

PLACERVILLE FIRE SAFE COUNCIL (PFSC)



Community Wildfire Protection Plan (CWPP) UPDATE

May 2021

Introduction

The Placerville Fire Safe Council (PFSC) was formed by local citizens in January 2019 to address concerns regarding wildfire threat to the community. The PFSC is an all-volunteer organization that is a satellite group of the El Dorado County Fire Safe Council (EDCFSC).

The council works to educate homeowners and residents about wildfire preparedness and how to plan for and prevent wildfires. Fire safe councils conduct numerous outreach events and implement projects such as cooperative fuel-reduction projects in neighborhoods and collaborate with other agencies to complete landscape-level vegetation management projects.

The mission of PFSC is to mitigate the loss of life, property, and natural resources in the Placerville area from the damages of wildfire.

The Four Co-Equal Goals of The PFSC Are:

- *To develop and implement a Community Wildfire Protection Plan, based on a Community Risk Assessment and in coordination with residents, businesses, organizations, associations, and local, state and federal agencies*
- *To inform and educate residents of the Placerville area about the threat of fire, and about the methods and resources available to mitigate fire danger to their property and community*
- *To promote, fund, and implement fire safety programs and projects for the Placerville area*
- *To participate in the development and implementation of evacuation and preparedness plans for the Placerville area*

The Community has developed a Risk Assessment based on the program developed by the National Fire Protection Association (NFPA) called Firewise Communities/USA (www.firewise.org). This program provides a collaborative and effective approach to manage wildfire risk while preserving the natural environment.

The results of the Risk Assessment also provide a basis to develop an action plan, to be incorporated into a Community Wildfire Protection Plan and to prioritize projects within the boundary of the PFSC, which is known as the Sphere of Recognition (SOR). These projects include fuels reduction and essential outreach and educational programs for the public on how to strategically prepare homes and structures to reduce the risk of wildfire damage.

This Risk Assessment was conducted by PFSC members in Spring of 2019 by surveying samples of typical neighborhoods within the SOR. The evaluation was done by walking or driving on public roads and streets. Evaluators noted construction materials of houses and any attachments, such as decks, landscaping practices on properties, and the condition of vegetation on or near structures. All evaluations were conducted in a manner that respected the privacy of individual property owners. More details of the Risk Assessment can be found in the Document created by the Placerville Fire Safe Council. This is a summary of the important parts of the document.

Placerville is listed in the Federal Register as a community at risk, and is best characterized by the Very High Severity Zone by Cal FIRE (FRAP).

General Attributes and the Sphere of Recognition (SOR)

Sphere of Recognition (SOR) Boundary

The SOR boundary was developed with advice from the EDFSC and the El Dorado County Fire Protection District and is approximately 3,752 acres. The SOR includes the City of Placerville and extends somewhat outside of the city limits to include adjacent areas of unincorporated El Dorado County. This SOR includes area that is not currently within the SOR of another satellite fire safe council, and has a logical association to the City of Placerville due to transportation or topography. Other areas adjacent to the city limits, such as ridge tops, were included in the SOR when it was determined they were strategic for wildfire management.

The SOR is roughly 7.6 miles, from east to west, and 3.4 miles, from north to south. The elevation of the SOR ranges from about 2,600 feet on Texas Hill at the El Dorado County Airport to around 1,400 feet at Weber Creek at the western end of the boundary.

The southern boundary of the SOR follows the ridge that separates the Weber Creek watershed from the Hangtown Creek watershed, and includes Texas Hill and Sacramento Hill. The eastern boundary abuts the Camino-Pollock Pines FSC boundary and follows Jacquier Road. The northern boundary roughly follows the Placerville city limits and runs just under the ridgeline above Big Canyon Creek. The boundary then traverses a relatively flat area north of Diana Street. The western border follows the small hilltops above Weber Creek.

The SOR area is urbanized and has well-developed infrastructure of water and sewer service, roadways, fire hydrants, with overhead and some subterranean power and telecommunication lines. A majority of the roads are asphalt and most are maintained by the City of Placerville or El Dorado County, but many private roads are maintained by residents or private associations.

