2021 Taos Canyon
Community Wildfire Protection Plan

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Appendices

I. Introduction

The 2021 Taos Canyon Wildfire Protection Plan Update provides a comprehensive inventory of existing forest and fuel conditions in the Taos Canyon area, as well as a clear blueprint for taking steps to mitigate wildfire hazards, prepare for a possible wildfire and post-fire response, and expand on existing community education and outreach activities. The plan itself was developed over a 12-month period beginning in July 2020 and was funded with a grant from the New Mexico Association of Counties to Taos County. Plan development included participation from local residents, the Taos Canyon and Valle Escondido Firewise Committees, tribal representatives from Taos Pueblo, local government and agency staff, conservation nonprofits and federal lands managers from the U.S. Forest Service and Bureau of Land Management.

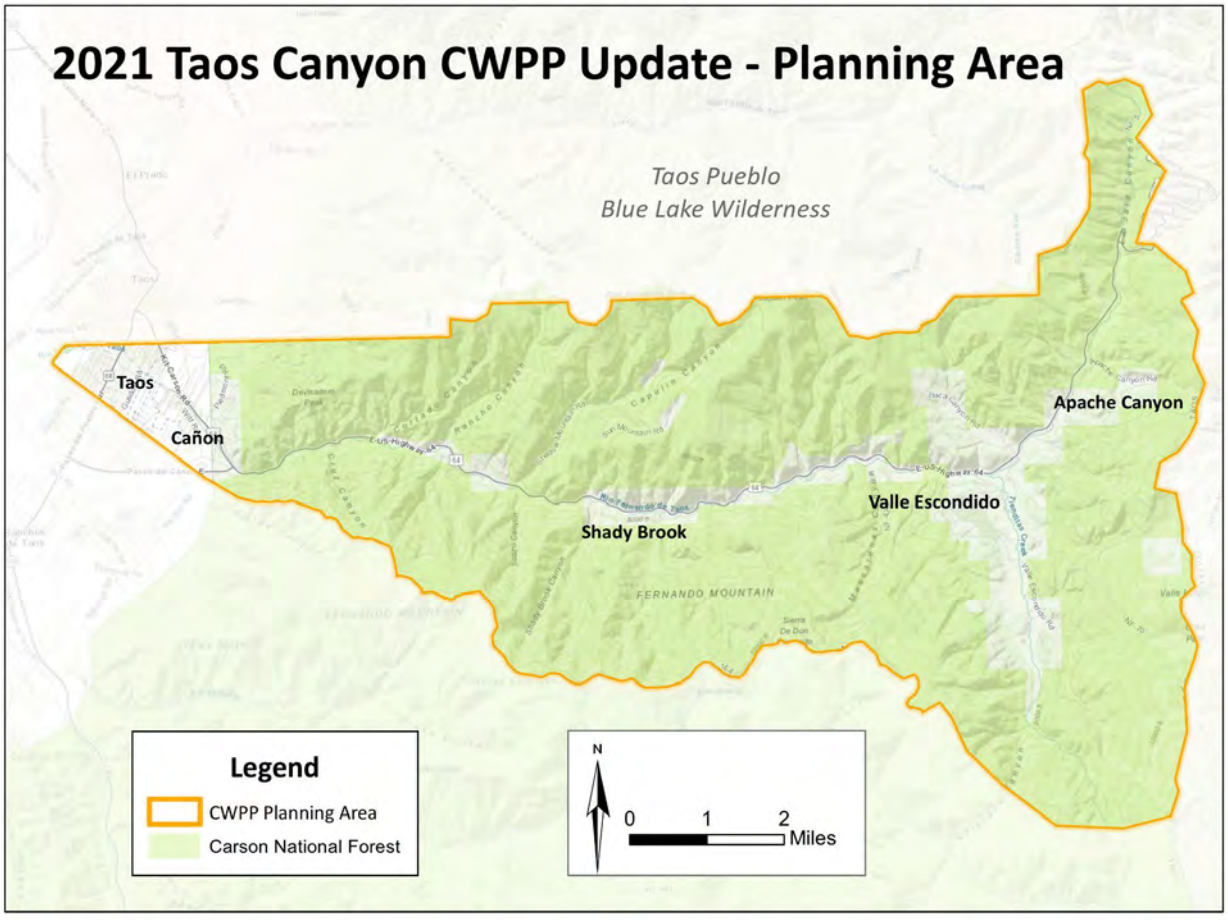
The Taos Canyon planning area described herein begins in the town of Taos limits and the community of Cañon, and includes all of the Rio Fernando Watershed (see Map 1). Communities at risk inside this area include Cañon, Shady Brook, Valle Escondido and Apache Canyon. An estimated 461 structures are located within the planning area.

Taos Canyon is included in the 2016 Taos County CWPP Update, which serves as a countywide guide for wildfire planning and hazard mitigation. Taos Canyon was selected as a focal area for a stand-alone CWPP because of: 1). The considerable risk to life and property posed by catastrophic wildfire; 2). Proactives efforts by local residents to mitigate risks in their own communities and 3). Existing collaboration between community residents, local government and federal land managers; 4). Short- and long-term opportunities for hazardous fuel reduction and forest restoration activities.

This CWPP was developed after a series of public meetings and field trips intended to educate the public about the risks posed by wildfire and the resources available to them, and solicit their input and participation in developing strategies to prioritize fuels treatments and take other measures to mitigate those risks. Ultimately, this plan provides guidance to community members and agency staff on the best and most effective ways to reduce the risk of catastrophic wildfire using science-based, collaborative solutions.

II. Planning Area Background and Community Context

The 2021 Taos Canyon CWPP Update Planning Area includes the entire Rio Fernando Watershed, beginning in the town of Taos and capturing the area east of Taos. The planning area is approximately 40,700 acres, and it includes the communities of Taos, Cañon, Shady Brook, Valle Escondido and Apache Canyon. Elevations range from about 7,000 feet-above-sea-level in Taos up to above 10,000 feet-above-sea-level at several peaks along the northern ridge of the watershed (see Map 1 below).



Map 1 - Planning Area

The forests and waterways within this study area have long been part of the cultural and traditional land use in the region. Pueblos and nomadic plains tribes both utilized the canyon and its natural resources, and early Euro-American settlers are known to have traveled through the canyon as an access into and out of Taos. Most of the study area became part of the Don Fernando de Taos Land Grant, which was awarded to Hispano settlers in 1796. The land grant board is currently recognized and a formal political subdivision of the state. Livestock grazing remains a common practice on public lands in Taos Canyon, and there are six Forest Service grazing allotments completely or partially inside the planning area.

Today, most of the lands within the study area (>80%) are managed by the Carson National Forest, Camino Real Ranger District. Taos Pueblo tribal lands and the Blue Lake Wilderness are located immediately north of the study area. The entire study area lies within Taos County. Most of the private land in the study includes small parcels (<5 acres) along the Rio Fernando, with the exception of the Valle Escondido subdivision and golf course, and a few large ranch properties up the Tienditas Creek drainage. US Hwy 64 — a main traffic artery into and out of Taos — follows the Rio Fernando along the bottom of Taos Canyon until it climbs to the saddle at Palo Flechado Pass. A 115kV transmission line, maintained and operated by Tri-State Generation and Transmission Association, Inc., runs east-west through rugged and hard-to-access sections of Taos Canyon on the northside of US Hwy 64.

The Rio Fernando is one of two rivers that provide irrigation and drinking water to residents of the town of Taos and surrounding villages. The river itself does not meet water quality standards for E. coli contamination, and models show that a major wildfire in the canyon would further impair water quality in the stream. A catastrophic fire would not only endanger life and property, but would likely have devastating impacts on downstream water users as well as the Rio Fernando forest and riparian ecosystems. Taos nonprofit Amigos Bravos completed a watershed based plan in 2019 to develop a strategy to address water quality issues. In addition, a group called the Rio Fernando de Taos Revitalization Collaborative was recently formed and developed a separate strategy in order to raise awareness about the importance of the river and watershed, and cooperatively tackle issues related to forest health, water quality and public

access. More information about that group can be found at: www.riofernando.org. Taos Canyon also falls within the boundaries of the Taos Valley Watershed Coalition — an *ad hoc* collaborative group focused on planning and implementing forest and riparian restoration work on the west slope of the Sangre de Cristo Mountain near Taos. The 2015 Taos Valley Watershed Coalition Landscape Restoration Strategy specifically identified the need for forest restoration and fuel reduction work on the north side of Taos Canyon, in an area known by the Carson National Forest as the Pueblo Ridge Restoration Project.

The Rio Fernando Volunteer Fire Department provides primary fire protection in the Taos Canyon area. The department is among the most experienced and organized volunteer departments in Taos County, and the department is known for strong collaborative relationships with neighborhood organizations in the canyon. The department also has a strong track record of coordination with Forest Service wildfire specialists, including detailed planning on wildfire response and evacuation coordination. The department has a main station and substation located in Taos Canyon, and it maintains and regularly updates its website: https://rffd.org.

There are two very active Firewise communities/neighborhood associations in the study area: Taos Canyon, which represents property owners in the central portion of the planning area, and Valle Escondido, which represents property owners in the Valle Escondido subdivision near the confluence of the Rio Fernando and Tienditas Creek (see Box 1 below).

At the mouth of Taos Canyon, the Cañon Mutual Domestic Water Consumers Association provides drinking water to about 200 rural residents. In addition, seven acequias have rights to surface water on the Rio Fernando: Acequia del Norte del Cañon, Acequia del Sur del Cañon, the Alamitos Ditch, the Graham Ditch No. 1, Graham Ditch No. 2, the Jose Venito Martinez Ditch, and the Vigil y Romo Ditch. Each acequia is governed by its own elected acequia commission, and all are members of the nonprofit Taos Valley Acequia Association. Combined, these acequias have surface water rights sufficient to irrigate 837 acres.

FIREWISE COMMUNITIES IN TAOS CANYON

The Taos Canyon Neighborhood Association Firewise Committee provides information about wildfire preparedness on its website, organizes regular chipper days, and provides education and outreach to residents about the importance of defensible space and wildfire evacuation preparedness.

- More information about Taos Canyon Firewise activities can be found at: https://taoscanyon.org/taos-canyon-firewise-community/

The Valle Escondido Homeowners Association Firewise Committee also hosts a dedicated website with information about wildfire preparedness, updates on prescribed fire and forest management activities, and other resources related to creating defensible space. The committee organizes and hosts regular chipper and community cleanup days.

- More information about Valle Escondido Firewise activities can be found at: https://www.taosgolf.org/p/Firewise-Community-Info

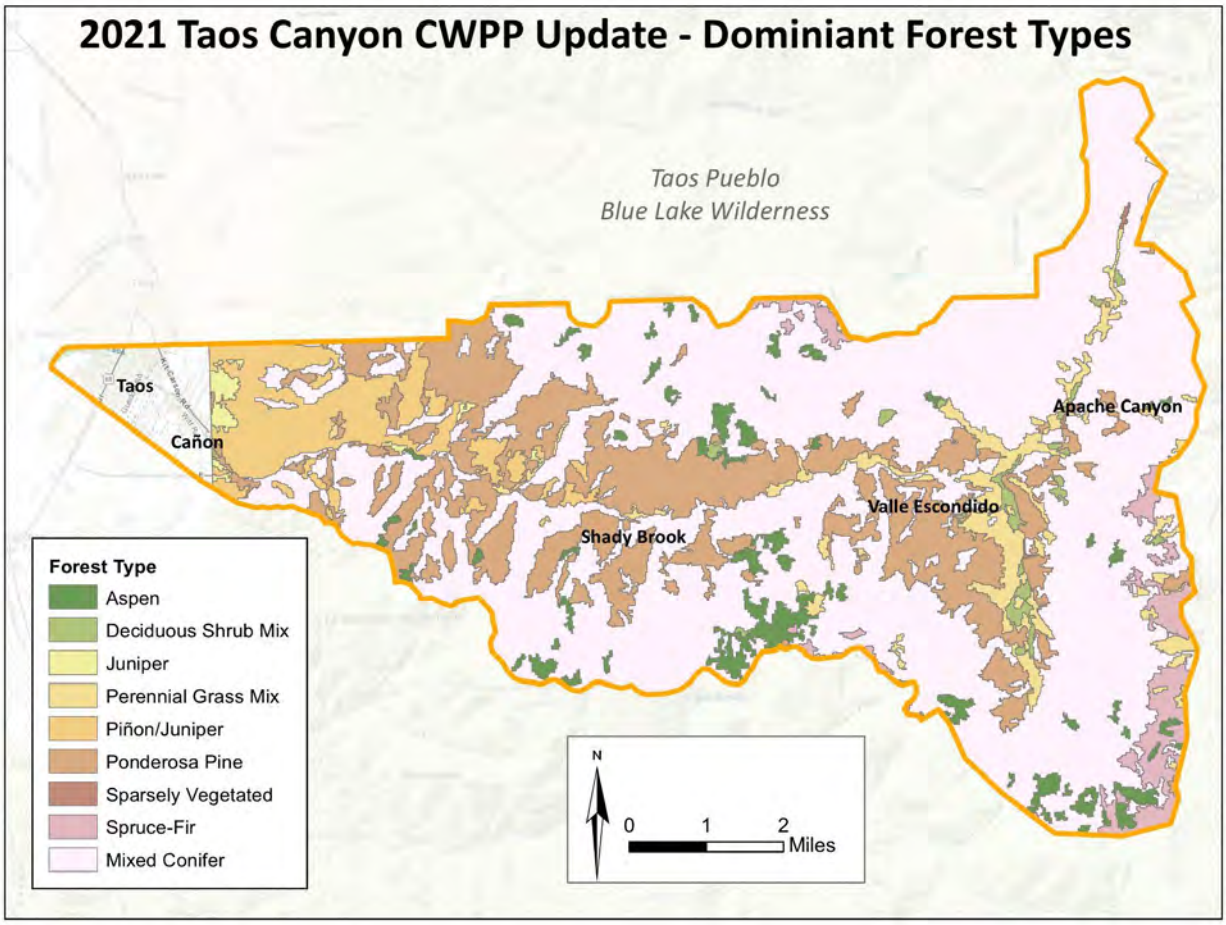
Box 1 - Firewise Communities

III. Existing Forest and Fuels Conditions

Taos Canyon (which includes the neighborhoods of Shady Brook, Taos Canyon/Rio Fernando, Valle Escondido and Taos Pines) is among the most at-risk areas for wildfire in all of Taos County, largely because of the density of fuels in the canyon, limited ingress and egress, the canyon's steep and narrow topography, the large number of likely ignition sources at both public and private campgrounds, and the fact that private properties in the valley bottom are wedged between Forest Service lands to the north an south. One fire expert at a CWPP bluntly stated that, under the worst conditions, all of Taos Canyon could burn in a matter of hours.

Data from the Carson National Forest show piñon/juniper as the dominant vegetation type in the lowest portions of the canyon and on south facing slopes, transition to ponderosa pine and dry mixed conifer in the middle portions of the canyon. Isolated stands of aspen are

found throughout the canyon. Spurce-fir forest is found only at the highest elevations in the study area (see Map 2 below). Deciduous riparian species area found along the Rio Fernando and near springs and in drainage bottoms throughout the study area.



Map 2 - Dominant Forest Types

As in many forests in Taos County, conditions in the ponderosa pine and dry mixed conifer are highly departed from historic reference conditions. More than 120 years of fire exclusion from these forests — which normally experienced low-intensity surface fire as frequently as every seven to 10 years — has allowed for the uncharacteristic growth of smaller trees of various species in the understory of established stands. These smaller trees compete with established trees for water and nutrients, stressing the forest and making stands more susceptible to insect infestation and drought. Further, the additional fuel loading caused by this

undergrowth has drastically increased the risk of catastrophic, uncharacteristic wildfire. Under these conditions, wildfire does not function as a natural disturbance that maintains balance and heterogeneity in these ecosystems. Instead, fire behavior is supercharged by the additional fuels, resulting in stand-replacing fires that can run unimpeded across tens of thousands of acres, and pose a significant threat to life and property, as well as the ecosystem services that these forests provide.

Recently, researchers with the U.S. Geological Survey completed a fire history study for three watersheds in the Taos Valley, including the Rio Fernando drainage. The purpose of the study was to identify evidence of frequent, low-severity fire in ponderosa and/or dry mixed conifer ecosystems in order to better inform land management decisions related to fuel reductions and prescribed or managed fire. The study found widespread evidence of frequent, low-severity fire in all three watersheds, suggesting that wildfire played a key role in maintaining the structure and composition of forest stands in the middle elevations (that is, above piñon-juniper woodlands and below spruce-fir stands). The image below comes from that study and shows how researchers were able to date evidence of fires to the exact year.

