



MODOC COUNTY



COMMUNITY WILDFIRE PROTECTION PLAN

2017



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COUNTY OF MODOC

BOARD OF SUPERVISORS

David Allan, District 1
Patricia Cullins, District 2
Kathie Rhoads, District 3
Elizabeth Cavasso, District 4
Geri Byrne, District 5

Prepared by

Modoc County Fire Safe Council

In cooperation with

California Department of Forestry and Fire Protection (CalFire)
USDA Forest Service, Modoc National Forest (USFS)
DOI Bureau of Land Management, Applegate Field Office (BLM)
USDA Natural Resources Conservation Service (NRCS)
Modoc County Rural Fire Departments
North Cal-Neva Resource Conservation and Development Council (RC&D)
Modoc County Office of Emergency Services (MCOES)
Alturas Rancheria

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Modoc County, Title III Secure Rural Schools & Community Self-Determination Act*

and

California Fire Safe Council, Cooperative Fire Program of the U.S. Forest Service, Department of Agriculture, Pacific Southwest Region*

November 2017

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This Community Wildfire Protection Plan developed for Modoc County:

- Was collaboratively develop with consultation from interested parties and federal agencies managing land in Modoc County
- Identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect Modoc County.
- Recommends measures to reduce the ignitability of structures throughout the area addressed by the Plan.

The following entities attest that the standards listed above have been met and mutually agree with the contents of this Modoc County Community Wildfire Protection Plan.



Brian Layne, LMU Acting
Unit Chief, CalFire

1-11-18
Date



Ron Sheer, Modoc Fire Chiefs
Association

1-19-18
Date



Geri Byrne, Madam Chair
Modoc County Board of Supervisors

JAN 09 2017
Date

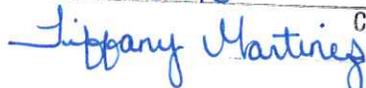
COUNTY OF CALIFORNIA
COUNTY OF MODOC SS
I, CLERK OF THE BOARD OF SUPERVISORS
DO HEREBY CERTIFY THAT THIS IS A FULL
TRUE AND CORRECT COPY OF THE ORIGINAL
DOCUMENT ON FILE IN MY OFFICE. WITNESS
MY HAND AND OFFICIAL SEAL THIS
DATE 1-9-2018
 CLERK



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Executive Summary

This Community Wildfire Protection Plan (CWPP) is an update to the 2005 Modoc County CWPP. This update was developed by the Modoc Fire Safe Council (MFSC) with funding from the Modoc County Board of Supervisors through Title III of the Secure Rural Schools & Community Self-Determination Act and additional funding from the California Fire Safe Council (CFSC) through the Cooperative Fire Program of the U.S. Forest Service, Department of Agriculture, Pacific Southwest Region. The MFSC worked in cooperation with numerous Federal, State, Local, and Tribal Partners to develop this plan.

Partners and Stakeholders include:

- Alturas Rancheria
- Bureau of Indian Affairs (BIA)
- Bureau of Land Management (BLM)
- CalFire
- City of Alturas
- Fort Bidwell Indian Reservation
- Modoc County, Board of Supervisors
- Modoc County, Local Fire Districts
- Modoc County, Public-At-Large
- Modoc Resource Conservation District (MRCD)
- Natural Resource Conservation Service (NRCS)
- North Cal-Neva Resource Conservation & Development Council (RC&D)
- Pit River Tribe
- U.S. Forest Service (USFS)

These partners and stakeholders work together by analyzing lessons learned from past major wildland fires to identify issues and improvements that need to be addressed in Modoc County. Through these efforts, the partners prioritize and coordinate integrated efforts to reduce the danger wildland fire poses to the communities of Modoc County, California. The purpose of this project is to reduce the impact of catastrophic wildfire to human life, property, and natural resources in Modoc County. This will be accomplished through focused pre-fire planning and mobilization of the local community to be involved in the coordinated effort to protect Modoc County from catastrophic wildfires before they start.

Historically, in pre-settlement and settlement years through the early 1900s, wildland fire was a naturally occurring event throughout much of California and was used as the land management tool by native tribes. Now, due in part to nearly 100 years of fire suppression, wildland fuel loads have increased to unnatural levels intensifying the risk of uncontrollable and catastrophic wildfires in the region. As a consequence, these fuel conditions coupled with the expansion of rural development into the zone of transition between unoccupied land and human development, known as the Wildland Urban Interface (WUI), have led to a significantly increased risk for potential loss of life and property from wildfire.

Modoc County's rural appeal and associated lifestyles are highly desirable and sought by many. However the integration of residential, recreational, and commercial occupancies and activities within the flammable natural vegetation of the WUI is a dangerous mix. All or portions of each of the communities in Modoc County are within designated high or very high fire hazard severity zones (CALFIRE, 2017).

The Community Wildfire Protection Plan is a dynamic document. As such it should be reviewed periodically, with facilitation from the Modoc Fire Safe Council, and amended as needed by the Modoc County Board of Supervisors. It has been 12 years since the last update.

Modoc Fire Safe Council

The Modoc Fire Safe Council was formed in October, 2000 in response to an identified need by residents who live in the WUI to be informed of the risk of potentially serious wildfires with tragic results including loss of lives and property. The MFSC is a voluntary non-profit 501(c) (3) corporation formed to enhance the effectiveness of fire prevention and protection. The cooperative nature, along with the educational- and outreach-oriented efforts of this group are critical components for pre-wildland fire planning and mitigation.

The Council adopted its Charter and Bylaws in July 2001 setting forth the mission and guiding principles of the Council, establishing a grassroots problem-solving body committed to the needs of the region. The geographic area of the Council covers is Modoc County and adjacent areas extending into Shasta, Siskiyou, and Lassen counties. Included are areas within the Joint Fire Protection Districts of Adin, Tulelake, Cedarville, and Eagleville. The MFSC Mission is to bring together the resources of private and public sector elements and organizations in the interests of wildfire prevention and loss mitigation.

The MFSC consists of representatives from the city of Alturas and rural communities throughout Modoc County. There are also non-voting representatives from County, State, and Federal agencies, including local volunteer fire departments, CalFIRE, BLM, Modoc National Forest, and residents of Modoc County. The Council has a strong relationship and works closely with the County Board of Supervisors to plan and obtain funding to address wildfire concerns in Modoc County.

CWPP Community Meetings

The CWPP working group (MFSC, BLM, USFS, RC& D, and CalFire representatives) organized a series of outreach and information gathering meetings for Modoc County residents, agency representatives, and the general public. The meetings were held in March 2016 at three locations in the county: Surprise Valley, Alturas, and Adin. The purpose of the meetings was to discuss updating the CWPP and identify and prioritize future projects within the WUI based on local knowledge. Many members of the community participated in these meetings providing input on project needs and priorities within the community and Modoc County as a whole.

Feedback received from this outreach effort is found in Appendix B of this document.

Background Information

Modoc County is located in the northeastern corner of California and is bordered by Klamath County and Lake County, Oregon to the north, Washoe County, Nevada to the east, Lassen County and Shasta County, California to the south and Siskiyou County, California to the west (Appendix A: Figure 1). Modoc County is approximately 4,203 square miles or 1,419,840 acres. As of the 2010 census, the population of Modoc County was 9,686. As of 2002, there were 4,785 housing units, of which 68% are occupied fulltime. Modoc County's government structure is typical of counties in California, governed by a Board of Supervisors consisting of five elected members. The federally recognized tribal communities of Fort Bidwell Reservation, Cedarville Rancheria, Alturas Rancheria, and the Pit River Tribe are located in Modoc County and governed by Tribal Councils.

Native American people have resided in Modoc County for at least 12,000 to 14,000 years. The Native American tribes who have a historical presence within Modoc County are the Modoc, Northern California Paiutes and six of the eleven bands of the Pit River Tribe, which are the Hewisedawi, Kosalektawi, Hammawi, Astarawi, Atwamsini, and Ajumawi. Hudson Bay fur trappers arrived in the 1820s and 1830s. Immigrants on the way to Oregon passed through Modoc County in the 1840s and European settlement started in the 1860s in Surprise Valley, the eastern side of the county.

Geography and Natural History

The county has a variety of open valleys, forested plateaus, mountain meadows, and high mountain peaks and ranges. Elevations within the county range from about 4,120 feet in Big Valley to 9,906 feet at Eagle Peak in the Warner Mountain Range. Major valleys include Surprise Valley at 4,600 feet in elevation and Hot Springs Valley at about 4,300 feet, both west of Alturas. The Pit River originates in the Warner Mountains. The two forks of the Pit River come together at Alturas and flow through to Big Valley where it exits the county.

The Warner Mountain Range, a volcanic mountain chain, dominates the eastern side of the county. The Modoc Plateau, built up of irregular masses of volcanic materials and mountain peaks, occupies the central and northern areas. Juniper encroachment is a problem in this high desert plateau dominated by sagebrush and ancient lava flows. The many hills and basins formed across the plateau are a result of volcanic activity and geologic block faulting over a long time period. The Adin Mountains and Big Valley Mountains surround Big Valley in the southwest. The Tulelake Basin, rich agricultural land claimed when Tule Lake was drained, is in the northwest part of the county. The lower slopes of the Medicine Lake Highlands, the largest shield volcano in North America, lie on the western edge of the county (Appendix A: Figure 2).

Land Ownership, Use, and Protection

The majority of Modoc County is in public ownership (approximately 85%) (Appendix A: Figure 3).

The vast majority of this public land is unoccupied natural habitat managed by federal and state agencies (Figure 3). This includes:

- U.S. Forest Service – Modoc National Forest
- Bureau of Land Management – Applegate Field Office
- Bureau of Indian Affairs
- Bureau of Reclamation (BoR)
- U.S. Fish and Wildlife Service (USFWS) – Modoc National Wildlife Refuge, Tule Lake National Wildlife Refuge, & Clear Lake National Wildlife Refuge
- California Department of Fish and Wildlife (CDFW) – Ash Creek Wildlife Area

The citizens of the United States are the largest landowner in Modoc County. The Modoc National Forest administers the USDA Forest Service lands. These lands are managed under the multiple use concepts, which include grazing, watershed and wildlife uses, timber production, and recreation. The Department of the Interior's Bureau of Land Management administers a large area of federal lands, especially in the non-timbered central and eastern portions of the county.

Other public lands in the county include USFWS Refuges and portions of Lava Beds National Monument administered by the U.S. National parks Service (NPS). On the east side of the Warner Mountain range, located in the most northeastern corner of Modoc County and the State, the Fort Bidwell Indian Reservation manages commercial and non-commercial forests, woodlands, and pasture lands on their Reservation. In addition to these resources the Fort Bidwell Indian Reservation has government facilities, commercial operations, and residential homes. The township of Fort Bidwell is east of the Reservation. The Cedarville Rancheria also lies on the east side of the Warner Mountain range and has residential homes, a store, and a commercial truck scale off of Hwy 299. The Pit River Tribe which has jurisdiction over the XL Reservation has administrative and commercial operations, a truck stop, residential homes, woodlands, pastures for farming and ranching, and scattered parcels of land throughout the county. The Alturas Rancheria has a few residential homes and a casino with administrative offices.

Private lands within Modoc County have many different uses. Private timber lands owned by Sierra Pacific Industries (SPI) in addition to land managed by W.M. Beaty and Associates, Inc., and other smaller landowners, conduct timber growing and harvesting operations under the sustained yield concept, which under state law provides equal consideration to non-timber forest values.

Agriculture, including livestock production, is a major private land use activity within Modoc County. Mainly in the major valleys of the county, farmers and ranchers produce field crops such as potatoes, grain, mint, wild rice, and hay. Livestock products include beef and some goats and sheep. Fish farming is becoming more common.

The 2010 United States Census reported that Modoc County had a population of 9,686. The racial makeup of Modoc County was 8,084 (83.5%) White, 82 (0.8%) African American, 370 (3.8%) Native American, 78 (0.8%) Asian, 21 (0.2%) Pacific Islander, 680 (7.0%) from other races, and 371 (3.8%) from two or more races. Hispanic or Latino of any race were 1,342 persons (13.9%). In the county the population was spread out with 25.6% under the age of 18, 5.7% from 18 to 24, 23.3% from 25 to 44, 27.7% from 45 to 64, and 17.6% who were 65 years of age or older. The median age was 42 years. For every 100 females there were 102.4 males. For every 100 females age 18 and over, there were 98.7 males (U.S. Census Bureau 2010).

The median income for a household in the county was \$27,522 and the median income for a family was \$35,978. Males had a median income of \$30,538 versus \$23,438 for females. The per-capita income for the county was \$17,285. About 16.4% of families and 21.5% of the population were below the poverty line, including 29.7% of those under age 18 and 8.6% of those aged 65 or over. Modoc County has the lowest median household income of any county in California (U.S. Census Bureau 2010).

The City of Alturas, located in the central portion of the county, is the county seat and the only incorporated city in the county. Approximately 2,837 residents live in the greater Alturas area. Approximately 21 unincorporated, smaller communities comprise the remainder of the population centers in Modoc County (Appendix A: Figure 4). The County is accessed from Lakeview, Oregon via US 395 and Klamath Falls, Oregon via Hwy 139 from the north, Susanville, California via US 395 from the south, Redding from the west via Hwy 299, and Gerlach, Nevada from the south via NV 447.

