MOUNT VEEDER
FIRE SAFE COUNCIL

2024

Mt. Veeder Fire Safe Council - CWPP

Contents

Executive Summary

The mission of the Mount Veeder Fire Safe Council (MVFSC) is to obtain and utilize all available resources to prevent the loss of life and the destruction of property and ecosystems from wildfire in the lower Mayacamas Range. This is achieved by planning and executing fuel reduction projects and by increasing public awareness of both fire loss risk as well as the actions that must be taken to reduce the potential for wildfire devastation.

MVFSC has had marked success in applying for, receiving, and overseeing the use of funds awarded from several large ($75K - $100K) grants, all before 2020. Funding over the years has come from PG&E, CalFire, and CA State, the Federal Government, as well as the Napa Communities Firewise Foundation. The MVFSC has a track record of successfully providing cost effective stewardship and oversight of large grants and has the capacity to effectively manage the spend associated with project sizes ranging from $500,000 to $1,000,000. Since 2020 funding of MVFSC projects, along with the implementation has been provided by the NCFF. Two notable exceptions are the MVFSC Neighbors in Need program and its community outreach and education project. Donations within the MVFSC have funded focused evaluations of neighborhoods and the preparation of the CWPP update.

Critical to the success of the Mount Veeder Fire Safe Council's objective is the collaboration of the community in determining the viability and priority of identified projects. The culmination of this community collaboration is the Community Wildfire Protection Plan (CWPP). A CWPP is a community-based plan focused on identifying and addressing specific local hazards and risks from wildfire. It determines what is at risk and provides a road map of actions for a community to address the wildfire threat. It may also open up funding opportunities to implement the plan. CWPPs are authorized and defined in Title I of the Healthy Forests Restoration Act (HFRA), passed by Congress in 2003. CWPPs must be updated periodically – ideally every five years. This plan is that update.

In 2003, Fire Smart Defensible Space, Inc. (FSDS Inc.) was engaged to do a thorough assessment of the Mount Veeder Community and develop a Wildfire Assessment / Vegetation Management Plan. This Plan was instrumental in developing the original CWPP. In 2016 an updated CWPP was developed, and in 2024 a Community Evaluation was performed. This CWPP builds upon these efforts.

A Community Evaluation was performed by NCFF and the MVFSC and prepared by Wildland Res Mgt, a wildland fire consulting firm specializing in fire resilience issues, and includes input from the MVFSC community, including local government, non-profits and local fire authorities. The community evaluation serves as a foundation for recommendations for projects to minimize the threat from wildfire to life safety and damage to homes and natural resources. It is based on a review of the terrain, weather, fuels, and fire history of the area, compared to the values at risk, and likely scenarios of fire ignition and spread.

This document is an update from the 2016 CWPP. It has new maps, information from the 2020 county-wide CWPP, an impressive list of projects that have been accomplished in the FSC service area, through NCFF and MVFSC funding, proposes a new suite of projects, along with maintenance of projects that have been completed, and provides specifics about a focused area (the Rutherford Bench).

Decision Makers
The following community representatives collaborated in the development and approval of the CWPP:

- MVFSC
- Napa Communities Firewise Foundation (NCFF)
- CAL FIRE
- Napa County Board of Supervisors
- Napa County Fire Department
- Dry Creek Lakoya Volunteer Fire Department

Introduction

The Mount Veeder Fire Safe Council Community covers a large area (38,309 acres) in western Napa County, that includes the Mayacamas Mountain Range that is west of Highway 29 and south of Sugar Loaf State Park to the Napa and Sonoma County Line. It encompasses 11 distinct neighborhoods which have organized as the Mt. Veeder Fire Safe Council (FSC). The overall community boundary is bounded by the county boundary between Napa and Sonoma Counties. Its eastern boundary generally follows the toe of the foothills as they enter the Napa Valley. To the north, the community boundary runs along property lines just southeast of Heath Canyon. To the south, the community boundary is bounded by Highway 12 and Old Sonoma Road. The community boundary excludes any City of Napa lands, but does include a portion of the City of Yountville. Other nearby neighborhoods include Oakville, Oak Knoll, the Town of St Helena, Rutherford, and Salvador. The unincorporated community of Lokoya is to the west within this community boundary.

Within this area, data records show approximately 1,146 parcels and 1,869 structures. Elevation ranges from 55 feet on the Napa Valley floor to over 2,600 feet at the upper ridges of the Mayacamas Mountains along the county boundary. The area is best characterized by steep and rugged terrain to the west that rolls into Napa Valley east of the area boundary. Structures are scattered throughout the area but are concentrated along the valley floor as well as along the main roads within the boundary, which include Dry Creek Road, Oakville Grade, Mount Veeder Road, Redwood Road, Partrick Road, and Henry Road, among others.

The population in this area is located on varying size parcels with Lokoya Road and mid Dry Creek Road being closest to a community based on population density. This area is zoned agricultural/watershed with wine grapes the predominant agricultural crop. Timber harvest has occurred in the area since the mid 1800's but now only occurs when there is a land conversion from forest to vineyard, or as a salvage operation after a wildfire. Forest thinning also occurs as a fuel reduction and forest health improvement treatment.

There are many rural residents within the Mt Veeder community boundary. A review of the Napa County addresses database for the community shows that of the 893 addresses in the area, 801 are residential with the remaining 92 non-residential. Most of those addresses, 199, exist on Dry Creek Rd. Mount Veeder Rd has 107 addresses and Redwood Rd has another 85 addresses. The next two roads with the most addresses are Partrick Rd (49) and Lokoya Rd (46). These five roads account for 54% of

all the addresses within the community boundaries.

There is also a concentration of addresses and structures where the city of Yountville extends into the area. This area includes a VA Hospital and the Napa Valley Museum. Outside the boundary, the more concentrated city area of Yountville is just to the east. In addition, the City of Napa abuts the southeastern boundary of this community.

The majority of the Mt Veeder FSC boundary is privately owned. However, within its boundaries, there is a 350-acre section which is state land, owned by the California Department of Veterans Affairs, and includes the canyon between Hopper Creek Canyon and Veterans Peak. Two small city-owned parcels are in the southeastern portion of the community. The Land Trust of Napa County owns a 365-acre section of land on the west side of the community boundary. A 40-acre section in the center of the community is owned by the Bureau of Land Management (federal). Just north of it, along Dry Creek Rd is a 46-acre parcel owned by the Napa County Regional Park and Open Space District. In the north, along the east/west alignment of Dry Creek Rd, Napa Valley College owns a 148-acre parcel along with a 37-acre parcel listed as Napa Valley Community College District. Lastly, parts of Sugarloaf State Park (owned by California State Parks) spills over into Napa County, and thus this community boundary. Additionally, near the park, there is another 200 acres of federal land managed by the Bureau of Land Management.

The potential for a large-scale environmental catastrophe cannot be understated. The primary watersheds in this area are the Dry Creek and Redwood Creek and Pickle Canyon Watersheds; these watersheds are of critical importance to the overall health of the Napa Valley water tables and riparian systems. The ecosystem is diverse and has biomes characterized by redwood, mixed conifer and hardwoods, chaparral, and oak/grass woodland. Fire has been excluded from the ecosystem since the turn of the last century which has led to a steady hazardous accumulation of live and dead vegetation. This accumulation coupled with development in the area has led to a situation where if an ignition source were to occur and a wildfire became established, the outcome could be devastating.

The MVFSC faces challenges that are not typical in the Urban Wildland Interface. Instead of having a community of homes surrounded by rural property, the MVFSC encompasses a community which is scattered throughout an area of dense forest consisting of several types of vegetation, that pose challenges both to creating defensible space and fighting a fire. More important still is the fact that the area consists of steep terrain with a myriad of drainages that feed three critical watersheds for all of Napa City and a significant part of Napa County. The steep aspect of the terrain exacerbates the strength and speed of a potential fire as well as dramatically impacting the complexity of firefighting capabilities. Due to the vegetation density and condition, limited access and egress, steep slopes and narrow canyons, the potential for life and property loss as well as economic loss is great. The danger increases exponentially during dangerous fire weather conditions as on Red Flag Fire Danger Days.

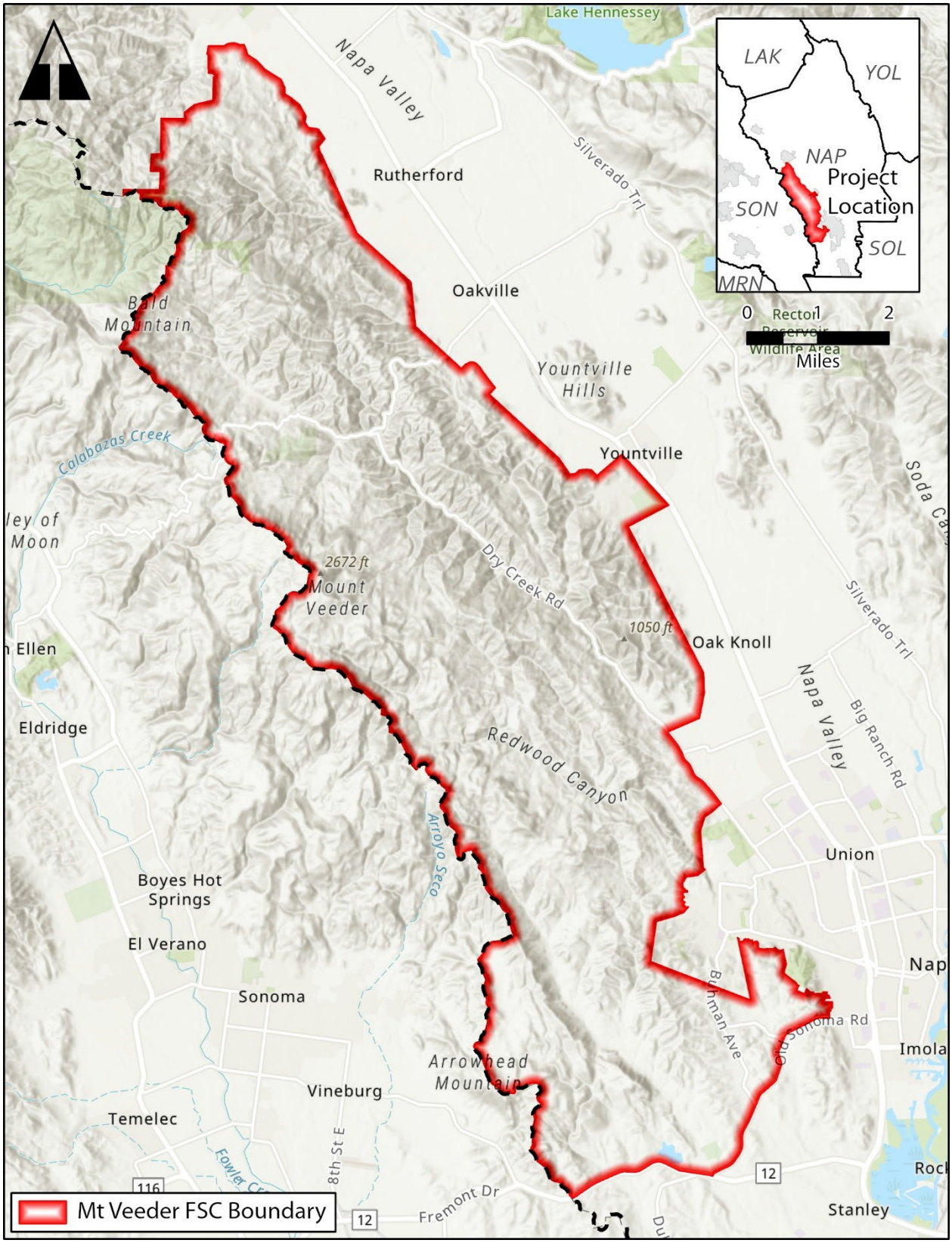

Figure 1. Area of Interest – Mt. Veeder community boundary (shown in red).

Values at Risk

The most important values at risk are life safety, then improvements to property (residential structures and vineyards), then natural resources. Because all the evacuation routes are long and involve poor road conditions, the threat to human life is significant. The values at risk include individual homes and properties, vineyards and the crops they produce, environmental and natural resources such as timber, wildlife and watersheds. Also of concern are the impact on tourism to the wineries and vineyards in the area.

Within this area, there are facilities that have significant populations who may have special needs during an evacuation from a wildfire. Enchanted Hills Lighthouse for the Blind, a camp on Mount Veeder Road, may have hundreds of guests, many of whom are visually impaired, especially during the summer months. The Cove, a Girl Scout Camp, is used by different youth organizations during the summer. Mont LaSalle has a retirement facility for the Christian Brothers who may also have special needs. In addition to these specific multi-use locations, many individual homes are occupied by elderly and disabled individuals.

Homes along the MVFSC community boundary are at risk from wildfire for a number of reasons. Residential structures are mostly made of wood because of their age. They have wood porches and decks. Wood fences are a rarity. Most roofs are less flammable, however, wood siding, decks, and unprotected vents that are part of most homes all make the buildings prone to ignition. Those homes destroyed in the 2017 fires have been built to be ignition resistant, in compliance with current building codes, which include non-flammable roofs, double-paned windows, and stucco siding. Many older structures have been remodeled and a few property owners have installed personal fire suppression systems involving various water sprinkler strategies.

The structures within this area run the gamut from opulent homes and wineries to small mountain cabins and abandoned buildings. Many structures stand alone in the midst of dense forest or irrigated vineyard, while others are clustered in enclaves and small communities where neighbors are seen most every day. Many homes are fully occupied and many others see only part-time habitation and some are rented to tenants with the owner living outside of the area. Structures are scattered within the community boundary, but concentrated along the long network of roads that run mostly southwest to northwest through the community. Many of the structures located further west in the Wildland Urban Interface (WUI) have long narrow driveways, often with limited ingress/egress.

Along with the sparsely populated rural setting, another challenge that the MVFSC faces is the residents in the area. Many residents and property owners are retired and some are elderly or have physical limitations. Many residents are property rich but cash constrained due to fixed incomes.

Unlocking the equity of their properties in financing arrangements that don't distress their finances is an important step to their contribution and participation in our efforts (See Communication Strategy and comments about PACE funding in the Projects Section).

Some residents are "mavericks" and have a mind of their own. They believe that they should be allowed to do with their property as they choose. Some of these residents have advised local fire personnel that should there be a fire on the mountain, they would not leave, even if ordered to

evacuate, so they can protect their property. Special efforts need to be made to connect with these individuals and ensure they are adequately educated to be able to defend their property as best they can in spite of the perilous circumstances. MVFSC's position is that while we accept their position, we can still educate them

Less than 50% of the properties surveyed have hydrants within 100 feet; however, most have at least a 2,500-gallon water source, though most do not have the proper Fire Department connection.

Table 1. Number of addresses on roads in the Mt Veeder Fire Safe Council community boundary.