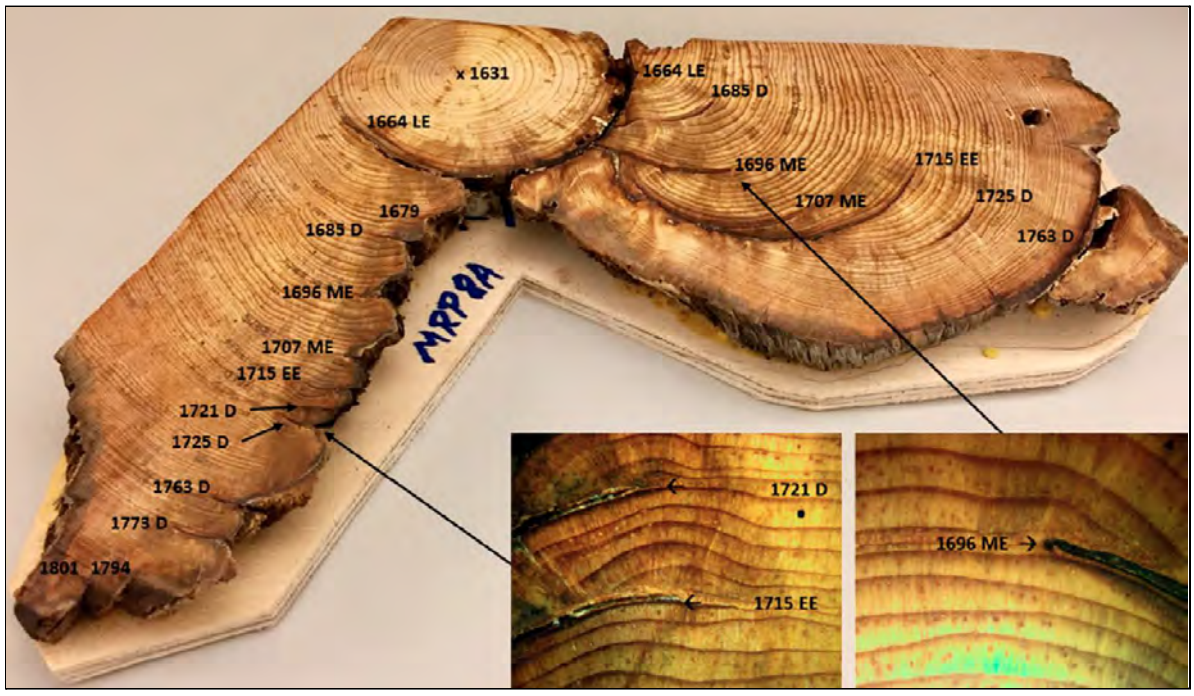
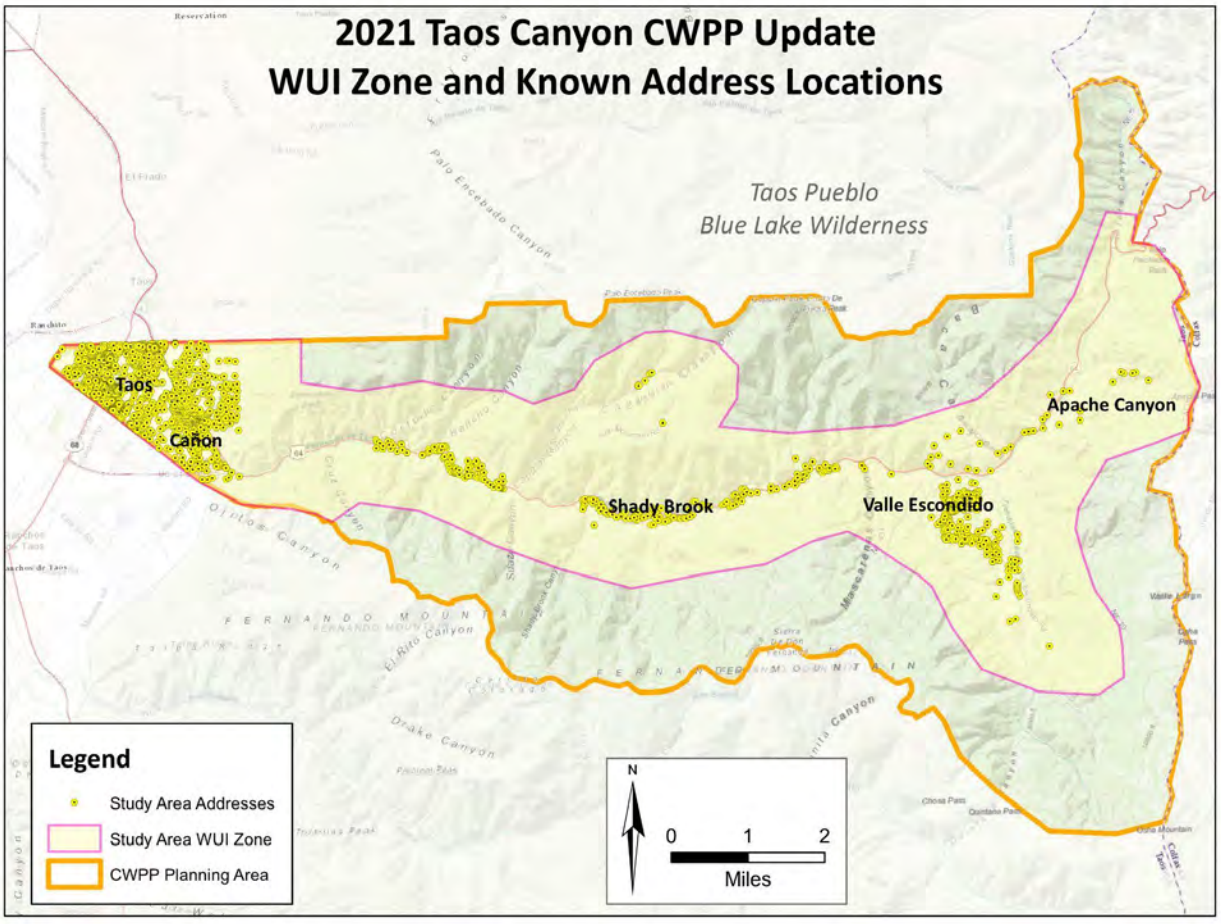


Image 1 - Fire-scarred tree sample

Much of the human development in Taos Canyon has occurred in the piñon/juniper woodlands, where fuel loads also pose a danger to life and property. Piñon and juniper are not fire tolerant tree species, and where tree density is high, this forest type can burn with extreme severity. Conditions in the wildland-urban interface in Taos Canyon are such that wildfire behavior — especially under moderate to extreme weather conditions — are likely to result in a catastrophic fire in and around homes and other infrastructure (See Map 3 below).



Map 3 — Wildland-Urban Interface Zones

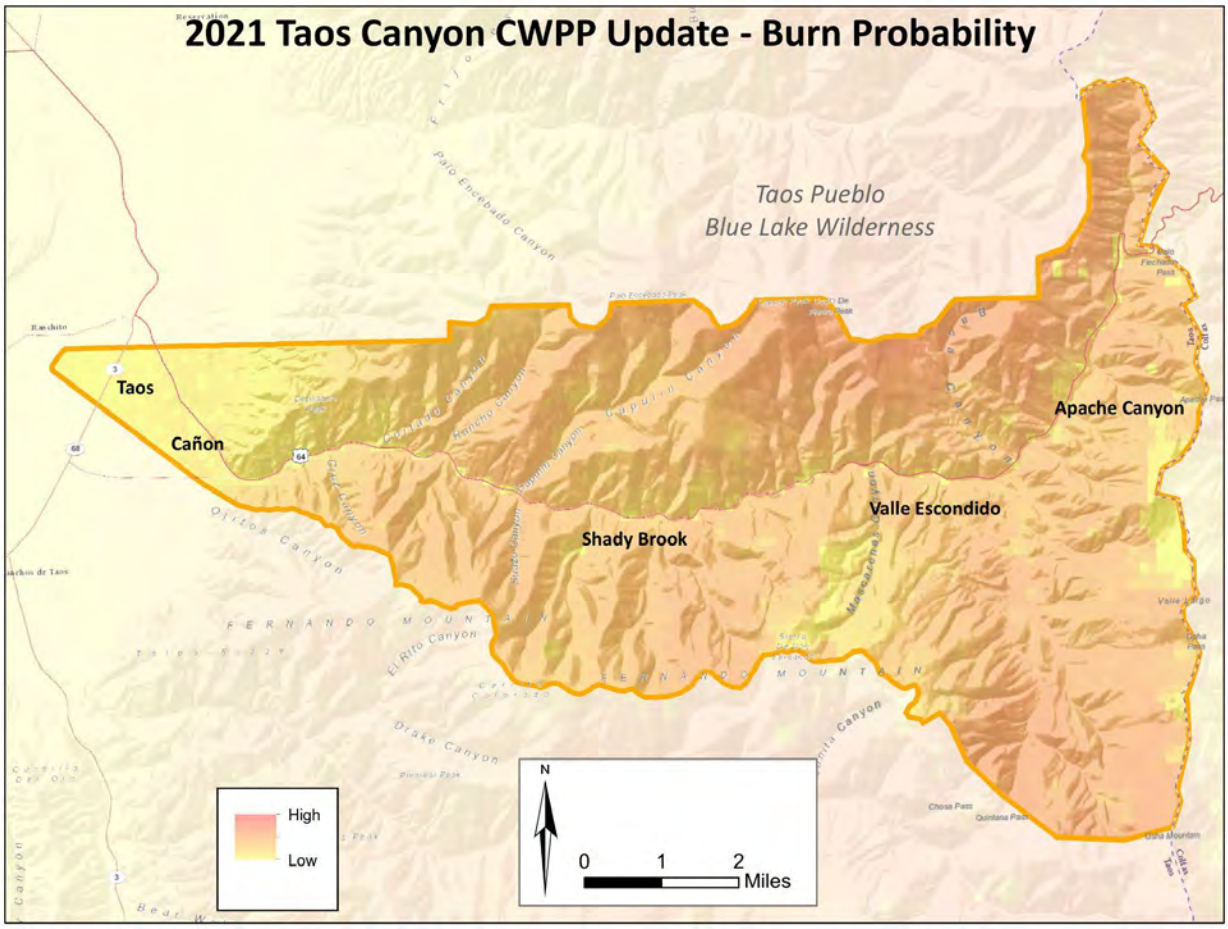
IV. Communities at Risk Assessment

The following risk assessment was conducted in Fall 2020 and Spring 2021 in order to: 1). Assess values at risk, including homes, structures or other human infrastructure 2). Gauge the likelihood that those values would be impacted — directly or indirectly — by a wildfire and post-fire effects and 3). Assign a hazard rating that reflects that risk, by community.

COMMUNITY NAME	FIRE DISTRICT	VEGETATION TYPE	RISK FACTORS	2016 TAOS COUNTY CWPP HAZARD RATING	2021 TAOS CANYON CWPP HAZARD RATING
Apache Canyon	Rio Fernando Volunteer Fire Department	Mixed Conifer	Single ingress/egress; dense fuel loads, steep topography	[Not Rated]	High
Cañon	Taos Volunteer Fire Department; Rio Fernando Volunteer Fire Department	Piñon/Juniper; Riparian Species	Areas of dense fuels; Areas of steep topography along foothills	Medium	Medium-Low

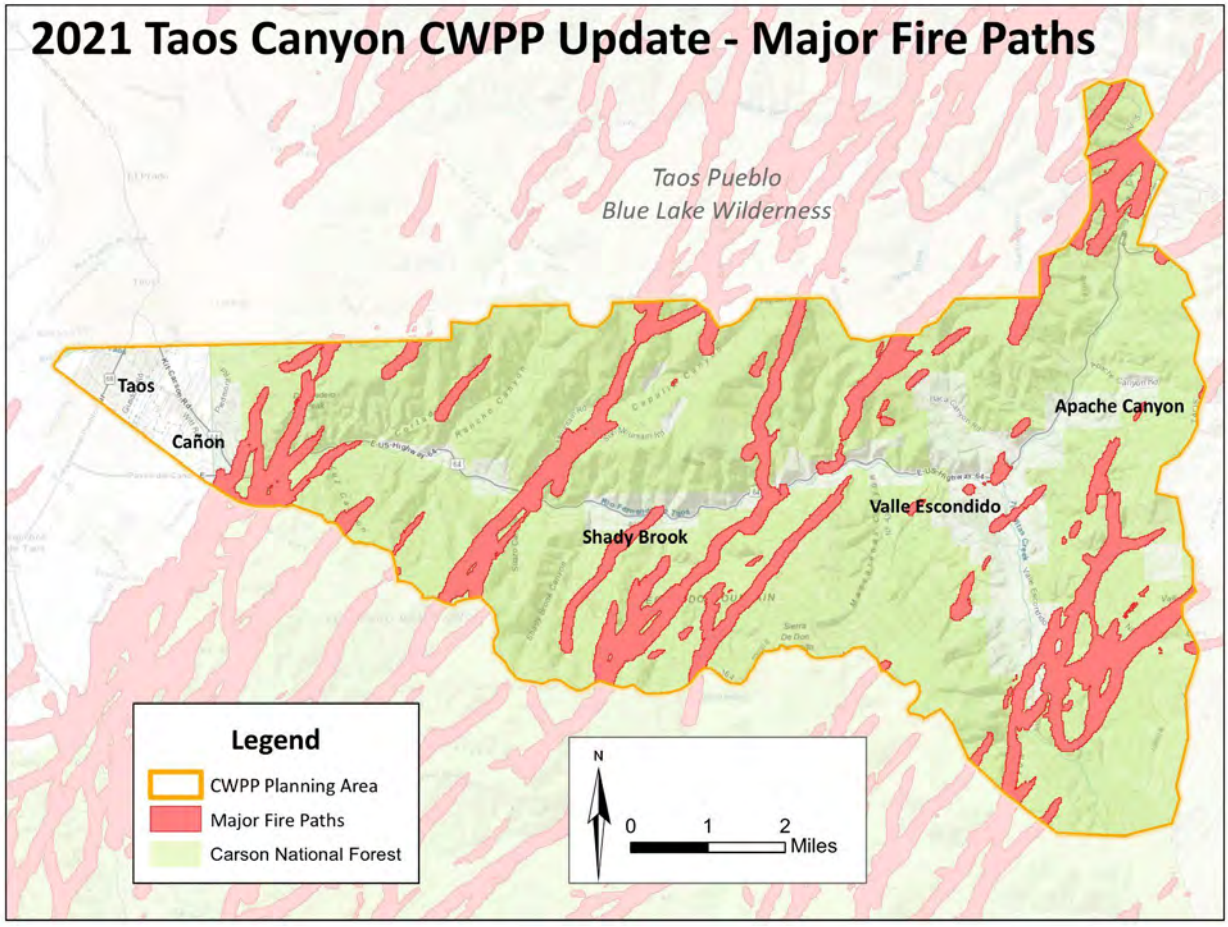
Shady Brook	Rio Fernando Volunteer Fire Department	Piñon/Juniper; Ponderosa Pine; Mixed Conifer	Dense fuels; steep topography; limited evacuation routes; no safety zones; human ignition sources	High	Very High
Valle Escondido	Rio Fernando Volunteer Fire Department	Ponderosa Pine; Aspen; Mixed Conifer	Areas of dense fuels; areas of steep topography; human ignition sources	High	Medium-High

The hazard ratings described above were also informed by geospatial data related to burn probability, wildfire intensity, post-fire erosion and major fire paths. Map 4 (see below) shows burn probability within the study area. “Burn probability” represents the likelihood that a particular location on the landscape will burn based on factors such as ignition locations, topography, weather conditions, and the rate and direction of fire spread on a landscape.



Map 4 — Burn Probability

In 2015, Taos County and the Taos Valley Watershed Coalition were also provided data by Colorado-based Anchor Point Wildland Fire Solutions, which created geospatial modelling to predict the most likely path of major wildfires within the Taos Valley footprint. This analysis included data for the



Map 5 — Major Fire Paths

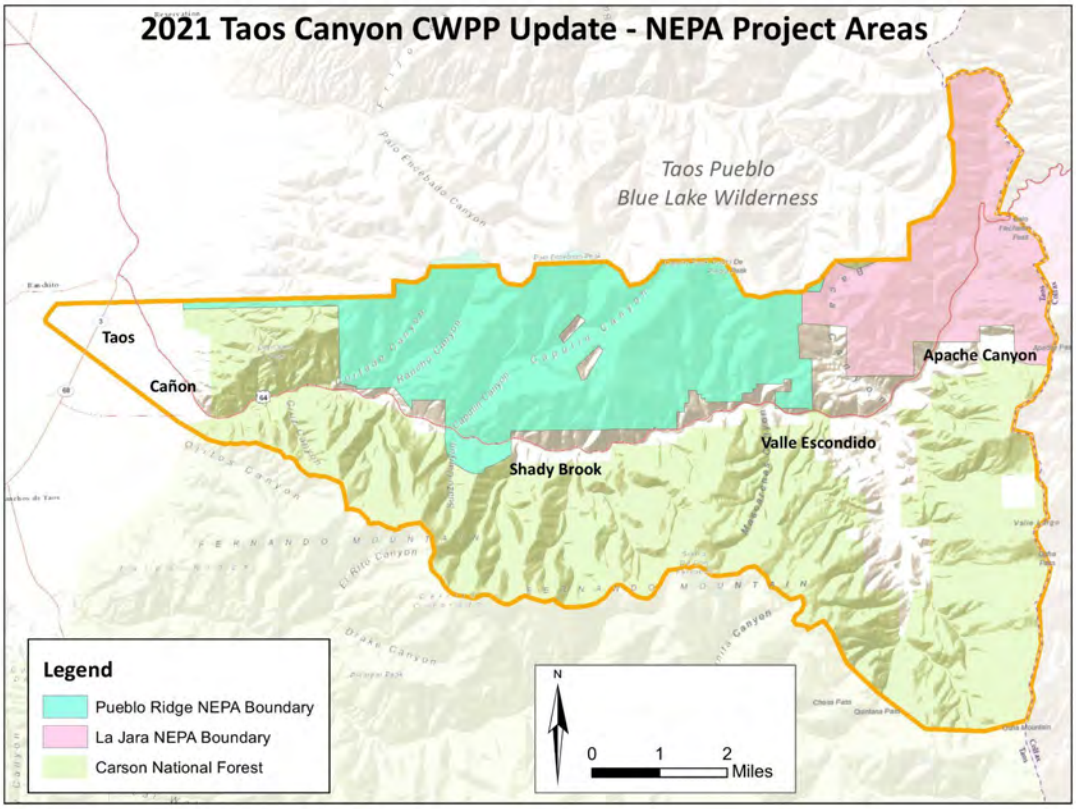
Taos Canyon planning area. These maps were created by using computer simulations of random wildfire ignitions across the landscape, then took into account fuel loads, topography, prevailing winds and other factors to estimate the most likely paths a wildfire would follow. The map above presents that data for the Taos Canyon study area.

The risk factors to individual communities described in the table above were compared with and verified by comments and input from local residents, county fire officials, and Forest Service land managers. Ultimately, the Taos County CWPP Core Team concurred that all of this input and data provide a solid baseline from which to plan and implement projects to reduce the risk to lives and property in Taos Canyon and on the surrounding landscape.

V. Previous Forest Restoration and Fuel Reduction Treatments

The threat of wildfire in Taos Canyon has been well known for decades, and residents and land managers have already made significant progress in mitigating risks. Large-scale treatments on National Forest lands have focused on reducing fuel loads with thinning treatments and following up with prescribed burning (pile burns and broadcast burns) to consume slash and allow for the safe reintroduction of prescribed and managed fire on regular intervals that mimic the natural fire regime described above.

The Carson National Forest completed a NEPA assessment for the 6,200-acre La Jara Wildland-Urban Interface Project Area in 2005. A primary impetus for that project was to remove hazardous fuels in the ponderosa and dry mixed conifer zones in the upper portion of Taos Canyon where there was a significant threat to individual homes and subdivisions.



Map 6 — NEPA Project Areas

As of spring 2021, the La Jara project was near completion. Almost all thinning was done and burning had been completed on about 80% of the project acres. This project has restored ecosystem function by removing hazardous fuels and allowing for the safe reintroduction of prescribed and/or managed fire. The area provides a cross-canyon fuel break near the ridge at Palo Flechado Pass, protecting homes and infrastructure in the area and mitigating the risk of a fire that starts in Taos Canyon from spreading eastward into Colfax County and the Moreno Valley.