Due to the abundance of public lands with natural landscapes, all of the communities in Modoc County, including residential neighborhoods, commercial districts, and government infrastructure, are within the WUI and subject to high and very high fire threat (Appendix A: Figure 5). Area communities have been listed in the Federal Register (August 17, 2001) as Urban Wildland Interface Communities in the Vicinity of Federal Lands that are at High Risk from Wildfire (Appendix A: Figure 6). These communities within the defined MFSC geographic area include:

- Adin
- Alturas
- Cal-Pines Lower Units
- Cal-Pines Upper Units
- Canby
- Cedarville
- Day
- Eagleville
- Davis Creek
- Fort Bidwell
- Lake City
- Likely
- Lookout
- New Pine Creek
- Newell
- Tulelake

Features within these communities potentially at risk from encroaching wildfires include:

- Human lives
- Existing residences and outbuildings
- Churches
- Small businesses such as stores, restaurants, and motels
- Schools
- Railroads
- Utilities and associated infrastructure for delivery of emergency and other critical services
- Recreational areas and activities
- Roads and highways
- Livestock and feed
- Agricultural Crops

- Archaeological Sites and Artifacts
- Wildlife and wildlife habitat
- Air and water quality
- Aesthetic values

A loss of any number of these features or intrinsic values may also impact employment, cost of living, insurance availability and rates, health, and community stability.

All communities are surrounded by a variety of diverse natural resources including forestland, croplands, rangelands, numerous watercourses, and natural vegetative cover. All are at risk from potentially devastating and catastrophic losses from wildland fire. A loss or damage to any of these key natural resources would result in a negative impact as they play an important role in the stability of these communities.

In addition to these uses, the natural resources in and around these communities provide various products and services and create recreational opportunities such as hunting, fishing, and hiking. The forest and vegetative cover also nurtures the soil and reduces erosion that would otherwise result in sedimentation into nearby creeks and rivers. The county has several important watersheds to protect from wildfire. They include the Pit River, Tulelake Basin, and Surprise Valley watersheds. Protecting the natural resources surrounding these communities is essential to maintain and enhance the communities' economic stability.

There are numerous wildland fire protection agencies that have responsibility within the county, including the USFS, the BLM, BIA, and CalFire. There are also numerous fire departments and fire protection districts who serve local areas; many have mutual aid agreements with each other as well as state and federal agencies for fire suppression and protection. The level of fire protection provided for the communities in the county is sufficient, but could benefit from upgrading and improving preparedness. The overall goal is to protect life, resources, assets, and wildlife against loss from fire. Appendix A: Figure 7 shows the Local Responsibility Areas (LRA) and State Responsibility Areas (SRA) in Modoc County.

Fire Protection Districts and Volunteer Fire Departments in Modoc County include:

- Adin Fire Protection District
- Alturas City Fire Department
- Alturas Rural Fire Protection District
- Bieber Fire Protection District
- Cal Pines CSD Fire Department
- Canby Fire Protection District
- Cedarville Fire Protection District
- Davis Creek Fire Protection District
- Eagleville Fire Protection District
- Fort Bidwell Fire Protection District
- Lake City Fire Protection District
- Likely Fire Protection District
- Lookout Fire Protection District
- Tulelake Fire Protection District
- Willow Ranch Fire Protection District

Wildfire Evaluation

The forested areas north of Lookout, north and east of Davis Creek, south and east of Likely, and many other areas scattered through the county have had a history of large fires (Appendix A: Figure 8).

Climate

The climate in Modoc County is typical of Great Basin high desert with warm, dry summers and cold, dry winters. Thunderstorms are common over the adjacent mountains during the summer with dry lightning a common occurrence. The prevailing afternoon wind is S-SW at 5 to 15 mph. Summers in the county are described as warm days with cool nights. July temperatures are generally in the 80s during the day and 40s at night. Temperatures can reach the low 100s for a time in the summer, but are usually in the 80s and low 90s. Winters average around freezing during the day. Lows have been recorded in the minus 30s. Daily differences of 50 degrees are common.

Winter storms moving inland from the Pacific Ocean lose much of their moisture over the Marble and Trinity mountains and Mount Shasta before reaching Modoc County. Total precipitation ranges from 11 inches in the Tulelake Basin to 20 inches in the Warner Mountains with most rain, sleet, hail, and snowfall occurring between November and May. Little precipitation can be expected during the summer months, June through October. Humidity in the summer will range between 7% and 15% with evenings at 30% to 40%. Because much of the county is a broad and open plateau at an elevation of over 4000 feet, summer winds can become strong and the humidity can drop well below 10%, creating a serious fire hazard.

The normal fire season extends from June through mid-October, with July, August, and September being the peak fire season period. Many fires in this area are started by equipment or lightning. Much of the vegetation in and around the county irrigated in the summer provides a measure of protection for nearby communities. Due to the presence of flammable grass, sagebrush, and trees, wind-driven wildfires can threaten ranch buildings and outlying homes.

Vegetation

Vegetation types in Modoc County are largely dependent on the mean annual precipitation received in any given area, generally in the form of snow. Precipitation, in turn, is largely determined by geographic location and the rain-shadow effect. In general, higher amounts of precipitation occur on the western side of the county, dropping off rapidly on the eastern side and in the valleys.

Areas of higher precipitation and sufficient soil depth support tree dominated vegetation types such as mixed conifer and pine forests. The amount of brush and grass associated with these types varies but can be tall and thick, especially in openings void of trees.

Within the tree-dominated vegetation types, both the live vegetation and particularly the non-living byproduct of vegetation (leaves, needles, twigs, branches, and standing dead brush and trees) provide fuels for wildfire. According to the Anderson (1982) Fuel Model System, the forested areas comprised of timber and slash fuel complexes would generally predict fire behavior that is difficult to suppress.

In slightly drier zones of the county, the predominant vegetation type is pine or juniper with a grass understory. The density of trees and shrubs is generally much lower in this type of forest. Grass, shrub, and to a lesser degree the timber fuel model complexes are represented in these areas. The amount of burnable fuel in the form of dead material and buildup of thick and continuous brush and grass can still contribute to and create dangerous fuel and fire behavior conditions.

Much of the vegetation in the lower elevations of the county is comprised of shrub-dominated types such as sagebrush and bitterbrush. Trees, if any, are typically juniper, and the distribution of shrubs, grasses, and forbs is variable, often depending on the type of soil. The lower elevations are characterized by the grass and shrub fuel model complexes and generally contribute to fire behavior that is relatively easier to control when compared to tree dominated vegetation types. However, fires in lower elevations can spread quickly and be dangerous and difficult to control, particularly if wind-driven.

Many other vegetation types are found in smaller pockets within the county. These include riparian areas (generally narrow, dense groves of broadleaved and deciduous trees and shrubs), aspen groves, wetlands, irrigated pastures, grassy meadows, and areas of tall brush throughout the county. These areas have various uses including agriculture, livestock grazing as well as wildlife habitat and are, with exceptions, generally lower wildfire risk areas. Ongoing juniper encroachment into the grass and shrub dominated areas as a result of fire suppression contributes to decreasingly controllable fire behavior in these areas.

Wildfire plays a critical role in altering vegetation. In the timbered portions of the county, generally east and west of Alturas, areas affected by wildfires are often reduced to early stages of vegetation including grass and brush fields and/or young timber stands that take long periods of time to recover and regain pre-fire conditions. In the eastern portions of the county, natural post-fire recovery is also very slow. The generally dominant bitterbrush and sagebrush component is often succeeded by snowbrush and invasive noxious weeds, including low value cheat grass. Restoration efforts on these arid vegetation types are particularly difficult and expensive after the devastating effects of wildfire.

Existing fire hazards within the communities primarily consist of the natural vegetation and overstocked forest lands. In addition, the annual grasses are at risk as they continue to dry through the summer months. Sources of fire risk from within communities include normal residential activities, particularly the common seasonal use of wood stoves for heating, as well as the use of equipment and burn barrels.

Fire Hazard

Fire Hazard is a way to measure physical fire behavior so that people can predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front.

The fire hazard model considers the wildland fuels. Fuel is that part of the natural vegetation that burns during the wildfire. The model also considers topography, especially the steepness of the

slopes. Fires burn faster as they burn upslope. Weather (temperature, humidity, and wind) has a significant influence on fire behavior. The model recognizes some areas of California have more frequent and severe wildfires than other areas. Finally, the model considers the production of burning fire brands (embers), how far they move, and how receptive the landing site is to new fires. Appendix A: Figure 9 shows the Fire Hazard Severity for Modoc County and Appendix A: Figure 10 shows the Fire Hazard within the WUI.

Fire Threat

The California Fire Alliance, a coalition of representatives from state and federal fire agencies originally formed in 1996 that collaborate on integrating fire management and planning across jurisdictional boundaries and develop procedures to identify areas in California that pose significant threats from wildfire to the people of California. The three main components in the assessment of threat from wildland fire to WUI areas of California are:

- Ranking fuel hazard
- Assessing the probability of wildland fire
- Defining areas of suitable housing density that lead to Wildland-Urban Interface fire protection strategy situation.

Appendix A: Figure 11 shows the Fire Threat assessment for Modoc County and Appendix A: Figure 12 shows the fire threat within the WUI.

Fire Issues and Community Recommendations

The following issues, listed by geographic area, have been identified by agency representatives and community members during public meetings and surveys. A survey of Modoc County residence was conducted in June 2016 the results of which are included in Appendix B. Primary concerns of the 41 residence who responded included: absentee owners who do not protect their properties from fire danger, heavy fuel loads on public lands, and an uninformed public regarding fire danger and emergency response. Of the 41 residence that responded:

- 95% owned their property
- 66% did not know whether they lived in the WUI
- 32% did not know their Emergency Response Agency
- 83% did not know if there was an evacuation plan for their area
- 79% did not know of the CWPP
- 17% were not aware of wildfire protection programs available in the county

The Working Group for the Modoc County Community Wildfire Protection Plan has considered its plan for identifying roles and responsibilities, funding needs, and timetables for carrying out priority projects. This will include fuels treatment priorities, preferred methods for fuels treatment projects, location of the wildland-urban interface, structural ignitability recommendations, and information and actions identified. Appendix C contains all of the recommendations in order of priority and will be updated annually by the CWPP Working Group. The MFSC and other parties will accomplish these recommendations as funds become available using community input and then distribute the new recommendations to help educate stakeholders and residents.

Recommended Actions Throughout Modoc County

- 1. Address properties that pose a risk to neighbors and communities:** There are many absentee and uninformed landowners in Modoc County whose lack of fire protection measures are resulting in a risk to neighbors and the community. In addition, there are many low income, elderly, and disabled residence who need assistance maintaining fire safe homes.

Recommendations:

- a. Continue to seek annual funding for the MFSC's Residential Chipping and Landowner Assistance Program (Priority: High, RANK #3).*
 - b. Conduct outreach to landowners to identify properties that pose a fire risk to neighbors and communities (Priority: High).*
- 2. Address public lands within or adjacent to the WUI that pose a risk or provide emergency access to Modoc County Communities:** There are many communities in Modoc County that are adjacent to public lands or have public roads that provide access. Effort should be made to address hazardous fuel conditions in these areas and develop projects to address these issues.

Recommendations:

- a. Seek annual funding to develop the County Public Road Chipping Program to reduce fuel loads along public roads and improve access for the public and emergency personnel. (Priority: High, RANK #4)*
 - b. Work with the USFS and BLM to develop Fire Prevention Plans for Modoc National Forest- and BLM-managed lands within the WUI and obtain funding to implement fuels reduction projects in high priority areas, including Summerland and Likely.(Priority: High, RANK #6)*
 - c. Identify critical areas along easements and right-of-ways that would benefit from roadside chipping. (Priority: High)*
- 3. Community outreach regarding defensible space and fire danger in Modoc County:** Many residents of Modoc County, including absentee owners, have not created defensible space around their residence or property. Many residents are not aware of the resources available to assist them in preparing for a catastrophic wildfire event in Modoc County.

Recommendations:

- a. Periodic outreach in both English and Spanish including workshops, newsletters, web posts, regarding defensible space, fire-safe landscaping, and the MFSC's chipper program (Priority: High)*
 - b. Develop MFSC website. Utilize social media to share fire-prevention information and resources. (Priority: High)*
- 4. Fuel breaks around telecommunication and other sites important for emergency operations:** There are many telecommunication sites throughout Modoc County that are

important for emergency communication and need fuel breaks around them for protection.

Recommendations:

- a. *Work with Federal, State, and local governments to create fuel breaks around important telecommunication and emergency operations sites(Priority: High)*

- 5. Maintain Existing fuel breaks within Modoc County:** MFSC and other partners have implemented many fuel breaks in Modoc County. Many of these need maintenance to maintain their effectiveness. As part of the ongoing efforts to ensure Modoc County communities continue to be protected and reduce risk from wild land fires, efforts should be made to monitor and evaluate the implementation and effectiveness of community fire safety projects. Those projects designed to create defensible space around community structures and individual residences should be monitored on an annual basis to reinforce implementation and to ensure they are properly and effectively implemented.

