NAPAFIREWISE

Angwin Fire Safe Council
Community Wildfire Protection Plan (CWPP)
April 23, 2026

Contents

Executive Summary

The Angwin Fire Safe Council (AFSC) has developed this 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.

The area included within the AFSC has had an active fire history, which brings focus to this plan. It is understood that not all fires can be prevented, but appropriate vegetation management and other mitigation practices can minimize the impact and destruction of wildfires.

This CWPP acts as an update to the original Angwin CWPP which was drafted in 2016. The Angwin FSC neighborhoods are still using the same boundaries as they did in the 2016 CWPP and the description of the neighborhoods is still valid and applicable.

Decision Makers

The following community representatives collaborated in the development of the CWPP:

- AFSC
- Napa Communities Firewise Foundation (NCFF)
- CAL FIRE/Napa County Fire Department
- Napa County Board of Supervisors

Community Evaluation

A Community Evaluation was performed by NCFF and the AFSC and prepared by Carol Rice, (Wildland Res Mgt) a wildland fire manager specializing in fire risk issues, and includes input from the AFSC community, including local government, non-profits and local fire authorities. This evaluation serves as a foundation for recommendations for projects to minimize 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.

Introduction

Fire hazard is a special concern in the Angwin area in northwestern Napa County. The area is in the interface between wildlands and developed areas where fires may spread from wildlands to homes, possibly damaging structures or even threatening lives. Wildlands are subject to increased ignition potential from elevated levels of human activities. Most fires in the coastal mountains are human caused[1].

This evaluation serves as a platform for recommendations for projects to minimize threat to life safety and damage from wildfire 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.

The Angwin community boundary covers 11,635 acres in northwestern Napa County and is fully within the organized Angwin Fire Safe Council (Figure 1). Angwin is a rural enclave located on Howell Mountain, sandwiched between the Pope Valley FSC to the north and east, the Deer Park FSC to the west, the Lake Hennessey FSC to the south, and part of the Calistoga FSC to the northwest. It is generally a remote area, with the closest towns being the small communities of Pope Valley and Deer Park.

Within this area, data records show approximately 1,010 parcels and 1,863 structures. Elevation ranges from 577 feet in the southwestern corner near Crystal Dam to over 2,460 feet in the northwestern corner near several prominent peaks. The area is best characterized by steep and rugged terrain in both the northern half and the southern third, with the area in between consisting of mostly gentle slopes. Howell Mountain occupies the majority of the FSC, with Pacific Union College situated near its peak in the community of Angwin. The residential areas are located at a variety of elevations, but the majority are at higher elevations on Howell Mountain.

Surrounded by forest and vineyards, there are many rural residents within the Angwin community boundary. They are mostly concentrated in the community of Angwin around Pacific Union College, as well as in the southwestern portion near the community of Deer Park. There are also lower density residential areas in the northeastern portion of the FSC along Howell Mountain Road and Ink Grade. Outside the boundary, there are many homes clustered in Deer Park to the west, along with some more dispersed homes in Pope Valley to the east.

[1] https://www.nps.gov/articles/wildfire-causes-and-evaluation.htm

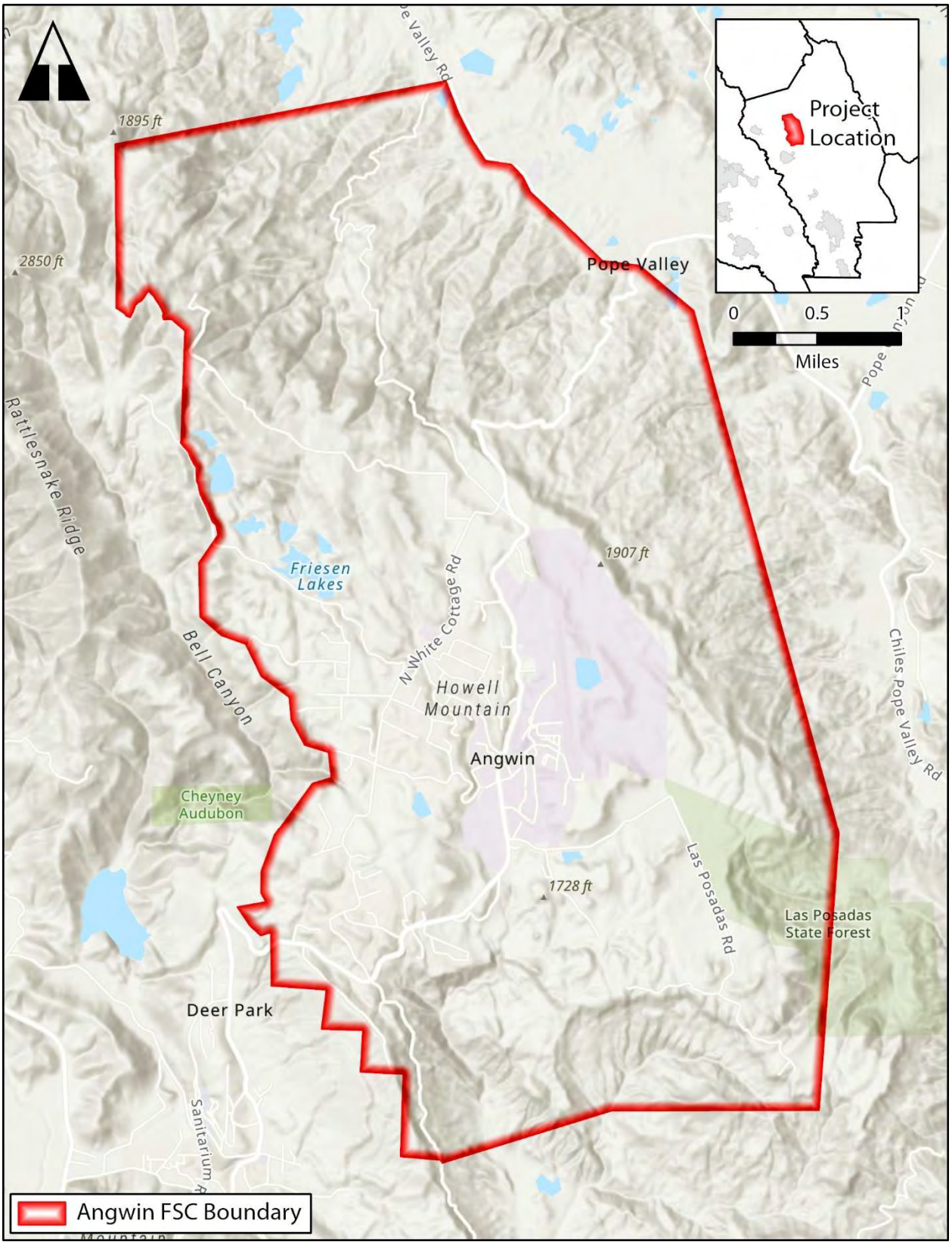


Figure 1. *Area of interest – Angwin FSC boundary (shown in red).*

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.

Homes in the Angwin community are at risk from wildfire for a number of reasons. Structures are generally older, dating before the requirement for ignition resistant construction. 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.

Homes

Residential structures are mostly made of wood because of their age. They have wood porches and decks, though wood fences are a rarity. The presence of ignition-resistant construction is closely related to the age of the structures; structures built after 1996 have features that prevent ignition such as 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.

Structures are located primarily along the gentler slopes within the FSC boundary (Figure 2). There are a few short roads that branch off from Howell Mountain Road in the town of Angwin and connect to most of the structures in the area. Some structures, especially outside of the centrally located Clark and Brookside neighborhoods, have long narrow driveways, often with only one ingress/egress route.

Photo 1. Example of homes in the Angwin Fire Safe Council

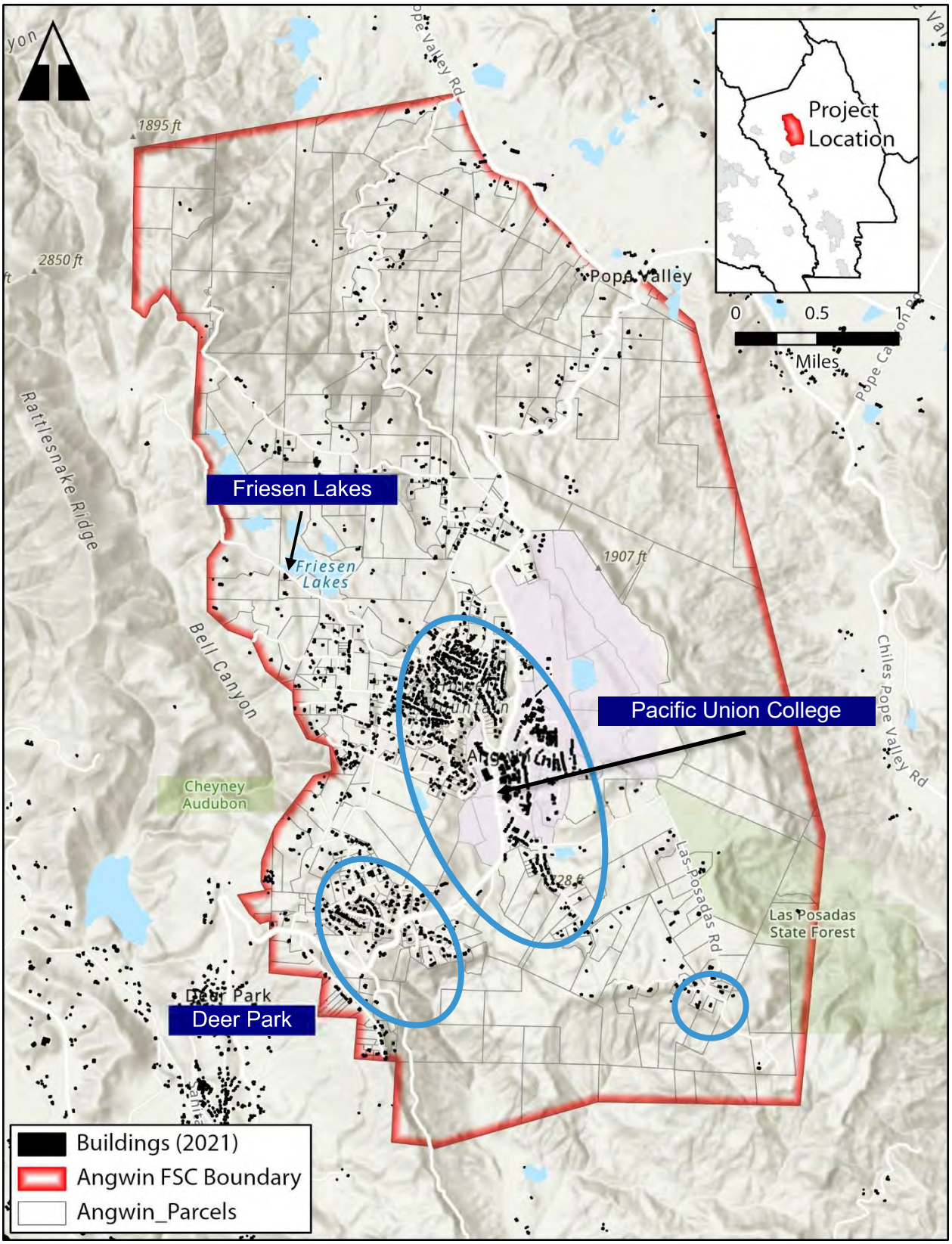


Figure 2. *Structures (shown in black) within the Angwin community boundary.*

Land Use

The Napa County parcel database shows that Angwin is dominated by agricultural and vacant lands, which, respectively, account for 39% and 33% of the total area. Agricultural lands are mostly vineyards and are predominantly found in the northern half of the Angwin FSC, although there are also many in the southern half. Vacant lands dominate the southern portion of the area. Most are vacant rural parcels, which account for 27% of the total parcel area.

The rural community of Angwin is surrounded by over 4,500 acres of forested wildlands under the stewardship of a Land Trust. In addition, approximately 1,900 acres of land is owned by Pacific Union College. And another nearly 800 acre is reserved as the Las Posadas State Experimental Forest.

Residential lands account for 23% of the total area (Figure 3). Residences are largely located west and southwest of Pacific Union College, although there are also many larger, low-density residential parcels in the northern part of the area. These residential areas are critical for fire protection.

Additionally, 3% of parcels are designated as commercial. The majority are improved lands on the Pacific Union College campus.

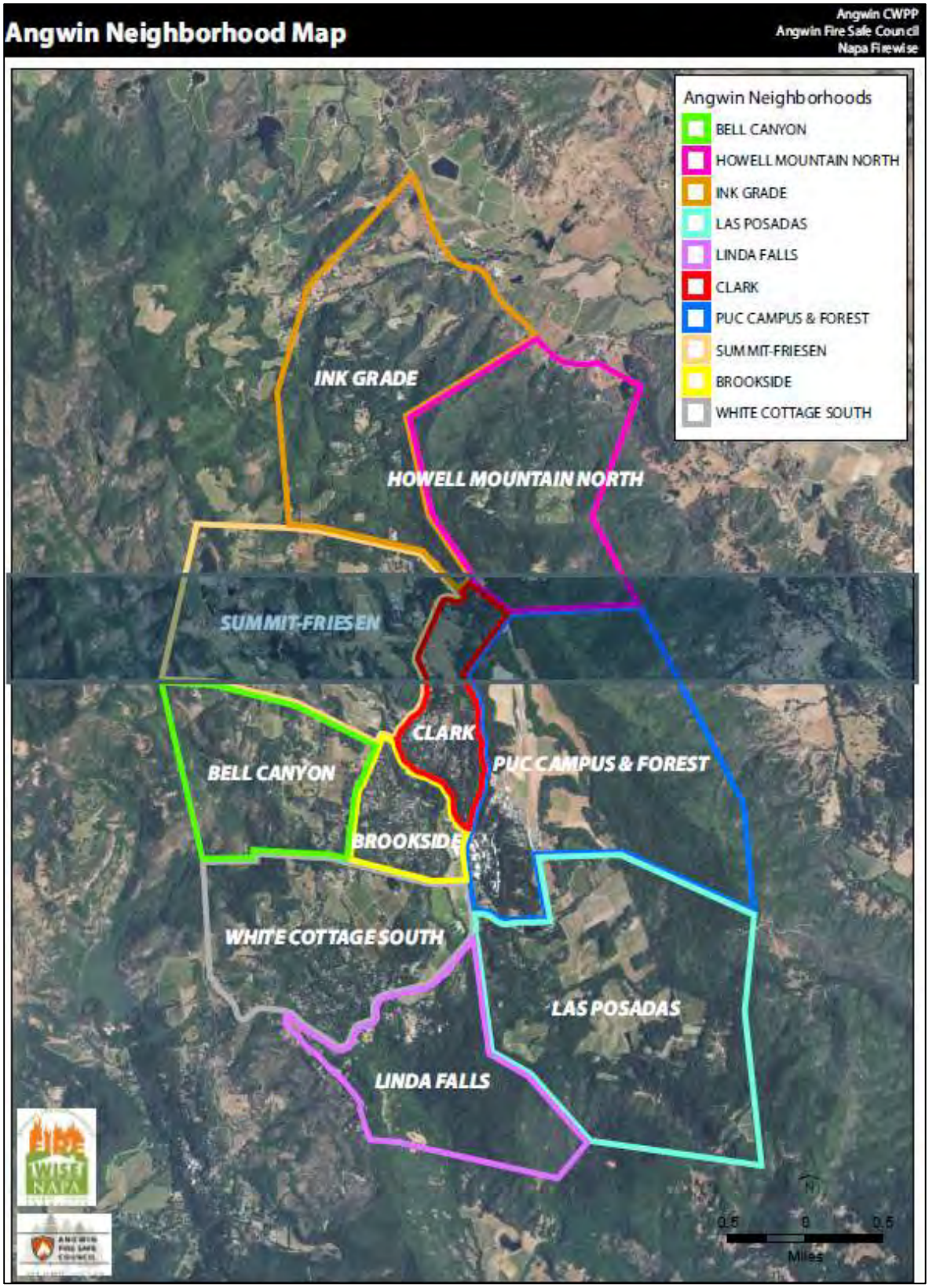


Figure 3. *Neighborhood map showing each neighborhood in relation to the others within the Angwin community boundary.*

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 0% on the eastern side of the Pacific Union College campus to over 104% on the hillsides just east of Four Corners (Figure 4).

Howell Mountain is a prominent topographic feature, occupying the entire central portion of the Angwin FSC. There are several prominent peaks, including Sentinel Hill to the south of Angwin and Inspiration Point to the east. Just west of the FSC boundary, Candlestick Ridge and Rattlesnake Ridge run roughly in the northwest-southeast direction. These are important control locations for fires.

