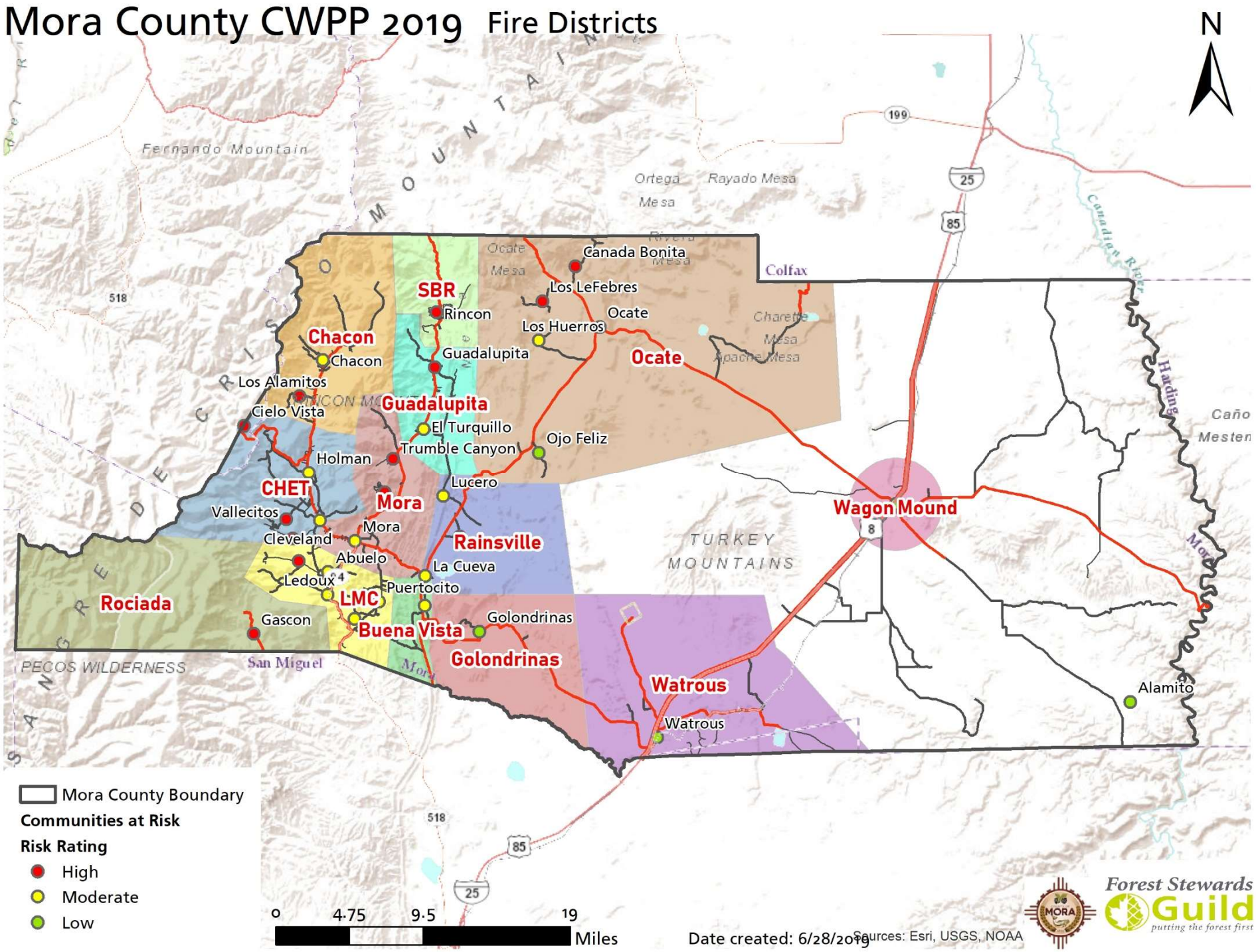
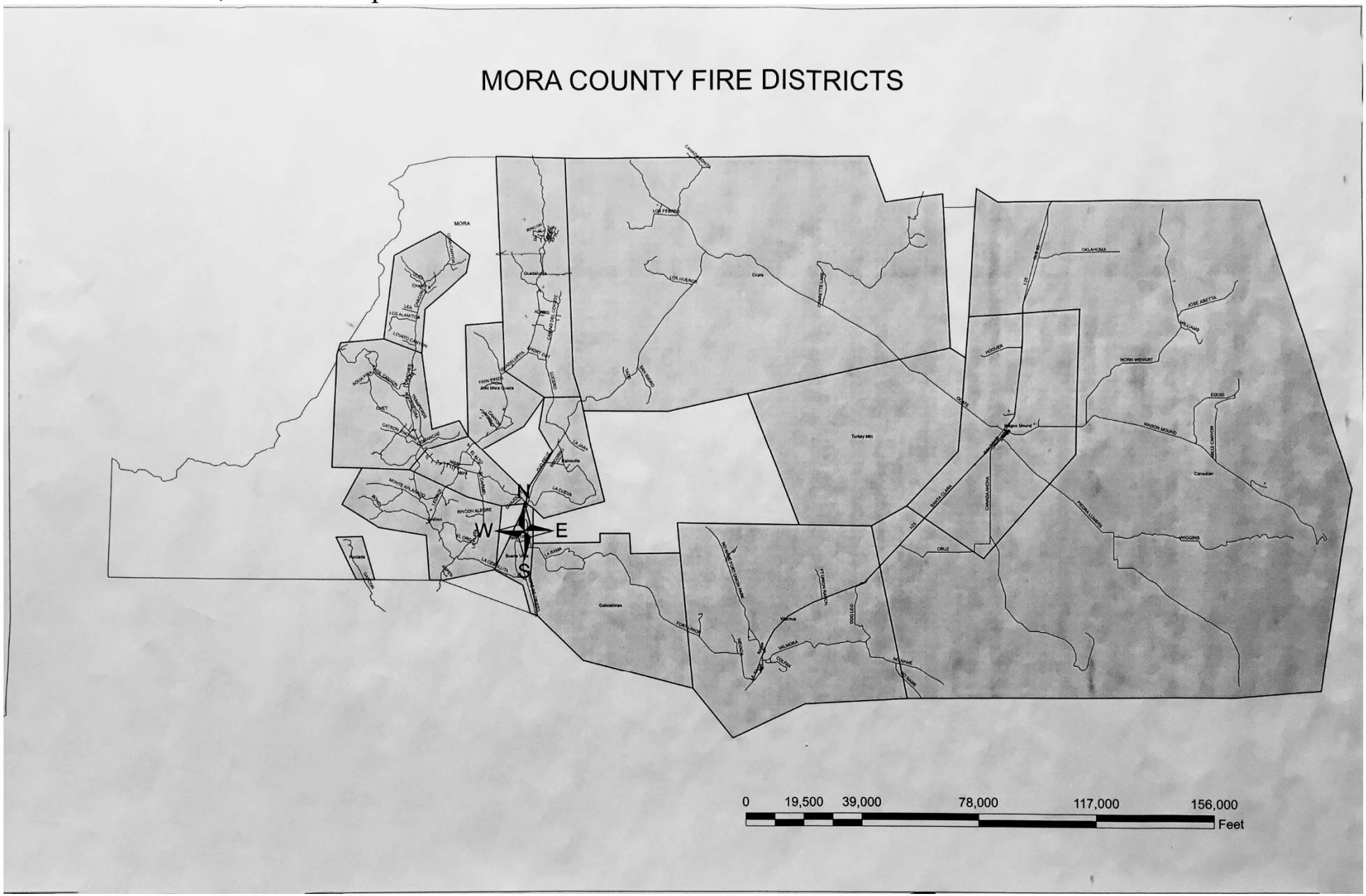
Mora County CWPP 2019 Communites at Risk