Recommendations:

- a. *Evaluate existing fuel breaks, including CalPines, Rush Creek, Emerson Canyon, Lake City, Fort Bidwell Power Station, Modoc Recreational Estates, Granger Canyon, and obtain funding to maintain them (Priority: High)*
- b. *Develop a monitoring plan that identifies responsible parties to annually evaluate existing fuel breaks (Priority: Low)*

- 6. Defensible space regulations within LRAs:** While regulations exist at both the state and county level concerning maintenance of defensible space and other fire safe issues, those regulations do not apply to Local Responsibility Areas where the local fire department is responsible for suppression of wild land fires. LRA regulations would assist with various fire safe issues that currently cannot be addressed or enforced

Recommendations:

- a. *Encourage Modoc County to adopt LRA regulations equivalent to SRA regulations (Priority: High)*

- 8. Training and equipment for volunteer fire departments:** Many volunteer fire stations have outdated equipment and volunteers lack training that could result in safety issues.

Recommendations:

- a. *Pursue funding to continue training and obtain suppression equipment for volunteer fire stations (Priority: Low)*

Surprise Valley

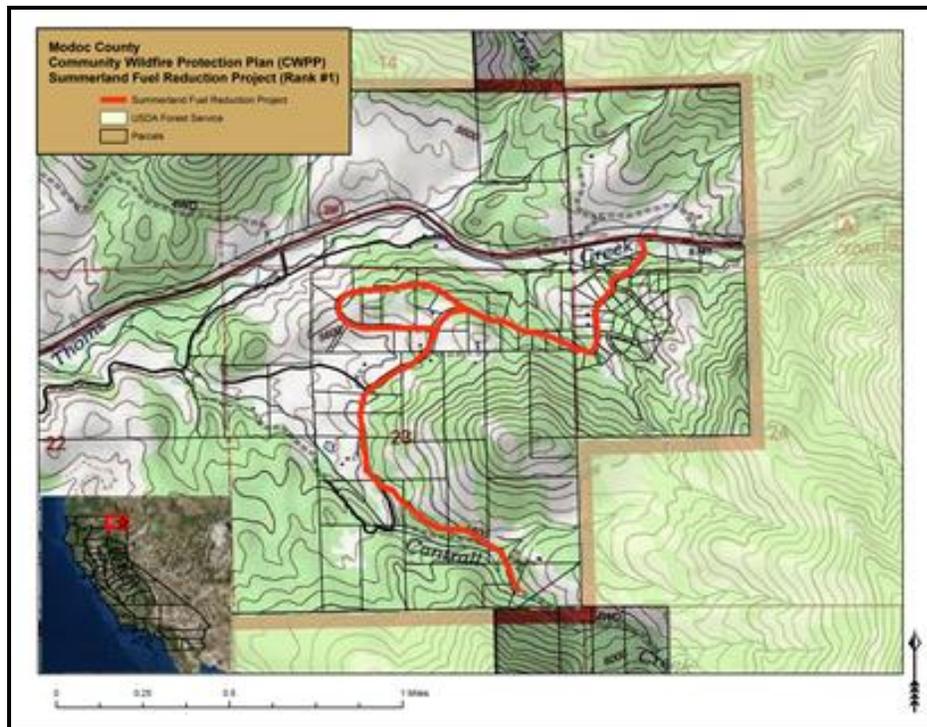
- 1. Fire danger on the eastside of the Warner Mountains:** The east side of the Warner Mountain has a unique, yet extremely dangerous factor of strong down slope west to east afternoon winds. This situation includes heavily fuel loaded canyons with residences at the base and north and south. This is especially true for the Cedarville/Lake City area.

Recommendations:

- a. *Continue to develop a contiguous fuel break from Fort Bidwell to south of Eagleville (Priority: High)*
- 2. Dangerous fuel loads on Cedar Pass, including the Summerland Subdivision:** Large areas along Hwy 299E from US 395 to Cedarville have damaged timber from bug infestations and heavy fuel loads. This area is within the Cedarville WUI. There is limited egress from the Summerland subdivision in case of evacuation or emergency and the one main road goes across an old bridge. At this time they do not have an evacuation plan available. The Summerland Wildfire Hazard Mitigation plan will be used for project planning.

Recommendations:

- a. *Develop a fuel reduction project to create fire break in the WUI on the upper end of Summerland to protect residences (Priority: High, RANK #1)*
- b. *Develop alternative evacuation route for the Summerland subdivision (Priority: High)*
- c. *Create an evacuation plan for the Summerland subdivision (Priority: High)*
- d. *Reach out to absentee owners regarding fire hazard issues and conduct fuel reduction project in the Thoms Creek Estate. (Priority: High)*

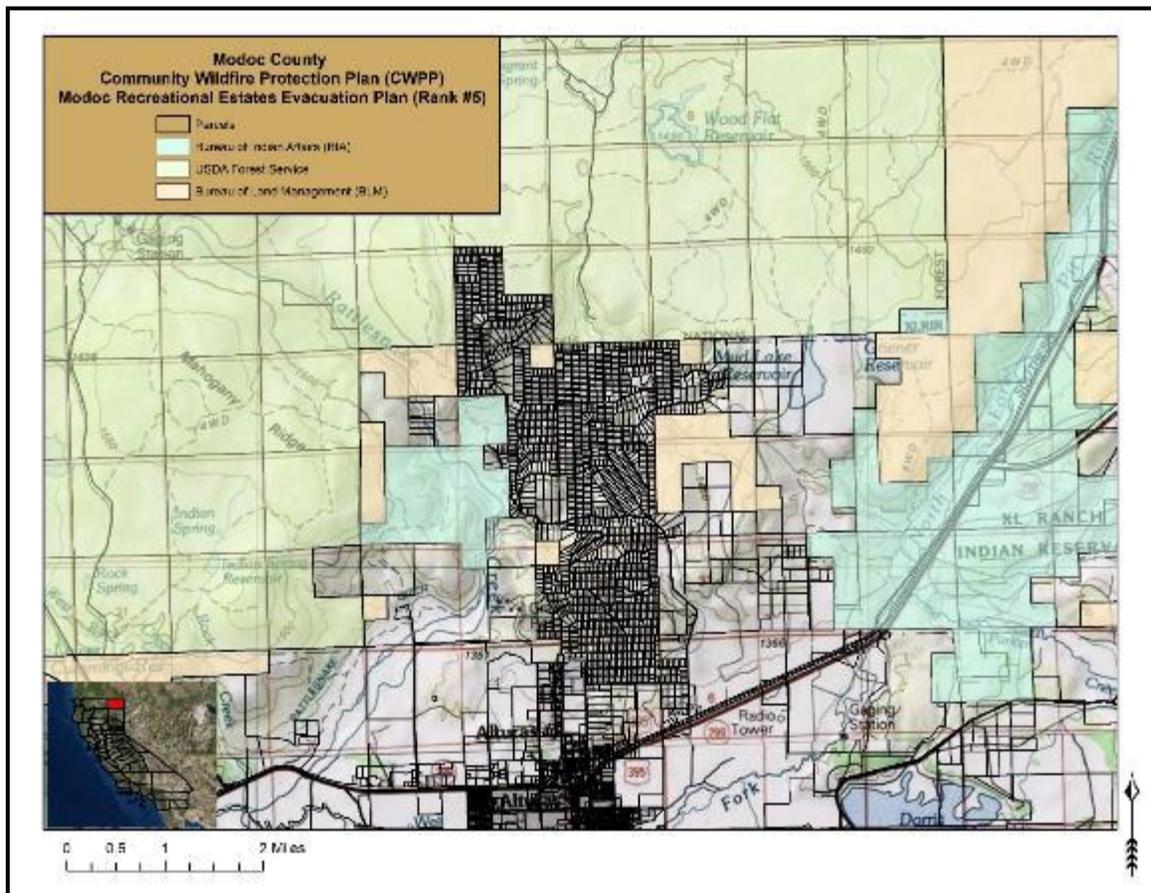


Alturas

- 1. Alternative evacuation route, emergency water source, and heavy fuels around the Modoc Recreational Estates (MRE):** MRE is a residential subdivision northwest of Alturas with 1900 lots and 350 year-round residents. MRE borders Forest Service land where heavy fuel loads are present. There is only one paved, maintained road (Pencil Road) that would be used by fire personnel and residences in the case of an emergency. MRE does not have an emergency water source for fire protection. Many absentee owners in MRE, as well as other subdivisions in Modoc County, need support understanding and creating defensible space and fuel reduction in residential areas.

Recommendations:

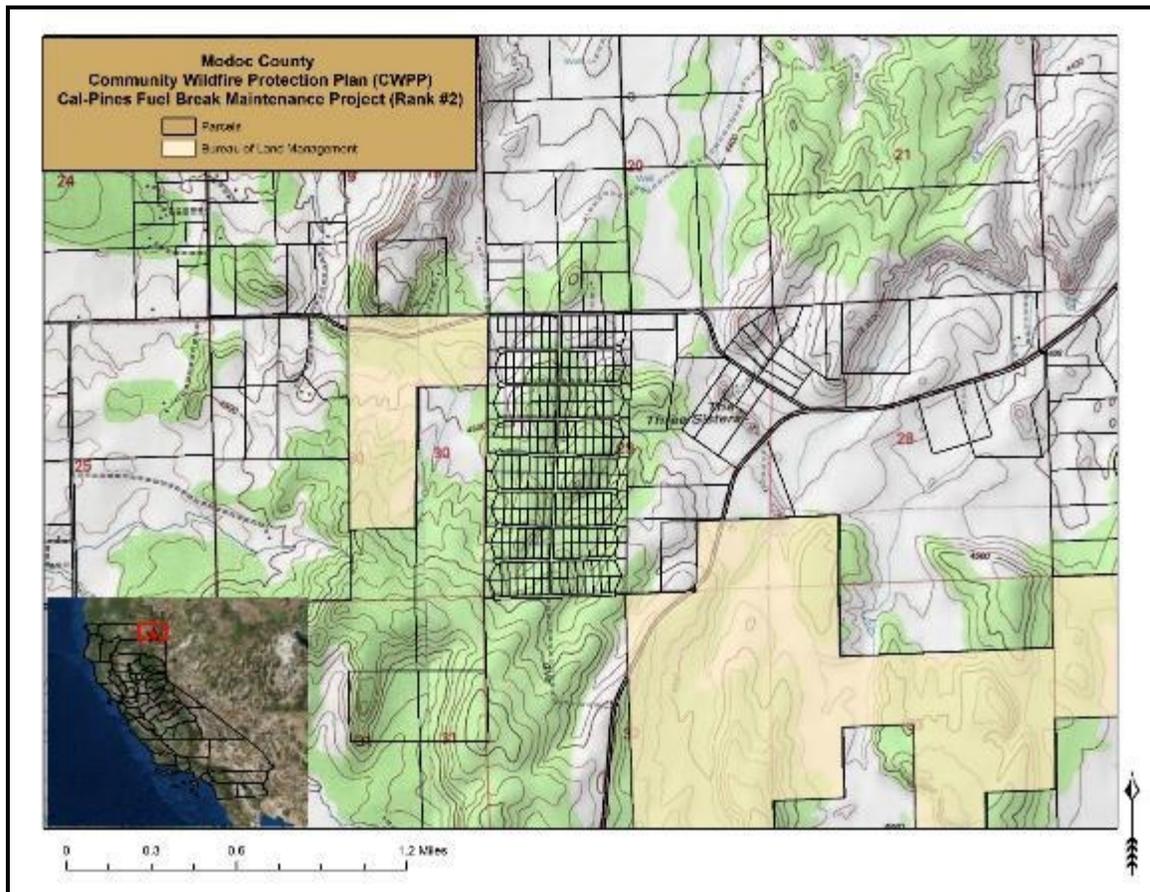
- a. Develop an alternative evacuation route, evacuation plan, and emergency fire suppression water source for the MRE subdivision (Priority: High, **RANK #5**)*
- b. Clear brush from the right-of-way on both sides of roads maintained by MRE residents; as well as Pencil and Pintail roads (Priority: Medium)*



2. **Heavy fuel loads and poorly marked roads in Cal-Pines:** The Cal Pines Development has heavy fuel loading around the community. Many of the roads are unmarked or marked incorrectly. The upper units receive afternoon down slope winds and many lightning strikes. A large number of the lots were purchased by absentee owners and contain heavy downed and dying vegetation.

Recommendations:

- a. *Maintain MFSC fuel break projects around Cal-Pines, educate absentee landowners regarding dangers of catastrophic wildfire, and improve road signage (Priority: High, RANK #2)*



3. **Unsafe fuel loads, evacuation plan and improved fire protection resources in Likely, CA:** A fuel break is needed to protect the residents and properties southeast and east of Likely, CA, including the Pine Shadows subdivision at the north end of Jess Valley. This area currently has no evacuation plan and the Likely Rural Fire Protection District has limited resources.

Recommendations:

- a. *Evaluate wildfire risk to properties along County Road 60.(Priority: Medium)*
b. *Create a fuel break to protect residents and properties southeast and east of Likely (Priority: Low).*

Adin

- 1. Fuel breaks east of Adin, south of Ash Creek, and around Big Valley Ranchettes:** Fuel breaks are needed east of Adin and south of Ash Creek to protect communities and historic structures.