Image 2 — Pile Burning after Thinning Treatments

In Fall 2020, a decision memo was signed authorizing a second NEPA analysis area — the 10,000-acre Pueblo Ridge Restoration Project Area — which ties in to the western boundary of La Jara and includes most Forest Service lands on the northern half of Taos Canyon from Valle Escondido to Cortado Canyon about two miles east of Taos. As of Spring 2021, the Carson National Forest, Taos Pueblo, the Taos Valley Watershed Coalition, and the Taos Canyon CWPP

Core Team had identified the eastern edge of the Pueblo Ridge footprint as the priority area for implementation work in the project area.

Work on Forest Service lands has been complemented by thinning treatments on private lands as well. In 2015, Taos County completed implementation of a Non-Federal Lands Hazardous Fuels grant which treated 124 acres of private lands in Taos Canyon. Those properties selected for treatment were strategically located to bolster north/south cross-canyon fuel breaks at multiple locations up Taos Canyon. The intent of those fuel breaks is to create areas of reduced fuel loads in the canyon where wildfire moving eastward up the canyon (following

Image 3 — CWPP Field Trip to Taos Canyon Thin and Burn Unit

prevailing winds) could be suppressed or slowed down. These “catchers mitts” have been determined to be the most effective way to design wildfire risk reduction projects in areas where fuel loads across the landscape and across forest types and elevation gradients pose a significant risk.In addition, the Taos Soil and Water Conservation District’s forest health

cost-share program has provided support to private landowners looking to create defensible space around homes and reduce the likelihood of catastrophic wildfire in Taos Canyon. These projects have been relatively small (usually <5 acres each), but the program has been consistent and the cumulative impact is a critical part of thinning work in the area. Between 2010 and 2014, the program helped complete 41 acres of thinning in Taos Canyon alone.

VI. Treatment Priorities

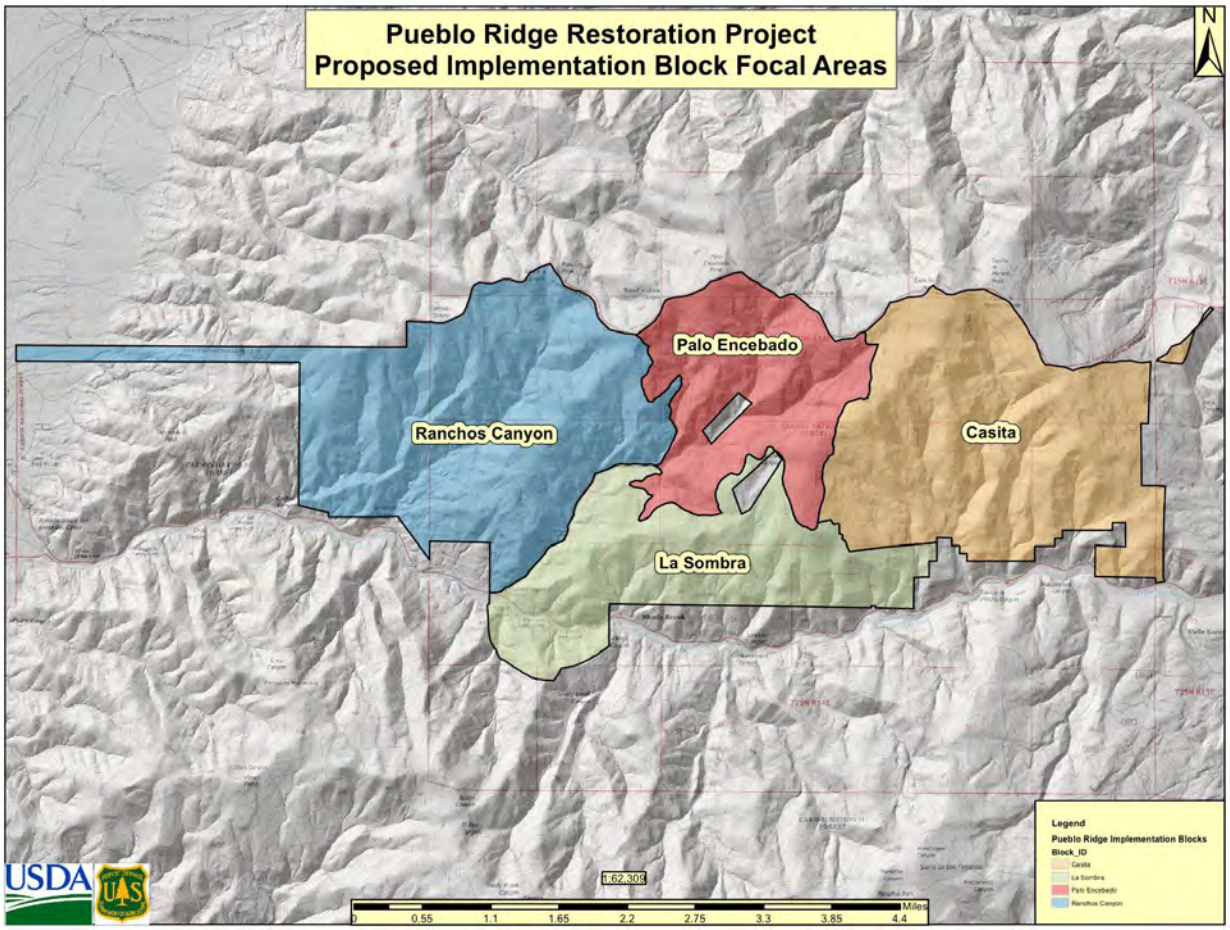
As described in the previous section, the Taos Canyon Planning Area has already seen significant progress related to planning and implementation. This section seeks to build on that momentum, and ensure that there is alignment between residents, community organizations and federal land managers when it comes to the timing and location of planned and future work.

Image 4 - CWPP Field Trip to Thinning Site

Field trips and small group meetings were held over the course of the CWPP planning period. These gatherings included representatives from Firewise communities, Taos County, Rio

Fernando Volunteer Fire Department, Taos Pueblo, New Mexico Forestry Division and the U.S. Forest Service.

On Forest Service lands in Taos Canyon, work in the Pueblo Ridge Project Area will be the highest priority for implementation. This area includes approximately 10,000 acres of fuel reduction and forest restoration work with the overall goal of restoring ecological function in dry forest types while also reducing the risk of catastrophic wildfire in and around communities and in WUI zones. Because of the relatively large area included in the Pueblo Ridge analysis area, the Carson National Forest and its partners are proposing a phased implementation



Map 7 — Pueblo Ridge Implementation Blocks

timeline that begins on the east side of the project area (shown as the “Casita” Implementation

Block on the map above) in order to tie into existing work in the La Jara project area. This block also includes drainages that fire path modelling show to pose a threat to Taos Pueblo's Blue Lake Wilderness (see Map 5), and the area shows high burn probability as well (see Map 4).

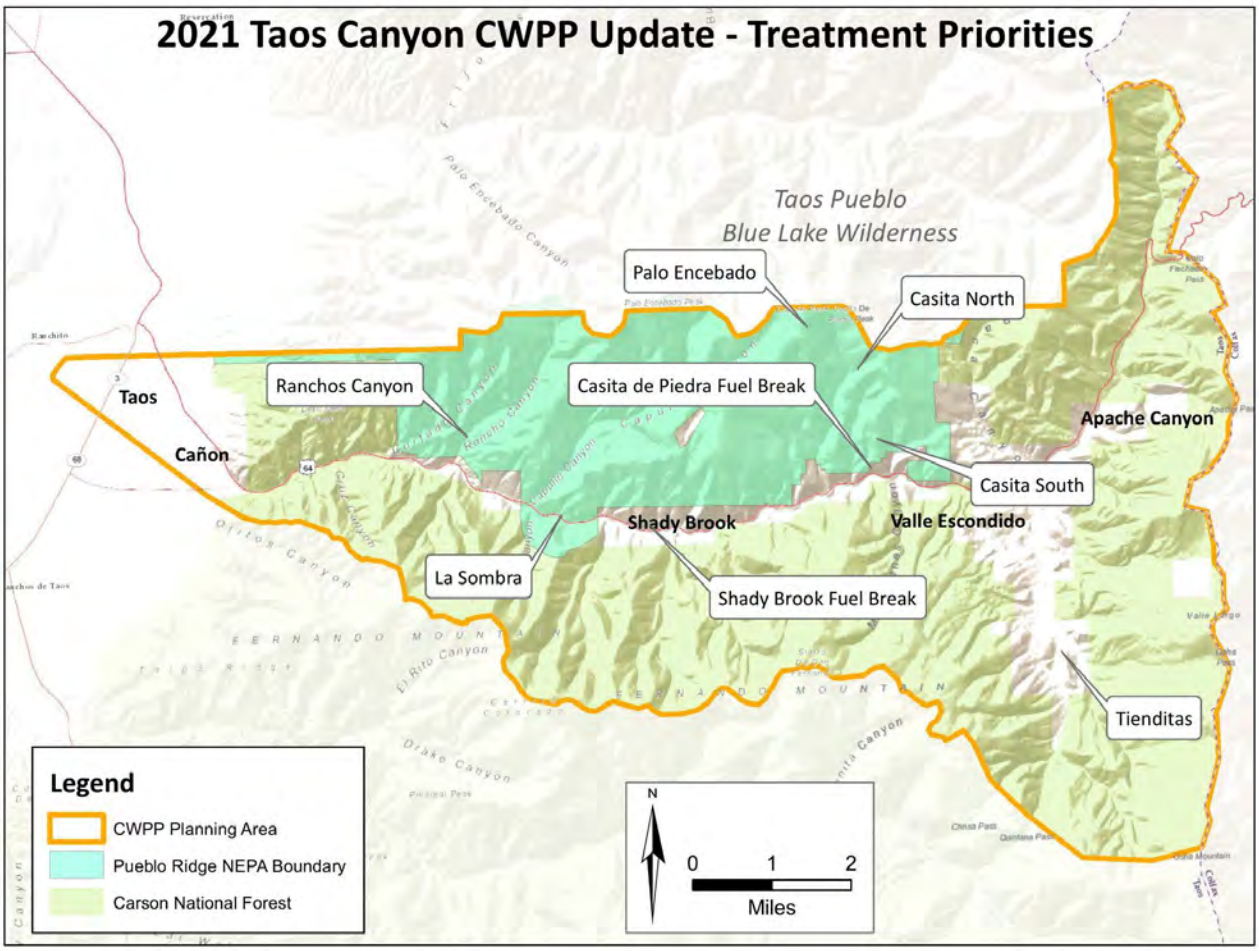
In future years, the Forest Service and its partners intend to continue westward from the Casita Implementation Block, with an emphasis on prioritizing treatments along the ridgeline boundary with Taos Pueblo and in high-risk WUI zones near the bottom of the canyon. The northern edge of the Palo Encebado Implementation Block (adjacent to Taos Pueblo) is of especially high concern, and is a priority for both Taos Pueblo and the Carson National Forest.

The general goal of this approach is to not only create fuel breaks to prevent the spread of uncharacteristic wildfire, but to also create more opportunities to manage naturally-occuring wildfire under conditions where fire behavior has ecological benefit and minimal risk of uncontrollable spread. Managed fire on the Carson National Forest in recent years has proven to be a very effective tool for achieving management objectives and restoring ecological function quickly and with minimal costs.

The Casita Implementation Block also encompasses fuel reduction work adjacent to US 64, in WUI zones near Valle Escondido and Baca Canyon. Treatments in these areas would reduce the risk of wildfire spreading from public lands on the private lands, and vice-versa. Any treatments in this WUI area should be complemented by targeted treatments on private land to compliment work on Forest Service lands and improve the effectiveness of fuel reductions and fire breaks in that area. In addition, the southwest corner of the La Sombra Implementation Block (where Suazo Canyon and Capulin Canyon meet) is of concern due to the fact that this area falls within a major fire path and has high burn probability. Existing private land treatments to the immediate west area part of an existing cross-canyon fuel break, and work on Forest Service Lands would provide an additional buffer to improve the safety of residents and infrastructure in the central part of Taos Canyon.

The table below and associated map show approximate locations of treatment areas available for work and their priority as determined by the Taos Canyon CWPP Core Team:

Taos Canyon CWPP Implementation Priorities				
Implementation Area	**Priority Level**	**Ownership Type**	**Treatments**	**Benefits**
Casita Implementation Block (North)	High	Carson National Forest	Thinning and Burning	Hazardous Fuel Removal; Restored Ecological Function
Casita Implementation Block (South)	High	Carson National Forest	Thinning and Burning	Hazardous Fuel Removal; Firebreak in WUI Zone
Palo Encebado Implementation Block	High	Carson National Forest	Thinning and Burning	Hazardous Fuel Removal; Restored Ecological Function; Firebreak in WUI Zone
La Sombra Implementation Block	Medium	Carson National Forest	Thinning and Burning	Hazardous Fuel Removal; Restored Ecological Function; Firebreak in WUI Zone
Shady Brook Cross-Canyon Fuel Break	Medium	Private Landowners	Thinning and Slash Removal	Hazardous Fuel Removal; Firebreak in WUI Zone
Casita de Piedra Cross-Canyon Fuel Break	Medium	Private Landowners	Thinning and Slash Removal	Hazardous Fuel Removal; Firebreak in WUI Zone
Ranchos Canyon Implementation Block	Low	Carson National Forest	Thinning and Burning	Hazardous Fuel Removal; Restored Ecological Function; Firebreak in WUI Zone
Tienditas Restoration	Low	Private Landowners	Thinning and Burning	Hazardous Fuel Removal; Restored Ecological Function



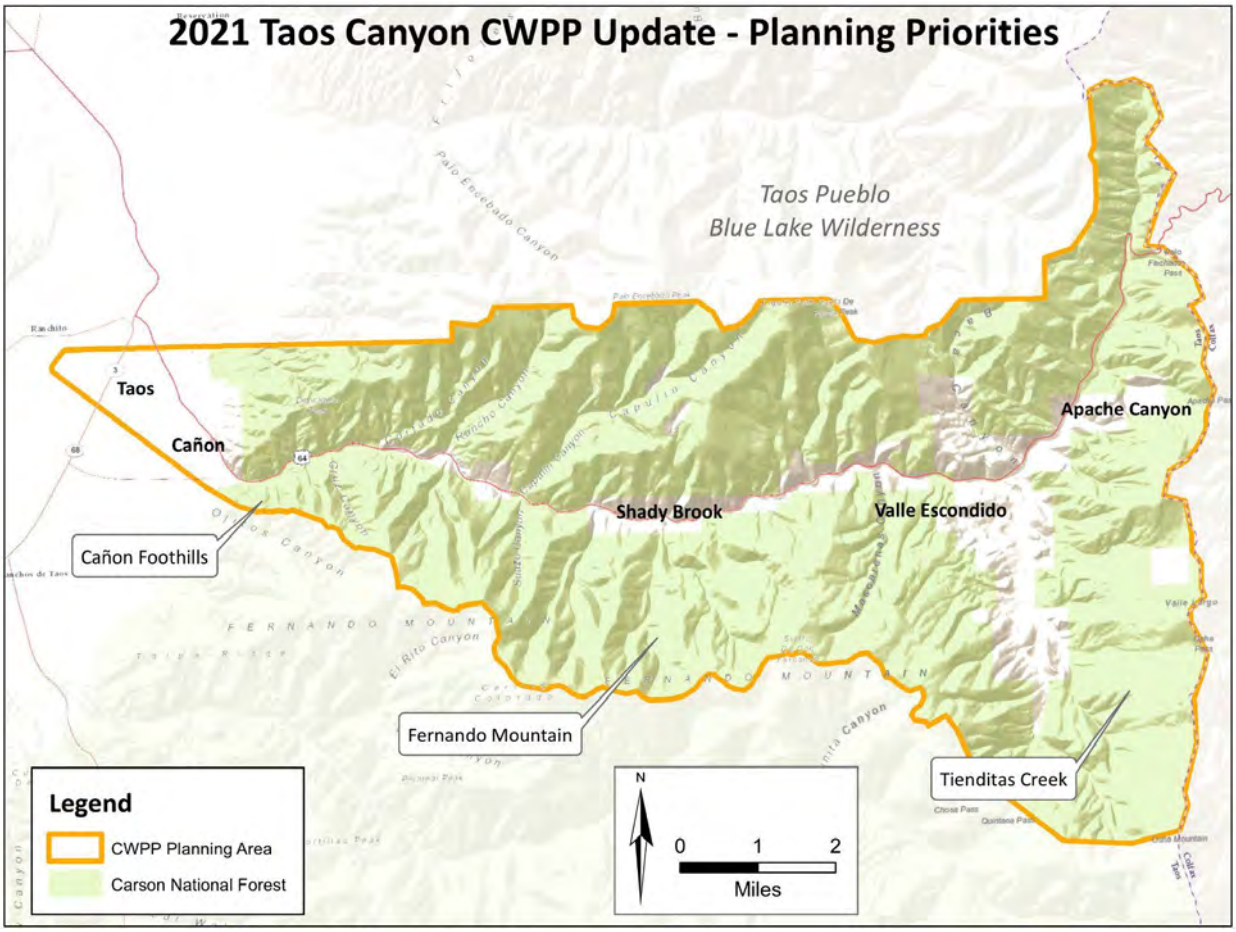
Map 8 – Treatment Priorities

VII. Future Project Planning

Concurrent with implementation of the projects described in the previous section, the Taos Canyon CWPP Core Team has identified areas inside and adjacent to Taos Canyon where NEPA Analysis and other necessary planning should be considered in order to expand future treatments beyond the La Jara and Pueblo Ridge project areas. Generally, these planning areas should be located on the southside of Taos Canyon and include those areas with elevated risk of wildfire and where predicted major fire paths are located.