Fire Districts, as used by this CWPP

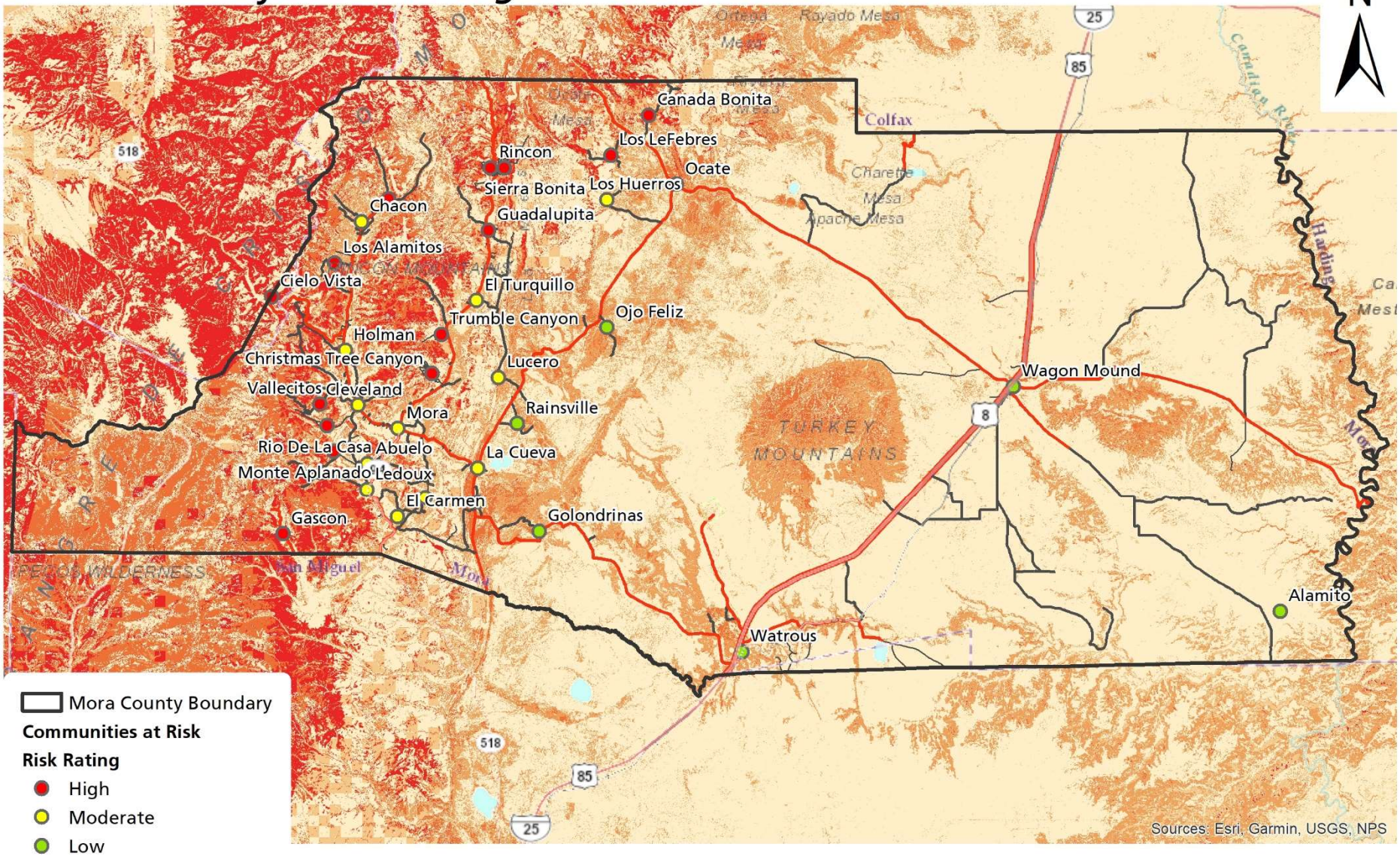


Fire Districts, Current Map



Mora County CWPP 2019

Wildfire Risk



Mora County Boundary

Communities at Risk

Risk Rating

- High
- Moderate
- Low