Category	Roads
Roads with > 100 addresses	Dry Creek Rd, Mount Veeder Rd
Roads with 51 to 100 addresses	Redwood Rd
Roads with 41 to 50 addresses	Partrick Rd, Lokoya Rd
Roads with 31 to 40 addresses	Lovall Valley Loop Rd, Wall Rd
Roads with 21 to 30 addresses	Thompson Ave, Whilehall Ln
Roads with 10 to 20 addresses	Lovall Valley Rd, Old Sonoma Rd, Congress Valley Rd, Oakville Grade, Sunset Rd, Dealy Ln, Walnut Dr, Hilltop Dr, Vineyard View Dr
Roads with 2 to 10 addresses	S Whitehall Ln, Buhman Ave, Henry Rd, Campbell Creek Rd, Oakville Ridge Rd, Sulphur Springs Ave, California Dr, Cavedale Rd, Niebaum Ln, Bella Oaks Ln, Darms Ln, Dwyer Rd, Mccormick Ln, Solano Ave, State Highway 12, Mt Veeder Rd, State Highway 29, W Zinfandel Ln, Arrowhead Mountain Rd, Devita Dr, Inglewood Ave
Roads with 1 address	Beerstecher Rd, Cabernet Ln, Campbell Ranch Rd, Clear Creek Rd, Lilienthal Ave, Manley Ln, Montana Dr, Moorhead Ln, Napanook Rd, Pine St, Presidents Cir, Sonoma Hwy, St Helena Hwy, Trinity Rd, W Oak Knoll Ave

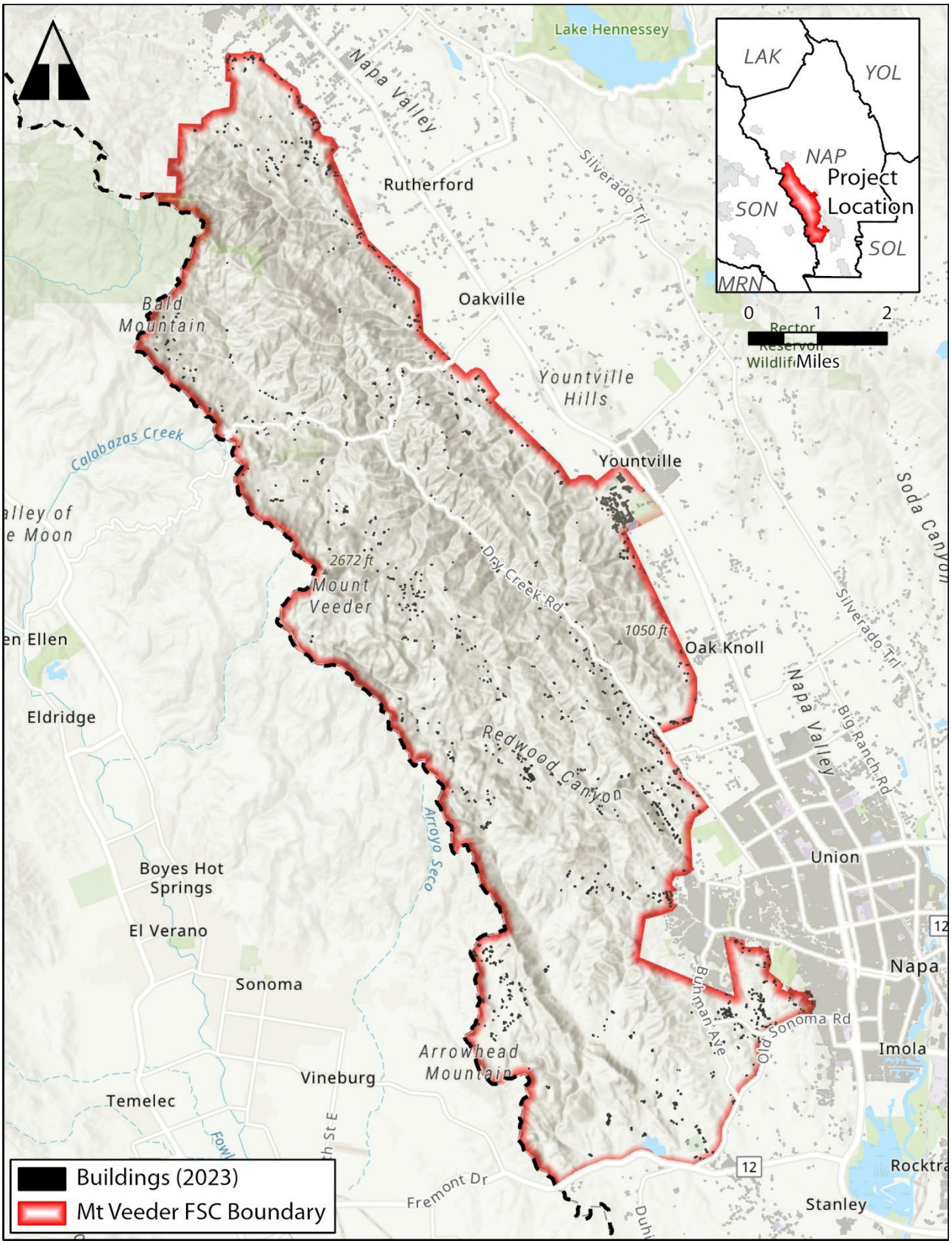

Figure 2. Structures (shown in black) within Mt Veeder community boundary.

Land use: The Napa County parcel database shows that the Mt Veeder community is dominated by agricultural lands. Agricultural lands account for 40% of the lands within the Mt Veeder area. Many of the vineyards also have residences. These lots are mostly located in the northeastern and southern parts of the area. Though 40% of the area is zoned as agriculture, a majority of those parcels are not actively cultivated. Much of the agricultural lands with vineyards are also surrounded by forested lands. Parcels categorized as vacant account for 30% of the area and are made up mainly of vacant rural lots, but there are small vacant residential lots throughout the area.

Residential parcels account for approximately 18% of the Mt Veeder area and are concentrated in the area below and west of the foothills, on large lots, generally scattered following the winding road network. Vineyards (approximately 51%) are located among residences, and some are newly developed large lots on the edge of the community. Interspersed among the vineyards are commercial wineries and residences. A significant portion of the Mt Veeder area is comprised of land designated as Vacant. These parcels account for approximately 24% of the area.

Most Vineyard and Vacant parcels are large enough that the landowners can influence fire behavior to protect their structures; structures are rarely within 100-ft of the neighboring parcel.

Most of the residential lands are in the eastern part of the area on the less steep hillsides. Notably, the Veterans Home of California, Yountville is located in the Mt Veeder area at the edge of the wildland below Veterans Peak. The Veterans Home includes a large VA Hospital and there are plans to build a large skilled nursing facility at the site as well. This is a critical value at risk with a vulnerable population and an important asset to protect from fire.

Three percent of the parcels are designated as Commercial (which includes wineries).

The Enchanted Hills Camp serves visually impaired campers and their families, with a possible summer population of approximately 225. This facility is poised to be a resiliency hub for the community and is a high value asset that is vital to be kept from damage during a wildfire.

Table 2. Acres by broad land use and percent of total within the Mt Veeder area (Napa County GIS Open Data Portal, accessed in January 2023).

CATEGORY	PARCEL COUNT	AREA (ACRES)	PERCENT
AGRICULTURAL	314	19988	51%
COMMERCIAL	30	1710	4%
RESIDENTIAL	471	7131	18%
VACANT	325	9550	24%

Topography

Topographic features - such as slope and aspect (orientation with respect to sun and wind) and the overall form of the land - have a profound effect on fire behavior. Topography affects a wildfire's intensity, direction, and rate of spread. An area's topography also affects local winds, which are either "bent" or intensified by topographic features. Topographic features can also induce daily upslope and

downslope winds. The speed, regularity, and direction of these winds (and other winds) directly influence the direction of wildfire spread and the shape of the flaming front.

For example, fires burning on flat or gently sloping areas tend to burn more slowly and to spread more horizontally than fires burning on steep slopes. This makes ridgetop positions more vulnerable than valleys.

The area encompasses a broad range of slopes and aspects, though the area is mostly rugged. Slopes range from nearly flat (less than 1 degree) to very steep (31 to 90 degrees). The area is defined by several long southeast to northwest canyons that include Dry Creek, Carneros Valley, Redwood Canyon, Bear Canyon, and Mount Saint John. Creeks included in this community boundary include Bale Slough, Browns Creek, Carneros Creek, Dry Creek, Elkington Creek, Hopper Creek, Huichica Creek, Montgomery Creek, and Redwood Creek.

Ridgetops help define the firesafe council. The Oakville Ridge Rd is located south of Oakville Gade, east of Dry Creek Rd. The Sonoma-Napa border roughly follows the ridgeline from Sugarloaf Ridge to Bald Mountain along Cavedale Rd, veering west of Mt Veeder to Hogback Ridge.

These ridgelines affect important determinants of microclimate, altering windflowers, fog disposal and rainfall patterns. This, in turn, affects fire behavior and is discussed in the section addressing weather.

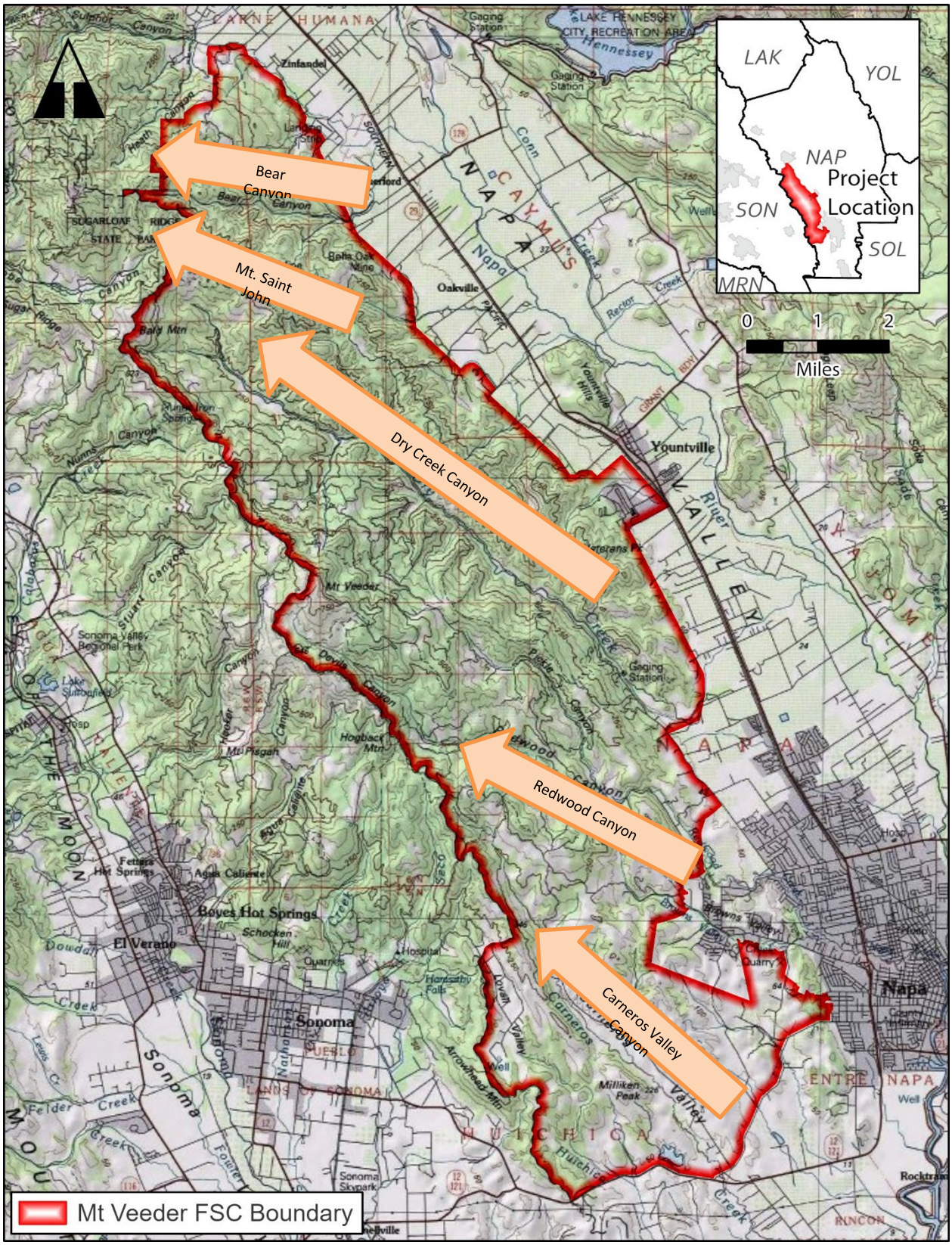

Figure 3. USGS Topographic map of the Mt Veeder area (boundary shown in red).

Watersheds

There are several primary watersheds within the area feed into creeks, almost all of which are dry by the end of summer. During the winter and spring these watersheds provide immeasurable value in replenishing Napa's groundwater. Paradoxically, Dry Creek is the largest, longest creek in Napa, with most of the other creeks flowing into it, save for Campbell Creek at the north end. Other listed creeks and watersheds are Montgomery, Wing, Pickle Canyon, Redwood, and Carneros/Browns Valley. Western weather systems encounter these ridged watersheds bringing significant rainfall. This rainfall hits the forest floor which filters to porous soil and then charges the water table on the valley floor. Loss of significant vegetation – through wildfire, as well as logging, fuel treatments, road-building or other disturbances) bares the soil, and enables raindrop impact to create both surface erosion and mass soil movement This would increase rapid run-off and erosion and adversely impact the existing hydrology in unimaginable ways. The importance of these watersheds to the effective functioning of Napa Valley's hydrology cannot be overstated. The area has abundant water, and old landslide areas are obvious

Orientation of the Canyons

- Bear Canyon: In the north, this canyon runs from the southeast (lowest point) to the northeast (highest point). Bear Canyon is within the Bear Canyon watershed, but this watershed includes many more small canyons that drain into Napa Valley, including Bale Slough down to Hopper Creek.
- Upper Dry Creek Canyon: Just southwest of Bear Canyon, this area is dominated by Bald Mountain and Mount Saint John and abuts the Sonoma/Napa County Boundary. It includes the upper reaches of Dry Creek and Montgomery Creek. Most of the steeper slopes are southwest facing.
- Dry Creek Canyon: This canyon runs from the northwest (highest point) to the southeast (lowest point) and is a continuation of the Upper Dry Creek Canyon. It includes Dry Creek and Elkington Creek along with significant canyons that run perpendicular to the main canyon (Wing Canyon and Segassia Canyon). It is bounded by Mount Veeder in the north and the Napa Valley to the south.
- Pickle Canyon: Mt Veeder Road runs through Pickle Canyon and is within the Redwood Creek watershed. Again, this canyon runs roughly northwest to southeast and is sandwiched between Dry Creek Canyon and Redwood Canyon.
- Devils Canyon: Bounded by Mount Veeder and Mismark Knob, this canyon forms the headwaters of Redwood Creek and is along the Napa/Sonoma County boundary. It runs into a complicated mess of hills before draining into the Redwood Canyon.
- Redwood Canyon: The southernmost canyon before the land becomes less steep and delves into the Browns Valley, Carneros Valley, Congress Valley, and Lovall Valley, the Redwood Canyon again runs mostly northwest to southeast and is joined by Pickle Canyon. The confluence of these two creeks turn into Redwood Creek which drains down into Napa Valley.

More details of the terrain follow in the discussion of weather.

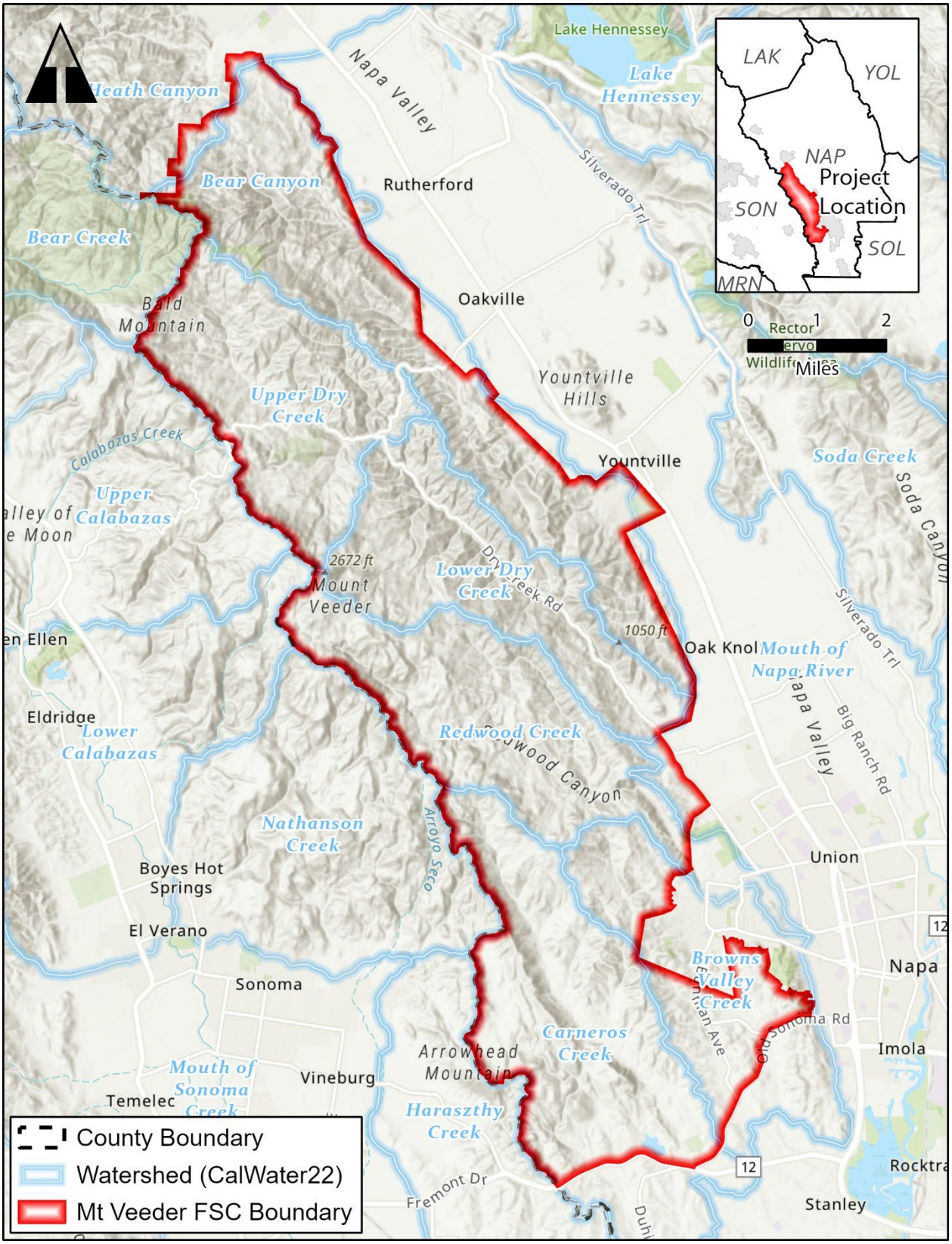

Figure 4. Watershed map of the Mt Veeder area (boundary shown in red).

Weather

Weather conditions significantly impact both the potential for ignition and the rate, intensity, and direction in which fires burn. The most important weather factors used to predict fire behavior are wind, temperature, and humidity.

Temperatures and Humidities

Summer days are usually warm but comfortable; temperatures normally range from lows in the 40's and to highs in the 90's, with an occasional high reaching a maximum of 105 degrees Fahrenheit. Humidity can drop to the single digits in the summer and fall.