Demographics of the SOR

Based on information available from the US Census Bureau, the Placerville area has a population of approximately 11,000 people with a median household income of \$51,250. According to statistics provided by the City of Placerville, there are 4,667 total housing units in the City, 68% of which are single-family dwellings, 29% are multi-family units, and 3.5% are mobile homes. Approximately 52.3% are owner-occupied and 47.4% are renter-occupied units.

The age distribution of Placerville residents is also worth noting. According to the American Community Survey (ACS, 2019), 18.9% of the population is under 19 years of age, 49.9% is between 20 and 59 years of age, and 31.1 % is over the age of 60. The same source estimates that 51.9% of households include one person 60 years or older. These demographic characteristics should inform communication mediums and messages, and for planning the evacuation of retired and limited mobility residents.

Land Uses in the SOR

The SOR is dominated by the City of Placerville, which is the seat of El Dorado County. The city was incorporated in 1854 and has a range of land use types in the city boundary, and within the City's Sphere of Influence. Key land use designations include: Residential (low-density and high density), commercial, industrial, public facilities, parks and open space, and vacant or undeveloped parcels (2).

In addition to these typical land uses found in most cities, Placerville has four designated Historic Districts within the city boundaries. The Historic Districts include specific streets and their surrounding areas: Spring street and Coloma street, Sacramento Street and Chamberlain Street, Cedar Ravine Road, and Bedford Avenue and Clay Street (3). These districts are primarily residential in nature but some contain converted homes that are used for professional or business purposes.

Given its range of land uses and long history, the area of the defined SOR contains buildings and homes of many different vintages and construction types and has a broad range of building densities, from as low as homes on five-acre minimum lots, to very high-density residential developments with up to 24 dwelling units per acre.

Two-thirds of the housing stock are single-family homes over 30 years old, and many houses are more than 50 years old (1). The materials and design of these older houses impacts the wildfire resiliency of the SOR. In 2008 the California building fire codes were modified to require the use of fire-resistant building materials in areas at risk of wildfire (2). There has been limited new residential construction in the Placerville area in the last thirty years, and therefore most of the current housing stock in the SOR does not meet these updated standards. This gap between the existing design and materials of most homes in the SOR and the enhanced fire protection provided by updated materials and design presents an opportunity to educate homeowners about how to harden structures. More details are provided for residential areas below.

Residential Areas in the SOR

The residential areas in the SOR were developed over a long period of time and under progressively improving building codes. Nonetheless, of the vast majority of the roof surfaces seen, 95%, have a fire-resistant surface such as an asphalt shingles. Wood shake roofs, which were popular roofing materials in the past in forested communities, have been replaced with more fire-resilient materials. This is good for the community's fire resiliency because roofing can be an expensive retrofit for the homeowner, and would be a burden for homeowners. However, only the roof surface was observed for this survey. Details such as the coverings on gutters, eaves and soffits, or gaps between the roof material and the roof deck could not be seen easily, and the same can be said regarding screens on foundation vents. Inspecting and addressing details should be a priority for every structure in the SOR, and should be included with FireWise activities as volunteer or paid investments.

Although less than half of the structures in these residential areas could experience increased wildfire risk from overhanging tree branches, this is a risk that must be more critically evaluated by professionals or individual property owners, and may require coordination with neighboring property owners. Where overhanging trees pose a risk due to organic deposits on and around the home, careful consideration should be taken to highlight maintenance regimes and best practices for reducing ember-caused ignitions. Research shows that embers from nearby wildfires can find available fuel beds in high-density housing areas, and homes in suburban type developments are at also at risk (Keely and Sypard, 2019).

Historic Districts

The City of Placerville incorporates three of the four Historic Districts: Spring Street and Coloma Street, Cedar Ravine Road, and Bedford Avenue and Clay Street. Given that structures in these districts nonetheless vary in age and construction materials, and because the Risk Assessment is a survey of general conditions, the

sampling of the structures in the districts was not restricted to potentially historical buildings only. A total of 131 structures in three districts were evaluated for the Risk Assessment.