Wildfire Risk

- Low
- Moderate
- High

0 4.75 9.5 19 Miles

Date created: 6/28/2019

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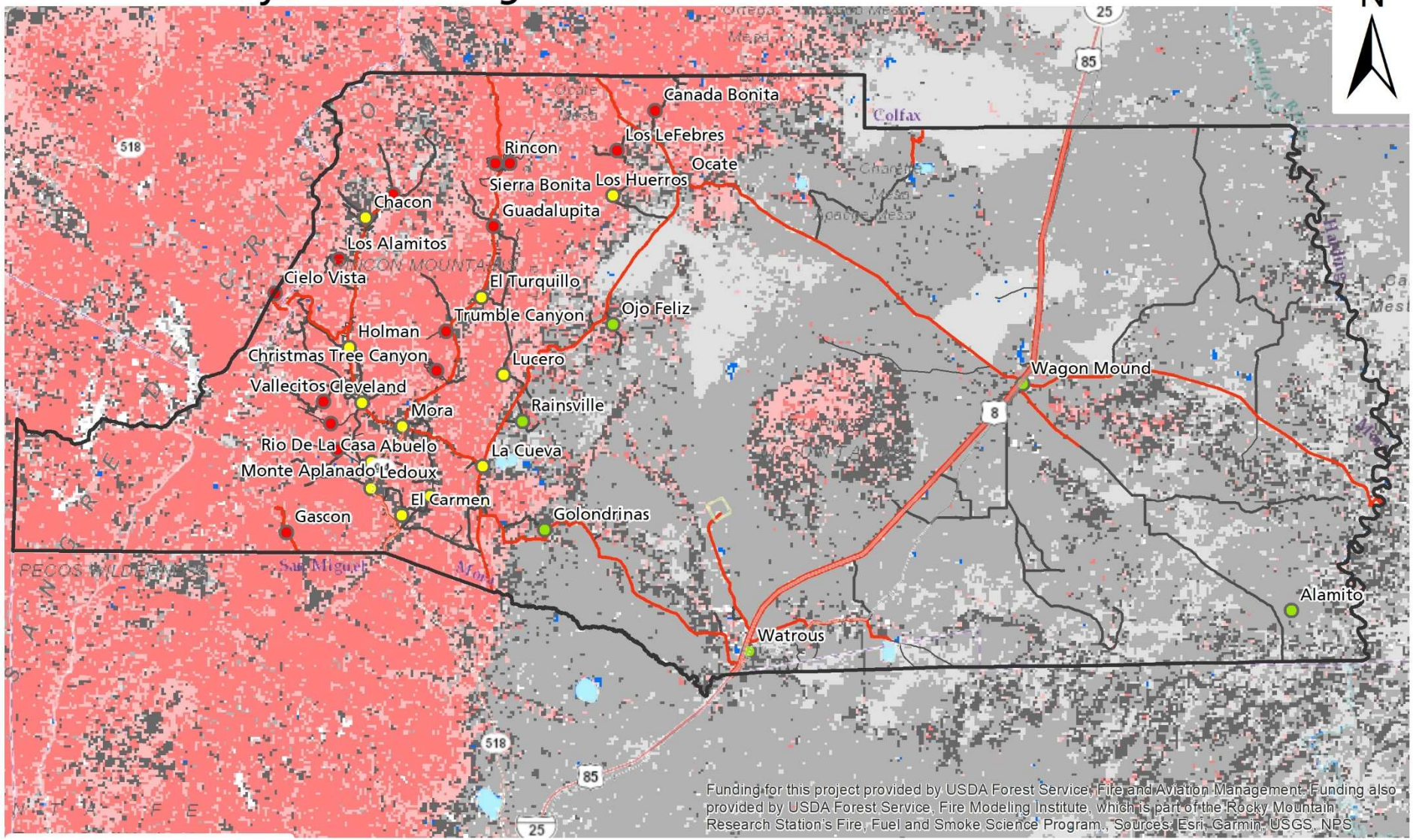
Mora County CWPP 2019 Wildfire Hazard Potential