Regionally, the MVFSC lies in a relatively protected area and would be subject to occasional episodes of several still, stagnant air formed by stationary highs during summer months. This overall weather pattern -- characterized by continuous high temperatures and low relative humidities -- enhances the possibilities of ignition, extreme fire behavior and extreme resistance to fire control.

Winds

The most important influence on fire behavior is wind. Wind can greatly affect the rate of fire's spread and the output of a fire. Wind increases the flammability of fuels both by removing moisture through evaporation and by angling the flames so that they heat the fuels in the fire's path. The direction and velocity of winds can also control the direction and rate of the fire's spread. Winds can carry embers and firebrands downwind that can ignite spot fires ahead of the primary front. Gusty winds cause a fire to burn erratically and make it more difficult to contain.

Winds tend to follow the pattern of least resistance and is therefore frequently deflected and divided by landforms. Long, steep slopes produce pronounced daily up-canyon and down-slope winds caused by differential heating and cooling of air during the day. This occurs region-wide and on a local scale.

The majority of the area is characterized by northwest-to-southeast aligned ridges. These ridges slow the regionally dominated southwesterly winds. However, strong winds from the northeast could produce strong up slope and erratic winds. The southern section has small canyons that are aligned with the predominate wind direction (southwest-northeast), acting as funnels for strong afternoon winds or the less common Diablo winds from the northeast.

The winds that create the most severe fire danger typically blow from the north, usually in October. Winds from the east and north bring low humidity and elevated fire danger and can wreak havoc on the forested and chaparral covered areas, causing fire to spread to the south. These winds are the same ones that blew during the largest fires in Napa County; an unnamed fire in 1939 follows the pattern of larger fires influenced by these northeasterly winds. Those larger fires include the C. HANLY fire in 1964 along with its companion fire in 1965, the P.G. & E. #10 fire. Again, in 1976 and 1982, two fires, the IDA CLAYTON fire and the SILVERADO fire also started under these conditions. More recently, the TUBBS and NUNS fire in 2017 and the GLASS fire in 2020 also followed this pattern and burned substantial parts of Napa County, including areas within the Mt Veeder area of interest as well as surrounding lands.

These northeasterly events generally last from 15 to 35 hours, but in 2000, 2003, 2005, 2017, 2018, 2019, and 2020 these events in October and November lasted for 5 to 14 days. This type of wind could "push" a fire from the upper eastern slopes of Napa Valley down across into the vineyards on the valley floor to the higher slopes to the west and beyond into Sonoma County.

Any southwestern-facing aspect of the Mt Veeder area can exacerbate its risk from the Diablo winds. This is because these foehn or subsiding winds accelerate with decreasing elevation.

Vegetation

The vegetation varies from bare rock to dense redwood forest. As a rule, the west and south facing slopes are dry, brushy, and scrubby, while the north and east facing slopes have grown into dense fir and redwood forests. Hardwood woodland is common on all aspects and in all areas, having burned more recently in some areas than in others. Numerous areas are changing into more mature ecological types, and the spread of both fir and bay is ubiquitous within this huge area.

The 2016 Vegetation Map of Napa County[1] (updated from the 2004 version) was used as reference for this evaluation. There are six main vegetation categories (agriculture, coniferous forest, grassland, oak woodlands, riparian woodland, and shrubland) within the Mt Veeder area along with four non-veg types (developed, other, rock outcrop, and streams and reservoirs). The major vegetation categories mapped are listed in Table 3.

Table 3. Vegetation acres by major vegetation categories within the Mt Veeder area (Vegetation Map of Napa County).

Vegetation Major Category	Acres	Percent
Agriculture	5,344.18	14%
Coniferous forest	6,602.82	17%
Developed	1,050.30	3%
Grassland	4,931.07	13%
Oak woodlands	16,016.30	42%
Other	68.66	0.2%
Riparian woodland	785.00	2%
Rock Outcrop	82.78	0.2%
Shrubland	3,222.76	8%
Streams and reservoirs	216.52	1%

The acreage of many of these vegetation types has changed significantly since the 2017 fires. In those burned areas, the structure of vegetation type has changed, due to regrowth after the above-ground parts of the vegetation was killed. In addition, the landscaped environment surrounding buildings and homes includes vegetation not captured in the mapped vegetation.

[1] https://data-cdfw.opendata.arcgis.com/datasets/b9855bea85c14190ab030da86441301c_0/explore

Each vegetation type burns differently, based on the amount of biomass available to burn, the distribution of biomass in the vegetation, as well as the moisture and oil content of the foliage and dead material. A discussion on each major type follows the map on the next page.

Note: the tables and maps presented here reflect pre-2020 conditions.

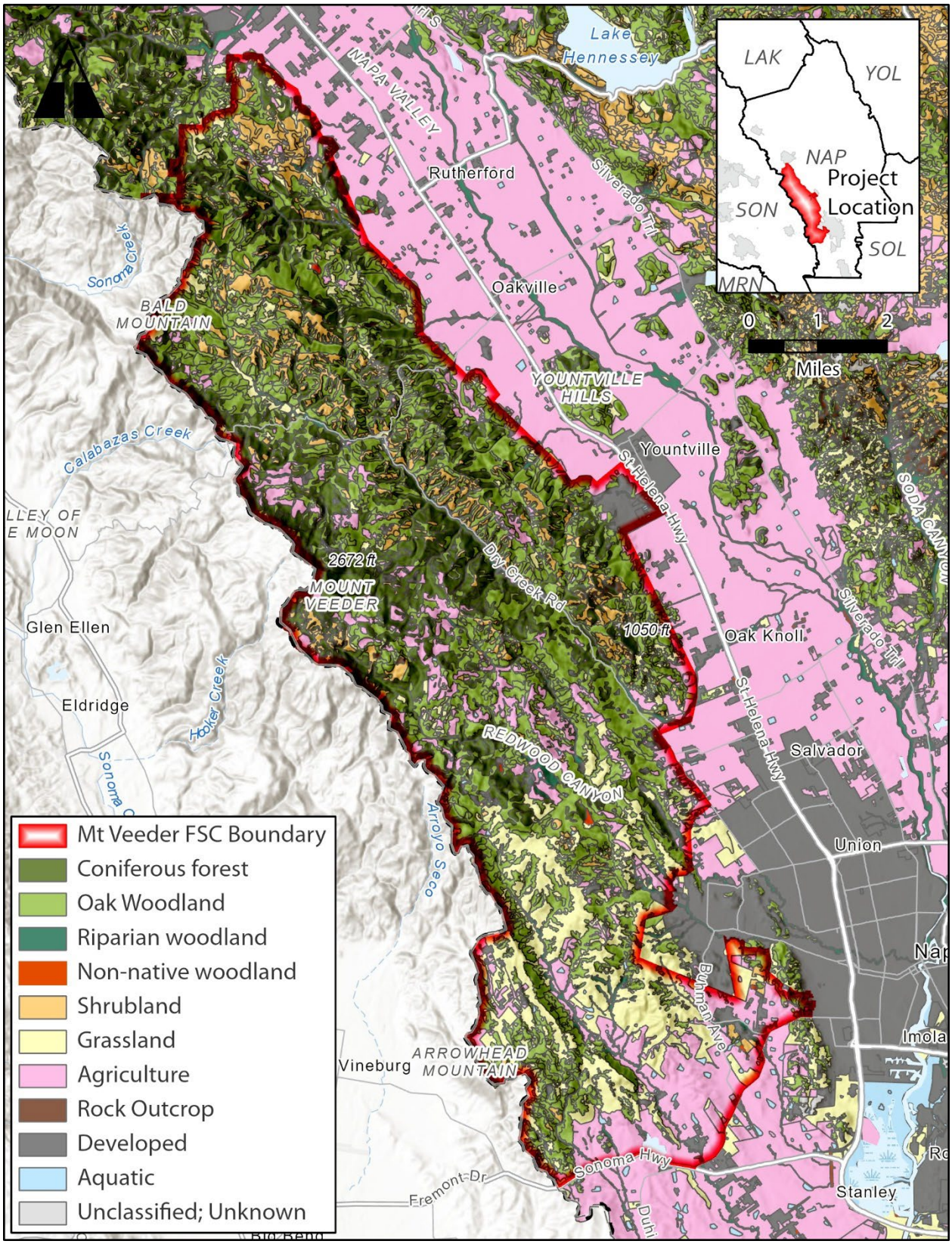

Figure 5a. Vegetation map – Mt Veeder area (boundary shown in red) (Napa Vegetation Map, 2016).

Oak Woodland (42%): 42% of the Mt Veeder area is mapped as Oak Woodland, which occurs on the flanks of hillsides and ridgetops throughout the area. In most areas, dense canopies, with little or no grass or shrubs under the canopies, typify these oak woodlands. The tree canopy in the lower reaches of the drainages is dominated by Coast live oak, but also includes California bay, madrone, Black oak, Blue oak, Oregon white oak, Canyon live oak, valley oak, interior live oak, eucalyptus, coast redwood, Douglas fir, foothill pine and knobcone pine. In more exposed areas, where the canopy opens up, shrubs or grassland are dominate in the understory.

Fire intensity, flame lengths, and scorch heights are usually low in oak woodlands. Slow-burning surface fires (approximately two-feet per minute) are carried in the compact leaf litter layer. Low flame heights (less than one foot) are the rule. Only under severe weather conditions involving high temperatures, low humidities, and high winds do the fuels pose fire hazards in this vegetation type. Leisurely spread rates, combined with the relatively short flame lengths of the predicted fire behavior produce a manageable, moderate fire hazard.

However, when shrubs are allowed to develop under the hardwoods, these fuels can pose fire hazards under severe weather conditions, e.g. those conditions involving high temperatures, low humidities, and high winds. If the shrubs develop under oaks, torching is likely to occur because of the ladder fuels that allow a fire to burn from the shrub to the tree crowns. Foliage of both bay and coast live oak can be very flammable when fire reaches the crowns.

Currently, many of the oak woodlands are recovering from the 2017 fires, and are sprouting from the base. Few trees were left unscorched, and standing dead trunks are the norm. The sprouts are in the form of bushes, with many stems. Grass and shorter shrubs are interspersed between the oaks.

If a fire were to occur in the area within the next decade, the vegetation can be expected to burn as a grassy shrubland until trees grow in height and form a more closed canopy. Because the foliage of the tree sprouts and chaparral is all new, a fire would be dampened by the live growth, but propelled by the grass in and amongst the re-sprouting trees.

Conifer forest (17%): These coniferous forests occur in patches throughout the hills and along ridgelines within Mt. Veeder area, particularly on Mt. Veeder peak and along Dry Creek Road. Together, they constitute 17% of the area.

The specific mapped conifer forest includes:

- Douglas-fir
- Foothill Pine
- Knobcone Pine
- Coast Redwood
- Coast Redwood – Douglas-fire / California Bay
- Foothill Pine / Mesic non-serpentine Chaparral

Knobcone pines (*Pinus attenuata*) are native to the region, but they proliferated in the Mayacamas after they were reportedly aerially seeded after the 1964 fire. Knobcone pines actually require fire to reproduce in great quantity. They often grow in depauperate soils, often on ridgetops, as dense even-aged stands after a fire, and burn as entire stands, intensifying and accelerating fire behavior.

Douglas fir and Coast Redwood forests are often found on north-facing slopes and do not pose a significant fire hazard under normal conditions. However, when hot, dry weather occurs, these forests offer a large fuel load to burn and can exhibit greater fire intensity. Of all the vegetation types in the Mt Veeder area, dense, Douglas fir and knobcone pine forests are most likely to burn as a crown fire. When a fire reaches tree crowns, embers are distributed throughout adjacent areas (including vulnerable residential areas). Dead material from dying oaks increases fire intensity in coniferous forests.

Indeed, many of the highest fire severity occurred in the Douglas fir and Knobcone pine forests. Some landowners were able to remove the dead standing trees either through a salvage logging operation or fuel treatments. However, many stands of dead trees remain throughout the burned portion of the MVFSC. Currently, the standing dead trees do not contribute to the fire hazard, as the small, flammable material was consumed in the previous fire. The hardwoods within the stand are sprouting like in the oak woodlands and comprise the material that would likely burn. Over the next few decades the dead trees will fall, combine with the shrubby trees, and create a more hazardous situation.

Shrubland (8%): Shrubland occupies 8% of the Mt Veeder area and can be found at the lower hillsides transitioning between the conifer forests to oak woodlands on ridge slopes. While these distinct areas were mapped as Shrubland, brush exists throughout and often contributes to other vegetation types described in this document.

The specific mapped alliances include:

- Chamise Alliance
- Mixed Manzanita - (Interior Live Oak -California Bay - Chamise) West County
- Leather Oak - California Bay - Rhamnus spp. Mesic Serpentine Chaparral
- California Bay - Leather Oak - (Rhamnus spp. (Foothill Pine)) Mesic Serpentine
- Leather Oak - White Leaf Manzanita - Chamise Xeric Serpentine
- Sclerophyllous Shrubland
- White Leaf Manzanita - Leather Oak - (Chamise - Ceanothus spp. (Foothill Pine)) Xeric Serpentine
- Coyote Brush - California Sagebrush - (Lupine spp.)

Brush produces severe fire behavior, with flames longer than 20 feet in length. Intense, fast-spreading fires in chaparral burn the foliage as well as the live and dead fine woody material in the brush crowns. The foliage is highly flammable and dead woody material in the stands significantly contribute to increased fire intensity.

This fuel type constitutes the highest hazard. Direct attack is not possible, and containment efforts would need to rely on backfiring or suppression strategies other than line building because the perimeter of the fire is likely to grow faster than a line could be built. In addition, spotting is likely in chaparral which will present even more challenges to suppression efforts.

Currently, the brush is growing rapidly, from re-sprouts and seeds. The new foliage will act to dampen fire spread and heat output, but any dead sticks remaining from the 2017 fires will speed fire spread. The hazard posed by this vegetation type is not great now, but will increase every year. When the plants grow together, sticks and twigs will die from too much shade, and the hazard will grow.

Annual Grasslands (Herbaceous) (13%): Accounting for 13% of the Mt Veeder area, annual grasslands and limited serpentine grasslands were mapped mostly on hillsides in the southern portion of the area, above the agricultural section. Grasses are flash fuels and fire spread can be rapid through herbaceous areas, but these fires can be easy to spot and contain.

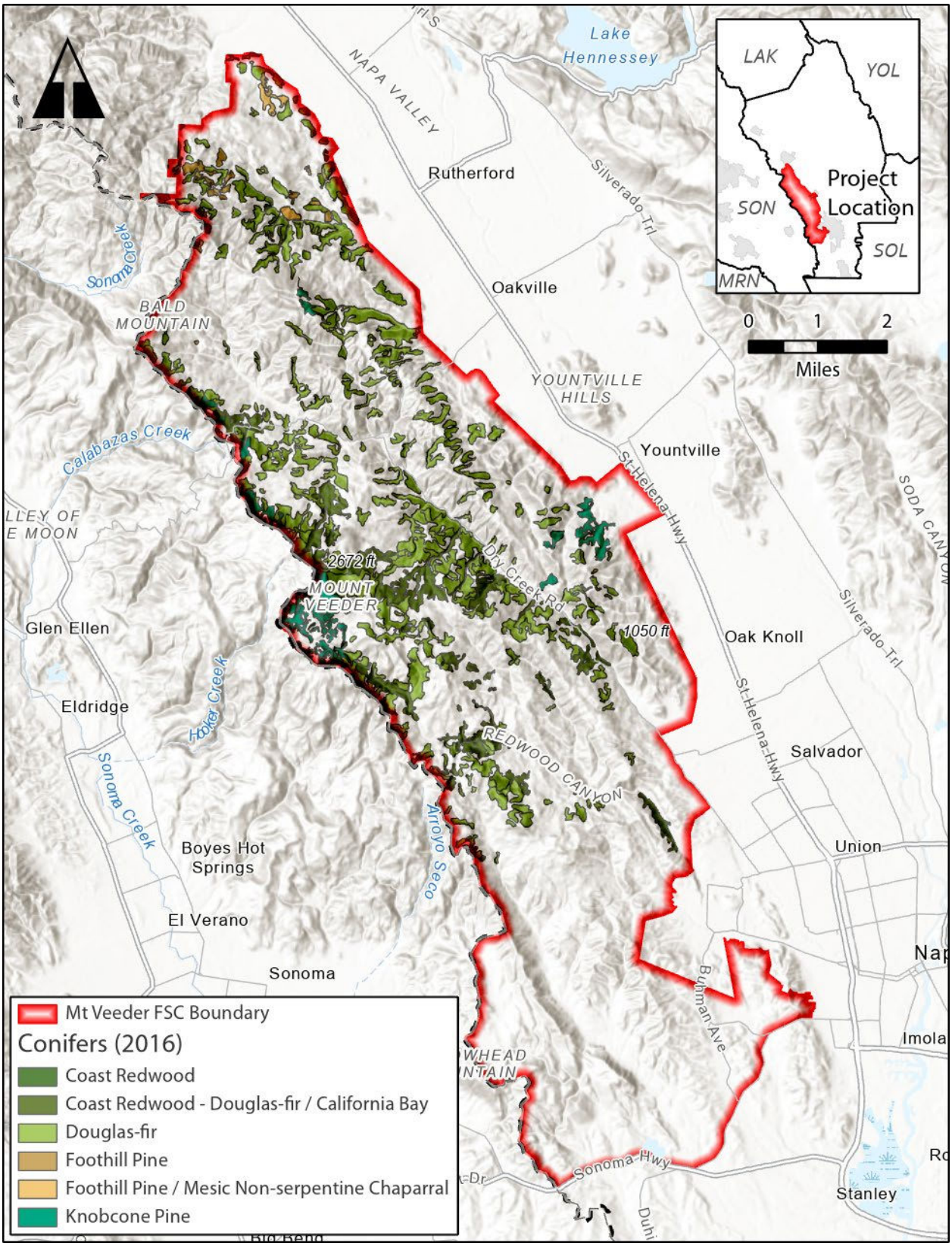

Figure 5b. Conifer map – Mt Veeder area (boundary shown in red) (Napa Vegetation Map, 2016).