Recommendations for Historic Districts

The historic districts represent the areas of the City that generally have more dense residential development, and they have been developed for the longest period of time. The homes and buildings benefit from the shade and aesthetic benefits of the mature trees in these areas. Overhanging tree branches, combined with a heavy accumulation of vegetation in the 30-100 foot zone, should be specifically addressed in these districts to reduce risk of wildfire damage. As with many parcels within the City limits, reducing the wildfire risks of overhanging tree branches and removing accumulated vegetation will require the cooperation of adjacent property owners when the risks fall outside of the property line of individual parcels, but this is particularly so in the historic districts, given the generally smaller parcels. Additionally, these generally older structures are more likely to have construction vulnerabilities, such as open soffits or inadequate vent screens, that need to be inspected and addressed.

Property Owner's Responsibilities for Vegetation Management: Legal Framework

In our society, property rights and duties go together, because how a person maintains or uses their property can adversely affect other landowners' rights. It violates the law of public nuisance if a landowner's conduct unreasonably harms the rights of a substantial number of others in the community. In California, courts view dangerous fire conditions on private property as a potential public nuisance.

Under California law, a public nuisance can expose the landowner to criminal charges or a lawsuit for money damages. Also, any authorized public agency or official can act on their own to abate the conditions that are causing the nuisance and charge their abatement costs back to the property owner.

In short, the law of public nuisance creates both duties and strong incentives for property owners to proactively address all dangerous fire conditions on their property. Recent adoption of ordinances within the SOR include the identification of conditions under which a property or sections of a property could be deemed a nuisance. Specific laws address this concern within incorporated and unincorporated sections of the SOR.

A well-known example is California Public Resources Code (PRC) section 4291. PRC section 4291 requires the owners of certain lands to maintain "defensible space" for fire suppression within a 100-foot perimeter (or to the property line) around any building or structure. The statute and accompanying regulations give guidance on how to achieve the defensible space standard. If an owner fails to comply, fire authorities can perform the work themselves and charge the costs against the owner or place a lien on the property to recover costs.

However, PRC section 4291 applies only to certain improved properties within the State Responsibility Area, or SRA. The SRA excludes all property located within a city's limits, which means virtually all of the PFSC's SOR escapes coverage under Section 4291 except for some edges of the SOR boundary.

The City of Placerville has adopted Ordinance No 1698 the Placerville Hazardous Vegetation and Combustible Materials Abatement Ordinance which gives the City enforcement authority very similar to El Dorado

County's vegetation ordinance. These ordinances include similar fire prevention activities to PRC 4291, but are enforceable by county and city officials, respectively.

Recommendations for Action

For high fire hazard areas, such as the Placerville SOR, California state law requires property owners to maintain proper defensible space and the City of Placerville intends to implement a specific ordinance codifying the standards of defensible space. A recent study published by the Oakland California Firesafe Council showed that strict enforcement of nuisance vegetation ordinances is essential for defensible space programs (ref). Meeting these standards for defensible space is a crucial step that homeowners can take to protect property and lives in the event of a wildfire.

The same study referenced above also noted the importance of outreach and education for defensible space programs. The role of the PSFC is to help the community achieve wildfire resiliency on a voluntary basis, thereby minimizing the need for code enforcement, abatement actions, and the use of property liens by the City or County.

Educational Opportunities

Two important areas of education for property owners and the public about defensible space:

1. Vegetation Management
2. Home Hardening

Vegetation Management on private parcels

The development of ordinances specific to vegetation management attest to the heightened awareness of the devastating effects of wildfires in California. Many owners in the SOR have been proactive and have reduced the quantity the flammable vegetation on to their property. Unfortunately, the level of this activity has not been consistent throughout the area, or even within individual neighborhoods.