Mora County Boundary

Communities at Risk

Risk Rating

- High
- Moderate
- Low

Wildfire Hazard Potential Classes

- Very Low
- Low
- Moderate
- High
- Very High
- Non-burnable
- Water

0 4.75 9.5 19 Miles

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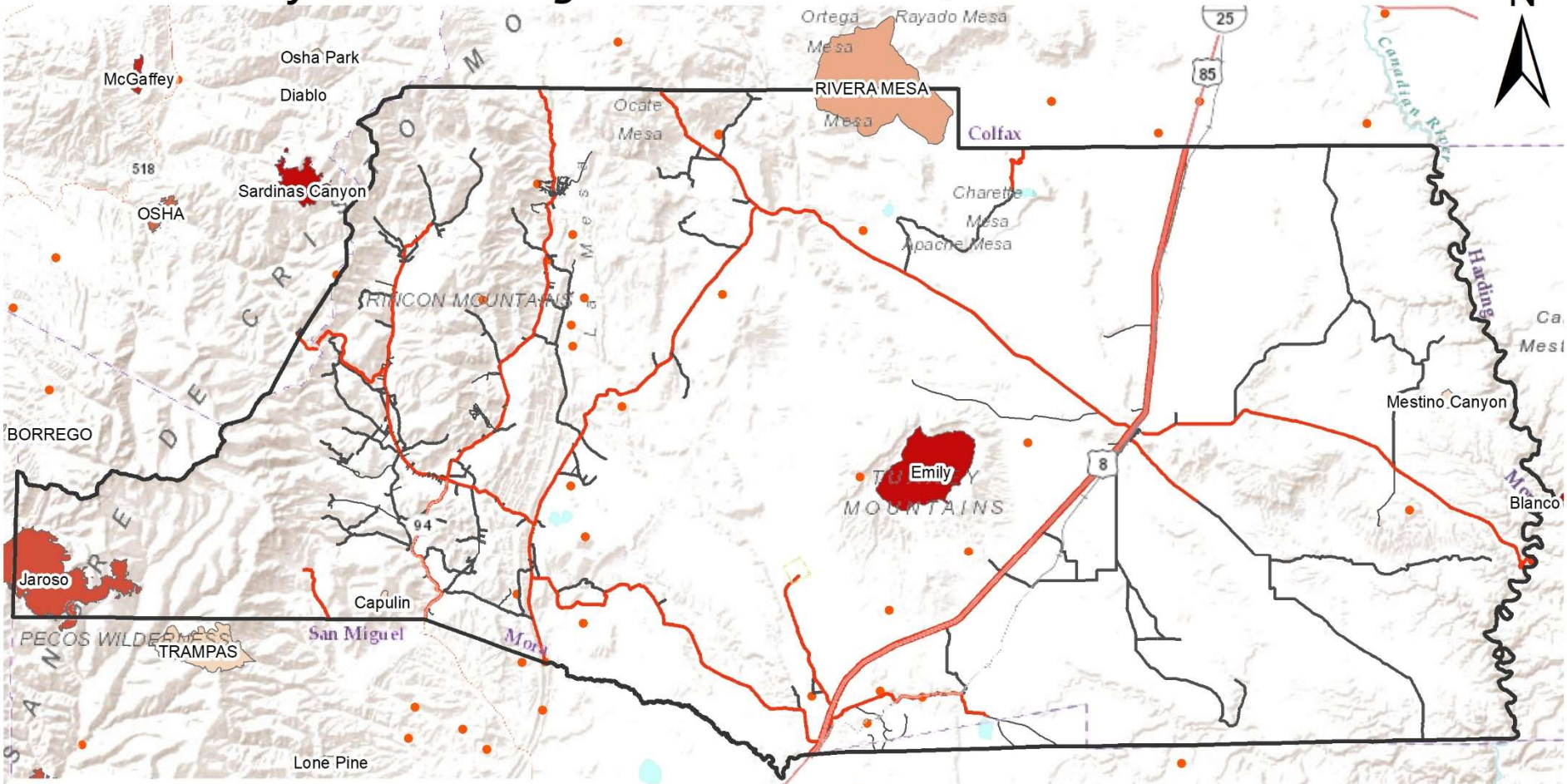
Wildfire History since 2000

