Berryessa Highlands Fire Safe Council Community Wildfire Protection Plan

December 12, 2025

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Executive Summary

The Berryessa Highlands Fire Safe Council (BHFSC) 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 BHFSC 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.

Decision Makers

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

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

Community Evaluation

A Community Evaluation, dated (May, 2023) was engaged by NCFF and the BHFSC and prepared by Carol Rice, a wildland fire manager specializing in fire risk issues, and includes input from the BHFSC 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 Berryessa Highlands area in eastern Napa County. The area is located in the interface between wildlands and developed areas where fires may spread from wildlands to homes, possibly damaging structures or even threatening lives. Conversely, 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

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

terrain, weather, fuels and fire history of the area, compared to the values at risk, and likely scenarios of fire ignition and spread.

The Berryessa Highlands community boundary covers 2,342 acres in eastern Napa County and is fully within the organized Berryessa Highlands Fire Safe Council (FSC). The community is located on a large peninsula, sandwiched between Lake Berryessa to the north and west, Wragg Canyon to the east, and Capell Valley to the south. It is generally a remote area, with Spanish Flat the closest town to the northwest (Figure 1).

Within this area, data records show approximately 607 parcels and 425 structures. The elevation ranges from 430 feet along the edge of Lake Berryessa to around 1,500 feet at the most prominent peak along the southern part of Wragg Ridge. The area is best characterized by steep and rugged terrain in the southern and central portions, with more moderate slopes in the northern portion. It borders Lake Berryessa, a major geographical feature in Napa County. The residential area in the center is situated at intermediate elevations overlooking Lake Berryessa.

There are many rural residents within the Berryessa Highlands community boundary. They are mostly concentrated in the central portion of the area, although there are also several larger residential properties along the northern part of Steele Canyon Road. Outside the boundary, there are more dispersed homes in Steele Canyon to the south and Wragg Canyon to the southeast. There is also a cluster of homes near Spanish Flat to the northwest.

More details on each will be presented in the following sections.

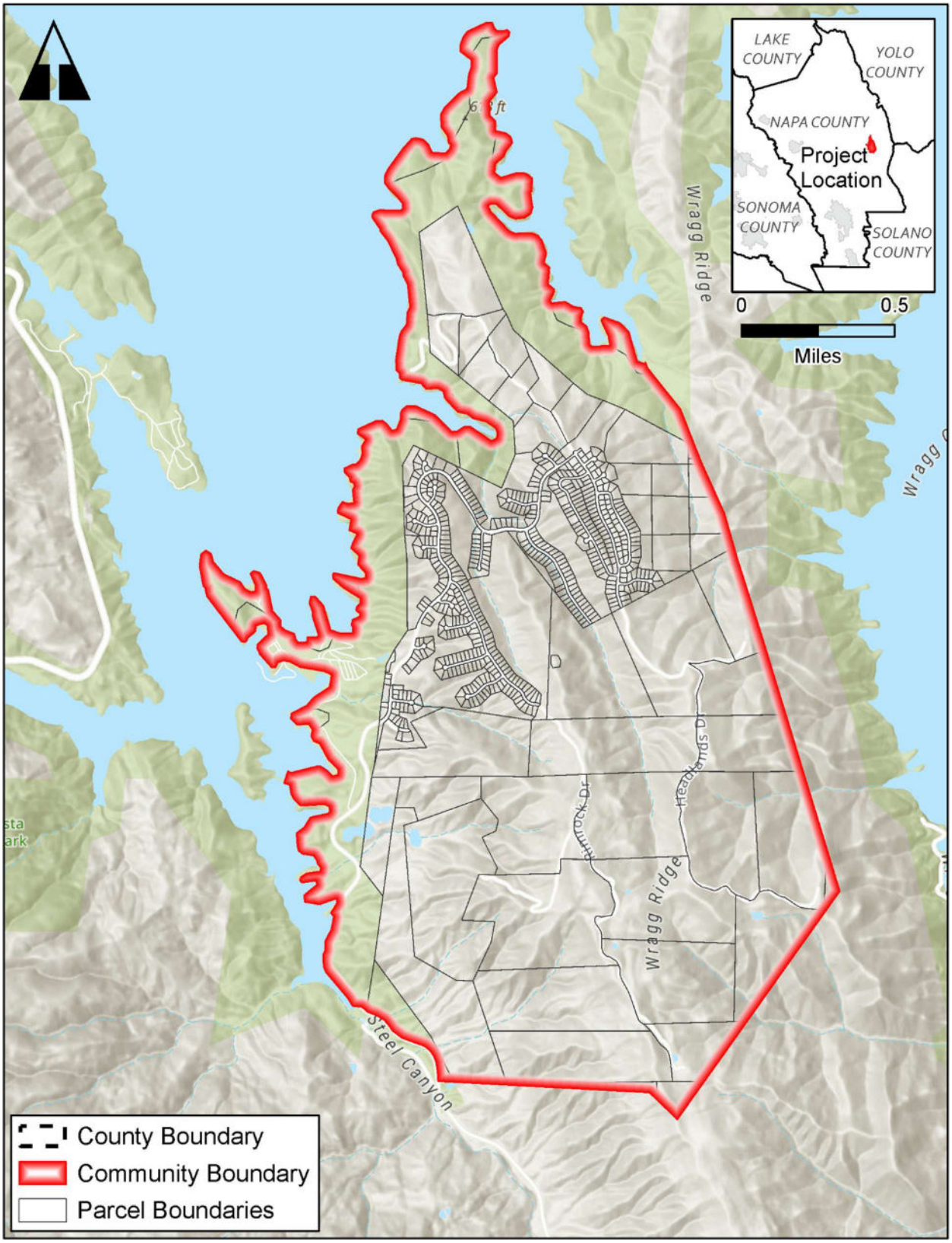

Figure 1. *Area of interest – Berryessa Highlands FSC boundary (shown in red).*

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 Berryessa Highlands 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. Several have wood porches, decks, and fences. 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, though they are usually adjacent to steep slopes (Figure 2). There are a few roads that branch off from Steele Canyon Road and connect to many structures in the center of Berryessa Highlands. Structures tend to have short driveways, but several have long and narrow driveways, often with only one ingress/egress route.

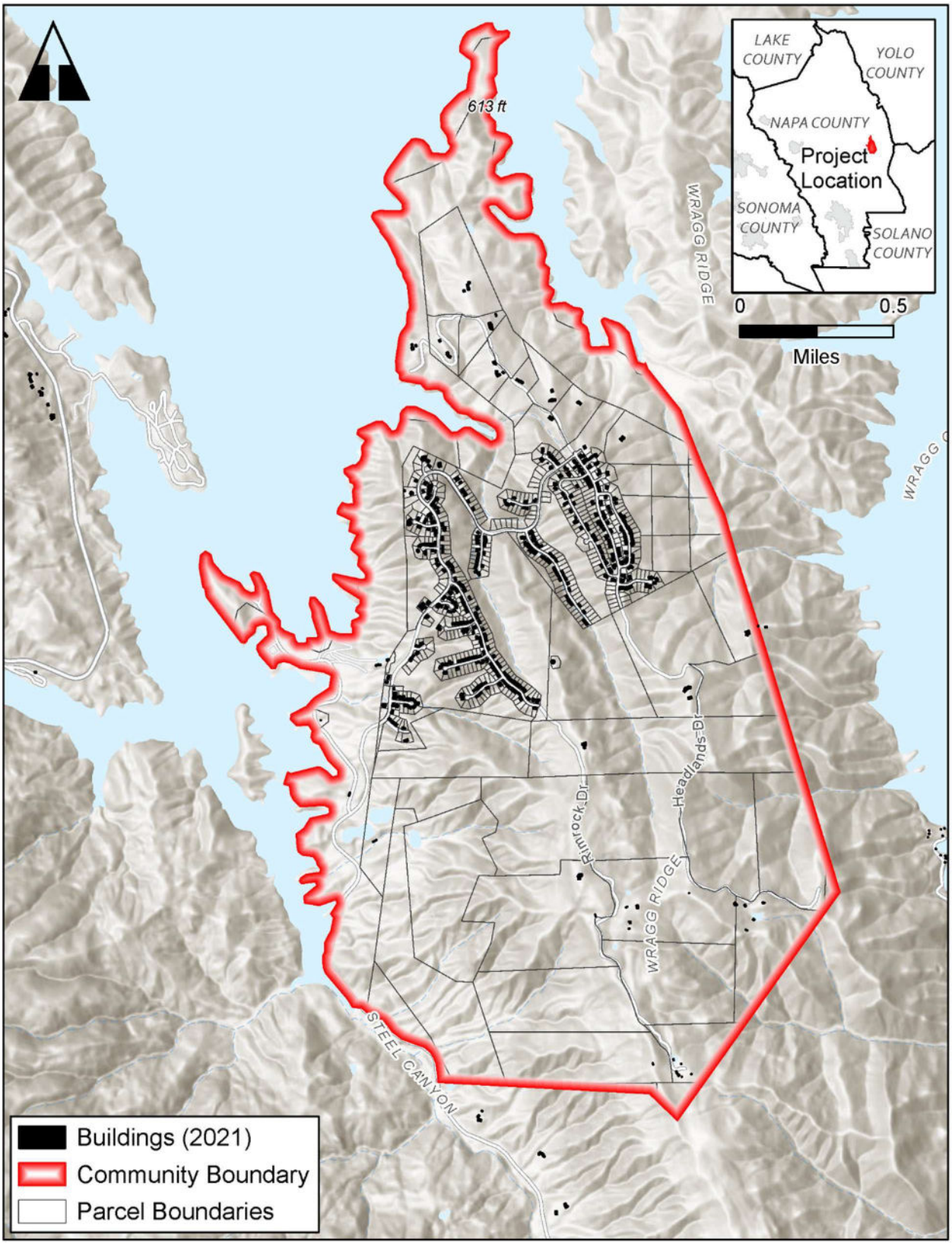

Figure 2. *Structures (shown in black) within Berryessa Highlands community boundary.*

Land Use: The Napa County parcel database shows that Berryessa Highlands is dominated by vacant lands (Table 1). Vacant lands account for 79% of the lands within Berryessa Highlands and are spread throughout the area. 55% of these vacant parcels are rural, and another 24% are non-taxable vacant parcels.

Residential lands account for 18% of the total area. Most of these are smaller residential parcels in a central neighborhood area. However, there are also several larger residential parcels to the north and southeast of this neighborhood. These lands are critical for fire protection. Additionally, two parcels that make up 0.04% of the total area are designated as commercial. They are both improved land adjacent to residential and vacant areas.

2% of the total area falls into the agricultural category. This is located in a single vineyard at the northern end of the FSC area.

Table 1. *Number of parcels and county land use within the Berryessa Highlands area (Napa County GIS Open Data Portal, accessed in July 2021).*

Category	Acres	Parcel Count	Percent (%)
Agricultural	**40**	**1**	**2%**
VINEYARD > 5 AC W/1 RES	40	1	2%
Residential	**415**	**235**	**18%**
RURAL RES < 5 AC W/1 RES	78	223	3%
RURAL RES < 5 AC W/2 SFRS	45	1	2%
RURAL RES > 5 AC W/1 RES	282	10	12%
RURAL RES > 5 AC W/2 SFRS	11	1	0.5%
Vacant	**1851**	**372**	**79%**
VACANT LAND NON-TAXABLE	559	6	24%
VACANT LAND R/W	1	2	0.1%
VACANT LAND RURAL	1291	363	55%
VACANT RURAL W/MISC IMPS	0.3	1	0.01%
Commercial	**1**	**2**	**0.04%**
IMPRVD LAND NON-TAXABLE	1	2	0.04%

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% at a few spots along the ridgelines to over 80% in the northern part of the primary residential area as well as in the southeast near Johnson Canyon (Figure 3). The ridges often have the gentlest terrain, and also the greatest number of houses (above the vegetation). Additionally, houses are located in canyon bottoms as well as on some mid-slope roads that are above and below steep slopes.

