

Chapter 5 Wildfires

5.1 Risk Assessment

5.1.1 Description of Hazards

Requirement §201.6(c)(2)(i): The risk assessment shall include a description of the type location and extent of all natural hazards that can affect the jurisdiction.

A wildland fire may be defined as any unwanted fire involving outdoor vegetation. This may be perceived as only occurring in forests, rangelands, or agricultural fields, but it might also occur in vacant lots, highway medians, parks, golf courses and rural residential areas. The term Wildland Urban Interface (WUI) describes many of these areas. The nature and frequency of wildland fire in California has changed since the County adopted the 2013 Climate Action Strategy, and the last LHMP update in 2016, especially as it pertains to the WUI. The potential for both life and property losses in the WUI is exponentially higher than non-populated wildlands. In addition, human influence, forest management practices, and aging utility infrastructure has greatly increased the number and variety of potential sources of ignition. A fire threat will always exist in the WUI. There will always be flammable vegetation, residential structures, utility infrastructure and human activities creating risks for the next large fire in the county.

Wildland fires are influenced by three factors: fuel, weather, and topography. Wildfire spread depends on the type of fuel involved (grass, brush, and trees). Weather influences wildland fire behavior with factors such as wind, relative humidity, temperature, fuel moisture and possibly lightning. Several of these factors can modify the rate the fire will burn. What has been seen in the past several years is that wind events have been both the mechanism and significant driver of the severity of wildland fire events in California. Topography is a significant influence on fire severity as well. While historically normal weather conditions in the Santa Cruz Mountains could be categorized as cold and damp with extensive marine influence (fog). There is an increasing frequency and duration each year when conditions are created where fuel moisture levels have been measured below 5% with temperatures above 90 degrees Fahrenheit, and offshore winds greater than 45 mph.

Large areas of the County have been mapped and designated in the County's General Plan as Critical Wildfire Hazard Areas due to accumulations of wildfire prone vegetation, steep and dry slopes, and the presence of structures vulnerable to wildland fires. These areas are generally situated in the steeper higher elevations of the county. Most of these areas are along the border of Santa Clara County or in the Coastal ridges between Highway 9 and Highway 1. While areas designated Critical Fire Hazard Areas are areas of increased wildfire risk, it should be noted that wildland fires may occur anywhere within the County.

The State Responsibility Area (SRA) is the area of the County where financial responsibility for the prevention and suppression of wildfires is primarily the responsibility of the state. In general, SRA includes forest-covered lands, whether of commercial value or not, or brush or grass-covered lands. SRA does not include lands within city boundaries or in federal ownership. Local Responsibility Areas (LRA) include incorporated cities and other urbanized areas, and cultivated agriculture lands. CalFire has

mapped fire hazard severity zones within SRA and LRA. Mapping of the areas, referred to as Very High, High, and Moderate Fire Hazard Severity Zones (VHFHSZ), is based on relevant factors such as fuels, terrain, and weather (Figure 11). This mapping includes all of the Critical Fire Hazards Areas designated in the General Plan.



Figure 11 Map of Fire Hazard Severity Zones

5.1.2 Previous Occurrences

Requirement §201.6(c)(2)(i): The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

Prior to about 1950 information on wildfire in Santa Cruz County was limited to verbal history and newspaper accounts. After the Division of Forestry began gathering data in the 1950s, significant wildfires in Santa Cruz and adjacent counties were documented in the early 1960s and again in the 1980s (Lexington fire). The devastating wildfires that occurred in Santa Cruz County in 2008 (Summit, Martin and Trabing fires) and 2009 (Lockheed and Loma fires) burned a combined area of nearly 14,000 acres and numerous homes and structures.

Beginning in the early morning hours of August 16, 2020 a lightning event started multiple fires in Santa Cruz and San Mateo Counties. The fires eventually joined and formed the CZU Lightning Complex Fire. Over 45,000 people were evacuated in the North Coast, San Lorenzo Valley and Scotts Valley areas. About 1,431 structures were destroyed and 134 structures damaged, with a preliminary total damage valuation of \$340 Million including public infrastructure. Of the structures destroyed, 911 were single family homes, 3 were multiple residential, 148 were commercial or mixed-use structures, and 391 were other minor structures.