Mora County CWPP 2019

Wildfire History



Mora County Boundary

Reported Fires on Private Property 2016-2018

Large Fires by Year

- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018

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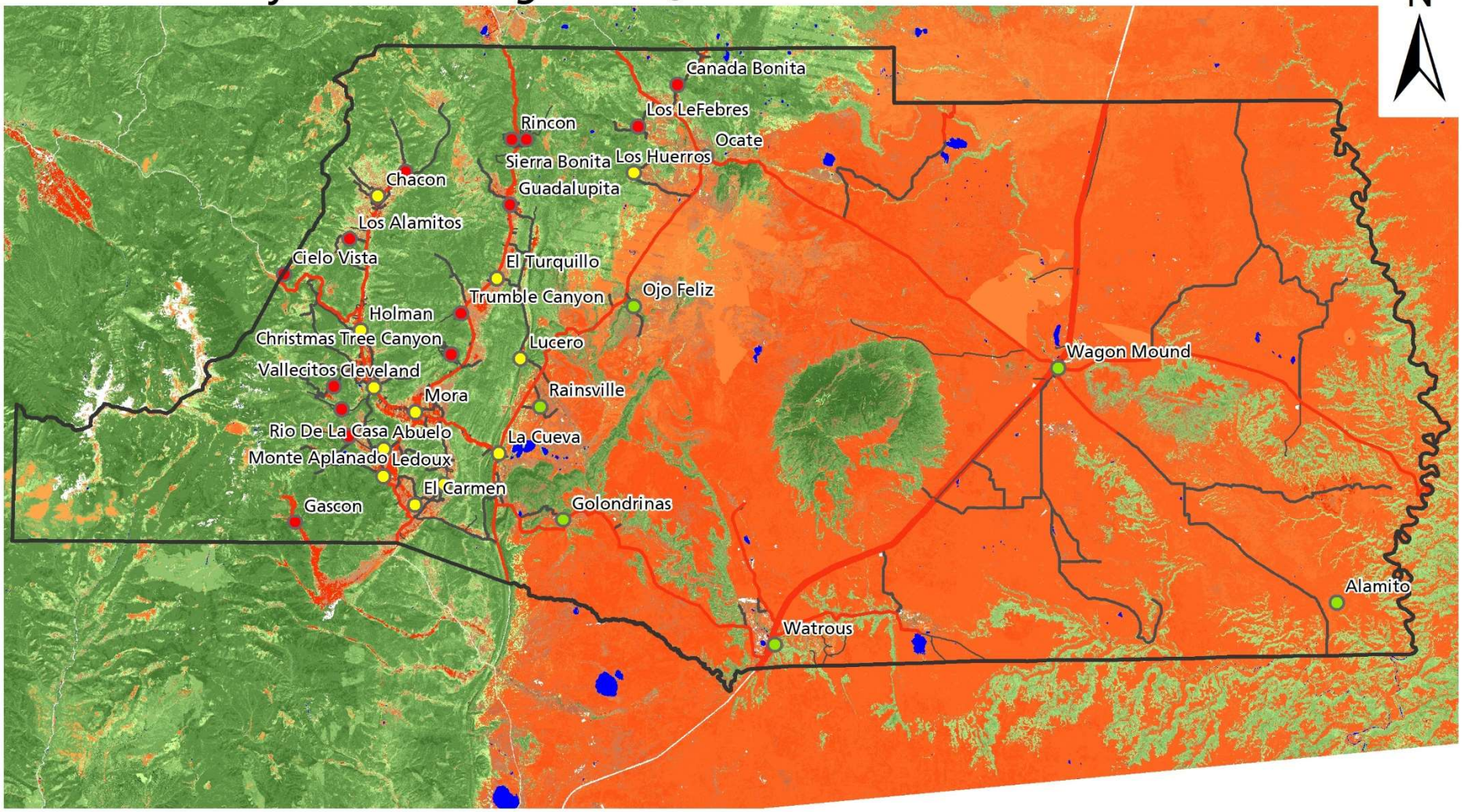
Mora County CWPP 2019 Vegetation Cover



Vegetation Cover

- Herb Cover >= 10 and < 20%
- Herb Cover >= 20 and < 30%
- Herb Cover >= 30 and < 40%
- Herb Cover >= 40 and < 50%
- Herb Cover >= 50 and < 60%
- Herb Cover >= 60 and < 70%
- Herb Cover >= 70 and < 80%
- Herb Cover >= 80 and < 90%
- Herb Cover >= 90 and <= 100%
- Open Water
- Shrub Cover >= 10 and < 20%
- Shrub Cover >= 20 and < 30%
- Shrub Cover >= 30 and < 40%
- Shrub Cover >= 40 and < 50%
- Shrub Cover >= 50 and < 60%
- Shrub Cover >= 60 and < 70%
- Shrub Cover >= 70 and < 80%
- Shrub Cover >= 80 and < 90%
- Shrub Cover >= 90 and <= 100%
- Tree Cover >= 10 and < 20%
- Tree Cover >= 20 and < 30%
- Tree Cover >= 30 and < 40%
- Tree Cover >= 40 and < 50%
- Tree Cover >= 50 and < 60%
- Tree Cover >= 60 and < 70%
- Tree Cover >= 70 and < 80%
- Tree Cover >= 80 and < 90%
- Tree Cover >= 90 and <= 100%