Wragg Ridge, a steep ridgeline, runs north-south through the eastern half of the area. This is an important control location for fires. There are several peaks along this ridgeline as well as to the east and west. The Steele Canyon Resort is located at the western edge of the area, stretching out into Lake Berryessa on a small peninsula.

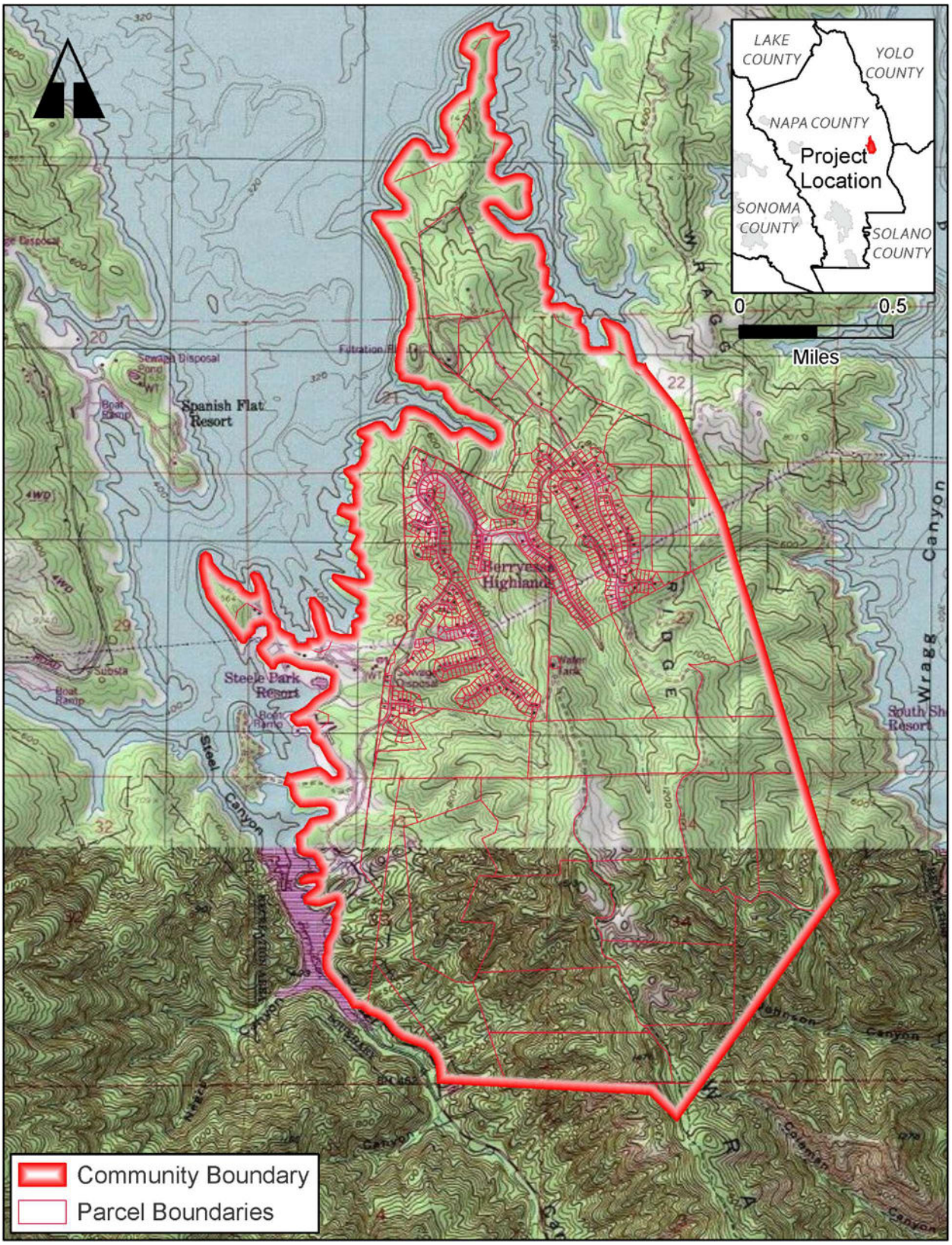

***Figure 3**. USGS Topographic map of the Berryessa Highlands FSC (boundary shown in red).*

Watersheds and Orientation of Canyons:

- Burrell Canyon: This canyon runs in the northeast-southwest direction and is located slightly southwest of the FSC boundary. It is aligned with the predominant winds from the southwest and the more concerning Diablo winds from the northeast.
- Coleman Canyon: This canyon lies southeast of the FSC boundary and runs in the northwest-southeast direction, connecting to Cherry Valley in the east.
- Johnson Canyon: Johnson Canyon lies mostly outside of the boundary to the east and is oriented in the east-west direction. The western end of this canyon crosses into the Berryessa Highlands area.
- Steele Canyon: Steele Canyon follows the southwestern edge of the Berryessa Highlands boundary and runs into Lake Berryessa. It is aligned in the northwest-southeast direction.
- Wragg Canyon: Wragg Canyon is located east of Wragg Ridge outside the FSC boundary. It is a wide canyon that runs north-south into Lake Berryessa.

The Berryessa Highlands area is split between the Steele Canyon Watershed and the Wragg Canyon Watershed (Figure 4). Wragg Creek and Putah Creek both lie east of the FSC boundary. Within the boundary, there are several seasonal creeks that flow into Lake Berryessa.

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

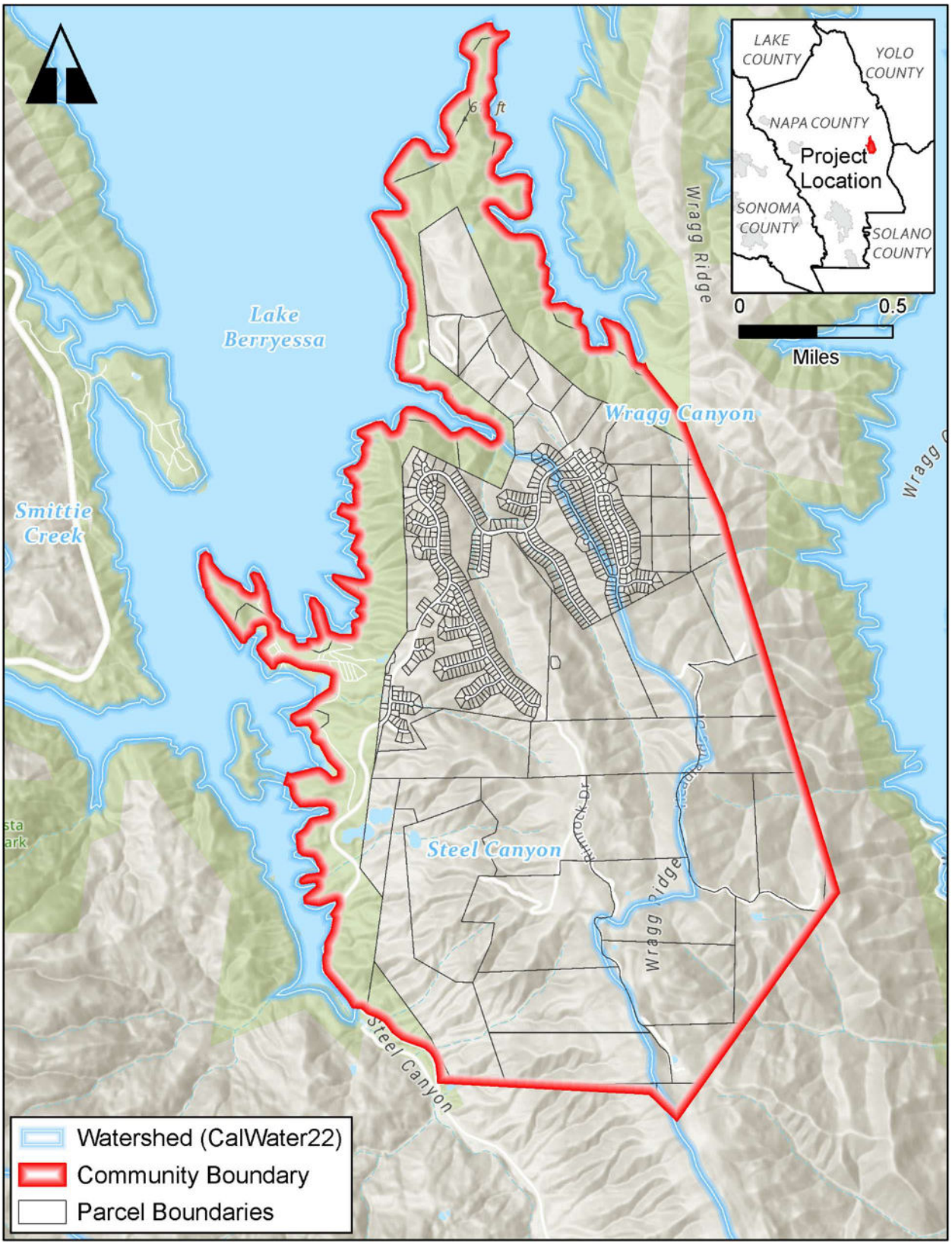

Figure 4. *Watershed map of the Berryessa Highlands area (boundary shown in red).*

Weather

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

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

The Berryessa Highlands 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 north-to-south or northwest-to-southeast aligned ridges with several peaks in the southern 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. The southern section has peaks and 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, two fires, the IDA CLAYTON fire and the SILVERADO fire also started under these conditions. More recently, the TUBBS and NUNS fire in 2017 and the

GLASS fire in 2020 also followed this pattern and burned substantial parts of Napa County, not far from the Berryessa Highlands area of interest and 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 Berryessa Highlands area can exacerbate its risk from the Diablo winds. This is because these foehn or subsiding winds accelerate with decreasing elevation.

Climate Change

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.

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 elevation 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 ensures wildfires now burn under more extreme conditions and more severely, 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

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

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[2] (updated from the 2004 version) was used as reference for this evaluation. There are six main vegetation categories within the Berryessa Highlands area along with two non-veg types (developed, and streams and reservoirs). The major vegetation categories mapped are listed in Table 2.

Table 2. *Vegetation acres by major vegetation categories within the Berryessa Highlands area (Vegetation Map of Napa County).*

Vegetation Major Category	Acres	Percent (%)
Agriculture	8	0.4%
Coniferous Forest	144	6%
Developed	162	7%
Grassland	47	2%
Oak Woodland	1831	78%
Riparian Woodland	0.2	0.01%
Shrubland	130	6%
Streams and Reservoirs	19	1%

In addition, the landscaped environment surrounding buildings and homes includes vegetation not captured in the vegetation.

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 5a).