Photo 2. Terrain in the Angwin Fire Safe Council

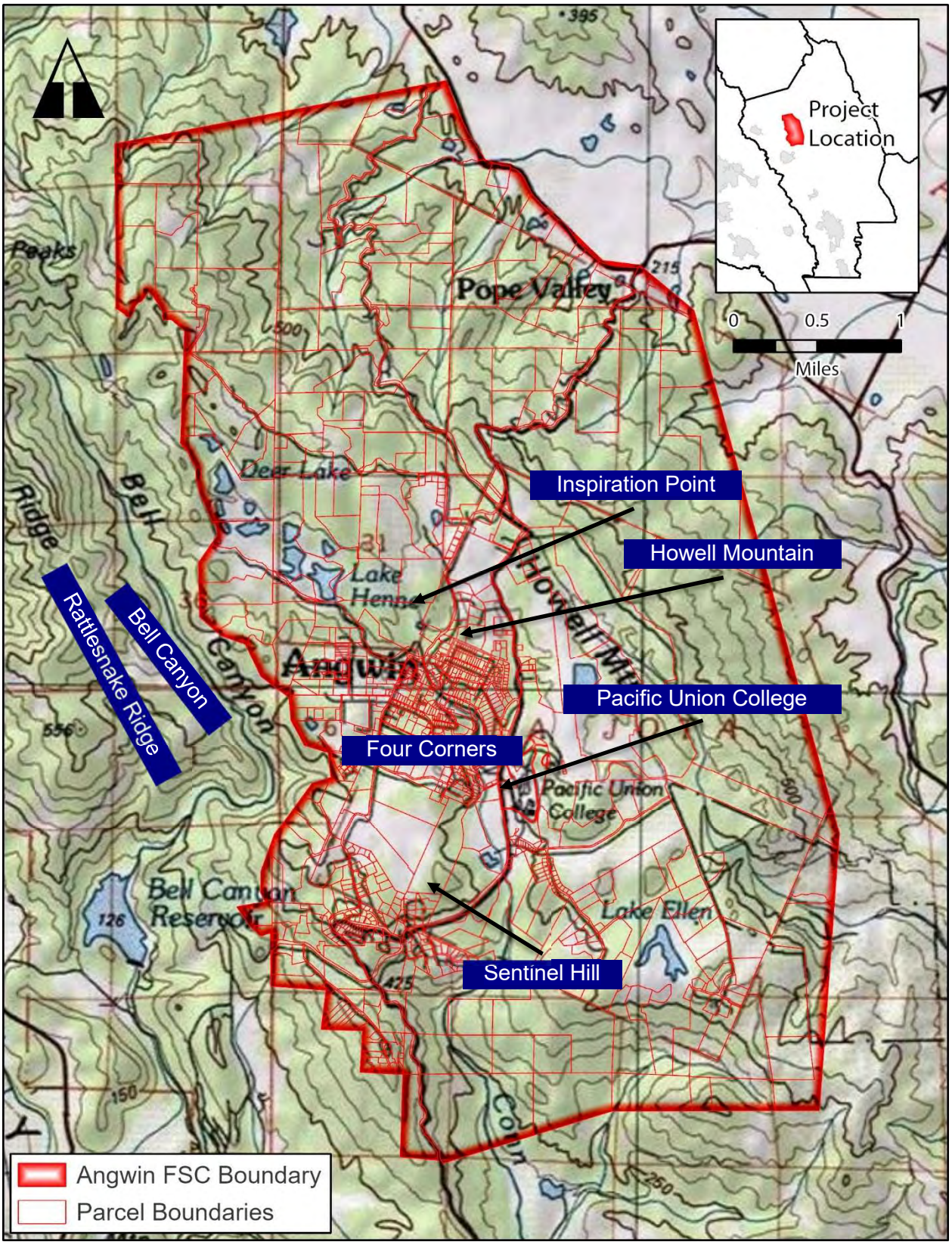


Figure 4. *USGS Topographic map of the Angwin FSC (boundary shown in red).*

Watersheds and Orientation of Canyons

- Bell Canyon: This canyon is oriented in the northwest-southeast direction and lies west of the town of Angwin. It is mostly outside of the Angwin FSC boundary but crosses into the area slightly at its southern end.
- Conn Creek Canyon: This canyon is weakly oriented in the northwest-southeast direction. Conn Creek runs through its center into the Conn Valley, which lies south of the FSC boundary. The northern end of Conn Creek Canyon lies within the boundary.
- Wildcat Canyon: This short canyon runs in the northeast-southwest direction and is in the southeast corner of the Angwin area. This direction is aligned with the predominant winds from the southwest and the more concerning Diablo winds from the northeast.

The Angwin area is mostly divided between the Conn Creek, Burton Creek, and Moore Creek watersheds but also contains portions of the Upper Maxwell Creek, Swartz Creek, and Bell Canyon Reservoir watersheds (Figure 5). Multiple creeks exist in the area. They include Burton Creek, Conn Creek, Moore Creek, and several seasonal creeks. Conn Creek, which drains an area of 60 square miles, flows across the Angwin basin and over Linda Falls before flowing into Lake Hennessey Reservoir that provides nearly 70% of the drinking water supply to the City of Napa.

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

Photo 3. Linda Falls

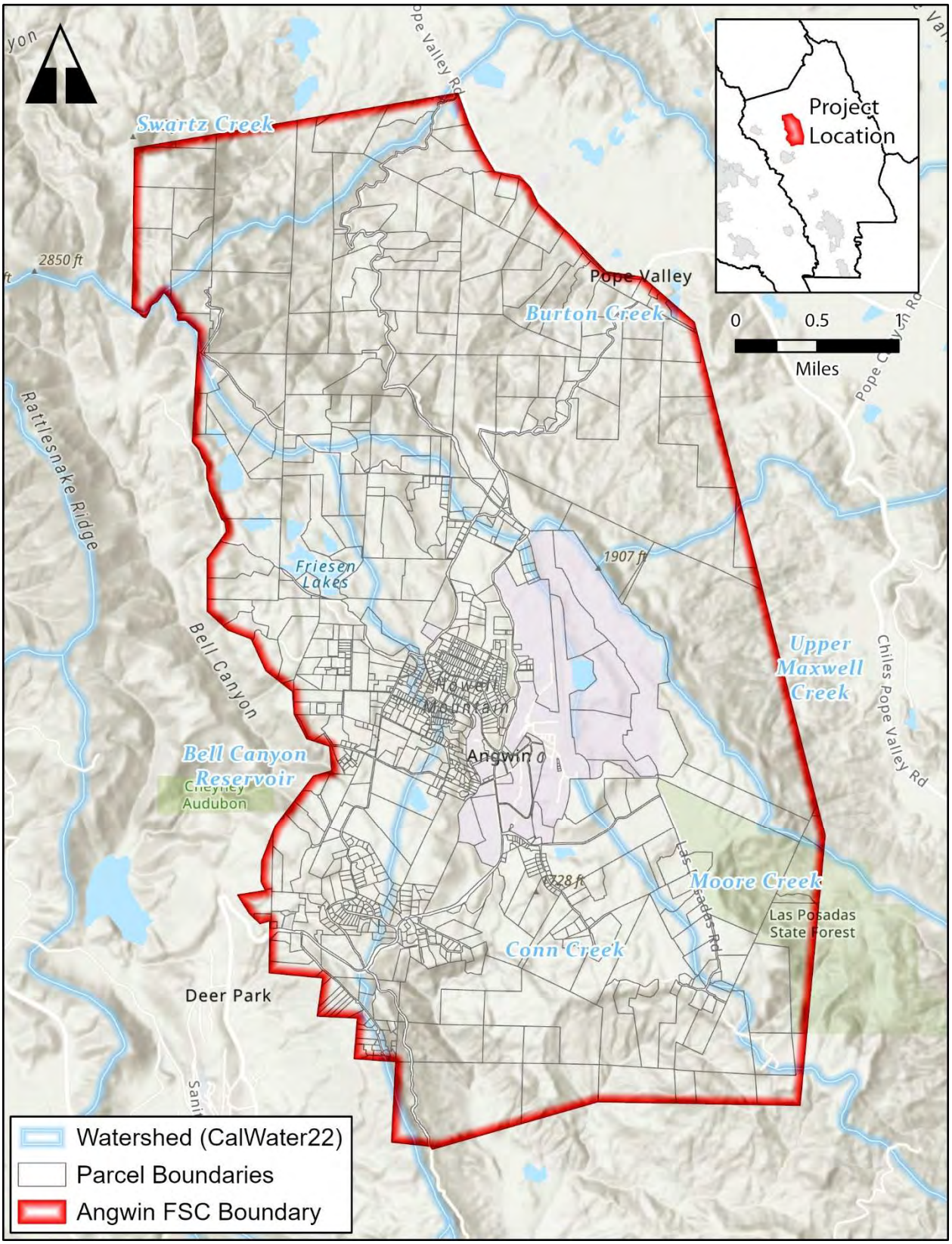


Figure 5. *Watershed map of the Angwin area (boundary shown in red).*

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 40s to highs in the 90s, with an occasional high reaching a maximum of 105 degrees Fahrenheit. Humidity can drop to the single digits in the summer and fall.

The Angwin area of interest 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 preheat 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.

Wind will tend to follow the pattern of least resistance and is therefore frequently deflected and divided by landforms. Canyon 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.

Most of the area is characterized by northwest-to-southeast aligned ridges with several peaks along the western portion of the area. These ridges slow the regionally dominated southwesterly winds. However, strong winds from the northeast could produce strong up slope and erratic winds. Much of the northern section has small chutes that can align with the predominant 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, 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 parts of the Angwin 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 Angwin area can exacerbate its risk from the Diablo winds. This is because these foehn or subsiding winds accelerate with decreasing elevation.

Climate Change and Wildfire

Wildfires are predicted to become more destructive and deadly because of the effects of climate change, fuel accumulation, and a history of fire suppression.[2] Climate change continues to drive hotter and drier conditions across California, precipitating earlier and prolonged fire seasons with more annual days of hot, dry heat conducive to wildfires. These patterns also increase likelihood of drought conditions that turn vegetative fuels into kindling. Indeed, Northern California has been even more subject to lengthened fire seasons than has Southern California, with even stronger trends toward earlier fire season onset as fuel moistures decline due to increased heat.[3] Increased drought conditions provide greater opportunities for arson, which is another common source of wildfire."[4] Moreover, hotter temperatures increase lightning incidence, already the leading cause of wildfires throughout the state and the instigator of the 2020 LNU Lightning Complex fires that burned 363,220 acres across Napa, Sonoma, Solano, Lake, and Yolo Counties.

In addition to encouraging higher temperatures and lower humidities conducive to wildfires, climate change also produces more intense winds during fire season. In efforts to reduce greenhouse gas and carbon emission reduction policies have been implemented in the county and statewide. For detailed explanation of carbon reduction, see Appendix C.

These increasingly dry, hot, and windy weather conditions have unsurprisingly produced higher incidence and intensity of wildfires in recent years, a trend that is likely to be exacerbated by continued warming. In recent years, the area burned by wildfire in California has dramatically increased and unprecedented fires are occurring in sensitive ecosystems like higher elevations and along the coast. In addition, many of California's wildfires are burning hotter and more intensely than observed in recent history. Fires are concentrating in upper watersheds, further compounding crises like drought. Last, a long history of containing less-extreme wildfires

[2] https://doi.org/10.1038/s41467-024-46702-0
[3] https://www.science.org/doi/10.1126/sciadv.adt2041
[4] City of Berkeley CWPP pg. 11.

ensures that the remaining wildfires burn under more extreme conditions and more severe, with burned areas increasing over time.[5]

In 2021, California experienced 4 of the 20 largest wildfires in our history, with 8,000 wildfires burning over 2.5 million acres across the state. The 2021 fire season also marks the first time that fire crossed the granite crest of the Sierra, California's largest natural fuel break. A model developed for California's Fourth Climate Change Assessment projected up to a 77 percent increase in average area burned and a 50 percent increase in the frequency of fires exceeding 25,000 acres by 2100.

Vegetation

The 2016 Vegetation Map of Napa County[6] (updated from the 2004 version) was used as reference for this evaluation. There are six main vegetation categories within the Angwin area along with three non-veg types (rock outcrop, developed, and streams and reservoirs) (Table 1).

Table 1. *Vegetation acres by major vegetation categories within the Angwin area (Vegetation Map of Napa County).*

Vegetation Major Category	Acres	Percent (%)
Agriculture	1709.63	14.4%
Coniferous forest	3841.44	32.3%
Developed	1114.68	9.4%
Grassland	402.47	3.4%
Oak woodlands	3912.30	32.9%
Riparian woodland	27.18	0.2%
Rock Outcrop	0.61	0.01%
Shrubland	735.71	6.2%
Streams and reservoirs	137.81	1.2%
Wetlands	4.27	0.04%

In addition, the landscaped environment surrounding buildings and homes includes vegetation not captured in the vegetation. Since 2016, many changes have occurred, even in areas that were not visited by wildfire. Perhaps the most dramatic is the increase in land classified as agriculture, generally changing shrubland, oak woodland into vineyards.

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 (Figure 6a).

[5] https://doi.org/10.1038/s41467-024-46702-0

[6] https://gisdata.napacounty.gov/datasets/61de6c3fbde74c2897f5ba0060d0faf8_0/explore?location=38.477363%2C-122.389236%2C9

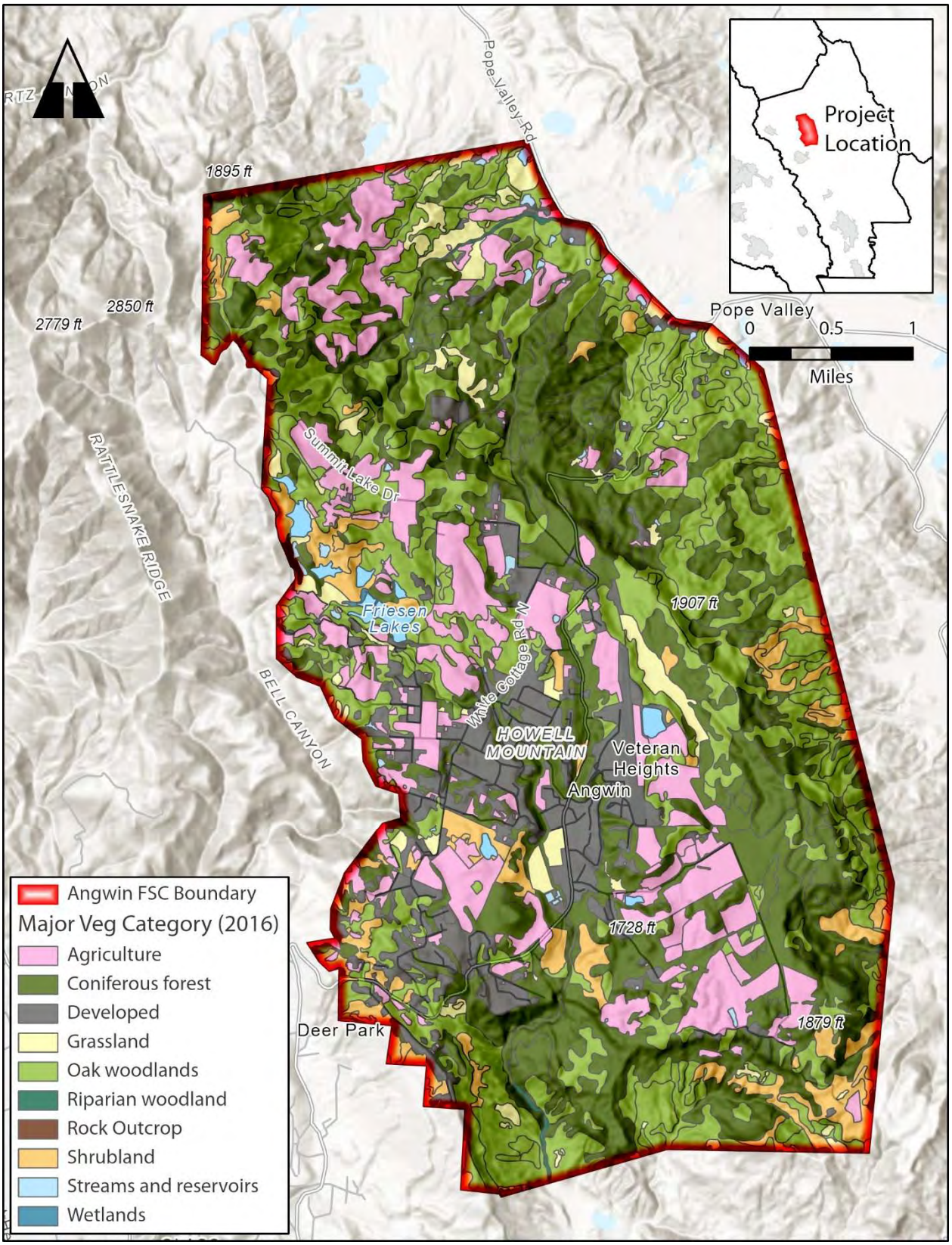


Figure 6a. *Vegetation map – Angwin FSC area (boundary shown in red) (Napa Vegetation Map, 2016).*

Oak Woodland

33% of the Angwin 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 oak canopy is dominated by mixed oak stands but also includes many patches of coast live oak, black oak, blue oak, tanoak, valley oak, Oregon white oak, canyon live oak, madrone, and occasional pines. In more exposed areas, where the canopy opens up, shrubs are dominant 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.

Shrubland

Shrubland occupies 6% of the Angwin area and can be found largely on the steeper hillsides throughout the southern half of the area, as well as along the northwestern and northeastern edges to a lesser extent. They are mostly interspersed with patches of oak woodlands and conifer forest. 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
- California Bay – Leather Oak – (Rhamnus spp. (Foothill Pine)) Mesic Serpentine
- Mixed Manzanita - (Interior Live Oak -California Bay - Chamise) West County
- White Leaf Manzanita - Leather Oak - (Chamise - Ceanothus spp. (Foothill Pine)) Xeric Serpentine

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 contributes 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.

Agriculture (Cropland/Vineyards)

Approximately 15% of the land in the Angwin area is mapped as agriculture. This is spread throughout most of the area except along the steep slopes of the southern and eastern edges. Most of the 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, Nuns, 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.

Annual Grasslands (Herbaceous)

Accounting for 3% of the Angwin area, annual grasslands were mapped throughout as scattered pockets in oak woodlands and conifer forests, with a few patches also occurring next to developed and agricultural areas. Grasses are flash fuels and fire spread can be rapid through herbaceous areas, but these fires can be easy to spot and contain.