Mora County Boundary

Communities at Risk

Risk Rating

- High
- Moderate
- Low

0 2.75 5.5 11

Miles

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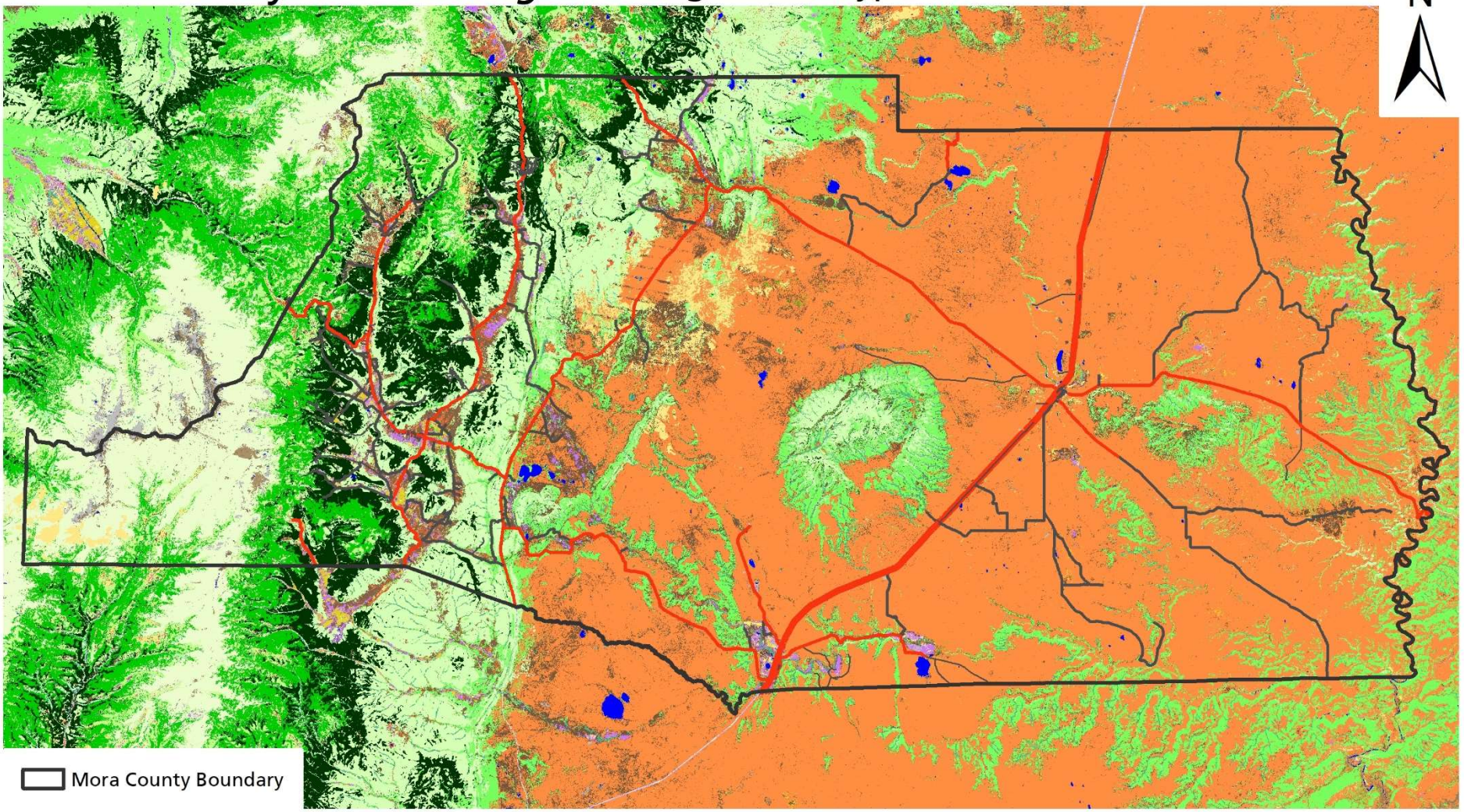
Date created: 6/28/2019

Vegetation Type

Mora County CWPP 2019

Vegetation Type



Vegetation Type

- Aspen-Mixed Conifer Forest and Woodland
- Big Sagebrush Shrubland and Steppe
- Douglas-fir-Grand Fir-White Fir Forest and Woodland
- Douglas-fir-Ponderosa Pine-Lodgepole Pine Forest and Woodland
- Grassland
- Grassland and Steppe
- Introduced Annual and Biennial Forbland
- Juniper Woodland and Savanna
- Juniper-Oak
- Limber Pine Woodland
- Low Sagebrush Shrubland and Steppe
- Mixedgrass Prairie
- Open Water
- Pinyon-Juniper Woodland
- Ponderosa Pine Forest, Woodland and Savanna
- Shortgrass Prairie
- Sparse Vegetation
- Spruce-Fir Forest and Woodland
- Western Riparian Woodland and Shrubland