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

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

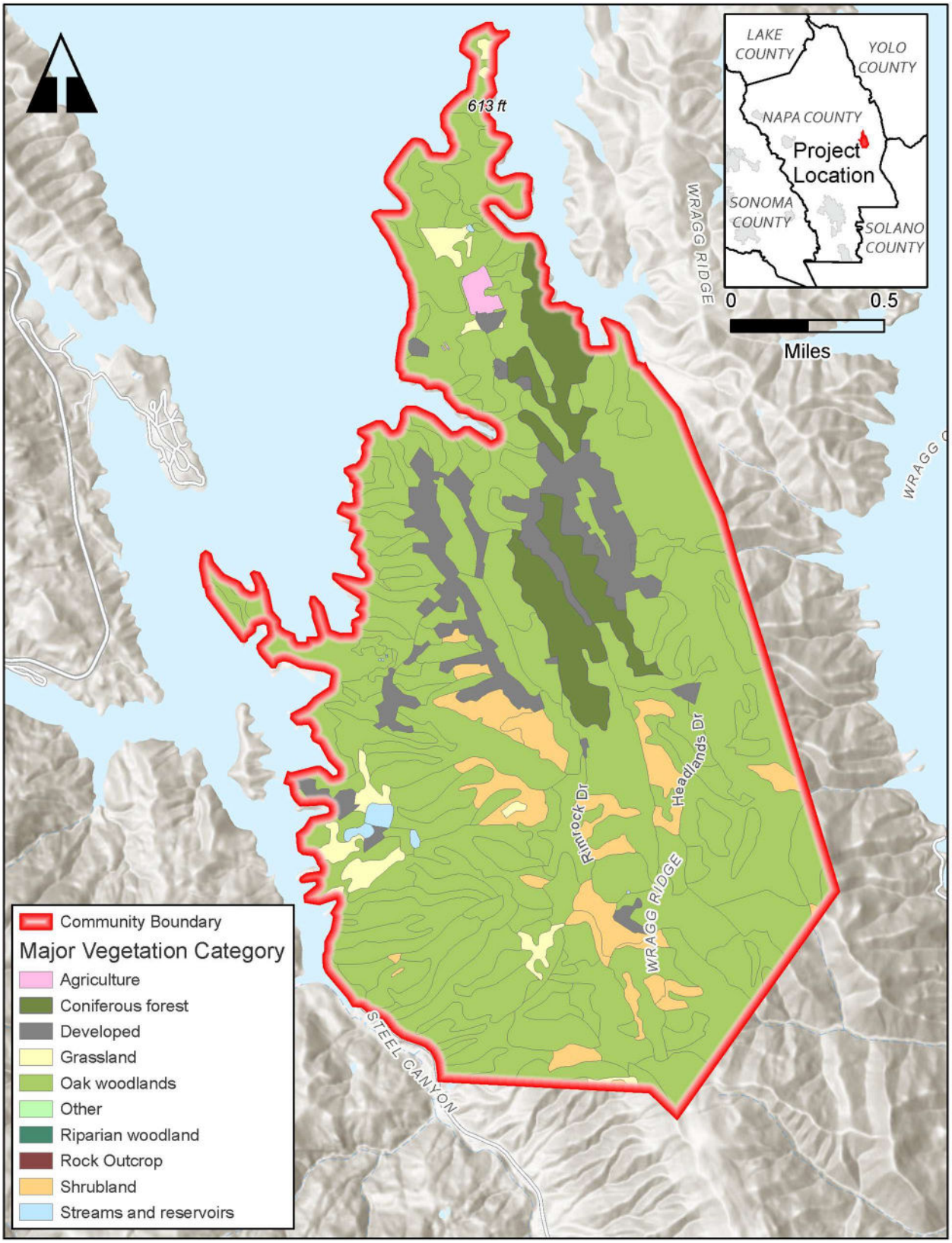

Figure 5a. *Vegetation map – Berryessa Highlands FSC area (boundary shown in red) (Napa Vegetation Map, 2016).*

Oak Woodland: 78% of the Berryessa Highlands area is mapped as Oak Woodland, which occurs on the flanks of hillsides and ridgetops throughout the area. In most areas, dense canopies, with little or no grass or shrubs under the canopies, typify these oak woodlands. The tree canopy in the lower reaches of the drainages is dominated by blue oak, but also includes interior live oak, coast live oak, 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 Berryessa Highlands area and can be found on the steep hillsides of the southern portion. They are also interspersed with patches of oak woodlands throughout the center of Berryessa Highlands. 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
- Chamise - Wedgeleaf Ceanothus
- Scrub Interior Live Oak - Scrub Oak - (California Bay - California Ash - Birch Leaf Mountain Mahogany - Toyon - California Buckeye) Mesic East County

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): Only 0.4% of the land in the Berryessa Highlands area is mapped as agriculture. This occurs mostly in a single vineyard in the northern part of the area of interest, but also in two smaller plots nearby.

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 2% of the Berryessa Highlands area, annual grasslands were mapped throughout as scattered pockets in oak woodlands and shrublands. 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: These coniferous forests occur in a few large patches in the central and northern portions of Berryessa Highlands (Figure 5b). Together, they constitute 6% of the area. All mapped conifer forests are classified as Foothill Pine.

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 Berryessa Highlands 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.

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 Berryessa Highlands FSC is generally consistent with fire safety principles. Many larger lots have informal landscaping in a natural setting. 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.

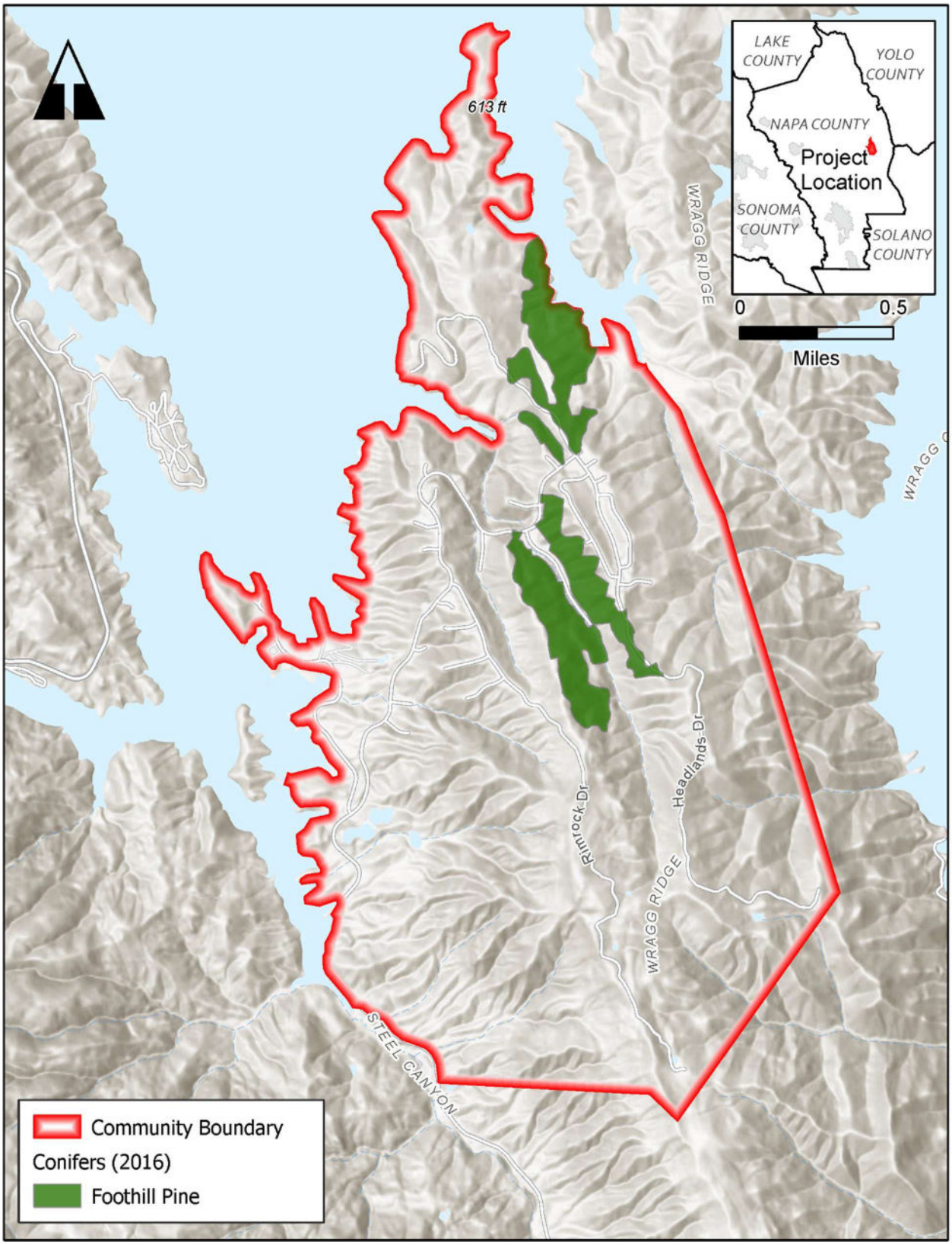

Figure 5b. *Conifer map – Berryessa Highlands FSC area (boundary shown in red) (Napa Vegetation Map, 2016).*

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 Berryessa Highlands community is unique in that the lake around it does provide some protections from large scale wildfires to the east, north, and west of the community. The lake acts as defensible space. At the same time, the shoreline, and the public that use the lake, create a predictable fire ignition area that is within ¼ to 1 mile from homes.

The distribution within an area of expected flame lengths can be predicted using public-domain software and data. FlamMap[3] was used to model fire behavior using a county-wide dataset developed from the Napa County Vegetation Map[4].

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

35% of the area has a predicted flame length of over 8 feet when predicting for a northeasterly wind at 15 miles per hour (Table 3). This leaves about 65% of the area predicted to have less than 8-foot flame lengths. Of those areas, 38% are predicted to have less than 4-foot flame lengths.

The higher flame lengths are concentrated in the shrublands and oak woodlands throughout Berryessa Highlands (Figure 6). They are especially abundant in the steep terrain of the southern portion of the area. The lower flame lengths are distributed throughout the area, occurring mostly in grasslands and oak woodlands on gentler slopes or where there is 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.

[3] https://www.firelab.org/document/flammap-software
[4] https://ncff-cwpp-dms-usa.hub.arcgis.com/maps/b2de24b3562e4e27b0fbea2921e2c9e4/explore

Table 3. *Predicted flame length by category and area (in acres) within the Berryessa Highlands 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	77	3%
Less than 4 ft	826	35%
4.1 – 8 ft	637	27%
8.1 – 12 ft	249	11%
Greater than 12 ft	551	24%