Because of steep slopes, hard-to-access locations, and other factors, the Core Team understands that many areas on the south side of the canyon are not appropriate for thinning treatments. The Core Team also understands that NEPA analysis can be a long-term process that generally takes several years to complete. Further, the Core Team will defer to the Carson National Forest staff when deciding the most appropriate mechanism (Environmental Assessment, Categorical Exclusion, etc…) for completing required analysis and survey work. For those reasons, the following table and map are meant to serve as a guide for the Core Team, the Carson National Forest, the Taos Valley Watershed Coalition and other partners as planning areas are developed and completed in the coming years:

Taos Canyon CWPP Planning Priorities			
Planning Area	**Priority Level**	**Treatments**	**Benefits**
Cañon Foothills	High	Thinning and Burning	Hazardous Fuel Removal; Firebreak in WUI Zone
Tienditas Creek	Medium	Thinning and Burning	Hazardous Fuel Removal; Restored Ecological Function; Firebreak in WUI Zone
Fernando Mountain	Medium	Thinning and Burning	Hazardous Fuel Removal; Restored Ecological Function; Firebreak in WUI Zone



Map 9 — Planning Priorities

VIII — Education and Outreach Priorities

As mentioned above, residents in Taos Canyon are already among the most active and organized in Taos County when it comes to taking proactive steps toward reducing the risk of wildfire in neighborhoods and communities. Both Taos Canyon Firewise and Valle Escondido Firewise meet regularly, hold frequent chipper days and other community events, update their respective websites and have strong working relationships with the Rio Fernando Volunteer Fire Department.

Feedback from Firewise representatives collected during the CWPP process emphasized the importance of information sharing. Specifically, Firewise committee members said many

residents are now interested in creating defensible space around their homes and properties, but aren't sure how to get in touch with contractors. Similarly, others who are willing to do the work on their own may not know exactly what defensible space should look like, and are unsure of who they can contact for that technical expertise. There are also common questions about how best to maintain a property after an initial thinning project is completed.

Firewise representatives and residents were strongly encouraged to read the Living with Fire — A Guide For Homeowners document (available for download at: http://www.emnrd.state.nm.us/SFD/Publications/documents/LivingwithFire_2018_NMStateForestry_EDITEDLOGOS.FINAL.pdf) in order to familiarize themselves with best practices related to reducing wildfire risk, fire-hardening their homes and other structures, and preparing for a wildfire event. An on-site thinning demo was performed in Valle Escondido as part of this planning process to show residents a before-and-after of a thinning treatment to create defensible space and remove hazardous fuels. A video of that demo has been made available to Firewise groups to share with their community members.

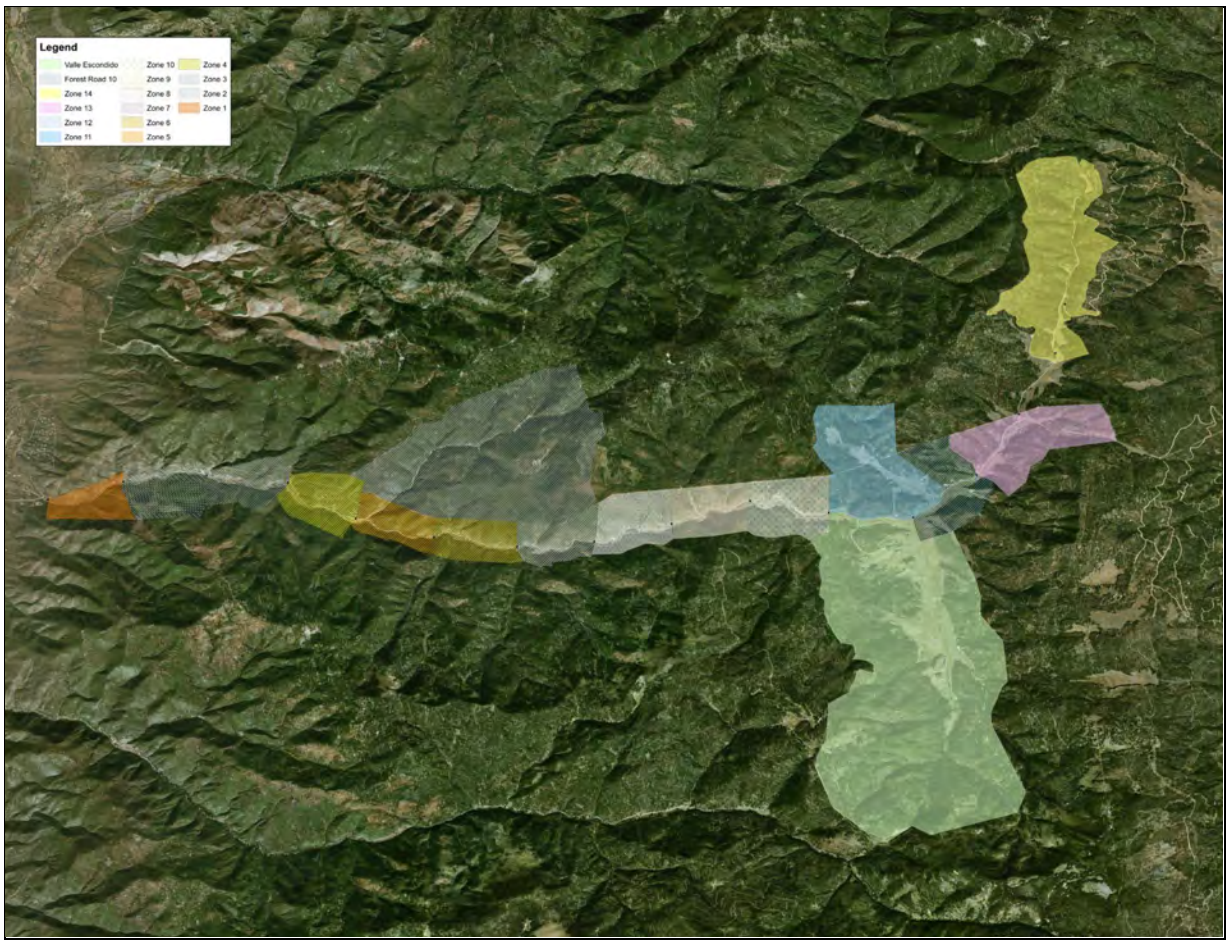
During the planning process, Firewise representatives expressed interest in finding ways to get more young people involved in wildfire preparedness and outreach efforts, as well as looking for creative ideas to maximize the economic benefits generated by thinning and other treatment activities. The table below outlines a variety of outreach and education efforts that are already underway or were proposed as part of this CWPP process:

Education and Outreach Priorities			
Activity	**Priority Level**	**Benefits**	**Partners**
Create handbook and/or video series for DIY defensible space projects and long-term maintenance	High	Empowers motivated property owners to fire-harden their properties and gives them the tools and information necessary to mitigate wildfire risk on their own	Firewise communities, Taos County WUI Coordinator, New Mexico Forestry Division, Taos Soil and Water Conservation District
Create and make available master list of area thinning contractors, including services provided and approximate cost of services	High	Gives property owners access to up-to-date list of professional service providers, and helps property owners understand the costs associated with hiring crews to create defensible space	Firewise communities, Taos County WUI Coordinator, New Mexico Forestry Division, Taos Soil and Water Conservation District, New Mexico Forest Industry Association
Develop relationship with Rocky Mountain Youth Corps and jointly plan Firewise service days and projects that include area youth participants and work crews	Medium	Connects young people in Taos County with existing efforts to reduce wildfire risk while providing additional service crews to assist with workdays in neighborhoods and communities	Firewise communities, Rocky Mountain Youth Corps, Taos Pueblo, Taos County WUI Coordinator

Research possibility of producing firewood and other value-added wood products harvested as part of thinning and restoration projects	Low	Ensures minimal waste of small-diameter wood products and may reduce the net cost of thinning treatments	New Mexico Forestrty Division, New Mexico Forest Industry Association, local forestry contractors

IX — Evacuation and Wildfire Response Plan

Given the tremendous risk of catastrophic wildfire and the potentially high rate of spread under the right conditions, the Carson National Forest and Rio Fernando Volunteer Fire Department have developed a joint evacuation and wildfire response plan intended to effectively coordinate communications and notification to residents about a high-intensity wildfire in Taos Canyon.



Map 10 — Evacuation Zones

TAOS CANYON ZONE EVACUATION PLAN

ZONE 1: MM 257-258, TAOS CANYON
Key Characteristics:
• No structures in this mile section.
• Large amount of day use foot and bicycle traffic at Devisadero Trailhead and La Vinetera campground.
• Many homeless camps hidden back in the trees in this section.

Response:
Minimum of two people covering north and south of Highway 64 at trail heads. If time permits go on up trails to canvas more terrain.

ZONE 2: MM 258-259, TAOS CANYON
Key Characteristics:

• No structures in this mile section.
• Las Petacas Campground and gravel pit parking area.
• Some homeless camps both north and south of Highway 64.
• No established trailheads in the area but some traffic up Cortado Canyon at gravel pit parking.

Response:
One person should be able to cover the immediate area. Time permitting two people should cover the area of the homeless camps.

ZONE 3: MM259-261, TAOS CANYON
Key Characteristics:
• Two-mile section includes 80 homes and many outbuildings. Mix of permanent residents, rentals and summer cabins.
• Calle Vision, Pinon Trail and *Sunset?* are roads (multiple residences) off of Highway 64. Good bridge at Calle Vision to cross.
• Sierra Village RV Park in this section and Airbnb rentals.

Response:
Four to six people needed to cover this section.

ZONE 4: MM 261-262, TAOS CANYON
Key Characteristics:
• 20+ structures located off Capulin Canyon Road (Forest Rd 10) and two Forest service campgrounds La Sombra and Capulin in this section.
• Shadow Mountain Recovery and Fa Yun Monastery are located on Capulin Canyon Road.
• Narrow gravel roads, poorly maintained, One way in and out.
• Shadow Mountain Recovery and Fa Yun Monastery may be sheltered in place.

Response:
Two to three people needed to cover this section

ZONE 5: MM 262-263, TAOS CANYON
Key Characteristics:
• 60+ structures in this zone.
• Shady Brook Rentals (commercial) is located within this section.
• On the north side of Highway 64,. all homes are located next to the highway while on the south side there are multiple roads that lead to residences well off the highway (not visible from highway). Limited full-time occupancy, but residences need to be checked.

Response:
Three to four people needed to cover this section

ZONE 6: MM 263-264, TAOS CANYON
Key Characteristics:
• 30+ structures in this zone.
• Mondragon Road takes off to the south with multiple structures on it. Good bridge to cross. Structure located at 26351 has a very steep drive to it. Light foot and bicycle traffic on Mondragon forest access across the river.

Response:
Two to three people needed to cover this section.

ZONE 7: MM 264-265, TAOS CANYON
Key Characteristics:
• 35+ structures in this mile.

• Two roads take off the highway. Sombra del Oso road proceeds off the north side at 26437 driveway then left to two houses. Camino Alto road takes off the south side of 64 (extremely steep) with Camino Pablito road immediately off to the right. Camino Alto has two homes on it with Camino Pablito having 6+ structures on it.
• This section is a mixture of full time and part-time residences. Loma Verde church camp at 26452 at times will have 50+ people in it.
Response:
Two to three people needed to cover this area.

ZONE 8: MM 265-266, TAOS CANYON
• 30+ structures in this section.
• Long driveways for 26537 (2 structures), 26539 (multi structures/1 house) and 26551 (2 structures). All are located on the north side of 64. Steep Drives with small turn around space.
Response:
Two or three people needed to cover this area.

ZONE 9: MM 266-267, TAOS CANYON
Key Characteristics:
• 7+ structures in this section.
• 1 permanent residence. 2 other homes seasonally occupied.
Response:
One person needed to cover this area

ZONE 10: MM 267-268, TAOS CANYON
Key Characteristics:
• 15+ structures in this section.
• North side 2 roads - Los Clanes with 5 structures and some permanent residents and Verde de Los Angeles with another 6 structures some permanently occupied.
• South side has 1 commercial RV park, and in season it may have 20+ RVs and 3 full-time residences.
• Valle Escondido access is in this zone. *See Zone 14 for details.*
Response:
Two people needed to cover this area. High clearance (4x4) vehicle recommended.

ZONE 11: MM 268-269, TAOS CANYON
Key Characteristics:
• 14+ Structures in this section.
• Baca Canyon Road on the north side with 7 structures in it only 2 are permanent residences. 5 more structures on north side, 1 being a commercial pottery business.
• Only 2 structures on the south side of 64. Not permanent residence.
Response:
One person needed to cover this area.

ZONE 12: MM 269-270, TAOS CANYON
Key Characteristics:
• 20+ Structures in this section
• 7+ structures in Apache Canyon and 5+ structures on unnamed road. One dog kennel commercial structure in this section.
Response: Two people to cover this section due to longer drive times. High clearance (4x4) vehicle recommended.

ZONE 13: MM 270-272, COUNTY LINE
• This zone has no structures
• Zone has 2 Forest Service roads (La Junta and La Jara) that will need to be checked for campers and day use.
Response:
One person needed to cover this area. High clearance (4x4) vehicle recommended.

ZONE 14: VALLE ESCONDIDO
Key Characteristics:

• This zone has 150+ structures
• Only about 30+ are permanent residents, so the population depends on time of year. 100+ people at minimum to around 1,000 in July.
• Area does have fire hydrants and good roads in Valle Escondido proper.
• Two Forest Service roads leaving the valley with multiple camping sights and both accesses are popular day use areas (wood hauling, mountain biking, etc).
• Vigils own property on Forest Road 70 and is several miles to the residence (summer only).

Response:
Four to five people to cover this area. High clearance (4x4) recommended for forest road access.

TAOS CANYON COMMUNICATION PLAN

Radio Channel Assignments:

1. RFVFD Repeater— Command Channel
2. State Fire — Fire Operations
3. Carson Wildland Tac 3 — Fire Operations
4. Picuris/South Repeater- Evacuation Operations
5. EC Tac 4 — Not Assigned (Fire Operations)
6. Vlaw 31/32 — Not Assigned (Evacuation Operations)

Dispatch Immediate Notification:

1. Rio Fernando Wildland High Risk Response — Fire Ops/Evac.
2. NM State Forestry, Cimarron District — Fire Ops/Evac.
3. Taos Dispatch Center (CNF) — Fire Ops/Evac.
4. Taos County Fire Chief — Fire Ops/Evac.
5. Taos Pueblo — Fire Ops/Evac.
6. Taos County Sheriff — Evacuation
7. NN State Police —Evacuation
8. Taos County Emergency Manager — Evacuation/Shelters/Check-in Location
9. Public Information Officer — Radio Stations and Social Media

TAOS CANYON INITIAL RESPONSE RESOURCE LIST

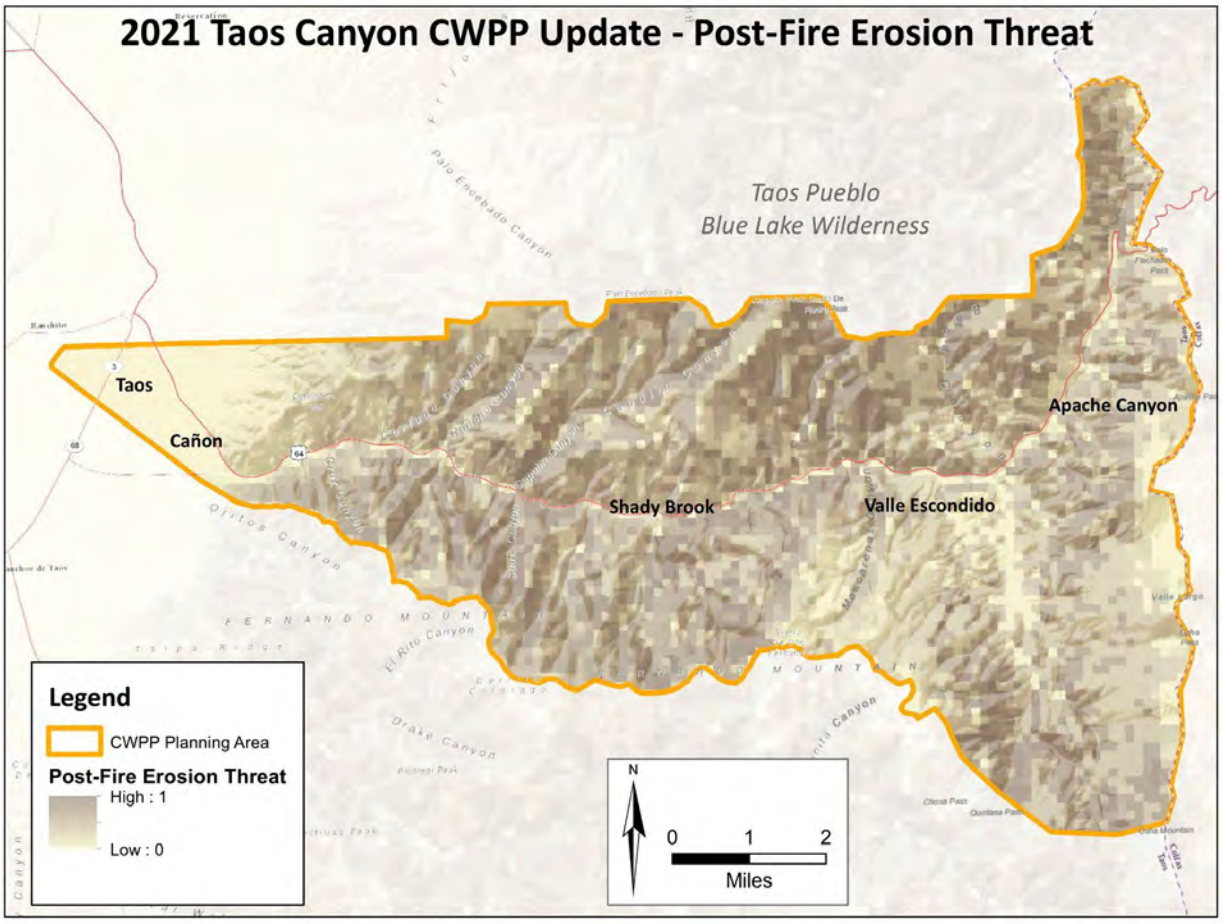
1. Rio Fernando Wildland High Risk Response/Fire Operations/Evacuation
   A. RFVFD 2) Type 6 Engine; 6 Firefighters
   B. RFVFD 1) Type 3 Tender; 2 Firefighters
   C. TVFD 1)Type 6 Engine; 3 Firefighters

D. TVFD 1) Type 3 Tender; 2 Firefighters
E. MVFD 1) Type 6 Engine; 3 Firefighters
F. AFFD 1) Type 6 Engine; 3 Firefighters