Conifer Forest

Coniferous forests occur in large patches throughout the Angwin area and are dominated by a mix of Douglas-fir and ponderosa pine (Figure 6b). Together, these forests constitute 33% of the area. The specific mapped conifer forest includes:

- Coast Redwood
- Coast Redwood - Douglas-fir / California Bay
- Douglas-fir
- Douglas-fir - Ponderosa Pine
- Foothill Pine
- Knobcone Pine
- Ponderosa Pine - Douglas fir forest

Knobcone pines (*Pinus attenuata*) are native to the region, but they proliferated in the Mayacamas after they were aerially seeded after the 1964 fire. Knobcone pines actually require fire to reproduce in great quantity. They often grow as dense even-aged stands after a fire, and burn as entire stands, intensifying and accelerating fire behavior. Monterey pine (*Pinus radiata*), another fire pine, is another flammable species that was introduced to our area and should be removed when possible.

Conifer 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 do offer a large fuel load to burn and can exhibit greater fire intensity. Of all the vegetation types in the Angwin area, dense, coniferous 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.

Photo 4. Meadow on Pacific Union College lands

Photo 5. Distribution of forests and vineyards in Angwin Fire Safe Council

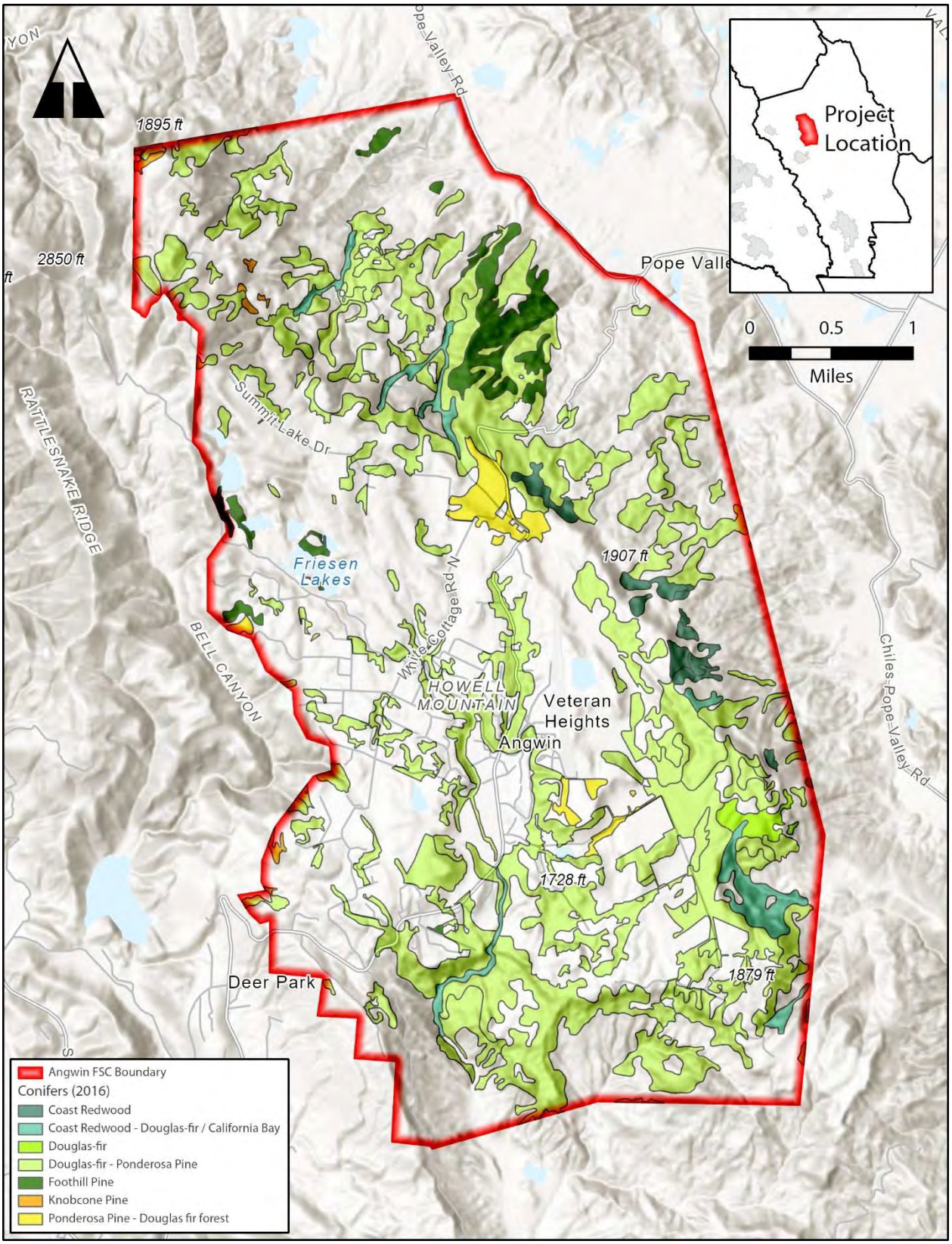


Figure 6b. *Conifer map – Angwin FSC area (boundary shown in red) (Napa Vegetation Map, 2016).*

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

Photo 6. Fire safe landscaping in Angwin Fire Safe Council

Predicted Fire Behavior

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.

The distribution within an area of expected flame lengths can be predicted using public-domain software and data. FlamMap[7] was used to model fire behavior using a county-wide dataset developed from the Napa County Vegetation Map.[8]

Predicted Flame Lengths

Long flame lengths can be expected in dense conifer and oak forests where understory is present, especially on steep terrain. 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.

27% of the area has a predicted flame length of over 8 feet when predicting for a northeasterly wind at 15 miles per hour (Table 2). This leaves about 73% of the area predicted to have less than 8-foot flame lengths. Of those areas, 63% are predicted to have less than 4-foot flame lengths.

The higher flame lengths are concentrated in the oak woodlands and shrublands throughout Angwin (Figure 7). They are especially abundant in the steep terrain of the southern and eastern portions of the area. The lower flame lengths are distributed throughout the central and northern parts of the area, occurring mostly in developed areas, grasslands, and conifer forests as well as locations with some shelter from winds.

Note that the no predicted fire category accounts for agriculture and developed areas (including 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.

[7] https://research.fs.usda.gov/firelab/projects/flammap

[8] https://gisdata.napacounty.gov/datasets/61de6c3fbde74c2897f5ba0060d0faf8_0/explore?location=38.477363%2C-122.389236%2C9

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

Predicted Flame Length	Acres	Percent (%)
No predicted fire	2,157.88	18%
Less than 4 ft	5,318.16	45%
4.1 – 8 ft	1,097.97	9%
8.1 – 12 ft	325.63	3%
Greater than 12 ft	2,986.18	25%

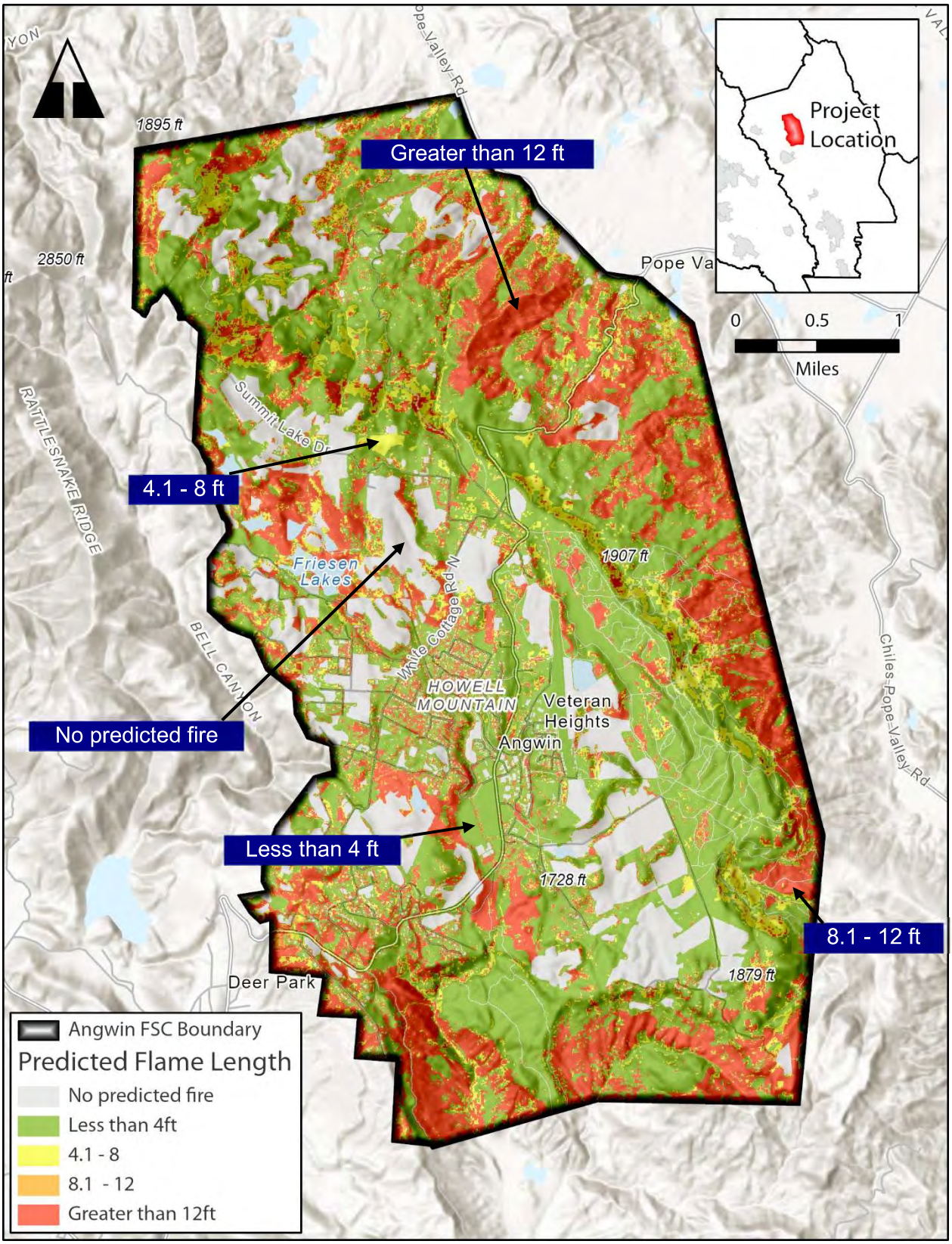


Figure 7. *Predicted flame length (feet) map (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15 mph with low fuel moistures). Angwin area boundary (shown in red).*

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 Angwin 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 unheard of in hardwoods (Figure 8). Areas with higher density of coniferous forests are most at risk of torching and crown fires. These areas are located primarily on steep slopes and are concentrated along the eastern side of Howell Mountain.

A combination of no predicted fire and surface fire in a canopy cover of less than 20% accounts for approximately 23% of the Angwin area (Table 3). These areas are concentrated in the developed parts of Angwin as well as in vineyards and grasslands.

Of the places 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 account for 63% of the predicted surface fire. They occur throughout the Angwin area, mostly in oak woodlands and conifer forests on flatter terrain. Areas where torching is predicted also account for 8% of the area. These areas are intermingled with areas where active crown fire is predicted, predominantly on steep mid-slopes and places where the vegetation is not protected from strong winds. And lastly 6% of the area is predicted to have active crown fire. While this is a relatively moderate number, in comparison to other communities, this is somewhat elevated. Field verification is recommended. Active crown fire is predicted on the steepest north- and east-facing slopes throughout the area, but it is concentrated in the east on the steep slopes of Howell Mountain.

Table 3. *Predicted crown fire activity (or fire type) by category and area (in acres) within the Angwin area (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15 mph with low fuel moistures).*

Crown Fire Activity	Acres	Percent (%)
No predicted fire	2,124.12	18%
Surface fire canopy cover < 20%	646.02	5%
Surface fire with canopy > 20%	7,461.29	63%
Torching fire (passive crown fire)	994.37	8%
Crown fire	660.02	6%

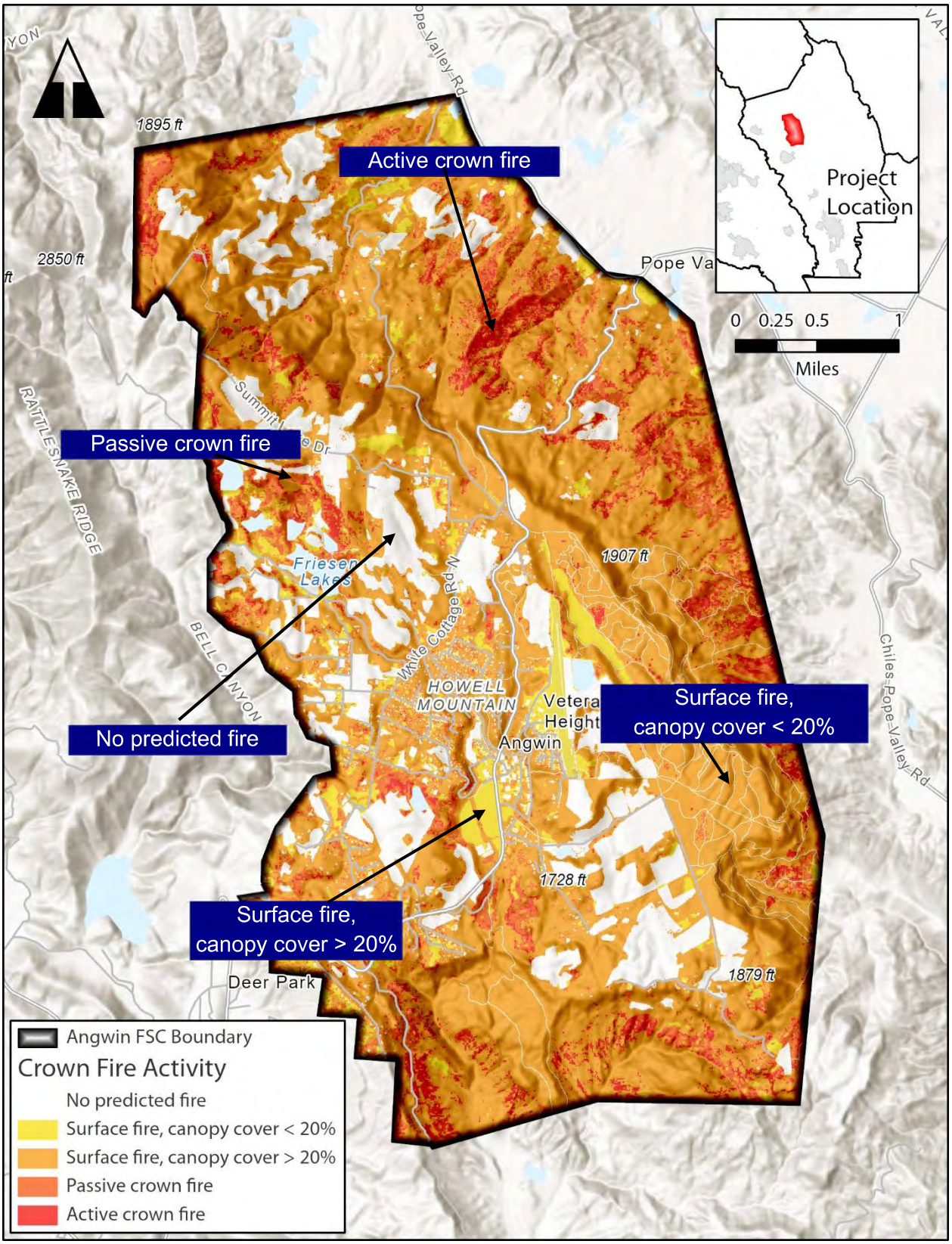


Figure 8. *Predicted crown fire activity map (based on LANDFIRE landscape version 2.0 with a Northeast wind at 15 mph with low fuel moistures). Angwin area boundary (shown in red).*

Fire History

In the past decades, 22 fires have been recorded occurring near the Angwin area (Table 4). The most notable of these are the Glass fire of 2020, the large and wide-ranging Hennessey fire of 2017, the Howell Mountain fire of 1983, and the C. Hanly fire of 1964. The most recent fire, the Pickett Fire, burned the northwestern portion of the Angwin Fire Safe Council. While no structures were destroyed in the Pope Valley Fire Safe Council, many structures were threatened and residents evacuated for days, and some Angwin residents evacuated as well.

Large fires have directly or indirectly impacted sizeable portions of the Angwin neighborhood (Figure 9). There have been multiple fires surrounding Angwin. The Howell Mountain fire in 1983 burned 2,500 acres in 5 hours. Two fires, one in 1964 and another in 2008, started at the "hairpin turn" on Deer Park Road. The fire in 2008 burned 300 acres primarily across the western face of Crestmont Ridge. In 2014, the Butts Canyon Fire burned 4,300 acres at the northern base of Howell Mountain. The fire history map shows that the northwestern corner and most of the western edge of the neighborhood were visited by fire in 2020, suggesting a relatively lower fuel load than in other areas that have not experienced fire recently. The Hennessey Fire (part of the LNU Complex) affected the area in 2020, resulting in evacuation of Angwin and some fire on Ink Grade Rd.