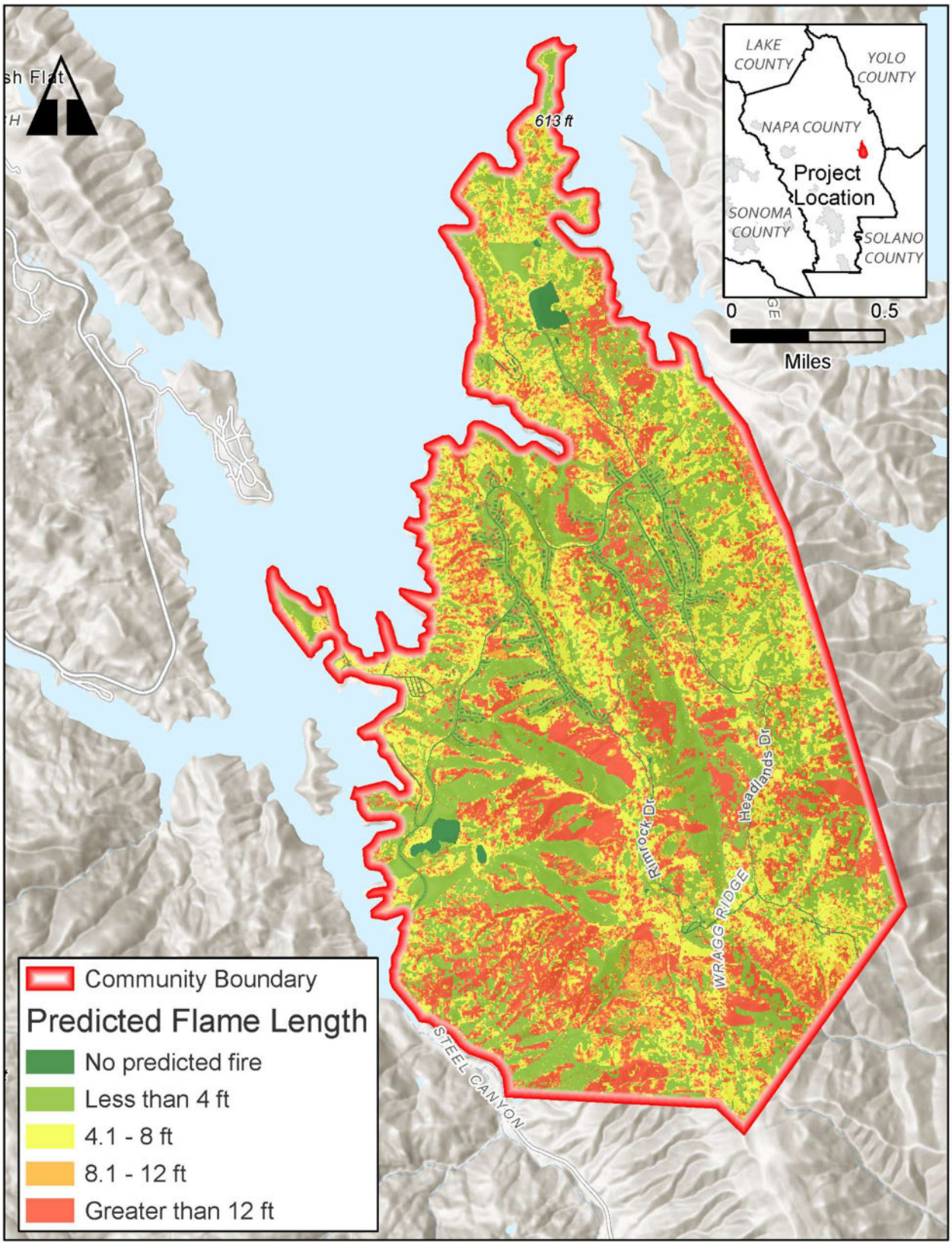

Figure 6. *Predicted flame length (feet) map (based on Napa Veg Map-based landscape version 2-2021 with a Northeast wind at 15 mph with low fuel moistures). Berryessa Highlands area boundary (shown in red).*

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 Berryessa Highlands area, a relatively small area is predicted to have fire spread within the tree canopy (tree-to-tree or crown fire), which is typically rare in hardwoods. Areas with higher density of coniferous forests are most at risk of torching and crown fires. These areas are located in the central and northern parts of the area of interest.

A combination of no predicted fire and surface fire in a canopy cover of less than 20% accounts for approximately 11% of the Berryessa Highlands area (Table 4). These areas are concentrated in the developed parts of Berryessa Highlands as well as in vineyards and grasslands.

Table 4. *Predicted crown fire activity (or fire type) by category and area (in acres) within the Berryessa Highlands 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	77	3%
Surface fire canopy cover < 20%	197	8%
Surface fire with canopy > 20%	1744	75%
Torching fire (passive crown fire)	248	11%
Crown fire	73	3%

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 75% of the predicted surface fire. Places where torching is predicted account for 11% of the total area. These areas are predominantly on steep mid-slopes and places where the vegetation is not protected from strong winds (Figure 7). They occur throughout the southern half of the Berryessa Highlands area in oak woodlands and shrublands. And lastly, 3% of the area is predicted to have active crown fire. This is a relatively low number in comparison to other communities, but field verification is recommended. Active crown fire is predicted on the steepest north- and east-facing slopes throughout the area, especially in dense oak and pine forests adjacent to Wragg Ridge.

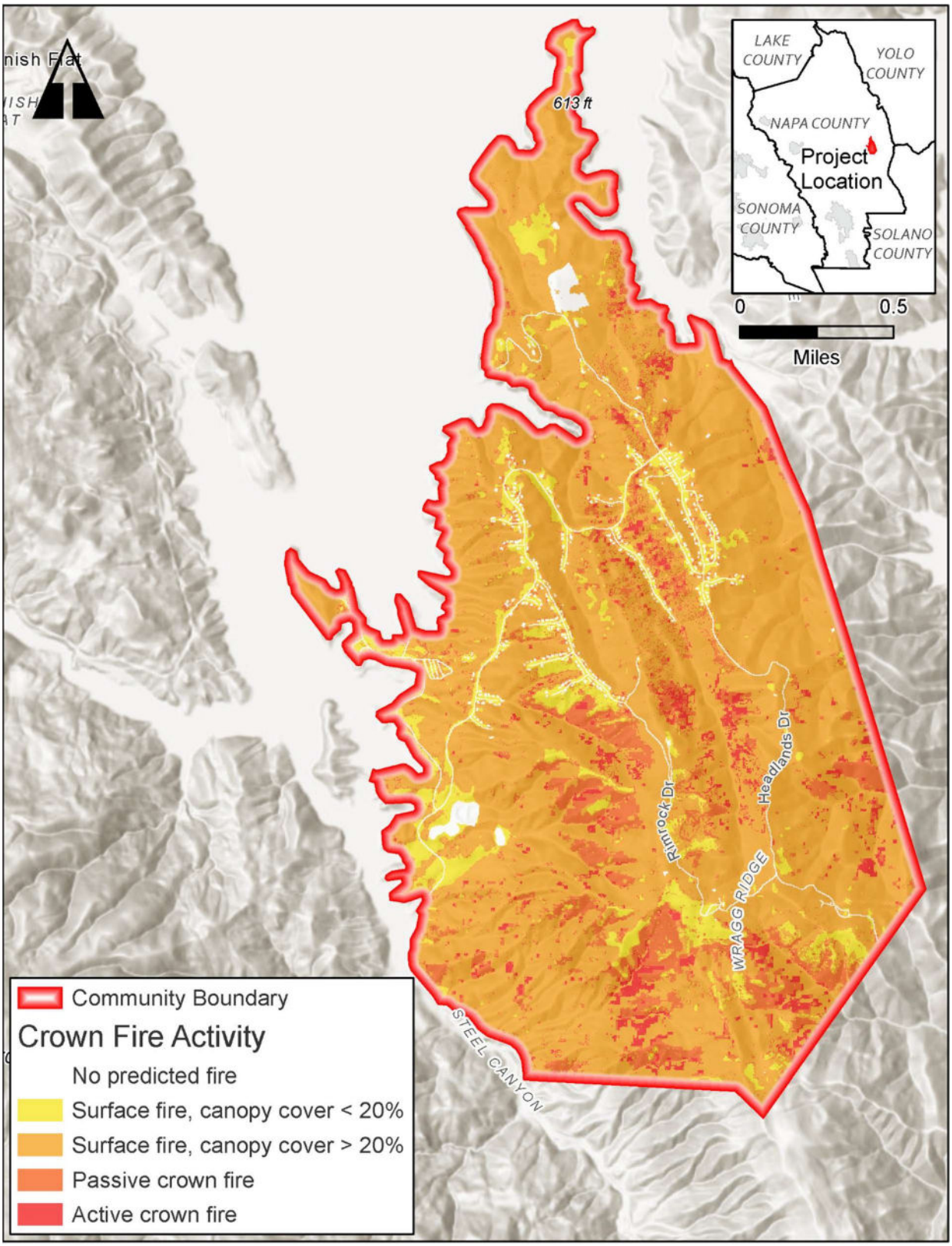

Figure 7. *Predicted crown fire activity map (based on LANDFIRE landscape version 2.0 with a Northeast wind at 15 mph with low fuel moistures). Berryessa Highlands area boundary (shown in red).*

Fire History

In the past decades, 17 fires have been recorded occurring near the Berryessa Highlands area (Table 5). Most notable are the large and wide-ranging Hennessy fire of 2020, the County fire of 2018, the Atlas fire of 2017, and the Berryessa fire of 2000.

Large fires have directly impacted most of the area within the Berryessa Highlands neighborhood (Figure 8). The fire history map shows that the majority of the neighborhood was last visited by fire in 2020, suggesting a relatively lower fuel load than in other areas that have not experienced fire recently.

Table 5. *List of recorded fires near the Berryessa Highlands FSC area (CAL FIRE, 2020).*

Year	Month	Date	Fire Name	Cause	Acres	Comments
1951	September	9/11/1951	WRAGG CANYON	Unknown/ Unidentified	1,178.4	
1952	September	9/28/1952	CLIFF MEAGHER	Unknown/ Unidentified	509.6	
1953	September	9/10/1953	T. VIEU	Unknown/ Unidentified	331.6	
1955	September	9/3/1955	STATE HWY 128 #2	Unknown/ Unidentified	3,155.6	
1957	July	7/8/1957	STATE HWY 128 #1	Unknown/ Unidentified	278.3	
1958	July	7/3/1958	GEORGE MOSKOWITE	Unknown/ Unidentified	502.9	
1961	September	9/3/1961	R. COOMBA	Unknown/ Unidentified	194.1	
1979	July	7/16/1979	PLUNKETT	Unknown/ Unidentified	391.7	
1982	September	9/11/1982	STEELE CANYON	Arson	523.3	
1988	September	9/18/1988	RESORT	Equipment Use	483.3	
2000	June	6/13/2000	BERRYESSA	Vehicle	4,859.9	
2005	September	9/16/2005	PLEASURE	Campfire	261.5	
2008	August	8/15/2008	CAPELL	Unknown/ Unidentified	110.4	Started on BOR Lake Berryessa Property
2017	October	10/8/2017	ATLAS	Unknown/ Unidentified	51,624.7	Southern Complex
2018	June	6/30/2018	COUNTY	Unknown/ Unidentified	89,831.1	
2018	July	7/28/2018	STEELE	Unknown/ Unidentified	136.8	
2020	August	8/17/2020	HENNESSEY	Lightning	305,351.9	Part of the LNU LIGHTNING COMPLEX