Complying with the standards established for defensible space is constrained in the urban setting of the SOR, defensible space, 30 to 100 feet from the primary structure, often extends into an adjoining property. This challenge presents an opportunity for the PSFC to promote neighborhood-level cooperation to effectively manage vegetation to achieve the recognized standards for defensible space for neighborhoods.

As noted in the Summary of Results, above, the dense canopy of large or mature trees is a concern throughout the community, particularly within 100 feet of a structure. While it may be that landscape-level vegetation management of many acres may not be possible in the SOR, the top priorities should be large-scale strategically located projects that require the approval of only a few individual property owners and may benefit from multi-agency cooperation and funding.

Home Hardening

"Home hardening" means safeguarding a home against wildfire by using construction materials that are more resistant to ignition from a wildfire. Hardening a home greatly improves the chances that it can survive a fire under expected conditions. A hardened home is particularly resistant to ignition caused by embers or firebrands which can travel long distances from a seemingly distant fire. Consistent with other activities of a

Firewise Community, home evaluations and risk analyses should take into account the design and materials of structures within the SOR.

There are many ways to make a structure wildfire-hardened, including:

- Fire-resistant roof
- Covered eaves (soffits), screened vents and gutters
- Non-combustible siding, or siding that prevents embers from entering
- Hard-scaping around structures and out-buildings using noncombustible ground covering
- Dual pane windows, or tempered glass windows
- More information on home hardening is available at: www.readyforwildfire.org

New building codes for fire resiliency of structures were promulgated in 2008. Homes built after the adoption of these codes are therefore more resistant to impacts of wildfire. A study conducted by Headwaters Economics showed that incorporating wildfire-resistance measures does not significantly increase a new home's construction costs. (Ref: Headwaters)

While new structures can affordably meet the current standards for fire resiliency, within the SOR, the majority of homes in the SOR are 30 years old or older, and require retrofitting for proper home hardening. This presents a tremendous opportunity for the PSFC to educate homeowners about available materials used to harden structures from wildfire impacts such as ember intrusion. It also presents a clear need for the PSFC to identify and secure funding sources to assist homeowners in bearing the costs of retrofitting old or historic buildings.

Outreach Materials

Generally speaking, there has been a great increase in wildfire awareness in the community in the wake of recent catastrophic wildfire events. The PSFC can capitalize on this change in attitudes by developing brochures and posters tailored to our area that describe how citizens can apply the standards developed by the NFPA, CalFire, and local ordinances for home hardening and vegetation clearance. Attention should be paid to the SOR audience demographics, and how to engage new residents to the area.

Depending on site-specific conditions, vegetation management and home hardening retrofits may be expensive or require professional expertise. Creating defensible space is essential for the individual and the community and must not be checked by economic barriers. At this time, assistance is available to homeowners through the Property Assessed Clean Energy Program (PACE) of the California Statewide Communities Development Authority (CSCDA). The PACE allows residential (and commercial) property owners to finance wildfire resiliency improvements which are then repaid through an assessment lien on the property tax bill. Other assistance for defensible space improvements may be implemented in California in the near future.

Communication Plan

A robust and effective communication plan is essential for the success of the PSFC. The Facebook page established by the group has been generating interest for the group in the community. In the near term, the PSFC plans to increase its profile by:

Posting meeting notices to other internet sites such as NextDoor and to sites managed by other local groups

Writing a periodic newsletter to keep the community informed of our activities or other news regarding wildfire awareness

Notifying the local press of planned outreach events or release of pertinent materials

Other means of communication will be taken into consideration by the PSFC as interest grows in the community. One possibility is to work cooperatively with the City of Placerville to develop materials to accompany the water and sewer bills the City sends bi-monthly to its customers.

Costs and Funding

In order to effectively leverage volunteer work, the PFSC will need to establish a grant writing committee to compete for funding that is available from several sources, including state and federal grants. Listed below are some constraints to managing vegetation and home hardening within the SOR, some of which can be overcome with appropriate funding.