Recommendations:

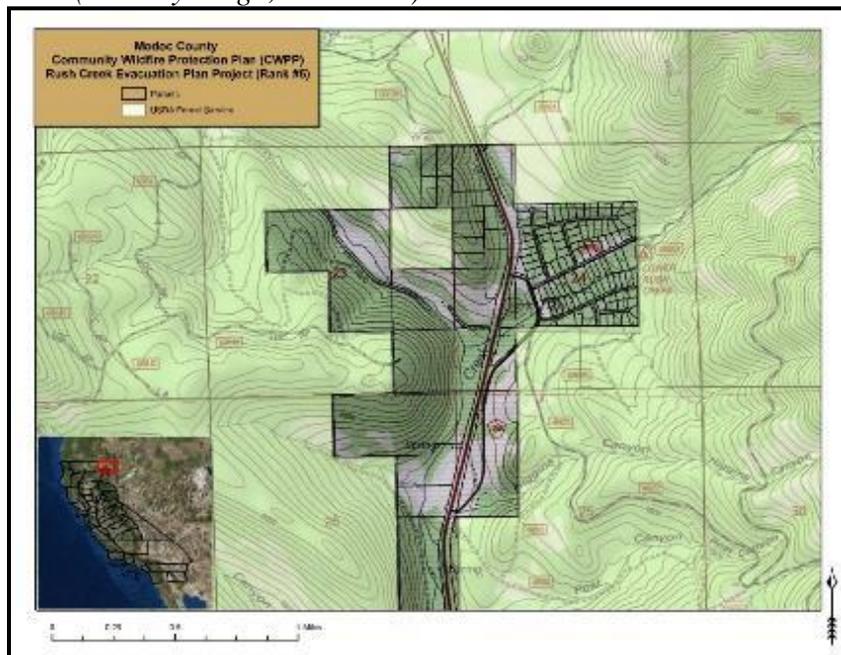
- a. Develop a fuel reduction project on the eastside of Adin (Priority: Medium)*
 - b. Reduce fuel loads in Big Valley Ranchettes on absentee landowner's properties.(Priority: Low)*
- 2. Fuel break, evacuation fire plan, evacuation routes, and emergency water source for the Butte Creek subdivision:** The Butte Creek Subdivision need a fire evacuation plan, roads, fuel reduction around the community, and water resources.

Recommendation:

- a. Develop an evacuation plan, improve evacuation route roads, and develop an emergency fire suppression water source for the Butte Creek subdivision (Priority: Low)*
 - b. Implement fuel reduction project(s) around the Butte Creek subdivision (Priority: Low)*
- 3. Water resources and evacuation plan for the Rush Creek Estates:** Rush Creek Estates consists of many absentee owners in an area of limited egress and no water source.

Recommendations:

- a. Develop evacuation plan, improved evacuation routes, and emergency fire suppression water resources for emergency fire protection for the Rush Creek Estates (Priority: High, RANK #5)*

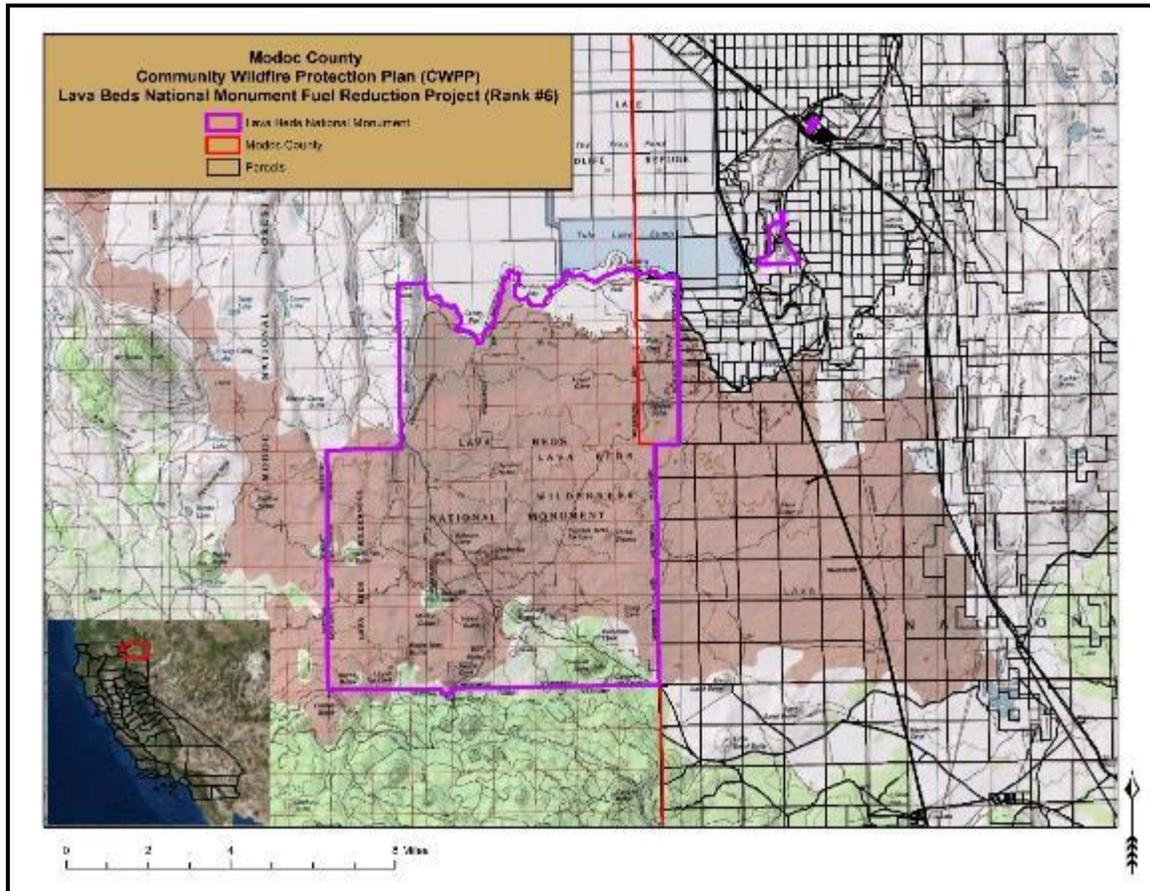


Tulelake/Newell

1. **Fuel reduction around the Perez area, south of Newell:** Fuel reduction is needed around the Perez area around power lines and to improve wildlife habitat.

Recommendations:

- a. *Fuel reduction project around the Perez area - pumping station(Priority: Medium)*



Other Project Identification Resources

In addition to working on these community priorities the Modoc County FSC will work with agencies in the region to implement projects identified in the:

- CalFIRE Lassen/Modoc Unit Strategic Fire Plan
<http://cdfdata.fire.ca.gov/pub/fireplan/fpupload/fpppdf1178.pdf>
- County Emergency Plan
<http://www.modocsheriff.us/PDF/EOP/EOP%20Part%201.pdf>
- Modoc County Hazard Mitigation Plan (Draft)
<http://www.modocsheriff.us/OES.html>
- Modoc National Forest Schedule of Proposed Actions (SOPA)
<http://data.ecosystem-management.org/nepaweb/current-sopa.php?forest=110509>
- Modoc County Zoning Ordinance
<http://www.co.modoc.ca.us/departments/planning/housing-element>

Appendix A

List of Figures

- Figure 1: Location of Modoc County in Northeastern California
- Figure 2: Modoc County Geography
- Figure 3: Public Ownership in Modoc County
- Figure 4: Federal and State Managed lands in Modoc County
- Figure 5: Cities and Townships in Modoc County
- Figure 6: Wildland Urban Interface (WUI) in Modoc County
- Figure 7: Federal, State, and Local Responsibility Areas (LRAs) in Modoc County
- Figure 8: Fire History in Modoc County
- Figure 9: Fire Hazard Class for Modoc County
- Figure 10: Fire Hazard Severity within the Modoc County WUI
- Figure 11: Fire Threat in Modoc County
- Figure 12: Fire Threat within the Modoc County WUI