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

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

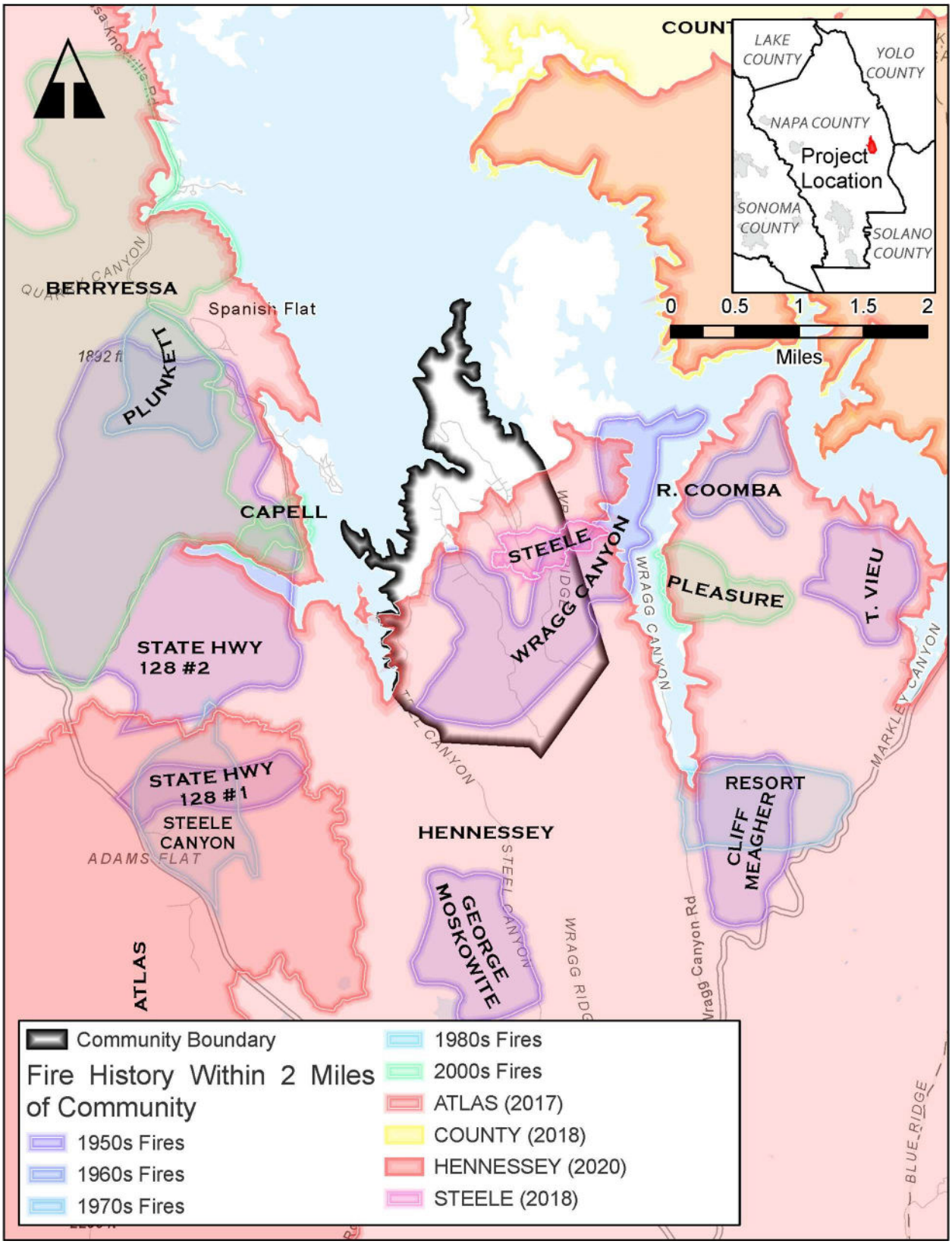

Figure 8. *Fire perimeters/fire history map of Berryessa Highlands FSC area (CALFIRE FRAP, 2020).*

Access

The subdivision of Berryessa Highlands consists of houses clustered within a score of streets, and about a dozen large ranch homes with long driveways behind 3 different locked gates. In general, access to the interior of the Berryessa Highlands area is good and access to the boundaries is somewhat limited. Wide roads, occasionally steep, provide flowing access.

Steele Canyon Road is the main ingress/egress road into the area. It crosses into the area in the south, running parallel to the western edge and providing access to the main residential zone. It can be accessed from Capell Valley Road south of the Berryessa Highlands community. This road is wide and open through much of the five miles prior to reaching the Berryessa Highlands. The radius of curvature is large on this road and high rates of speed can be driven for much of the distance.

There are several local roads such as Rimrock Drive and Headlands Drive that run from Steele Canyon Road through the Berryessa Highlands neighborhood along the ridgelines, almost stretching to the southeastern boundary. These roads are paved and generally wide (except in the cul-de-sacs), however, they are dead ends.

There are no other means of egress other than fire roads that may or may not be maintained. In the west, Trailer Park Road branches off from Steele Canyon Road and connects to the Steele Canyon RV Resort along the shore of Lake Berryessa. In the north and northeast of the area, there are no roads that offer access to the boundary.

The major roads are generally wide two-lane roads with no shoulders. Pavement (road surface) is generally in good shape, although some areas may show signs of pavement deterioration. Some curves are simultaneously sharp and steep. Many residences have short, easily accessible driveways, but some are served by long driveways behind locked gates. Locked gates are common and can further delay emergency response. Locked gates also discourage/prevent inspection by local fire authorities.

Regardless of the condition of the roadbed, access can be blocked by roadside vegetation. Trees can fall, blocking passage or vegetation can burn with such intensity that emergency response and evacuation cannot occur.

Although roadside vegetation is sparser in some areas, many roadsides in the neighborhoods 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 some of the roads or driveways within the Berryessa Highlands area and could prove significant in the event of a fire.

See map on next page (Figure 9).

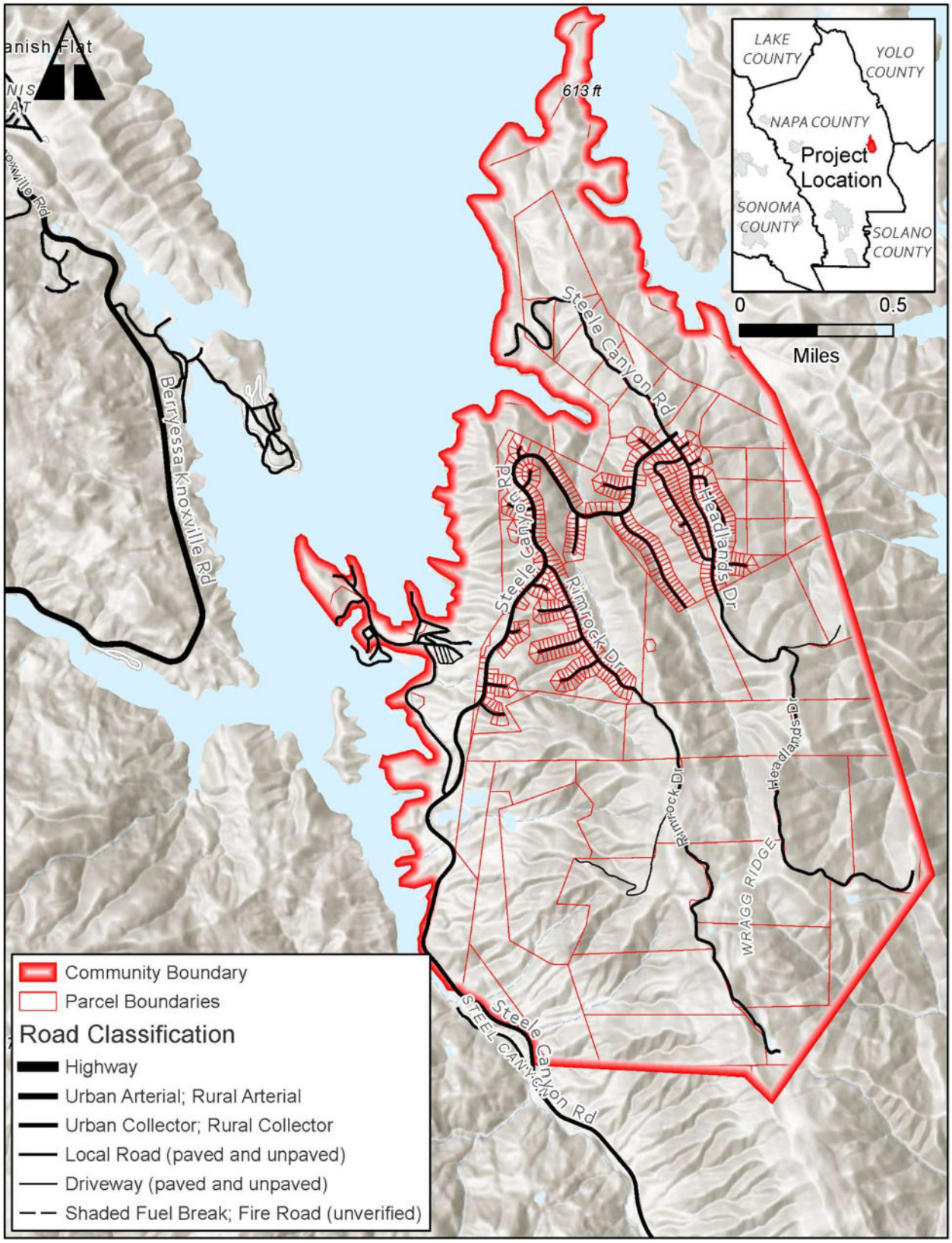

Figure 9. *Access and street map of Berryessa Highlands FSC area (shown with red outline).*

Hazard Ranking

The majority of the Berryessa Highlands area is within CAL FIRE's State Responsibility Area (SRA). 24% is considered not within the SRA (Table 6).

For the SRA portions of the Berryessa Highlands area where CAL FIRE determined a fire hazard assessment, they show 76% of the area is categorized as a **Very High Fire Hazard Severity Zone**. Note that this is an overall increase from past SRA hazard assessments.

Table 6. *Fire hazard severity zone by area (acres) within Berryessa Highlands area boundary (CAL FIRE, 2023).*

Fire Hazard Severity Zone	Acres	Percent (%)
Moderate	0	0%
High	0	0%
Very High	1782	76%
Low Hazard or Outside of SRA	560	24%

See map on next page (Figure 10).

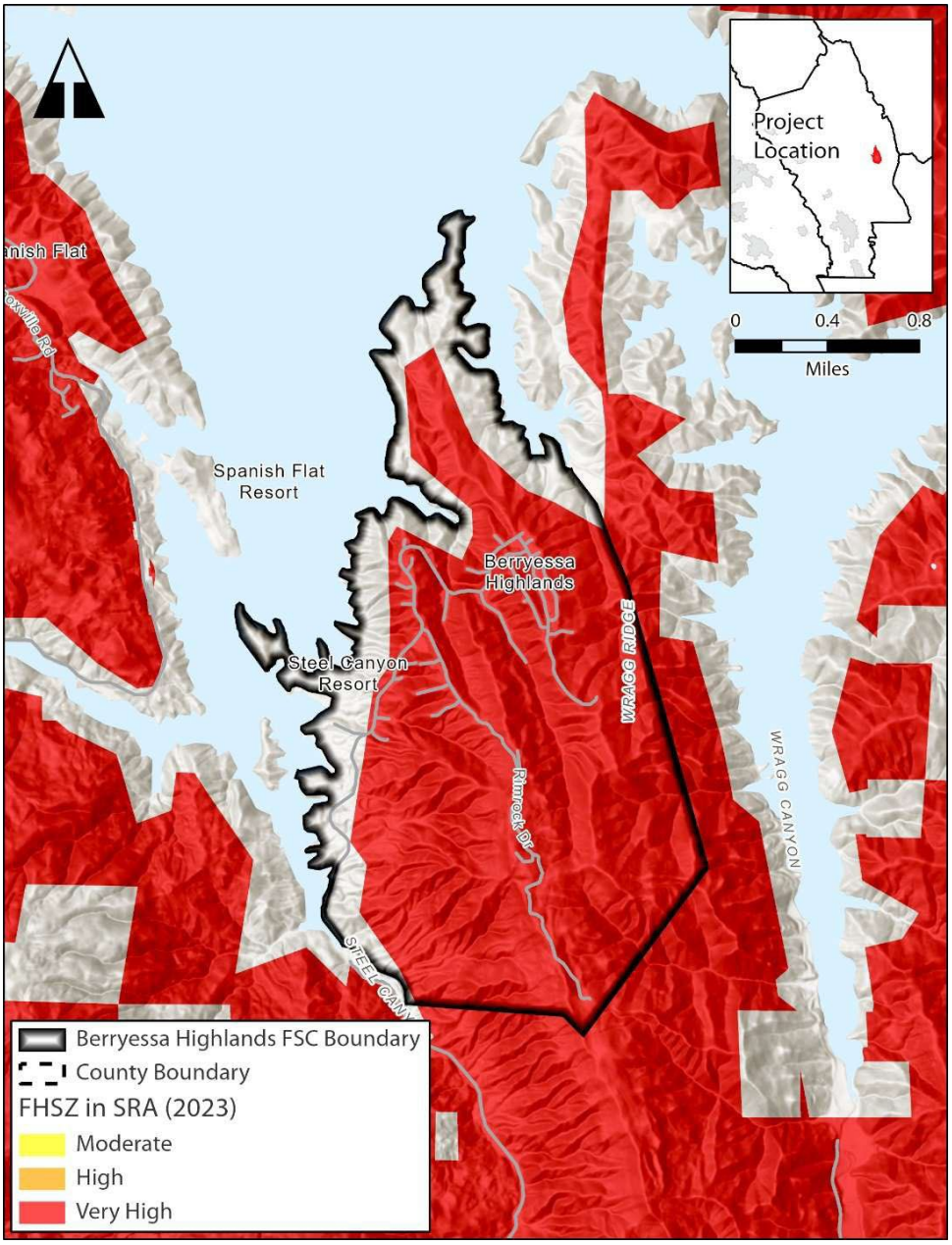

Figure 10. *Distribution of Fire Hazard Severity Zones (CALFIRE, 2023).*

Land Use Distribution and Neighborhoods

Residential development, on large lots is generally scattered following the winding road network. Most of the Berryessa Highlands area is comprised of land designated as vacant (Table 7). These parcels account for approximately 79% of the total area.