Agriculture (Cropland/Vineyards) (14%): 14% of the land in the Mt Veeder area is mapped as agriculture. These occur in a large section in the southern part of the area and in patches along the hillsides. Most of these agricultural areas are vineyards.

Fires are usually benign in croplands or vineyards. In the case of vineyards, biomass is concentrated in live vines, with a mowed or bare soil surface. A fire can spread quickly through the vineyard where there is a ground cover. However, this situation is rare. Vineyards were instrumental in stopping the Howell Mountain fire in 1983, and formed the edges of fires in the Tubbs, Nunns, and Kincade Fires, but were part of the contagion in the Cavedale Fire in Napa in 1996. Vineyards often have access roads on the perimeter and within the interior, further aiding containment. With all that said, however, in the Glass fire of 2020, many vineyards were burned through.

Riparian woodland (2%): This vegetation type accounts for 2% of the area and are, of course, concentrated along creek beds and banks. Riparian vegetation has higher moisture content and can act to dampen fire intensity and spread. About half of wildfires in the West avoid riparian areas. However, invasive plants can increase and change the distribution of biomass, increase flammability, and dry at different intervals than native vegetation, thus changing the fire dynamics at these sites. With elevated drought conditions, these once dampening areas can turn into areas where the fire can be drawn further upland, particularly in steeper terrain.

It is important to note that these areas are protected by law, and treatments must protect sensitive wildlife and habitat. Fuel management treatments that utilize hand-crews and focus on removing weeds and dead material can preserve the dampening effect of riparian woodlands and the associated wildlife habitat.

The specific mapped alliances include:

- Mixed Willow
- Valley Oak - (California Bay - Coast Live Oak - Walnut - Ash) Riparian Forest
- Valley Oak - Fremont Cottonwood - (Coast Live Oak) Riparian Forest
- White Alder (Mixed Willow - California Bay - Big Leaf Maple) Riparian Forest

Landscaping: Landscaped areas -- being closest to homes -- may make the greatest impact on survivability of a house during a fire arising in wildlands. Landscaped areas either (1) are moist, thus will not likely burn; (2) contain large amounts of fuel which will burn with great intensity; or (3) are landscaped with fire resistant plants, and only burn slowly with little heat release.

While research results regarding fire resistance of landscape plants are meager, several important generalities have surfaced. First, the overall volume of biomass as well as the spacing and design of the garden is more critical than the species selected. Horizontal spaces between planting masses and the house are important components of a fire safe landscape. Similarly, vertical spacing between tree branches, shrubs, ground cover and the structure (particularly windows) are also part of a well-designed garden.

Maintenance of landscaped areas is necessary to remove dead material and to maintain vertical and horizontal spaces. Neglect of landscape maintenance can lead to a significant worsening of the fire hazard closest to the structure.

Landscaping in the Mt Veeder FSC is generally consistent with fire safety principles. A few residences in each neighborhood have abundant vegetation that can endanger adjacent and nearby residents if they are within a few hundred feet of each other.

Predicted Fire Behavior

A fine-scale analysis of potential fire behavior across the firesafe council is useful to determine the possible effects of wildfire, and potential for spread and containment of a wildland fire. These can be predicted using public-domain software and data that combines the effects of fuels, weather and topography. FlamMap[2] was used to model fire behavior using a county-wide dataset developed from the Napa County Vegetation Map[3]. While the vegetation dates back to 2016, the fuels data required to run the fire behavior prediction model was updated to post-2020 conditions.

Flame lengths are expected to be high (over 12 feet) because of the combination of heavy fuels, especially in the mixed forest and chaparral. Where a well-developed understory is present under the oak canopies, fires are also expected to burn with high intensity.

Fires can also be expected to burn fast when they are propelled by dry grass and chaparral. Vineyards can moderate both the fire intensity and fire spread but would not provide good suppression opportunities for safe evacuation because they are small in comparison to the tracts of uninterrupted vegetation.

Forested and shrubby areas burned in the 2017 fires should generally burn with less intensity because most the fuel volume was consumed by the wildfire. Regrowth generally is high in moisture and absent flashy, fine, dead sticks and twigs. Dead material in the form of tree trunks and branches are falling from an upright stature to the ground. While these dead materials impeded line-building efforts during a wildfire, it does not affect fire spread of ignition because of the large size of the material.

Predicted Flame Lengths

Long flame lengths can be expected in dense oak forests where understory is present. Vineyards and areas of well-maintained defensible space can be expected to burn with low intensity even under the most extreme conditions. Flame length most directly relates to the ability of a firefighter to safely attack a fire; flames longer than eight feet prevent safe, effective direct attack. Flame length is also most closely related to structural damage – the higher the flame length, the more likely a structure could be lost.

[2] https://www.firelab.org/document/flammap-software

[3] https://ncff-cwpp-dms-usa.hub.arcgis.com/maps/b2de24b3562e4e27b0fbea2921e2c9e4/explore

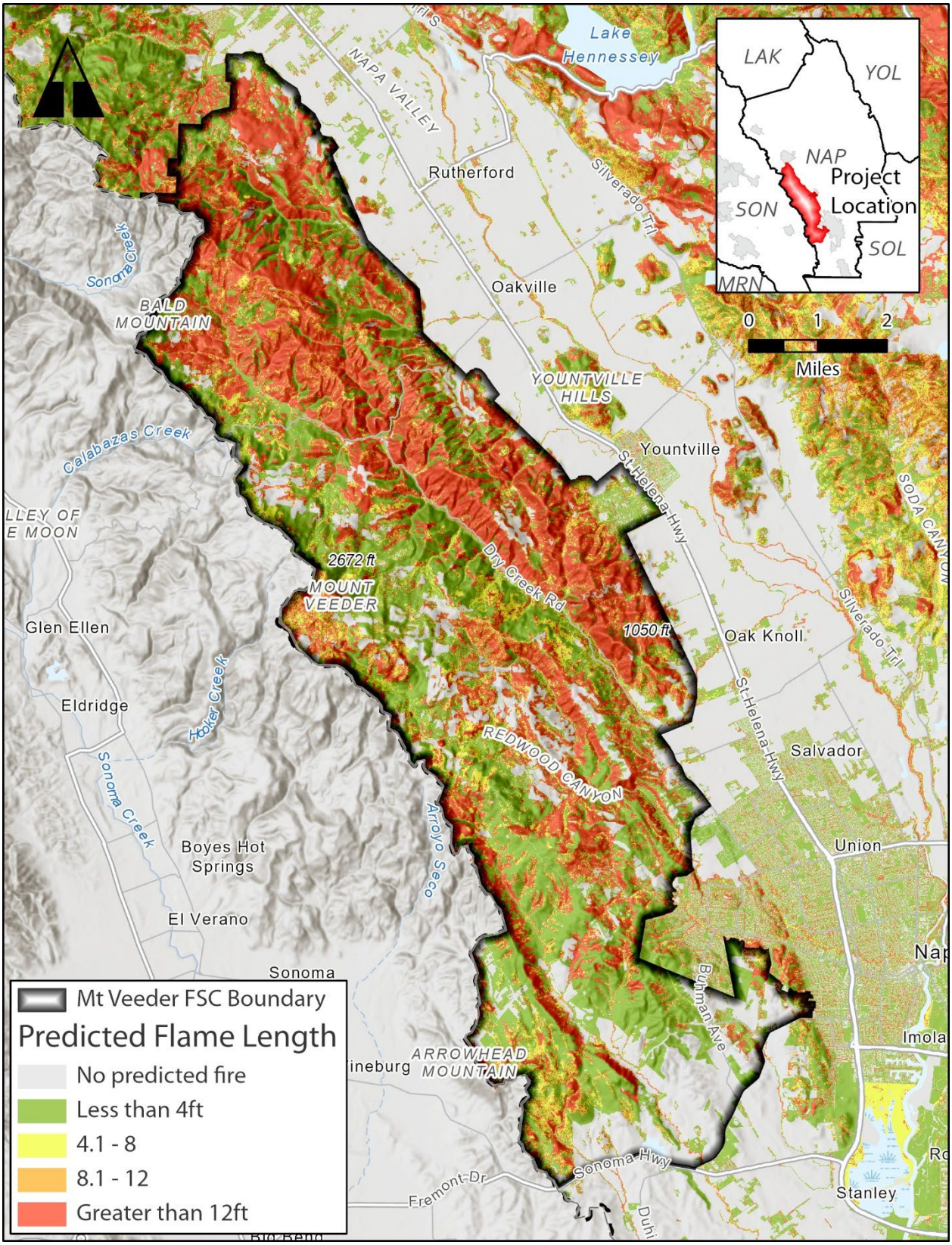

Figure 6. Predicted flame length (feet) map (based on Napa Veg Map with a NE wind at 15mph & low fuel moistures). The Mt Veeder area boundary is shown in black.

Almost two thirds (66%) of the area has a predicted flame length of over 8 feet when predicting for a northeasterly wind at 15 miles per hour. This leaves about 24% of the area predicted to have less than 8-foot flame lengths. Of those areas, 10% is predicted to have less than 4-foot flame lengths.

The higher flame lengths are concentrated on the steep canyon walls of Hopper Creek Canyon, a section of the Dry Creek canyon within the Mt Veeder area in the north, the canyons stemming from Veterans Peak, along Carneros Creek, and the area north of Bear Canyon. The lower flame lengths are similarly distributed, but in areas of lower slope and in more sheltered locations, grasslands and more importantly surrounding the vineyards (which no fire is predicted due to the limitations of the predictive software).

Note that the no predicted fire category accounts for agriculture and developed areas (includes vegetation in residential parcels) that may indeed burn – as evidenced in many of the recent fires in Napa County. In particular, no-till vineyards provide more potential fuels than vineyards with bare earth.

Table 4. Predicted flame length by category and area (in acres) within the Mt Veeder area (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15mph with low fuel moistures).

Predicted Flame Length	Acres	Percent
No predicted fire	1126.99	3%
Less than 4ft	2718.46	7%
4.1-8	5246.29	14%
8.1-12	6251.21	16%
Greater than 12 ft	22993.04	60%

Predicted Crown Fire Activity

While both the coniferous and oak forests can torch, hardwoods are less likely to have fire reach to the tree crowns, unless vegetation is burning underneath. Crowning potential is crucial. When fires spread into crowns, thousands of embers are produced and lofted into ignitable fuels, often overwhelming fire suppression personnel.

For the Mt Veeder area, a relatively small area is predicted to have fire spread within the tree canopy (tree-to-tree or crown fire), which is rare and virtually un-heard of in hardwoods. Areas with higher density of coniferous forests are most at risk to torching and to crown fires. These areas are located throughout the MVFSC and persist on steep ridges.

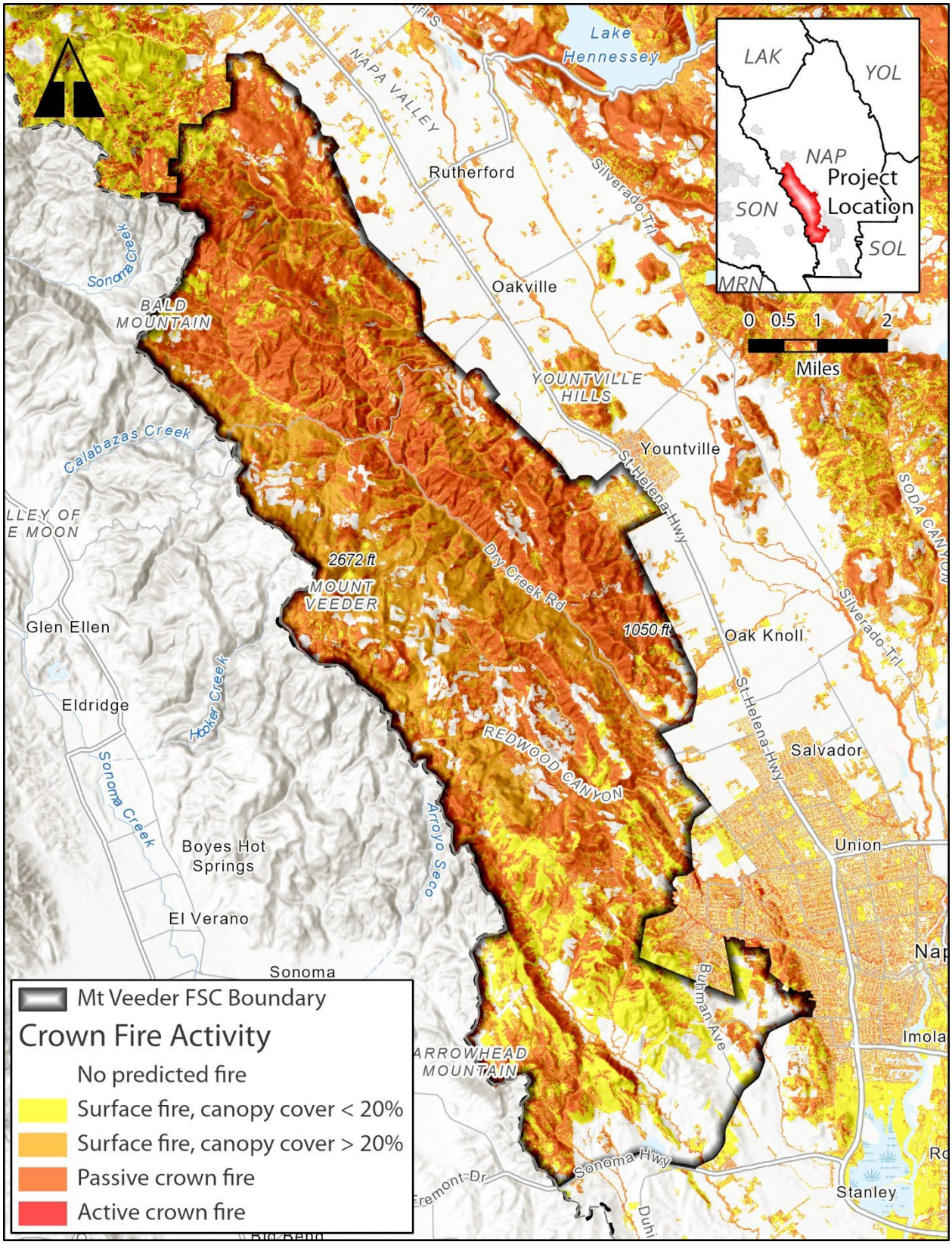

Figure 7. Predicted crown fire activity map (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15mph with low fuel moistures). Mt Veeder area boundary (shown in black).

Table 5. Predicted crown fire activity (or fire type) by category and area (in acres) within the Mt Veeder area (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15mph with low fuel moistures).

Crown Fire Activity	Acres	Percent
No predicted fire	22,993.04	60%
Surface fire canopy cover < 20%	5,996.97	16%
Surface fire with canopy > 20%	2,084.67	5%
Torching fire	6,921.51	18%
Crown fire	339.81	1%

A combination of no predicted fire and surface fire in a canopy cover of less than 20% accounts for approximately 76% of the Mt Veeder area. These areas are concentrated in the agricultural fields along Mt Veeder and the grasslands and agricultural fields in Carneros Valley as well as areas of development.

Of the area predicted to have only a surface fire, we identified those areas with a higher canopy (over 20%) to highlight areas that do not torch but are likely to. These areas accounted for 5% of the predicted surface fire. Areas where torching is predicted account for 18% of the area. These areas are predominately on mid-slopes and places where the vegetation is not protected from strong winds. They occur throughout the Mt Veeder area, surrounding the vineyards and residential areas. And lastly 1% of the area is predicted to have active crown fire. Active crown fire is predicated on the steepest south-facing slopes throughout the area, but is concentrated in the south – west of Yountville.

In the past decades, forty-two fires have been recorded occurring near the Mt Veeder area. Most notable are the quick burning Glass fire to the north, the large and wide-ranging Nuns fire of 2017 and Hennessey fire of 2020, the Atlas fire of 2017, and the Atlas Peak fire of 1981.

Large fires have directly impacted most of the area within the Mt Veeder neighborhood. The fire history map shows that the eastern third of the Mt Veeder area has not been visited by fire in the last 100 years, suggesting a relatively higher fuel load than in other areas that have experienced fire more recently.

Table 6. List of recorded fires near the Mt Veeder area (CAL FIRE, 2020).