There are several landscape constraints to implementing vegetation treatments:

- Steep slopes and riparian areas
- Difficult or limited access
- Large or mature trees may need to be thinned
- Large amounts of woody debris may need to be removed and transported
- Pests and drought may increase the number of hazard trees near homes and along ingress / egress routes

These constraints may pose a challenge for parcel owners to complete the work themselves, necessitating the hiring of professional crews who can work steep slopes safely and remove large amounts of debris. The removal of large trees, or removal of many trees, will likely require the services of professional arborists with expertise beyond that of the average homeowner.

In addition to these landscape constraints, it is important to bear in mind that a significant portion of the City's, and thus SOR's households are headed by seniors, 65 years of age or older. These persons may be dependent on fixed incomes or have a disability or other constraint to maintaining their home.

These listed constraints underscore the fact that some property owners may require assistance, physical and or financial, to create defensible space around their homes. Therefore it is essential that funding be identified and secured both for large-scale projects and to assist property owners.

Additional Analysis

Three types of vegetation management plans for the SOR will require in-depth analysis for development and implementation: large undeveloped parcels, management on adjoining or contiguous parcels, and management along streets and roads. This additional analysis will benefit from the scheduled update to the El Dorado County Fire Safe Council Community Wildfire Protection Plan (CWPP) which will include the PFSC SOR, and from more detailed GIS analysis of vegetation and structures in the SOR.

Large undeveloped parcels

There are several, multi-acre, undeveloped parcels within the boundary of the SOR. These were not evaluated as part of this Risk Assessment primarily because this type of evaluation falls out of the scope of the NFPA template. Many of these parcels are not maintained and contain large amounts of flammable vegetation. Some of these parcels are under the control of absentee owners, either individuals or in some cases real estate partnerships. These parcels pose a well-recognized risk to the community. A top priority for the safety of the community is to engage the owners so that an appropriate vegetation management plan is developed and implemented.

Vegetation management on adjoining or contiguous parcels

The SOR contains many areas with continuous tree canopy and heavy accumulation of surface and ladder fuels. Few of the properties evaluated for the Risk Assessment had the recommended 12-foot separation between tree canopies. In the near term, it will likely be difficult to achieve this standard within this SOR, a densely populated area where the potential ignition zones often cross property lines. This stands in contrast to rural areas where parcels can be several acres in size and under the control of a single property owner. Large-scale vegetation management and fuel reduction projects in the SOR will require more detailed GIS analysis to adequately describe the scope of work and to identify and engage the key property owners.

In the event a wildfire threatens the SOR from outside of the SOR, there are several strategic ridge tops surrounding the SOR where fuel treatments and defensible space home hardening will increase the probability of successful suppression tactics that could minimize loss of life and property. These strategic ridges include Texas and Sacramento Hills along southern boundary of the SOR and ridges surrounding Big Canyon and Poverty Hill along the northern boundary. Were a fire to start within the SOR, internal ridges and perimeter ridges would also be important for fire suppression and containment. Implementing vegetation management and increasing defensible space compliance along key ridges should be prioritized in the SOR.

Vegetation along streets and roads

The roads in the SOR are primarily city maintained, although there are some privately owned roads and some rights-of-way that are maintained by the County of El Dorado or the State of California (Highways 49 and 50). The assessment team highly recommends the community achieve the standards for emergency equipment access which is 10 feet of horizontal vegetation management along the shoulder with 15 foot vertical clearance. The pending City ordinance incorporates the horizontal standard, but no vertical standard. Additionally, these vertical and horizontal standards should apply to private driveways. It is imperative to ensure that key evacuation routes are adequate and safe for evacuees during a wildfire emergency.

Area-Specific GIS analysis: Density of Vegetation and Structures

Creating a detailed geospatial analysis of areas with heavy accumulation of vegetation near densely populated areas may be of great assistance in setting priorities for vegetation management and outreach to property owners. Using spatial data to create clear associations of risk and values would also help articulate the potential harms for grant proposals as well. Current zoning maps of the City delineate areas of higher and lower residential density, and where commercial development is allowed, but this level of spatial information does not clearly establish under what landscape configurations put a community at higher risk.