Residential lands (approximately 18%) account for most of the other areas within the Berryessa Highlands. These parcels are mainly adjacent to vacant lands.

Commercial parcels account for only 0.04% of the Berryessa Highlands area. This is divided between two small parcels adjacent to vacant and residential parcels along Steele Canyon Road.

Vineyards account for 2% of the total area in Berryessa Highlands.

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 7. *Acres by broad land use and percentage of total within the Berryessa Highlands area.*

Category	Parcel Count	Acres	Percent (%)
AGRICULTURAL	1	40	2%
COMMERCIAL	2	1	0.04%
RESIDENTIAL	235	415	18%
VACANT	372	1851	79%

Projects

The Berryessa Highlands community has been involved in fire safety initiatives starting in roughly 2007, primarily utilizing the Napa FireWise chipping program. In 2010, a group of Berryessa Highlands homeowners took the initiative to form a committee with the support of the Napa Communities Firewise Foundation (NCFF), CAL FIRE, and Napa County Fire. The Berryessa Highlands Fire Safe Council began the formalization of the current “Community Wildfire Protection Plan (CWPP)”. The first official CWPP was released in 2011.

With funding donated by the NCFF, a Vegetation Management Plan was developed in 2010 by a hired defensible space consultant, who is a certified forester (Fire Smart Defensible Space, Inc.). After reviewing the plan, the council created and prioritized a list of projects that will help make the community more defendable in a wildfire. Table 8 references this original project listing with modifications to the original projects now listed as maintenance or continuation projects. The project map can be found on the next page (Figure 11).

The council worked with CAL FIRE in early 2011 to start and/or complete four of the higher priority projects. One goal was to complete high visibility projects, so homeowners would see what needs to be done around their own homes. Immediately, homeowners began increasing their efforts to increase the defensible space around their homes. This continues to this day.

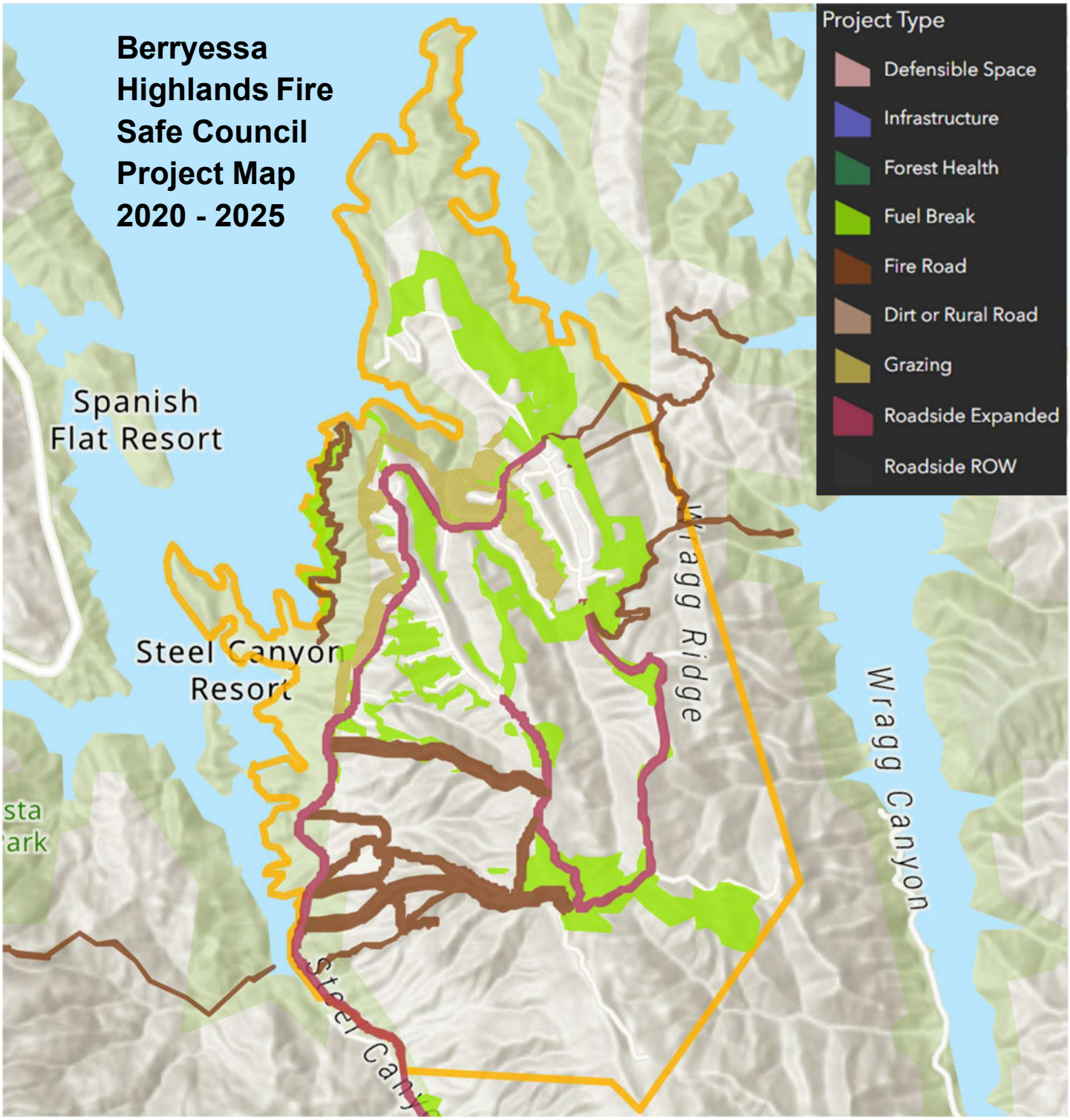

Figure 11. *Berryessa Highlands fuel reduction project map (2025).*

Table 8. *Project list - areas of concern (2024).*

BHFSC Community Wildfire Protection Plan - Project Areas of Concern

	Legend	Name	Concern	% done	Priority
FW 2025	A	Create Shaded Fuel Break along Primary Access Road, Part 1 (Steele Canyon Rd., From Campground to the North (Headlands))	Major roadway, only way in/out, roadside fire potential, need to improve defendability as a fire line	90%	L
FW 2024	B*	Create Shaded Fuel Break along Primary Access Road, Part 2 (Steele Canyon Rd., From Campground to South (Moskowites Corner))	Major roadway, only way in/out, roadside fire potential, need to improve defendability as a fire line	70%	L
FW 2025	C	Remove Pyrophytes Along Roads & Near Intersections	Roadside fire potential in community and along Steele Canyon Road	80%	L
FW 2026	D	Maintain Chamisa Brush on **South-West** Side of Community	Flammable brush on hillside below homes	70%	S
24,25,26	E	Maintain Shaded Fuel Break on **East** Side of Community	Flammable brush on hillside below homes	95%	S
24,25,26	F	Maintain a Shaded Fuel Break between Shoreline & Existing Access Road **West** Side of Community	Flammable brush, dead trees and overgrown fuel	90%	L
24,25,26	G	Maintain Bureau of Reclamation Lands Adjacent to homes on **West** Side of Community	Flammable brush on hillside below homes	85%	S
24,25,26	H*	Create & Maintain Shaded Fuel Break in Central Neighborhood Open Lands	Dead trees and overgrown fuel removal below and above homes	20%	L,S
FW 2025	I*	Use Sheep to Graze to Maintain Grasses Where Needed	Treated areas would benefit from grass management now	30%	S
FW 2026	J	Maintain Eucalyptus Regrowth Around Water Treatment Plan	Municipal Water supply, access & continued operation in a fire emergency	99%	L,S
FW 2026	K	Maintain Eucalyptus Regrowth Around Water Tanks	Municipal Water supply, access & continued operation in a fire emergency	99%	L,S
24,25,26	L*	Maintain Close Proximity Ridgeline Shaded Fuel Breaks and Access Roads to the South & East	Near by Ridgelines offer practical places to install fire breaks to deflect likely fires	80%	S
24,25,26	M	Monitor Power Line Clearing	Birds nesting in towers, and flammable grass around tower bases	Annual	L
24,25,26	N	Monitor Water System and Hydrants for Firefighting	Need annual reporting on Capacity, Backup Power, and Hydrants	Annual	L
FW 2025	O	Remove Flammable Threats of Vacant Homes and Vehicles	Roadway access, roadside fire potential	Annual	S
FW 2025	P	Develop Emergency Evacuation Plan & Identify Possible Evac Routes	Residents can become trapped if fire overcomes Steele Canyon Road. Plan needs Annual review and community outreach	5%	L
FW 2024	Q*	Help Homeowners Assess and Achieve Proper Defensible Space & Home Hardening	Structures and landscapes need improvement	50%	L

	Legend	Name	Concern	% done	Priority
24,25,26	R*	Improve Adress Visibility with High Vis 911 Signs	Home and Rural Property addresses are difficult to identify	1%	S
FW 2025	S*	Add a Beacon Box with Resources for Incoming Fire Fighters	Out of town fire fighters may not know where our defendable zones are	5%	L
FW 2026	T*	Create a Plan for Ridgeline Fire Personnel Access Route and work with Napa Land Trust to Improve and Maintain dirt access road	Emergency personnel need an alternate access in the event Steele Canyon Rd is impassable.	0%	L
FW 2025	U*	Fire Danger Level Sign	Need residents and visitors to maintain proper situational awareness	75%	S
FW 2026	V*	Community Alert Siren	Need an additional way to alert residents	0%	L
FW 2026	W*	Add Goat Grazing Fencing Infrastructure Around the Community	Need to make future grazing costs down by adding basic infrastructure	0%	S

Key:

Yellow Highlight = Roadside Area of Concern

Blue highlight = Zone/Area Project

Green Highlight = Special Project

* = New add since previous CWPP

L= Life safety Priority

S = Structure protection priority

Per FireWise USA 3 year Action Plan

FW 2024 | FW 2025 | FW 2026 | 24,25,26

Based upon the community risk assessment in Table 9, priority ratings were assigned to the areas of community importance. The community recommendations for the type and method of treatment for the surrounding vegetation are listed in Table 10.