YEAR	MONTH	DATE	NAME	CAUSE	ACRES	COMMENT
1945			Unknown	Unknown/ Unidentified	499.8	
1945			Unknown	Unknown/ Unidentified	887.9	
1947			Unknown	Unknown/ Unidentified	781.7	
1952	September	9/6/1952	LAKE MARIE	Unknown/ Unidentified	297.6	
1953	August	8/25/1953	B. HICKEY	Unknown/ Unidentified	671.4	
1953	October	10/8/1953	J. TUTEUR	Unknown/ Unidentified	186.8	
1954	June	6/20/1954	CORMAN ESTATE	Unknown/ Unidentified	930.6	
1954	July	7/7/1954	W. GROTHE	Unknown/ Unidentified	343.7	
1955	August	8/2/1955	COUNTRY ROADSIDE #14	Unknown/ Unidentified	853.1	
1959	December	12/3/1959	R. WILSON	Unknown/ Unidentified	3,504.4	
1960	June	6/20/1960	NAPA SODA SPRINGS	Unknown/ Unidentified	2,244.8	
1960	October	10/15/1960	C. FOSBERG #2	Unknown/ Unidentified	3,797.0	
1961	July	7/8/1961	E. PROCTOR	Unknown/ Unidentified	876.7	
1962	August	8/14/1962	ROADSIDE #19	Unknown/ Unidentified	490.5	
1964	July	7/11/1964	ROADSIDE #22	Unknown/ Unidentified	538.9	
1964	September	9/19/1964	NUNS CANYON	Unknown/ Unidentified	9,807.7	
1964	September	9/21/1964	P.G.&E. #6	Unknown/ Unidentified	452.7	
1964	September	9/21/1964	ROADSIDE #42	Unknown/ Unidentified	8,956.8	
1965			Unknown	Unknown/ Unidentified	8,445.7	
1966			Unknown	Unknown/ Unidentified	498.9	
1968	June	6/27/1968	STAGS LAKE	Unknown/ Unidentified	562.2	
1972		7/14/1972	ARROWHEAD	Unknown/ Unidentified	484.6	
1980	October	10/3/1980	GEHRICKE	Unknown/ Unidentified	540.3	
1981	June	6/22/1981	ATLAS PEAK	Arson	33,606.4	
1983		10/3/1980	HOWELL MTN. FIRE	Unknown/ Unidentified	2,353.6	
1994			PG&E #24	Unknown/ Unidentified	1,275.5	
1996		8/2/1996	PG&E #8	Unknown/ Unidentified	2,106.8	

2003	October	10/29/2003	SILVERADO	Powerline	69.3	
2006	July	7/27/2006	SAGE	Unknown/ Unidentified	2.6	
2006	September	9/22/2006	NAPA	Powerline	377.3	
2006	October	10/25/2006	ATLAS	Equipment Use	71.2	
2007	July	7/11/2007	PEAK	Equipment Use	46.3	
2008	June	6/19/2008	KELLY	Unknown/ Unidentified	32.6	
2012	February	2/23/2012	SODA	Escaped Prescribed Burn	196.7	
2013	April	4/30/2013	SILVERADO	Debris	60.2	
2013	July	7/4/2013	AMIGAS	Playing with fire	10.3	
2017	October	10/8/2017	ATLAS	Unknown/ Unidentified	51,624.7	Southern Complex
2017	October	10/8/2017	NUNS	Unknown/ Unidentified	55,798.2	Southern Complex
2018	August	8/9/2018	SYAR	Unknown/ Unidentified	10.2	
2020	August	8/17/2020	HENNESSEY	Lightning	305,352.0	Part of the LNU LIGHTNING COMPLEX
2020	September	9/27/2020	GLASS	Lightning	6,7484.3	
2021	June	6/7/2021	KIWI	Equipment Use	1.8	

A recurring history of large fires (over 10,000 acres in size), which typically burn for several days, has been well established in Napa County. The typical period between such large fires is approximately 20-30 years. Like much of California, fires in Napa County are almost entirely caused by human-related accidental ignitions. With that said, in 2020, several lightning-strike fires burned in Napa County and west into Sonoma County.

In the past, fires did not involve large numbers of structures because of the historic rural nature of Napa County; however, structure damage is now a common concern whenever wildland fires of any size occur.

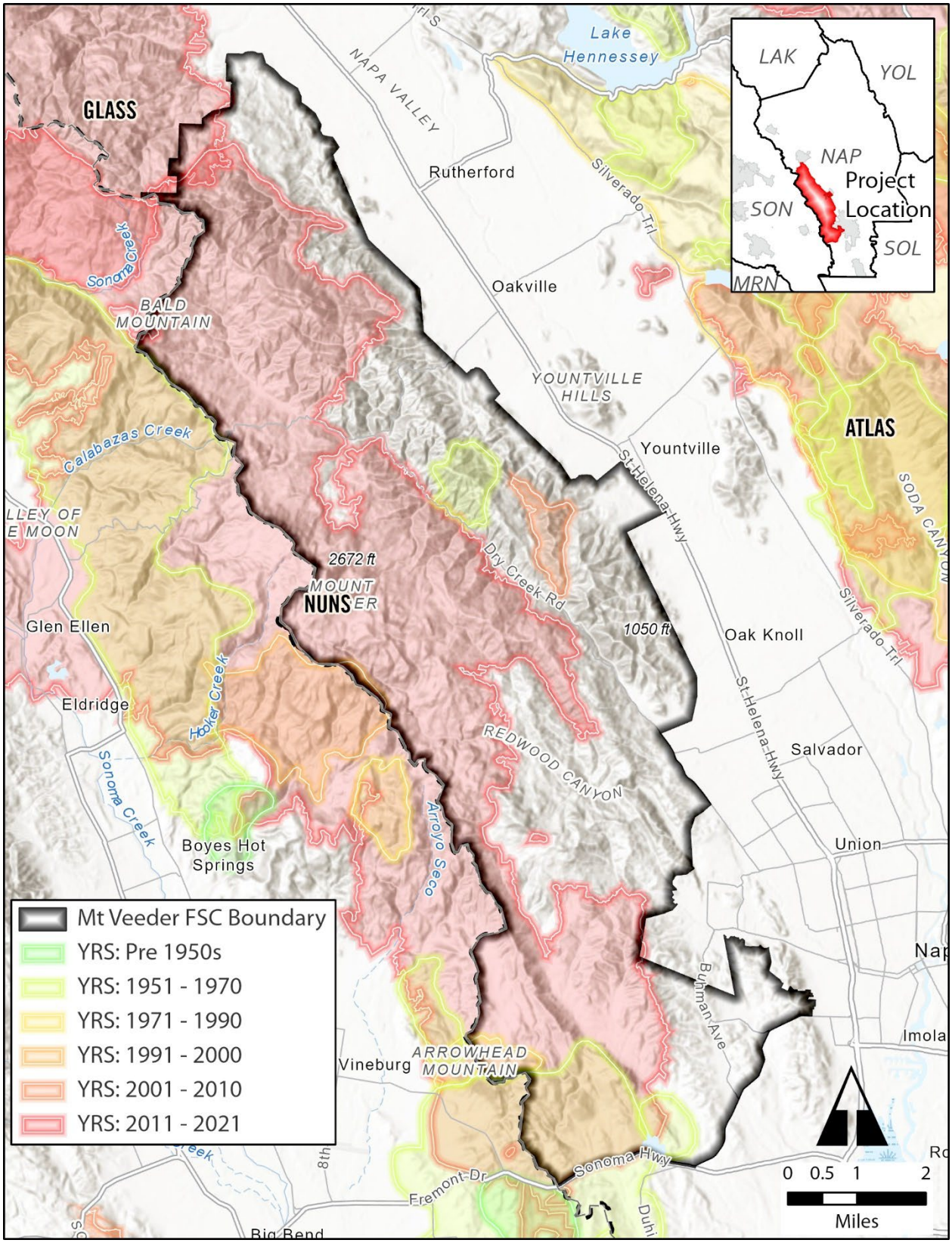

Figure 8. Fire perimeters/fire history map of Mt Veeder area (CALFIRE FRAP, 2021).

Access

In general, access to the boundaries of the Mt Veeder area is good and access to areas in the interior is fairly poor. Paved county roads provide access to most residential areas, and both roads and houses are common in areas of long-term habitation. Many of the earlier roads have been upgraded and in continuous use since the early days of development. Several roads wind into the interior of the area east to west but the majority do not connect with roads at the western edge. The western boundary has significantly more limited access than the northern, eastern and southern edges. Paved, gravel, and dirt roads and driveways serve newer housing developments and vineyards. Some serve many addresses, some are long and surrounded by wildlands. Winery, vineyard, and residential development in recent decades has opened many new access routes.

A network of legacy bulldozer cut fire roads exists and could be restored inexpensively to further increase access for additional fuel reduction projects. MVFSC is actively exploring opportunities to collaborate with NRCD to restore this network of fire roads. With the right equipment these dirt access roads can allow hand crews and chippers to move quickly through fuel reduction projects in limited access areas.

Paved, gravel, and dirt roads and driveways serve newer housing developments and vineyards. Some serve many addresses, some are long and surrounded by wildlands. Winery, vineyard, and residential development in recent decades has opened many new access routes.

The result of over a century of access development is that many creeks and ridges have a road of some type upon or near them, allowing for compartmentalizing the land into smaller management units. Many large parcels have several structures, vineyards, and internal road systems. Connections exist only rarely between major drainages, however, making cross-mountain travel difficult or impossible.

Oakville Ridge Rd., Napanook Rd. off Dry Creek Rd. provide access to the more remote areas of the eastern interior. Whitehall Ln. provides access to the northernmost interior. Redwood Rd. and branching off from it, Mount Veeder Rd., provide access to the interior south of Dry Creek Canyon, but both roads eventually end near the ridge. Similarly, Partrick Rd. accesses the interior south of Redwood Rd but also does not connect through the boundary of the Mt. Veeder area. It travels through the lowest elevation and most southern portion of the district, traversing grass lands and open woodland until the top, where dense forest of fir is mixed with oak woodland which overlooks Redwood Creek to the north. Lovall Valley Rd. and Henry Rd. provide access to the west and east of the Carneros Creek canyon respectively but do not connect. Redwood Road begins close to the Napa Valley floor in oak woodland and extends through redwood forests above old orchards and through current vineyards near Castle Rock

Old Sonoma Rd and Buhman Ave off State Highway 12 and Browns Valley Road and State Highway 29 access wineries and residences in the southeastern area of interest. However, a patchwork of interior driveways to wineries in the interior of the region are dead ends. There are no other means of egress other than fire roads that may or may not be maintained.

Wall Road is about a half mile above Dry Creek, and is close to the county line throughout its length, with about 30 residences widely disbursed. Campbell Creek and Campbell Flat are gated communities with very sparse housing in the middle of dense brush fields and recovering oak woodland. Likewise, Oakville

Grade Road is located in a brush field recovering from fire, and has a few residences below the road. Perhaps 10 residences exist on these vast acres. Oakville Ridge Road is another gated community which traverses the ridge to the east of Dry Creek and has about 5 residences

The firesafe council area is also accessed through Legacy Fire Roads and Limited Access Fire Roads. The most obvious such roads are along Oakville Ridge Road, Old Ridge Road and Wall Road to Bald Mountain Rd. These roads are listed on Figure 9 as driveways for fire roads.

A residential area near Yountville in the Harlan/Nook area is denser with structures than elsewhere in the Mt. Veeder area, which are characterized by dispersed residences. The main roads in the Harlan/Nook residential area, including Presidents Circle and California Dr., as well as Oakville Grade Rd and Dry Creek Rd are well-paved and wide roads (sometimes with a limited shoulder). All other roads are barely two lanes with no shoulders. Pavement (road surface) is generally in good shape, some curves are simultaneously sharp and steep. Driveways are generally long. Some residences are served by long shared driveways behind locked gates. Locked gates are common and can further delay emergency response. Locked gates also discourage/prevent inspection by local fire authorities.

Regardless of the condition of the roadbed, access can be blocked by roadside vegetation. Trees can fall, blocking passage or vegetation can burn with such intensity that emergency response and evacuation cannot occur. Most roadsides have abundant roadside vegetation. This vegetation could block the road while burning, and after, as trees fall (a common event during a fire). Even though roadside vegetation has been maintained on many of the roads or driveways within the Mt Veeder area blockage due to burning vegetation could prove significant in the event of a fire.

See map (Figure 9) on page 34.

In regards to fire department access, the closest fire units are found between Dry Creek and Mt. Veeder Roads, where the Dry Creek/Lokoya Volunteer Fire Department has three engines. The Mayacamas Volunteer Fire Department is at the junction of Trinity and Cavedale Roads with two engines. Cal Fire and/or Napa County Fire Department units are located in Yountville, Napa, St. Helena, Greenwood Ranch, Carneros, Soda Canyon, Mayacamas and Rutherford.

Address visibility is satisfactory in most locations.

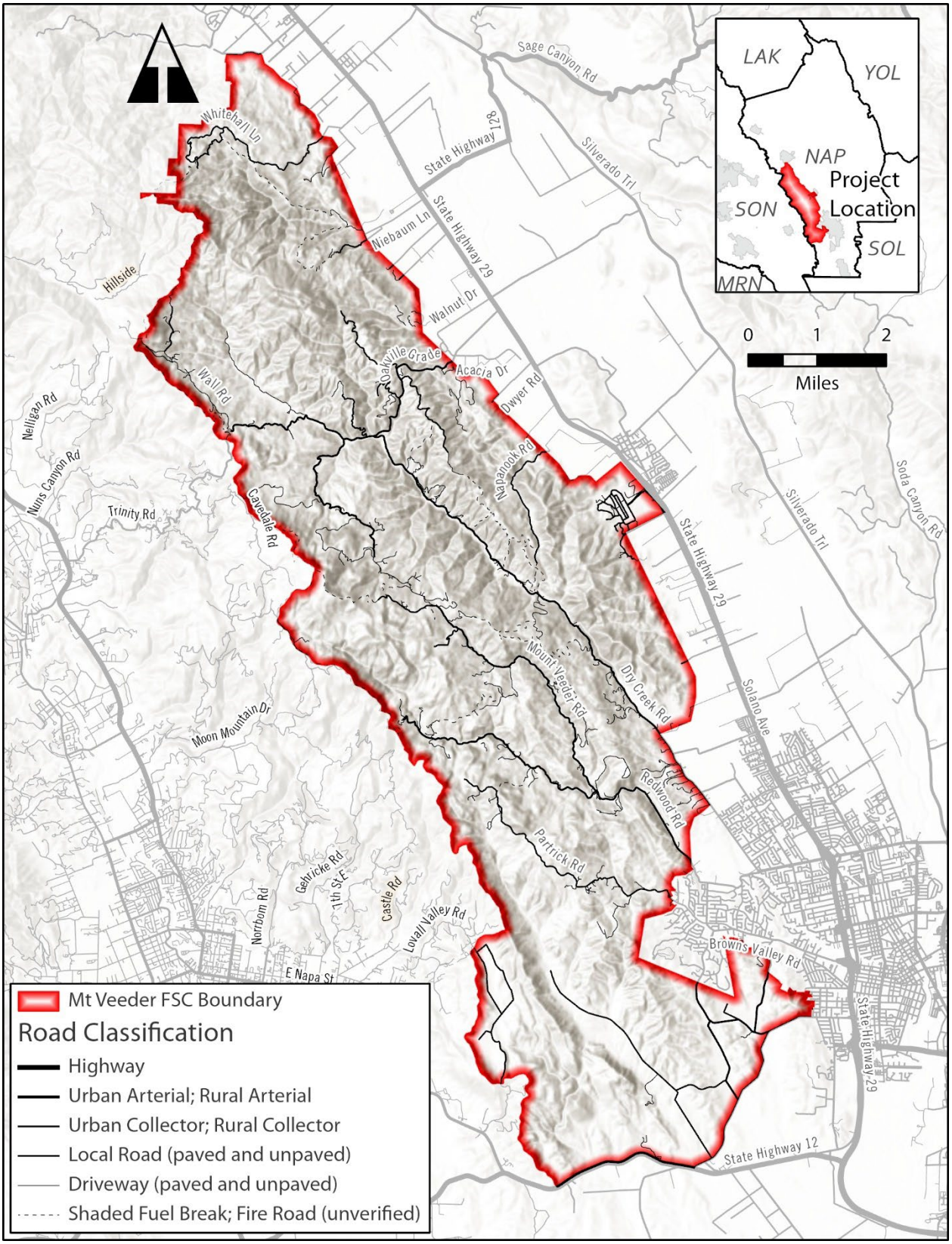

Figure 9. Access and street map of Mt Veeder area (shown with red outline).

Hazard Ranking

The majority of the Mt Veeder area is within CAL FIRE's State Responsibility Area (SRA). 3% is not within the SRA. The area not within SRA is the City of Yountville LRA, in the Harlan/Nook neighborhood. A small area within the LRA is categorized as a Very High Fire Hazard Severity Zone (VHFHSZ), shown on the map below in bright red.

For the SRA portions of the Mt Veeder area where CAL FIRE determined a fire hazard assessment, they show 45% of the area is categorized as a Very High Fire Hazard Severity Zone. A smaller area was classified as High (7%) with the remainder categorized as Moderate (46%).

Table 7. Fire hazard severity zone by area (acres) within Mt Veeder area boundary (CAL FIRE, 2007 – current version).