2. Taos Dispatch Center (CNF) — Fire Ops/Evac.
   A. 2 Type 6 Engine; 6 Firefighters
   B. 1 Type 1 Crew; 20 Firefighters
   C. BLM Short Crew; 10 Firefighters
   D. 1 Type 3 Management Team; 6 FIrefighters/Mgt
3. Taos County Fire Chief — Fire Ops/Evac
   A. Taos County Fire Resources As Needed (Move Up And Cover)
   B. Staging
4. Taos County Sheriff — Evacuation
   A. All Officers Available For Evacuation And Traffic Control
5. NM State Police — Evacuation
   A. All Officers Available For Evacuation And Traffic Control
6. Taos County Emergency Manager — Evacuation
   A. Evacuation Centers-suggested Taos Middle School And Angel Fire Community Center
   B. State Resources
7. Public Information Officer — Radio Stations And Social Media
   A. As-Soon-As-Possible Travel Direction
   B. Taos County/Carson National Forest Representative

X. Post-Fire Response and Resources

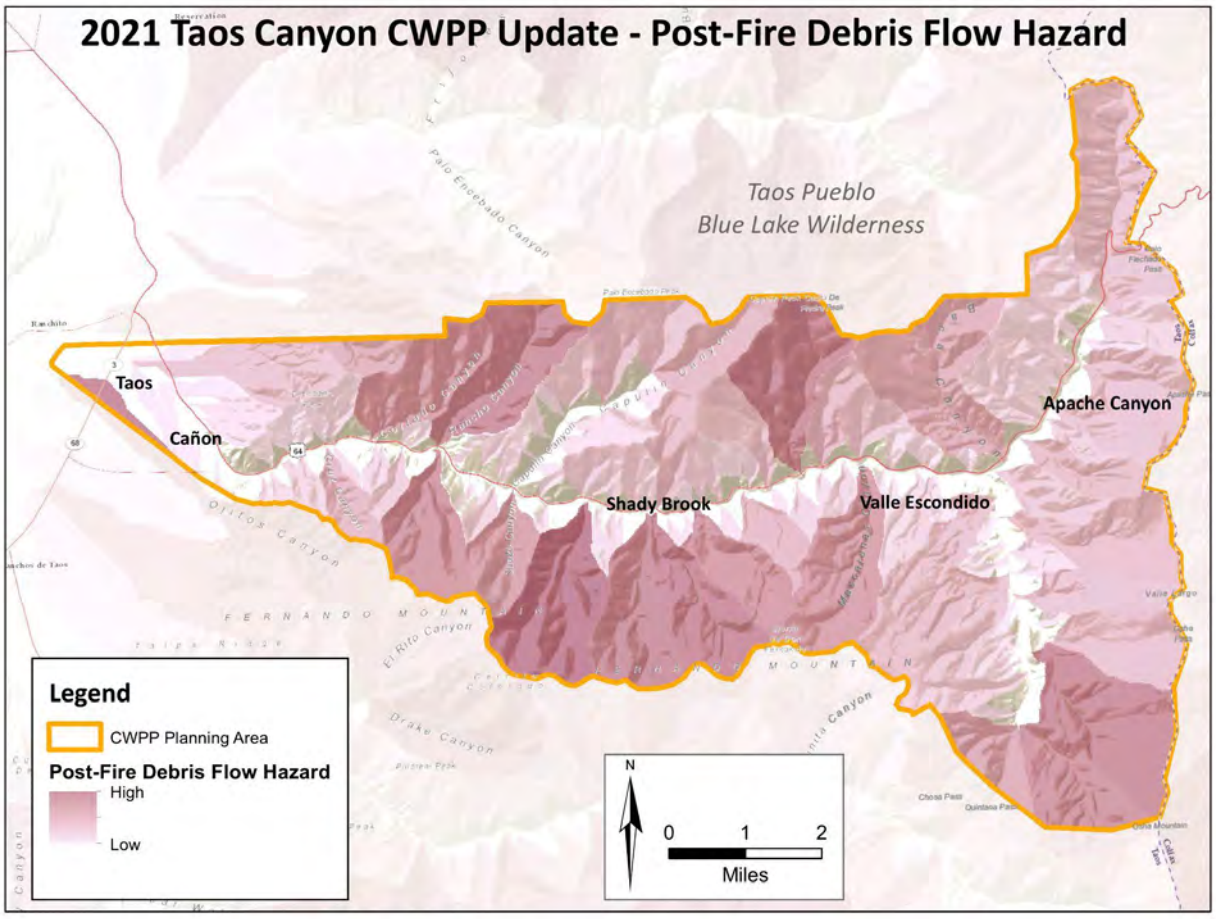
The short- and long-term impacts of an uncharacteristic, catastrophic wildfire in Taos Canyon will vary depending on the severity of the burn, the corresponding damage to structures and other human infrastructure, and the effects on ecosystem services, especially as they relate to wildlife habitat, water storage and surface water quality. Computer modelling shows that post-fire erosion threat (Map 10) and post-fire debris flow hazards (Map 11) are highest along the south-central portion of Taos Canyon, the headwaters of Tienditas Creek, Rancho Canyon and Casita de Piedra Canyon.



Map 11 — Post-Fire Erosion Threat

High-severity fire in Taos Canyon would almost certainly have major impacts to water users, not only in Taos Canyon, but downstream through the town of Taos, into the Rio Pueblo de Taos and the Rio Grande. These effects would be felt by acequia water users, as well as domestic water providers, and could also harm aquatic species and habitat conditions along the Rio Fernando de Taos riparian corridor. In a river system that is already degraded, post-fire erosion and debris flow would almost certainly exacerbate water quality conditions for years, if not decades into the future.

In the event of such a fire, a number of resources should be called on in order to mitigate the impacts to water and to homes and properties in Taos Canyon. Specifically, the Forest Service Burned Area Emergency Response (BAER) program provides erosion control



Map 12 — Post-Fire Debris Flow Hazard

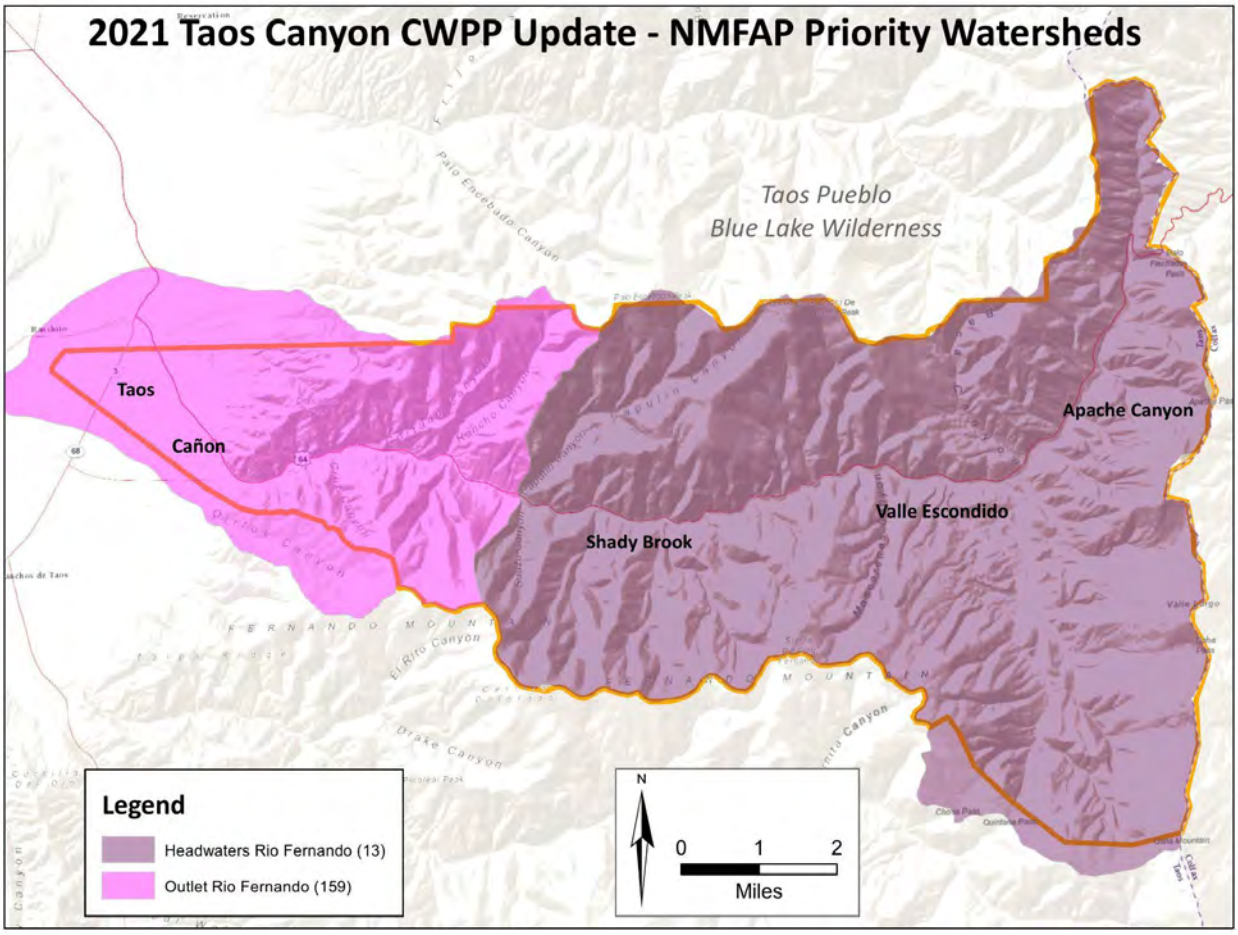
structures and revegetation to mitigate further damage in those areas that post the greatest threat. Emergency stabilization immediately after a high-severity wildfire is key to preventing further harm to the greatest extent possible. The focus of the BAER program is to install these features on Forest Service lands, but response plans and implementation are often done in partnership with tribal, state and local agencies. Additional information about this program is available at: https://www.fs.fed.us/naturalresources/watershed/burnedareas-background.shtml

In addition, the "After Fire: A Guide for New Mexico Communities" handbook provides an up-to-date guide for communities trying to bounce back from a major wildfire. The guide is a reliable resource for any community looking for direction on how to organize partners and develop a long-term, post-fire rehabilitation plan. More information about the guide can be found at www.afterwildfirenm.org.

XI. CWPP Action Plan Timeline and Assessment Strategy

This section is intended to provide a tentative timeline for the education and outreach, project planning and treatment implementation described in this document. While the dates shown in this timeline are aspirational, they do provide a framework for applying the priorities in this CWPP with the primary goal of reducing the threat of wildfire in Taos Canyon.

To help in those efforts, the CWPP Core Team should immediately engage directly with the Taos Valley Watershed Coalition, the Carson National Forest and New Mexico Forestry Division, all of whom are in the early stages of prioritizing forest restoration and wildfire risk reduction projects for most of north-central New Mexico for the next five to 10 years. Those groups are being guided by the 2020 New Mexico Forest Action Plan Update, which developed



Map 13 — NMFAP Priority Watersheds

maps of priority watersheds across the state that will serve as justification for the order in which projects are developed and implemented. Taos Canyon is in an especially advantageous position because of those rankings: The upper portion of the canyon is considered the 13th most important watershed of the top 500 watersheds in the state. The lower portion of the canyon ranks 159. Those rankings will make any projects proposed in those areas more competitive in the broader planning process, and those same projects are far more likely to be considered for grant funding or agency funding.

The table below provides a timeline, by activity, for project described in this CWPP:

Taos Canyon CWPP Action Plan Timeline			
Activity	**Activity Type**	**Year**	**Lead Partners**
Create handbook and/or video series for DIY defensible space projects and long-term maintenance	Outreach and Education	2021	Firewise communities, Taos County WUI Coordinator, New Mexico Forestry Division, Taos Soil and Water Conservation District
Create and make available master list of area thinning contractors, including services provided and approximate cost of services	Outreach and Education	2021	Firewise communities, Taos County WUI Coordinator, New Mexico Forestry Division, Taos Soil and Water Conservation District, New Mexico Forest Industry Association
Develop relationship with Rocky Mountain Youth Corps and jointly plan Firewise service days and projects that include area youth participants and	Outreach and Education	2022	Firewise communities, Rocky Mountain Youth Corps, Taos Pueblo, Taos County WUI Coordinator

work crews			
Connect with Rio Fernando de Taos Revitalization Collaborative and find ways to plug into existing efforts to protect forest and watershed health in Taos Canyon	Outreach and Education	2022	Firewise communities, Rio Fernando de Taos Revitalization Collaborative, Taos County WUI Coordinator
Research possibility of producing firewood and other value-added wood products harvested as part of thinning and restoration projects	Outreach and Education	2023	New Mexico Forestry Division, New Mexico Forest Industry Association, local forestry contractors
Cañon Foothills NEPA	Project Planning	2023	Carson National Forest, Taos Valley Watershed Coalition, Town of Taos, Taos County
Tienditas Creek NEPA	Project Planning	2024	Carson National Forest, Taos Valley Watershed Coalition, Taos County
Fernando Mountain NEPA	Project Planning	2024	Carson National Forest, Taos Valley Watershed Coalition, Taos County
Casita Implementation Block (North)	Treatment Implementation	2022	Carson National Forest, Taos Pueblo, Taos Valley Watershed Coalition, Taos County
Casita Implementation Block (South)	Treatment Implementation	2022	Carson National Forest, Taos Valley Watershed Coailtion, Taos County, Firewise communities

Palo Encebado Implementation Block	Treatment Implementation	2023	Carson National Forest, Taos Pueblo, Taos Valley Watershed Coalition, Taos County
La Sombra Implementation Block	Treatment Implementation	2024	Carson National Forest, Taos Valley Watershed Coalition, Taos County, Firewise communities
Shady Brook Cross-Canyon Fuel Break	Treatment Implementation	2024	Firewise communities, Taos Valley Watershed Coalition, Taos County, Taos Soil and Water Conservation District
Casita de Piedra Cross-Canyon Fuel Break	Treatment Implementation	2024	Firewise communities, Taos Valley Watershed Coalition, Taos County, Taos Soil and Water Conservation District
Ranchos Canyon Implementation Block	Treatment Implementation	2025	Carson National Forest, Taos Pueblo, Taos Valley Watershed Coalition, Taos County
Tienditas Restoration	Treatment Implementation	2025	Firewise communities, Taos Valley Watershed Coalition, Taos County, Taos Soil and Water Conservation District

The CWPP planning team intends to meet at least annually to review the status of these projects to ensure that partners are following through on the action plan.

APPENDICES:

I. References (with hyperlinks)

Colorado Post-Fire Playbook

Environmental Assessment Tri-State Taos to Black Lake Transmission Line Access Project

Evaluating approaches to mapping burn probabilities for a quantitative wildland fire risk analysis framework

New Mexico Forest Action Plan (2020 Update)

Rio Fernando De Taos Revitalization Collaborative website

Rio Fernando de Taos Watershed Based Plan

Taos Valley Watershed Coalition 2015 Landscape Restoration Strategy

Surface Fire to Crown Fire — Fire History in the Taos Valley Watersheds, New Mexico USA

Pueblo Ridge Restoration Project Environmental Assessment

Living With Fire — A Homeowners Guide

II. Grants, Cost-Share and Other Funding Programs

- **Collaborative Forest Restoration Program:** Up to $360,000 in federal funding for planning, implementation or utilization projects on federal, tribal or local government lands. Requires 20% match.

- **Joint Chiefs Landscape Restoration Partnership**: Competitive funding administered by U.S. Forest Service and Natural Resources Conservation Service (NRCS). Appropriates funding for projects on Forest Service lands, and makes special funding available to NRCS for work on private lands within a specific geography

- **New Mexico Forest and Watershed Restoration Act**: Annual appropriation of $2 million available for watershed and forest health projects. Proposals must go through New Mexico Forestry Division offices. Funding may be applied on all lands in the state.

- **Rio Grande Water Fund**: Private program focused on forest and riparian restoration administered by The Nature Conservancy in New Mexico. Funding periodically available through a competitive application process. Funds may be used on private, federal and/or tribal lands.

- **Non-Federal Lands Hazardous Fuels Grant**: Annual program administered by New Mexico Forestry Division. Up to $300,000 in funding available to local governments for fuel reduction on non-federal lands. Projects should include joint planning and implementation with the U.S. Forest Service. No match required.

- **Landscape Scale Forest Restoration Program**: Funding available to local government, tribes and non-profits for work on all lands *except* federal lands. Competitive program to reduce the risk of uncharacteristic wildfire. One-to-one match required.

- **Wildland-Urban Interface Hazardous Fuels Grant**: Annual program open to local governments and tribes for reduction of hazardous fuels in WUI zones. Funds may be used for treatments, planning and/or education and outreach activities. Connection to a current CWPP is recommended. One-to-one match required.

-**Taos Soil and Water Conservation District**: Cost-share program available to Taos County property owners who live outside the town of Taos limits. Ideal for small projects (funding limited to $4,500 per project). Applications accepted year round.