Table 9. *Community Risk Assessment*

Risk Area	Fuel Hazard	Risk of Wildfire	Firefighting Capability	% done	Overall Risk
A	med	high	good access	90%	high
B	high	high	difficult access	70%	high
C	med	high	good access	80%	med
D	high	high	difficult access	95%	high
E	med	med	difficult access	95%	med
F	med	high	difficult access	90%	high
G	high	high	difficult access	85%	high
H	high	high	good access	20%	high
I	high	med	good access	30%	high
J	low	med	good access	99%	med
K	none	none	good access	99%	high
L	med	med	good access	80%	med
M	high	high	difficult access	Annual	high
N	none	none	good access	Annual	med
O	high	high	good access	Annual	high
P	none	none	good access	5%	low
Q	none	none	good access	50%	med
R	none	none	n/a	1%	low
S	none	none	n/a	5%	low
T	none	low	difficult access	0%	low
U	none	none	n/a	75%	low
V	none	none	n/a	0%	med
W	high	high	difficult access	0%	high

Table 10. *Project work areas in priority of sequence (highest first).*

Legend	Risk Areas	Type of Work	Method of Work	% done	Priority (1 – 4)
A	Steele Canyon Rd., from Steele Park Resort to the North (Headlands))	Contracted Crew & Equipment	remove roadside pyrophytes & brush, limb-up all others, chip material	**80%**	**1**
B	entrance road, part 2	hand crew labor	remove roadside pyrophytes & brush, limb-up all others, chip material	**100%**	**1**
C	remove pines near intersections - community	Napa County, contractor	technical tree felling, remove roadside pyrophytes, limb-up all others	**75%**	**1**
F	shaded fuel break along shoreline – west side	hand crew labor, BOR	create shaded fuel break, hand pile, burn	**90%**	**1**
G	thin bureau of reclamation lands west of homes	hand crew labor, BOR	create shaded fuel break, hand pile, burn	**85%**	**1**
H	Arroyo Grande, Arroyo Linda, Bahia Vista	hand crew labor & contractor	hand crews & technical tree felling, chip material	**20%**	**1**
N	monitoring water capacity for firefighting	Napa County Water District	perform regular hydrant flushing & valve rotation. assure appropriate tank capacity for firefighting	**Annual**	**1**
O	remove flammable threats of vacant homes and vehicles	Napa County, CHP, & residents	inspect open accessways and remove flammable materials.	**Annual**	**1**
P	develop emergency evacuation plan & identify possible evac routes	CAL FIRE, Napa County EMS, CHP, & residents	meet with professional agencies to gain knowledge of our area; educate residents	**5%**	**1**
Q	Help Homeowners Assess and Achieve Proper Defensible Space & Home Hardening	Education	Community meetings, email updates with PPT examples from wildfire.org, Social postings and F2F meetings	**75%**	**1**
U	Fire Danger Level Sign	Build and installation	Community labor	**90%**	**1**
D	south/west side brush	hand crew labor / goats	hand pile chamise brush, hand pile, burn	**70%**	**2**
I	In between streets and around community borders	Sheep / goat grazing	Move fences and contract for grazing	**30%**	**2**
M	power line clearing	contractor, PG&E	weed whack & spray around tower bases & perimeter	**Annual**	**2**

Legend	Risk Areas	Type of Work	Method of Work	% done	Priority (1 – 4)
S	Add a Beacon Box with Resources for Incoming Fire Fighters	Donated or created box	Community labor to install	**0%**	**2**
L	Ridgeline shaded fuel breaks and access roads to south & east	Hand crew labor	create shaded fuel break, hand pile, burn	**80%**	**3**
R	Improve Adress Visibility with High Vis 911 Signs	Adding signs to property	Community labor by owner and / or by neighbors	**1%**	**3**
T	Create a Plan for Ridgeline Fire Personnel Access Route and work with Napa Land Trust to Improve and Maintain dirt access road	Heavy equipment	Contractor	**0%**	**3**
V	Community Alert Siren	Infrastructure, power, build and installation	Contractor, County permitting and approval	**0%**	**3**
E	eastern side of community	hand crew labor	create shaded fuel break, hand pile, hand pile burn	**95%**	**4**
J	water treatment plant	hand crew labor & contractor	technical tree felling or maintenance treatment to prevent regrowth	**99%**	**4**
K	water tanks	hand crew labor & contractor	technical tree felling or maintenance treatment to prevent regrowth	**99%**	**4**
W	Add Goat Grazing Fencing Infrastructure Around the Community	Community involvement, grants, installation	Contractor, landowner agreements, permitting, studies, community labor	**0%**	**4**

Community Updates

Starting in 2007, the resident homeowners of Berryessa Highlands benefitted from the curbside chipping program provided by the NCFF and now offered by Napa County. Each year, community members work to remove brush, dead trees, and limbing-up trees on their property, bring the waste to the curbside. Using the website, they submit a request for the chipper service. The piles are regularly chipped. The residents recorded several hours of work in the area (a service-in-kind value), and process hundreds of cubic yards of material. The community continue to use this service as a part of its fire safety planning and activities, and it is well received, advertised, and utilized. Link below. https://www.countyofnapa.org/3632/Chipping-Program

In 2023, in cooperation with NCFF, Berryessa Highlands implemented goat and sheep grazing on the western side of the community along Steele Canyon. This started from the top of Steele Canyon where it intersects with Headlands Drive all the way to across from Overland Drive at the beginning of the community. The area chosen was approximately at the one-hundred feet mark from structures to approximately 300 feet. The first 100 feet was the residents' responsibility to clear and maintain. This program was very successful in removing potential fuels from the selected area. BHFSC obtained the necessary Landowner Agreements and worked with the community and the owner of the sheep/goats to ensure that adequate water could be obtained as well as communication about the movement of the herd as they progressed. To the extent that funding can be obtained, the community would like to continue to perform this same exercise every two to three years. The cost is prohibitive at over $900/acre with a significant portion of the cost resulting from putting up and moving the fence that contains the herd. For this reason, one of the longer term goals for the community would be to get grants for permanent fencing that would allow for movement of the herd between parcels. Some community members may choose to have their own permanent herd to facilitate this effort.

In Winter of 2023 and 2024, a lot of older burn piles were burned up on the western, eastern and some northern parts of the community. This is with the help of delta crews and CalFire. Of specific focus for the next cleanup area will be along the narrow canyons of Arroyo Grande and Arroyo Linda as there are a lot of laying and standing dead fuel after the 2020 fires. These are narrow canyons with multiple houses along each side of the road with very steep hills behind the homes. CalFire has already been made aware and discussions with NCFF have begun to determine how to best address these issues. In the meantime, we will address these areas in the community meeting and make sure those residents are extra diligent about defensible space this year. In addition, the BHFSC is looking to set up a community burn pile location where residents can bring larger items that can't be chipped to burn. However, it may just be more practical to burn where they are. We also want to create a 'burn pile' map so that these are recorded and proper follow-up can happen in the next burn window.

Additional concerns prompted by the original Vegetation Management Study in 2007 included the items below. Updates to the current CWPP have been added with a year reference below:

1. **Engage in practices that promote the Berryessa Highlands community of defensible space.**

    Blue Oak Woodland – The signature tree of the area; it changes slowly. Trees should be retained but thinned out and have no overhead crowns intruding into another residual tree's space.

Grey Pine – This species is a pyrophyte of the worst order (fuel threat). Pines overtopping an oak will kill the oak. Pitchy with needles that dry and fly long distances in the wind. Experience has shown that pine thickets and wind are a very volatile combination if ignition occurs.
Mixed Oak Woodlands – Live oaks, buckeyes, and chaparral species are common and are often in dense vegetation and need reduction in volume.

2. **Reduce and remove pyrophytes and non-native species.** It is the goal of this CWPP plan to reduce and remove the flammable components, pyrophytes and non-native species. There are some areas which if ignited would spread fire for a wide distance. 2024/2025 Update: Significant efforts were done by NCFF to contract for the removal of many pyrophytes and trees that could potentially be hazardous to the community's evacuation route along Steele Canyon Road. This was from just beyond Moskowite Corner to just below the Steele Canyon Resort. While significant efforts were completed in the 2011 CWPP to remove pyrophytes and potentially hazardous trees that would impede an evacuation in the community, since it has been over 10 years, there are maintenance efforts required to remove new trees that have sprouted and grown and need to be cleared. This is why this is a project listed in the community's CWPP.

3. **Emphasize and improve homeowner defensible space.** General annual maintenance should be done prior to fire season according to state law and Napa County Codes. These activities should be done by individual home and landowners for at least 100' around structures. This distance should increase to 200' for residences above slopes steeper than 40%. Napa County continues to conduct fire safety inspections of the Berryessa Highlands parcels for compliance with the "Fire Hazards Reduction Ordinance". 2024/2025 Update: Each year many citations are issued, but many are for non-developed parcels. This indicates that many community members have been educated on the importance of this property owner defensible space responsibility. This is also covered in the BHFSC Annual Community Meetings and follow-up emails to help educate and remind the community. These activities include the removal of flammable materials by cutting grasses, by picking up branches and stems greater than 1" diameter, and by policing the area to remove flammable trash and vegetative debris, especially in the Zone 0. All dead standing trees should be removed. The council will distribute previously published educational materials provided by CAL FIRE and NCFF, regarding defensible space. In addition, in 2024 NCFF created a defensible space cost share program which several community members participated. It is understood that a new version of this program will also be implemented in 2025 for individuals to continue to enhance their defensible space. In addition, members of the BHFSC could potentially be certified to perform some of these assessments to assist in the communication and follow-up with parcel owners.

4. **Heightened emphasis of maintenance of vacant lot properties.** Aggressively pursue absent vacant lot owners to perform needed maintenance of their property. Work closely with CAL FIRE which is enforcing the Napa County Fire Hazard Abatement Ordinance, which now also includes vacant lands. The ordinance includes inspections, citing offenses, possible fines, and using vendors to do the work – billing the property owner if delinquent. Report annual update to County Board of Supervisors about our concerns regarding maintenance of vacant parcels. 2024/2025 Update: With the assistance of the Napa County Fire Marshall, these efforts have been very effective. Inspections are completed in the May through July timeframe with notices being delivered to non-

compliant properties. This encourages a majority of compliance but further actions may still be required including the county contracting for the work to be completed on properties deemed to be a significant danger to the community and to be reimbursed by a lien placed on the property. In addition, members of the BHFSC could potentially be certified to perform some of these assessments to assist in the communication and follow-up with parcel owners.

5. **Management of, and increased costs of, operating the Berryessa Highlands County Water District.** Due to recent problems in managing this utility, the Fire Safe Council has concerns - wishing to be certain that necessary water capacity for firefighting is being stored, and the effective operability of its hydrant and valve system. 2024 / 2025 Update: This continues to be an issue for the community with the 2020 fires being somewhat impacted by a less than resilient water system concerning hydrants and adequate backup and offline procedures. This is being addressed in a couple different ways. One, the water district, NBRID, is being listed as a stakeholder in this CWPP in partnership with the community, to collaborate in the annual testing of the hydrants and backup / offline capabilities for the system and the reporting of same to the community. In addition, the BHFSC has been partnering with the NBRID to work with the community to improve the funding in the operational budget for NBRID to address some of the short comings. A survey was completed in 2024 that indicated that the community qualified for grants to improve the operations and resiliency of the water system. Efforts have been made to meet the requirements of the grants including working with Napa County on forgiving loans made to NBRID, meetings in the community to put forth a special ballot measure to provide for a Special Tax to balance the NBRID operating budget and then to pursue the grants to address the operational improvements required. This effort is ongoing with a Special Tax ballot measure being planned for August 2025. The BHFSC will work with NBRID to get a status of the progress of these efforts and report same to the community.