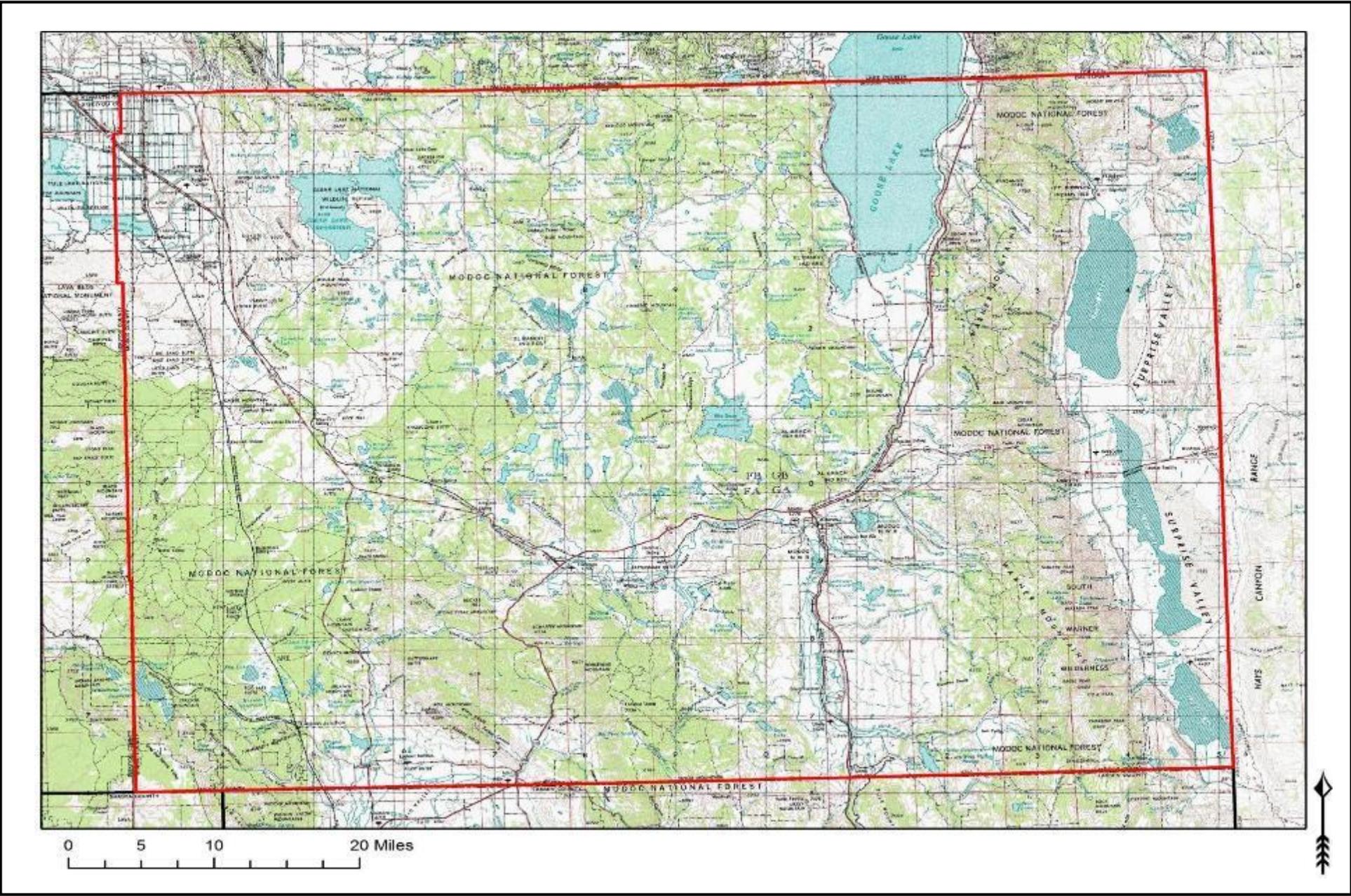


Figure 1: Modoc County in Northeastern California

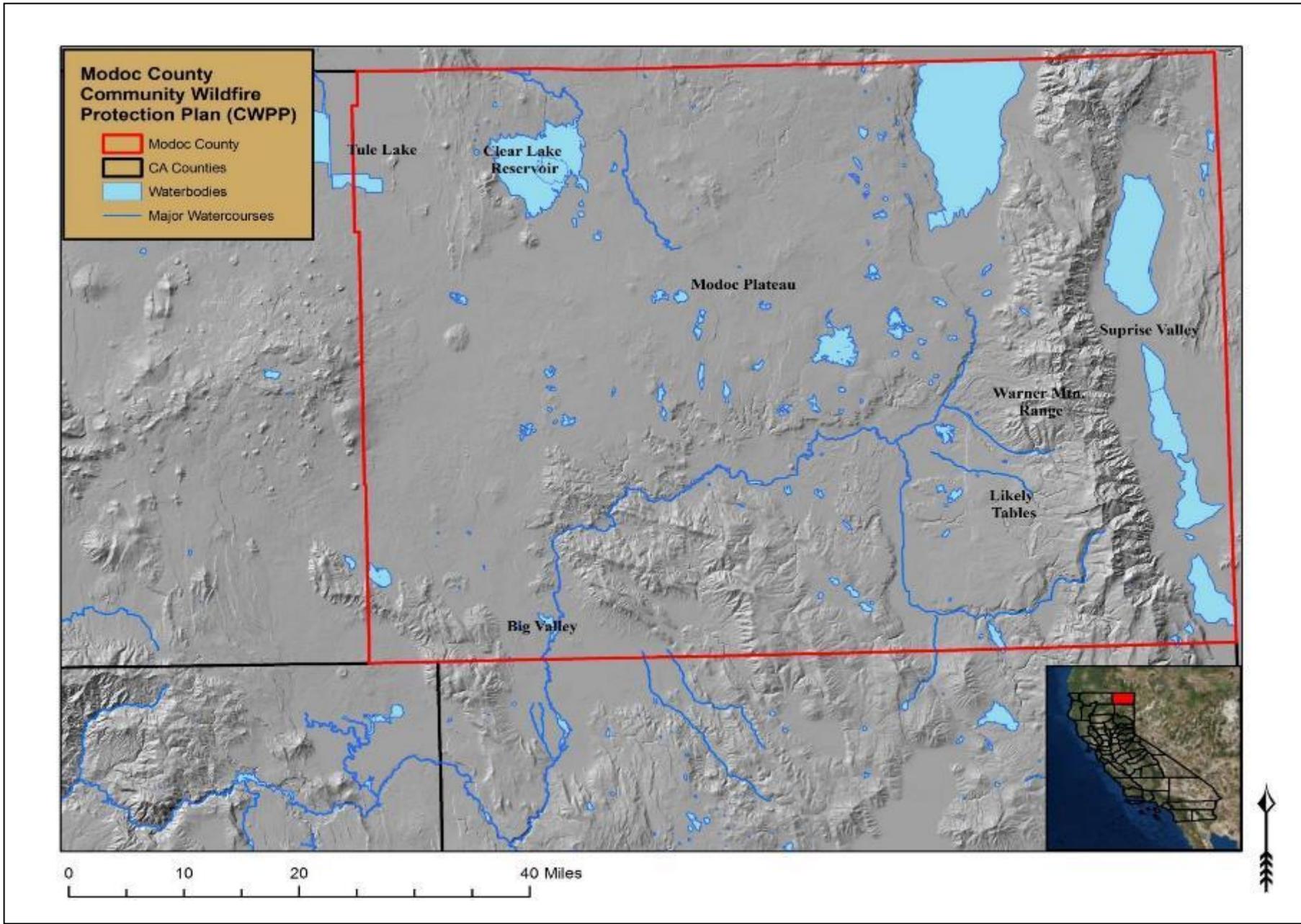


Figure 2: Modoc County Geography

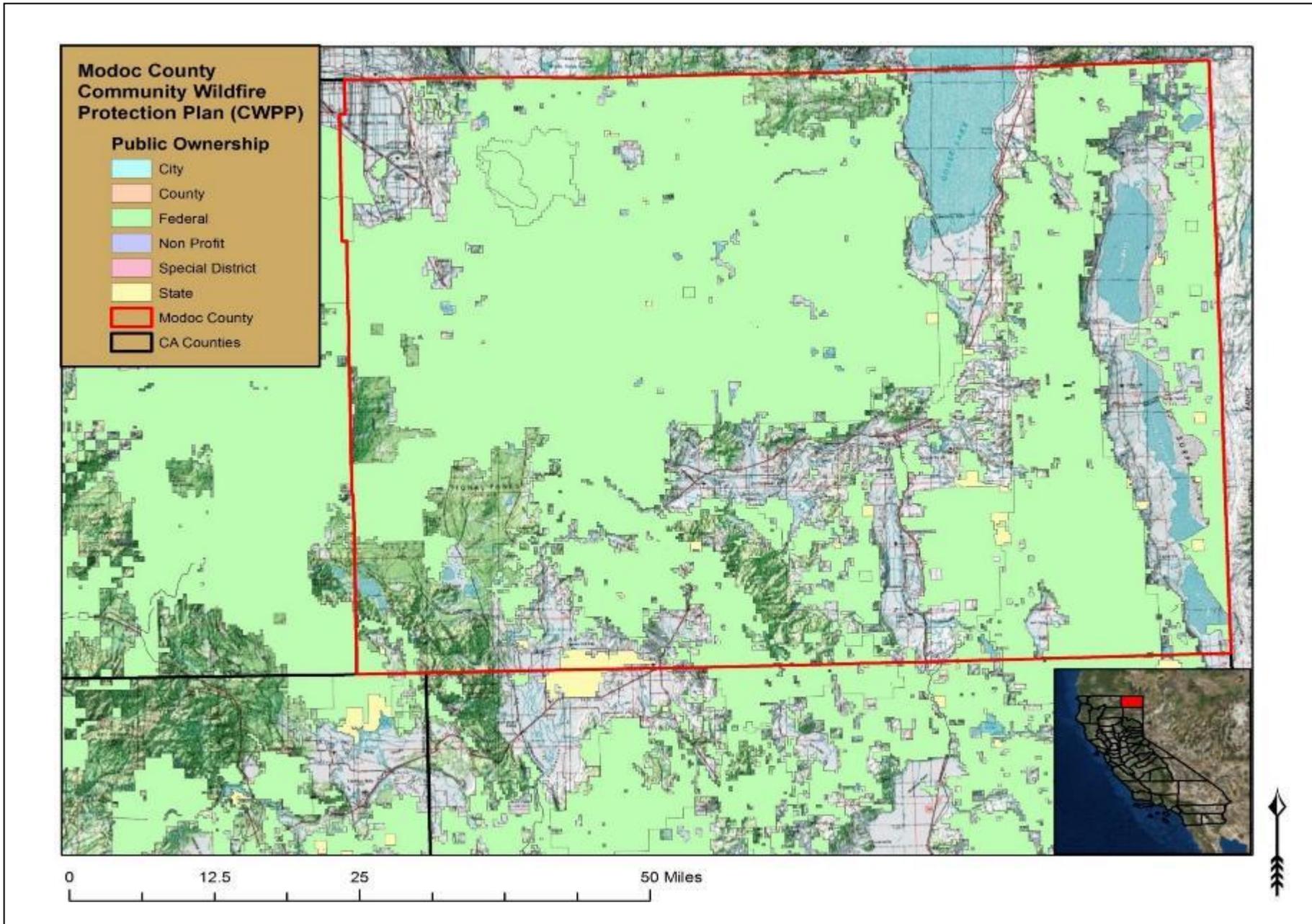


Figure 3: Public ownership in Modoc County, CA

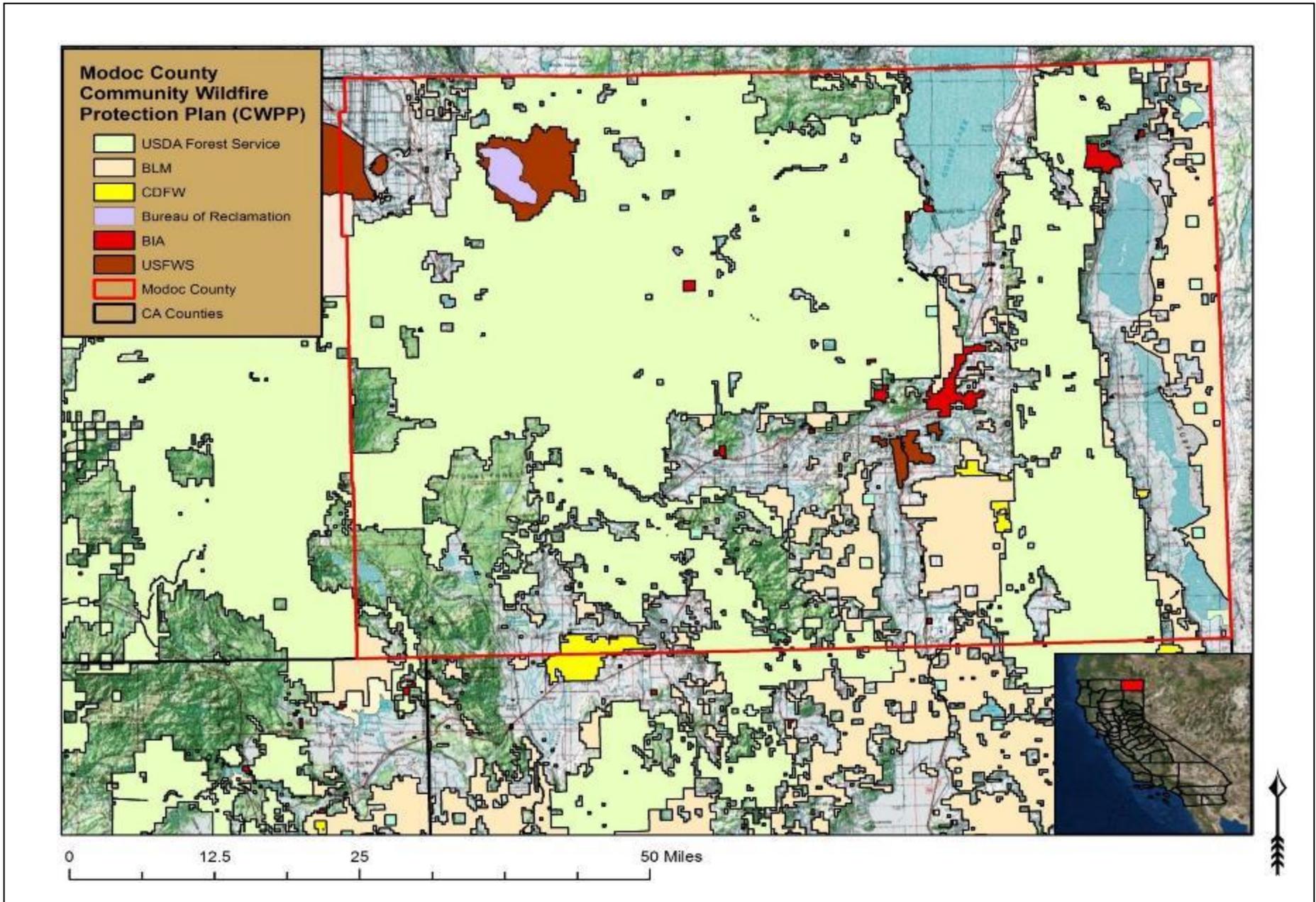


Figure 4: Federal and State managed lands in Modoc County

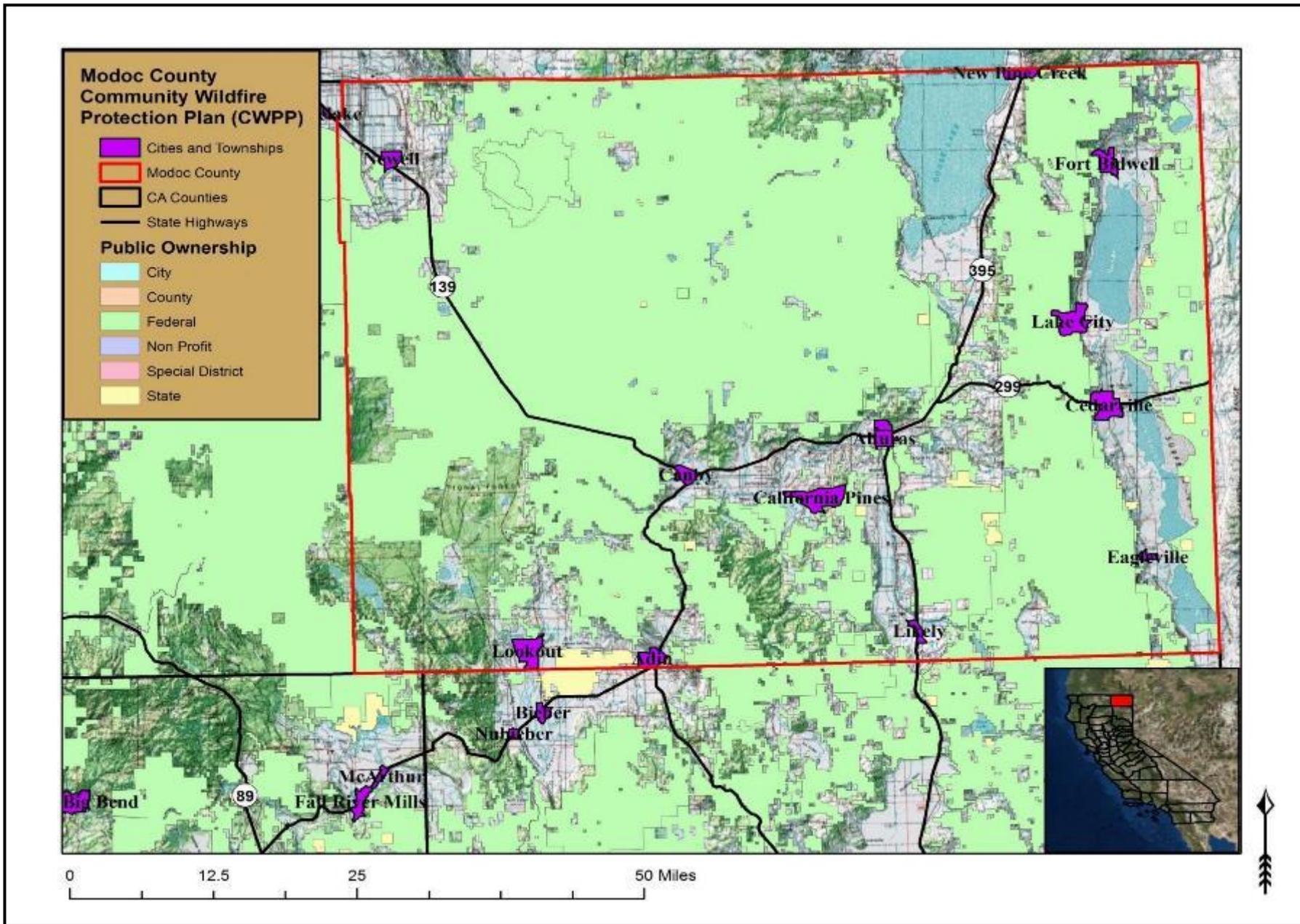


Figure 5: Cities and Townships in Modoc County

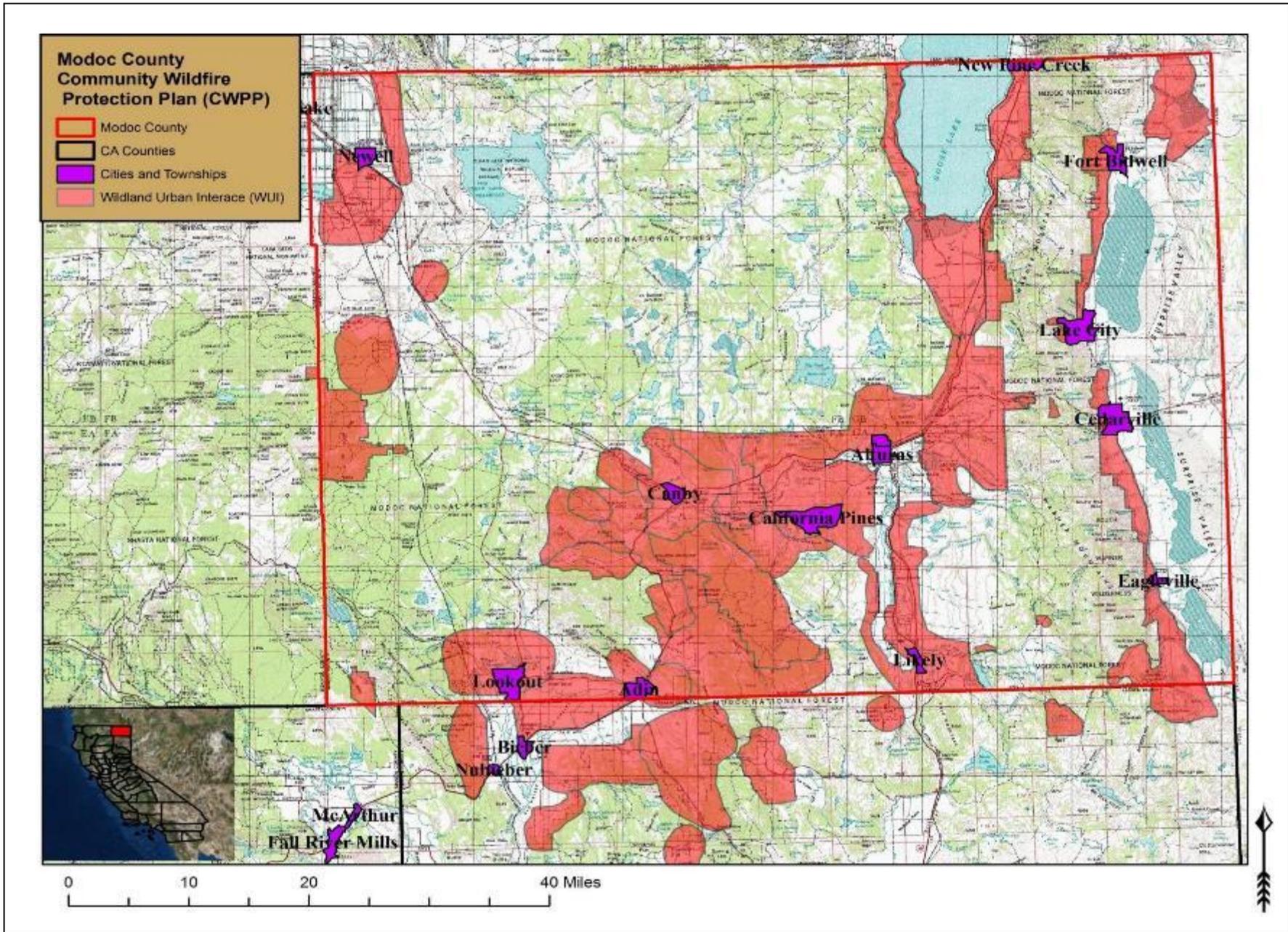