0 2.5 5 10 Miles

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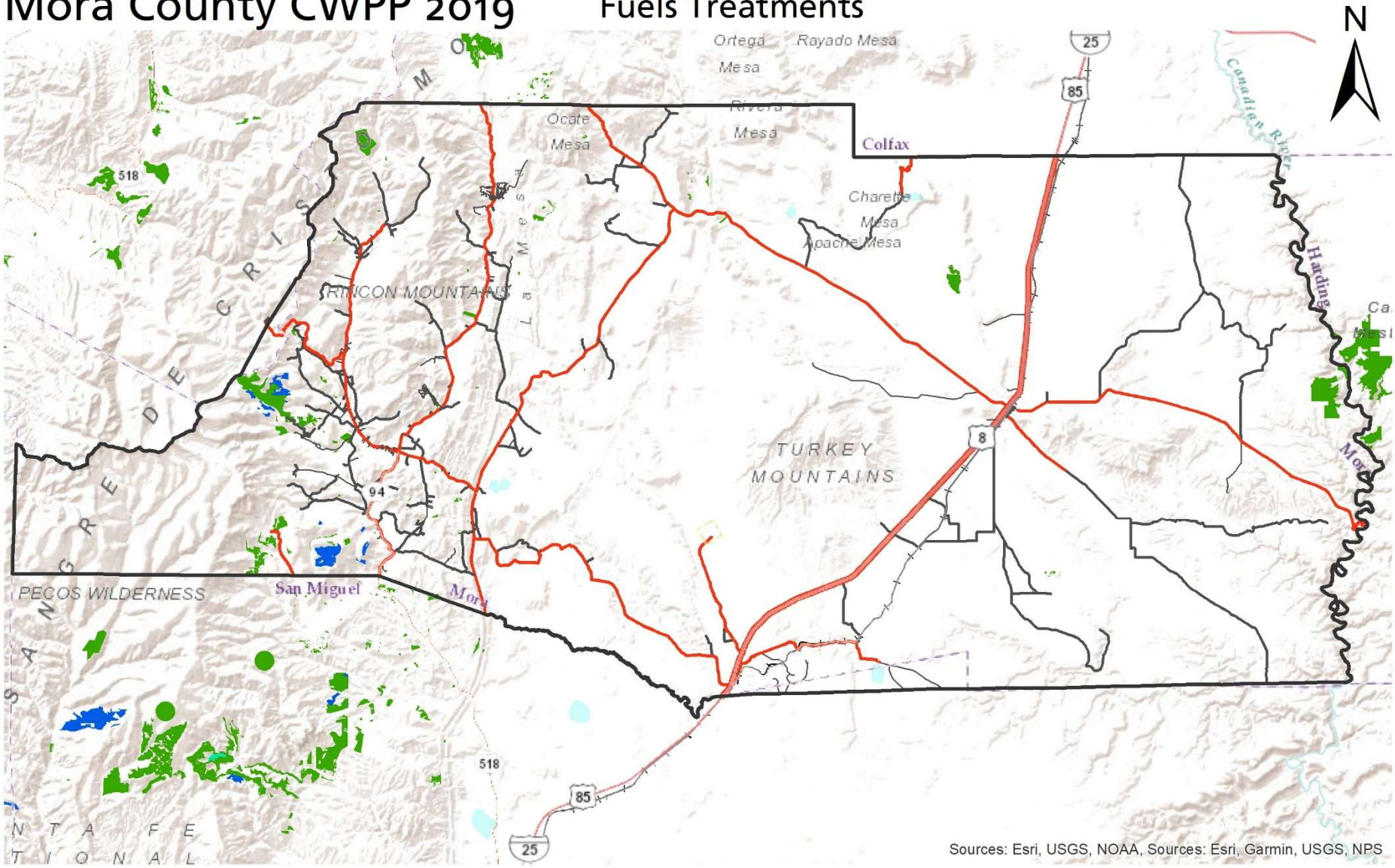
Date created: 6/28/2019

Fuel Treatments

Mora County CWPP 2019

Fuels Treatments



Mora County Boundary
Completed Treatments (1999-present)
Historical Treatments (pre-1999)
Ongoing Treatments
Railroads