Fire Name	Year	Acres Burned
Pine Mountain	1948	15,893
Newell Creek	1954	166
Newell Creek #2	1959	1,326
Austrian Gulch	1961	9,067
Lincoln Hill	1962	3,234
Big Basin #7	1980	378
Big Basin	1982	300
Rocha #2	1984	1,239
Lexington	1985	13,122
Croy Fire	2002	3,006
Summit Fire	2008	4,270
Martin Fire	2008	520
Trabing Fire	2008	630
Lockheed Fire	2009	7,819
Loma Fire	2009	485
<i>Subtotal</i>	<i>1948 to 2019</i>	<i>61,455</i>
CZU Lightning Complex Fire	2020	85,509

Table 13 Recent history of wildfire in Santa Cruz County

What makes wildfire different today as compared to the early part of the last century is the number of people living in the rural area, or the Wildland Urban Interface (WUI). According to the United States Census, the population of Santa Cruz County including all four incorporated cities has increased by over 200,000 people since the middle of the last century, from an estimated 66,534 in 1950 to an estimated 273,213 in 2019. Much of the increase occurred in urban areas, but rural areas have experienced significant population increases, as well. According to the San Mateo - Santa Cruz Unit Strategic Fire Plan, this has caused the fire agencies to change approaches to fire hazards from focusing primarily on the fire to dealing with increasing demands for protecting roads, structures, and people. Because there

are not enough firefighters or fire apparatus to protect each and every home during a wildfire, the community and government must take greater responsibility for preventative measures to make homes, neighborhoods, and the community more defensible from wildfire.

Given the history of drought and climate change, it is likely that dry fuel conditions will occur every year in the future. Areas identified as likely to have a wildland fire are spread out across the county. Most of these areas are associated with the higher dryer elevations with fuels consisting of Manzanita, chamise and knobcone pine. Even with the large acreages recently burned in 2020, much larger areas of the County in SRA and LRA contain vegetation conditions that could fuel future wildfires. The development of rural residences in these hazardous areas combined with aging utility infrastructure, hazardous fuel loads and continued recreational and transient uses in these remote locations will continue to elevate wildfire hazards.

5.1.3 Assessing Vulnerability: Overview

Requirement §201.6(c)(2)(ii): The risk assessment shall include a description of the jurisdiction’s vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.

According to a 2008 report by Headwaters Economics, Santa Cruz County was ranked 9th among 413 western state counties for percentage of homes along the WUI and 14th in California for fire risk. During the preparation of the countywide Community Wildfire Protection Plan (CWPP), numerous assets at risk were identified. These include thousands of residences, several schools including a University campus, several youth camps, and numerous commercial facilities. There are five local public water systems with extensive infrastructure situated within high hazard areas. Three state highways and three major power transmission rights-of-way cross through vulnerable areas. Due to topography and limited access, both the protection plus potential reconstruction of these assets will be hampered.

The impact of wildfire on a community is far-reaching. The most significant impacts would be environmental damage and loss of property. The loss of life is a significant risk depending on the nature of the wildfire event and advanced warning abilities. Air quality is also a major issue, which can force the closure of schools and businesses as well as limit human activity. Damage to infrastructure such as culverts, roads and bridges can be difficult to locate and repair in a timely manner. During the rainy season, burned-over areas are subject to mud slides and debris flows which can be exacerbated by infrastructure damage. Sedimentation due to winter rains can destroy fish habitats, which can have a catastrophic effect on the eco-system. All of these effects have been and will continue to be felt to varying degrees as a result of the CZU Lightning Complex Fire.

5.1.4 Assessing Vulnerability: Identifying Structures

Requirement §201.6(c)(2)(ii)(A): The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.

By definition WUI areas are adjacent to residential and open space areas. Many public and private buildings are immediately threatened by wildland fires. As part of this evaluation, Fire Hazard Severity Zones (Moderate, High, and Very High) were assessed. Contained within these critical areas are over 36,000 structures including 30 schools and 22 fire stations (Figure 11).