Fire Hazard Severity Zone (CAL FIRE)	Acres	Percent
Moderate	17,458	46%
High	2,825	7%
Very High	17,078	45%
Non-SRA	1,150	3%

See map on next page.

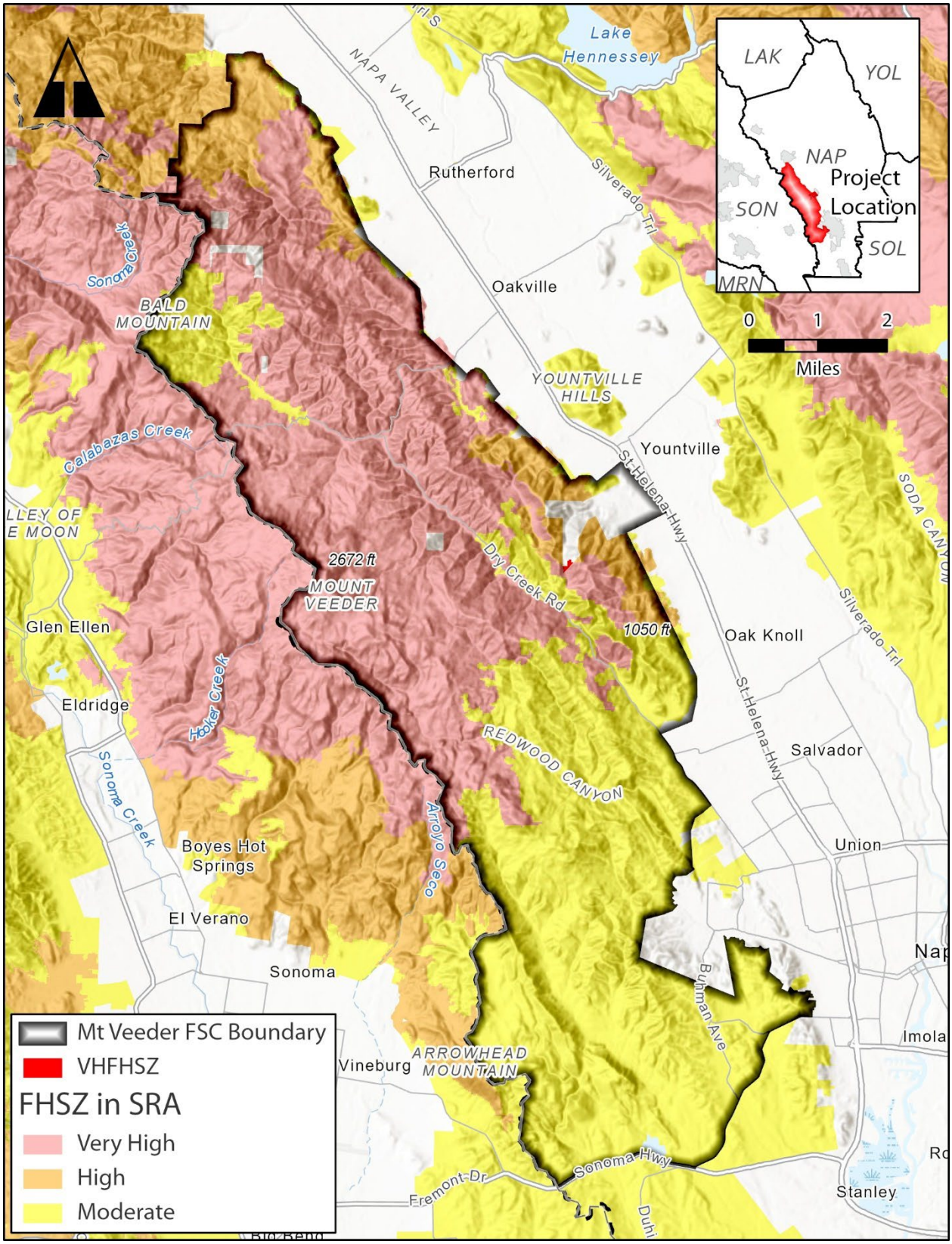

Figure 10. Distribution of Fire Hazard Severity Zones (CALFIRE, 2007).

In November of 2022, the California State Fire Marshal's office released a draft of an updated map of FHSZs. While the map's data has not been released, we offer a comparison between the two versions on the next page.

While the maps were released for public review, the data was not. So, a quantitative comparison is not possible, but we can see that just about all the Moderate FHSZs were converted to High. However, it seems a good portion of the Very High was converted to High. The LRA designations rename the same. Overall, it seems the hazard rating across the area is more uniform, but still relatively high. A small portion of Lovall Valley was converted from Moderate to Very High, including area just outside the Mt. Veeder boundary. A small portion of the northern most area of the Mt. Veeder boundary changed from Moderate to Very High. Additionally, a portion of the southernmost part of the area may no longer designated to SRA.

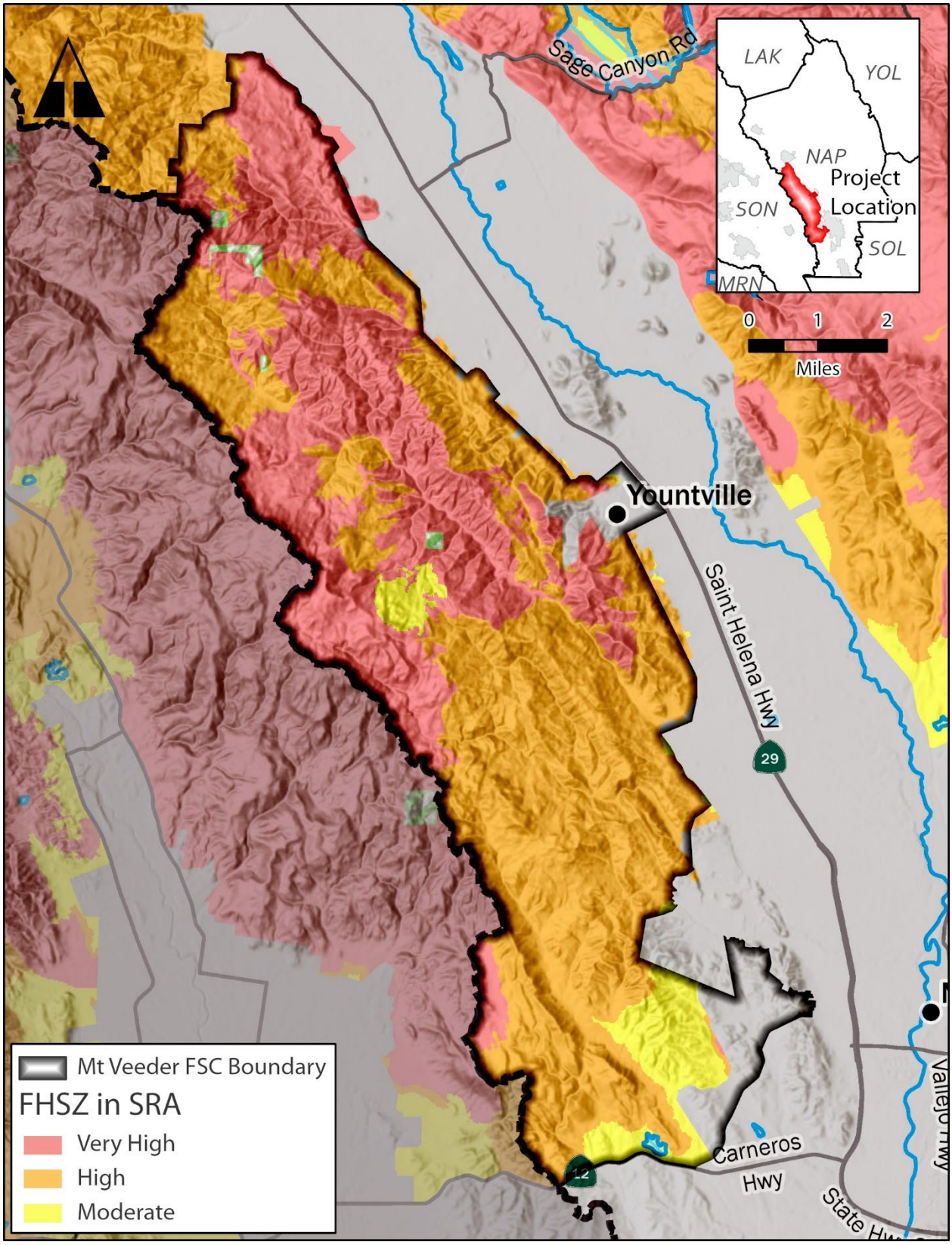

Figure 11. Distribution of Fire Hazard Severity Zones (CALFIRE, 2022). Comparison between CAL FIRE's 2007 FHSZs and the recently released 2022 FHSZs.

Risk Ranking

As designated on topography, watersheds, and parcels,(considering the locations of existing and potential shaded fuel breaks, density of structures within a watershed area, bodies of water and other natural and manmade fuel breaks such as vineyards) the following table lists the associated wildfire risk, as viewed by the MVFSC Community.

Risks	**Fuel Hazard**	**Risk of Wildfire**	**Structural Ignitability**	**Lack of Firefighting**	**Overall Risk**
Watershed area					
Dry Creek	High	High	High	Medium	High
Wing Canyon	Very High	High	High	Very High	Very High
Redwood	Very High	High	High	Very High	Very High
Segassia	Very High	High	High	Very High	Very High
Pickle Canyon.	High	High	High	High	High
Montgomery	Very High	High	High	Very High	Very High
Browns Valley/Carneros	Medium	Medi um	High	Medium	Medium
Campbell	High	High	High	Medium	Medium
Shaded Fuel	High	High	High	High	High
Old Ridge	Medium	High	High	Medium	Medium
Oakville Ridge Road	High	High	High	High	High
Lokoya	High	High	Very	High	High

The priority rating table reflects the overall risk and the MVFSC Community values.

Watershed area at risk	**Overal l Risk**	**Comm unity**	**Cultu ral**	**O v**
Dry Creek	High	High	High	H
Wing Canyon	Very	High	High	H
Redwood	Very	High	High	H
Segassia	Very	High	Medi	H
Pickle Canyon.	High	Medium	Medi	M
Montgomery	Very	High	Medi	H
Browns Valley/Carneros	Low	Medium	Medi	M
Campbell	Medium	Low	Low	L

Shaded Fuel Breaks				
Old Ridge Road	High	High	N/A	H
Oakville Ridge Road	High	Low	N/A	M
Lokoya Perimeter	High	High	N/A	H

Neighborhood Characteristics

The MVFSC divided the area within the fire safe council into nine different neighborhoods. In general, these neighborhoods follow parcel boundaries or roads, and organize the area in terms of where residents associate with their neighbors. The neighborhoods as shown on Figure 12 and consist of:

1. Rutherford Bench
2. Wall, Mt Veeder
3. Harlan/Nook, Dry Creek
4. Valley Edge South
5. Redwood
6. Partrick
7. Congress Valley
8. Lovall Valley and
9. Carneros

Each neighborhood has different characteristics pertaining to topography, wind, vegetation, access, development pattern. These neighborhoods all share the same fire history and general fire behavior concerns. Based on these characteristics, neighborhoods sometimes share project types and locations, while other projects will be specific to a particular neighborhood.

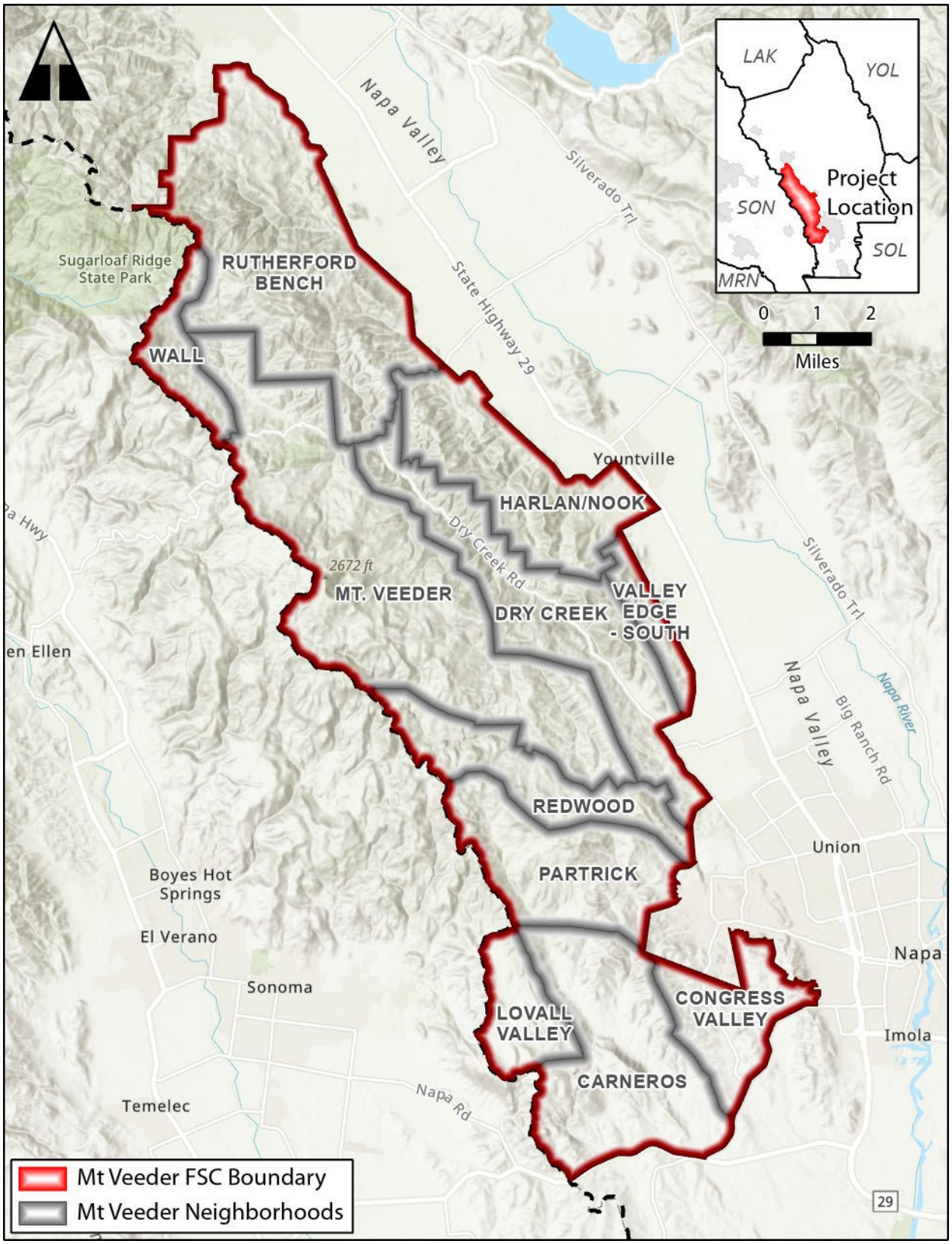

Figure 12. Neighborhoods within the Mt Veeder community neighborhood boundary.

Table 9. Acres, parcels, and addresses by neighborhood.

Neighborhood	Acres	Number of Parcels	Number of Addresses
Carneros	4503	65	34
Congress Valley	1946	130	116
Dry Creek	4312	216	169
Harlan/Nook	3397	81	44
Lovall Valley	1282	73	55
Mt. Veeder	8685	315	197
Partrick	3083	72	49
Redwood	2245	121	86
Rutherford Bench	7106	140	92
Valley Edge - South	723	33	19
Wall	1082	58	32

Rutherford Bench Neighborhood

This CWPP includes details regarding Rutherford Bench, in part because the MVFSC expanded into this area, and was not included in previous CWPP, and due to specific funding allocated to this area.

Topography. This Rutherford Bench neighborhood is in a topographic bowl, with mountain hugging the neighborhood on the N, W and E. The area is characterized by steep slopes, narrow canyons, and a broad valley floor. Unorganized terrain, with knolls and knobs may allow spot fires to jump long distances, and could be important in the spread of fire downwind.

Wind. Normally the winds in the Rutherford Bench area come from the west, and the canyons are not oriented with the wind. Both the Nunns and Glass Fires spread downhill from the west; the "confused" topography could cause swirling winds.

Vegetation. The vegetation in this neighborhood consists of a few vineyards, grasslands, Oaks with grass underneath, shrubs on south-facing slopes, and conifer forests, including stands of Douglas fir. The vineyards, which exist in the lower portion of the neighborhood, can sometimes be used as firebreaks. Oaks with grass underneath have shown to be resilient; unfortunately, many of the oak woodlands also have abundant understory, and the shrubs and young Douglas firs turn a low fire hazard vegetation type into a concern. Coniferous forests can be fire resistant, but often have too much understory that promotes crowning. In the Glass Fire the fir forests were severely burned; forest management is recommended in the Douglas fir stands.

Access. Access is a problem in the Rutherford Bench neighborhood, with almost all of the residents having only one way in and one way out. Bridges are sometimes very narrow, and sometimes old, which could make access for heavy fire trucks difficult. Both vineyard roads and dozer lines may be assets for fire suppression access. Vineyard roads should be marked as emergency access, and dozer lines need to be maintained. Roadside vegetation may block access in some areas. Overhanging branches, trees falling across the road and hot burning brush all contribute to blocking access, so

roadside vegetation needs to be managed.