Figure 6: Wildland Urban Interface (WUI) in Modoc County

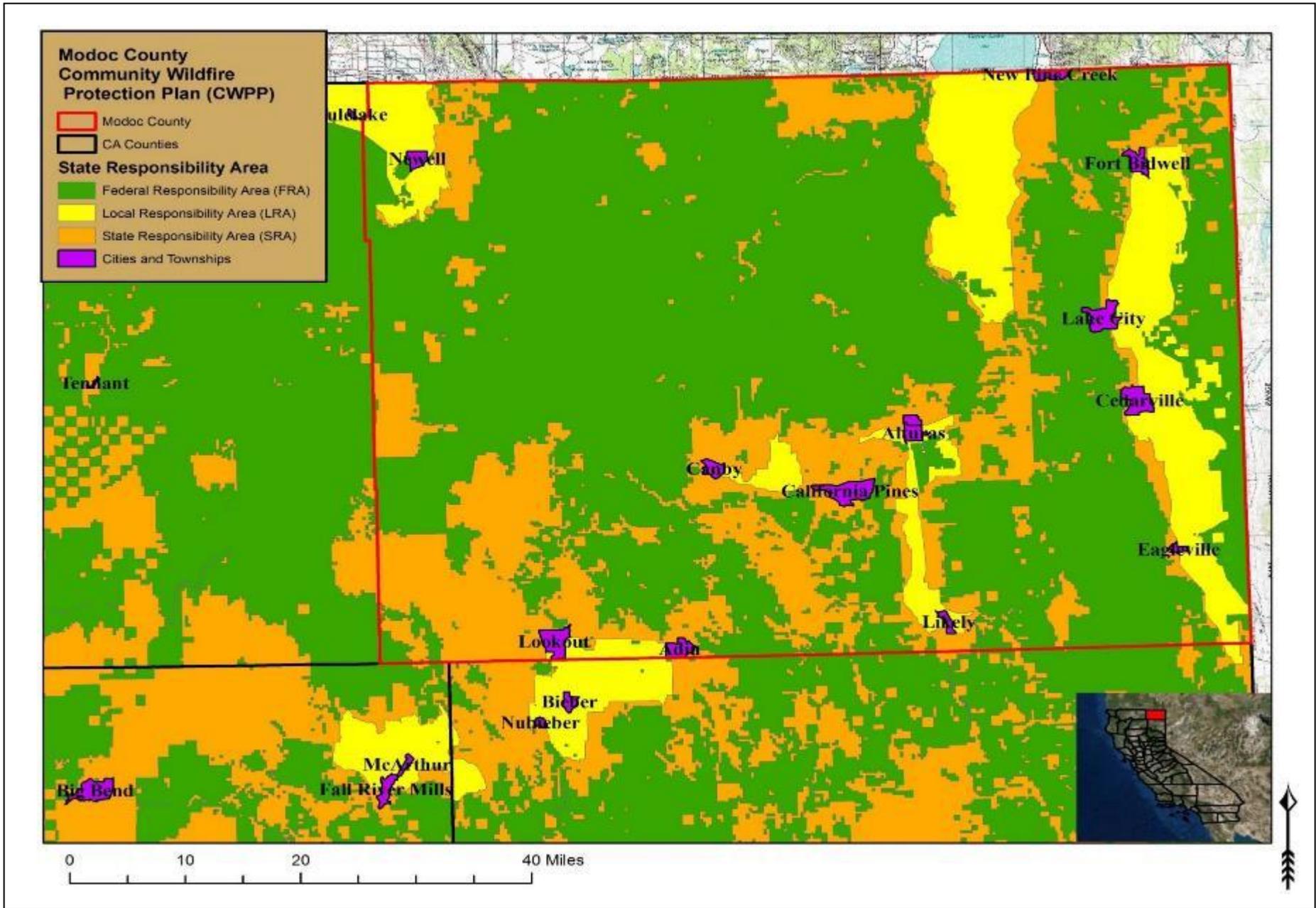
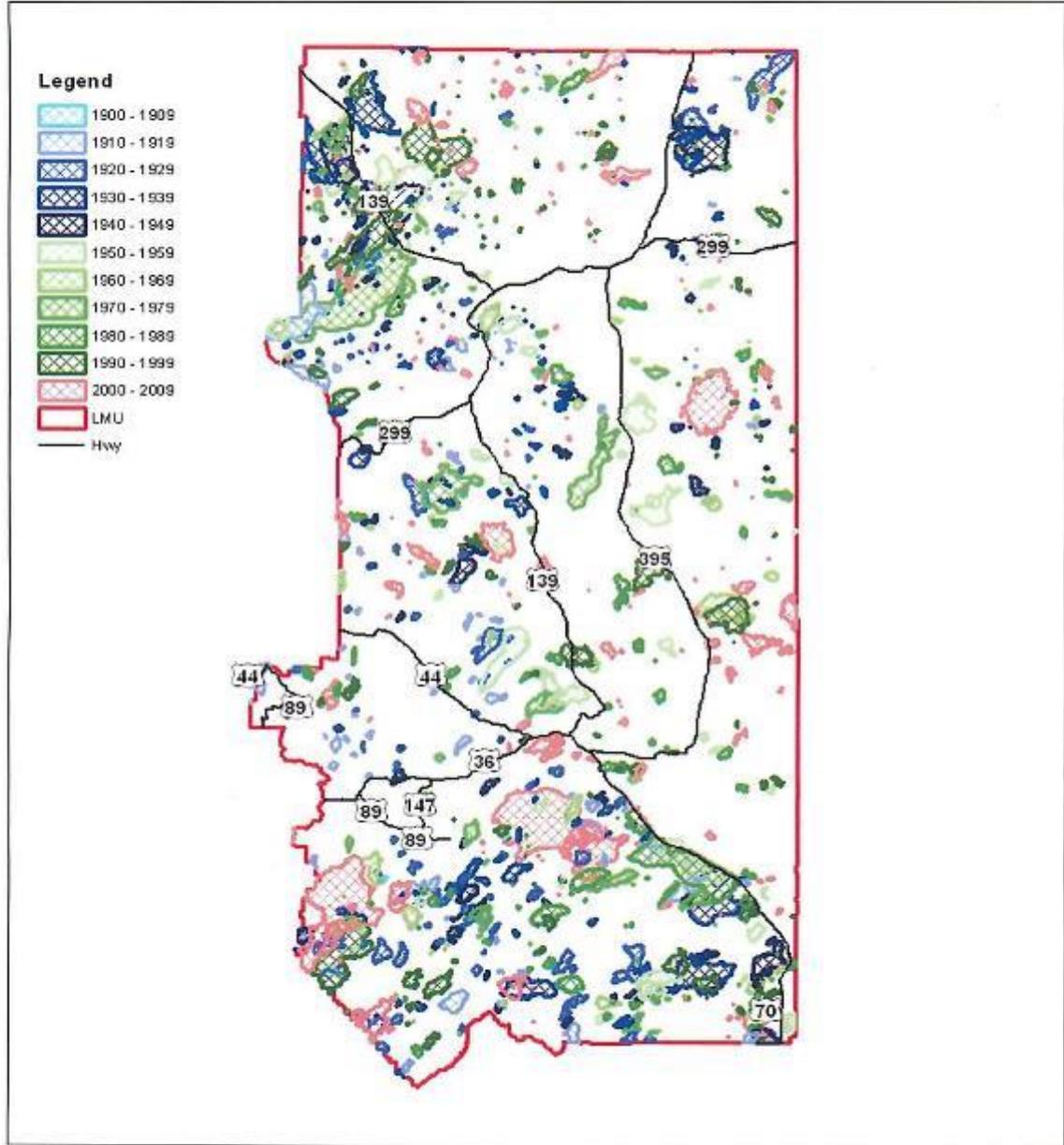


Figure 7: Federal, State, and Local Responsibility Areas in Modoc County, CA



Lassen Modoc Plumas Unit Fire History



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Last update: 1 Feb 2012

Figure 8: Fire History in Modoc, Lassen, and Plumas County (from the CalFIRE Lassen Modoc Unit Strategic Fire Plan)