5.1.5 Assessing Vulnerability: Estimating Potential Losses

Requirement §201.6(c)(2)(ii)(B): The plan should describe vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate.

Figure 11 includes information on the number and type of structures located within Very High, High, and Moderate Fire Hazard Severity Areas and the total value of the structures. Table 14 is a summary of the number, type, and value of all structures located in the Fire Hazard Severity Areas. Using the County’s GIS application, the Fire Hazard Severity layer is overlaid on the parcel layer to identify the parcels that fall within the fire hazard layers and their assessed value.

Land Use	Parcels	Structures	Total Assessed Value 2020
Agricultural	910	1,596	\$160,244,513
Commercial	427	526	\$130,950,085
Government	916	300	\$416,954
Industrial	44	139	\$43,978,619
Institutional	336	861	\$131,493,049
Miscellaneous	1,028	697	\$70,275,465
Residential	31,950	32,109	\$5,685,918,660
Utilities	345	92	\$1,122,883
Total	35,956	36,320	\$6,224,400,228
Population	63,328		
Population is based on the 2010 Census. Unincorporated Block centroids were selected by the hazard area.			

Table 14 Fire potential loss inventory

5.1.6 Assessing Vulnerability: Analyzing Development Trends

Requirement §201.6(c)(2)(ii)(C): The plan should describe vulnerability in terms of providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

As demand for housing increases, residential construction has spread out into all of the different vegetative cover and topographic types throughout the county. Access to small rural residential clusters is governed by topography, land use criteria, parcel size and ownership trends. Many residential clusters may have only one ingress and egress, which is usually limited to long stretches of narrow winding mountain roads. When these roads are blocked, all access is blocked to these clusters.

Santa Cruz County covers a large area made up of numerous remote areas with small rural residences. This makes comprehensive patrolling and protecting the county from wildfire difficult. The county might be relatively small, but poor access and remoteness of many of the small rural residential clusters result in long response times for suppression equipment.

In addition to lightning, various human infrastructure and activities in the wildland environment create a high risk of fire starts. Of the 20 most destructive fires in California, 7 were from power lines or electrical sources with a number still under investigation³. Other human activities that can elevate risk include camping, “backyard” burning, illegal fireworks, arson, and structure fires spreading to the wildland. All of these factors have caused wildland fires of various magnitudes.

The County has adopted growth management policies and ordinances that limit growth in accordance with a local growth management referendum of 1978, known as Measure J. Growth management policies steer new development to urbanized areas and limit new land divisions in rural areas but this has not stopped continued construction on existing rural lots. Most new development of residential structures and virtually all new development of commercial structures occurs within the urban services line and outside of high fire hazard zones.

No changes in these development regulations or patterns occurred that would affect the County’s overall vulnerability since the LHMP was adopted in 2016. While the County does not track the number of residential and commercial structures that have been built in fire hazard areas since the last update, it is a subset of the overall number of new structures built in the unincorporated portion of the County. According to annual Growth Management Reports, there have been 909 new residential structures built in the County since 2010 (Table 12).

Development on existing lots of record is required to avoid hazards and incorporate appropriate access, water supply for fire suppression, construction materials, and defensible space requirements to mitigate potential impacts from fire hazards. The Environmental Planning Section of the Planning Department, staffed by Resource Planners, the Building Plan Check and Inspection Section of the Planning Department, and the local fire district, specialize in reviewing each application for new residential and commercial structures to ensure that new development generally does not occur in fire hazard zones and that development on existing lots of record avoid, minimize, and mitigate potential impacts from identified fire hazards. These policies and procedures implement the mitigation strategy described below.

³ Top Twenty Most Destructive California Wildfires <https://www.fire.ca.gov/stats-events/>

5.2 Mitigation Strategy

Requirement §201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

In wildland fire, the priorities of the fire service are:

1. Life
2. Property
3. Natural Resources

Lower priorities are only protected when higher priorities have been confirmed safe.