III. Primary CWPP Contacts

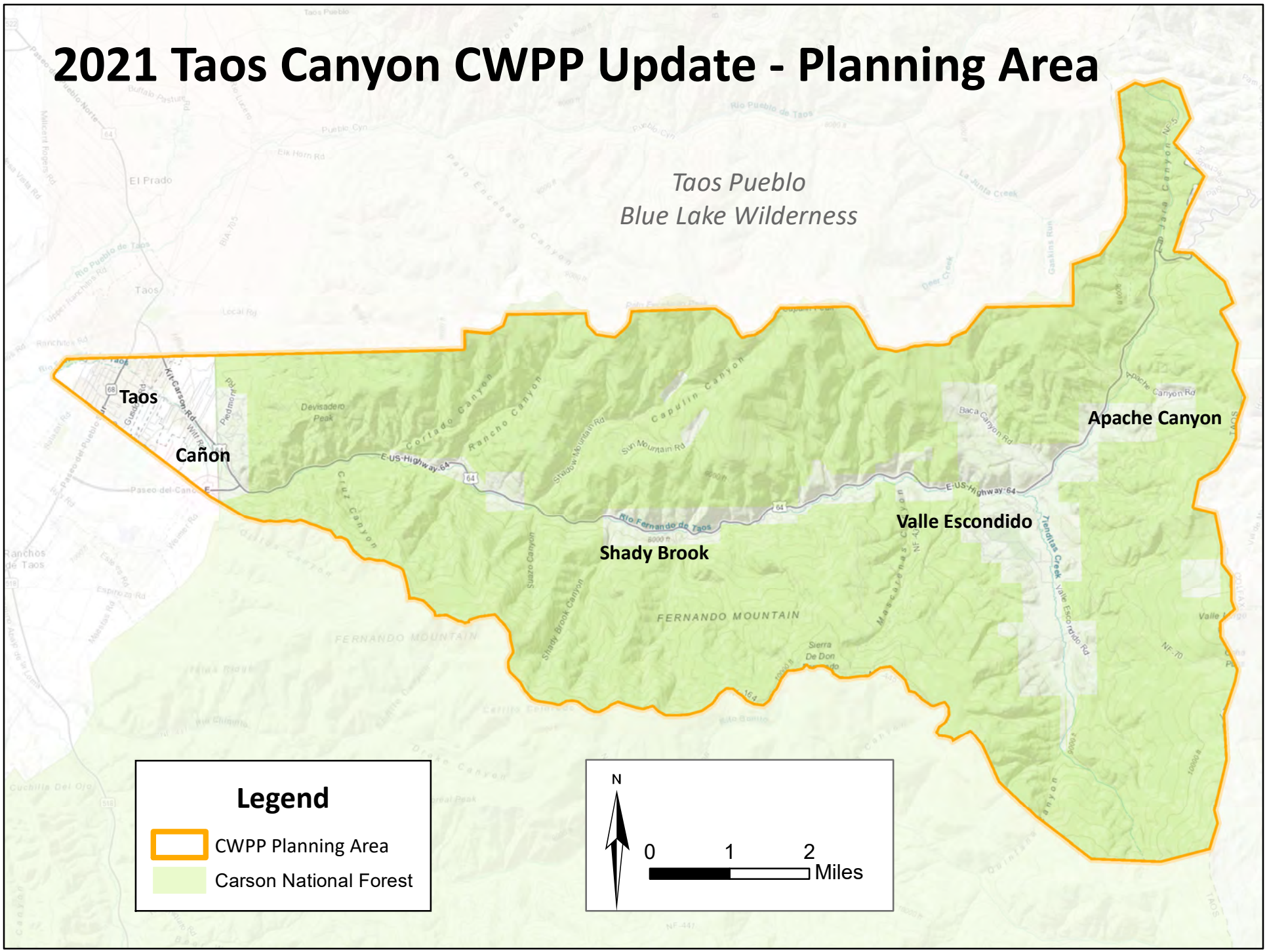
Organization/Agency	Name	Title	Email	Phone
Taos Canyon Firewise Community	Natica Dahlkamp	President	natica@zianet.com	(575) 758-9199
Valle Escondido Firewise Community	Ellen Robberson	President	elrobber@yahoo.com	(575) 751-7251
Rio Fernando Volunteer Fire Department	Russ Driskell	Fire Chief	driskell@taosnet.com	(575) 737-6469
Carson National Forest	Ray Corral	Fire Management Officer	raymundo.corral@usda.gov	(575) 779-7475
Bureau of Land Management	Kyle Sahd	Fire Management Specialist	ksahd@blm.gov	(575) 770-1617
Taos County	J.R. Logan	WUI Coordinator	johnrogerlogan@gmail.com	(575) 779-5467
Taos Pueblo	Rene Romero	Fire Management Officer	RRomero@taospueblo.com	(575) 758-7410
The Nature Conservancy	Collin Haffey	Conservation Manager	collin.haffey@tnc.org	(505) 695-6808
Taos Soil and Water Conservation District	David Gilroy	Forest Health/Education Programs	dgilroy@tswcd.org	(575) 770-8898
Taos Soil and Water Conservation District	Jack Carpenter	Contract Forester	jdcgac0151@gmail.com	(575) 758-7410
U.S. Geological Survey	Ellis Margolis	Research Ecologist	emargolis@usgs.gov	(505) 954-2251
New Mexico Forestry Division	Manuel Torres	Timber Management Officer	manuel.torres@state.nm.us	(575) 447-7878
Cañon Mutual Domestic Water Consumers Association	Vicente Fernandez	President	canonmdwca@yahoo.com	(575) 779-8569
Town of Taos	Nathan Sanchez	Planning Director	nsanchez@taosgov.com	(575) 751-2035

IV. 2021 Taos Canyon CWPP Atlas

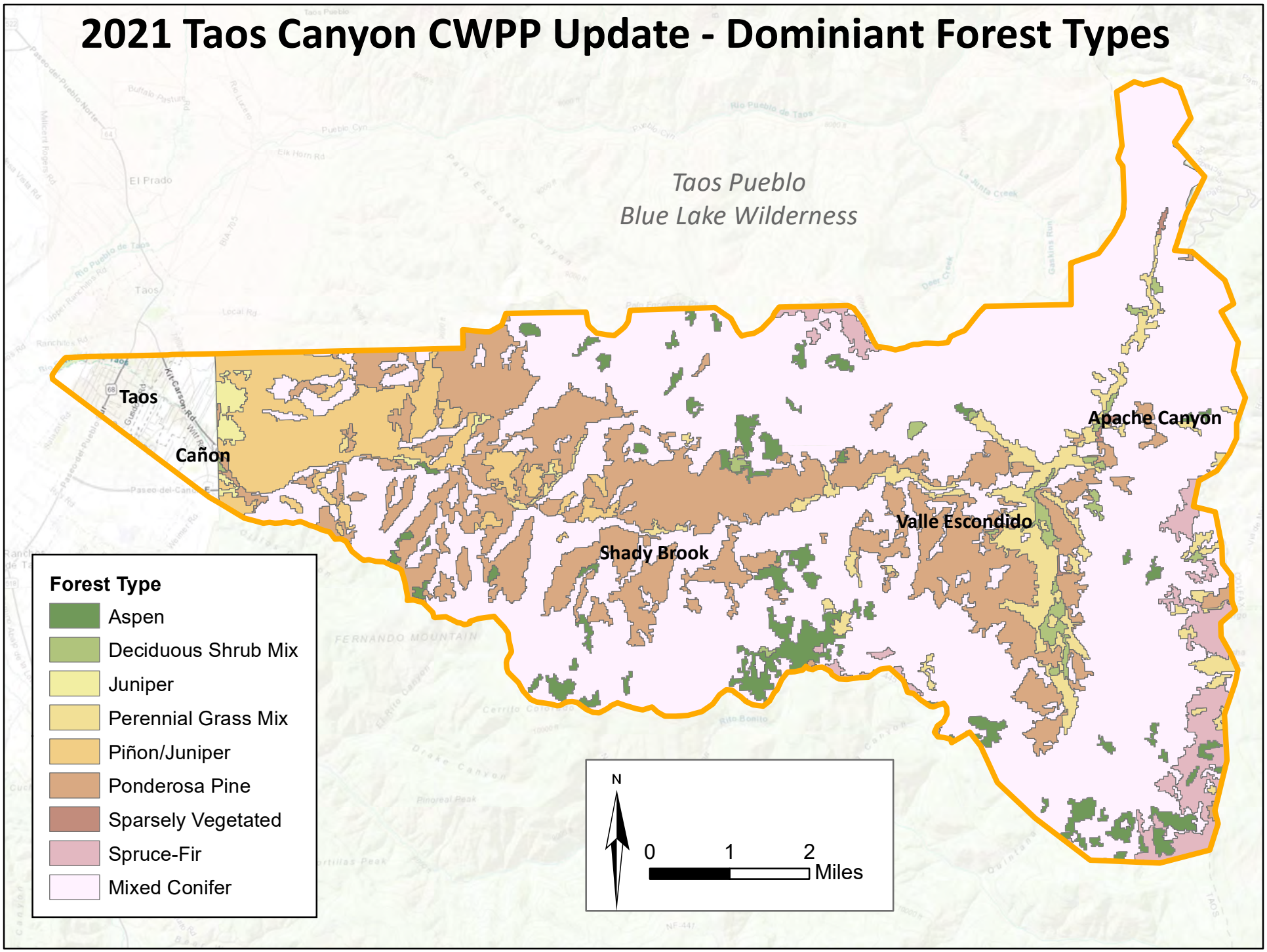
Index of Atlas Maps:

1. CWPP Planning Area
2. Dominant Forest Types
3. WUI Zones
4. Burn Probability
5. Major Fire Paths
6. NEPA Areas
7. Pueblo Ridge Implementation Blocks
8. Treatment Priorities
9. Planning Priorities
10. Evacuation Zones
11. Post-Fire Erosion Threat
12. Post-Fire Debris Flow Hazard
13. NMFAP Priority Watersheds
14. Recent Fire History
15. Wildfire Intensity

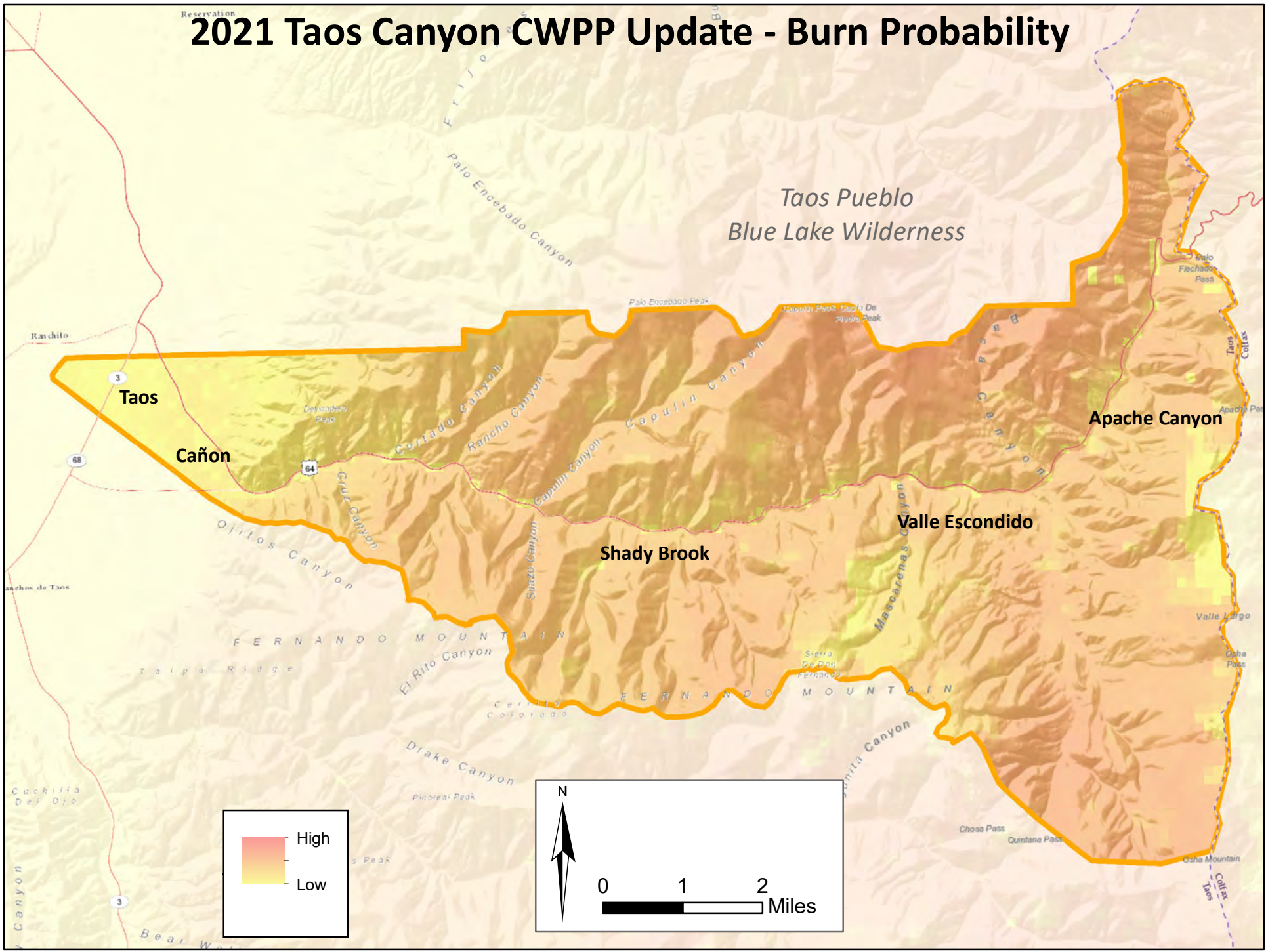
2021 Taos Canyon CWPP Update - Planning Area