Table 4. *List of recorded fires near the Angwin FSC area (CAL FIRE, 2020).*

Year	Month	Date	Fire Name	Cause	Acres	Comments
1952	October	10/3/1952	OAT HILL MINE	Unknown	2666.6	
1954	June	6/20/1954	DE LA BRIANDIAS #2	Unknown	552.4	
1957	July	7/7/1957	J. STEGGE	Unknown	251.2	
1957	September	9/21/1957	C. SCOTT	Unknown	273.6	
1959	June	6/27/1959	C. SAVIEZ	Unknown	205.4	
1959	October	10/29/1959	G. HEIBEL	Unknown	1,411.6	
1959	October	10/30/1959	CHILES MILL	Unknown	306.8	
1960	August	8/21/1960	ROADSIDE #20	Unknown	576.3	
1961	September	9/2/1961	POPE VALLEY SERIES	Unknown	1,702.2	
1961	November	11/16/1961	DE LA BRIANDAIS	Unknown	387.5	
1964	June	6/25/1964	ROADSIDE #14	Unknown	230.8	
1964	September	9/19/1964	C. HANLY	Unknown	55,960.7	
1964	September	9/21/1964	P.G.&E. #6	Unknown	452.7	
1980	September	9/13/1980	TURKEY	Unknown	817.5	
1983	August	8/28/1983	POPE	Equipment Use	226.1	
1983	January	unknown	HOWELL MTN. FIRE	Unknown	2353.6	
2002	August	8/9/2002	POPE	Equipment Use	753.9	
2003	October	10/29/2003	SILVERADO	Powerline	69.3	
2008	August	8/14/2008	AETNA	Powerline	76.7	
2008	October	10/10/2008	DEER	Vehicle	233.1	Occurred during strong N Wind
2013	April	4/24/2013	SUMMIT	Powerline	2.3	
2014	July	7/1/2014	BUTTS	Equipment Use	4,297.4	FIMT H6UW

2015	June	6/9/2015	GARAGE	Powerline	27.7	$100,000 estimate
2015	September	9/12/2015	VALLEY	Unknown	76,084.8	$59 Million(Cost)
2016	June	6/17/2016	HILLCREST	Unknown	17.3	
2017	September	9/23/2017	CLOVER	Unknown	13.9	
2020	July	7/26/2020	MOBILE	Equipment Use	1.1	Marc Hottendorf
2020	August	8/17/2020	HENNESSEY	Lightning	305,351.9	
2020	September	9/27/2020	GLASS	Unknown	67,484.4	J. Baldwin
2020	October	10/10/2020	HUBCAP	Equipment Use	2.0	Matt Maxwell
2020	October	10/23/2020	POPE	Vehicle	64.3	Marc Hottendorf
2021	January	1/19/2021	SPRING	Debris	1.0	
2021	July	7/9/2021	SPRING	Miscellaneous	1.9	
2024	June	6/5/2024	CRYSTAL	Unknown	60.0	
2025	**August**	**8/21/2025**	**PICKETT**	**Under Investigation**	**6,819.0**	

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.

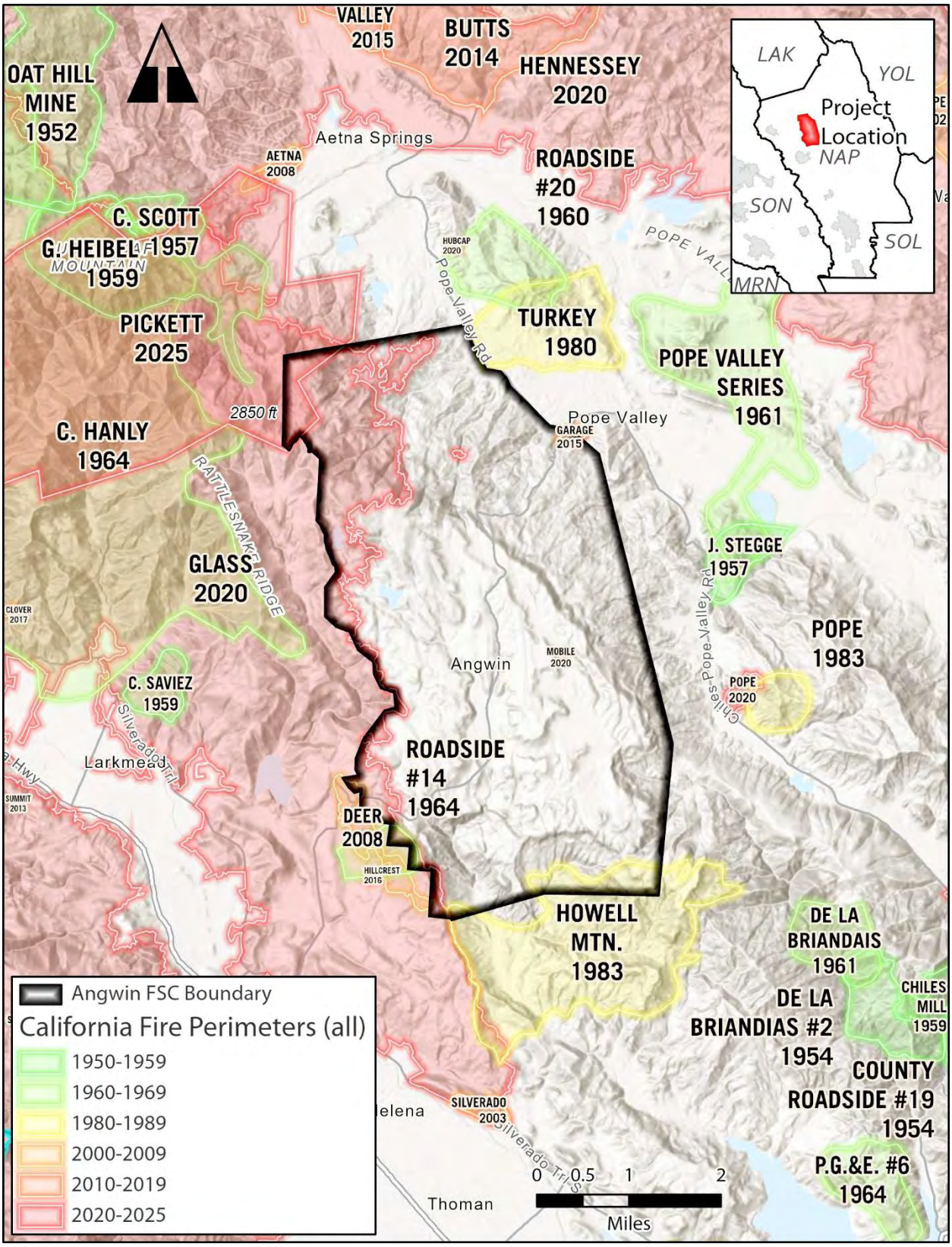


Figure 9. *Fire perimeters/fire history map of Angwin FSC area (CALFIRE FRAP, 2019).*

Water Supply

Existing Water Systems

Water is supplied to the Angwin community from (1) the Howell Mountain Mutual Water Company, which is the largest purveyor of water, (2) Pacific Union College, which is the second largest purveyor, (3) four additional smaller water companies which serve a small number of households, and (4) numerous private wells, which continues to be the predominant source of water.

The private water system that was supplying water to the community prior to HMMWC was constructed in the 1930s and 1940s. This water was initially supplied from newly established lakes and reservoirs that were created by damming local streams in order to supply the Pacific Union College. Later, a filtration system was put in place, and the water began being sold to private homes in the area. During World War II, with resources in short supply, unconventional items began being used to extend the water supply system – such as old acetylene tanks made into pipes. As a result, the system was in rough shape by 1985 and Angwin residents began realizing that there were limitations to their current water system and they needed to take action.

Angwin's community council learned about the purchasing process of the system and eventually received a state loan to buy the system, and established the HMMWC in 1985. HMMWC is now a system owned by the residents it serves. Later that year, HMMWC received another loan to upgrade the system. With the loan, HMMWC purchased a conventional treatment plant, storage facilities, maintenance facilities, office buildings, and replaced many of the outdated distribution pipes. In 2013, a new computerized control system replaced an outdated analog system in the filter plant. And a new 500,000-gallon water tank was installed and replaced the 50+ year old leaky concrete tanks that were originally used. Numerous other leaks have been repaired in the system which has greatly reduced water loss overall.[9]

Water Supply Setup

The Bell Canyon watershed on the northwest side of Angwin provides water to St. Helena Hospital in Deer Park and to the City of St. Helena, which relies on Bell Canyon Reservoir for almost half of its drinking water (Figure 10). And The Conn Creek watershed flows to the south side of Angwin and down to Lake Hennessy Reservoir, providing nearly 70% of the potable water supply for the City of Napa.

Deer Park also has a 75,0000-gallon tank that uses gravity to supply water to hydrants and properties in Deer Park, however, not to Angwin. Two maps of the current fire hydrant locations can be found on the following pages (Figure 11a & Figure 11b).

Angwin does currently have backup generators to operate the system during power outages, however, in the case of a wildland fire in the forests and/or canyons of Howell Mountain, this water supply may be rendered unusable due to sediment impacting both the quality and healthy functioning of the watershed.

[9] https://www.hmmwco.com/history.html

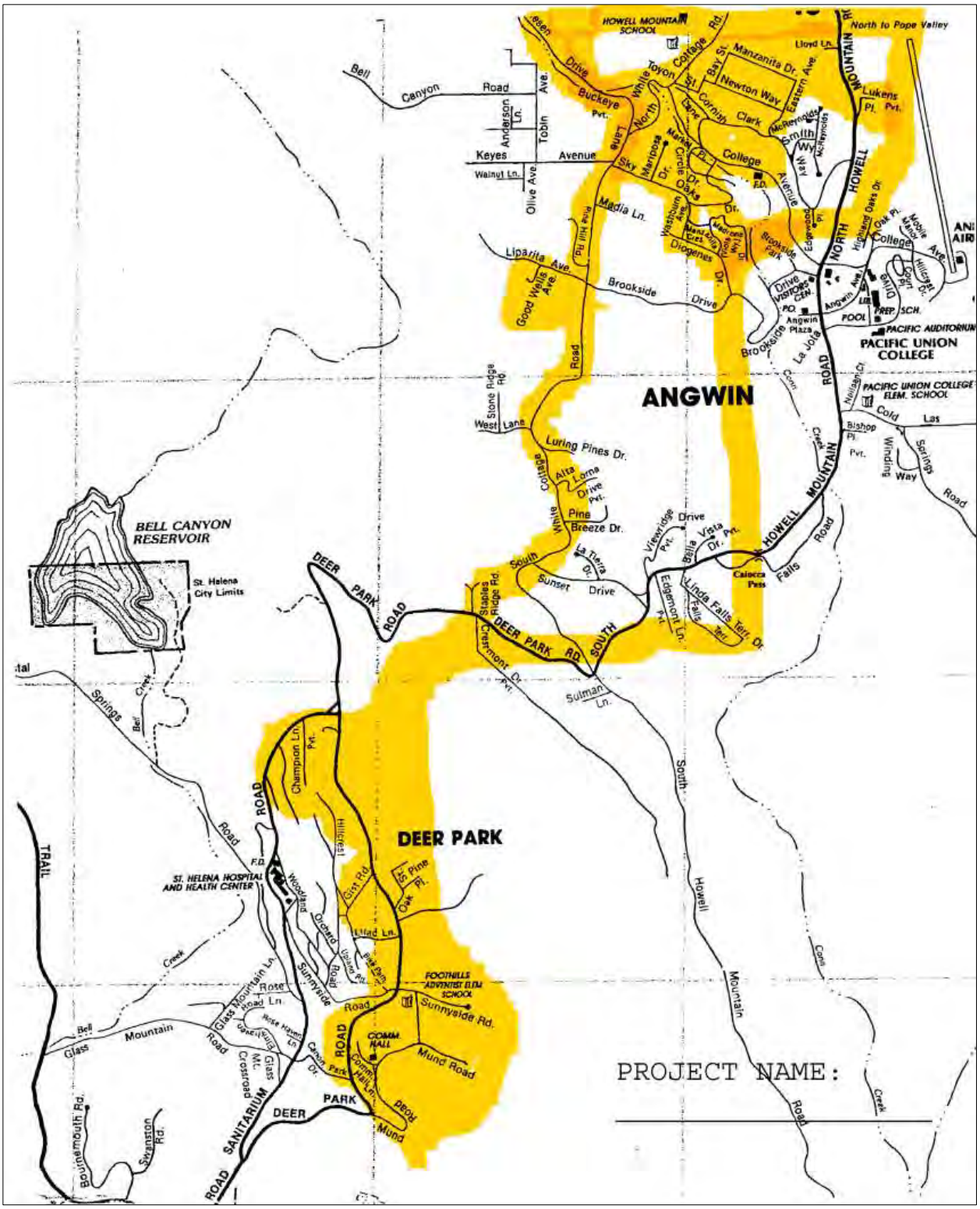


Figure 10. *Bell Canyon Reservoir service area map.*

Figure 11a. *Fire hydrant location map within the Angwin FSC.*

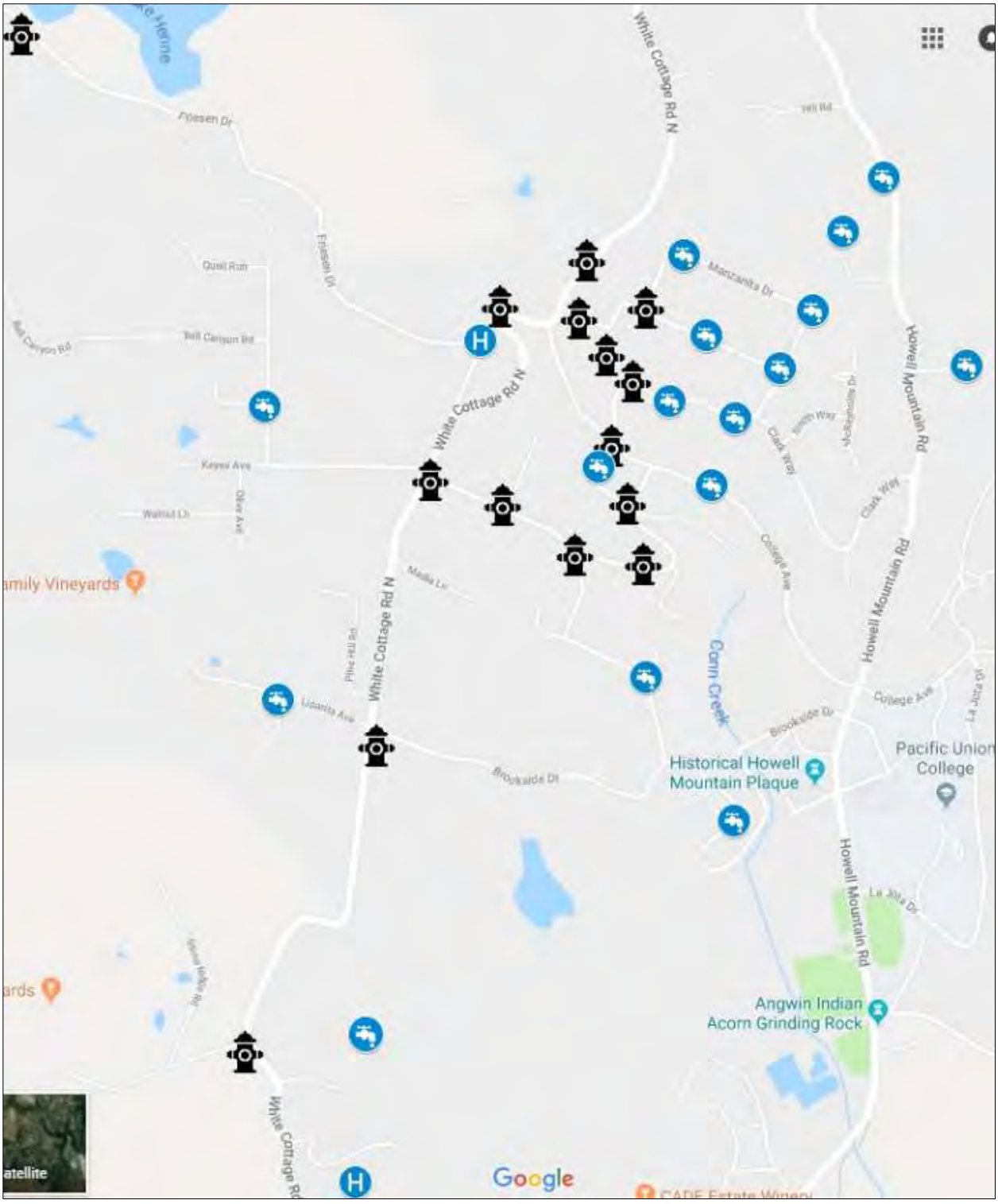


Figure 11b. *Fire hydrant location map (continued from previous page) within the Angwin FSC.*

Access

In general, access to the interior of Angwin is good and access to the boundaries is poor. Howell Mountain Road is the primary ingress/egress road into the area, running all the way across Angwin in the northeast-southwest direction. It connects to Pope Valley Road in the Pope Valley FSC to the northeast, as well as Deer Park Road in the Deer Park FSC to the southwest. Ink Grade is another ingress/egress route, connecting with Pope Valley Road at the northernmost point of the Angwin FSC area. There are several smaller local roads that lead into neighborhoods in the center and west of Angwin, allowing for additional access. Some of these roads are dead ends or loops, but others connect to White Cottage Road, which runs parallel to Howell Mountain Road for roughly half the width of the Angwin area.

Most roads are barely two lanes with no shoulders. In some areas, pavement is generally good, though in other areas pavement needs repair. Some curves are simultaneously sharp and steep. Some roads extending from the main arterials of Angwin to its periphery are long and narrow with only one way in and out for numerous residences. In addition, some residences are served by long shared driveways. Where locked gates exist, emergency response can be delayed, or fire inspections discouraged. 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. See map on next page (Figure 12).

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). Roadside vegetation has not been maintained on many of the roads or driveways within the Angwin area and could prove significant in the event of a fire.