The various agencies responsible for protecting Santa Cruz County from losses due to wildland fires have implemented a number of mitigation programs over the years. They are as follows:

- Implementation and use of a Reverse 911 style community notification and warning system.
- Implementation of a new community notification tools (CodeRed).
- Implementation of a new Evacuation Management Tool (ZoneHaven).
- Fuel reduction projects along transportation corridors.
- Comprehensive mutual aid system for fire protection.
- Routine and frequent training by local and state fire jurisdictions.
- Annual Residential Defensible Space education and enforcement programs.
- Collaborative and cross jurisdiction Vegetation Management Programs including fuel reduction and shaded fuel break programs.
- Update of the countywide Community Wildfire Protection Plan (CWPP) using Federal Grant funding. Integrating a comprehensive prioritized hazardous fuel management strategy.
- Implementation of new County building codes addressing WUI related issues including building materials, construction requirements, water systems/supply and code enforcement.
- Promotion of built-in fire extinguishing, alarms, and water systems per new fire code requirements.
- Comprehensive hazardous fuel management strategy using a project prioritization across jurisdictional boundaries and areas of responsibility.
- Indigenous land stewardship practices of hazardous fuel management through controlled burns.

Wildland fire protection in California is the responsibility of the State, local government, or the federal government depending on location. The State Responsibility Area (SRA) is the area of the state where financial responsibility for the prevention and suppression of wildfires is primarily the responsibility of the state. Of course, the partnership of private property owners is essential for implementing fire prevention strategies. In general, SRA includes forest-covered lands, whether of commercial value or not, or brush or grass-covered lands. SRA does not include lands within city boundaries or in federal ownership. Fire protection in SRA is typically provided by CAL FIRE. However, in Santa Cruz County, autonomous fire protection districts provide fire protection in large parts of the SRA. Local responsibility areas (LRA) include incorporated cities and other urbanized areas and cultivated

agriculture lands. Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, and by CAL FIRE under contract to local government.

CAL FIRE is the County Fire Department for the unincorporated areas of Santa Cruz County that are not included in an autonomous fire protection district. In addition, the County contracts with CAL FIRE to provide fire protection for Pajaro Dunes, and to provide administrative and staffing needs for the Pajaro Valley Fire Protection District.

Because the majority of wildland fires occur in the SRA, there is potential for many different agencies in the county to be affected. In many cases, fires occur in Mutual Threat Zones (MTZs) or in areas near adjoining jurisdictions and also in the LRAs. It is through mutual relationships with local government agencies where initial attack resources become larger and more effective. The following Santa Cruz County local government agencies are typically available and involved in suppressing wildland fires:

Scotts Valley Fire Protection District
Boulder Creek Fire Protection District
Central Fire Protection District of Santa Cruz County (combined with Aptos/La Selva Fire Protection District)
Felton Fire Protection District
Santa Cruz City Fire Department
Watsonville Fire Department
Zayante Fire Protection District
Ben Lomond Fire Protection District
Branciforte Fire Protection District
Pajaro Valley Fire Protection District

A person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining SRAs are required by Public Resource Code (PRC) 4291 to maintain defensible space around structures on their property. Defensible space means the area adjacent to a structure or dwelling where wildfire prevention or protection practices are implemented to provide defense from an approaching wildfire or to minimize the spread of a structure fire to wildlands or surrounding areas. Responsibility for maintaining defensible space is limited to 100 feet from structure(s) or to the property line, whichever is closer. Defensible space inspections are completed by inspectors from CAL FIRE, engine companies, and fire protection districts (Central and Aptos/La Selva). Educational materials are distributed to residents during inspections, through direct mailing, and at public events including a brief pamphlet focusing on defensible space and a document called "Living With Fire in Santa Cruz County."

The Santa Cruz County Code requires new projects and construction to meet fire safety standards consistent with State law (PRC 4290). Chapter 7.92 of the County Code establishes requirements for fuel modification and emergency water supply, as well as minimum fire safe driveway and road standards. New structures built in Santa Cruz County must also comply with fire safety building regulations. These building codes require the use of ignition-resistant building materials in higher risk areas and establish design standards to improve the ability of a building to survive a wildfire.