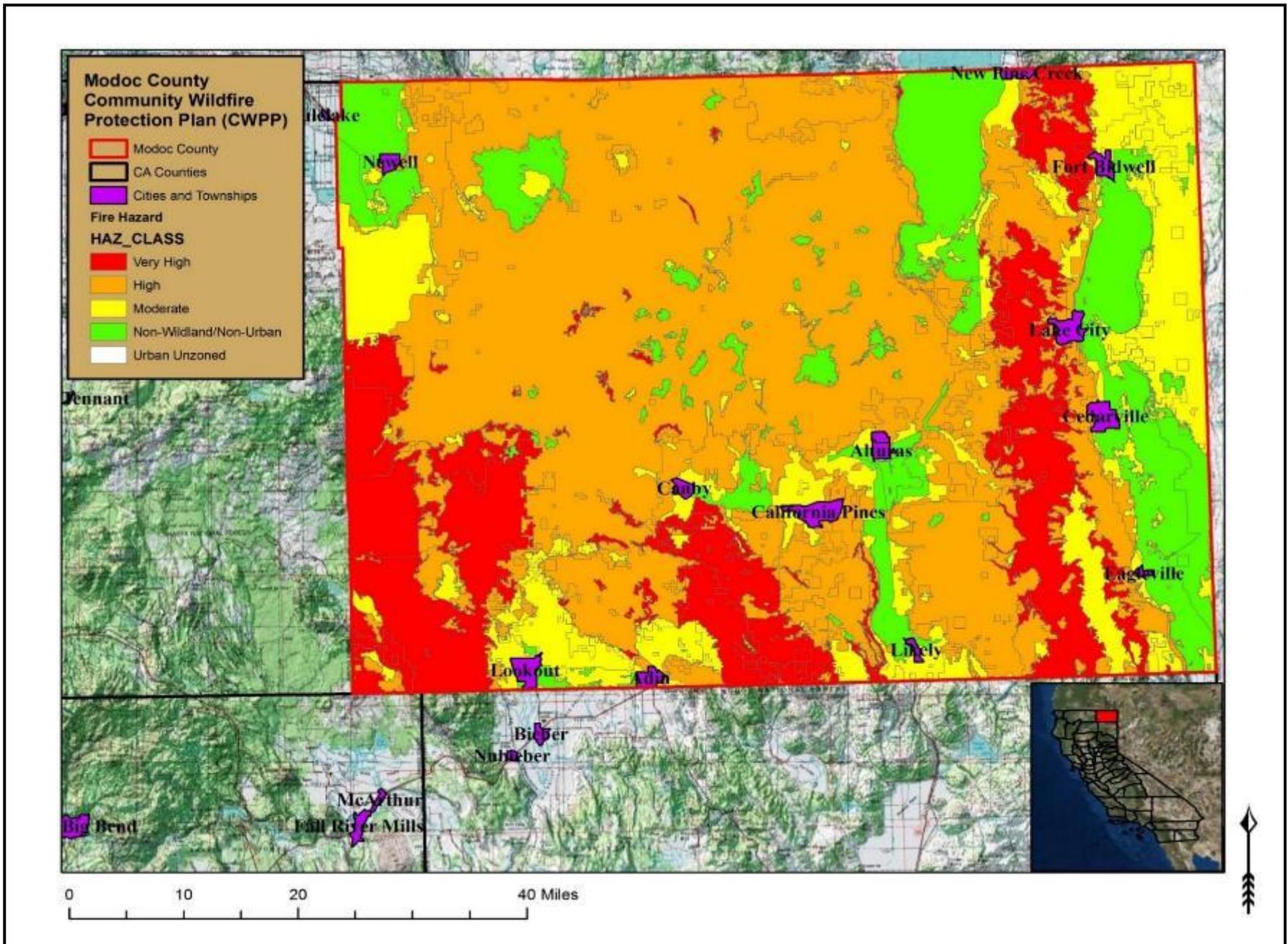


Figure 9: Fire Hazard Class for Modoc County
 Modoc County CWPP 2017 – Appendix A

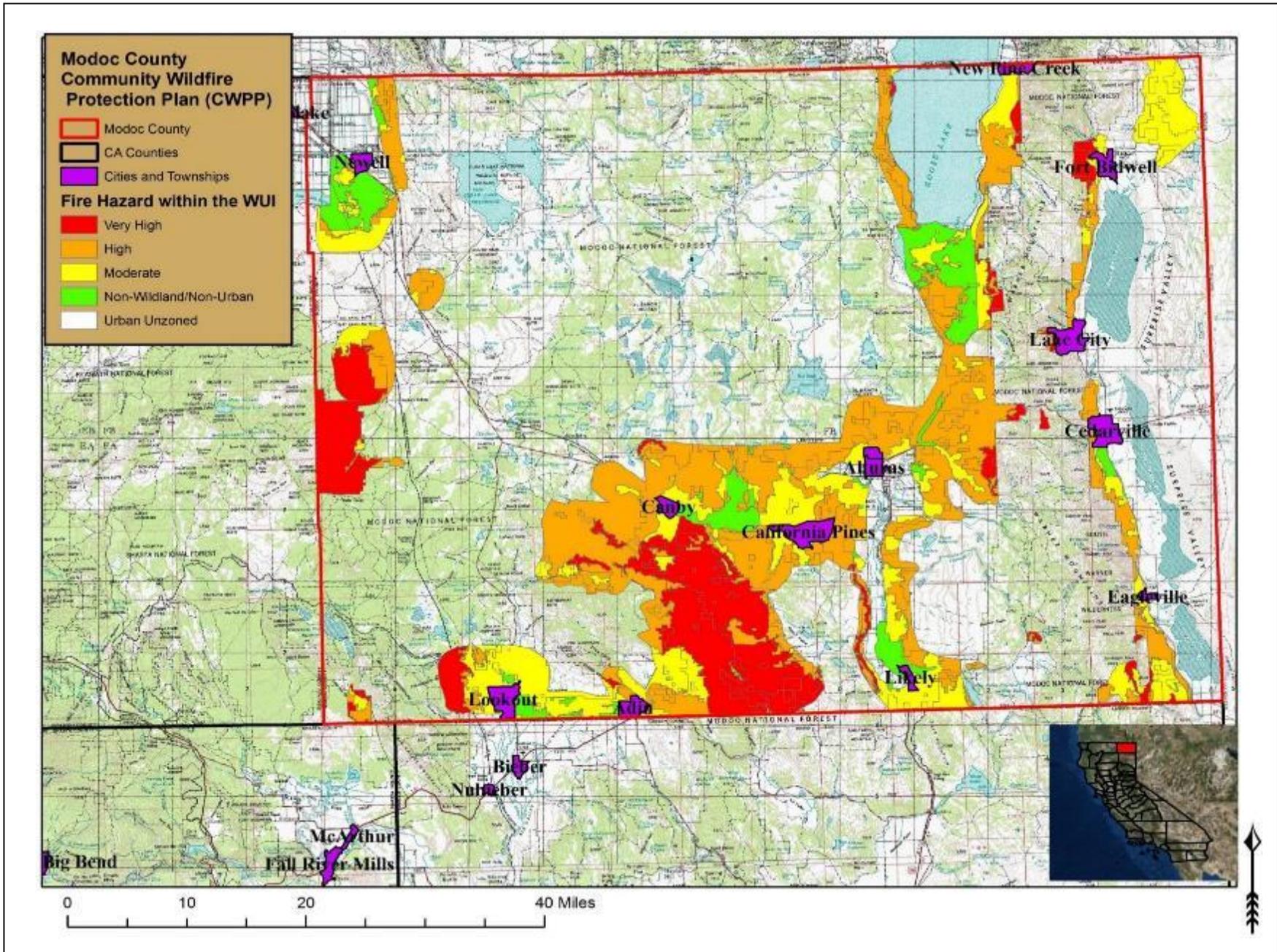


Figure 10: Fire Hazard Severity within the Modoc County WUI
 Modoc County CWPP 2017 – Appendix A