Emergency Preparedness and Community Concerns

The public is rightfully concerned about how the community will react to a wildfire. In the wake of the tragedy of the Camp Fire in Paradise 2018, and other small communities impacted by the North Complex 2020, numerous questions have arisen regarding how notifications of a wildfire event will be handled, where the evacuation routes will be, or how best to shelter in place if necessary.

The PSFC has engaged the local Office of Emergency Services (OES), but more work is required in this area.

As we learn more about how the OES needs the community to respond, there are steps that individuals can take, and should be included in outreach materials and media opportunities. The most important first step is for citizens to acknowledge that wildfire risk is a likely occurrence for much of California and its residents. Asserting the high probability that fires will occur is a key first step in communicating to existing and new residents in the SOR, and establishing an impetus to act. As detailed above, both landscape and home hardening actions are necessary to reduce loss of life and property. And, while hardening a home to ember intrusion, and reducing fuels and vegetation will abate risk, it is imperative that individuals and families plan the steps they will take to promptly respond to a wildfire evacuation order.

Public Resources

The PFSC recommends preparing an emergency evacuation kit and creating a communication plan in the event of a wildfire. Excellent checklists and templates are available for use including the CalFire brochure, “Ready, Set, Go! Your Personal Wildfire Action Plan” and at the CalFire website, www.readyforwildfire.org/Wildfire-Action-Plan/.

The PFSC also recommends that families register their cell phones for emergency notifications with the El Dorado County Emergency Services (OES) Code Red Alert System and the City of Placerville emergency alerts via Nixel at:

- Code Red - www.ready.edso.org
- Nixel (City of Placerville) - www.local.nixel.com/placerville-police-department.

In order to keep the public informed of emergencies, the Placerville Police Department has established two social media accounts:

- On Twitter: @Placervillepd
- Facebook: www.facebook.com/PlacervillePolice/

REFERENCES

- City of Placerville, 2013-2021 Housing Element. Available at: http://www.hcd.ca.gov/community-development/housing-element/docs/placerville_5th_draft082313.pdf
- California Building Codes. Chapter 7A Materials and Construction Methods for Exterior Wildfire Exposure.
- City of Placerville General Plan Document. 1992.
- CalFire: <https://frap.fire.ca.gov/frap-projects/wildfire-hazard-real-estate-disclosure/>
- Placerville Hazardous Vegetation and Combustible Materials Abatement Ordinance (1698). Available at: <https://www.cityofplacerville.org/media/Development%20Services%20Department/Vegetation%20and%20Combustible%20Abatement/Ordinance%201698%20-%20Veg%20and%20Combustible%20Abatement.pdf>
- El Dorado County Vegetation Management and Defensible Space (5101). Available at: <https://www.edcgov.us/Government/CAO/VegetationManagement/Documents/ORD%205101%20-%20amendment.pdf>
- Keeley, J.E and Syphard, A.D., 2019. "Twenty-first century California, USA, wildfires: Fuel dominated vs. wind-dominated fires." *Fire Ecology* 15 (24). Available at: <https://fireecology.springeropen.com/articles/10.1186/s42408-019-0041-0>

GENERAL INFORMATION

- Researchers document the effect of pre-fire mitigation on structure losses during 2017 Thomas Fire. Available at: <https://wildfiretoday.com/2019/05/21/researchers-document-the-effect-of-pre-fire-mitigation-on-structure-losses-during-2017-thomas-fire/>
- Demographics cited: US Census Bureau. Available at: <https://www.census.gov/quickfacts/fact/table/placervillecitycalifornia/PST045218>
- Building a Wildfire-Resistant Home: Codes and Costs. Headwaters Economics 2018. Available from <https://headwaterseconomics.org/>.
- 2019 Defensible Space Study. Oakland CA Firesafe Council. Author: J.Kuang.