0 4.75 9.5 19
Miles

Date created: 6/28/2019

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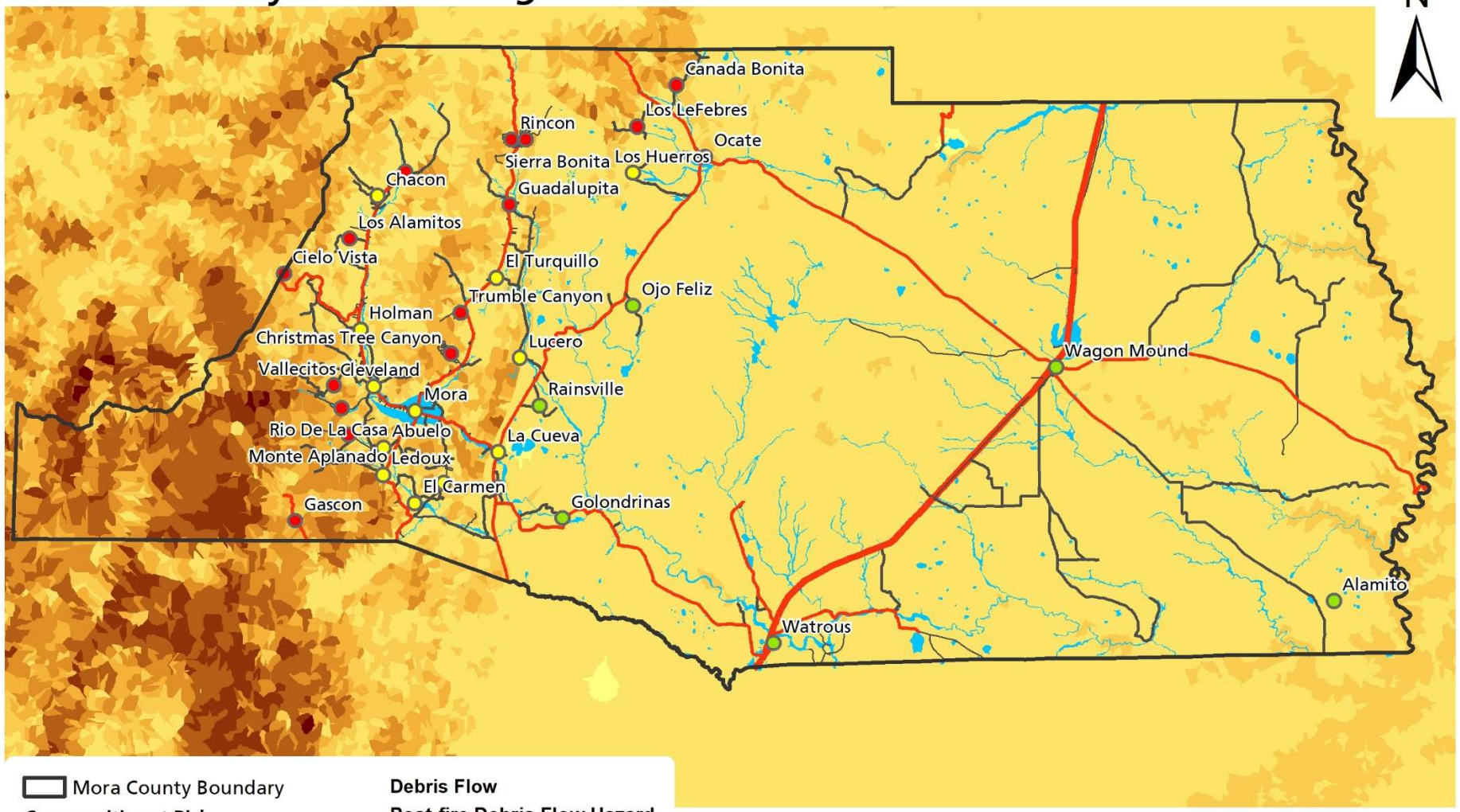
Post Wildfire Debris Flow Hazard

Mora County CWPP 2019 Post Fire Debris Flow Hazard



Appendix 2: Resources for Residents

- Visit Fire Adapted New Mexico for an exhaustive list of resources to prepare your home and yourself for wildfire:
  - https://facnm.org/prepare
  - https://facnm.org/smoke
  - https://facnm.org/assessmentools
  - https://facnm.org/countyleadership
  - https://facnm.org/fire-chief-wildfire-guide

- Living with Fire Guide:
  - http://www.emnrd.state.nm.us/SFD/FireMgt/FirePreventionandOutreachProgram.html

- Resources for Private Land-Owners to secure funding for forest treatments
  - http://www.emnrd.state.nm.us/SFD/Publications/documents/ResourcesforPrivateForestLandowners2017Rev170609_000.pdf

- Ready, Set, Go!
  - http://www.emnrd.state.nm.us/SFD/documents/RSGActionGuideNM.pdf

Appendix 3: Abbreviations

CE – Categorical Exclusion

CERT – Community Emergency Response Team

CHET VFD – Cleveland, Holman, Encinal, Tramperas Volunteer Fire Department

CWPP – Community Wildfire Protection Plan

EVT – Existing Vegetation Type

FD – Fire Department

FEMA – Federal Emergency Management Agency

FHI – Forest Health Initiative

FPA – Fire Program Analysis

FSG – Forest Stewards Guild

FSim – Fire Simulator

LMC VFD – Ledoux, Monte Aplanado, El Carmen Volunteer Fire Department

MSMEC – Mora-San Miguel Electric Cooperative

MVCHS – Mora Valley Community Health Services

NEPA – National Environmental Policy Act

NFL – Non-Federal Lands

NMAC – New Mexico Association of Counties

NMDOH – New Mexico Department of Health

NMFWRI – New Mexico Forest and Watershed Resilience Institute

NMHU – New Mexico Highlands University

NMSF – New Mexico State Forestry

NMSLO – New Mexico State Land Office

NMSP – New Mexico State Police

NMSU – New Mexico State University

NRCS – Natural Resources Conservation Service

NWCG - National Wildfire Coordination Group

SBR VFD – Sierra Bonita - Rincon Volunteer Fire Department

SWCD – Soil Water and Conservation District

VFD – Volunteer Fire Department

USFS – United States Forest Service

USFWS – United States Fish and Wildlife Service

WHP – Wildfire Hazard Potential

WUI – Wildland Urban Interface