Fire Behavior. A mix of flame lengths are predicted, with large patches of long flames expected on the north and south parts of the area. Flame lengths are highly correlated to vegetation types. The vineyards are not expected to burn. The oak woodlands and Doug fir forests without understory are predicted to burn with flames less than 4 ft – which can be fought by firefighters directly. However, the woodlands and forests with understory will burn hotter, mostly with flames longer than 12 ft, which need to be attacked with arial support, or backfires.

Fire History. The area has a rich history of fire occurrence. The Glass Fire of 2020 burned the northern most portion of the neighborhood, and the Nunns Fire of 2017 burned almost the entire neighborhood. Both of these fires came from the west.

Projects. Vital projects for the Rutherford Bench neighborhood have been identified and fall into the following categories: Public Education and Outreach, Vegetation Treatments, and Fire Suppression Support.

Public Education and Outreach projects include: home evaluations for home hardening; a Neighbors-in-Need program; outreach regarding cost-share programs for retrofitting, forest management, defensible space; education of residents regarding safe-to-stay areas; establishment of an alternate communication system; and training for vineyard workers regarding wildland fire safety, management and evacuation protocols.

Fuel Reduction projects include: roadside treatments; connection of evacuation routes; creation of ridgetop fuelbreaks; and treatment of riparian areas.

Fire Suppression Support projects include: updating signs and addresses; updating the pre-attack plan regarding access and water supply; participating in Ag Pass; establishment and maintenance of dozer lines; rating and signing bridges; and installation of knox-boxes.

The Rutherford Bench projects are included in The Plan section of this document.

The Plan

To start addressing these challenges the MVFSC has undertaken a suite of projects, starting in 20XX. These span parcel assessments, creation of ridgetop fuelbreaks, roadside fuel treatments and a robust community outreach and education program.

PROJECT OBJECTIVES

MVFSC projects are based on our completed Community Wildfire Protection Plan (CWPP) that includes an assessment of the wildfire risks in our community. The identification and prioritization of the projects have been reviewed by agencies or people including CAL FIRE. A few basic concepts are to:

- Do work that will help to protect lives of civilians and emergency responders.
- Ensure civilians can get out and emergency responders can get in on county and private roads.
- Create Shaded fuel breaks* on ridgelines, along and from roads to those ridgelines allowing CAL FIRE to conduct offensive and defensive operations that will limit the spread, severity and size of Wildland fires to “compartments” in the Mayacamas watershed.
- Grants were applied for and awarded to fund the projects that do not cost taxpayers or members of our community anything. Property owner support and permission is essential and appreciated by all those people involved in getting the work done.

Recognizing the assets and the populations at risk of wildfire, the Mount Veeder Fire Safe Council is committed to a current strategy and tactics that can be summed up in 10 stated objectives in order to reduce the risk of wildfire in this community:

1. Maintain projects that will reduce vegetation density and continuity along the following roads. Oakville Grade, Dry Creek Road, Mount Veeder Road, Redwood Road, Partrick Road, Lokoya Road and Wall Road. The opening up of these corridors will allow a safer path of egress for residents evacuating the area in the event of a wildfire in the area and will allow for fire suppression forces entering the area to better execute fire control operations.

2. Develop and maintain projects that will reduce the vegetation density and continuity along private and limited access roads and driveways that generally serve more than five single family dwellings. This would provide a safer path of egress for those residents that share a narrow driveway to the county road.

3. Drive an integrated communication strategy that includes digital outreach, hard mail, and phone calls. Promote public education through social media with the maintenance of a website and social media accounts. Promote and educate among the community members the use of existing alert and notification systems such as Nixle and NextDoor Mount Veeder. Maintenance of fire prevention billboard signs on upper and lower Dry Creek Road, Oakville Grade, Redwood Road and Partrick Roads (Changing the message as appropriate for the time of year).

4. Develop remote shaded fuel breaks in the following areas along existing breaks, ridges and old fire and logging roads to reduce the spread and intensity of fire growth: Old Ridge Road along the ridge between Dry Creek and Mount Veeder Roads, Oakville Ridge Road, Lokoya Perimeter, Mount Veeder Summit Road to Cavedale Road in Sonoma County, Ridge Road west of Wall Road

and any other area that would be deemed appropriate for a shaded fuel break project if approved by the local CAL FIRE Battalion Chief or above.

5. Identify powerline easements for utility and private powerlines in order to identify ignition hazards for potential projects to maintain powerline clearances.

6. Onsite Community Education and Project work to promote the need for adequate measures to harden structures (fire rated roof, exterior claddings), ensure defensibility (vegetation removal and planting of defensible vegetation) and provide for adequate water storage (rain catchment systems and storage) at developed parcels with the required connections for fire apparatus to utilize those water sources for fire extinguishing operations.

7. Promote community and public education by joint sponsorship with the Dry Creek – Lokoya Volunteer Fire Dept. of special events such as the annual Pancake Breakfast and Community Forum. Residents will have an opportunity to speak with fire service professionals from CALFIRE, the Dry Creek – Lokoya Volunteer Fire Company and members of the Mount Veeder Fire Safe Council and others about fire safety.

8. Maintain an active and cooperative relationship with the Dry Creek – Lokoya Volunteer Fire Company, CALFIRE – Napa County Fire Department, CALFIRE Sonoma-Lake Napa Unit, Napa Communities Firewise Foundation and other local public and private entities that share the same common goals and objectives.

9. Promote cooperative partnerships with Napa County Resource Conservation District, the Mount Veeder Appellation Council, Land Trust of Napa County, Enchanted Hills Lighthouse for the Blind, Girl Scouts of America, Mont La Salle, and private commercial landowners and other local community groups who share the same concerns and want to protect those assets at risk of wildfire.

10. Establish a Neighbors in Need Program that would provide assistance to property owners who are not capable of providing defensible space and compliance with Public Resources Code 4291 around their homes due to both physical and economic constraints, as established on a case by case basis.

COMMUNICATIONS STRATEGY

Perhaps the most critical current undertaking by the MVFSC has been and continues to be the development of an integrated digital communication program to actively promote and educate the community about not just the threats and risks of wildfire but also the available resources and funding options to accelerate the work to mitigate that risk. Three components to our digital strategy include content marketing, social media marketing and outbound email campaigns. Because there is an abundant level of urgency the MVFSC will utilize its agency to actively promote a range of solutions to home-owners and assist them with engaging qualified local contractors to do required work to reduce the risk of wildland fire to their property.

A particularly interesting dynamic in the community is that many residents are property rich and cash constrained. Unlocking the local resources in the immediate community could be achieved by

educating people of available financing options like Home Equity Lines of Credit and/or PACE (Property Assessed Clean Energy) funding through the State of CA. The MVFSC has been exploring the promotion of State backed PACE program funding to assist residents who meet certain parameters to retrofit their homes to be ignition resistant. In addition, other features will improve their fire safety, such as rain catchment, water storage, native fire-resistant vegetation, high efficiency sprinklers, gray water irrigated orchards as fire barriers, tree removal, drought tolerant landscaping, fire resistant claddings and sidings as well as fire rated roof and window Improvements. Similarly, cost-sharing programs are available for fuel reduction projects through the federal Natural Resource Conservation Service and EQIP), or the state California Forest Improvement Program. Sharing information regarding these programs helps promotes actions among the landowners to bolster safety from wildfire.

The following are links to the various funding sources for homeowners:

- Action, Implementation and Mitigation (AIM) Grants
- CAL FIRE Vegetation Management Program (VMP)
- California Forest Improvement Program (CFIP)
- Climate Adaption Funds
- Emergency Forest Restoration Program (EFRP)
- Forest Stewardship Program
- Napa Firewise Defensible Space
- North Bay Forest Improvement Program

Most funding comes through NCFF or Napa County because of the demands of the detailed applications and reimbursement model of the grants. Currently, NCFF has several state and federally-funded projects, and the County is the recipient of two FEMA grants covering vegetation treatments and homeowner assistance for defensible space and home retrofitting to be ignition resistant.

The FSC also has maintained a vibrant webpage as a key informational communication tool: https://www.mountveederfiresafe.org/preparedness#fire-hardening-your-home. There residents can learn about defensible space, ignition-resistance construction and fire-safe behavior, defensible space landscaping, purchase high-visibility signs, learn about the need for **a** purchase a 4.5" female NH to 2.5" male NH adapter and instructions on installation, the importance of posting the bridge weight, and perchance fire department key entry systems.

Neighbors in Need Program

The Mount Veeder Fire Safe Council Neighbors in Need Defensible Space Assistance Program allows individuals to apply for assistance in providing a defensible space around their home without any cost to the homeowner. These links to the application describe the qualifications for participants in the program: Neighbors in Need Guidelines and Application (MSWord-docx) and Neighbors in Need Guidelines and Application (pdf)

Chipping Program

The Napa Communities Firewise Foundation (NCFF), in cooperation with the Napa County Fire Department (NCFD), provides a free chipping service to all Napa County residents who live in a designated fire hazard zone – meaning most all of rural Napa. The intent of the program is to encourage residents to comply with defensible space requirements of both the State and County, in addition to being Firewise. The program is not intended for commercial activities or general land clearing.

One Less Spark Campaign

Approximately 95% of all wildfires in California are caused by human activity
That is why fire agencies need the public's help to prevent them. Whether it's ensuring a campfire or landscape debris burn of leaves and branches is completely extinguished, or keeping a vehicle well maintained to prevent sparks, following just a few simple steps can help prevent wildfires

SHADED FUELBREAKS/FUEL REDUCTION – OUR PRIMARY TOOL

The purpose of a shaded fuel break is to create a fuel reduction area which during a fire, can be used both for access and as a zone for effective air tanker drops of fire retardant or water drops by helicopters. Shaded fuel breaks provide fire crews with multiple points of access. Shaded fuel breaks create a predetermined control line for advancing fires. They also create a fuel reduction zone that will reduce the fire intensity. Shaded fuel breaks have been created primarily by hand thinning utilizing fire crews, private contractors or commercial contractors.

Current Priorities that require maintenance on shaded fuel breaks/fuel reductions

- Priority I - Major public road escape routes
- Priority II - Limited Access Roads
- Priority III –Existing Fuel Breaks

MAJOR PUBLIC ROAD ESCAPE ROUTES – PRIORITY 1 COMPLETED

Roadside clearing of major county roads (Mt Veeder, Dry Creek, Redwood) Priority I.
Creating substantial Shaded Fuel setbacks along both sides of major county roads is a significant priority for the MVFSC. Due to the length of these road sections and the fact that they involve the intersection of country jurisdictional control as well as numerous private property owners there are significant obstacles to our progress in this area. Significant work has been made through the efforts of NCFF. Large sources of funding, orchestration with county officials, mobilization of larger crews and needed traffic controls were all necessary components of completion.

Wall Road Shaded Fuel Break – Priority I COMPLETED
The Wall Road Shaded Fuel Break begins at the intersection of Wall Road at Dry Creek Road and continues north to the end of Wall Road for a distance of approximately 2.5 miles. This shaded fuel break is important because of the number of residents and the fact that there is no other way to leave Wall Road other than to return to the intersection with Dry Creek Road. The project has a high overall priority and must be maintained.

Lokoya Perimeter Shaded Fuel Break – Priority II COMPLETED.
The Lokoya Perimeter Shaded Fuel Break begins at the intersection of Mount Veeder Road and follows the Old Stagecoach Road onto the Lokoya Lodge property. It follows a driveway and old fire roads to the Big Tree, up the hill, connecting with the dirt portion of Lokoya Road, continuing down the dirt roadway to connect to the northernmost portion of the Sage Vineyard and also come down to the paved top of Lokoya Road. This shaded fuel break is important because of the number of residents who live in the area and the density of the homes compared to most of Mount Veeder. The length of this project is approximately 2.0 miles. The project has a high overall priority and is an ongoing project.

LIMITED ACCESS ROADS – PRIORITY LEVEL II
Limited Access Roads are private driveways 0.5 – 3 miles long that serve multiple residences. The purpose of the limited access roads (LAR) roadside clearing is to allow residents better egress in the event of a wildfire. The limited access roads have been chosen with preference, initially, to roads that connect to the Old Ridge Road, Oakville Ridge Road and Mt. Veeder Peak Ridge Road. The limited access roads also compartmentalize areas to create smaller areas for firefighting purposes. These roads will be critical to mop-up operations after fires have moved through the area.

Limited Access Road #1 and #1a – Priority II – COMPLETED.
LAR #1 and #1a are located off Dry Creek Road and provide access to 9 homes (4253-4300 Dry Creek Rd). The clearing is 100 feet on either side of the driveway. As part of this project all address signs were replaced with new 911 emergency signs.

EXISTING FUELBREAKS – RENOVATION AND MAINTENANCE
Old Ridge Road Shaded Fuel Break – Priority III COMPLETED
The Old Ridge Road Shaded Fuel Break is located along the ridge line, between Mount Veeder and Dry Creek Roads. The Old Ridge Road Shaded Fuel Break follows the old historic Ridge Road and separates the Dry Creek and Pickle Creek watersheds. The project is approximately 3 miles in length. The project has been determined to have a high overall priority, and is an ongoing project.

Oakville Ridge Road Shaded Fuel Break – Priority III COMPLETED
The Oakville Ridge Road Shaded Fuel Break is located in the eastern portion of the area covered by this CWPP. The Oakville Ridge Road separates the Napa Valley and the area known as Napa Nook. The project is approximately three miles in length. The project has been determined to have a level III overall priority.

Bald Mountain Shaded Fuel Break - Priority III COMPLETED
The Bald Mountain Shaded Fuel Break is located west of Wall Road. This shaded fuel break was created years ago, in response to another fire, and is now overgrown. The project will protect the homes on Wall Road from any fire advancing up the western side of the Mayacamas Mountain Range. The project is approximately three miles in length. The project has been determined to have a level III overall priority.

Bald Mountain Shaded Fuel Break, Before (top) and After (bottom).

Mount Veeder Peak Shaded Fuel Break - Priority III IN PROGRESS
The Mount Veeder Peak Shaded Fuel Break is located west of Lokoya Road. This shaded fuel break follows the roadway that was created years ago, to access the seismograph located on Mount Veeder Peak. The project will protect the properties and homes on Lokoya Road from a fire advancing up the western side of the Mayacamas Mountain Range. The project is approximately 4 miles in length. The project has been determined to have a level III overall priority.

Maintenance of Previously Completed Projects

The Cove - Priority III – IN PROGRESS
Fuel reduction treatments took place on the Cove, however, this property experienced a severe wildfire in 2017 and was acquired by Napa County Parks and Open Space. The site was logged thereafter and in undergoing a change in management

Old Ridge Road Shaded Fuel Break - Priority III – Needs Maintenance
This project is located on the ridgetop above and to the west of Dry Creek Rd. This fuel break was effectively used by many Fire Agencies during the October 2017 fires. It helped to slow or stop the fire's spread in some places. Installation of a shaded fuelbreak was completed along segments of the Old Ridge Road Shaded Fuel Break in 2012, 2013, 2014, and 2015. In order to continue to receive the benefits of the previous brush clearing along the Old Ridge Road, the individual property owners and/or the Fire Safe Council, in conjunction with NCFF, will have to continue to maintain the clearing.

Pending Projects That Have Been Awarded Grants

- **Bald Mountain Legacy Fire Road Project #1** is a fuels reduction and tree removal project that

targets the residents along the Bald Mountain Ridge Rd. This is a legacy fire break that runs North/South along the Napa/Sonoma County Line parallel and above Wall Rd. This Legacy Fire Road (LFR) serves several residents located on private drives and extends nearly three miles north as a dirt road along the ridge top towards Bald Mountain and Sugarloaf State Park. The project is a shaded fuel break project that will create fuel setbacks that range between 30-80ft on either side of the ridge road depending on the terrain. This is the first of several projects that the MVFSC is undertaking in conjunction with the newly established Mayacamas Fire Safe Council. As a joint priority our intention is to utilize this initiative to help standup that organization, train them on funding requests and cross train them on the project and vendor management associated with an initiative of this scale.

- **Dry Creek to Old Ridge Road Legacy Fire Road Project #2** is a fuels reduction and tree removal project that targets the residents living on a series of paved and dirt roads that serve the residents at 4523-4717 Dry Creek Road. This is a legacy fire break that will connect Dry Creek Road to the Old Ridge Road Shaded Fuel Break. This Legacy Fire Road (LFR) serves seven residents located on private drives and extends one mile to the ridge top. The project is a shaded fuel break project that will create fuel setbacks that range between 30-80ft on either side of the ridge road depending on the terrain. Fuels consist of densely forested areas, as wells as dead and dying trees from the recent fires. Treatment will include thinning, limbing, and bucking fallen trees. Pruning debris will be chipped and broadcast on site.

- **Mt Veeder Ridge Road Legacy Fire Road #3** is a fuels reduction and tree removal project that targets the residents along the Mt Veeder Ridge Rd which is a legacy fire break that runs north south along the Napa Sonoma County Line and parallel to Mt Veeder Rd. This Legacy Fire Road (LFR) serves several residents located on private drives and extends nearly three miles south as a dirt road along the ridge top towards the Archer Taylor Preserve. The project is a shaded fuel break project that will create fuel setbacks that range between 30-80ft on either side of the ridge road depending on the terrain. Treatment will include thinning, limbing, and bucking fallen trees. Pruning debris will be chipped and broadcast on site. This is the second of several projects that the MVFSC is undertaking in conjunction with the newly established Mayacamas Fire Safe Council.