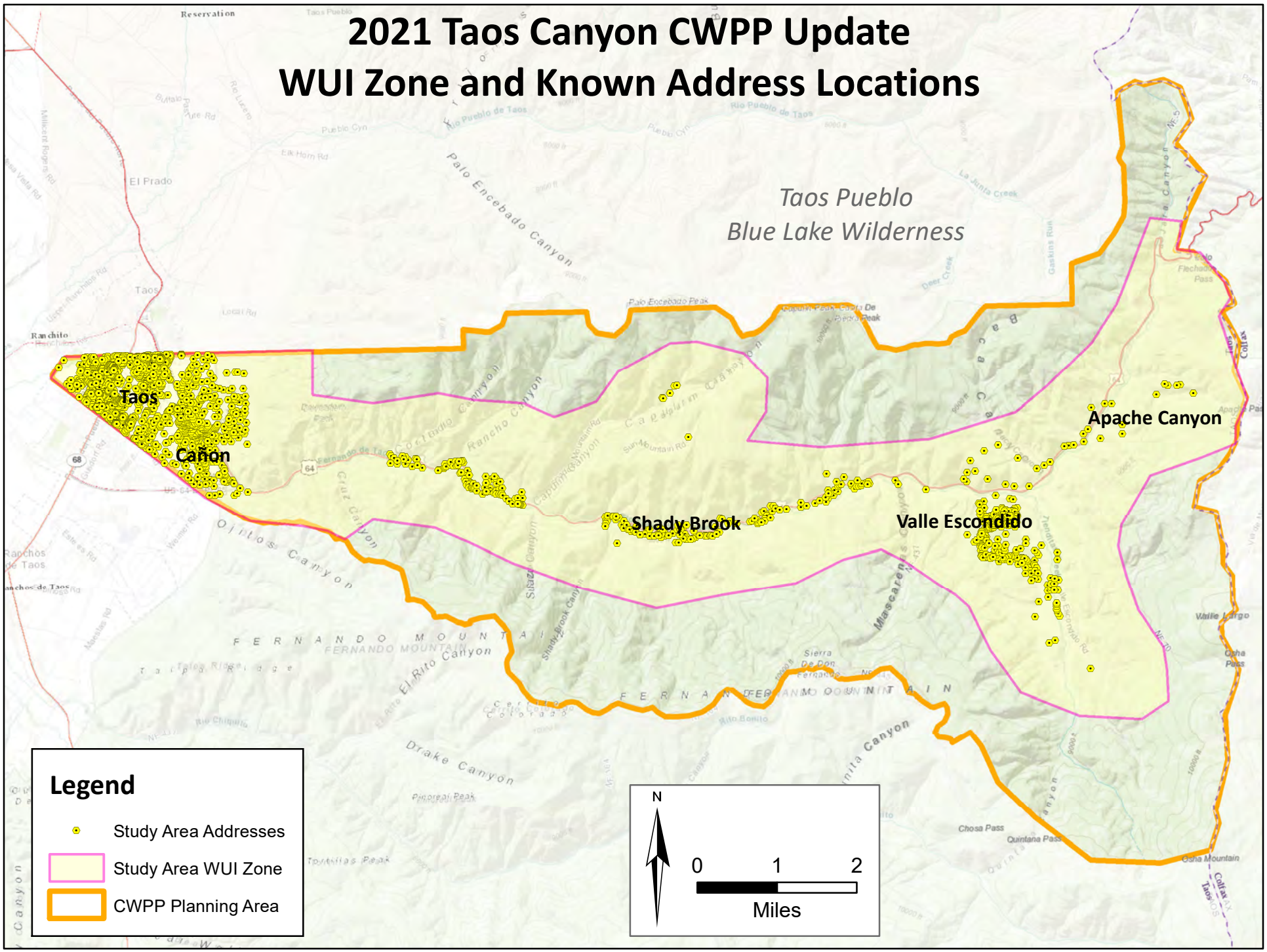


2021 Taos Canyon CWPP Update - Dominiant Forest Types

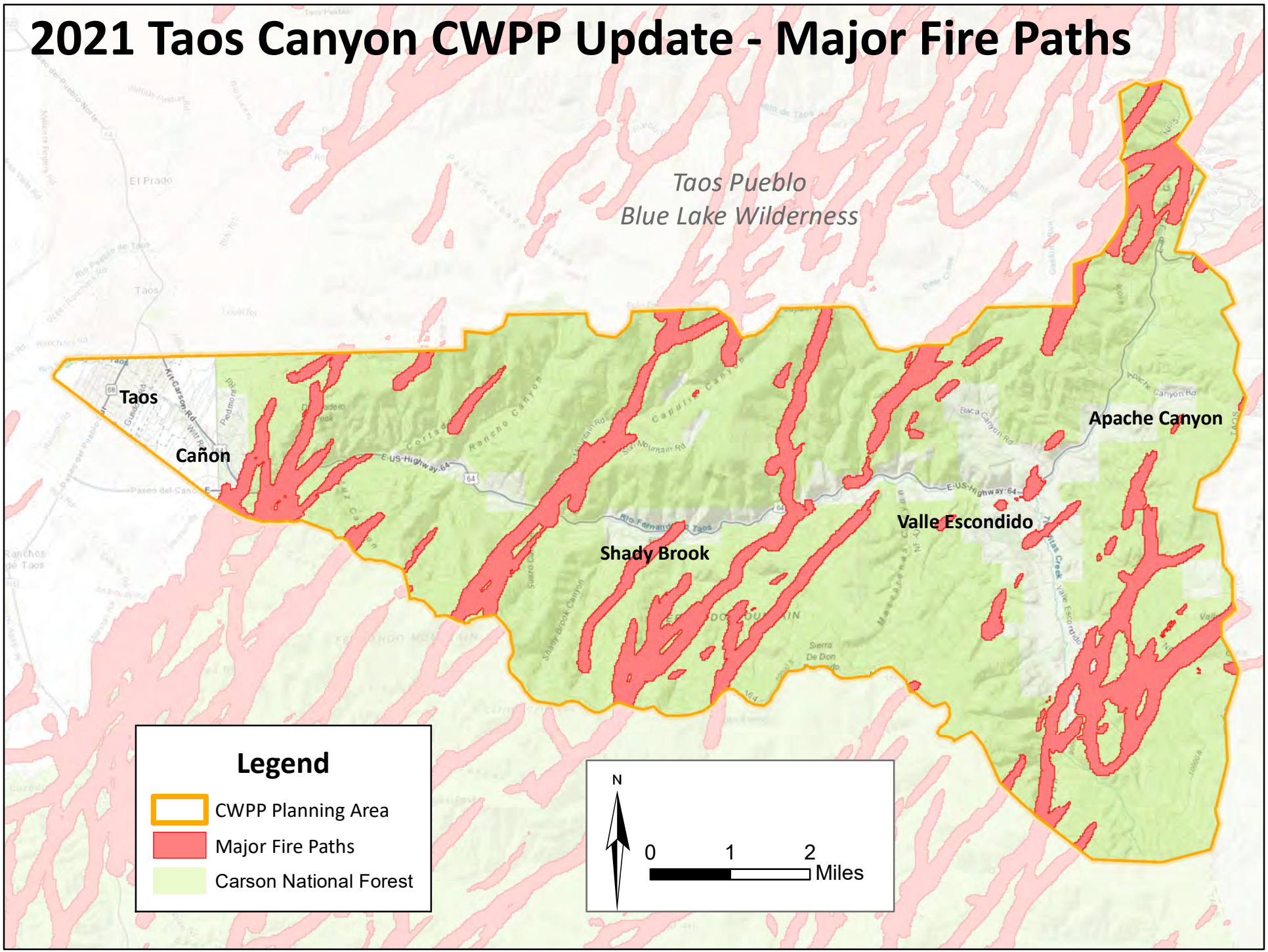


2021 Taos Canyon CWPP Update - Burn Probability

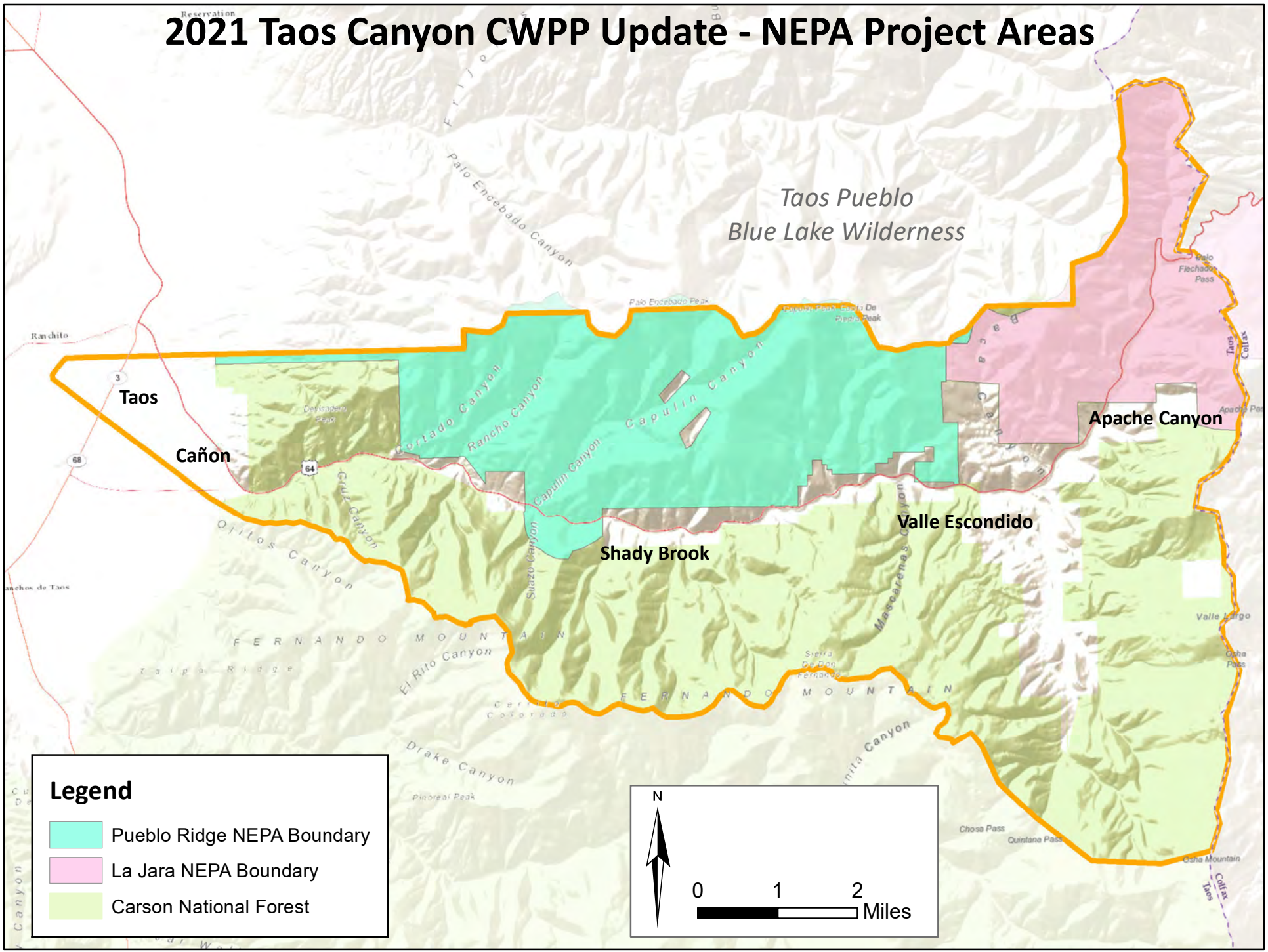


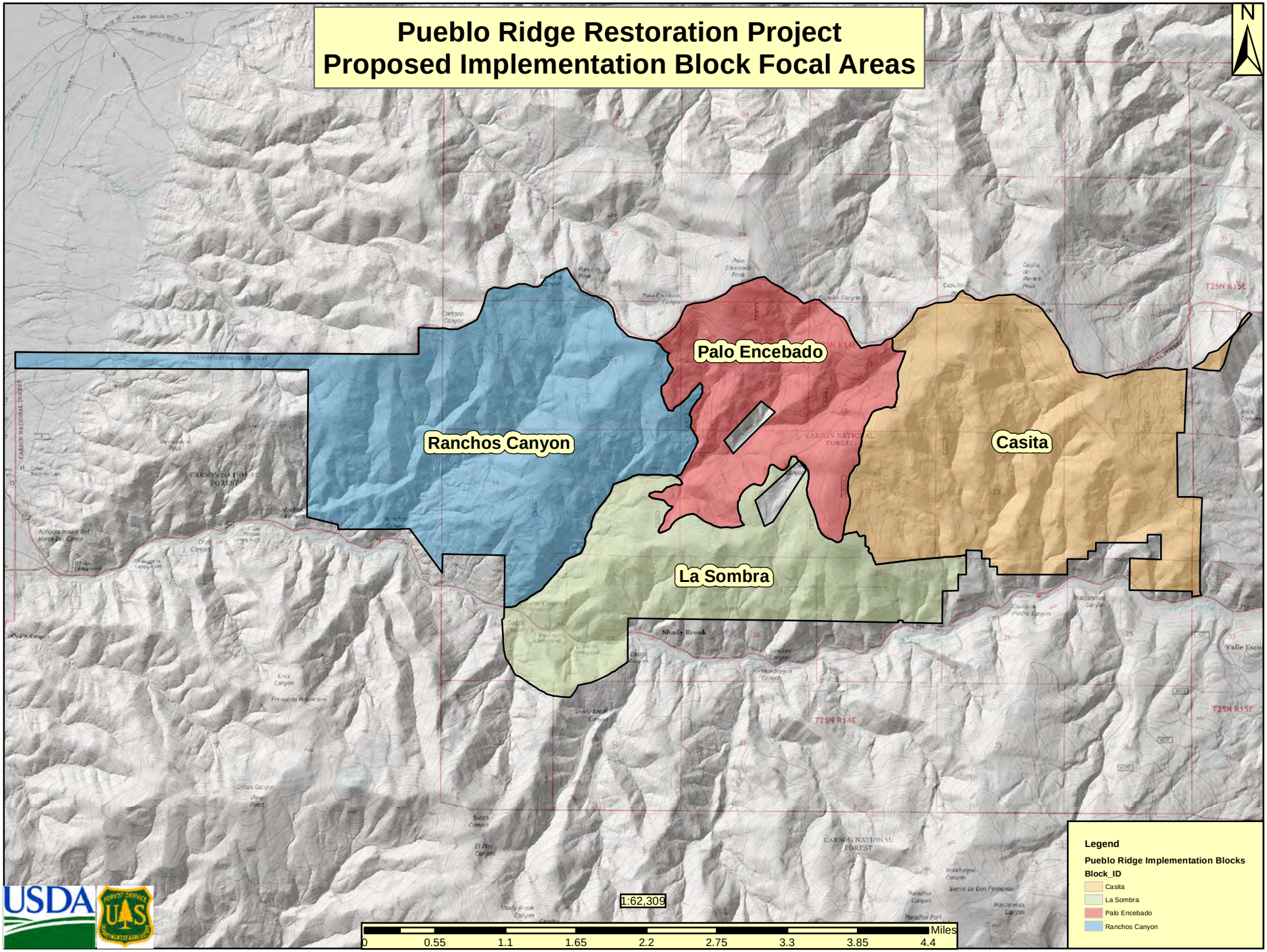

2021 Taos Canyon CWPP Update
WUI Zone and Known Address Locations
Taos Pueblo
Blue Lake Wilderness
Taos
Cañon
Shady Brook
Valle Escondido
Apache Canyon
Legend
Study Area Addresses
Study Area WUI Zone
CWPP Planning Area
N
0
1
2
Miles

2021 Taos Canyon CWPP Update - Major Fire Paths

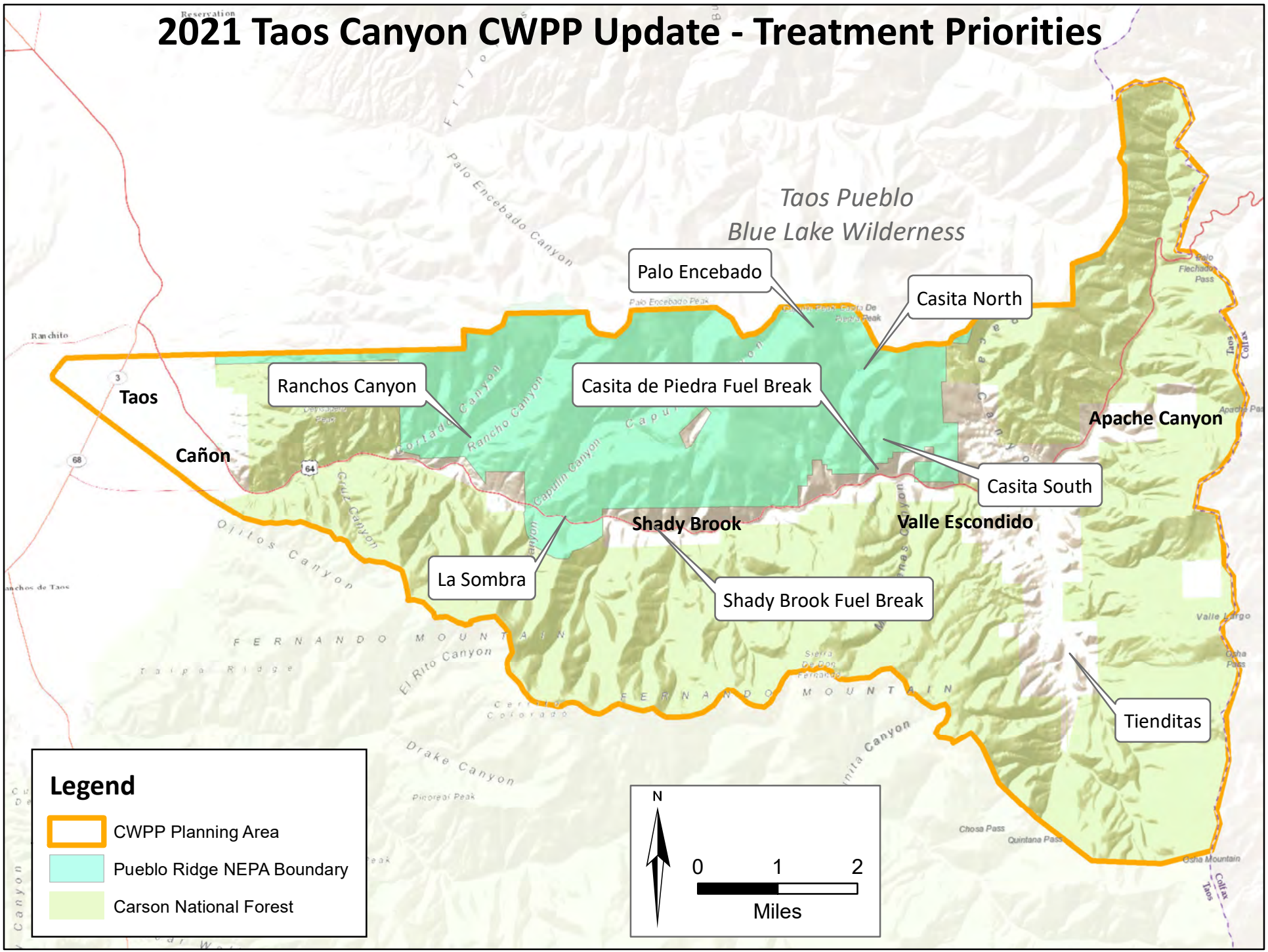


2021 Taos Canyon CWPP Update - NEPA Project Areas

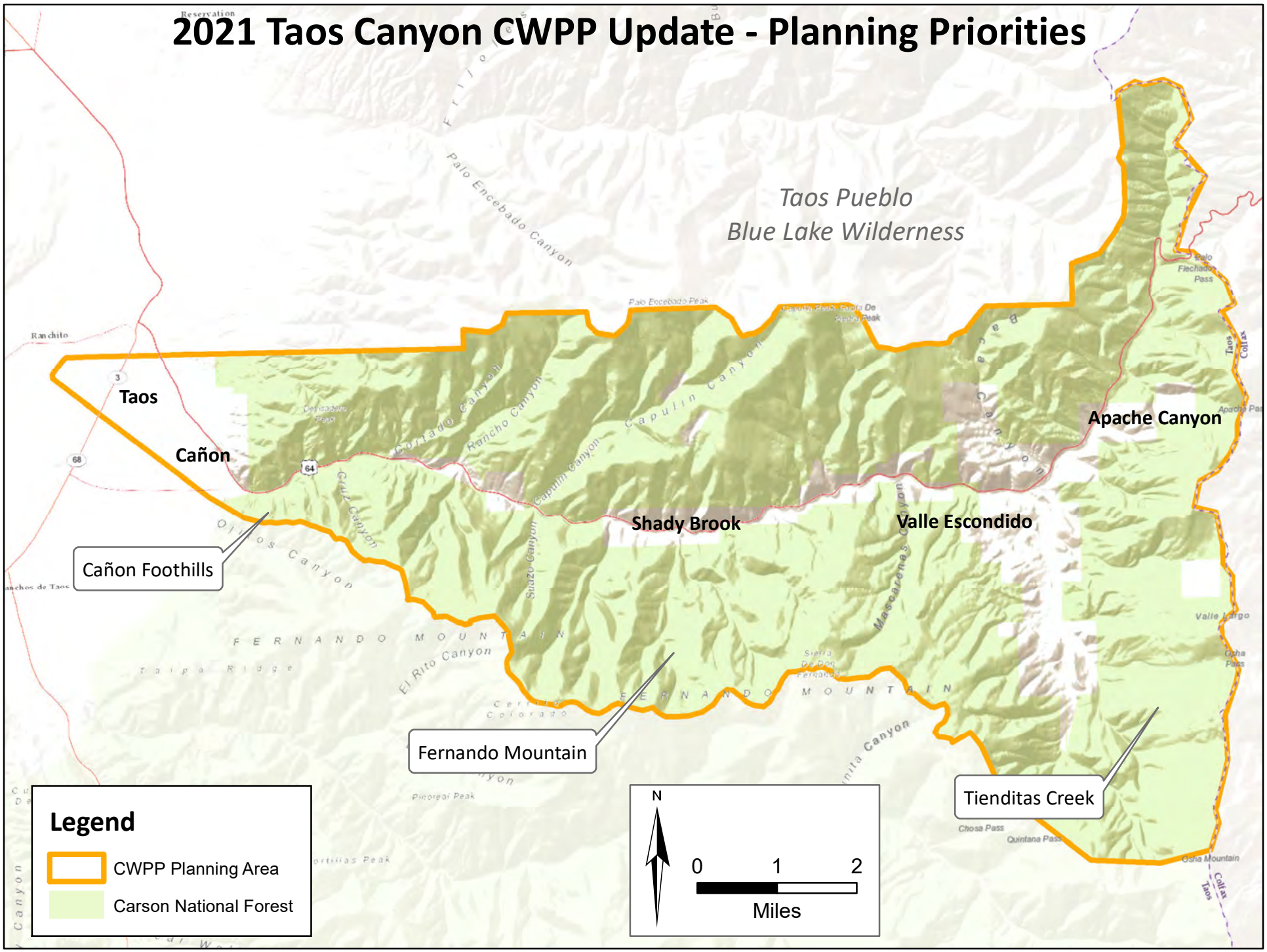


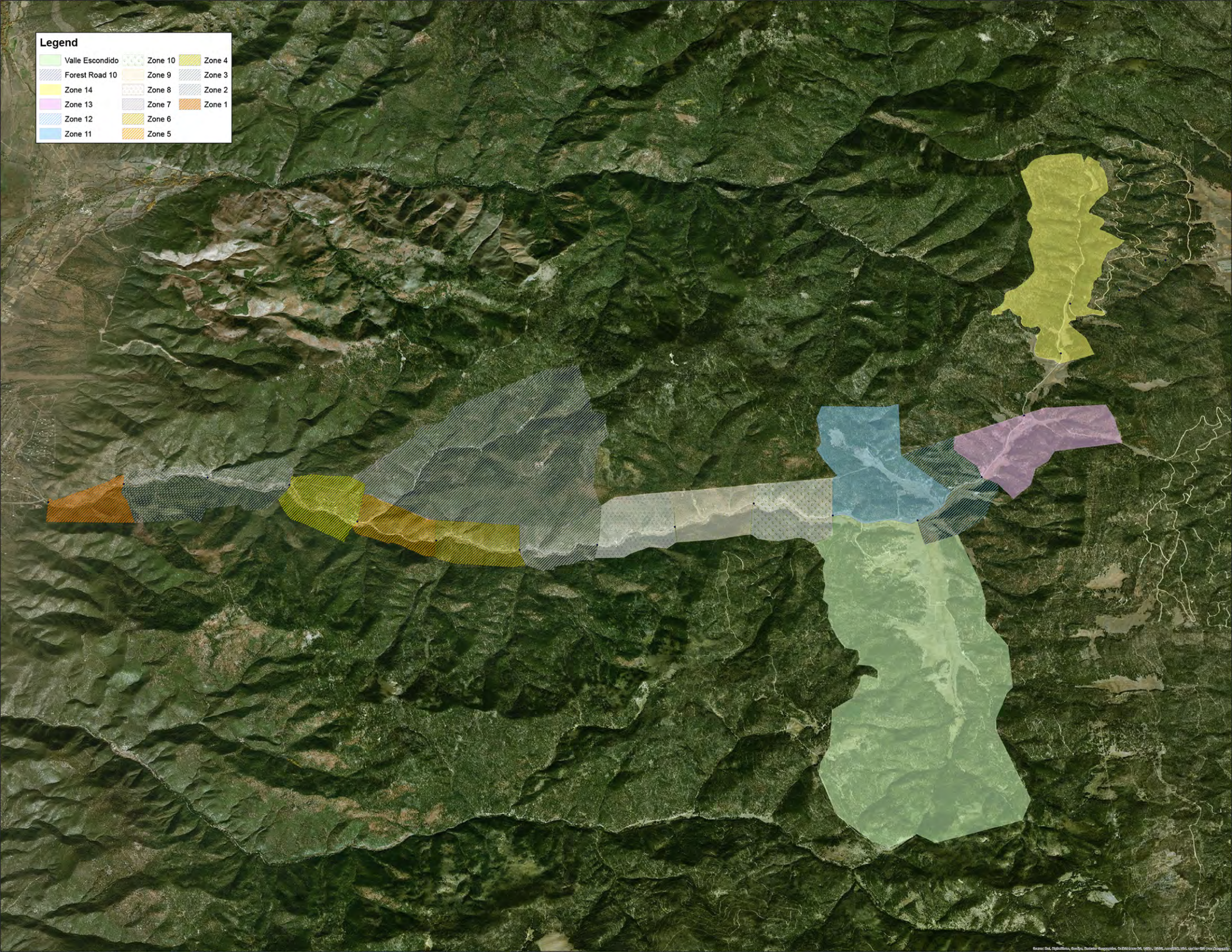

Pueblo Ridge Restoration Project
Proposed Implementation Block Focal Areas
N
Palo Encebado
Ranchos Canyon
Casita
La Sombra
T25N R14E
T25N R15E
CARSON NATIONAL FOREST
Shady Brook
1:62,309
0 0.55 1.1 1.65 2.2 2.75 3.3 3.85 4.4
Miles
USDA
Legend
Pueblo Ridge Implementation Blocks
Block_ID
Casita
La Sombra
Palo Encebado
Ranchos Canyon