Photo 8. Vegetation along Ink Grade Road

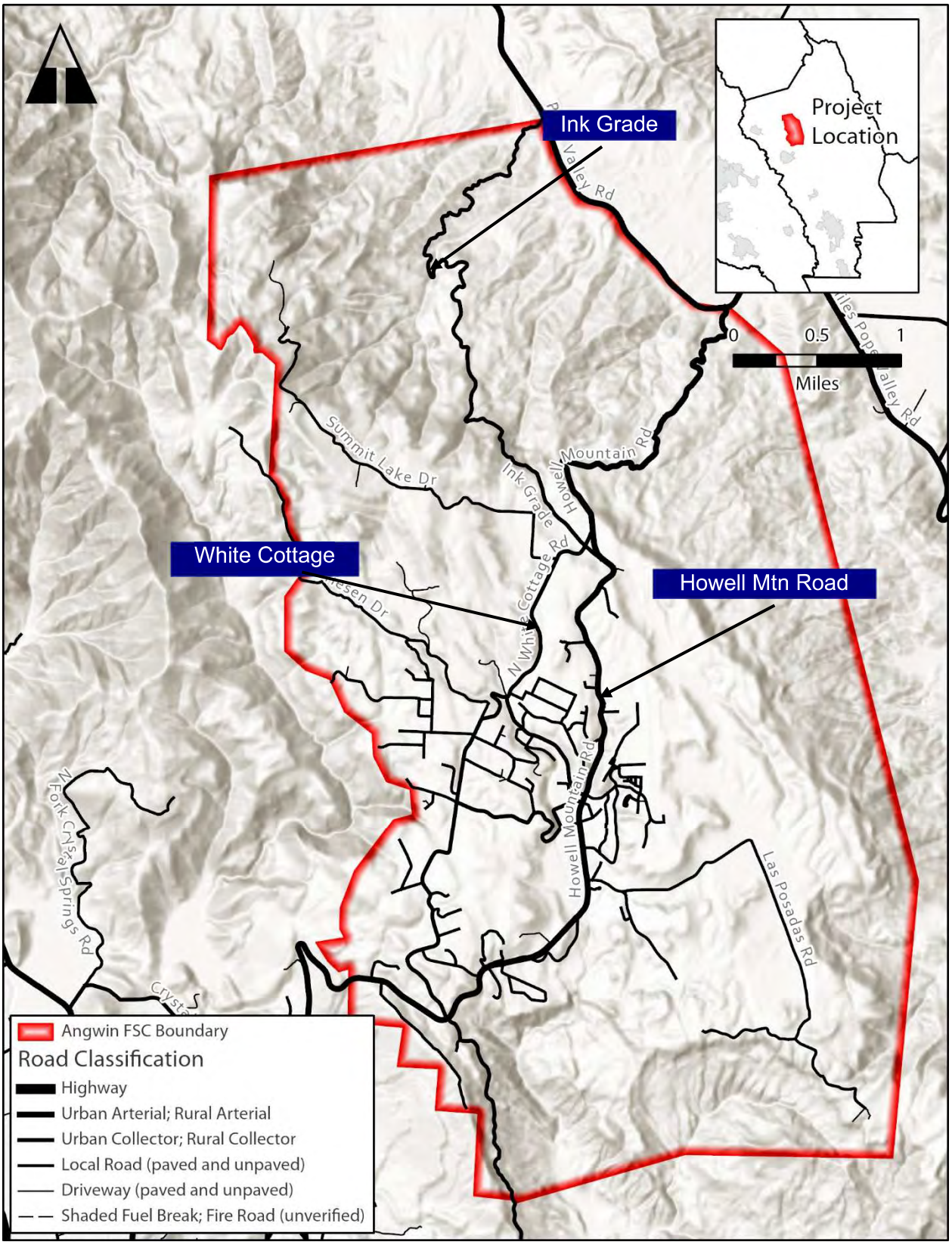


Figure 12. *Access and street map of Angwin FSC area (shown with red outline).*

Hazard Ranking

The entirety of the Angwin area is within CAL FIRE's State Responsibility Area (SRA) and was determined by CAL FIRE to carry at least a moderate fire hazard (Table 5). In their fire hazard assessment, they show 48% of the area is categorized as a **Very High Fire Hazard Severity Zone**. A smaller area was classified as High (20%), with the remainder categorized as Moderate (32%).

Table 5. *Fire hazard severity zone by area (acres) within Angwin area boundary (CAL FIRE, 2023 – current version).*

Fire Hazard Severity Zone	Acres	Percent (%)
Moderate	365.39	3%
High	2,687.59	23%
Very High	8,834.24	74%
Low Hazard or Outside of SRA	0	0%

See map on next page (Figure 13).

Photo 9. Pre-treatment conditions in Pacific Union Forest

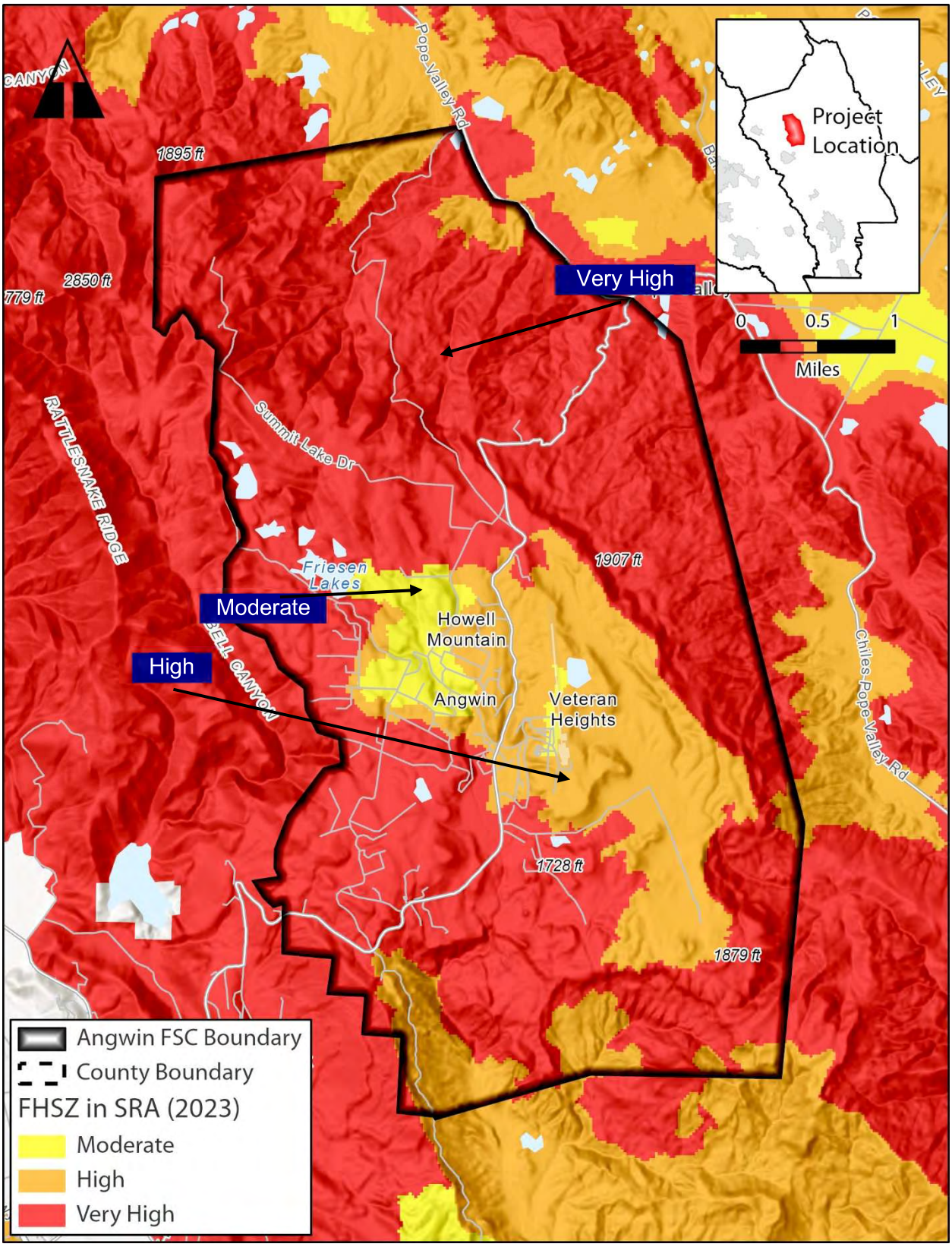


Figure 13. *Distribution of Fire Hazard Severity Zones (CALFIRE, 2023).*

Land Use Distribution and Neighborhoods

Residential development, on large lots is generally scattered following the winding road network. Vineyards are located among residences, and some are newly developed large lots on the edge of the community.

Much of the Angwin area is comprised of land designated as agricultural. These parcels account for approximately 39% of the total area (Table 6).

Vacant lands also make up a significant portion of the land area, accounting for 33% of the total.

Residential lands (approximately 23%) account for most of the other areas within the Angwin. These lands are generally adjacent to vacant and commercial lands.

Commercial parcels account for approximately 3% of the Angwin area and are mostly found on or adjacent to the Pacific Union College campus.

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.

Table 6. *Acres by broad land use and percentage of total within the Angwin area.*

Category	Parcel Count	Acres	Percent (%)
AGRICULTURAL	129	5928.44	38%
COMMERCIAL	17	299.64	2%
RESIDENTIAL	736	3576.1	23%
VACANT	181	5701.99	37%

Projects

The Angwin Fire Safe Council has identified over 70 Hazardous Fuels Mitigation projects, of which about 55 are in progress or completed since 2016. The elements of this Plan have been arrived at through a collaborative process, with the understanding that some elements of this Plan will require outside funding, that some elements will be easier to accomplish than others, and that all elements will take some time. Most projects to date have been creating fuel breaks along ridge lines or existing dozer lines or trails, and roadside fuel reduction projects along key ingress and egress routes. Increasingly projects have also included prescribed burns, both pile and broadcast.

These projects have historically focused on the outlying areas around the community's perimeter. The Angwin Fire Safe Council will continue to collaborate with neighboring Fire Safe Councils and partners, such as the Land Trust of Napa County, on projects to mitigate fuels, improve wildfire resilience, and maintain key fire lines. In 2023, the Council collected areas of high concern from neighbors and created a community-identified priority list to be considered as home hardening and defensible space projects around homes begin to be possible with increased funding. The tables and figures below (Table 7 and Figure 14) summarize completed projects. Table 8 describes proposed projects in this CWPP. Figure 15 shows projects that have been proposed both by this CWPP and by NCFF.

Table 7. *Completed Hazardous Fuels Reduction Projects 2016-2024. The term "NEW PROJECT" indicates it was a new project since the previous CWPP was adopted and shows accomplishments since then.*

Name	Project Type	Status	New or Maintain
Linda Falls - Falls Rd Clearing	Dirt or Rural Road	Maintenance	NEW PROJECT
Linda Falls / Land Trust	Fuel Break	Maintenance	NEW PROJECT
Fuel Break	Fuel Break	Maintenance	NEW PROJECT
Linda Falls Powerline & Falls Rd	Fuel Break	Maintenance	NEW PROJECT
Cold Springs Rd Fire Access	Roadside Expanded	Maintenance	
Ink Grade Roadside	Roadside ROW	Maintenance	NEW PROJECT
Audubon Cheyney Preserve Forest Health	Forest Health	Maintenance	NEW PROJECT
Friesen Lakes Watershed Forest Health	Forest Health	Maintenance	NEW PROJECT
Glendale Ranch/Linda Falls Preserve Forest Health	Forest Health	Maintenance	NEW PROJECT
Pacific Union College Forest Health	Forest Health	Maintenance	NEW PROJECT
Summit Lake to Ink Grade Forest Health	Forest Health	Maintenance	NEW PROJECT
Mastication Yr 1 (Fuel Reduction)	Forest Health	Maintenance	
PUC Campus Fuel Break	Fuel Break	Maintenance	NEW PROJECT
PUC WUI	Fuel Break	Maintenance	NEW PROJECT
Rancho LaJota & Linda Falls-Thinning / Piling	Fuel Break	Maintenance	NEW PROJECT
Rancho LaJota & Linda Falls - Mastication	Fuel Break	Maintenance	NEW PROJECT

Rancho LaJota & Linda Falls - Pile Burning	Fuel Break	Maintenance	MAINTENANCE
PUC Ridgeline Fuel Break	Fuel Break	Maintenance	NEW PROJECT
Rancho LaJota - Cold Springs & Linda Falls	Fuel Break	Maintenance	NEW PROJECT
Randy Dunn Property	Mastication	Maintenance	NEW PROJECT
Cade	Mastication	Maintenance	NEW PROJECT
Friesen Dr (to Lookout Point)	Roadside Expanded	Maintenance	NEW PROJECT
Summit Lake Drive	Roadside Expanded	Maintenance	NEW PROJECT
Howell Mt	Roadside Expanded	Maintenance	MAINTENANCE
Ink Grade	Roadside Expanded	Maintenance	MAINTENANCE
College Avenue	Roadside Expanded	Maintenance	NEW PROJECT
White Cottage	Roadside Expanded	Maintenance	NEW PROJECT
Howell Mt Rd Hazard Tree Removal	Roadside Expanded	Maintenance	MAINTENANCE
Ink Grade Roadside	Roadside ROW	Maintenance	NEW PROJECT
Las Posadas Rd	Roadside ROW	Maintenance	NEW PROJECT
Cold Springs Rd	Roadside ROW	Maintenance	NEW PROJECT
White Cottage Rd	Roadside ROW	Maintenance	NEW PROJECT
Sunset Dr	Roadside ROW	Maintenance	NEW PROJECT
Clark Way	Roadside ROW	Maintenance	NEW PROJECT
Toyon St	Roadside ROW	Maintenance	NEW PROJECT
McReynolds Drive	Roadside ROW	Maintenance	NEW PROJECT
Mariposa Drive	Roadside ROW	Maintenance	NEW PROJECT
Sky Oaks Drive	Roadside ROW	Maintenance	NEW PROJECT
Smith Way	Roadside ROW	Maintenance	NEW PROJECT
Summit Lake Rd	Roadside ROW	Maintenance	NEW PROJECT
Edgewood Place	Roadside ROW	Maintenance	NEW PROJECT
Liparita Rd	Roadside ROW	Maintenance	NEW PROJECT
Manzanita Drive	Roadside ROW	Maintenance	NEW PROJECT
Newton Way	Roadside ROW	Maintenance	NEW PROJECT
Diogenes Drive	Roadside ROW	Maintenance	NEW PROJECT
Eastern Ave	Roadside ROW	Maintenance	NEW PROJECT
West Lane (intersection)	Roadside ROW	Maintenance	NEW PROJECT
Brookside Drive	Roadside ROW	Maintenance	NEW PROJECT
Howell Mt. Rd Trees	Roadside ROW	Maintenance	NEW PROJECT
Wildlake Roadside Expanded	Roadside Expanded	Maintenance	NEW PROJECT
Thinning from Below + Hand Pile Yr 1 (Fuel Reduction)	Forest Health	Maintenance	NEW PROJECT
Mastication & Thinning from Below + Hand Pile (Fuel Reduction)	Forest Health	Maintenance	NEW PROJECT
Pile Burning	Forest Health	Maintenance	NEW PROJECT
Broadcast Burning	Forest Health	Maintenance	NEW PROJECT
Reforestation	Forest Health	Maintenance	NEW PROJECT
Herbicide Treatment	Forest Health	Maintenance	NEW PROJECT
Angwin FSC Planning	Planning & Risk Assessment	Maintenance	NEW PROJECT

Friesen Drive to Lookout Point Roadside	Roadside Expanded	Maintenance	NEW PROJECT

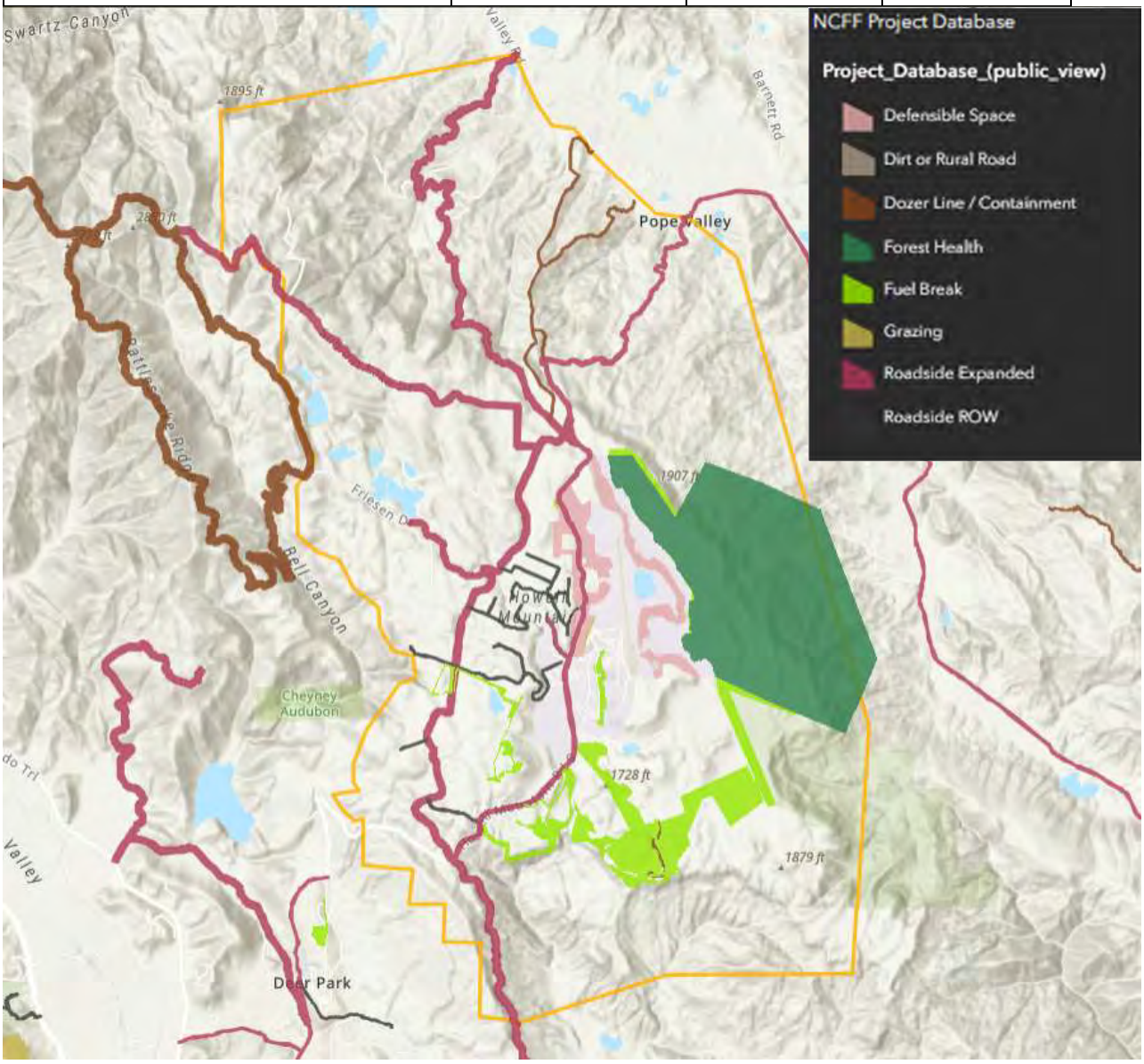


Figure 14. *Completed projects in the AWFSC area[10]. The gold color denotes the Angwin FSC boundary.*