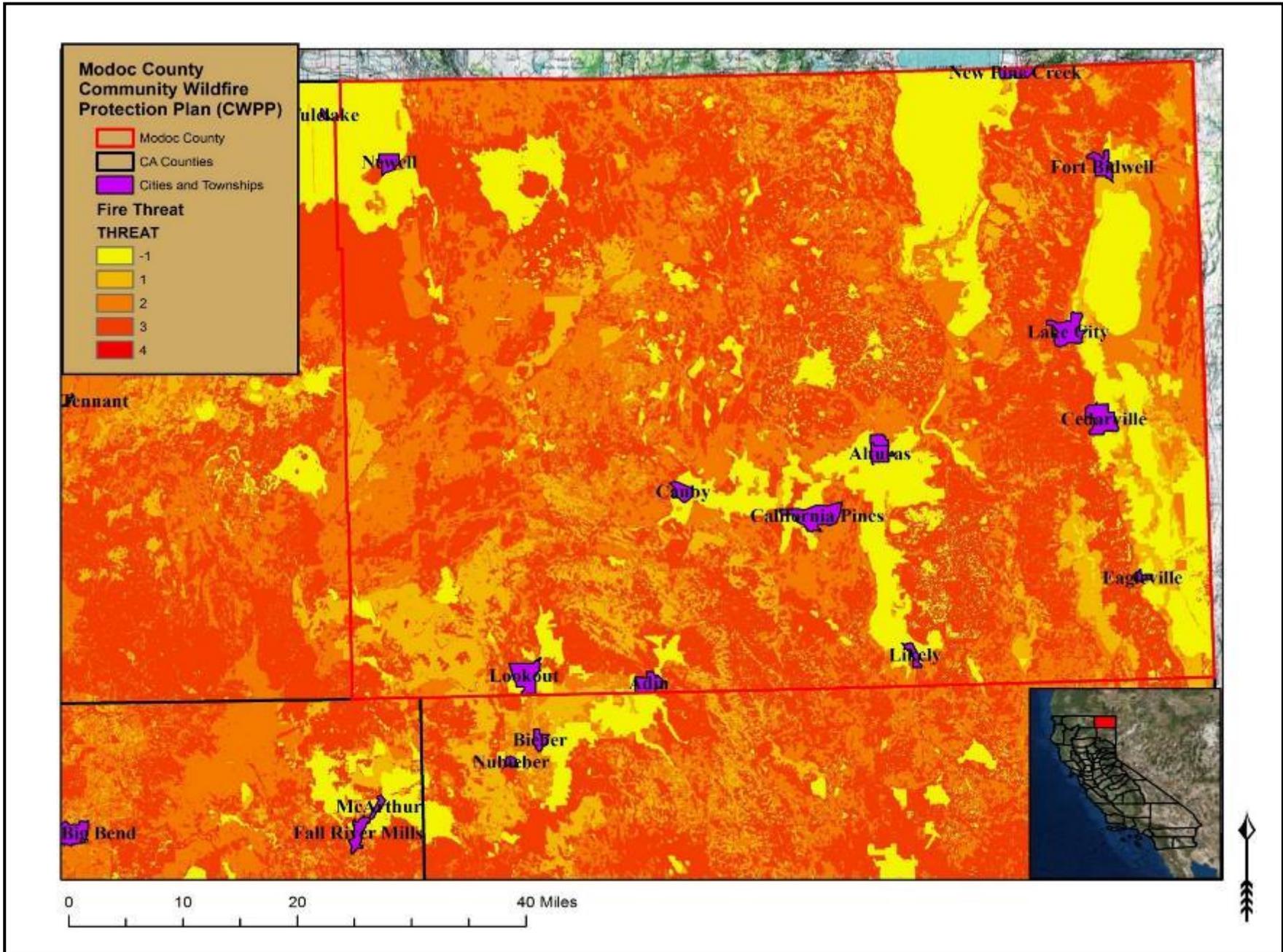


Figure 11: Fire Threat in Modoc County
 Modoc County CWPP 2017 – Appendix A

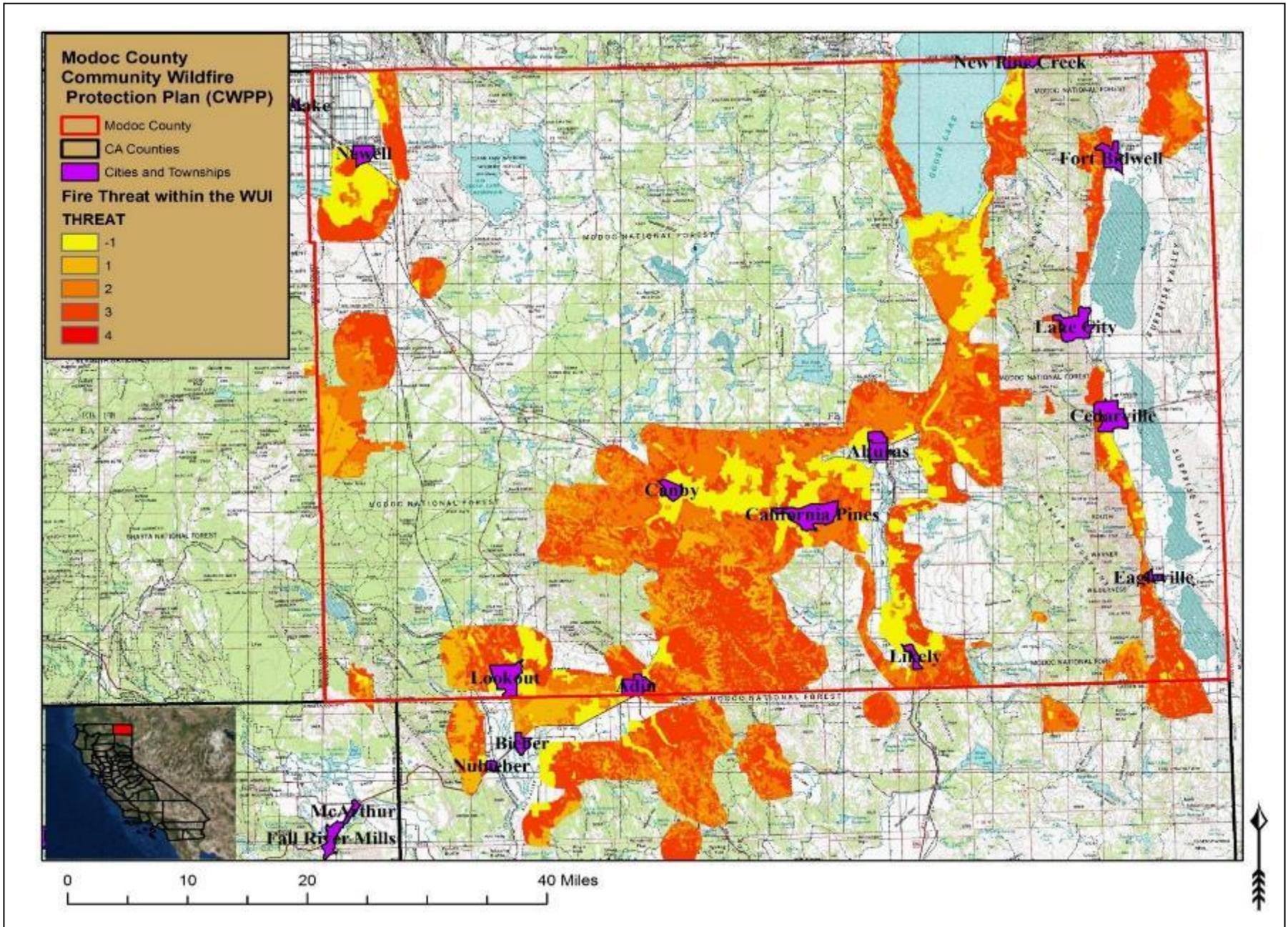


Figure 12: Fire Threat within the Modoc County WUI

Appendix B

Results of CWPP Public Survey of Modoc County Residents Conducted in June 2016

Survey #	Property Owner Location	Rent	Own	Do you live in the WUI?	Do you know who your emergency response agency is?	Are you familiar with your communities evacuation plan of know if there is one?	Do you know what burn restrictions are?	What are your areas concerns?	Do you know what the CWPP is?	Are you familiar with MFC programs?	LOA	Firewise	Residential Chipping days	Residential Chipping Program	Fuel Breaks	Would you like the MFC to contact you.	Would you be interested in a leadership position with the MFC	Additional Notes	
1	Ivory Ranches		X	??	Canby Volunteer Fire	No	Yes	No agency relations that I know of.	No	No						Yes	No	Would like some help with weedeating	
2	County Rd. 58		X	??	CalFire ??	No	Yes	Heavy fuel loading, brush, grass	No				X	X		Yes	No	Would like some help with chipping	
3	Ft. Bidwell		X	??	No	No	Yes	Absentee landowners	No						X	No	No		
4	City of Alturas		X	No	No	No	No	Heavy fuels on forest	No	No						Yes	Yes	Would like to know time commitment for leadership role	
5	Eagleville		XX	??	No	No	Yes	Agency Relations	No	No						No	No	Left address	
6	New Pine Creek		X	Yes	No	No	Yes	Forest Service	No	No						Yes	No	Forest Service not doing their job ie: Dismal Swamp area will be the next big burn	
7	243 Pioneer Way		XX	??	No	No	Yes	None	No							No	No	Left address	
8	506 Josephine		XX	Yes	Yes	No	Yes	None	No							No	No	Left address	
9	Modoc Estates		XX	??	No	No	Yes	Absentee landowners	Yes		X					Yes	No	Left address	
10			XX	??	CalFire / ARFD	No	Yes		No							No	No		
11	Alturas		XX	No	No	No	Yes		No	No						Yes	?	Left Address	
12	Alturas		XX	??	CalFire	No	Yes	Absentee landowners	No		X	X				Yes	No	Left address	
13								Fuel Break Education										Public not certain or aware of effective prevention treatments.	
14	Cedarville	XX		??	No	No	Yes		No						XX	Yes	No	Left Address	
15	Cedarville		XX	No	Cedarville Fire Department	No	Yes	Absentee landowners	No							No	No	Vacant housing and abandoned property	
16	New Pine Creek		XX	??	No	No	No	Absentee landowners	No							Yes	No	Left address / homes that are neglected	
17	Rush Creek																	Concerned about a secondary evacuation route or lack of, limited ingress, egress, and would like to see some education on pre-planning in the event of a wildfire.	
18	Alturas		XX	Yes	CalFire	No	Yes	Keep yard mowed	No			XX				Yes	No	Left address	
19	Wildlife Estates		XX	Yes	Yes	Yes	Yes	None	Yes				XX			No	No	Left address	
20	Alturas		XX		No	No	Yes		No			XX				No	No	Left address	
21	Lake City		XX	Yes	Lake City VFD / Cedarville VFD	No	Yes	Agency Relations/ Fuel Loading	No		X			X		Yes	No	Left address / County Road Department and Juniper Removal	
22	5 miles west of Alturas / Hwy 299		XX		No	No	Yes	Forest fuels	No								No	No	Left address
23	Ft. Bidwell		XX		BLM / Volunteer Fire Dept.	No	Yes	Absentee landowners	No		X			X		Yes	No	Left address / Absentee owners to my south pile their brush within 10' of my fence near my house. The AO to the north have weeds and grass over 4' tall / noxious Left address / The underbrush on the forest and on the mountains is not "cleaned up". Also no replanting, ie. Tule Mt. burned in 1955 was pine and now is only Juniper and sage brush.	
24	Likely		XX		Likely VFD	Yes	Yes	Forest fuels	Yes		X	X	X	X	X	Yes	Yes	No	
25	Rim Rock Estates		XX	??	Modoc Rural Fire	No	Yes	None	No	No							No	No	
26	CalPines Lake Unit 2		XX	??	Cal Pines Fire Department	No	Yes	Response Speed	No					X		Yes	Maybe	Was very adamant about educating her / left address	
27	Lake City		XX	??	No	No	Yes	None	No							Yes	No	Left address	
28	Wildlife Estates		XX	??	CalFire	No	Yes	Absentee landowners	No							No	No	Left address	
29	Ft. Bidwell		XX	Yes	Yes	No	Yes	?? Questionnaire was torn in half								X	X	Questionnaire was torn in half	
30			XX	??	Yes, Alturas Volunteer	No	Yes		No										
31	County Road 257		XX	??	Yes, Alturas Rural VFD	No	Yes	SRA Fee	No			X	X	X	X	Yes	No	Left address / Living in the LRA and paying SRA fee.	
32	Juniper Acres		XX	Yes	No	No	Yes	Exit plan, available water source	No			X	X			No	No	Left address	
33	Cal Pines Lake Unit 4		XX		Yes, CalPines & CalFire	Yes	Yes	Heavy fuel and absentee landowners	Yes		X	X	X			No	No	Left address	
34	Alturas		XX	Unkown	Yes, AFD/City	No	Yes	Public land management	No							No	No	More controlled burning/timber harvest plans to reduce fuels, allow lightning strikes to burn / protect life and property	
35	Fort Bidwell		XX	I think so	Yes, Ft. Bidwell Volunteer fire	No	Yes	Absentee landowners, heavy fuel loading	No					X		Yes	No	Left Address	
36	MRE		XX	I don't know	Yes, ARVFD	No	Yes	Heavy Fuels in MRE	No		X	X	X	X			No	Left Address	
37	Daphnedale Park	XX		??	Yes, ARVFD	No	Yes	Heavy fuels	No	None						Yes	No	Left Address	
38	Co. Rd. 58		XX	?	No, ?? CalFire	No	Yes	Public Land Management /Heavy Fuels	No									Heavy deadfall on public land, (ie. forests, etc) Excess juniper growth on public and private surrounding areas.	
39	Lake City		XX	?	Yes, LCVFD	No	Yes		Yes		X								
40	Ft. Bidwell		XX	Not Sure	Ft. Bidwell Volunteer Fire Dept	No	Yes	Burning	No					X		No	No	Very concerned with all of the topics and concerned about burning when there is a chipping program available. Left Address	
41	Surprise Valley		XX	No	Yes	Yes	Yes	Grazing on Public Lands										Concerned that reduced grazing by cattle and sheep have contributed to build up of fire fuels on public lands	

Appendix C

Modoc County CWPP Working Group – 2016 Project Ranking

PROJECT	PROJECT TYPE	PROJECT AREA	RANK/PRIORITY
<i>Develop a fuel reduction project to create fire break in the WUI on the upper end of Summerland to protect residences.</i>	Fuel Reduction	Cedar Pass	#1
<i>Maintain MFSC fire break projects around Cal Pines, educate absentee landowners regarding dangers of catastrophic wildfire, and improve road signage.</i>	Emergency Planning/ Fuel Reduction	Alturas	#2
<i>Continue to seek annual funding for the Modoc FSC's Residential Chipping and Landowner Assistance Program.</i>	Fuel Reduction	County Wide	#3
<i>Seek annual funding to start a County Public Road Chipping Program to reduce fuel loads along public roads to improve access for the public and emergency personnel.</i>	Fuel Reduction/ Emergency Planning	County Wide	#4
<i>Develop an alternative evacuation route, evacuation plan, and emergency fire suppression water source for the Modoc Recreational Estates (MRE) and Rush Creek subdivisions.</i>	Emergency Planning	Alturas/ Adin	#5
<i>Work with the Modoc National Forest, Bureau of Land Management (BLM) – Applegate Field Office, and Sierra Nevada Conservancy to develop a Fire Prevention Plan for Modoc National Forest and BLM managed lands within the WUI and obtain funding to implement landscape level fuel reduction projects in high priority areas.</i>	Emergency Planning/ Fuel Reduction	County Wide	#6
<i>Periodic outreach in English and Spanish, including workshops, newsletters, web posts, regarding defensible space, fire safe landscaping, and the MFSC's chipper program.</i>	Outreach	County Wide	High
<i>Develop Modoc County FSC website. Utilize social media to share fire prevention information and resources.</i>	Outreach	County Wide	High
<i>Work with Federal, State, and local governments to create fuel breaks around important telecommunication and emergency operation sites.</i>	Fuel Reduction	County Wide	High

PROJECT	PROJECT TYPE	PROJECT AREA	RANK/PRIORITY
<i>Conduct outreach to landowners to identify properties that pose a fire risk to neighbors and the community.</i>	Outreach/ Fuel Reduction	County Wide	High
<i>Identify critical areas along easements and right-of-ways that would benefit from roadside chipping.</i>	Emergency Planning/ Fuel Reduction	County Wide	High
<i>Evaluate existing fuel breaks including CalPines, Rush Creek, Emerson Canyon, MRE, Granger Canyon, Lake City, Franklin Canyon and obtain funding to maintain them.</i>	Monitoring/ Fuel Reduction	County Wide	High
<i>Continue to develop and maintain a contiguous fuel break from Fort Bidwell to south of Eagleville.</i>	Fuel Reduction	Surprise Valley	High
<i>Develop alternative evacuation route for the Summerland subdivision.</i>	Emergency Planning	Cedar Pass /Alturas	High
<i>Create an evacuation plan for the Summerland subdivision.</i>	Emergency Planning	Cedar Pass/ Alturas	High
<i>Reach out to absentee owners regarding fire hazard issues and conduct fuel reduction project in the Thoms Creek Estate.</i>	Outreach/ Fuel Reduction	Alturas	High
<i>Encourage Modoc County to adopt Local Response Area (LRA) regulations equivalent to State Response Area (SRA) regulations.</i>	Policy	County Wide	High
<i>Clear brush from the right-of-way on both sides of roads maintained by MREA; as well as Pencil and Pintail roads.</i>	Fuel Reduction	Alturas	Medium
<i>Evaluate wildfire risk to properties along County Road # 60</i>	Emergency Planning	Alturas/ Likely	Medium
<i>Develop a fuel reduction project on the eastside of Adin</i>	Fuel Reduction	Adin	Medium
<i>Fuel reduction project around two pumping stations in the Perez area</i>	Fuel Reduction	Tule Lake/ Newell	Medium
<i>Develop a monitoring plan that identifies responsible parties to annually evaluate existing fuel break.</i>	Monitoring	County Wide	Low
<i>Pursue funding to continue training and obtain suppression equipment for volunteer fire stations.</i>	Training	County Wide	Low
<i>Create a fuel break to protect residents and properties southeast and east of Likely</i>	Fuel Reduction	Likely	Low
<i>Reduce fuel loads in Big Valley Ranchettes on absentee landowner's properties.</i>	Fuel Reduction	Adin	Low

PROJECT	PROJECT TYPE	PROJECT AREA	RANK/ PRIORITY
<i>Develop an evacuation plan, improve evacuation routes, and develop emergency fire suppression water source for the Butte Creek subdivision</i>	Emergency Planning	Adin	Low
<i>Implement fuel reduction project around the Butte Creek subdivision.</i>	Fuel Reduction	Adin	Low