The San Mateo - Santa Cruz Unit Strategic Fire Plan identifies and prioritizes pre-fire and post-fire management strategies and tactics meant to reduce losses within the Unit. There is a history of collaborative efforts between fire agencies and communities including Las Cumbres, Olive Springs, and Bonny Doon. Efforts such as these have resulted in numerous hazardous fuel reduction projects and

community education. More recently, the Unit has seen an unprecedented level of pre-fire “grass roots” organization, including the formation of the Soquel, South Skyline, and Bonny Doon Fire Safe Councils. Also, with the assistance of the Resource Conservation District (RCD) through a grant from the United States Fish and Wildlife Service, a Community Wildfire Protection Plan (CWPP) was developed with input from stakeholders throughout Santa Cruz County. In 2010, the Board of Supervisors for Santa Cruz County adopted the 2010 San Mateo County – Santa Cruz County CWPP. The CWPP was updated in 2018. The Unit Strategic Fire Plan is meant to work in collaboration with the CWPP.

The CWPP attempts to identify fire hazards, as seen across the landscape, and provide strategies to mitigate wildfire risk and restore healthier, more resilient ecosystems while protecting life and property. A CWPP also serves as a tool for the accrual of grant funding to aid in the implementation of wildfire prevention projects. The CWPP is a guidance document that recommends both general and specific projects in priority fuel reduction areas and provides recommendations to reduce the ignitability of structures. Local projects are subject to appropriate permitting and environmental review processes. The CWPP was developed collaboratively by CAL FIRE, Resource Conservation District of Santa Cruz and San Mateo Counties, the United State Fish and Wildlife Service, other agencies, and members of the community.

The San Mateo – Santa Cruz Unit Strategic Fire Plan and the CWPP address areas with inadequate access and evacuation routes and identify risk to life and property from wildland fire and provide information on firefighter safety, community evacuation and recommended actions by first responders. The plans also address post-fire responsibilities for natural resource recovery, including watershed protection reforestation, and ecosystem restoration.

These programs remain relevant for reducing potential losses identified in the risk assessment. Since the last update, the County was devastated by the CZU Lightning Complex fire, which caused widespread destruction and one loss of life. As the highest priority of fire and law enforcement agencies, over 45,000 people were evacuated from areas in Santa Cruz County threatened by the fire with no major logistical problems or injuries, a notable success in the overall context of the disaster. The wildfire risk in other parts of the County has not changed since the previous LHMP update was adopted. In the aftermath of the CZU Lightning Complex Fire there is an opportunity to learn from that experience. Adjustments to existing programs and implementation of additional measures will result from that process under the existing mitigation blueprint in this LHMP update.

5.2.1 Mitigation Goals

<p>Requirement §201.6(c)(3)(i): The hazard mitigation strategy shall include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.</p>

Wildfire Goals

Wildfire 1 - Avoid or reduce the potential for injury, loss of life, property, and economic and environmental damage to Santa Cruz County from wildfire.

Wildfire 2 - Collaborate with other local fire districts and departments in mutual aid fire protection efforts.

5.2.2 Identification and Analysis of Mitigation Actions

Requirement §201.6(c)(3)(ii): The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Wildfire mitigation strategy includes the following actions. The alpha-numeric identifiers after each action are further described in Chapter 15 Mitigation Strategy.

- Reduction of fire risk in urban/wildland interface (WUI) through improved building materials and appropriate code enforcement including defensible space programs. (A-4)
- Land use planning to reduce incidence of human caused wildfires especially in very high fire hazard areas. (A-5)
- Appropriate road and secondary access improvement and creation program. (A-6)
- Early notification/warning of residents by technology-based applications. (A-10)
- Promotion of built-in fire extinguishing systems and fire alarm systems. (A-11)
- Establish and maintain cooperative fire protection and fire prevention agreements with other agencies. (A-12)
- Increased visibility and reduced response times with proper road and address markings. (A-13)
- Enhanced support for interoperability communications systems with local, state, and federal emergency services both inside and around the County. (A-14)
- Reduction of fire risk in the urban/wildland interface (WUI) through hazardous fuel reduction projects including but not limited to indigenous land use practices of controlled burns, hazardous fuel removal, other shaded fuel break burn strategies. (A-20 New)
- Implement additional fire prevention programs in schools, institutions, and commercial buildings through inspections and education to promote fuel reduction, hazard abatement. (B-3)
- Maintain adequate Fire Suppression and Prevention staffing levels to meet the need of the county population and development trends. (B-4)
- Support CZU Fire Recovery for survivors utilizing best practices for improving overall safety of rebuild. (A-21 New)

2021 Progress Report

The integration of the plan into existing planning mechanisms and the implementation of mitigation actions demonstrate progress in risk reduction. An explanation of how the mitigation plan for wildfire hazards has been implemented over the last five years is included in Appendix L and described below for each Mitigation Action related to fire hazard reduction.