- **1300-1310 LAR#10** is a fuels reduction and removal project that targets the residents at addresses 1300 and 1310 Mt Veeder Rd which is a Limited Access Road connecting Mt Veeder to the top of the ridge and the Old Ridge Road (ORR) Shaded Fuel Break. The ORR is a feature that was developed with funds from CFSC, PG&E and CalFire and it acts as a ridge top fire break. LAR#10 is a further investment in this feature to ensure there is adequate access from the Southwest side of the ridge off of Mt Veeder Road.

- This Limited Access Road (LAR) serves the 2 residents and vineyard properties located on the private drive and then extends nearly .5 miles east and south as a dirt road along the ridge top in an open vineyard. The project is a shaded fuel break project that will create fuel setbacks that range between 30-80ft on either side of the driveway depending on the terrain.

- **1525-1601 LAR#2** is a fuels reduction and removal project that targets the residents at addresses 1525-1601 Oakville Grade Rd and serves the 7 residents located on the private drive. The project is a shaded fuel break project that will create fuel setbacks that range between 20-50ft on either side of the driveway depending on the terrain. Fuels consist of mixed scrub and shrub as well as densely forested areas. Treatment will include thinning, limbing, and bucking fallen trees. Pruning debris will be chipped and broadcast on site.

- **Oakville Ridge Road LAR#3** is a fuels reduction and removal project that targets the residents at addresses 1835-1865 Oakville Grade Rd and 5780 Dry Creek Rd. This Limited Access Road (LAR) serves

the 4 residents located on the private drive. The project is a shaded fuel break project that will create fuel setbacks that range between 20-50ft on either side of the driveway depending on the terrain.

The MVFSC has identified additional Limited Access Roads as future projects, as displayed in Table 10 and on Figure 13 on page 48.

Table 10. Project list with location, status and area.

Project Name	Road Name	Status	Miles	Width	Acres
Bald Mountain Shaded Fuel Break	Fire Road	On-going	2.1	200	52.1
Dry Creek Road	Dry Creek Road	Planned	11.8	200	286.3
Hogback Ridge Road Legacy Fire Road	Redwood Road	Proposed	4.2	200	101.9
Legacy Fire Road #2	Dry Creek Road	On-going	1.3	200	32.7
Legacy Fire Road A	Dry Creek Road	Proposed	0.4	200	10.0
Legacy Fire Road B	Dry Creek Road	Proposed	1.0	200	23.7
Legacy Fire Road C	Dry Creek Road	Proposed	0.5	200	12.6
Legacy-Limited #12	Cavedale Road	Proposed	0.7	200	17.5
Limited Access Road #1	Dry Creek Road	Completed	1.3	200	31.2
Limited Access Road #10	Mt Veeder Road	On-going	1.1	200	25.5
Limited Access Road #1a	Dry Creek Road	Completed	0.2	200	4.0
Limited Access Road #2	Oakville Grade	On-going	2.4	200	59.1
Limited Access Road #5/PG&E	Redwood Road	Completed	2.7	200	66.4
Limited Access Road #6	Redwood Road	Completed	0.6	200	14.4
Limited Access Road #7	Dry Creek Road	Completed	2.0	200	49.6
Limited Access Road PG&E MVR Loop	Mt Veeder Road	Proposed	0.4	200	10.6
Lokoya Rd	Lokoya Rd	Completed	1.7	200	41.5
Mount Veeder Peak Shaded Fuel Break	Mt Veeder Peak Rd	On-going	2.9	200	70.7
Mt Veeder Road	Mt Veeder Road	Proposed	8.4	200	202.6
Oakville Grade	Oakville Grade	Planned	2.3	200	56.0
Oakville Ridge Road Shaded Fuel Break	Oakville Ridge Rd	On-going	4.1	200	99.2
Old Ridge Road Shaded Fuel Break	Old Ridge Road	On-going	0.7	200	16.3
Old Ridge Road Shaded Fuel Break	Old Ridge Road	On-going	0.8	200	19.1
Old Ridge Road Shaded Fuel Break	Old Ridge Road	On-going	0.3	200	6.9
Old Ridge Road Shaded Fuel Break	Old Ridge Road	On-going	0.6	200	13.5
Redwood Road	Redwood Road	Planned	4.5	200	109.0
Redwood Road	Redwood Road	Proposed	3.7	200	88.6
Redwood/Partrick Connector	Redwood Rad	Proposed	1.1	200	27.1
The Cove	Mt Veeder Road	Completed	1.0	200	24.6
Wall Road	Wall Road	Completed	2.9	200	69.2

Projects are now part of an NCFF Project Database that is organized by funding source, the year completed, and type of project. The entirety of projects in the NCFF database is available at https://napafirewise.maps.arcgis.com/apps/dashboards/644c3fbd5c734912bc053594500bea72 and is displayed in Figure 13 below:

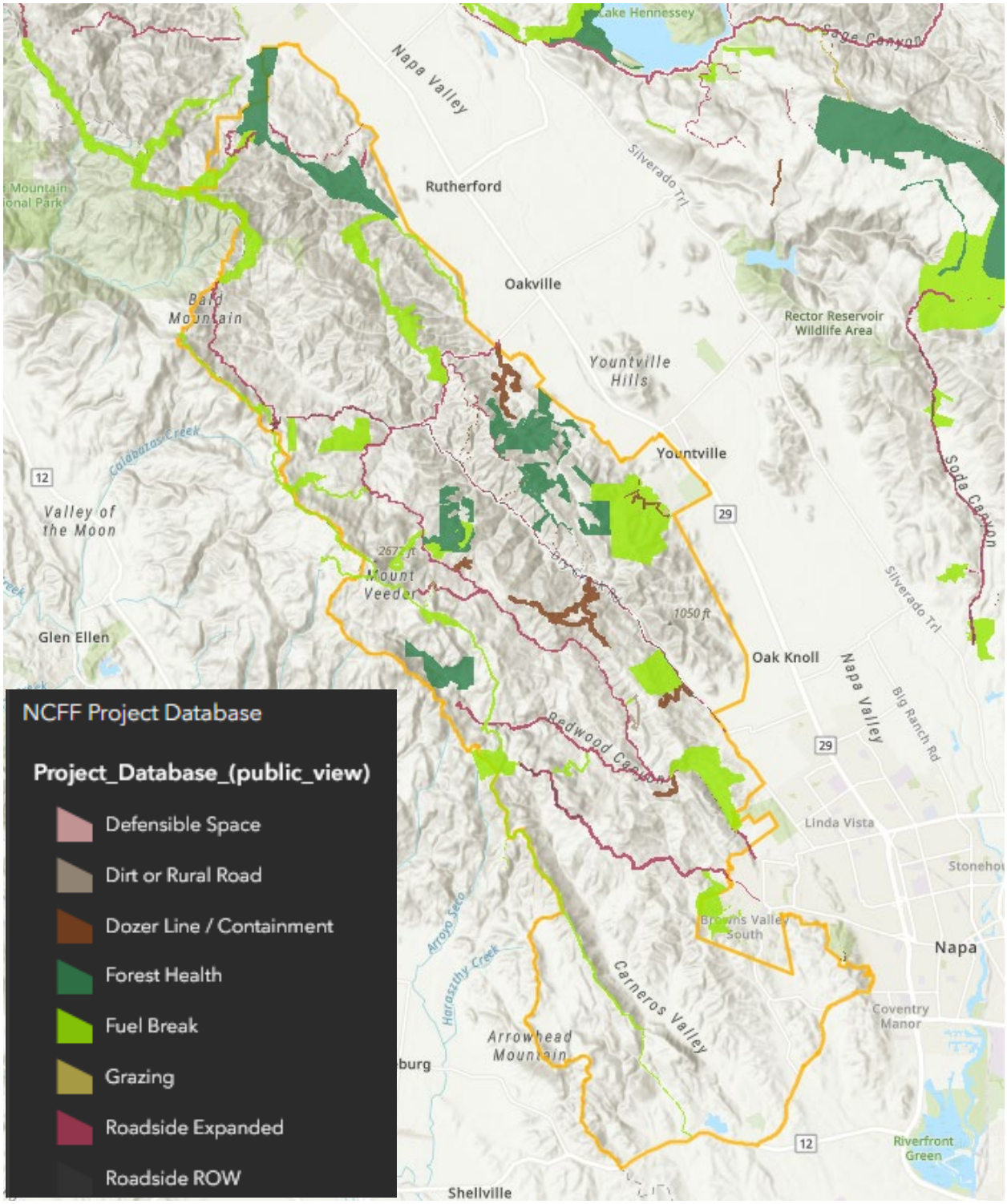

Figure 13. Projects within the MVFSC, organized by Project Type

Based on the results of the community risk assessment in the 2016 CWPP, priority ratings have been selected for the communities and areas of community importance. The MVFSC Community recommendations for the type and method of treatment for the surrounding vegetation are listed in the following table. Note this rating and suite of projects does not include the new areas now included in the MVFSC (e.g. Rutherford Bench, Carneros).

Community, structure or area at risk	Type of Treatment	Method of Treatment	Overall Priority
Old Ridge Road – shaded fuel break	mechanical & hand labor	thinning	High
Oakville Ridge Road – shaded fuel break	mechanical & hand labor	Dense thinning	High
Lokoya – perimeter fuel break	mechanical & hand labor	Remove brush, thinning, pruning	High
Cove	mechanical & hand labor	Thinning & improving	High
Wing Canyon homes	hand labor	Thinning & pruning	High
Mt. Veeder - Roadside clearing	hand labor	Thinning & pruning	High
Purchase & Install Addressing Signs	Labor to install addresses at individual properties	Contract	High
Driveways	mechanical & hand labor	Thinning & pruning/ Brochures & workshops	High
Reg. 4291 100' structural defensible space clearing	mechanical & hand labor	Thinning & pruning	High
Suggested 10' structural defensible space clearing	mechanical & hand labor	Thinning & pruning	High
Bridge capacity evaluation	Professional Evaluation	Engineering	High

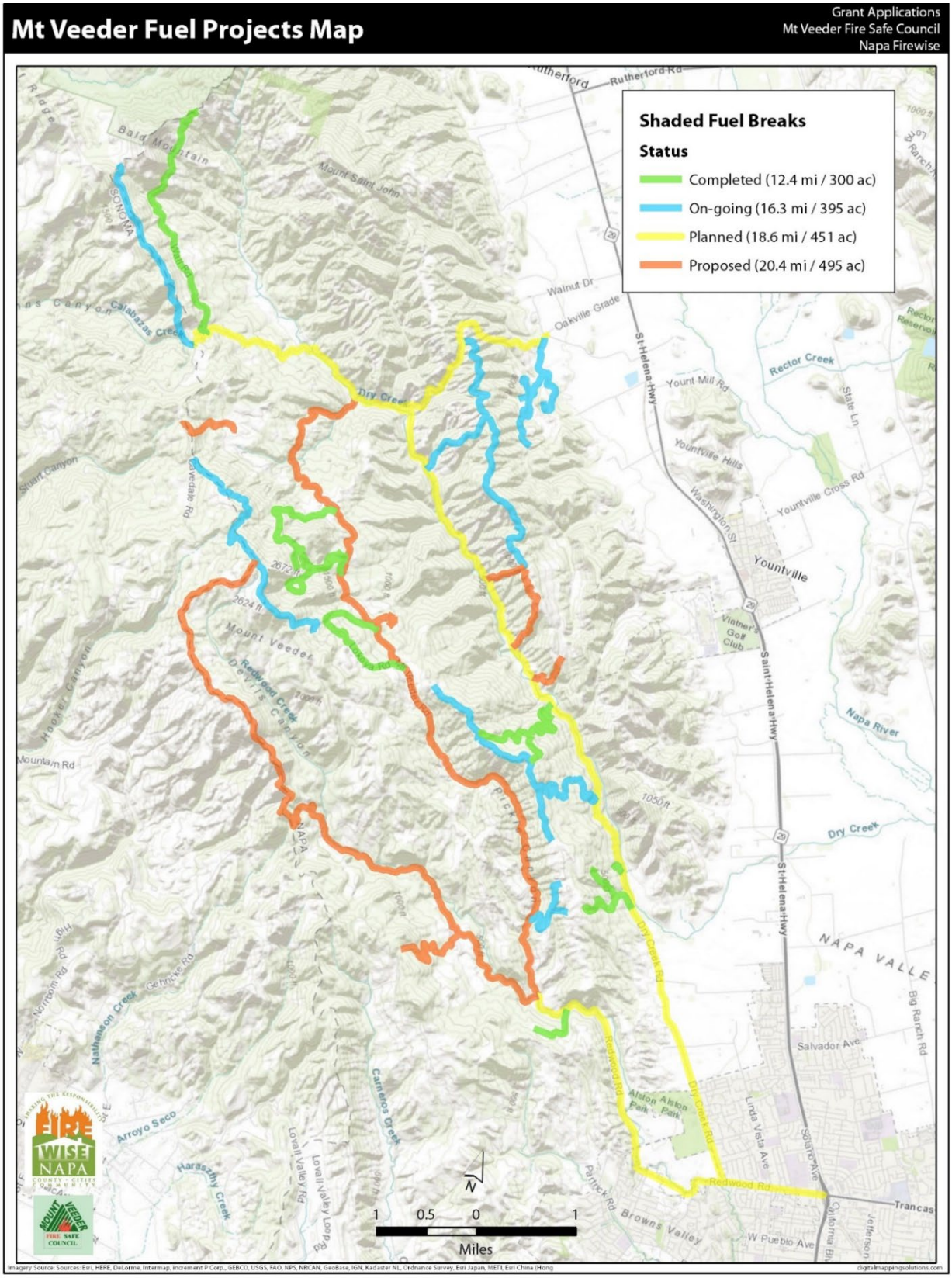

Figure 13. Completed, ongoing, planned, proposed projects, as of 2020.

MVFSC CWPP Mutual Agreement Page

The Community Wildfire Protection Plan developed for/by Mt. Veeder Fire Safe Council:

- Was collaboratively developed. Interested parties and federal land management agencies managing land in the vicinity of Mt. Veeder Rd, Dry Creek Rd., Redwood Rd., Lokoya Rd. and Partrick Rd (known in this CWPP as the Mt. Veeder Fire Safe Council Community) have been consulted.

- This plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect the Mt. Veeder Fire Safe Council Community.

- This plan recommends measures to reduce the ignitability of structures throughout the area addressed by the plan.

The following entities acknowledge the receipt of this Community Wildfire Protection Plan:

Acknowledged: Liz Alessio Liz Alessio (Apr 21, 2025 17:00 PDT) Date: 04/21/2025
Liz Alessio, Supervisor, Napa County District 2

Acknowledged: Matt Ryan _Date: 04/22/2025
Matt Ryan, Unit Chief, CAL FIRE and Fire Chief, Napa County Fire Department

The following individuals agree with the contents of this Community Wildfire Protection Plan:

Agreed: Bill Robertson (Apr 23, 2025 09:23 PDT) Date: 04/23/2025
Bill Robertson, Lead Captain, Dry Creek Lokoya Volunteer Fire Department

Agreed: Christopher Thompson (Apr 24, 2025 06:40 PDT) Date: 04/24/2025
Christopher Thompson, Chairman of the Board, Napa Communities Firewise Foundation

Agreed: Joseph Nordlinger (Apr 24, 2025 16:23 GMT+2) Date: 04/24/2025
Joe Nordlinger, Lead, Mt. Veeder Fire Safe Council

MVFSC CWPP - Final for Signature

Final Audit Report 2025-04-24

Created:	2025-04-04
By:	Sharon Gardner (shari@napafirewise.org)
Status:	Signed
Transaction ID:	CBJCHBCAABAAdCPHZ_KXnQYa3YpAPfEJW9y58k43osv0

"MVFSC CWPP - Final for Signature" History

Document created by Sharon Gardner (shari@napafirewise.org)
2025-04-04 - 9:24:44 PM GMT

Document emailed to liz.alessio@countyofnapa.org for signature
2025-04-04 - 9:25:03 PM GMT

Document shared with Laurie Klip (laurie@napafirewise.org) by Sharon Gardner (shari@napafirewise.org)
2025-04-04 - 9:28:51 PM GMT

Email viewed by liz.alessio@countyofnapa.org
2025-04-12 - 3:26:28 PM GMT

Email viewed by liz.alessio@countyofnapa.org
2025-04-21 - 11:53:42 PM GMT

Signer liz.alessio@countyofnapa.org entered name at signing as Liz Alessio
2025-04-22 - 0:00:22 AM GMT

Document e-signed by Liz Alessio (liz.alessio@countyofnapa.org)
Signature Date: 2025-04-22 - 0:00:24 AM GMT - Time Source: server

Document emailed to Matt Ryan (matt.ryan@fire.ca.gov) for signature
2025-04-22 - 0:00:29 AM GMT

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2025-04-22 - 2:34:12 PM GMT

Document e-signed by Matt Ryan (matt.ryan@fire.ca.gov)
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2025-04-23 - 4:18:29 PM GMT

Signer billrdclfd@aol.com entered name at signing as Bill Robertson
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