[10] https://napafirewise.maps.arcgis.com/apps/dashboards/644c3fbd5c734912bc053594500bea72

Table 8. *Planned/Proposed Fuels Mitigation projects awaiting funding and project plans.*

Name	Project Type	Status	New or Maintain
Friesen Lakes Watershed Forest Health	Forest Health	Funding Needed	NEW PROJECT
Old Howell Mountain to Linda Falls Trailhead WUI	Fuel Break	Funding Needed	NEW PROJECT
Angwin PUC WUI	Fuel Break	Funding Pending	NEW PROJECT
Old Howell Mountain	Roadside Expanded	Funding Pending	NEW PROJECT
Summit Lake Drive Roadside	Roadside Expanded	Funding Pending	MAINTENANCE
Wildlake Preserve Forest Health	Forest Health	Funding Pending	NEW PROJECT

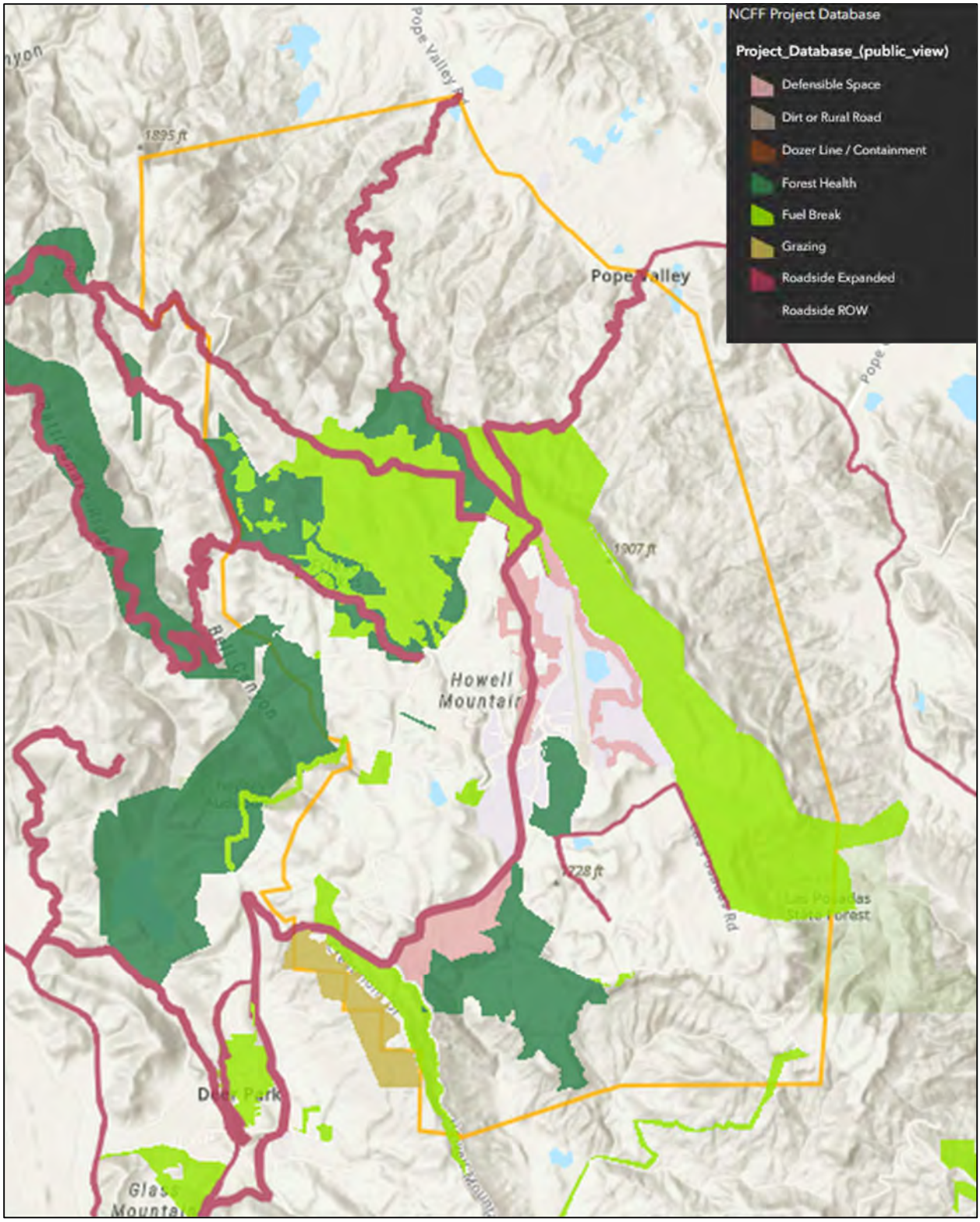


Figure 15. *Planned/Proposed projects in the AWFSC area.*

Community-Identified High-Risk Neighborhood Areas

Figure 17 below shows the high-risk neighborhoods in the community. The yellow areas on the map were identified through a community involvement process, where 22 areas were identified as needing more assessment and development of a plan to address. The projects are listed with approximate acres below the map.

Table 10. *Projects in community-identified high-risk neighborhoods.*

Project Name	Approx. Acres
South Las Posadas Rd Forest Thinning	306.31
East Las Posadas Rd Forest Thinning	211.31
South Cold Springs Forest Thinning	33.56
West Cold Springs Forest Thinning	91.54
Four Corners North Fuel Break	18.11
White Cottage South - Westside Woodland Thinning	31.65
College Ave / Circle Drive Fuel Break & Dead Tree Removal	12.95
Lower Brookside Fuel Break	10.17
Howell Mtn Rd / Edgewood Fuel Break	4.44
College Ave Fuel Break	11.22
College/Clark Fuel Break & Dead Tree Removal	0.80
White Cottage South / Liparita Woodland Thinning	9.23
Howell Mtn Rd / McReynolds Drive Fuel Break	7.62
Howell Mtn Rd / Lloyd Lane / Hill Rd Fuel Break	15.75
Howell Mtn Rd / Belleau Field Fuel Break & Forest Thinning	32.64
Howell Mtn Rd / Lukens Place Fuel Break	23.80
Howell Mtn Rd / Edgemont Place Fuel Break	17.93
Linda Falls Terrace South Fuel Break	6.22
Edgemont Place East Fuel Break	2.02
Summit Lake Drive Mid Fuel Break	14.55
Summit Lake Dr West Fuel Break	10.17

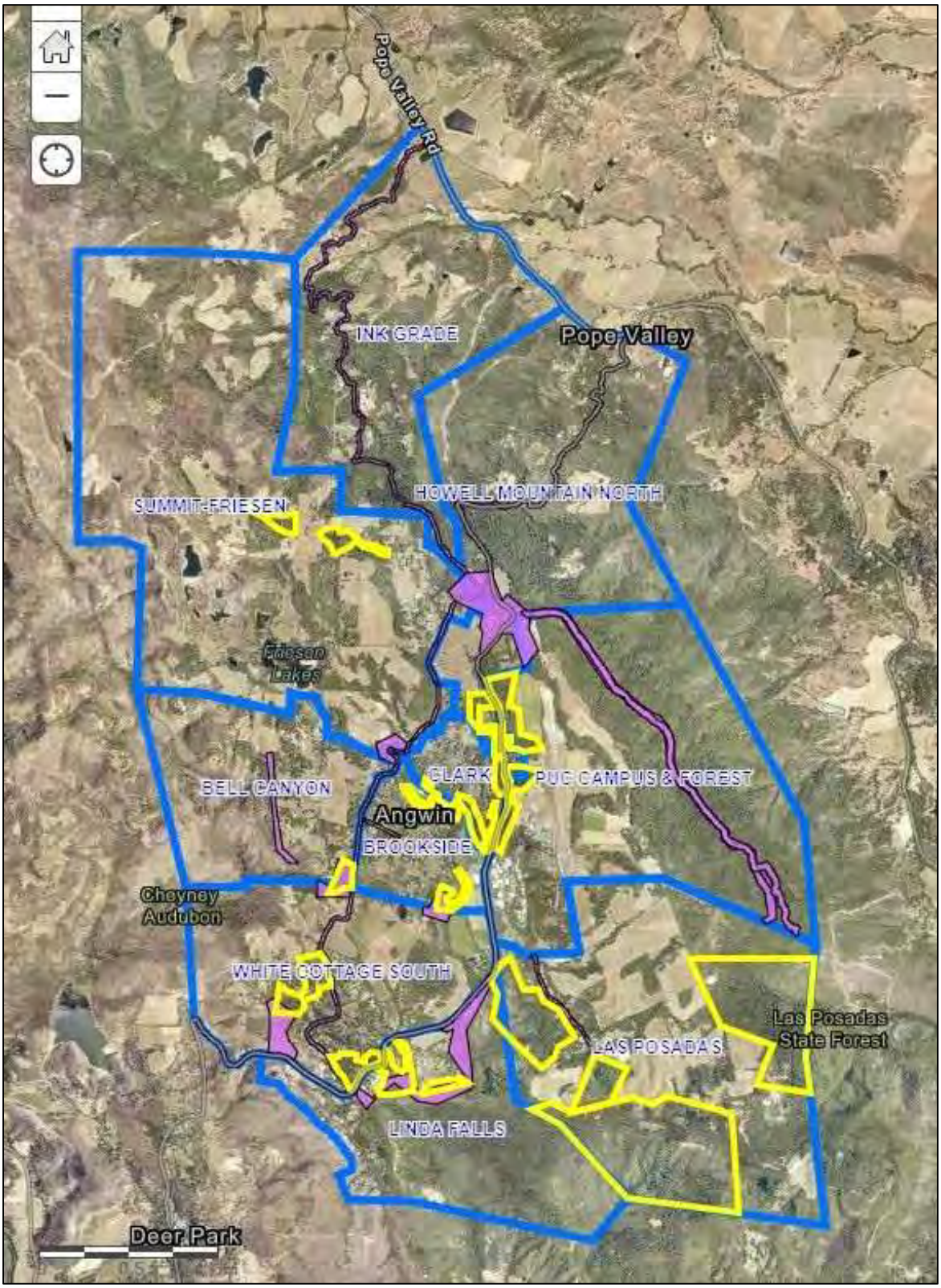


Figure 17. *Map of community-identified high-risk neighborhoods.*

Firewise USA Recognition

During the process of developing the Community Evaluation for the CWPP, the NFPA Risk Assessment form was drafted and circulated for comment (Appendix A). Similarly, the NFPA process for compiling an Action Plan was folded into the process of prioritizing projects to accomplish. Suggested actions were presented and circulated, and a poll was taken to prioritize those actions. New suggestions for actions were incorporated and the Action Plan was finalized (Appendix B). Volunteer hours and funding dedicated to Firewise USA efforts were compiled. The application was reviewed by CAL Fire.

Approval Signatures

The Angwin Community Wildfire Protection Plan was developed collaboratively and in consultation with interested parties, including Napa Communities Firewise Foundation, Napa County Fire Department, CAL FIRE, and the residents of the Angwin community.

The Plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends other types and methods of treatments that will protect the Angwin Community.

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

Acknowledged: Anne Cottrell Anne Cottrell (Apr 25, 2026 06:54:13 PDT) Date: 04/25/2026
Anne Cottrell, Supervisor, Napa County District 3

Acknowledged: Matt Ryan Date: 04/27/2026
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: Christopher Thompson (Apr 27, 2026 08:06:35 PDT) Date: 04/27/2026
Christopher Thompson, Chairman of the Board, Napa Communities Firewise Foundation

Agreed: Lauren Larin (Apr 27, 2026 09:59:05 PDT) Date: 04/27/2026
Lauren Larin, Lead, Angwin Fire Safe Council

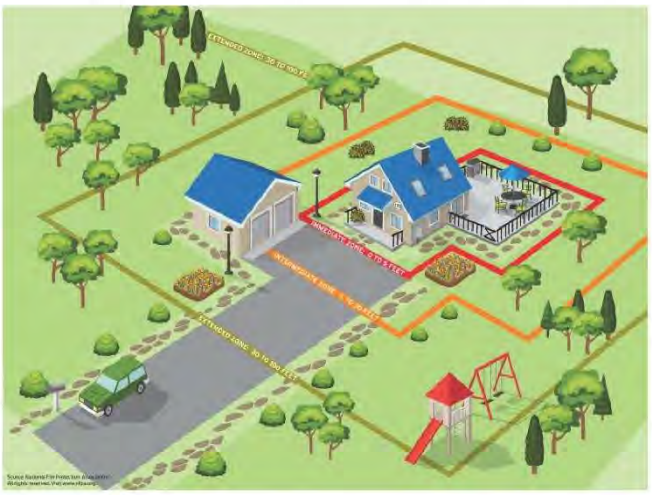
Appendix A

NFPA® | FIREWISE USA®
RESIDENTS REDUCING WILDFIRE RISKS

FIREWISE USA® RECOGNITION PROGRAM
COMMUNITY WILDFIRE RISK ASSESSMENT

Firewise USA® and the US Wildfire Problem
Every year, devastating wildfires burn across the United States. At the same time, a growing number of people are living where wildfires are a real risk. While these fires will continue to happen, there are things you can do to help protect your home and neighborhood as well as your family's safety.

The NFPA Firewise USA® recognition program was designed to help people learn about wildfire and how they can make their homes and neighborhoods safer. It's based on research that shows how to prepare homes to withstand embers and prevent flames or surface fire from igniting the home and its immediate surroundings, by working in an area known as the home ignition zone (HIZ). This is the home and everything around it within 100 feet.



The community risk assessment should focus on the vulnerability of homes and surrounding home ignition zones to embers.

Red Boundary = Immediate Zone
Orange Boundary = Intermediate Zone
Green Boundary = Extended Zone

In many neighborhoods, home ignition zones often overlap onto adjacent properties—meaning that homes are closer than 100 feet to one another. This makes the conditions of neighboring homes and vegetation a part of the wildfire threat. It's extremely important that neighbors work collaboratively with each other—and talk with each other—to reduce their shared risk.

Using Firewise USA® to create ignition-resistant communities
Firewise USA® is a voluntary recognition program that provides a framework to help neighbors get organized, find direction, and take action to increase the ignition resistance of their homes and communities from wildfire.

1

There are several steps to take to become recognized as a Firewise USA® site:

- Organize — Create a **board or committee** of volunteers to represent your community, including residents and partners such as local forestry agencies or the fire department. Identify a **resident leader** who will be the program point of contact.
- Plan — The board or committee defines the boundaries of the site and obtains a **community wildfire risk assessment**. From the risk assessment, the board/committee creates a multi-year action plan to identify and prioritize actions to reduce ignition risk to homes.
- Do — Each year, neighbors complete educational and risk reduction **actions** identified in the plan.
- Tell — When the above criteria have been met, the Resident Leader **applies for recognition** through the **Firewise® Portal** (portal.firewise.org), describing educational and mitigation work in the site. Each year, **sites renew their status** by reporting their activity.

The community wildfire risk assessment is one of the most important steps in the process. It's a tool to help residents understand their wildfire risk and engage in risk reduction efforts.

There are many ways to assess risk from wildfires, using many different scales. The assessment is focused on the risk of home ignition from wildfires and will help guide residents on the most effective actions to prevent home ignitions that could result in wildfire disasters.

The recommendations provided by the completed assessment will be the board/committee's primary tool in determining the action priorities within the site's boundaries. The Firewise USA® program requires risk assessments be **updated at a minimum of every five years.**

HOW TO CONDUCT THE RISK ASSESSMENT

Each state may designate its own template and special requirements for Firewise USA® participation. **Before starting this assessment, please contact your state liaison to determine your state's process. The best assessments result from a collaboration between residents and their state forestry agency, local fire department, or another designated partner.**

The community wildfire risk assessment speaks to the general conditions of the overall Firewise USA® site and does not provide details on each individual dwelling.

The assessment should focus on:

- Vulnerability of homes to ember, surface fire, and crown fire
- Condition of the structures themselves
- Immediate hazards within the home ignition zone on individual properties
- Concerns presented by common/open space areas or adjacent public lands

It should also consider factors that impact risk and influence fire behavior or structure ignitability, such as:

- Structural characteristics (roofing, siding, decks)
- Vegetation types
- Slope and aspect (the direction a community faces—north, south, east, or west)
- Housing density

2

ASSESSMENT OVERVIEW

Features of a community risk assessment include:

- It can be completed in a variety of ways, including a walkthrough or a drive by, and does not require each individual dwelling unit to have a home risk assessment completed prior to the community assessment.
- It should focus on condition of vegetation within the participating site's boundary; general landscaping characteristics; home construction (materials used for roofs, siding, decks, etc.); and relationship of ignition potential of combustible materials on adjacent properties.
- It needs a logical recognized site boundary (HOA, defined neighborhood, street, etc.).