6. **Berryessa Highlands has a higher number of foreclosed properties than other communities**. Many homes are vacation homes, and in a depressed economy, they are more easily abandoned, leading to a greater threat to our economy. 2024/2025 Update: This is still an issue for the Berryessa Highlands community, but less so than 10 to 15 years ago. Many of the vacant properties have been sold and cleaned up, but this still remains a focus of a project item in our current CWPP. This is being addressed in two ways: Community outreach to the owners for those properties that are creating risk and the BHFSC working with those owners to contract with local workers to address the concerns and BHFSC partnering with the local fire Marshall to formally give notice to especially hazardous properties. Notably, there are several properties at the end of the cul-de-sac, with significant aging wood stored under decks attached to the houses that create significant risk to the community. We will pursue the efforts stated to address.

Additional efforts:

1. **Berryessa Highlands Fire Safe Council brochure.** This outlines who we are, our projects and information pertaining to additional fire safety measures (pictured on the next page). *Completed.* 2024/2025 Update – BHFSC has gone digital since the original publishing of the below brochure. We now utilize our presence under the NCFF umbrella and point our community to the resources on the NCFF website. There the community can see efforts being done by BHFSC and NCFF, can add themselves to an email notification listing so they can get updates about what is happening in the community. This site also serves as a repository for resources that can allow the

homeowner to educate themselves and pursue assistance if needed.

The Berryessa Highlands is Becoming Firewise!

What does that mean?

As many Berryessa Highlands residents have probably noticed, there has been some tree trimming and brush clearing going on in the neighborhood over the past few weeks. This clearing is the first phase of fire hazard reduction work that is planned to take place across the Berryessa Highlands area.

The work is a joint effort including CAL FIRE, the Napa County Fire Department, the Napa Communities Firewise Council, and the newly-formed Berryessa Highlands Fire Safe Council.

Current and Future Projects

- Our first project, completed by the CAL FIRE Delta Camp Crew, cleared a 200-300 foot perimeter of defensible space around the water treatment plant.
- The second project cleared the combustible brush and small pine trees along Steele Canyon Road between the Lupine Shores entrance and Rimrock Road.
- The third project focused on flammable and dense chamise brush up Rimrock and the south sides of Poppy Lane, Manzanita Lane, and Black Oak Lane.
- The fourth project will be to clear out dense brush on the north side of Steele Canyon Road, between Arroyo Lindo Court and Arroyo Grande Drive.

The Council is currently creating a Community Wildfire Protection Plan which will be submitted with a grant application for additional funding to complete additional projects.

Questions about these current and future projects can be addressed to:

highlands@napafirewise.org

Chipping Program

Napa Firewise has a trailer-mounted machine that chips up yard waste so that it doesn't become a fire hazard.

Chipping Basics:

Maximum individual pile size is 20 feet long by 6 feet high by 10 feet wide.

- There is no limit to the number of piles you can prepare for chipping during the season.
- Chipping is to occur along road/driveway or where our crews can **safely** access the pile.
- All material to be chipped (***PLEASE no Poson Oak!***) is to be placed along the edge of the road or driveway with the cut ends pointing in one direction—ideally toward the road. Stem diameters must be 6 inches and less. *No dozer or tractor piles please.*

Chipping begins April 4 and goes through October 1st.

If you have material that needs chipping, visit www.napafirewise.org and enter a request. Once there are enough requests in a given area, the crews will come out and do the work. For those who don't use the web, call **967-1426**.

Berryessa Highlands Fire Safe Council brochure from 2011.

2. **Utilize community Facebook page.** This houses announcements and emergency instructions (i.e., deadline for resident defensible space work completion). *Completed/Ongoing.* 2024/2025 Update: This has been replaced by utilizing the BHFSC page under the NCFF website: https://napafirewise.org/fsc/berryessa-highlands/

3. **Provide contractor lists.** Various lists of local contractors and their specialties. *2024/2025 Update: After the October 2024 Community meeting, a listing of local and regional resources were provided to the community. This included not only those that could help with defensible space work, but also the programs for assistance and contractors that could help homeowners with home hardening such as better vents and tips for sealing a home as well as replacing decking and fencing materials with more fire-resistant options where they connect to the home. These will be added to the NCFF/BHFSC page as well.*

4. **Installation of hydrant markers.** Blue reflective "cat's eyes" road markers for hydrant. *2024 / 2025 Update: Napa County repaved the road in the community in 2024 and a part of that update included adding Blue reflective markers for all hydrants in the community.*

5. **Collect vital household information.** Compile a form requesting information about each homeowner in order that locations of elderly, handicapped and/or infirm will be readably available for first responders. *2024 / 2025 Update: the BHFSC began a 'Know Your Neighbor' program. It involves mapping the community into identifiable blocks of 10 homes or less and creating a list of residents within each named block. The intent will be to ask for a volunteer to be block steward that will have the contact information for those within the section, especially with anybody that may need assistance in an evacuation or with defensible space so these can be updated on the master listing held by the BHFSC and communicated to First Responders and placed in the Beacon Box (aka knox box) with privacy concerns addressed.*

https://www.google.com/maps/d/viewer?mid=13XbclCfBiCv2_IpFeZmmiIN5any_R1U&u sp=sharing

6. **Maintain a knox box.** Decide on a location for this box to store above-mentioned information for first responders (i.e., maps which include streets, gates, hydrants, etc.). 2024 / 2025 Update: BHFSC has been engaged in gathering information of what we would need to include in our 'Beacon Box' and has submitted for a grant to have these provided and installed. In 2025 we are planning on at least having the materials created that would be utilized in the box and have begun preliminary investigation into building our own box, if necessary, by reviewing boxes in other communities.

7. **Help promote C.E.R.T. training.** Help recruit community members to participate in County sponsored Community Emergency Response Team (C.E.R.T.) program. *2024/2025 Update: A Berryessa CERT team was formed in 2019 and is still active and is made up of members that live in Berryessa Highlands as well as Circle Oaks, Capell Valley, West Berryessa, Spanish Flat and the surrounding areas. The team regularly posts upcoming training opportunities for the community to get basic CERT training at Napa Valley College, and the team holds regular monthly meetings with members at the volunteer fire station #14 at 1193 Capell Valley Rd, Napa, CA 94558 every 3rd Thursday of the month. The BCERT team is part of the larger Napa Valley (County) CERT and is governed and supported by the County OES and local CalFire.*

8. **Fire safety education for visitors.** Educate campers and boaters about fire safety and awareness while they are visiting Federal land neighboring our community. 2024 / 2025 Update: This is still ongoing. There are signs in the community reminding people about fire dangers and awareness, but more efforts could be done in partnership with the BOR (Bureau of Reclamation) to educate those coming to the lake and parks around Lake Berryessa*. To Do: Create some brochures around fire safety for the BOR to hand out to campers and boaters that come into campgrounds and day use areas.*

9. **Fire awareness signage.** Educate residents, campers and boaters about fire safety with a series of signs as they drive the 5-mile entrance road to the Berryessa Highlands community. 2024 / 2025 Update: See number 8 above. One BHFSC member suggested a series of 'burma shave' type signs to put out to teach about fire safety (such as making sure your chains are not dragging when towing, etc.). We will likely try to implement a version of this in 2025 Summer.

10. **Erect community message boards at mail box locations.** To provide a space to post information about project progress, future project announcements, meetings, and workshops. 2024 / 2025 Update: These went up over 10 years ago, but unfortunately many have deteriorated and are no longer there. However, people post notifications about community meetings, fire safety, fire grant programs and all other sorts of community events on the mailboxes themselves and that seems to work fine. Also a combination of mailbox posting and social media (NextDoor, etc.) seems to work very well for those that want to know what is going on.

11. **Fire danger warning sign**. Install fire danger warning sign before entrance to Berryessa Highlands and lake resort. 2024 / 2025 Update: After our 2024 community meeting, a resident created the Fire danger warning sign. We are working with various entities to get permission to install the sign for the 2025 fire season.

12. Attain and maintain **NFPA Firewise USA** recognition. BHFSC was recognized as a Firewise USA site in good standing in 2024 and will maintain recognition through ongoing completion of annual action plan items and reporting community investments.

An action plan (in date sequence) was updated in 2024 (Table 11). This plan takes into consideration both the priority of the area as well as the date of last treatment. Therefore, the highest priority may not be the earliest date if it has been treated recently. The community will assess its progress annually and make necessary additions and/or adjustments to the work.

Table 11. *Action plan in date sequence (from 2010).*

Risk Area	Owner	Funding	Time Table
Q – Help homeowner assess and achieve Def Space & Home Hardening	BHFSC	BHFSC & NCFF	Ongoing – began with 2024 community mtgs
B - entrance road, part 2	property owners, Napa County	community funds & NCFF & USFS grants	Completed Dec 2024
U – Fire Danger Level Sign	BHFSC	Community and BHFSC	Summer 2025
A - entrance road, part 1	property owners, Napa County	community funds & NCFF & USFS grants	EOY 2025
C - remove grey pines near intersections	property owners, Napa County	community funds & USFS grants	EOY 2025
I - west side of community	Property owners	community funds & NCFF & USFS grants	EOY 2025
P – Emergency Evacuation Plan & Evac Routes	BHFSC	BHFSC & NCFF	EOY 2025
S – Beacon Box for non-local First Responders	TBD	BHFSC & NCFF	EOY 2025
H - Central Neighborhood	property owners	community funds & NCFF & USFS grants	Winter 2025 - 2026
E - eastern blue oak woodland	property owners	community funds & USFS grants	2025, 2026, 2027
F - shaded fuel break along shoreline	BOR	community funds & USFS grants	2025, 2026, 2027
G - thin bureau of reclamation lands west of homes	BOR, property owners	community fund & USFS grants	2025, 2026, 2027
R – Improve Access w/ High Vis sign	BHFSC	BHFSC & NCFF	2025, 2026, 2027
D - south/west side brush	property owners	community funds & NCFF & USFS grants	Spring 2026
J & K - Water Treatment Plan t and water tanks	NBRID	community funds & NCFF & USFS grants	EOY 2026
T – Ridgeline Fire Personnel Access Route – Land Trust	Land Trust	TBD	EOY 2026
N - monitoring water capacity for firefighting	Napa County	property owners	ongoing
M – Power Line Clearing	PG&E	PG&E	ongoing
L - Ridgeline shaded fuel breaks and Access Roads South & East	property owners	property owners & NCFF	ongoing
O – Vacant homes & vehicles	Property owners	Property owners	ongoing
V – Community Alert Siren	Napa County & BHFSC	Napa County	TBD
W – Add permanent Goat Grazing fencing around community	Property owners	TBD	TBD

Approval Signatures

The Berryessa Highlands 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 Berryessa Highlands community.

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

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

Acknowledged: _____ Date: _____
Amber Manfree, Supervisor, Napa County District 4

Acknowledged: _____ _Date: _____
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: _____ Date: _____
Christopher Thompson, Chairman of the Board, Napa Communities Firewise Foundation

Agreed: _____ Date: _____
Joe Sponseller, Co-Lead, Berryessa Highlands Fire Safe Council

Agreed: _____ Date: _____
Evan Kilkus, Co-Lead, Berryessa Highlands Fire Safe Council

Signature: Amber Manfree

Email: amber.manfree@countyofnapa.org

Signature: Matt Ryan

Email: matt.ryan@fire.ca.gov

Signature:
Christopher Thompson (Mar 18, 2026 10:44:59 PDT)

Email: cthompson@napafirewise.org

Signature:
Joseph W Sponseller (Apr 14, 2026 19:22:22 PDT)

Email: josephwsponseller@gmail.com

Signature: Evan Kilkus
Evan Kilkus (Apr 15, 2026 08:06:10 PDT)

Email: napaevan@yahoo.com

BHFSC_CWPP_Final_2026

Final Audit Report 2026-04-15

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