- Defensible space inspections are completed by inspectors from CAL FIRE, engine companies, and the Central Fire Protection District. Educational materials are distributed to residents during inspections, through direct mailing, and at public events including a brief pamphlet focusing on defensible space and a document called Living With Fire in Santa Cruz County. The Santa Cruz County Code requires new projects and construction to meet fire safety standards consistent with State law (PRC 4290). Chapter 7.92 of the County Code establishes requirements for fuel

modification and emergency water supply, as well as minimum fire safe driveway and road standards. New structures built in Santa Cruz County must also comply with fire safety building regulations. These building codes require the use of ignition-resistant building materials in higher risk areas and establish design standards to improve the ability of a building to survive a wildfire. (A-4)

- Review and amendment of the County’s General Plan Safe Element Fire Hazards section has brought alignment of the road and building standards. (A-5)
- The County continues to enforce current fire and building codes, and the secondary access road standards in the Safety Element. (A-6)
- The Long-Range Radio Infrastructure Management Planning Group continues to meet quarterly to strategically consider interoperability and coordination of communications systems development and change out. The County Office of Emergency Services continues to seek grant funding opportunities for emerging technologies and enhancements. The narrow banding communications project has been completed for all county emergency services partners. (A-10)
- The County maintains an agreement with CAL Fire to run the County Fire program. (A-12)
- Approximately \$57,600 worth of warning guide signs meeting current state specifications were purchased through a federal Highway Safety Improvement Project (HSIP) grant and were installed by the County road crews. County road crews continuously clear vegetation from around traffic control signs to maintain sign visibility. (A-13)
- All communications systems have been changed to comply with the FCC narrow banding requirement. (A-14)
- In spite of long-term funding challenges resulting in systematic cuts over the last several years, including reduction of personnel staffing, the County Fire fund balance has been maintained by careful fiscal management for extreme necessity. Grants, CAL FIRE contract saving, and economic recovery have contributed to this preservation. The County Fire structural budget deficit continues to be the administrative priority. In January 2020, a new assessment was approved by voters in CSA 48, the County Fire Department operating area, that would provide a higher level of fire protection and emergency response service by increasing staffing levels to nationally recognized standards and providing for improved apparatus and equipment replacement. (B-4)
- County Fire puts on education programs for schools and businesses in the unincorporated areas of the County. Additional school programs have been added as part of the County Fire Prevention and Education program. All schools in County Fire are inspected annually. Commercial Business inspections are ongoing. (C-5)
- Fire Safe Santa Cruz County (FSSCC) was formed in September 2016 as a nonprofit corporation, 501(c)(3), in the state of California through collaboration between local fire safe councils, CAL FIRE, local government, water districts, non-profit organizations, industry, and the Resource Conservation District of Santa Cruz County (RCD). The purpose of Fire Safe Santa Cruz County (FSSCC) is to educate and mobilize the people of Santa Cruz County to protect their community, homes, and environment from wildfire. See <https://www.firesafesantacruz.org/>. (C-5)
- The new 2019 fire and building code has been adopted by all County Fire agencies. (A-11)

The worksheets in Appendix L also describe how the current mitigation strategy, including the goals and hazard mitigation actions, will be implemented over the next five years. There are no recommended changes to the mitigation actions for wildfire hazards, or the priorities of the mitigation actions. The actions will continue to be implemented on an ongoing basis through existing regulatory mechanisms and funding availability. Finally, the work of independent “grass roots” fire safe councils has made a

significant contribution to fire safety in the local communities through public education, organizing, and completion of defensible space and (shaded) fuel break projects.