Assessment Participants

List the principal participants who assisted in data gathering and development of this assessment (include name, role/organization, phone and email). Participants can include your district forester, or Firewise® Board members for instance.

Participant 1	Margo Kennedy	FSC Lead	(707) 888-8948	margo@onemain.com
Participant 2	Carol Rice	Advisor, NCFF	(510) 502-4737	crice@napafirewise.org
Participant 3	JC Greenberg	CAL FIRE	(707) 337-5780	JC.Greenberg@fire.ca.gov
Participant 4				
Participant 5				

DEFINING YOUR FIREWISE USA® SITE

If there is already a Community Wildfire Protection Plan that includes your site, it can be helpful to use in filling out this information. Ask your State Forestry representative if one exists.

General Site Description

Site name: Angwin Fire Safe Council

City: It is generally a remote area, with the closest towns being the small communities of Pope Valley and Deer Park.

County: Napa

State: California

Boundary description (this could be defined by your HOA, subdivision, defined neighborhood, street(s), etc.):

The Angwin community boundary covers 11,635 acres in northwestern Napa County and is fully within the organized Angwin Fire Safe Council (FSC). The community is sandwiched between the Pope Valley FSC to the north and east, the Deer Park FSC to the west, the Lake Hennesse

Area (please indicate your unit of measurement) (OPTIONAL): 11,635 Acres

At the end of this document, please use the section provided to insert a map of your community's defined boundary.

General Site Information

Number of dwelling units – Firewise USA® participation requires a minimum of 8 individual dwelling units not to exceed 2,500 units within the site's identified boundary.

Contact **Firewise USA®** if you have questions about your area's eligibility, **visit our contact us** page.

Number of dwelling units: 1863

Number of residents: 3,640

Description of Properties within the Boundary

Residential types in your site (check all that apply):

- ☑ Single family
- ☑ Duplex
- ☐ Townhomes
- ☑ Apartment
- ☑ Mobile
- ☐ Other: _____

Types of ownership (check all that apply):

- ☑ Private
- ☐ Common
- ☐ Public (county, state, or federal)

Lot sizes (check all that apply):

- ☐ Less than 0.10 acres or 4,356 square feet
- ☑ 0.10–0.50 acres or 4,356–21,780 square feet
- ☑ 0.51–1 acres or 22,215–43,560 square feet
- ☑ Greater than 1 acre or 43560 square feet

Other site information that you would like to provide (OPTIONAL): Angwin is dominated by agricultural and vacant lands. Agricultural lands are mostly vineyards. Residential la

Description of local wildland fire characteristics:

Fire intensity and rate of spread depend on the vegetation type and condition (live/dead), topography, and typical weather patterns. This information can be obtained from your state forestry agency or local fire department.

Describe the common vegetation type(s) in your site (i.e., grasses, shrubs, and trees): There are six main vegetation categories within the Angwin are

Describe the topography within your site (include geographical features such as canyons, chimneys, steep slopes, indicate which direction slopes face, or note whether the area is flat): The area encompasses a broad range of slopes and aspects, and is mostly rugged. Slopes range from 0% on the eastern side o

Severe wind exposure:

- ☐ Not in an area with regular exposure to winds
- ☑ Regularly exposed to winds
- ☑ Frequent severe winds

History of wildfire:

- ☑ Area with history of fire occurrence
- ☐ Area with no history of fire occurrence
- ☐ Unknown

4

FIREWISE USA® SITE OBSERVATIONS AND RECOMMENDATIONS

Use this section to record observations from within your site and recommendations for action that can be included in the site's action plan. Consider taking photos to keep in your site's files that illustrate successful risk reduction efforts and areas that need improvement.

Remember, this is a community-wide view and should report on the overall conditions of the entire site. Although individual home risk assessments are not required in this section, they may end up being a recommendation for the Action Plan.

Observations

The observation section is broken down by the characteristics of homes and the vegetation management within the home ignition zones and common areas. Mark the appropriate box for each category that best represents the conditions within your site.

HOME IGNITION ZONES

Home: General building construction. Are the homes made of ignition resistant building materials?

Roofing materials: composite shingles, metal, cement tile and clay

- ☑ Greater than 75% of homes have metal, tile, or Class A asphalt or fiberglass shingles
- ☐ 50–75% of homes have metal, tile, or Class A asphalt or fiberglass shingles
- ☐ 25–50% of homes have metal, tile, or Class A asphalt or fiberglass shingles
- ☐ Less than 25% of homes have metal, tile, or Class A asphalt or fiberglass shingles

Soffit vents: a screened vent on the underside component of the eaves that allows air to flow to the attic or the space below roof sheathing

- ☑ Greater than 75% of homes have non-combustible soffit vents with mesh or screening
- ☐ 50–74% of homes have non-combustible soffit vents with mesh or screening
- ☐ 25–50% of homes have non-combustible soffit vents with mesh or screening
- ☐ Less than 25% of homes have non-combustible soffit vents with mesh or screening
- ☐ Unknown

Siding: stucco, masonry products, plaster, and cement

- ☐ Greater than 75% of homes have non-combustible siding
- ☑ 50–74% of homes have non-combustible siding
- ☐ 25–50% of homes have non-combustible siding
- ☐ Less than 25% of homes have non-combustible siding

Skirting: material used around the bottom of homes and sometimes decks to protect the underside from exposure

- ☐ Greater than 75% of homes have skirting underneath raised floors/decks
- ☑ 50–74% of homes have skirting underneath
- ☐ 25–50% of homes have skirting underneath
- ☐ Less than 25% of homes have skirting underneath

5

Attachments: wood vs. non-combustible materials. (Examples of non-combustible materials include decks made with wood-plastic composites, higher density tropical hardwood, or fire retardant treated decking materials, and fences that use metal or masonry where attached directly to the siding of a home.)

- ☐ Greater than 75% of homes have NO wooden attachments
- ☐ 50–74% of homes have NO wooden attachments
- ☑ 25–50% of homes have NO wooden attachments
- ☐ Less than 25% of homes have NO wooden attachments

Windows

- ☐ Greater than 75% of homes have multi-paned windows
- ☑ 50–74% of homes have multi-paned windows
- ☐ 25–50% of homes have multi-paned windows
- ☐ Less than 25% of homes have multi-paned windows
- ☐ Unknown what type of window exist (single pane vs. multi-pane)

Roof/gutter debris (leaf litter, pine needles, etc.)

- ☐ Greater than 75% of homes have cleaned and maintained their roof and gutters
- ☑ 50–74% of homes have cleaned and maintained their roof and gutters
- ☐ 25–50% of homes have cleaned and maintained their roof and gutters
- ☐ Less than 25% of homes have cleaned and maintained their roof and gutters

Gutter type

- ☑ Greater than 75% of homes have metal gutters
- ☐ 50–74% of homes have non-combustible gutters
- ☐ 25–50% of homes have non-combustible gutters
- ☐ Less than 25% of homes have non-combustible gutters

Immediate Zone: 0–5 feet from the furthest attached point of homes. This area addresses the immediate vegetation and materials, creating a combustible-free area.
Items to consider:

- Is there dead vegetation, dried leaves, pine needles, and ground debris near foundations?
- Has hardscaping been used around perimeters to keep them free of litter/debris? Are there concrete, stone, or gravel walkways?
- Have wood mulch products been replaced with non-combustible alternatives, such as crushed stone/gravel options?
- Are there trees/shrubs next to the home? Are there branches overhanging the roof or within 10 feet of chimneys?

- ☐ Greater than 75% of homes have treated vegetation and created a combustible-free area
- ☐ 50–74% of homes have treated vegetation and created a combustible-free area
- ☐ 25–50% of homes have treated vegetation and created a combustible-free area
- ☑ Less than 25% of homes have treated vegetation and created a combustible-free area

6

Intermediate Zone: 5–30 feet from the furthest exterior point of the home. This area uses landscaping and breaks (areas of non-combustible materials such as dirt, cement, or rock) to help influence and decrease fire behavior. Items to consider:

- Are there fuel breaks such as driveways, walkways/paths, patios, and decks?
- Are lawns and native grasses maintained? General recommendation is a height of 4 inches.
- Is vegetation in this area spread out? It is recommended that trees and shrubs should be limited to small clusters of a few each to break up continuity; trees should be spaced to a minimum of 18 feet between crowns.
- Have ladder fuels (vegetation under trees) been removed so a surface fire cannot reach the crowns? Have trees been pruned? General recommendations are up to 6 to 10 feet from the ground; for shorter trees, do not exceed 1/3 of the overall tree height.
- Are plants, trees, and lawns watered to keep them from becoming dry?

- [x] Greater than 75% of homes have treated vegetation
- [ ] 50–74% of homes have treated vegetation
- [ ] 25–50% of homes have treated vegetation
- [ ] Less than 25% of homes have treated vegetation

Extended Zone: 30–100 feet, out to 200 feet (where applicable). Generally, this area focuses on landscaping—managing the vegetation to influence fire behavior and spread. The goal here is not to eliminate fire but to interrupt fire's path and keep flames smaller and on the ground. At these distances, property lines may overlap, presenting the opportunity and need to work collaboratively with neighbors. Items to consider:

- Are there heavy accumulations of ground litter/debris?
- Is there dead plant and tree material that should be removed?
- Are storage sheds and/or other outbuildings in this zone clear of vegetation?
- Do mature trees have small conifers and brush growing between them or is the space maintained?
- Do trees 30–60 feet from the home have at least 12 feet between canopy tops? Is there at least 6 feet between canopy tops of trees located 60–100 feet from the home?

- [ ] Greater than 75% of homes have treated vegetation
- [x] 50–74% of homes have treated vegetation
- [ ] 25–50% of homes have treated vegetation
- [ ] Less than 25% of homes have treated vegetation

Common areas or adjacent public lands: (community owned/managed)

- [ ] Not adjacent to wildlands with accumulated fuels
- [x] Adjacent to wildlands with accumulated fuels

Is there a management plan for these fuels? If so, please describe: Large parcels of commercial timber have a timber management plan in place.

Management on lands with a conservation easement of held by the Napa Land Trust is constrained;management along roadways and near structures are prioritized Other large parcels have no management plans.

Additional comments or observations regarding site conditions: _____

7

Summary

Use this section to summarize findings in observations. The percentages captured will help you briefly explain a snapshot of your community's current status and areas for successful focus. List areas where there is significant success and areas where improvements could be made, especially at low cost with sweat equity/volunteer labor. Of the three home ignition zones, emphasis should be on the immediate zone.

Example: Greater than 75% of homes observed have non-combustible roofs; however, there were several noted with wood shake shingles.

Building Construction
Homes in the Angwin Firesafe Council are at risk from wildfire. Key weaknesses to many homes exist, making the buildings prone to ignition. There are wooden attachments on many homes, and some homes have combustible siding, and uncleaned/unmaintained gutters. Some homes also do not have multi-paned windows or skirting. We would like to see over 75% of all homes having all of the ignition resistant features.

Fuel and Defensible Space
Extended zone landscaping in the Angwin 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. In the intermediate zone, more than 75% of homes have treated vegetation and but fewer than 25% have created a combustible-free area in the immediate zone. We want this percentage higher, in the 75% plus zone.

8

Recommendations

Using the findings from the observation phase, identify actions and steps that can be taken to reduce the site's risk from wildfire. Prioritize recommendations based on the potential fire threat to homes. It's recommended that residents address hazards at the home first and work their way out into the three home ignition zones. Remember, small things can have a huge impact on home survivability. Use these recommendations to create your site's action plan.

Examples:

- Less than 75% of homes observed had a roof free of leaf litter, pine needles, and other debris. Encourage residents to remove the debris and keep those areas clean to work towards greater than 75% compliance.
- Bark mulch is widely used within the immediate area. Recommend removing bark mulch and replacing with an ignition-resistant material, such as crushed stone or gravel.
- Work with residents to improve the number of homes that have removed flammable materials 0–5 feet from the home.

Homes and Landscaping:
AWFSC should work with residents to make homes and buildings less prone to ignition, decreasing the number of structures with wooden attachments and increasing the number of homes with non-combustible siding, clean gutters, multi-paned windows and skirting. The FSC should investigate financial incentives for home hardening, and showcase homes that are good examples in the community.

Fuel and Defensible Space:
Angwin FSC should work with residents to improve the number of homes that have removed flammable material, particularly within the immediate zone to achieve 75% plus, and research other landscaping actions that would provide protection against wildfire spread. AWFSC should encourage residents to continue to participate in local free chipping programs.

AWFSC should continue to initiate and support major fuel breaks and roadside vegetation projects in the community. Due to concerns with roadside fuel and potential impact on evacuation, AWFSC should continue to conduct roadside vegetation treatments along key access routes and expand treatment to other roads as well.

Outreach:
Regular coordination between AWFSC committee members is essential for project productivity and wildfire emergency preparation. AWFSC should continue to convene board meetings to review plans and should participate in wildfire-related education and informative meetings. AWFSC should obtain and distribute educational information on defensible space, home hardening and preparation for fire emergencies. Detailed updates regarding plans, projects, and relevant information from information meetings should be provided to the community, and educational events should be held to access home hardening information, materials, and resources. AWFSC should also continually develop partnerships and collaborations with other Fire Safe Councils and agencies.

Evacuation and Wildfire Preparedness:
In addition to treating vegetation along evacuation routes, resident outreach, and communication are essential for adequate preparation and effective evacuation. AWFSC should periodically update their evacuation plan, create a notification plan, and encourage residents to know their neighbors' special needs. AWFSC should work with residents to install 911-compliant reflective address signage and add informational resource stickers for first responders, invest in radios, and practice communication regularly.

NEXT STEPS

The information you have collected during the assessment process will help you develop recommendations that can be applied to your site's action plan. Action plans are a prioritized list of risk reduction projects and the related investments needed to achieve them for the site. Action plans also highlight suggested homeowner actions and education activities that participants will strive to complete annually, or over a period of multiple years. Action plans should be **updated at a minimum of at least every three years.**

Visit, **How to Become a Firewise USA site,** to view the full list of required criteria needed to complete the Firewise USA® recognition program's application process. Or **visit the Program Management portal** to start your application.

Although not required, you may also consider adding addenda that cover the following community/fire safety issues:

- Hydrant locations
- Ingress/egress routes for the community
- Location of fire district and its capabilities
- Street signs and address numbers
- Water supply for fire response

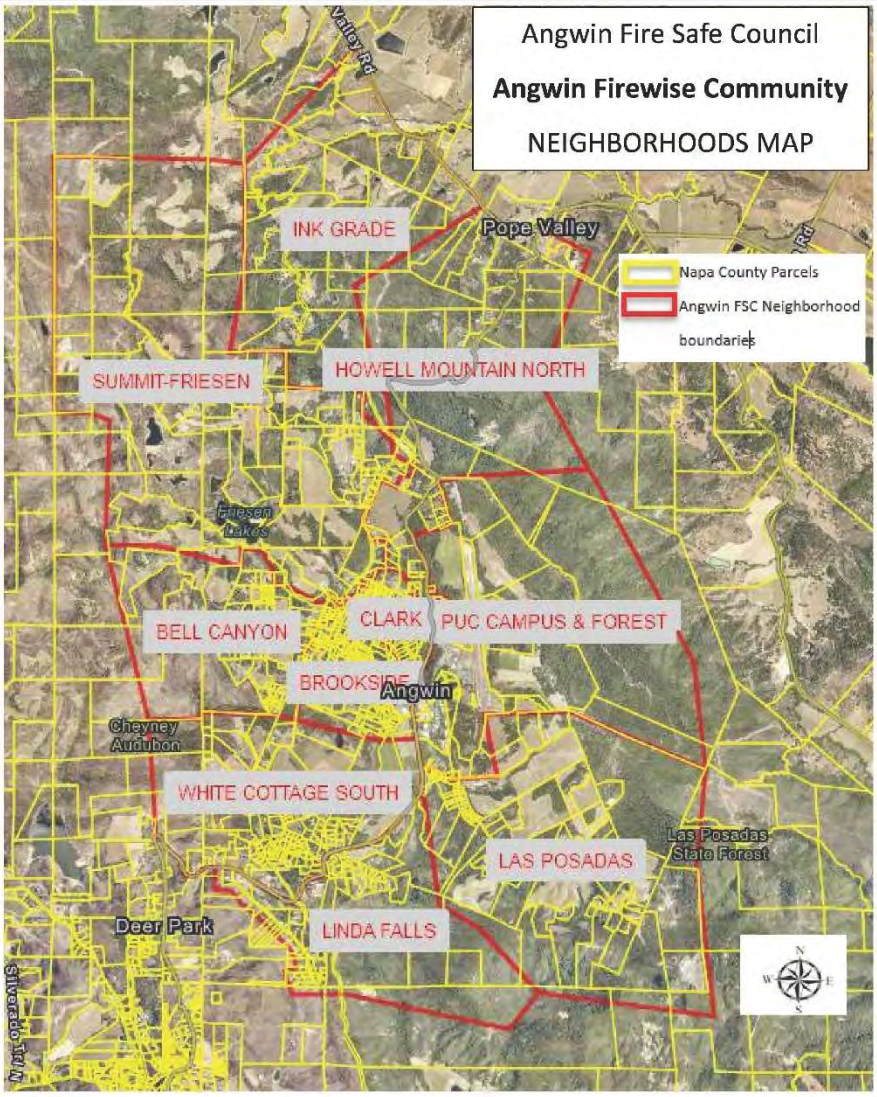
We recommend reaching out to your local fire department for assistance in determining what other safety issues to address.

See next page to insert a map of your community's defined boundary.

10

MAP OF YOUR COMMUNITY'S DEFINED BOUNDARY

Click in the box to insert your image.