2021 Taos Canyon CWPP Update - Treatment Priorities

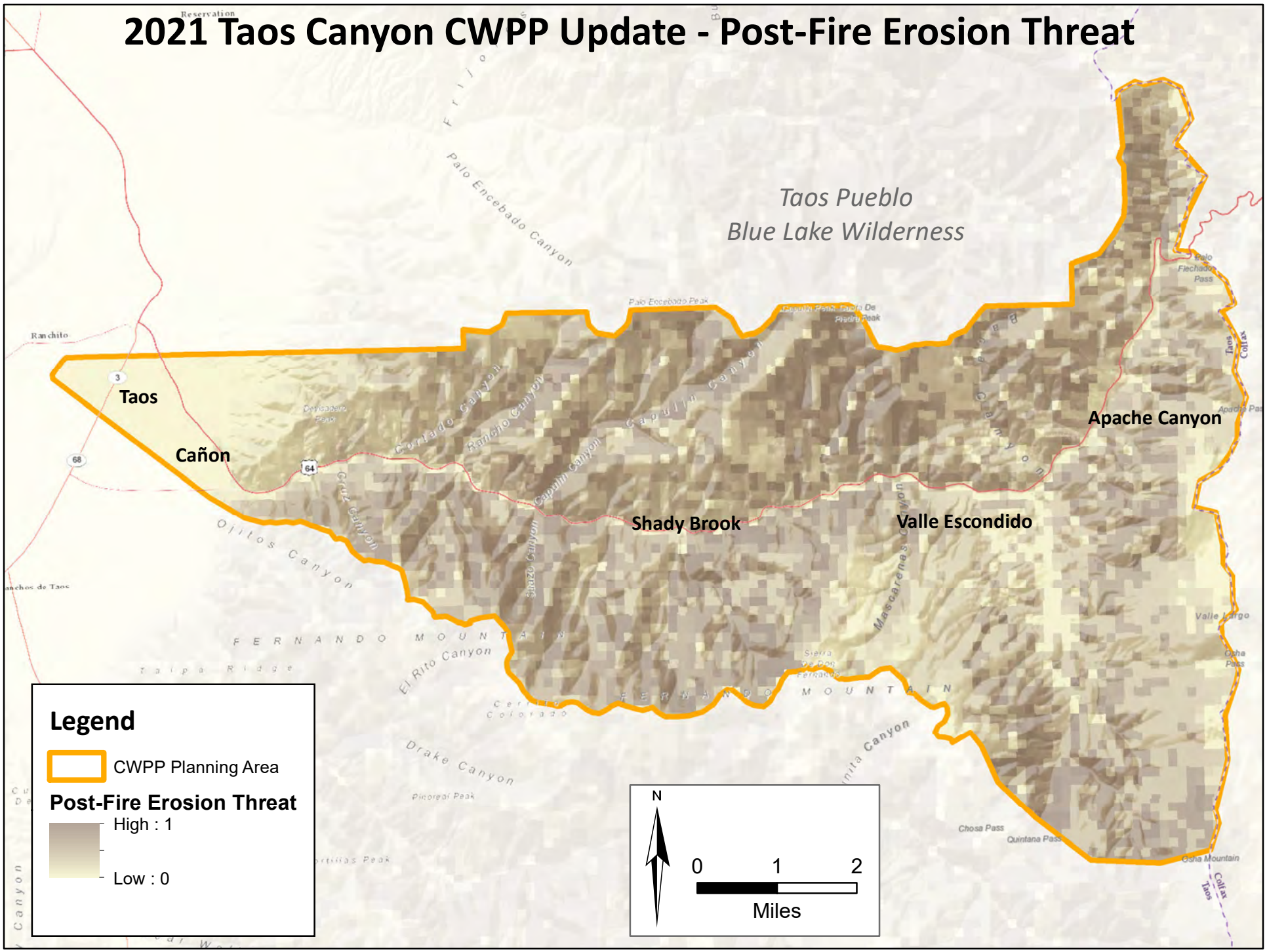


2021 Taos Canyon CWPP Update - Planning Priorities

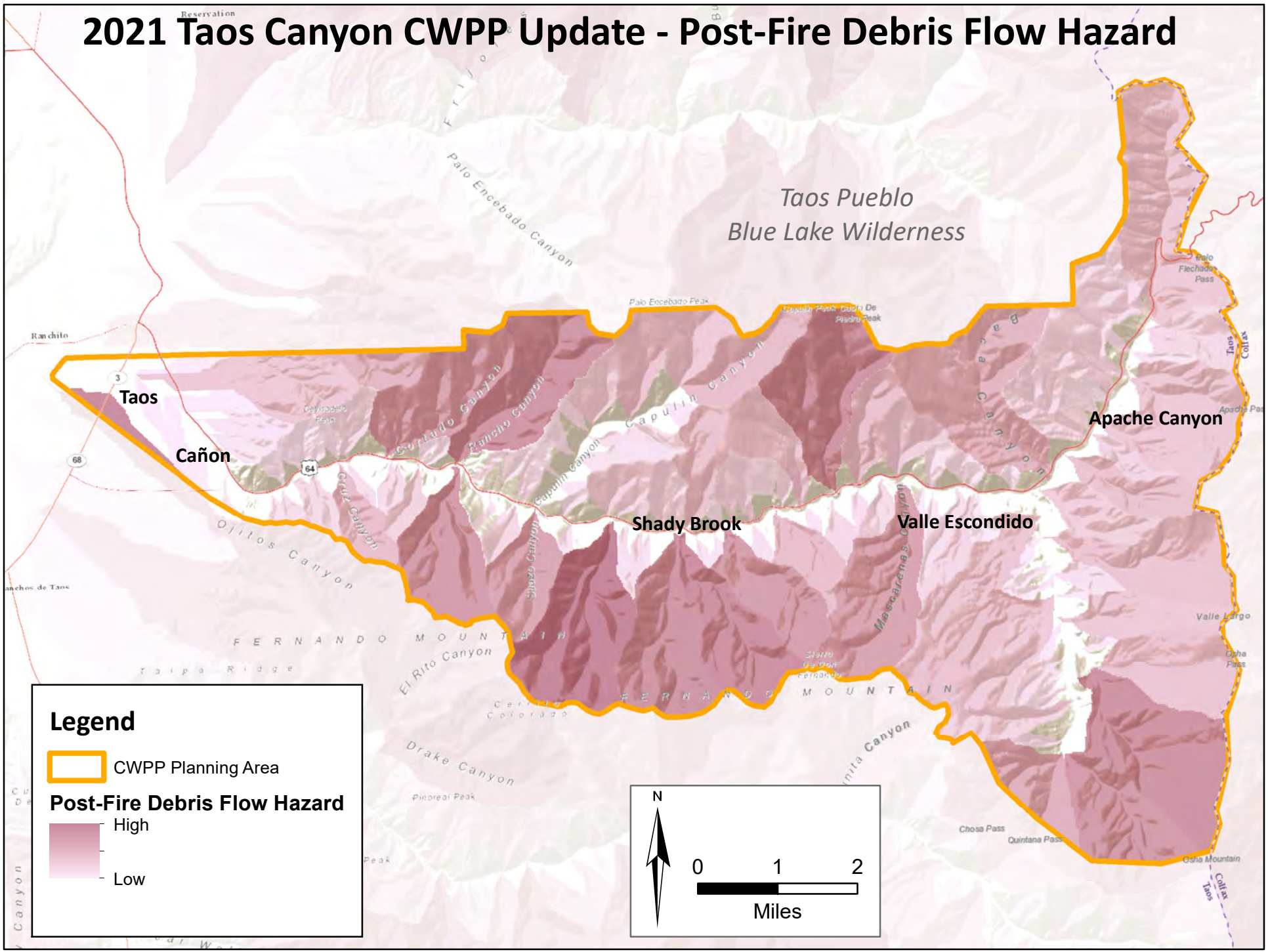



Legend
Valle Escondido
Forest Road 10
Zone 14
Zone 13
Zone 12
Zone 11
Zone 10
Zone 9
Zone 8
Zone 7
Zone 6
Zone 5
Zone 4
Zone 3
Zone 2
Zone 1

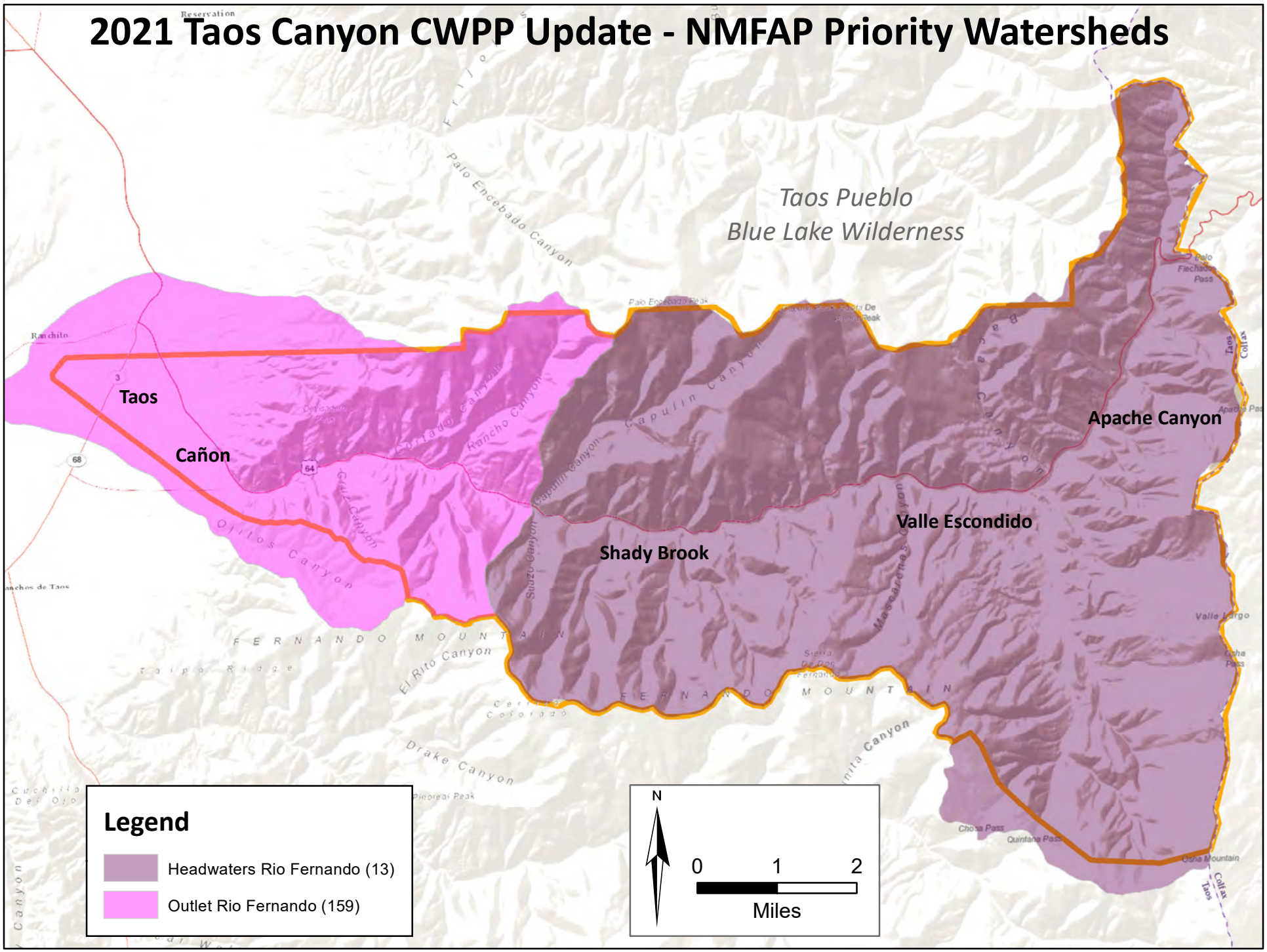
2021 Taos Canyon CWPP Update - Post-Fire Erosion Threat



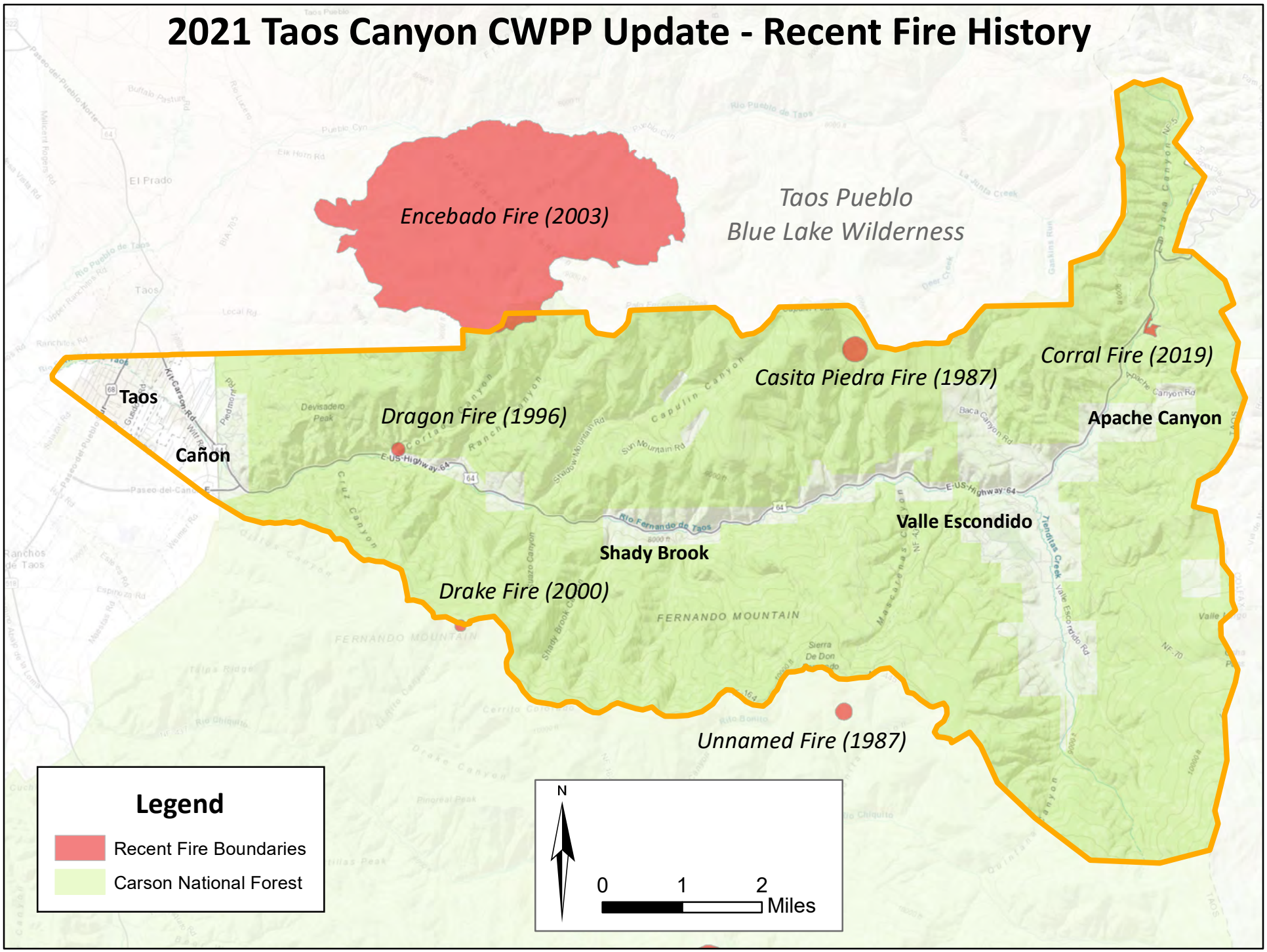
2021 Taos Canyon CWPP Update - Post-Fire Debris Flow Hazard



2021 Taos Canyon CWPP Update - NMFAP Priority Watersheds



2021 Taos Canyon CWPP Update - Recent Fire History



2021 Taos Canyon CWPP Update - Wildfire Intensity