1. Clark Neighborhood Alison Frichtl, alison.frichtl@gmail.com (707) 299-9509
2. Brookside + Bell Canyon — Lauren Larin, lmlarin@gmail.com (707) 363-5263
3. PUC Campus will be combined with Howell Mtn North — Peter Lecourt, plecourt@puc.edu (707) 291-8395
4. White Cottage South+ Linda Falls — Scott Sandin, s.sandin@comcast.net (707) 888-7865
5. Summit-Friesen + Ink Grade and Las Posadas — Margo Kennedy, angwin@napafirewise.org (707) 888-8948

Appendix/Definitions

These resources will additionally provide aid in understanding the interaction between wildfire behavior and the home ignition zone:

- E-learning: Understanding the Wildfire Threat to Homes, **visit our online courses.**
- Preparing Homes for Wildfire: Actions that reduce risk – tips and resources, **visit our page Preparing Homes for Wildfire.**

Dwelling Unit: Household/residence built for occupancy by one person, a family, or roommates, including mobile homes and cabins, and for multi-family residential occupancies (i.e. duplexes, and other types of attached housing). An apartment building with 10 units would be considered 10 dwelling units.

Home Ignition Zone: The home and everything around it out to 100 feet. The condition of the home and surrounding landscape within 100 feet will influence the ignitability of the structure.

Firewise USA® Action Plan: A prioritized list of risk reduction projects/investments for the participating site, along with suggested homeowner actions and education activities that participants will strive to complete annually, or over a period of multiple years. The submitted action plan should be broken down by year and reflect those goals (with examples attached). This document is required to be updated at least **every three years**. As circumstances change (e.g., completing activities, experiencing a fire or a natural disaster, new construction in community, etc.), the action plan may need to be updated more frequently.

Firewise USA® Community Wildfire Risk Assessment: An assessment that focuses on the risk of home ignition from wildfires by looking at the conditions of the homes and surrounding home ignition zones. It is used to help guide residents on the most effective actions to prevent home ignitions and wildfire disasters. This document is required to be updated at least **every five years.**

Firewise® Board or Committee: A group comprised of residents and other applicable stakeholders. Consider inviting the local fire department, state forestry agency, elected officials, emergency manager, and, if applicable, the property management company to participate. The board/committee will guide the efforts of the Firewise USA® site, using the risk assessment to identify and prioritize activities in the action plan.

Firewise® Resident Leader: A member of the community that is designated as the lead for a Firewise USA® site and is a part of the Firewise® board or committee. They are the primary contact between the community and the program, responsible for completing the initial recognition application and annual renewal application via the online management portal (Firewise® Portal). A site may have more than one designated resident leader assigned in the Firewise® Portal.

State Liaison: Typically, the employee of the organization that hosts the official state forester. This person is designated by the state forester, is responsible for setting the direction of Firewise USA® implementation in the state, and is the state's main contact to the national program. They are also responsible for reviewing and approving new site applications and may choose to review annual renewal applications. A list of state liaisons can be found on NFPA's website so, you can **contact your state liason.**

Voluntary Recognition Program: Firewise USA® is a volunteer program that provides a set of criteria that residents choose to work towards. It is not required for individuals in wildfire prone areas to participate in or be a part of in order to take risk reduction actions.

Firewise USA® was loosely modeled after the Arbor Day Foundation's Tree City USA program, enabling residents to come together voluntarily to meet a set of criteria that qualify them for national recognition. This means that residents choose to be involved and determine their site's boundaries. When they meet the Firewise USA® criteria, they earn national recognition for doing so. Each year, when verifying they are continuing to reduce wildfire risks in the community, they continue to enjoy national recognition and remain in good standing by continuing to meet the criteria. Recognition comes in the form of signage and publicity on the Firewise.org website, at a minimum.

Firewise® Portal: Online community/Firewise USA® site management system. All new and renewal applications for recognition are completed via the portal.

Application for Recognition: In order to be a recognized participant in the Firewise USA® program, a site must meet program criteria and the online application found in the Firewise® portal must be filled out. There are eight steps to the application:

- Step 1: Overview — This includes the basic community information (contacts, size, location).
- Step 2: Risk Assessment — The wildfire community risk assessment must be uploaded into the application. It carries over each year until the five-year update cycle is reached.
- Step 3: Board/Committee — A site must acknowledge that they have a board/committee and may choose to share committee member names and email addresses. This provides NFPA with backup contacts in case the resident leader is unreachable.
- Step 4: Action Plan — The developed action plan must be uploaded to the application; it carries over each year until the three-year update cycle is reached.
- Step 5: Educational Outreach — Each participating site is required to hold a minimum of one wildfire risk reduction educational outreach event or activity annually. Examples of acceptable events can be found in that section of the application.
- Step 6: Vegetation Removal — A major component of wildfire risk reduction is the removal of vegetation (shrubs, brush, limbs, trees, etc.) from individual properties and common-area property. Tracking vegetation removal provides forestry and fire agencies with information on the quantity of potential wildfire fuel that's been eliminated from the area(s). This section provides tools to help a community estimate its vegetation removal in cubic yards.
- Step 7: Investment — Investing the equivalent of one volunteer hour (valued at $25.43) per residential dwelling unit within the site's boundary in annual wildfire risk reduction actions is a requirement of the national recognition program's criteria for maintaining an "In Good Standing" status. Annual investment information can be reported in hours worked or money spent.
- Step 8: Review — Verify that each component of the application has been filled out correctly before submitting the application.

Annual Renewal: In order to remain "In Good Standing" in the program participating sites will need to complete an annual renewal application. This application is typically due mid-November. Requirements are similar to the initial application for recognition. More information can be found online, by visiting our Annual Renewal Information page.

13

Certificate of Recognition: Sites that successfully meet the participation requirements are provided a "Certificate of Recognition." This is provided upon approval of the initial application for recognition and on an annual basis upon approval of the renewal application. The certificate can be accessed from the community's dashboard on the Firewise® Portal.

Certified vs. Recognized: As described in the definition of Voluntary Recognition Program, Firewise USA® sites meet a set of criteria to earn national recognition, and continue to meet specific criteria annually to remain in good standing with the program. The words "certified" and "certification" are not affiliated with the Firewise USA® program. To be "certified" implies that an individual has demonstrated specific competency in a job role or skill set. An example would be a certified electrical safety technician. Organizations can also be certified, generally meaning they meet qualifications that give them access to specific benefits or resources. An example would be the Women's Business Enterprise National Council (WBENC) certification that validates that a business is 51 percent owned, controlled, operated, and managed by a woman or women. Firewise USA® sites are not certified, and neither do individuals nor their properties within site boundaries receive certification.

Appendix B

How to utilize the California Required 3-Year Action Plan

Template designed for PC and may have minor formatting issues on Mac

Thank you for doing your part in protecting your community against wildfire. When possible, please seek guidance from your local fire official or your Firewise USA Regional Coordinator when completing this document, this inclusion can provide you and your community with peace of mind that experienced recommendations are focusing your community's time and efforts. Goals for this plan ***must*** include the "Recommendations" located on page 9 for the Firewise USA Risk Assessment document.

Also, as part of the annual renewal process communities must host one outreach event per year and work with neighbors on addressing items within the action plan as required by Firewise USA.

Please note that defensible space is required at all times for all buildings or structures within California's State Responsibility Area under Public Resource Code 4291 and for Local Governments with designated Very High Fire Hazard Severity Zones under Government Code 51182. Consult your local fire authority for local defensible space requirements if your community is outside of the land classifications above.

1. Double click in the page 2 header area and enter the name of your Firewise Community and enter the 3-year span this action plan will apply to.
2. Community description. Enter a brief description of your community. An example has been provided for you, but please replace with your own community description.
3. In the Year banner, enter the year that will apply to the Year 1 efforts. Repeat this step for years 2 and 3, entering the consecutive years.
4. Utilizing the numbered points, enter the tasks that have been identified by your community. You can add additional numbered tasks you have identified for your community; however, the Program Topics must be utilized.
5. To add additional goals under each category, simply use the last, pre-identified numbered point, to add as necessary.
6. The document will auto format and expand as information is entered.
7. Once the document is completed it can be submitted through the Firewise Portal.

Helpful links for creating a three-year action plan.
NPFA Firewise USA, Time and Expanse Investment Examples (Here)
CAL FIRE Defensible Space (Here)
Ready for Wildfire (Here)
California Department of Insurance, Safer from Wildfire Information (Here)

Angwin Fire Safe Council
Community Wildfire Action Plan 2024-2026

FIREWISE USA®
RESIDENTS REDUCING WILDFIRE RISKS

Please enter a brief description of your community and delete the example below
The Angwin community boundary covers 11,635 acres in northwestern Napa County and is fully within the organized Angwin Fire Safe Council (FSC). The community is sandwiched between the Pope Valley FSC to the north and east, the Deer Park FSC to the west, the Lake Hennessey FSC to the south, and part of the Calistoga FSC to the northwest. It is generally a remote area, with the closest towns being the small communities of Pope Valley and Deer Park. Within this area, data records show approximately 1,010 parcels and 1,863 structures. Elevation ranges from 577 feet in the southwestern corner near Crystal Dam to over 2,460 feet in the northwestern corner near several prominent peaks. The area is best characterized by steep and rugged terrain in both the northern half and the southern third, with the area in between consisting of mostly gentle slopes. Howell Mountain occupies the majority of the FSC, with Pacific Union College situated near its peak in the town of Angwin. The residential areas are located at a variety of elevations, but the majority are at higher elevations on Howell Mountain. There are many rural residents within the Angwin community boundary. They are mostly concentrated in the town of Angwin around Pacific Union College, as well as in the southwestern portion near the town of Deer Park. There are also lower density residential areas in the northeastern portion of the FSC along Howell Mountain Rd and Ink Grade. Outside the boundary, there are many homes clustered in Deer Park to the west, along with some more dispersed homes in Pope Valley to the east. This action plan is based mainly on the Napa Community FireWise Evaluation of November, 2023.

Year 1 – 2024

Education and Outreach Goals

1. Determine most effective communication systems that could be used to disseminate wildfire information to the community.

2. Develop flyers/handouts, mailers to promote fire safety practices, announcements and events.

3. Develop a newsletter to distribute educational information on defensible space, home hardening and preparation for fire emergencies, fire safety education, best practices, announcements, and promote events.

4. Promote and encourage participation in Napa County Chipping program.

5. Convene at least one community meeting to update on the latest fire-related programs and

Angwin Fire Safe Council
Community Wildfire Action Plan 2024-2026

activities.

6. Convene at least two board meetings to review programs and plans.

7. Provide information and encourage sign-ups for Call'em all and Nixel.

8. Develop a database of conditions assisting fire response and provide them to fire fighters, e.g. water sources, access conditions.

9. Update FSC's public-facing webpage with informational and educational materials.

Home Hardening Goals

1. Encourage participation in the County home-hardening cost-share program.

2. Obtain and post educational materials on webpage and in newsletter of best practices for structure retrofitting.

3.

Defensible Space / Fuel Reduction Goals

1. Provide information on cost-share defensible space programs. Emphasize and improve defensible space, assuring 100 feet of defensible space around all structures in the community; disseminate information regarding landscape modification actions that would provide protection against wildfire spread.

2. Support all of the ongoing NCFF projects including roadside fuel reduction, fuel break, WUI, and forest health projects by helping gather landowner agreements for such work.

3. Seek funding for identified high priority projects, including PUC campus fuel break and forest fuel mitigation; Ink Grade fuel break, and Angwin neighborhood fuel mitigation projects.

4. Promote Napa County chipping days on webpage

Evacuation Planning (Ex. Preparedness and Routing) and Wildfire Preparedness

1. Establish the PUC Campus and other probable "Safe Zones" for the Angwin community, in case safe

Angwin Fire Safe Council
Community Wildfire Action Plan 2024-2026

FIREWISE USA®
RESIDENTS REDUCING WILDFIRE RISKS

evacuation from a fire is not possible for Angwin residents.

2. Install compliant reflective address numbers for all homes in the AWFSC; participate in the "Reflect to Protect" program.

3. Gather vital information regarding residents that may require help in case of evacuation.

4. Create or update pre-attack map identifying firefighting resources, e.g., water, access routes.

5. Install a "Knox Box" type of facility at gated entries and be sure emergency services have access.

Year 2 - 2025

Education and Outreach Goals

1. Install Firewise community signage at visible locations.

2. Continue to provide information and encourage participation in the communication system chosen in 2024, e.g. Call'em all, Nixel or radios

3. Continue to distribute a newsletter promoting fire safety education, best practices, announcements, and events.

4. Distribute flyers/handouts, mailers to promote announcements and events.

5. Convene at least one community meeting to update on the latest fire-related programs and activities.

6. Convene at least two board meetings to review programs and plans.

7. Continue to promote and encourage participation in Napa County Chipping program.

8. Update database of conditions (created in year 1) to assist fire response and provide the information to fire

Angwin Fire Safe Council
Community Wildfire Action Plan 2024-2026

3. Update information in the 'Knox Box' type of facility as needed and be sure emergency services have access.

4. Conduct evacuation drills for the PUC campus community and neighborhoods.

5. Inform/remind residents about "Safe Zones" established for the Angwin community, in case safe evacuation from a fire is not possible for Angwin residents.

6. Ensure all homes have compliant reflective address numbers, possibly through another "Reflect to Protect" program.

Year 3 - 2026

Education and Outreach Goals

1. Continue to distribute a newsletter promoting fire safety education, best practices, announcements, and events.

2. Distribute flyers/handouts, mailers to promote announcements and events.

3. Convene at least one community meeting to update on the latest fire-related programs and activities.

4. Convene at least two board meetings to review programs and plans.

5. Continue to promote and encourage participation in Napa County Chipping program.

6. Update database of conditions (created in year 1) to assist fire response and provide the updated information to fire fighters, e.g. water sources, access conditions.

Angwin Fire Safe Council
Community Wildfire Action Plan 2024-2026

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7. Update/refresh FSC's public-facing webpage with informational and educational materials.

Home Hardening Goals

1. Conduct additional individual property lot inspections with homeowners and advise on needed work.

2. Update educational materials on best practices for structure retrofitting, and disseminate via newsletter, flyers, and webpage, other means TBD

3.

Fuel Reduction Goals

1. Continue to seek funding for identified high priority projects listed in year one, and the ongoing maintenance of those projects.

2. Continue to support the completion and maintenance of NCFF projects including roadside fuel reduction, fuel break, WUI, and forest health projects.

3. Continue working with residents to create 100 feet of defensible space around all structures in the community.

4. Continue to promote Napa County chipping days on webpage

Evacuation Planning (Ex. Preparedness and Routing) and Wildfire Preparedness

1. Ensure all homes have compliant reflective address numbers.

2. Conduct additional evacuation drills for the PUC campus community and neighborhoods.

3. Update information in Knox Boxes as needed and be sure emergency services have access.

Angwin Fire Safe Council
Community Wildfire Action Plan 2024-2026

4. Update vital information regarding residents that may require help in case of evacuation.

5. Inform/remind residents about "Safe Zones" established for the Angwin community, in case safe evacuation from a fire is not possible for Angwin residents.

Appendix C

Carbon Emission Polices

The State of California and Napa County have both committed to support policies and management actions with the goal of reducing carbon emissions and increasing carbon storage (also known as carbon sequestration) to achieve net carbon emissions in the years to come.

In recent policy and management frameworks, both State and County policies are linking carbon sequestration goals with hazardous fuels reduction and wildfire risk mitigation. Napa County Regional Climate Change Action Plan (RCCAP)[1] and California Climate Action Plans[2] illustrate the trade-offs between managing wildfire risk with short term carbon increases through vegetation management, and preserving the long term carbon by preventing severe and extensive wildfire. These programs work to reduce hazardous fuel conditions with the goal of protecting ecosystems and communities from wildfires and the vast amounts of greenhouse gas and carbon that they release.

In addition to fuel hazard reduction, state policy (e.g., AB 32[3]) aims to maintain and increase net carbon sequestration rates in forests and other natural lands. Programs such as CAL FIRE's Wildfire Prevention Grants and Forest Health Grants are providing support for vegetation treatments that reduce wildfire hazard while maintaining or enhancing ecosystem carbon storage. These programs are often funded through California Climate Investments (cap-and-trade revenue) and prioritize reducing greenhouse gas emissions from wildfires and improving long-term carbon sequestration through healthier vegetation and forests. These projects are grounded in the recognition that reducing fuel loads lowers the probability and severity of catastrophic wildfire—and thus the massive carbon emissions associated with such events—while also improving ecosystem resilience.

Scientists and land managers recognize that trade-offs exist between different hazardous fuels treatments when carbon sequestration is also a goal. Prescribed fire mimics natural fire regimes, reducing surface fuels that contribute to catastrophic wildfire and promoting fire-tolerant vegetation; however, it releases carbon immediately during burning, with sequestration benefits realized over the longer term as forests recover and store carbon in wood and soils. Mechanical treatments such as thinning or mastication reduce fuel continuity and can improve growth conditions for remaining trees, potentially increasing overall carbon growth rates, but they often require heavy machinery that emits greenhouse gases and can disturb soils. Targeted grazing—using livestock to consume fine fuels like grasses and shrubs—can reduce fuel loads with relatively low fossil fuel inputs and some ecological co-benefits, such as improved plant diversity and soil health that support carbon sequestration. Grazing, however, may not be suitable in all ecological contexts and its effectiveness varies with timing, stocking rate, and landscape configuration.

Overall, policy and practice in California and Napa County seek a balanced portfolio of approaches that reduce wildfire risk while enhancing carbon sequestration. Integrative

planning—such as prioritizing fuels treatments that maintain forest productivity, using prescribed fire where ecologically appropriate, and incorporating low-impact methods like grazing where feasible—helps maximize climate and community resilience benefits. Effective implementation also requires ongoing monitoring, adaptive management, and community engagement to navigate ecological, logistical, and emissions trade-offs inherent in different fuel reduction strategies.

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